Inductive proximity sensor

Inductive Proximity Switches operate by using an L/C resonant oscillator which generates, with the aid of a coil located in the open pot core, a high frequency alternating electromagnetic field. This field emerges from the active face of the switch.

When an electrically conductive material (for example a steel plate)moves into the electromagnetic field, an induced eddy current occurs.This eddy current extracts energy form the L/C resonant circuit in the switch, and produces a reduction in the oscillation amplitude. This reduction in the amolitude is converted by the associated electronic circuitry into a clear electronic signal, and changes the state of the switch.

When the electrically conductive material is removed from the alternating field the oscillation amplitude increases which, by way of the electronic circuitry, will restore the switch to the original unswitched state.

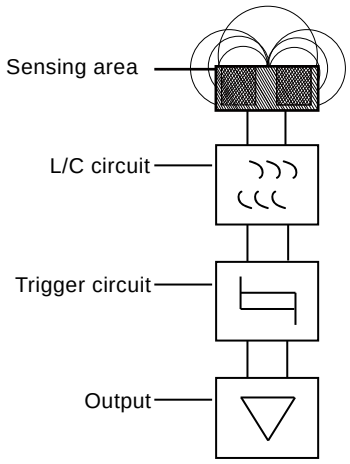


Fig.1
Block Diagram - Inductive Switch

Normal operating distance

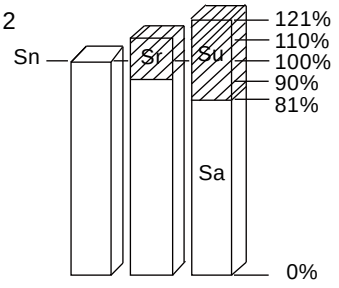
The normal operating distance is defined as the distance between the detector and the target when the change (switching) in the logic state of the proximity switch occurs. This distance and the test associated in obtaining this distance are outlined in EN60947-5-2. From this standard, the target is a carbon steel (Fe360) square plate with 1mm thickness. For the cylindrical switches, the target sizes are found in Table 1. The calibration fixture used for our products are also made from carbon steel (Fe360). The normal sensing distance Sn and Sr, Su and Sa information see Fig. 2.

Table 1

Diameter (mm)	Nominal distance SN (mm)	Fe 360 actuator (mm)
8	1	8X8x1
8	2	8X8x1
12	2	12X12x1
12	4	12X12x1
18	5	18X18x1
18	8	24X24x1
30	10	30X30x1
30	15	45X45x1

Table 1: Cylindrical switches diameter
Nominal distance Sn(mm)
Fe360 Target Size

Fig.2



Sn = nominal sensing distance
Sr = effective operating distance
0.9 Sn <= Sr <= 1.1 Sn
Su = useful sensing distance
0.9 Sr <= Su <= 1.1 Sr
Sa = operating zone
0 < Sa <= 0.9 x 0.9 x Sn

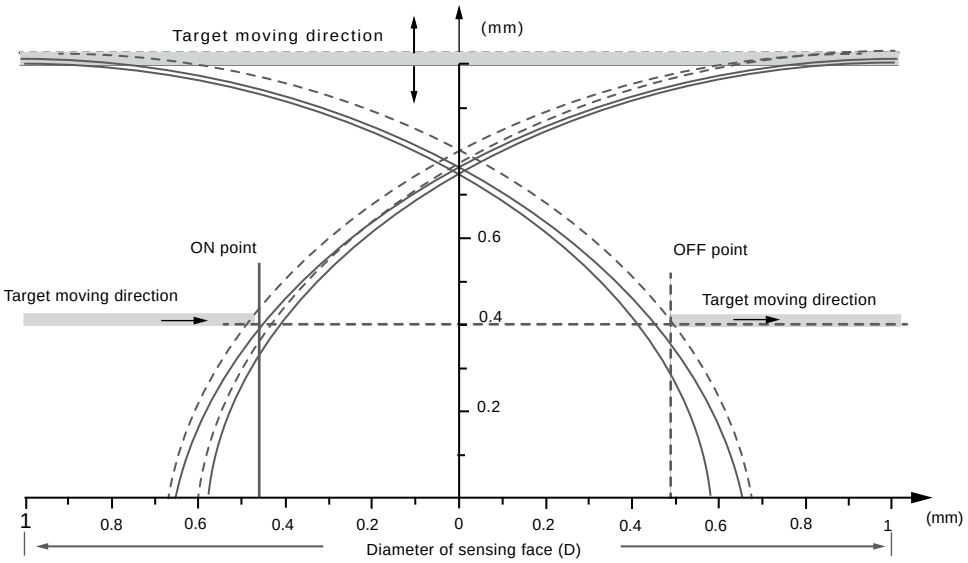
Correction Factor

When using inductive proximity switches with non-ferrous metals it is nescessary to apply a correction factor to the operating distance (sensing range), see Table 2.

Correction Factor:	
Non-ferrous metal	Factor
Fe 360	1
Aluminum	0.35-0.45
Brass	0.35-0.5
Copper	0.25-0.45
Stainless Steel	0.6-1.0
Cast Iron	0.93-1.05
Nickel	0.65-0.75

(Table 2)

Sensor response curve (Fig.3)



(Fig. 3)

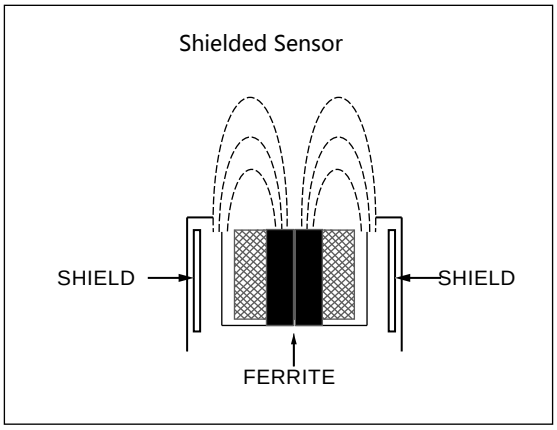
Repeatability

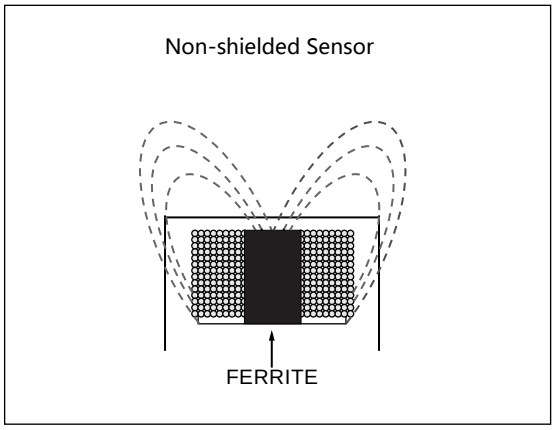
Variation in sensing distance for successive operations under specified conditions (specified sensing range,temperature at 23±5℃, humidity ≤90% specified operating voltage, circyle is 8 hours).

Shielded & Non-shielded

Shielded construction includes a metal band which surrounds the ferrite core and coil arrangement. This helps to direct the electro-magnetic field to the front of the sensor.

Non-shielded sensors do not have this metal band, therefore they can be side sensitive.

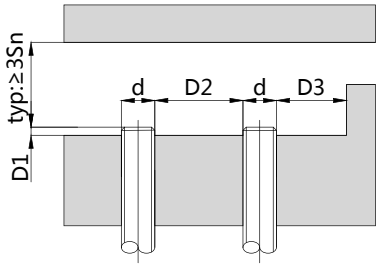




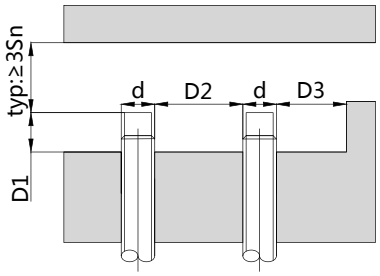
Product is installed in metal material

Standard distance	flush mounting	D1≥0		
		D2≥d		
		D3≥d		
	non-flush mounting	D1	ϕ6.5≥6mm	M8≥6mm
			M12≥9mm	M18≥16mm
			M30≥22mm	
		D2≥2d		
		D3≥d		
	opposite mounting	D4≥3d		
Medium distance	flush mounting	D1	M8≥0mm	M12≥1mm
			M18≥2.5mm	M30≥3.5mm
		D2≥d		
		D3≥d		
	non-flush mounting	D1	ϕ6.5≥8mm	M8≥8mm
			M12≥12mm	M18≥25mm
			M30≥40mm	
		D2≥2d		
		D3≥d		
	opposite mounting	D4≥4d		
Over a long distance	flush mounting	D1	ϕ6.5≥2mm	
			M8≥2mm	M12≥2.5mm
			M18≥4mm	M30≥8mm
		D2≥3d		
		D3≥d		
	non-flush mounting	D1	ϕ6.5≥8mm	M8≥8mm
			M12≥12mm	M18≥25mm
			M30≥40mm	
		D2≥3d		
		D3≥d		
	opposite mounting	D4≥5d		

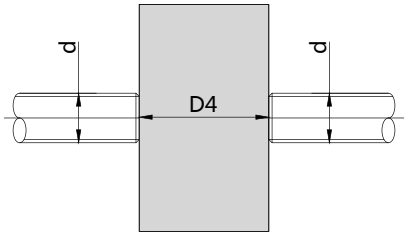
(Flush/Quasi-flush mounting)



(Non-flush mounting)



Opposite Mounting



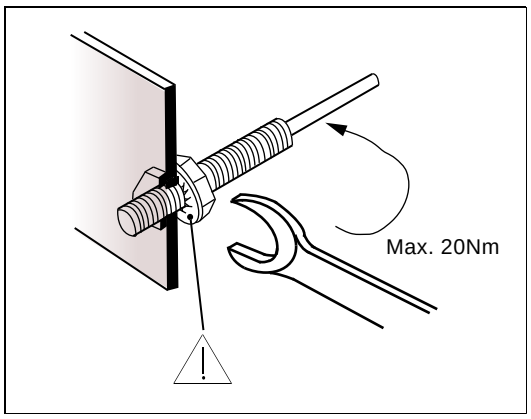
Maximum torque for proximity sensor threads in Nm:

For metal housing :

M5	1.5Nm	(Stainless steel)
M8	10Nm	(Stainless steel)
M12	10Nm	(Brass)
	30Nm	(Stainless steel)
M18	20Nm	(Brass)
M30	40Nm	(Metal)

For plastic housing :

M12	1Nm	(POM)
M18	1.5Nm	(POM)
M30	1.5Nm	(POM)



These values are based on using the nuts supplied with the sensors.

Hysteresis

Hystersis is the travel of the target between the "switch-on" point and the "switch-off" point. This distance is required to allow the switch to properly detect the target, and reduces the possibillity of false trips. See the Fig.4and Fig.5.

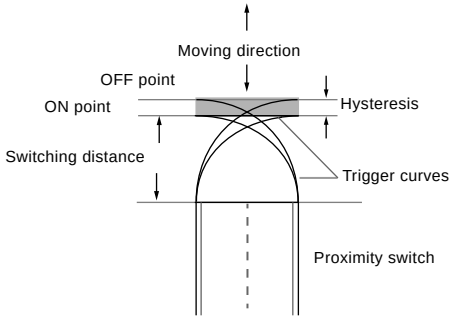


Fig.4

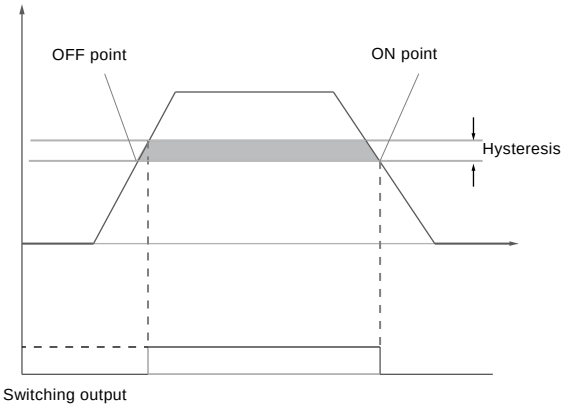
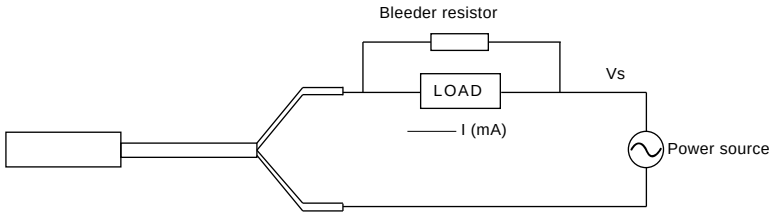


Fig.5

Leakage current

A leakage current flows through the proximity switches even when the output is turned off. Because of this the voltage remaining in the load may result in accidental operation or chattering, depending upon the load. If this occurs, connect a bleeder resister parallel to the load in order to decrease the residual voltage across the load.See Fig.6.



$R \leq \frac{Vs - 3.6}{5(mA) - 1 (mA)}$ (kΩ) DC 2-WIRE type

$R \leq \frac{Vs}{5(mA) - 1 (mA)}$ (kΩ) AC 2-WIRE type

$P > \frac{Vs^2}{R} \times 0.001(w)$

Fig.6

Load impedance

Instead of a maximum output current, a minimum load impedance may be specified.

A minimum load of 120 Ohms e.g. Translates into a maximum output current of 100mA at 12V or 200mA at 24V.On the other hand, if the maximum output current is 200mA, the lowest acceptable load impedance at 24V is120 Ohms.

Short circuit protection

Pulsing short circuit protection.In case of overload or short circuit,the output transistor is rapidly switched on and off.This tests whether the short has been removed or not.

See Fig.7.

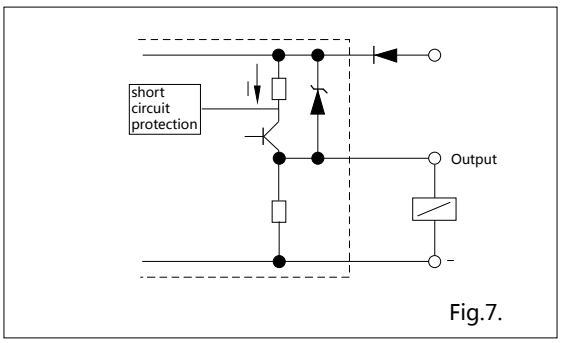


Fig.7.

Switching frequency,maximum

This frequency indicates the maximum number of pulses per second, this for an on/off ratio of 1:2 and at one half the nominal switching distance sn.

See Fig.8.

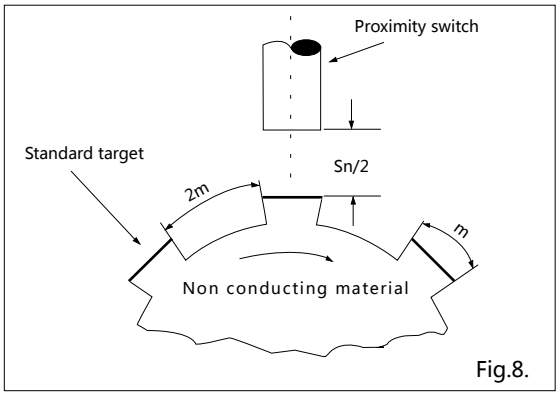


Fig.8.

Temperature drift of Sn

The switching distance is specified for an ambient temperature of 20 ℃。The following diagram gives the switching distance as a function of ambient temperature.

See Fig.9.

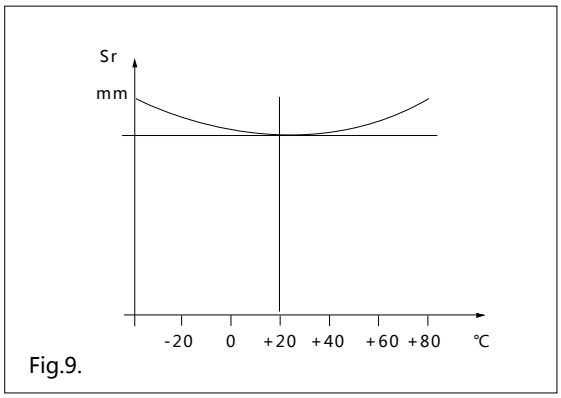
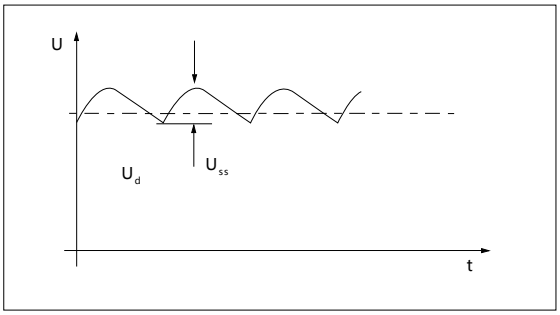


Fig.9.

Ripple content,maximum



$W = \frac{U_{ss}}{U_d} X100(\%)$

Too much ripple content causes an undefined switching behaviour.
Remedy:increase the smoothing capacitor or use a stabilized power supply.

Protection class

The international electrotechnical commission(IEC)has defined a classification system for specifying the enclosures of electrical equipment on the basis of the degree of protection(IP)provided by the enclosure.The standard includes two characteristic numerals which follow the letters IP,and are defined as follows.

1st Characteristic Numeral

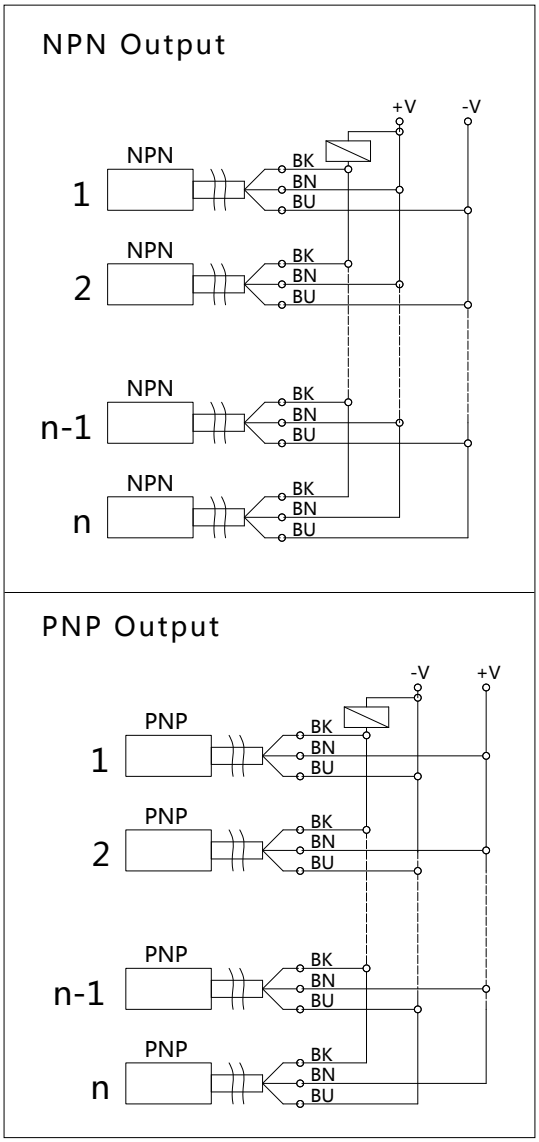
1 protection against solid objects greater than 50 mm
2 protection against solid objects greater than 12 mm
3 protection against solid objects greater than 2.5 mm
4 protection against solid objects greater than 1 mm
5 dust protected
6 dust tight

2nd Characteristic Numeral

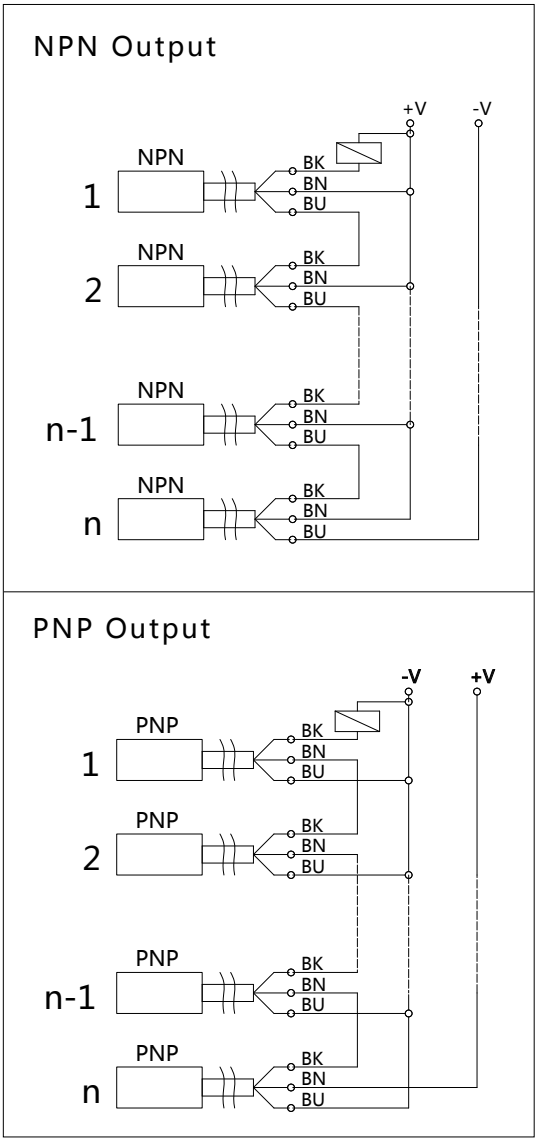
1 protection against dripping water
2 protection against dripping water when tilted up to 15°
3 protection against spraying water
4 protection against splashing water
5 protection against water jets
6 protection against heavy seas
7 protection against the effects of immersion
8 protection against submersion

Example:IP67 is defined as a dust tight enclosure and protected against the effects of immersion.

Parallel connection



Series connection



Logic functions with DC proximity sensors:

Self-contained proximity sensors can be wired in series or paralled to perform such logic functions as AND,OR, NAND,NOR.The wiring diagrams show the connection of four sensors with NPN and PNP outputs.Take into account the accumulating voltage drop per sensor added in the series-string.

Parallel-connection:

N.O.sensors:OR Function(any one sensor or all made:load"on")
N.C.sensors:NAND Function((all sensors open:load"off")

Series-connection:

N.O.sensors:AND Function(all sensors made: Load"on")
N.C. sensors:NOR Function(any one sensor open:load"off")

DC NPN output type

DC NPN output proximity switches consist of the following circuit(Fig.10.)In N.O.operation,with no sensing,the transistor is in the OFF mode.When sensing,the load current passes through the transistor.In N.C. operation,the function is opposite.In N.O. operation,as the load current passes 200mA(capacitive version over 300mA),the load short circuit protection is activated.

Remarks:Voltage drop<1V,it is tested in the max.load current, 200mA,Capacitive proximity switch is tested in 300mA.

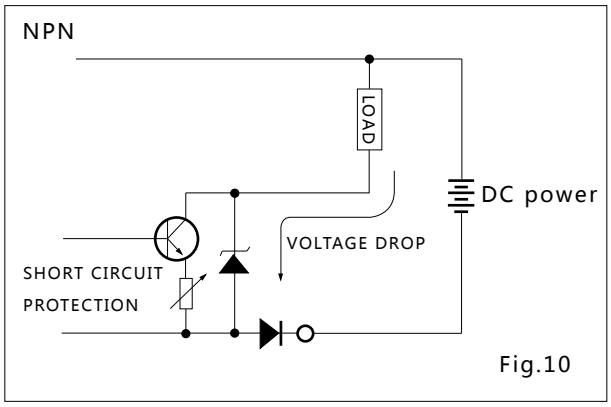


Fig.10

DC PNP output type

DC PNP output type proximity switches are designed with the following output circuit(Fig.11)In N.O.operation without sensing status,the transistor is in the OFF mode,with sensing status the transistor is in the ON mode,as the load current passes through the transistor;in the N.C.mode,the operation is opposite in the N.O.operation.AS the load current passes 200mA(capacitive proximity switch over 300mA),the load short circuit protection circuit is activated.

Remark:Voltage drop<1V is tested at the max. load current,200mA. Capacitive Proximity switches are tested at 300mA.

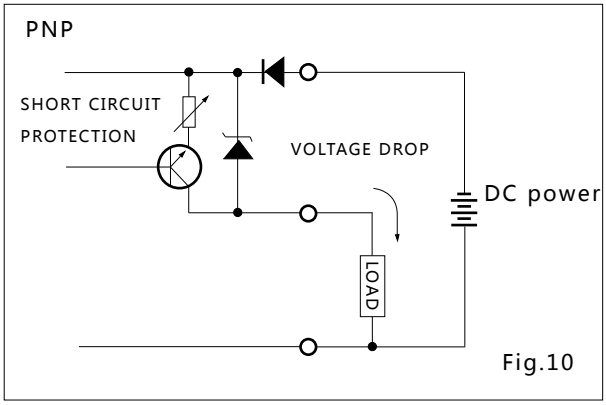


Fig.10

DC 2 wire proximity switch

The devices operate exactly like mechanical switches,with the connected load being switched in series.They can be used into PLC inputs like relays.Notice should be taken on the influence of minimum load current,leakage current and voltage drop.See following Fig.12.In the "off" condition,only the leakage current (the no load current)flows through the externalload.In the "on" conditionthe amplifiers' output transistor conducts.

Between the connections of the proximity switch there is now a voltage drop created by the internal Z-diode(<6V)and this should be allowed for within the supply voltage.The voltage applied to the external load is lower than the supply voltage by an amount equal to the voltage drop.The output amplifier is short circuit proof and voerload protected.

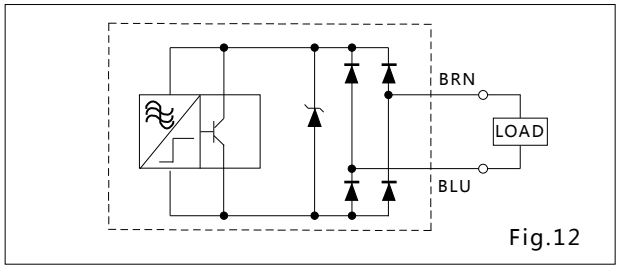


Fig.12

DC 4 wire proximity switch

N.O.,N.C.changeover 4 wire devices are shown in the following Fig.13.When the proximity switch is in the sensing mode transistor 1 is in the OFF mode;transistor 2 is in ON mode.

The max.load current is 200mA with short circuit protection. Output terminal N.O. and N.C. may be connected to the load at the same time.

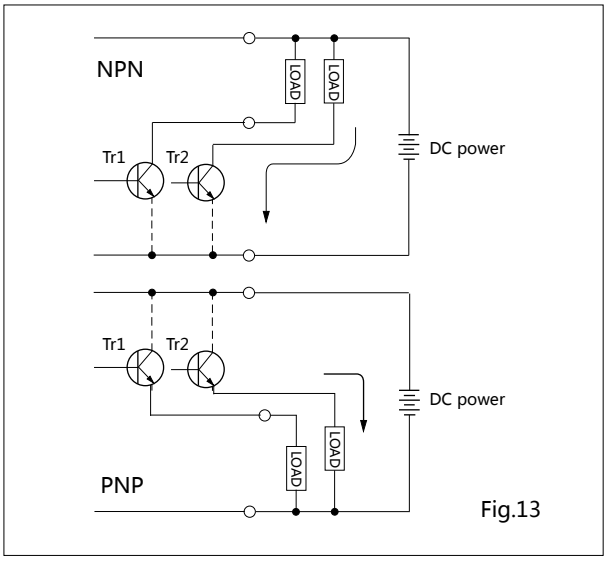


Fig.13

AC 2 wire proximity switch

AC output two wire proximity switches have output circuits with SCR.In the N.O. operation and non-sensing mode, the SCR appears OFF,in the sensed mode the SCR is ON.Load current passes through the SCR and to form feed circuit With extend load.In N.C. operation, the operation is opposite the N.O. operation. SCR in OFF mode, (it needs by the operation internal circuit for proximity switch).The small current passing through the load is called leakage current. When the SCR is in ON mode internal circuit of proximity switch operates).This small voltage is called dropping voltage.The max. load current is 500mA.Leakage voltage is below 5V(load current is over 20mA)leakage current is below 2.5mA.See Fig.14.

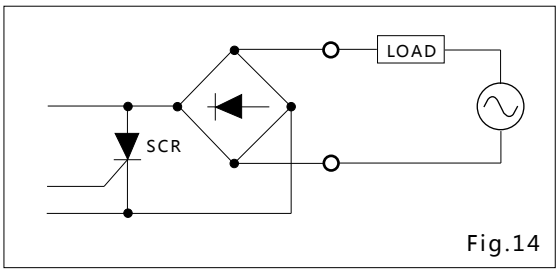


Fig.14

AC/DC outputs

These proximity switches are used as pilot devices for AC-operated loads such as relays,contactors,solenoids,etc.The solid state output permits the use of the proximity switches directly on the line in series with an appropriate load.They,therefore,replace mechanical limit switches without alteration of circuitry,where operating speed or environmental conditions require the application of solid state proximity switches.See following Fig.15.

These proximity switches are typically available in a voltage range of 20-250V AC or DC.All models are available with either N.O./N.C., or with programmable outputs(from N.O. to N.C.).

Proximity switches with AC/DC outputs are not recommended for use with 24V DC programmable controller inputs.

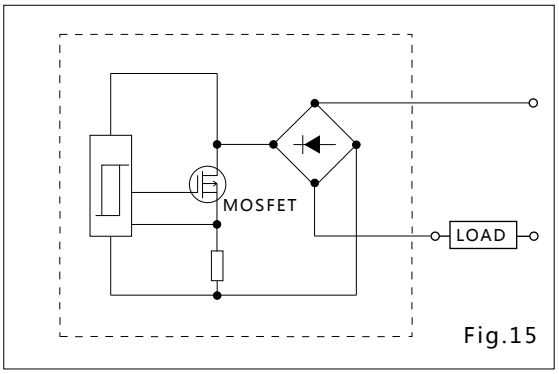


Fig.15

NAMUR-Sensors to DIN 19234

NAMUR-Sensors are polarized 2-wire-sensors which change their internal resistance depending on the distance to the target.They are designed for use with external amplifiers,which convert the current changes into a digital signal.Please see Fig.16.

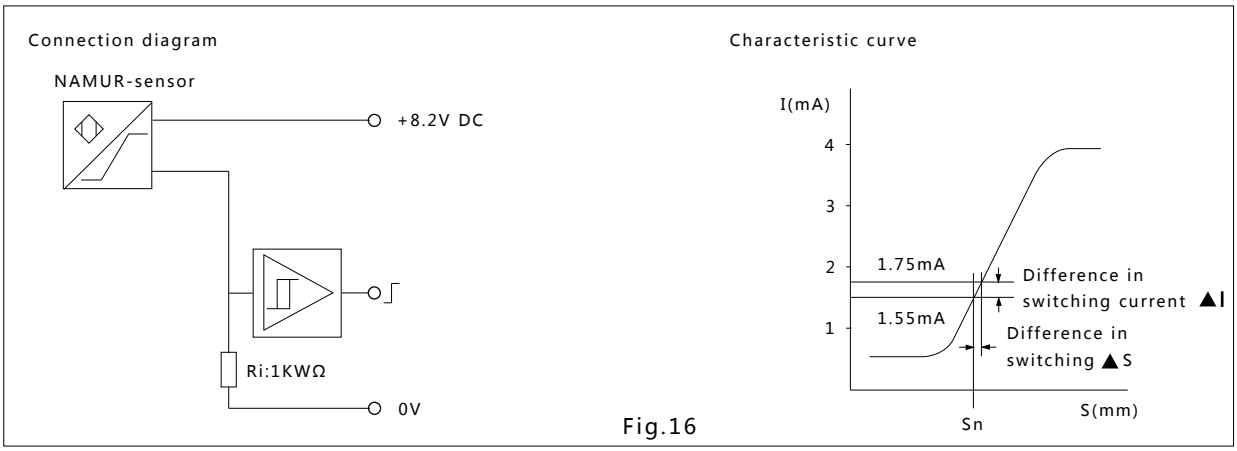


Fig.16

Connection diagram

NAMUR-sensors operate with a supply voltage from 5 to 25V DC.It is possible to work directly into logic circuits such as CMOS etc.

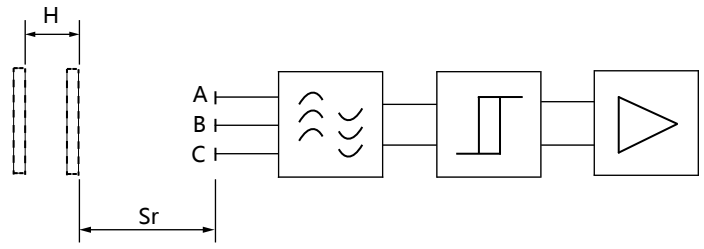
Note:different operating values(V,Ri)will counteract a change of the switching distance.Within the admissible voltage range it is necessary to adopt the resistance Ri,as well as the current in the switching point I(Sn). The following table shows typical values.

Capacitive proximity sensor

Capacitive proximity sensors consist of an RC-oscillator with a special multi-part sensing electrode.The electrode and the oscillator circuit have a tube connected with earth potential for lateral shielding. This enables flush mounting of the sensor in metal, since the electrial field is only present in front of the sensing electrode. This field is the active zone of the sensor. See Fig.17.

When the conductive material is removed from the active zone,the oscillator is undamped and the oscillation amplitude decreases. The amplifier of the oscillator voltage and the sensitivity of the sensor can be altered ty the built-in potentiometer.

The middle electrode together with the built-in re-coupling gives very effective compensation under conditions of humidity, dust or icing. Special circuitry automatically compensates for these influences. The preset sensing distance remains nearly constant. The electrode design, along with the compensating circuitry of capacitive sensors, is a unique design, and provides performance advantages far superior to other capacitive sensors.



A indicates sensor electrode
B and C indicates compensation electrodes

Fig. 17

Applications

The capacitive sensors may be used to limit the level in tanks and containers. The contents may be fluids, pulverized or granulated materials such as PVC powder,dyes,flour,sugar,powdered milk etc. Further applications are as end and limit switches for checking and regulating machinery setting,(even if the materials are non-metallic as in conveyor belt positioning and material stacking); checking drive belts and paper reels for sag and tear.Additionally they may be used as detectors for counting metal and non-metal components. Areas of application for capacitive sensors.

Shielded configuration

Sensors with a straight-line electrical field.These units scan solids(e.g.wafers,components,PCB’ s,hybrids, cartons,paper piles, bottles, plastic blocks and stacks of paper at a distance, or liquids through a separating wall (glass or plastic up to a max of 4 mm thick).

Non-shielded configuration

Sensors with a spherical electrical field. These units are designed to touch the product, bulk goods or liquids (e.g.granulate,sugar, flour, corn, sand, or oil and water) with their active surface.

Sensing distance

The data was obtained using a 1 mm thick square steel plate (st37) as an actuator, with a side length equal to 3×Sn. The steel plate was grounded. Ambient temperature was 25℃.The largest possible sensing distance is defined as the nominal sensing distance with a tolerance ±10% Sn.
The sensing distance depends upon shape, size and nature of the object concerned. If the plate is made from a different material or has a smaller diameter, the sensing distance will be reduced.

Material correction factor

If the material of the object in question is not metal or water,the sensing distance is reduced.
The reduction factors for the different materials are shown as the table below.

Actuating Material	Sensing-distance Compared to a surface of water			
	20mm	10mm	15mm	10mm
Hand	20	10	15	10
Square steel plate(100X100X1)	20	10	15	10
Round steel plate(30ΦX1)	11	6	4	2
Stone(marble)	18	8.5	8	5
Wood	13	5	5	3
Glass	12	4	6	2.5
Carbon	19	9	12	9
PVC-BLOCK(30x30x5)	8	4	1.5	-
Lupulin granulate 1800H	8	3	2.5	Head approx.2mm immersed
Polystyrene 454H	9.5	3	4	1
Hostalen GC 8960H	8.2	1.5	2	Head approx.1mm immersed
Vestyron 719-50	7.9	1.2	2	Head approx.3mm immersed
Hostyren	8.2	3	3	Head approx.1mm immersed
BM scrap material(Z)	6.7	1.4	1	Head surrounded
Hostalen GC coarse powder	8	2	1.5	Head approx.3mm immersed
Lupulin fine granulate	7.7	1.5	1	Head approx.3mm immersed
HostaformC	9.8	3.5	4	1
Hostyren(polystyrene)	7.4	2	2.5	Head approx.2mm immersed
Hostalit S	7.5	2	1.5	Head surrounded
Hostalen PP	5	1.5	1.5	Head surrounded
Hostalit E	7.2	1	1	Head approx.4mm immersed
Styropor unfoamed	8.1	3	3	0.5
Styropor Φ 1.5	-	-	-	-
Antimony-trioxide	6.2	0.9	2.5	Direct contact
Oil	9	3	5	3
Maximum sensing-distance Critical point	55		110	

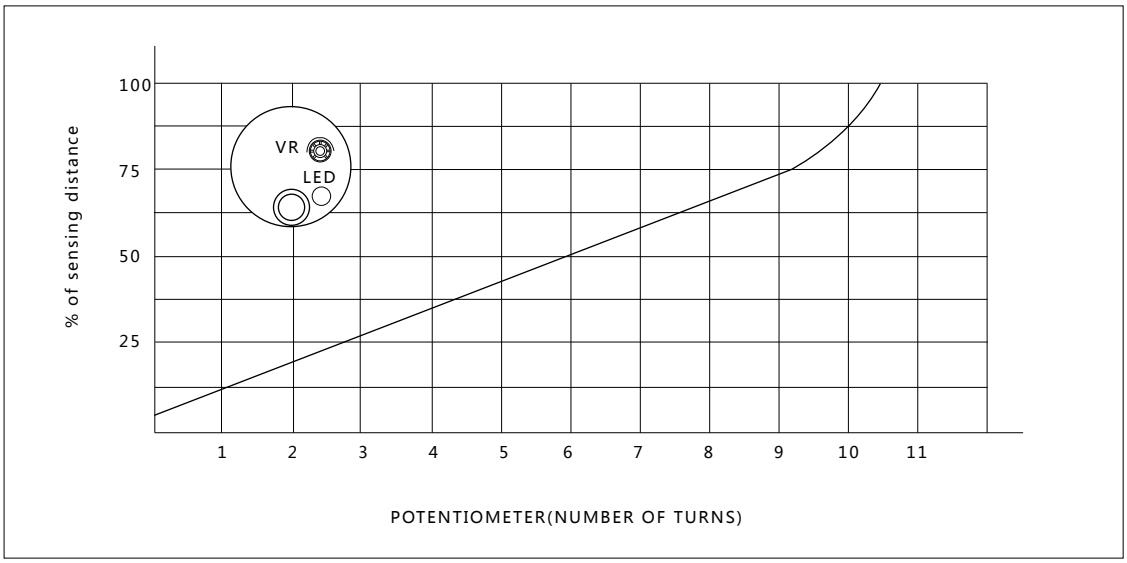
Conditions:

Tu=25℃ ; V_A=24V DC

In each case,the measurements were made from a level surface.

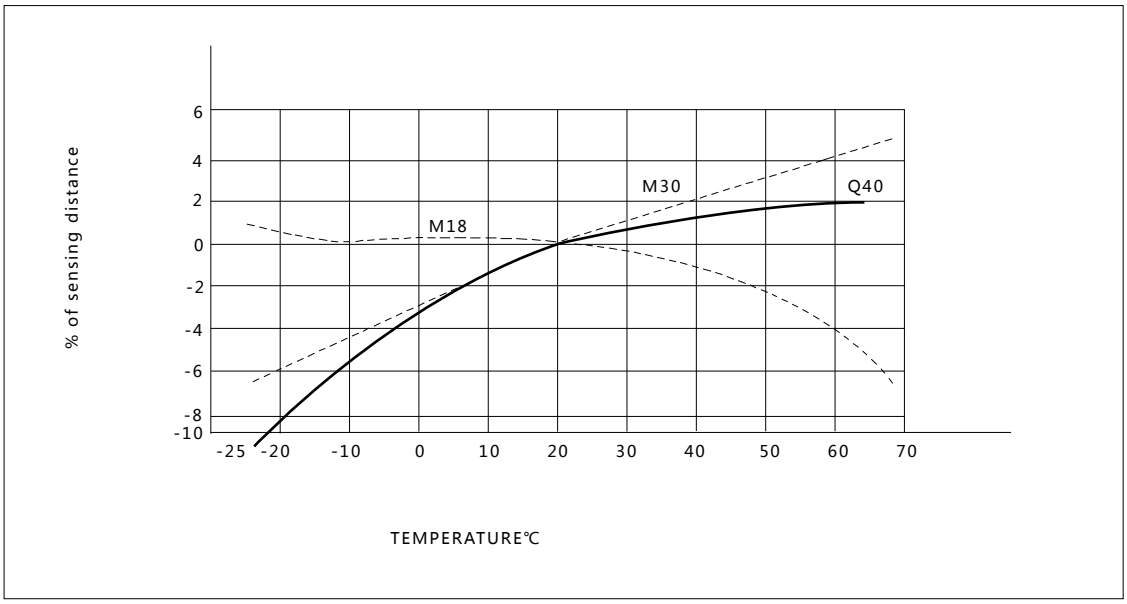
Sensitivity adjustment

Capacitive proximity sensors have a fourteen turn potentiometer.The potentiometer must be adjusted to suit most applications.Turn clockwise to increase sensitivity.From the original setting of 0.7-0.8xSn(Sn=nominal range),the nominal sensing range is reached after 2-3 clockwise turns. This, however,leads to nonlinearity of the curve and oversensitivity,which may lock on the sensor.If this occurs,decrease sensitivity by turning the potentiometer 2-3 turns counterclockwise.



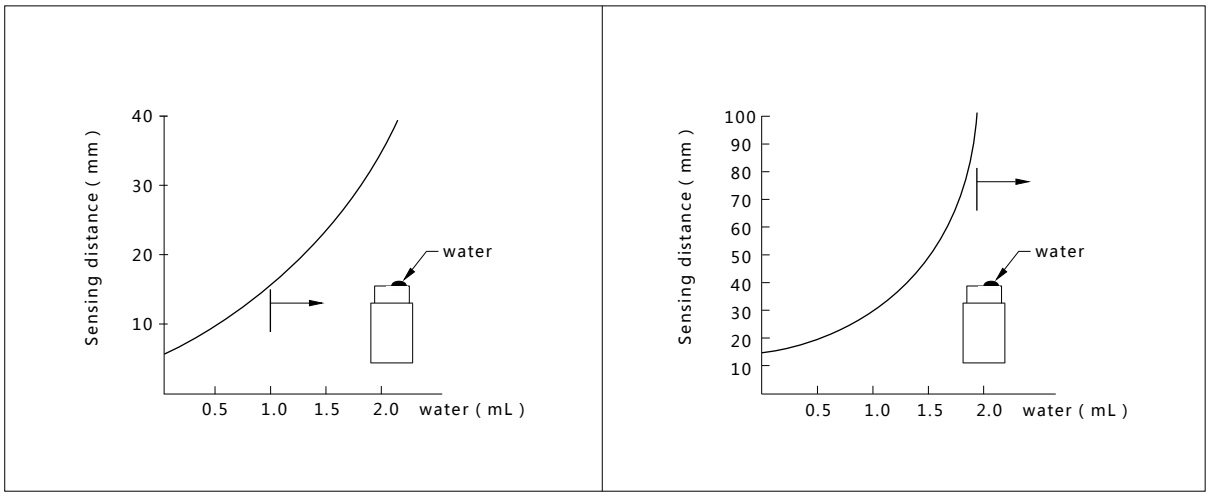
Temperature

Capacitive proximity switches will function within a temperature range of -25℃ to +70℃.The switching distance deviation is 20% provided that the switching distance is not greater than the nominal switching distance(taking into consideration the reduction factors of the material).



Influence to sensing face covered with drops of water

The following figures show the changes to operating distance caused by drops of water on the sensing face of capacitive proximity switches.If the water drops are 0.2 mL(about 2-3 drops),the operating distance will be increased about 20%,as the attached water drops on the sensing face cover the surface and is flowing operating distance is increased over 300%.,



Caution

If ice,frost,moisture,oil or dust is on the active surface,it will cause faultly operation.

The detecting of liquid or powder on non-metallic tanks,if the liquids or powders are attached to tank wall like as Fig.19,it will cause faulty operation.

The application of a DC capacitive proximity switch,connectted to a heavy load current (current over 200 mA),(electric motor,electrical-magnetic contact)the output transistor will break down.It should be connected through a relay.

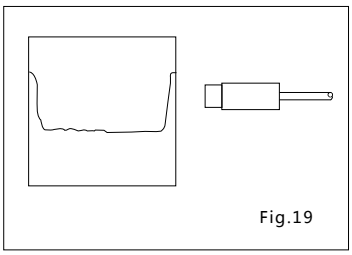


Fig.19

Selction Guide

1	2		3	4	5	6		7	8	9	10	11		12
B	B	-	M	12	04	P	-	C	1	1	P	2	-	□

1 Type

B	Inductive
C	Capacitive
BA	Analog
BF	Metalface
BH	High Temperature
BL	Low Temperature

2 Mounting

B	Flush/Quasi-flush
N	Non-flush

3 Shape

M	Threaded barrel
H	Smooth barrel
Q	Square housing

4 Dimension

ϕ3
M4
M5
ϕ6.5
M8
M12
M18
M30
.....

5 Sensing range(mm)

0.6	0.6mm
02	2mm
20	20mm
.....	

6 Output Function

P	PNP 3/4 Wire
N	NPN 3/4 Wire
C	DC 2 Wire
A	AC 2 Wire
U	AC/DC 2 Wire
NA	Namur

7 Housing material

C	Brass,nickel-plated
V	Stainless steel housing
P	Plastic rectangular housing
F	PTFE

8 Output mode

1	N.O.
2	N.C.
3	N.O./N.C.
I	Current output
V	Voltage output
M	Current/Voltage

9 Operating voltage

0	DC6-12V
1	DC10-30V
2	DC18-30V
3	DC10-60V
4	AC20-250V
5	AC/DC20-250V

10 Connection

P	PVC cable
U	PUR cable
F	PTFE cable
S8	M8 connector
S12	M12 connector
Z8	6*pigtail with M8 connector
Z12	6*pigtail with M12 connector
T	Terminal

11 Cable length

2	2m
3	3m
5	5m
.....	

12 Others

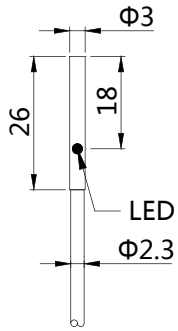


Features:

- Φ3 mm , Stainless steel housing;
- 0.6mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

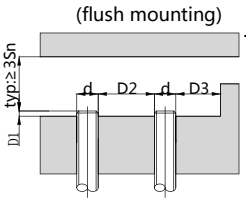
Dimensioned drawing



Model No.

Sensing range	Sn:0.6 mm
NPN N.O	BB-H30.6N-V11P2
NPN N.C	BB-H30.6N-V21P2
PNP N.O	BB-H30.6P-V11P2
PNP N.C	BB-H30.6P-V21P2

Mounting



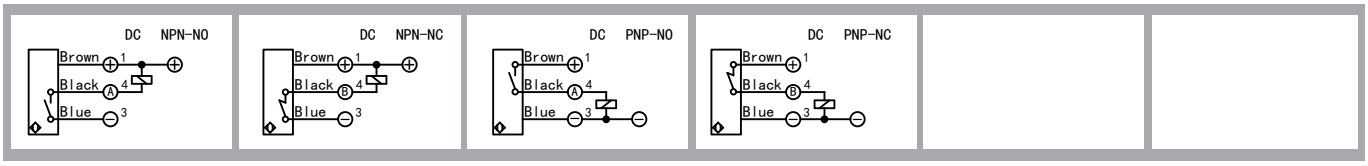
Sn	D1	D2	D3
H30.6	≥0	≥3	≥3

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



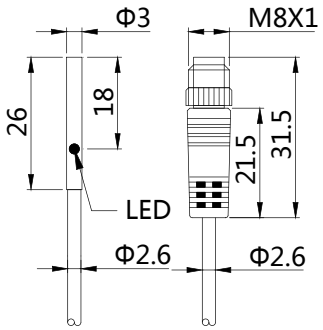


Features:

- Φ3 mm , Stainless steel housing;
- 0.6mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

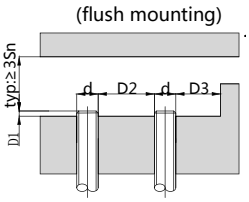


Model No.

Sensing range	Sn:0.6 mm
NPN N.O	BB-H30.6N-V11Z8
NPN N.C	BB-H30.6N-V21Z8
PNP N.O	BB-H30.6P-V11Z8
PNP N.C	BB-H30.6P-V21Z8

Mounting

(flush mounting)



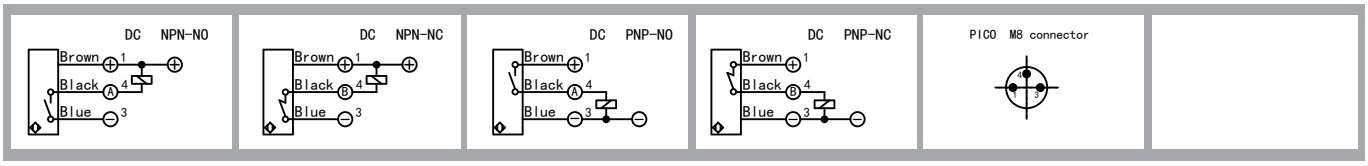
Sn	D1	D2	D3
H30.6	≥0	≥3	≥3

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.15mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



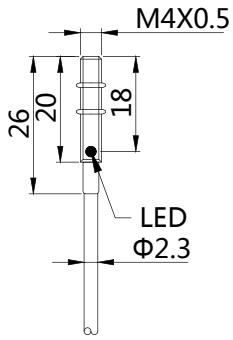


Features:

- M4*0.5 mm , Stainless steel housing;
- 0.6mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

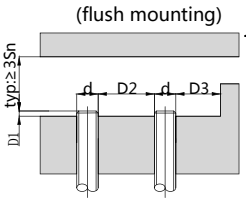
Dimensioned drawing



Model No.

Sensing range	Sn:0.6 mm
NPN N.O	BB-M40.6N-V11P2
NPN N.C	BB-M40.6N-V21P2
PNP N.O	BB-M40.6P-V11P2
PNP N.C	BB-M40.6P-V21P2

Mounting



Sn	D1	D2	D3
M40.6	≥0	≥4	≥4

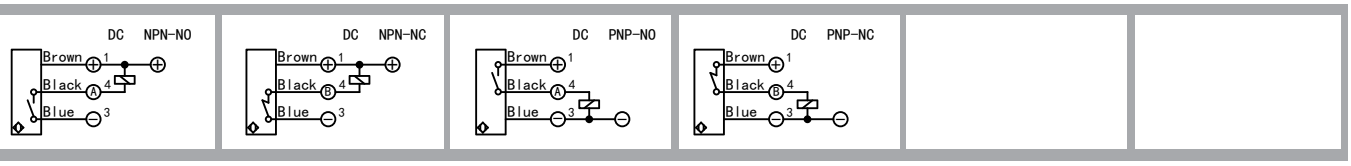
Tightening torque of the fastening screws: <1.5Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



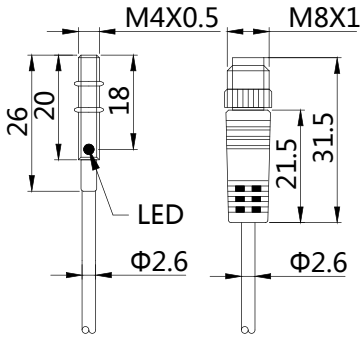


Features:

- M4*0.5 mm , Stainless steel housing;
- 0.6mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

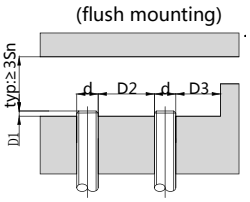
Dimensioned drawing



Model No.

Sensing range	Sn:0.6 mm
NPN N.O	BB-M40.6N-V11Z8
NPN N.C	BB-M40.6N-V21Z8
PNP N.O	BB-M40.6P-V11Z8
PNP N.C	BB-M40.6P-V21Z8

Mounting



Sn	D1	D2	D3
M40.6	≥0	≥4	≥4

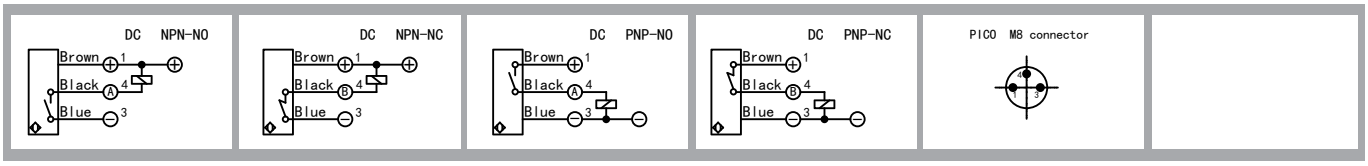
Tightening torque of the fastening screws: <1.5Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.15mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



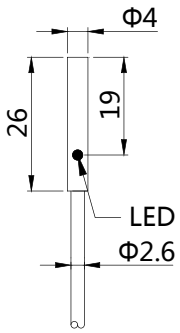
Features:

- Φ4 mm , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable



CE

Dimensioned drawing

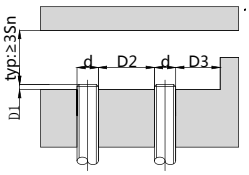


Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-H40.8N-V11P2	BB-H41.2N-V11P2
NPN N.C	BB-H40.8N-V21P2	BB-H41.2N-V21P2
PNP N.O	BB-H40.8P-V11P2	BB-H41.2P-V11P2
PNP N.C	BB-H40.8P-V21P2	BB-H41.2P-V21P2

Mounting

(flush mounting)



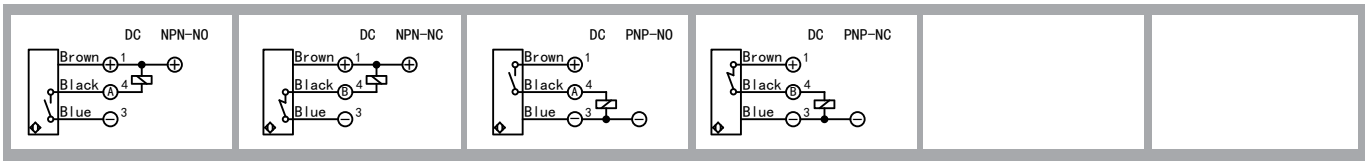
Sn	D1	D2	D3
H40.8	≥0	≥4	≥4
H41.2	≥0	≥4	≥4

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



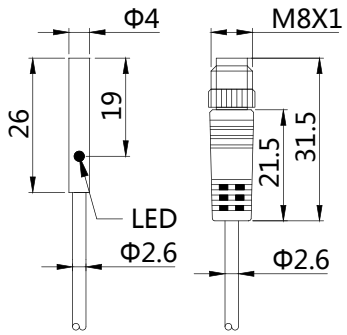


Features:

- Φ4 mm , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

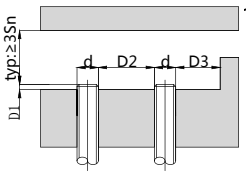


Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-H40.8N-V11Z8	BB-H41.2N-V11Z8
NPN N.C	BB-H40.8N-V21Z8	BB-H41.2N-V21Z8
PNP N.O	BB-H40.8P-V11Z8	BB-H41.2P-V11Z8
PNP N.C	BB-H40.8P-V21Z8	BB-H41.2P-V21Z8

Mounting

(flush mounting)



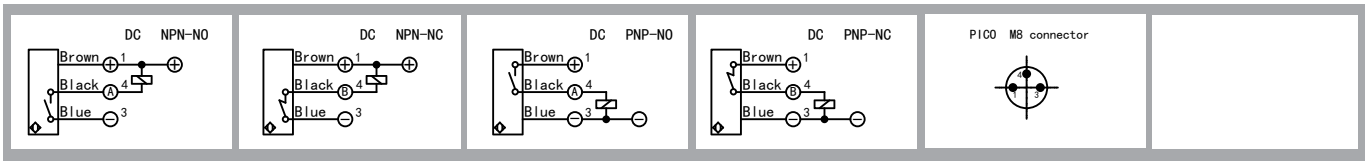
Sn	D1	D2	D3
H40.8	≥0	≥4	≥4
H41.2	≥0	≥4	≥4

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.15mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



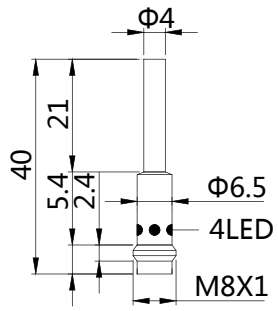


Features:

- Φ4 mm , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

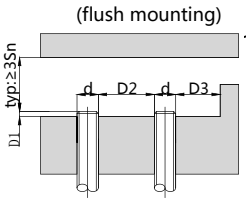


Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-H40.8N-V11S8	BB-H41.2N-V11S8
NPN N.C	BB-H40.8N-V21S8	BB-H41.2N-V21S8
PNP N.O	BB-H40.8P-V11S8	BB-H41.2P-V11S8
PNP N.C	BB-H40.8P-V21S8	BB-H41.2P-V21S8

Mounting

(flush mounting)



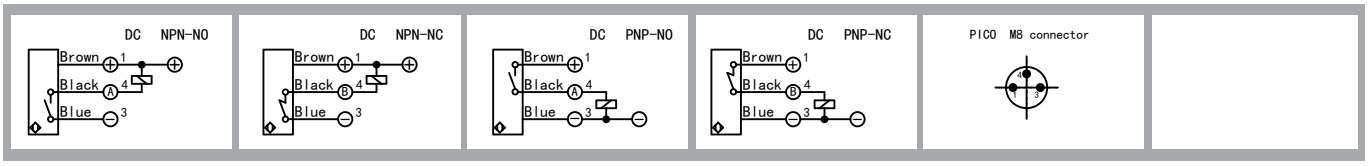
Sn	D1	D2	D3
H40.8	≥0	≥4	≥4
H41.2	≥0	≥4	≥4

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



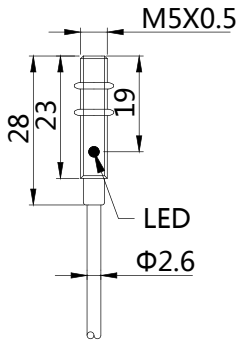


Features:

- M5*0.5 mm , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

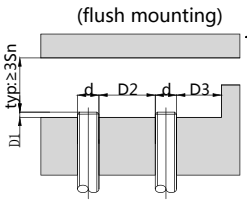
Dimensioned drawing



Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-M50.8N-V11P2	BB-M51.2N-V11P2
NPN N.C	BB-M50.8N-V21P2	BB-M51.2N-V21P2
PNP N.O	BB-M50.8P-V11P2	BB-M51.2P-V11P2
PNP N.C	BB-M50.8P-V21P2	BB-M51.2P-V21P2

Mounting



Sn	D1	D2	D3
M50.8	≥0	≥5	≥5
M51.2	≥0	≥5	≥5

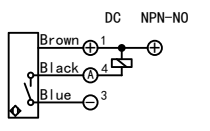
Tightening torque of the fastening screws: <1.5Nm!

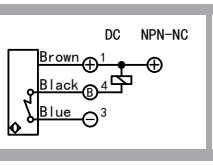
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

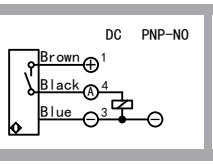
Technical data

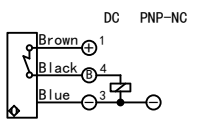
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









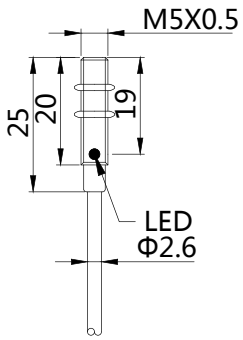


Features:

- M5*0.5 mm short body , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

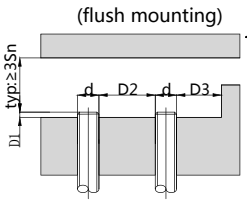
Dimensioned drawing



Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-M50.8N-V11P2-S	BB-M51.2N-V11P2-S
NPN N.C	BB-M50.8N-V21P2-S	BB-M51.2N-V21P2-S
PNP N.O	BB-M50.8P-V11P2-S	BB-M51.2P-V11P2-S
PNP N.C	BB-M50.8P-V21P2-S	BB-M51.2P-V21P2-S

Mounting



Sn	D1	D2	D3
M50.8	≥0	≥5	≥5
M51.2	≥0	≥5	≥5

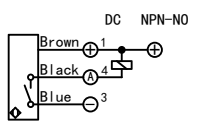
Tightening torque of the fastening screws: <1.5Nm!

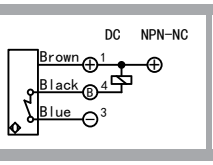
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

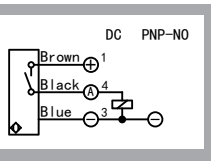
Technical data

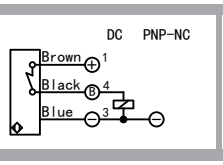
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









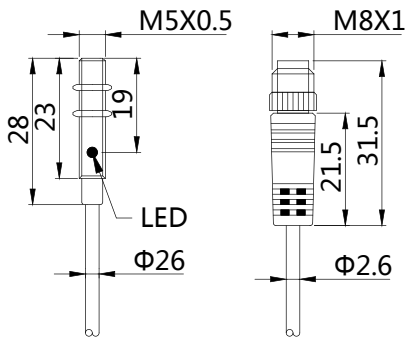


Features:

- M5*0.5 mm , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

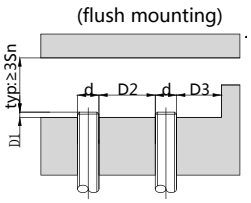
Dimensioned drawing



Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-M50.8N-V11Z8	BB-M51.2N-V11Z8
NPN N.C	BB-M50.8N-V21Z8	BB-M51.2N-V21Z8
PNP N.O	BB-M50.8P-V11Z8	BB-M51.2P-V11Z8
PNP N.C	BB-M50.8P-V21Z8	BB-M51.2P-V21Z8

Mounting



Sn	D1	D2	D3
M50.8	≥0	≥5	≥5
M51.2	≥0	≥5	≥5

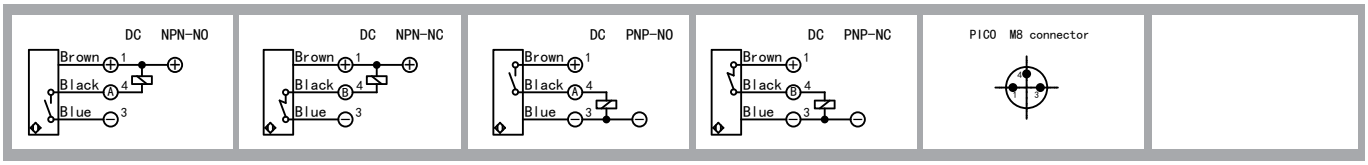
Tightening torque of the fastening screws: <1.5Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.15mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



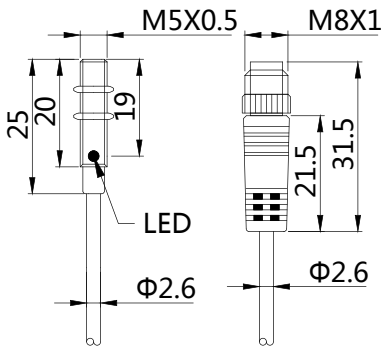


Features:

- M5*0.5 mm short body , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing



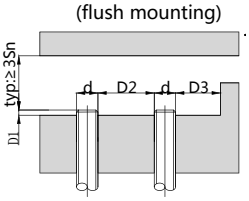
Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-M50.8N-V11Z8-S	BB-M51.2N-V11Z8-S
NPN N.C	BB-M50.8N-V21Z8-S	BB-M51.2N-V21Z8-S
PNP N.O	BB-M50.8P-V11Z8-S	BB-M51.2P-V11Z8-S
PNP N.C	BB-M50.8P-V21Z8-S	BB-M51.2P-V21Z8-S

Mounting

Mounting

(flush mounting)



Sn	D1	D2	D3
M50.8	≥0	≥5	≥5
M51.2	≥0	≥5	≥5

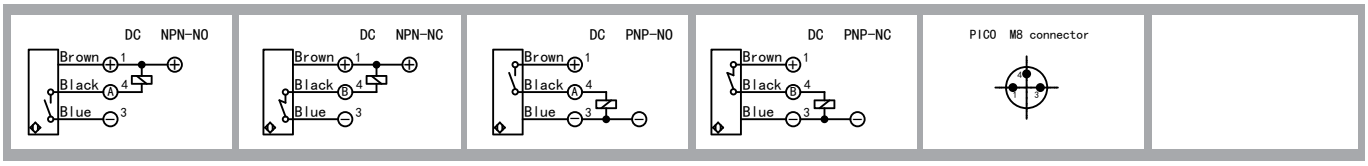
Tightening torque of the fastening screws: <1.5Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.15mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



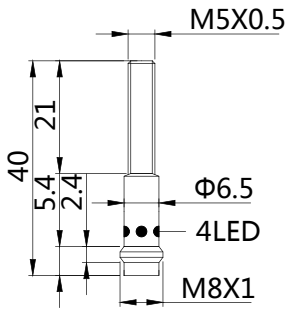


Features:

- M5*0.5 mm , Stainless steel housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



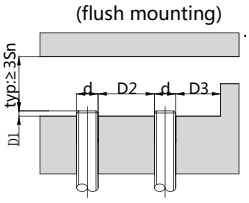
Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-M50.8N-V11S8	BB-M51.2N-V11S8
NPN N.C	BB-M50.8N-V21S8	BB-M51.2N-V21S8
PNP N.O	BB-M50.8P-V11S8	BB-M51.2P-V11S8
PNP N.C	BB-M50.8P-V21S8	BB-M51.2P-V21S8

Mounting

Mounting

(flush mounting)



Sn	D1	D2	D3
M50.8	≥0	≥5	≥5
M51.2	≥0	≥5	≥5

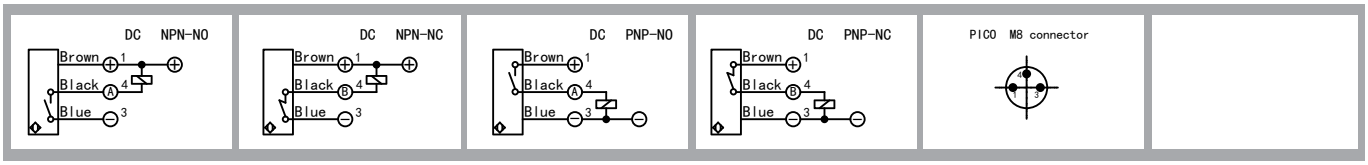
Tightening torque of the fastening screws: <1.5Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



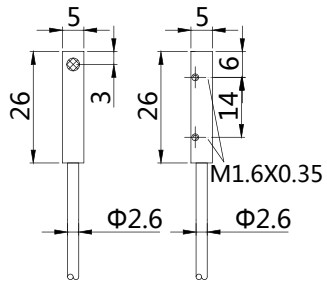


Features:

- Q5*5 mm , Brass,nickel-plated housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

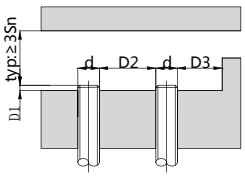


Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-Q550.8N-C11P2	BB-Q551.2N-C11P2
NPN N.C	BB-Q550.8N-C21P2	BB-Q551.2N-C21P2
PNP N.O	BB-Q550.8P-C11P2	BB-Q551.2P-C11P2
PNP N.C	BB-Q550.8P-C21P2	BB-Q551.2P-C21P2

Mounting

(flush mounting)

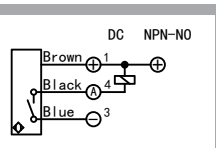


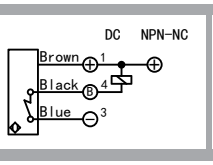
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

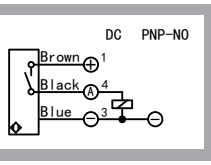
Technical data

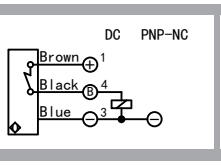
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









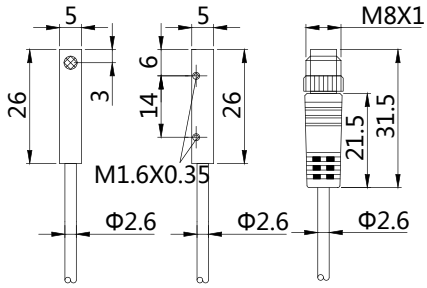


Features:

- Q5*5 mm , Brass,nickel-plated housing;
- 0.8/1.2mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

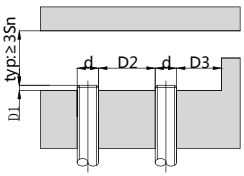


Model No.

Sensing range	Sn:0.8 mm	Sn:1.2 mm
NPN N.O	BB-Q550.8N-C11Z8	BB-Q551.2N-C11Z8
NPN N.C	BB-Q550.8N-C21Z8	BB-Q551.2N-C21Z8
PNP N.O	BB-Q550.8P-C11Z8	BB-Q551.2P-C11Z8
PNP N.C	BB-Q550.8P-C21Z8	BB-Q551.2P-C21Z8

Mounting

(flush mounting)

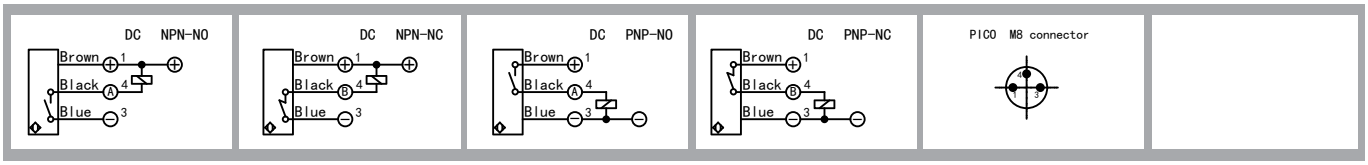


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.15mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



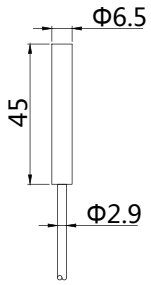


Features:

- Φ6.5 mm , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

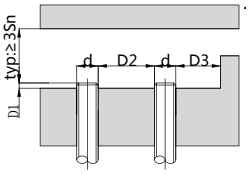


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11P2	BB-H6.503N-V11P2
NPN N.C	BB-H6.502N-V21P2	BB-H6.503N-V21P2
PNP N.O	BB-H6.502P-V11P2	BB-H6.503P-V11P2
PNP N.C	BB-H6.502P-V21P2	BB-H6.503P-V21P2

Mounting

(flush/quasi-flush mounting)



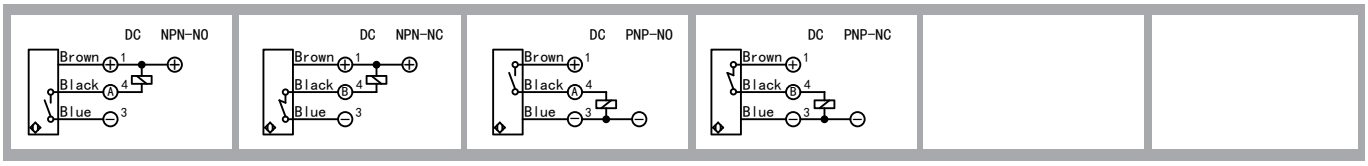
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



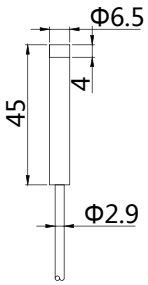


Features:

- Φ6.5 mm , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

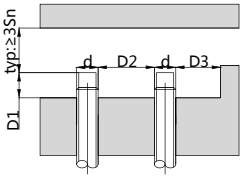


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-H6.504N-V11P2	BN-H6.506N-V11P2
NPN N.C	BN-H6.504N-V21P2	BN-H6.506N-V21P2
PNP N.O	BN-H6.504P-V11P2	BN-H6.506P-V11P2
PNP N.C	BN-H6.504P-V21P2	BN-H6.506P-V21P2

Mounting

(non-flush mounting)



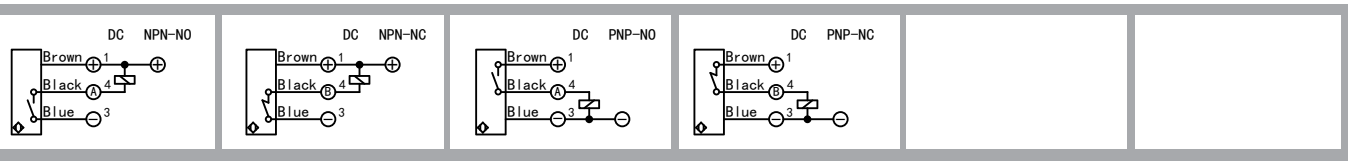
Sn	D1	D2	D3
H6.504	≥8	≥16	≥8
H6.506	≥8	≥24	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



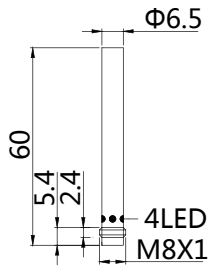


Features:

- Φ6.5 mm , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

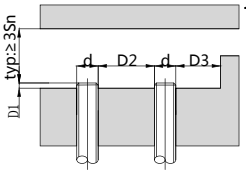


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11S8	BB-H6.503N-V11S8
NPN N.C	BB-H6.502N-V21S8	BB-H6.503N-V21S8
PNP N.O	BB-H6.502P-V11S8	BB-H6.503P-V11S8
PNP N.C	BB-H6.502P-V21S8	BB-H6.503P-V21S8

Mounting

(flush/quasi-flush mounting)



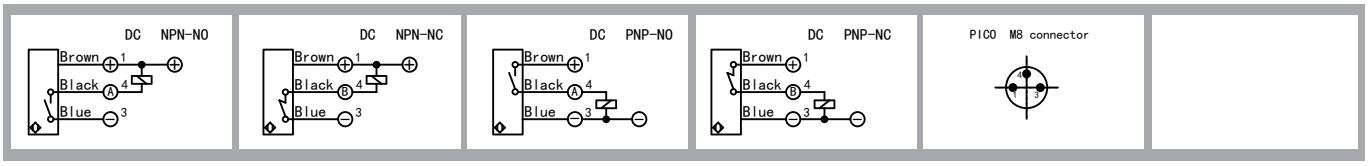
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



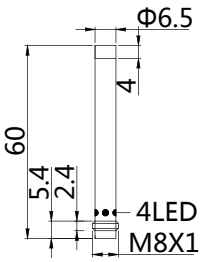


Features:

- Φ6.5 mm , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

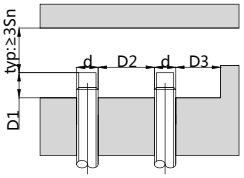


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-H6.504N-V11S8	BN-H6.506N-V11S8
NPN N.C	BN-H6.504N-V21S8	BN-H6.506N-V21S8
PNP N.O	BN-H6.504P-V11S8	BN-H6.506P-V11S8
PNP N.C	BN-H6.504P-V21S8	BN-H6.506P-V21S8

Mounting

(non-flush mounting)



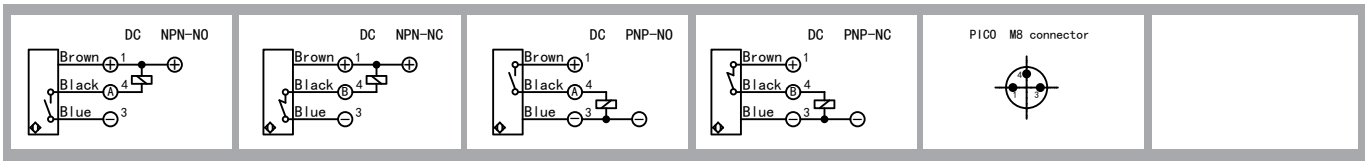
Sn	D1	D2	D3
H6.504	≥8	≥16	≥8
H6.506	≥8	≥24	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



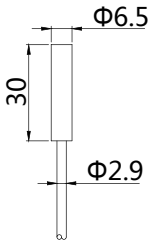


Features:

- Φ6.5 mm short body , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



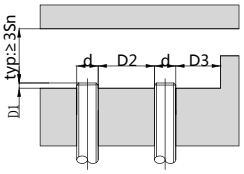
Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11P2-S	BB-H6.503N-V11P2-S
NPN N.C	BB-H6.502N-V21P2-S	BB-H6.503N-V21P2-S
PNP N.O	BB-H6.502P-V11P2-S	BB-H6.503P-V11P2-S
PNP N.C	BB-H6.502P-V21P2-S	BB-H6.503P-V21P2-S

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

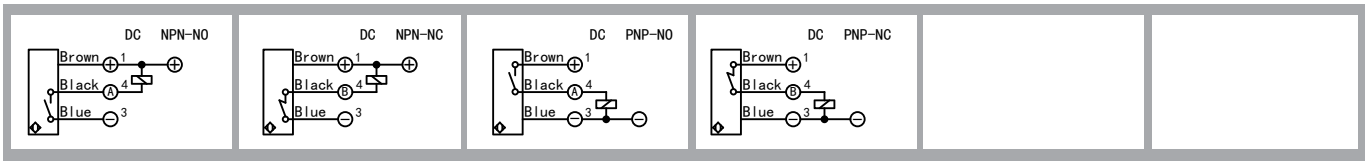


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



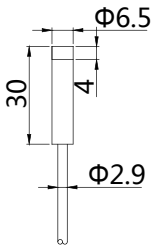


Features:

- Φ6.5 mm short body , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

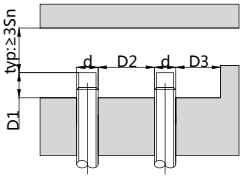


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-H6.504N-V11P2-S	BN-H6.506N-V11P2-S
NPN N.C	BN-H6.504N-V21P2-S	BN-H6.506N-V21P2-S
PNP N.O	BN-H6.504P-V11P2-S	BN-H6.506P-V11P2-S
PNP N.C	BN-H6.504P-V21P2-S	BN-H6.506P-V21P2-S

Mounting

(non-flush mounting)



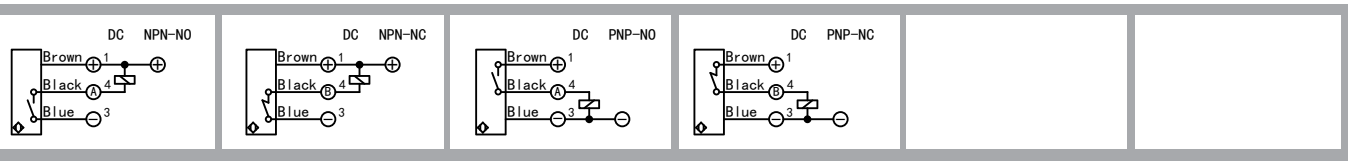
Sn	D1	D2	D3
H6.504	≥8	≥16	≥8
H6.506	≥8	≥24	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



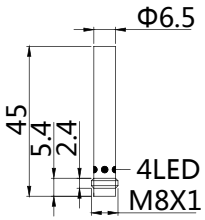


Features:

- Φ6.5 mm short body , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

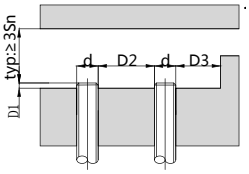


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11S8-S	BB-H6.503N-V11S8-S
NPN N.C	BB-H6.502N-V21S8-S	BB-H6.503N-V21S8-S
PNP N.O	BB-H6.502P-V11S8-S	BB-H6.503P-V11S8-S
PNP N.C	BB-H6.502P-V21S8-S	BB-H6.503P-V21S8-S

Mounting

(flush/quasi-flush mounting)



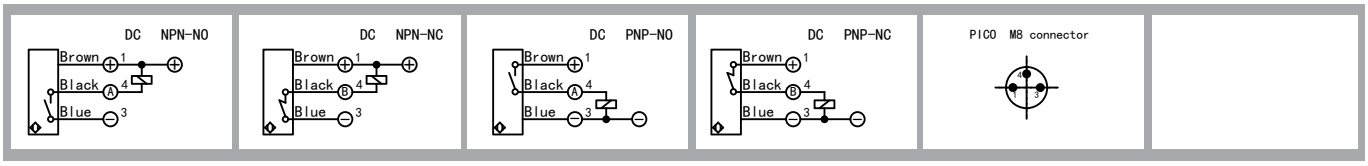
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



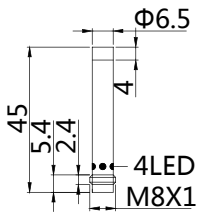


Features:

- Φ6.5 mm short body , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

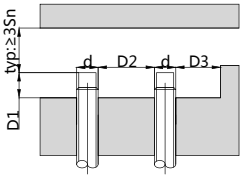


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-H6.504N-V11S8-S	BN-H6.506N-V11S8-S
NPN N.C	BN-H6.504N-V21S8-S	BN-H6.506N-V21S8-S
PNP N.O	BN-H6.504P-V11S8-S	BN-H6.506P-V11S8-S
PNP N.C	BN-H6.504P-V21S8-S	BN-H6.506P-V21S8-S

Mounting

(non-flush mounting)



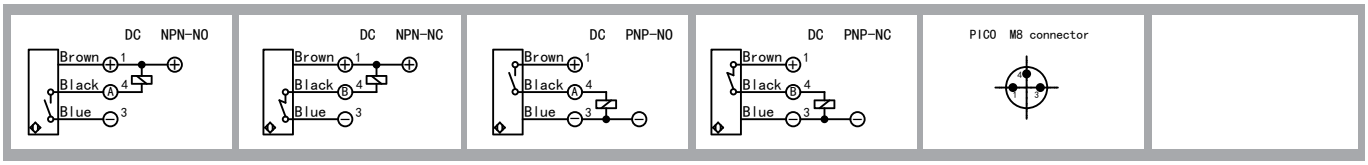
Sn	D1	D2	D3
H6.504	≥8	≥16	≥8
H6.506	≥8	≥24	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



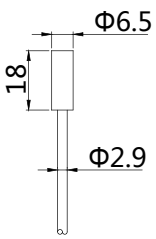


Features:

- Φ6.5 mm short body , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

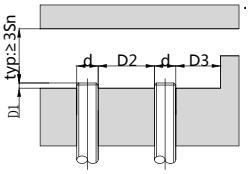


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11P2-R	BB-H6.503N-V11P2-R
NPN N.C	BB-H6.502N-V21P2-R	BB-H6.503N-V21P2-R
PNP N.O	BB-H6.502P-V11P2-R	BB-H6.503P-V11P2-R
PNP N.C	BB-H6.502P-V21P2-R	BB-H6.503P-V21P2-R

Mounting

(flush/quasi-flush mounting)



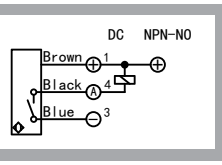
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

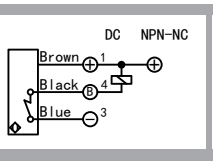
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

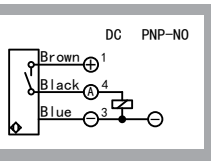
Technical data

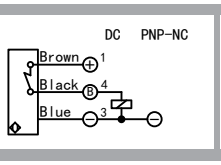
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









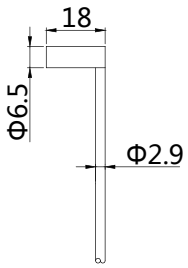


Features:

- Φ6.5 mm short body , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

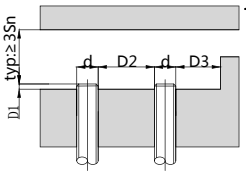


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11P2-T	BB-H6.503N-V11P2-T
NPN N.C	BB-H6.502N-V21P2-T	BB-H6.503N-V21P2-T
PNP N.O	BB-H6.502P-V11P2-T	BB-H6.503P-V11P2-T
PNP N.C	BB-H6.502P-V21P2-T	BB-H6.503P-V21P2-T

Mounting

(flush/quasi-flush mounting)



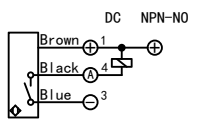
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

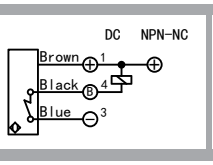
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

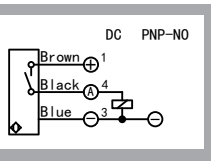
Technical data

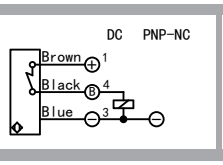
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









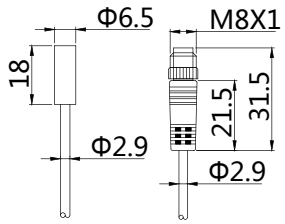


Features:

- Φ6.5 mm short body , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

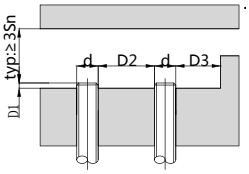


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11Z8-R	BB-H6.503N-V11Z8-R
NPN N.C	BB-H6.502N-V21Z8-R	BB-H6.503N-V21Z8-R
PNP N.O	BB-H6.502P-V11Z8-R	BB-H6.503P-V11Z8-R
PNP N.C	BB-H6.502P-V21Z8-R	BB-H6.503P-V21Z8-R

Mounting

(flush/quasi-flush mounting)



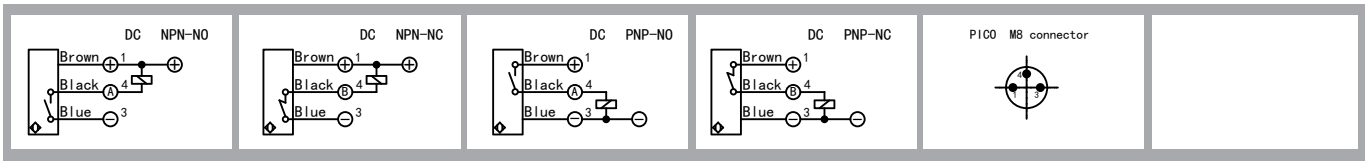
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.18mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



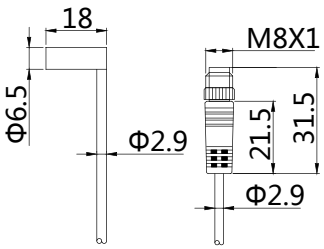


Features:

- Φ6.5 mm short body , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

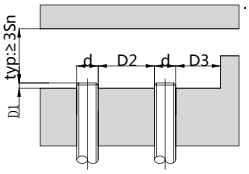


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11Z8-T	BB-H6.503N-V11Z8-T
NPN N.C	BB-H6.502N-V21Z8-T	BB-H6.503N-V21Z8-T
PNP N.O	BB-H6.502P-V11Z8-T	BB-H6.503P-V11Z8-T
PNP N.C	BB-H6.502P-V21Z8-T	BB-H6.503P-V21Z8-T

Mounting

(flush/quasi-flush mounting)



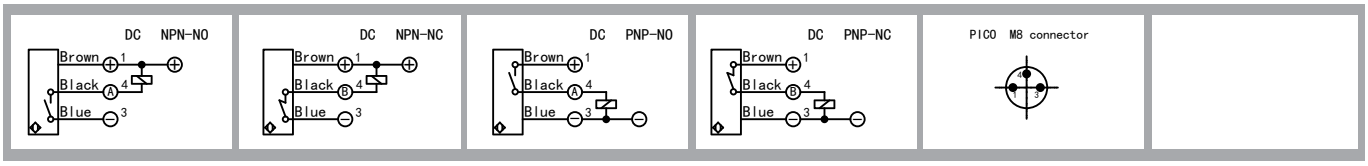
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.18mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



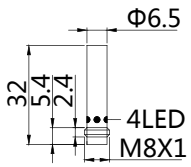


Features:

- Φ6.5 mm short body , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

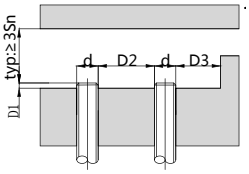


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-H6.502N-V11S8-R	BB-H6.503N-V11S8-R
NPN N.C	BB-H6.502N-V21S8-R	BB-H6.503N-V21S8-R
PNP N.O	BB-H6.502P-V11S8-R	BB-H6.503P-V11S8-R
PNP N.C	BB-H6.502P-V21S8-R	BB-H6.503P-V21S8-R

Mounting

(flush/quasi-flush mounting)



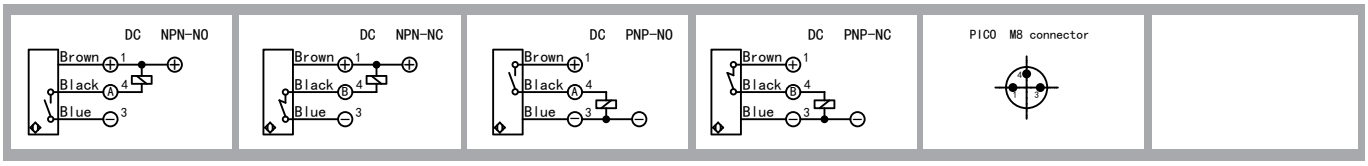
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8
H6.503	≥2	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



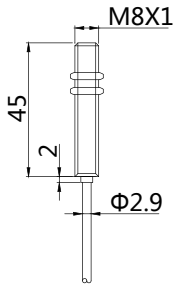


Features:

- M8*1 mm , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

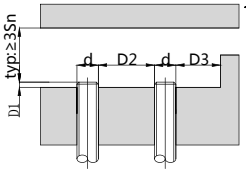


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11P2	BB-M803N-V11P2
NPN N.C	BB-M802N-V21P2	BB-M803N-V21P2
PNP N.O	BB-M802P-V11P2	BB-M803P-V11P2
PNP N.C	BB-M802P-V21P2	BB-M803P-V21P2

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

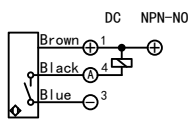
Tightening torque of the fastening screws: <10Nm!

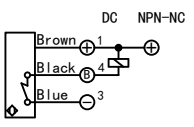
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

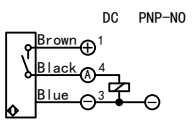
Technical data

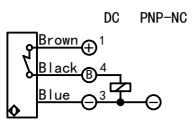
Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









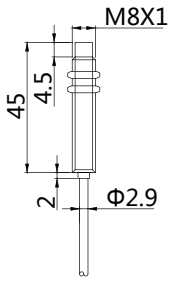


Features:

- M8*1 mm , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

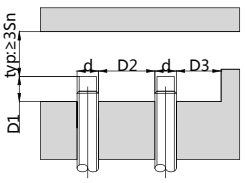


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-M804N-V11P2	BN-M806N-V11P2
NPN N.C	BN-M804N-V21P2	BN-M806N-V21P2
PNP N.O	BN-M804P-V11P2	BN-M806P-V11P2
PNP N.C	BN-M804P-V21P2	BN-M806P-V21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8
M806	≥8	≥24	≥8

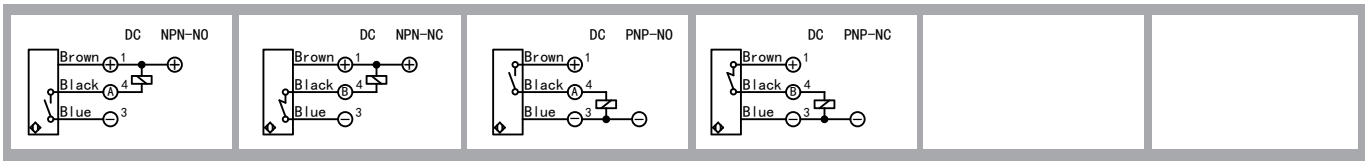
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



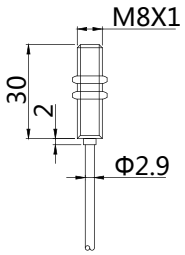


Features:

- M8*1 mm short body , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

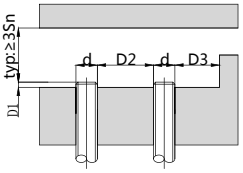


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11P2-S	BB-M803N-V11P2-S
NPN N.C	BB-M802N-V21P2-S	BB-M803N-V21P2-S
PNP N.O	BB-M802P-V11P2-S	BB-M803P-V11P2-S
PNP N.C	BB-M802P-V21P2-S	BB-M803P-V21P2-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

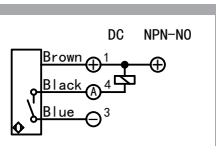
Tightening torque of the fastening screws: <10Nm!

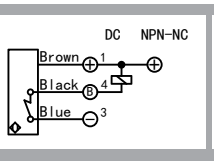
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

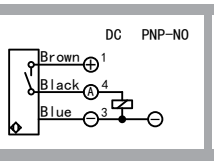
Technical data

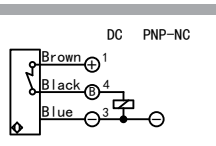
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









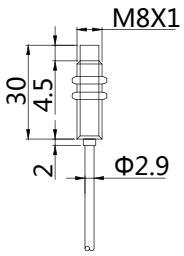


Features:

- M8*1 mm short body , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

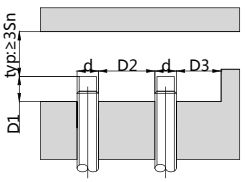


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-M804N-V11P2-S	BN-M806N-V11P2-S
NPN N.C	BN-M804N-V21P2-S	BN-M806N-V21P2-S
PNP N.O	BN-M804P-V11P2-S	BN-M806P-V11P2-S
PNP N.C	BN-M804P-V21P2-S	BN-M806P-V21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8
M806	≥8	≥24	≥8

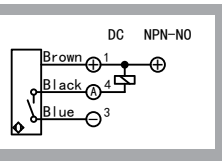
⚠ Tightening torque of the fastening screws: <10Nm!

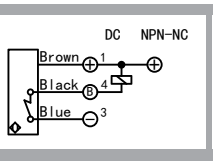
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

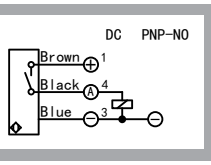
Technical data

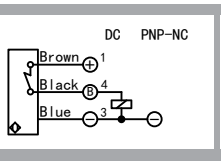
Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









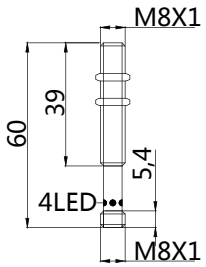


Features:

- M8*1 mm , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

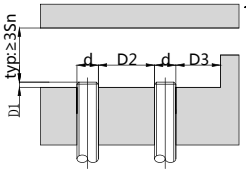


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11S8	BB-M803N-V11S8
NPN N.C	BB-M802N-V21S8	BB-M803N-V21S8
PNP N.O	BB-M802P-V11S8	BB-M803P-V11S8
PNP N.C	BB-M802P-V21S8	BB-M803P-V21S8

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

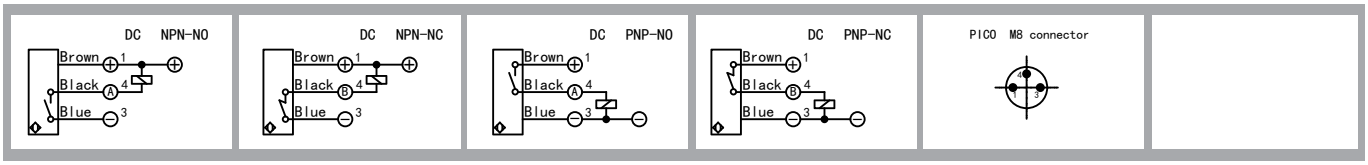
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



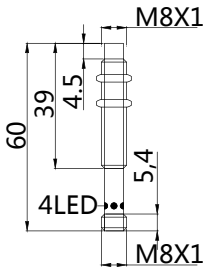


Features:

- M8*1 mm , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

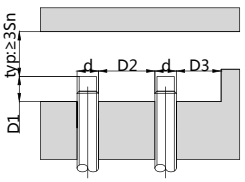


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-M804N-V11S8	BN-M806N-V11S8
NPN N.C	BN-M804N-V21S8	BN-M806N-V21S8
PNP N.O	BN-M804P-V11S8	BN-M806P-V11S8
PNP N.C	BN-M804P-V21S8	BN-M806P-V21S8

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8
M806	≥8	≥24	≥8

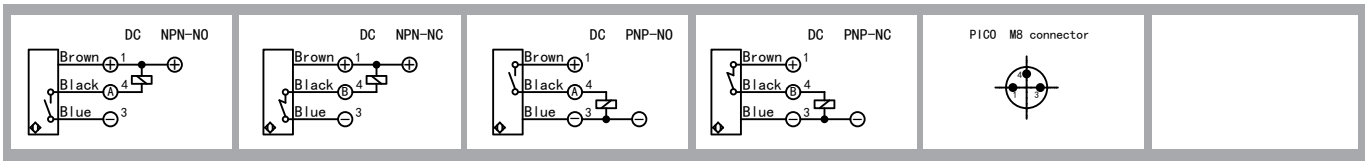
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



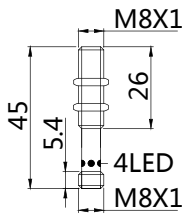


Features:

- M8*1 mm short body , Stainless steel housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

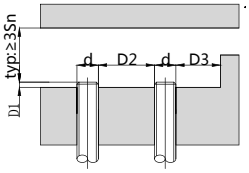


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11S8-S	BB-M803N-V11S8-S
NPN N.C	BB-M802N-V21S8-S	BB-M803N-V21S8-S
PNP N.O	BB-M802P-V11S8-S	BB-M803P-V11S8-S
PNP N.C	BB-M802P-V21S8-S	BB-M803P-V21S8-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

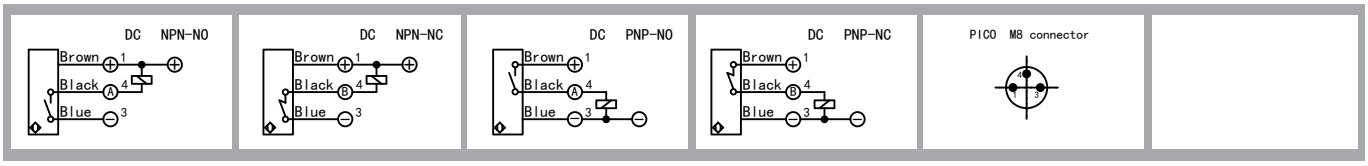
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



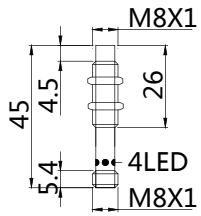


Features:

- M8*1 mm short body , Stainless steel housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

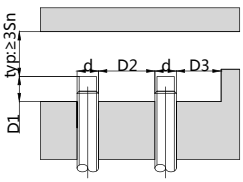


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-M804N-V11S8-S	BN-M806N-V11S8-S
NPN N.C	BN-M804N-V21S8-S	BN-M806N-V21S8-S
PNP N.O	BN-M804P-V11S8-S	BN-M806P-V11S8-S
PNP N.C	BN-M804P-V21S8-S	BN-M806P-V21S8-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8
M806	≥8	≥24	≥8

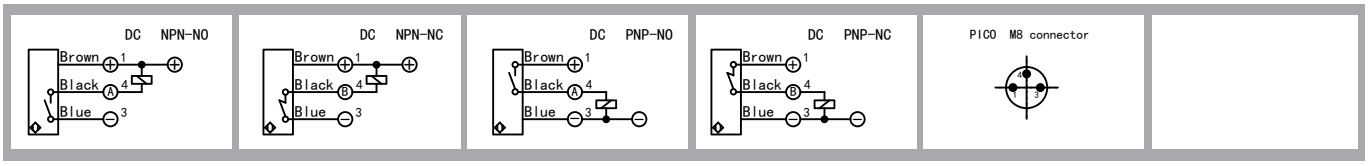
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



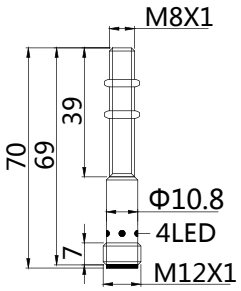


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

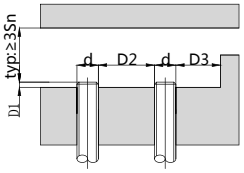


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-C11S12	BB-M803N-C11S12
NPN N.C	BB-M802N-C21S12	BB-M803N-C21S12
PNP N.O	BB-M802P-C11S12	BB-M803P-C11S12
PNP N.C	BB-M802P-C21S12	BB-M803P-C21S12

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

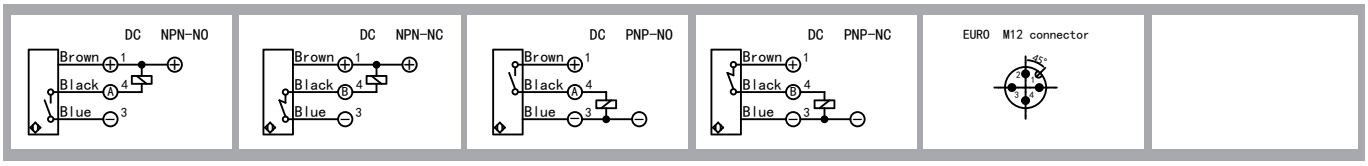
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



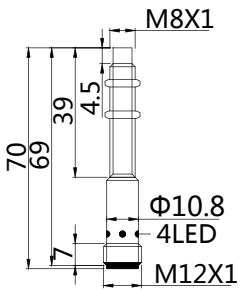


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

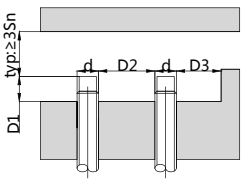


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-M804N-C11S12	BN-M806N-C11S12
NPN N.C	BN-M804N-C21S12	BN-M806N-C21S12
PNP N.O	BN-M804P-C11S12	BN-M806P-C11S12
PNP N.C	BN-M804P-C21S12	BN-M806P-C21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8
M806	≥8	≥24	≥8

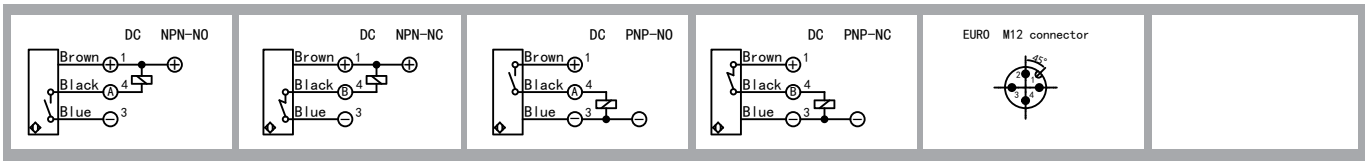
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



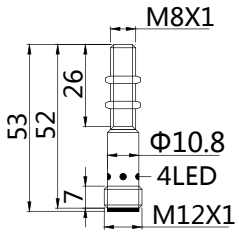


Features:

- M8*1 mm short body , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

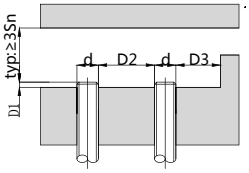


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-C11S12-S	BB-M803N-C11S12-S
NPN N.C	BB-M802N-C21S12-S	BB-M803N-C21S12-S
PNP N.O	BB-M802P-C11S12-S	BB-M803P-C11S12-S
PNP N.C	BB-M802P-C21S12-S	BB-M803P-C21S12-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

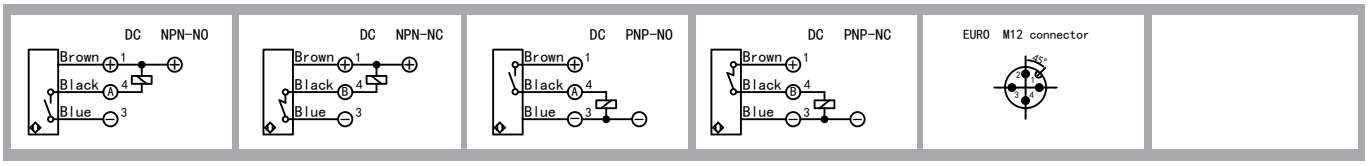
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



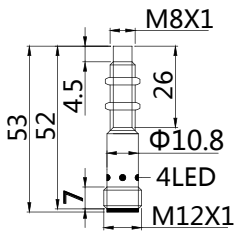


Features:

- M8*1 mm short body , Brass,nickel-plated housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

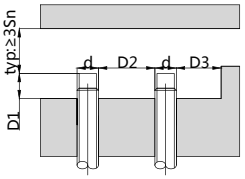


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-M804N-C11S12-S	BN-M806N-C11S12-S
NPN N.C	BN-M804N-C21S12-S	BN-M806N-C21S12-S
PNP N.O	BN-M804P-C11S12-S	BN-M806P-C11S12-S
PNP N.C	BN-M804P-C21S12-S	BN-M806P-C21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8
M806	≥8	≥24	≥8

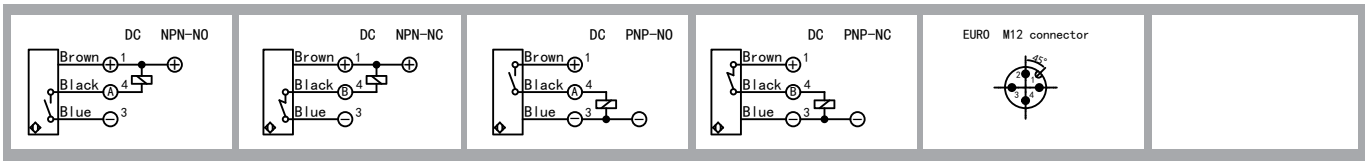
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



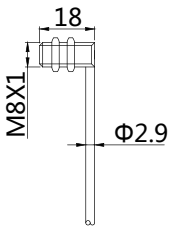


Features:

- M8*1 mm , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

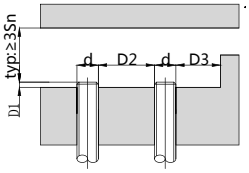


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11P2-T	BB-M803N-V11P2-T
NPN N.C	BB-M802N-V21P2-T	BB-M803N-V21P2-T
PNP N.O	BB-M802P-V11P2-T	BB-M803P-V11P2-T
PNP N.C	BB-M802P-V21P2-T	BB-M803P-V21P2-T

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

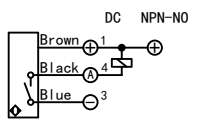
Tightening torque of the fastening screws: <10Nm!

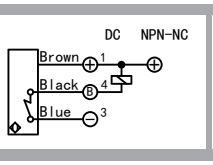
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

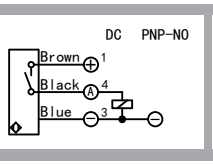
Technical data

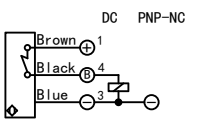
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









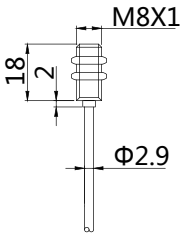


Features:

- M8*1 mm , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

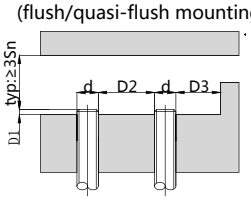


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11P2-R	BB-M803N-V11P2-R
NPN N.C	BB-M802N-V21P2-R	BB-M803N-V21P2-R
PNP N.O	BB-M802P-V11P2-R	BB-M803P-V11P2-R
PNP N.C	BB-M802P-V21P2-R	BB-M803P-V21P2-R

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

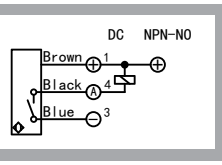
Tightening torque of the fastening screws: <10Nm!

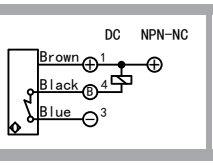
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

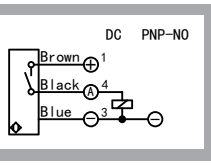
Technical data

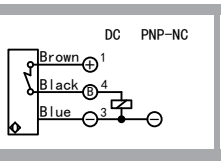
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









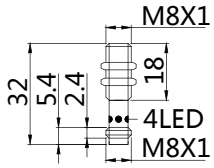


Features:

- M8*1 mm , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

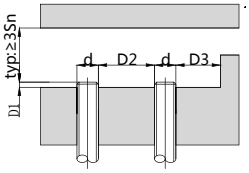


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11S8-R	BB-M803N-V11S8-R
NPN N.C	BB-M802N-V21S8-R	BB-M803N-V21S8-R
PNP N.O	BB-M802P-V11S8-R	BB-M803P-V11S8-R
PNP N.C	BB-M802P-V21S8-R	BB-M803P-V21S8-R

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

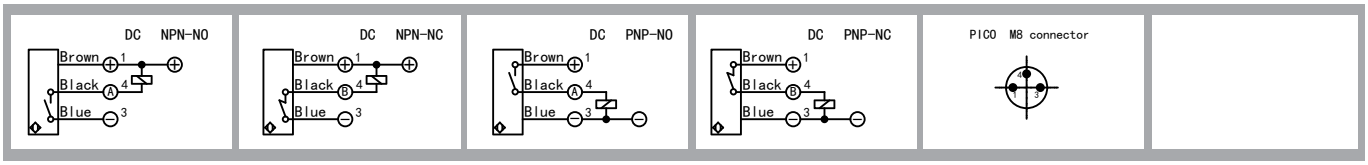
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



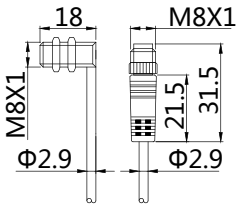


Features:

- M8*1 mm , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

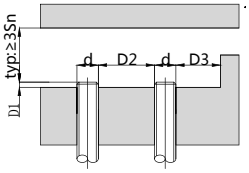


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11Z8-T	BB-M803N-V11Z8-T
NPN N.C	BB-M802N-V21Z8-T	BB-M803N-V21Z8-T
PNP N.O	BB-M802P-V11Z8-T	BB-M803P-V11Z8-T
PNP N.C	BB-M802P-V21Z8-T	BB-M803P-V21Z8-T

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

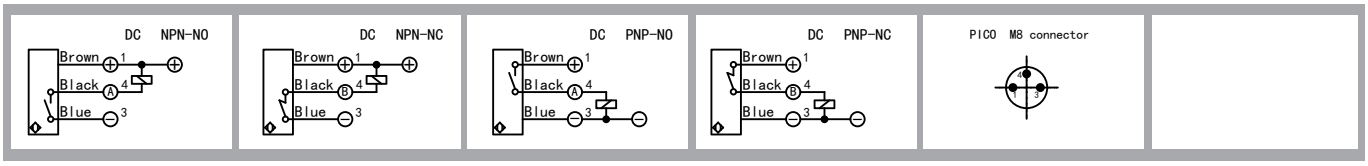
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.18mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



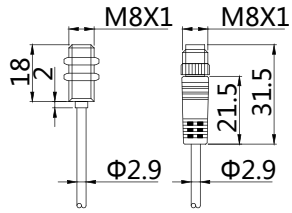


Features:

- M8*1 mm , Stainless steel housing;
- The shortest body , compact construction;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

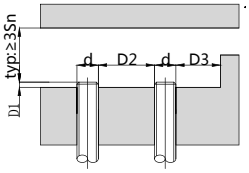


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-M802N-V11Z8-R	BB-M803N-V11Z8-R
NPN N.C	BB-M802N-V21Z8-R	BB-M803N-V21Z8-R
PNP N.O	BB-M802P-V11Z8-R	BB-M803P-V11Z8-R
PNP N.C	BB-M802P-V21Z8-R	BB-M803P-V21Z8-R

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8
M803	≥2	≥8	≥8

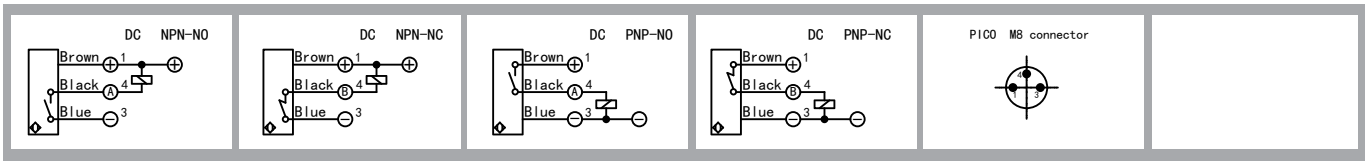
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.18mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



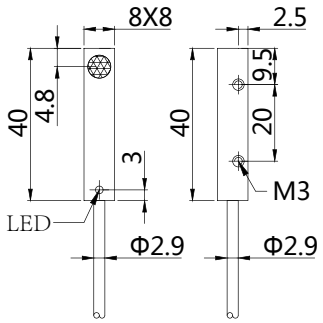


Features:

- Q8*8 mm , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

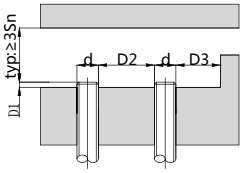


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q8802N-C11P2	BB-Q8803N-C11P2
NPN N.C	BB-Q8802N-C21P2	BB-Q8803N-C21P2
PNP N.O	BB-Q8802P-C11P2	BB-Q8803P-C11P2
PNP N.C	BB-Q8802P-C21P2	BB-Q8803P-C21P2

Mounting

(flush/quasi-flush mounting)

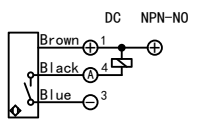


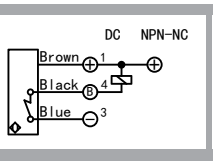
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

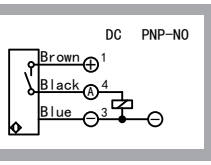
Technical data

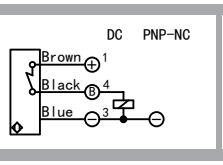
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









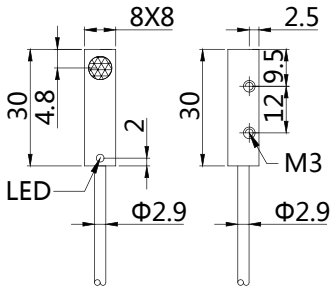


Features:

- Q8*8 mm , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

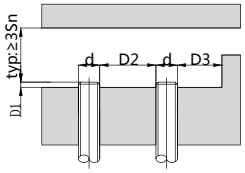


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q8802N-C11P2-S	BB-Q8803N-C11P2-S
NPN N.C	BB-Q8802N-C21P2-S	BB-Q8803N-C21P2-S
PNP N.O	BB-Q8802P-C11P2-S	BB-Q8803P-C11P2-S
PNP N.C	BB-Q8802P-C21P2-S	BB-Q8803P-C21P2-S

Mounting

(flush/quasi-flush mounting)

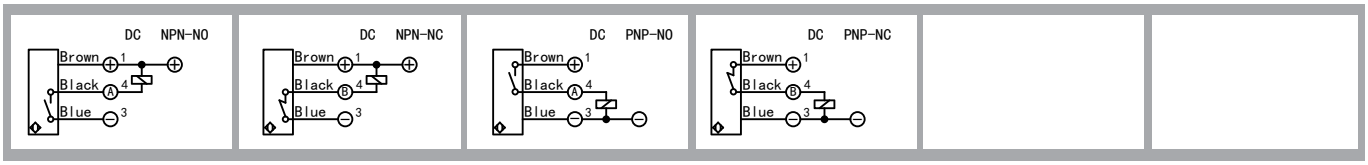


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



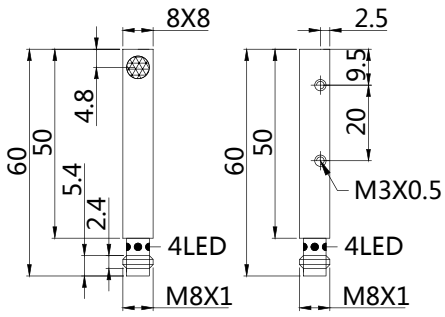


Features:

- Q8*8 mm , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

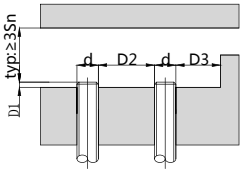


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q8802N-C11S8	BB-Q8803N-C11S8
NPN N.C	BB-Q8802N-C21S8	BB-Q8803N-C21S8
PNP N.O	BB-Q8802P-C11S8	BB-Q8803P-C11S8
PNP N.C	BB-Q8802P-C21S8	BB-Q8803P-C21S8

Mounting

(flush/quasi-flush mounting)

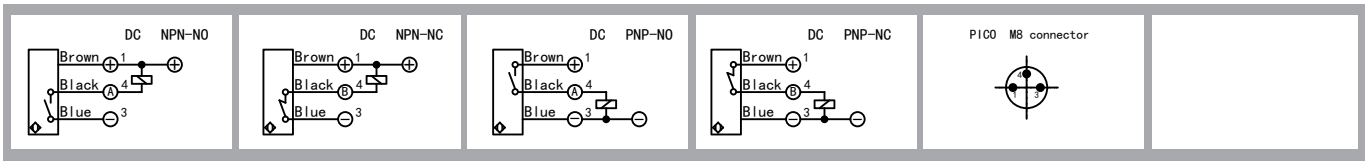


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



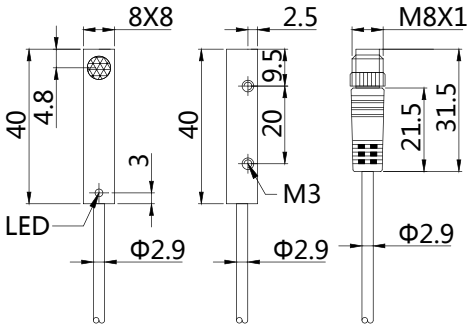


Features:

- Q8*8 mm , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

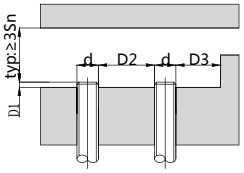


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q8802N-C11Z8	BB-Q8803N-C11Z8
NPN N.C	BB-Q8802N-C21Z8	BB-Q8803N-C21Z8
PNP N.O	BB-Q8802P-C11Z8	BB-Q8803P-C11Z8
PNP N.C	BB-Q8802P-C21Z8	BB-Q8803P-C21Z8

Mounting

(flush/quasi-flush mounting)

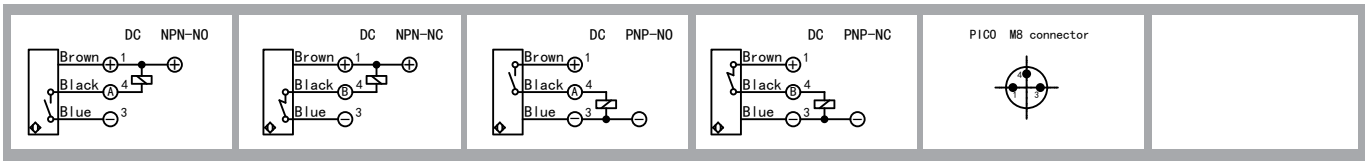


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.18mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



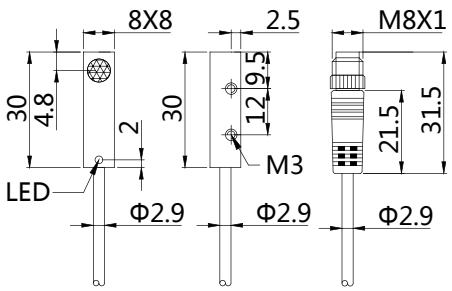


Features:

- Q8*8 mm , Brass,nickel-plated housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

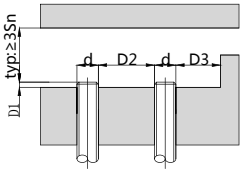


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q8802N-C11Z8-S	BB-Q8803N-C11Z8-S
NPN N.C	BB-Q8802N-C21Z8-S	BB-Q8803N-C21Z8-S
PNP N.O	BB-Q8802P-C11Z8-S	BB-Q8803P-C11Z8-S
PNP N.C	BB-Q8802P-C21Z8-S	BB-Q8803P-C21Z8-S

Mounting

(flush/quasi-flush mounting)

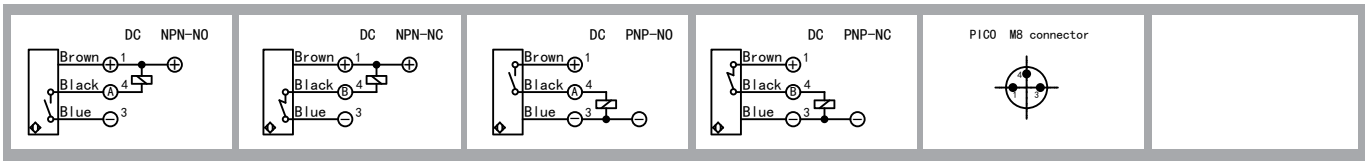


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/0.3m ; 3*0.18mm²
		With M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



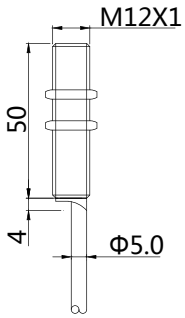


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4/6mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

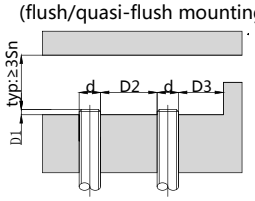


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BB-M1204N-C11P2	BB-M1206N-C11P2
NPN N.C	BB-M1204N-C21P2	BB-M1206N-C21P2
PNP N.O	BB-M1204P-C11P2	BB-M1206P-C11P2
PNP N.C	BB-M1204P-C21P2	BB-M1206P-C21P2

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1204	≥1	≥12	≥12
M1206	≥2.5	≥12	≥12

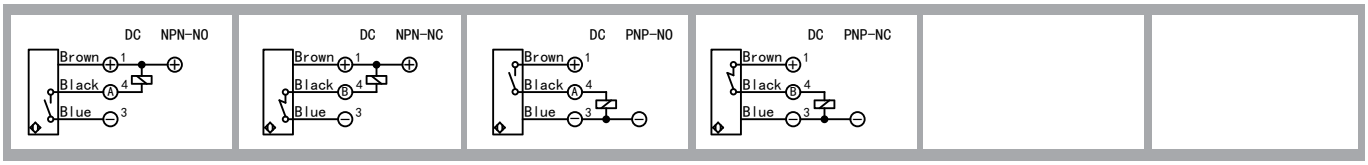
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



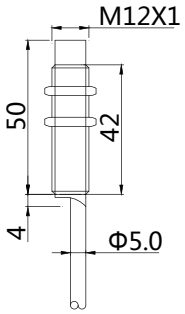


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 8/10mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

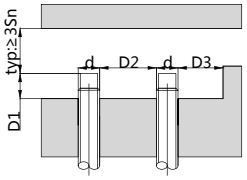


Model No.

Sensing range	Sn:8 mm	Sn:10 mm
NPN N.O	BN-M1208N-C11P2	BN-M1210N-C11P2
NPN N.C	BN-M1208N-C21P2	BN-M1210N-C21P2
PNP N.O	BN-M1208P-C11P2	BN-M1210P-C11P2
PNP N.C	BN-M1208P-C21P2	BN-M1210P-C21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12
M1210	≥12	≥36	≥12

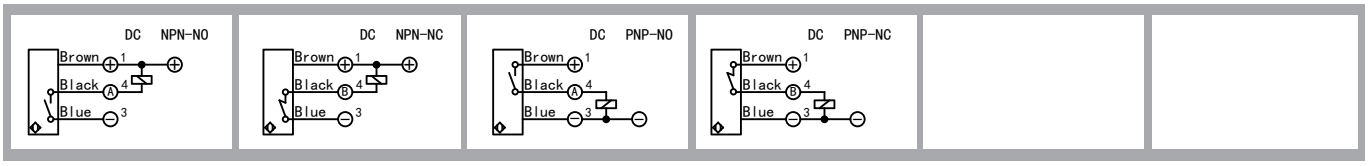
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



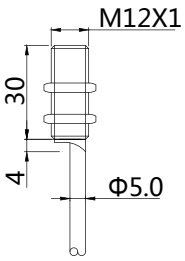


Features:

- M12*1 mm short body , Brass,nickel-plated housing;
- 4/6mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

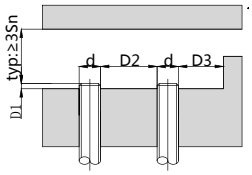


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BB-M1204N-C11P2-S	BB-M1206N-C11P2-S
NPN N.C	BB-M1204N-C21P2-S	BB-M1206N-C21P2-S
PNP N.O	BB-M1204P-C11P2-S	BB-M1206P-C11P2-S
PNP N.C	BB-M1204P-C21P2-S	BB-M1206P-C21P2-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1204	≥1	≥12	≥12
M1206	≥2.5	≥12	≥12

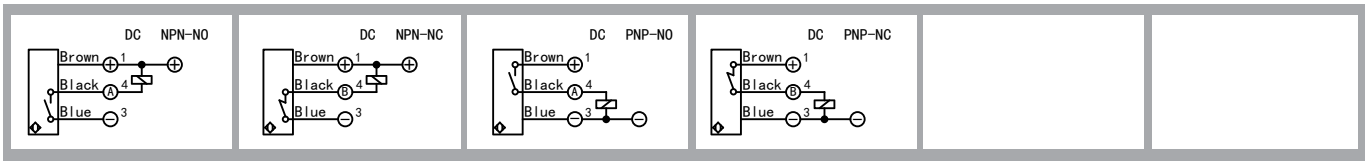
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



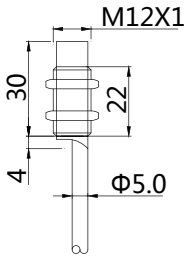


Features:

- M12*1 mm short body , Brass,nickel-plated housing;
- 8/10mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

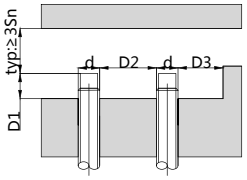


Model No.

Sensing range	Sn:8 mm	Sn:10 mm
NPN N.O	BN-M1208N-C11P2-S	BN-M1210N-C11P2-S
NPN N.C	BN-M1208N-C21P2-S	BN-M1210N-C21P2-S
PNP N.O	BN-M1208P-C11P2-S	BN-M1210P-C11P2-S
PNP N.C	BN-M1208P-C21P2-S	BN-M1210P-C21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12
M1210	≥12	≥36	≥12

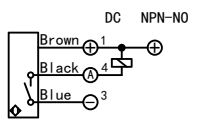
Tightening torque of the fastening screws: <10Nm!

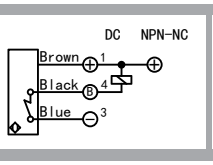
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

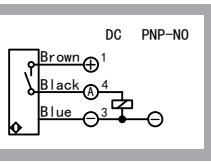
Technical data

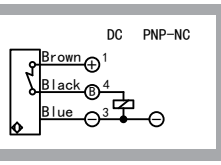
Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









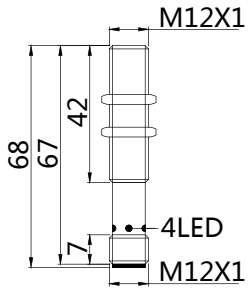


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4/6mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

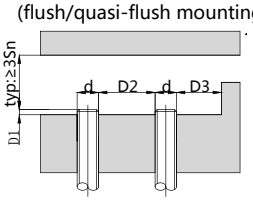


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BB-M1204N-C11S12	BB-M1206N-C11S12
NPN N.C	BB-M1204N-C21S12	BB-M1206N-C21S12
PNP N.O	BB-M1204P-C11S12	BB-M1206P-C11S12
PNP N.C	BB-M1204P-C21S12	BB-M1206P-C21S12

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1204	≥1	≥12	≥12
M1206	≥2.5	≥12	≥12

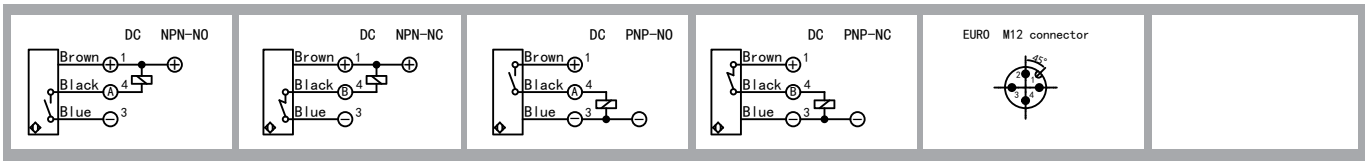
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



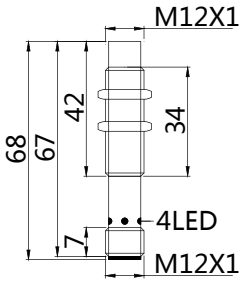


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 8/10mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

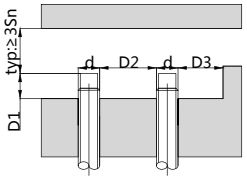


Model No.

Sensing range	Sn:8 mm	Sn:10 mm
NPN N.O	BN-M1208N-C11S12	BN-M1210N-C11S12
NPN N.C	BN-M1208N-C21S12	BN-M1210N-C21S12
PNP N.O	BN-M1208P-C11S12	BN-M1210P-C11S12
PNP N.C	BN-M1208P-C21S12	BN-M1210P-C21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12
M1210	≥12	≥36	≥12

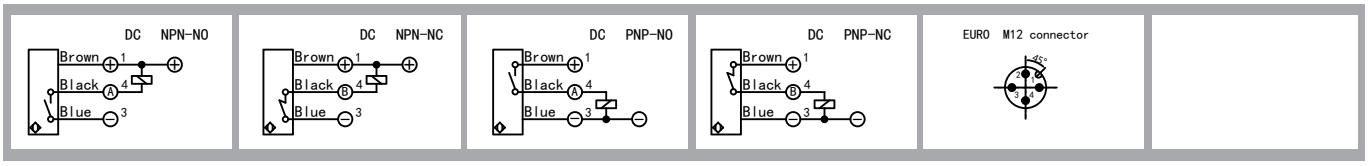
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



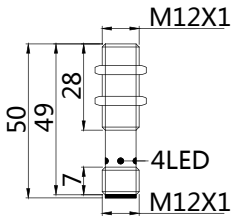


Features:

- M12*1 mm short body , Brass,nickel-plated housing;
- 4/6mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

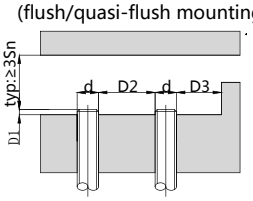


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BB-M1204N-C11S12-S	BB-M1206N-C11S12-S
NPN N.C	BB-M1204N-C21S12-S	BB-M1206N-C21S12-S
PNP N.O	BB-M1204P-C11S12-S	BB-M1206P-C11S12-S
PNP N.C	BB-M1204P-C21S12-S	BB-M1206P-C21S12-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1204	≥1	≥12	≥12
M1206	≥2.5	≥12	≥12

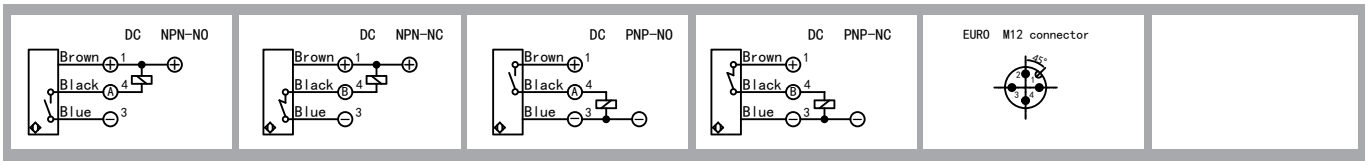
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



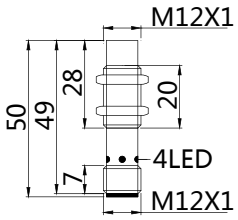


Features:

- M12*1 mm short body , Brass,nickel-plated housing;
- 8/10mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

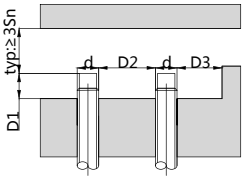


Model No.

Sensing range	Sn:8 mm	Sn:10 mm
NPN N.O	BN-M1208N-C11S12-S	BN-M1210N-C11S12-S
NPN N.C	BN-M1208N-C21S12-S	BN-M1210N-C21S12-S
PNP N.O	BN-M1208P-C11S12-S	BN-M1210P-C11S12-S
PNP N.C	BN-M1208P-C21S12-S	BN-M1210P-C21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12
M1210	≥12	≥36	≥12

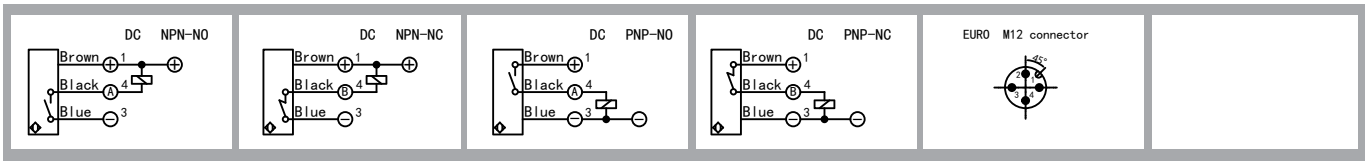
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



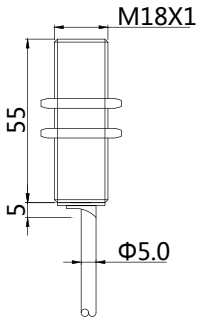


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8/12mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

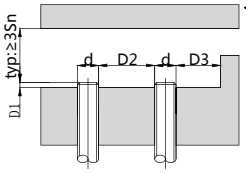


Model No.

Sensing range	Sn:8 mm	Sn:12 mm
NPN N.O	BB-M1808N-C11P2	BB-M1812N-C11P2
NPN N.C	BB-M1808N-C21P2	BB-M1812N-C21P2
PNP N.O	BB-M1808P-C11P2	BB-M1812P-C11P2
PNP N.C	BB-M1808P-C21P2	BB-M1812P-C21P2

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18
M1812	≥4	≥18	≥18

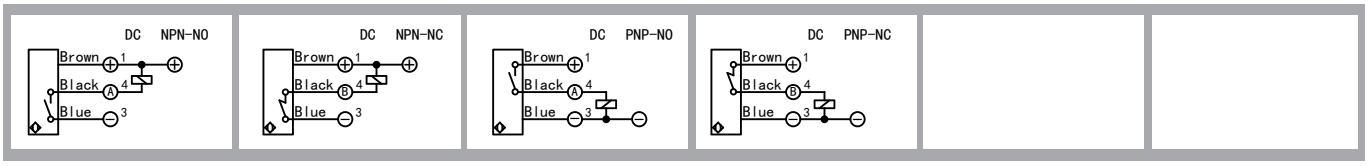
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



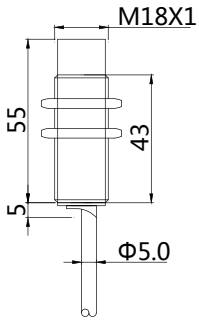


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 16/20mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

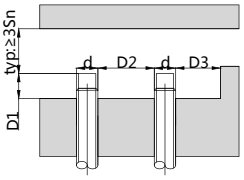


Model No.

Sensing range	Sn:16 mm	Sn:20 mm
NPN N.O	BN-M1816N-C11P2	BN-M1820N-C11P2
NPN N.C	BN-M1816N-C21P2	BN-M1820N-C21P2
PNP N.O	BN-M1816P-C11P2	BN-M1820P-C11P2
PNP N.C	BN-M1816P-C21P2	BN-M1820P-C21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18
M1820	≥25	≥54	≥18

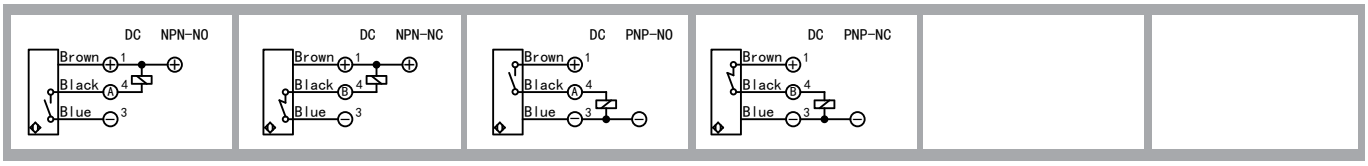
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



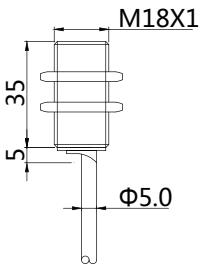


Features:

- M18*1 mm short body , Brass,nickel-plated housing;
- 8/12mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

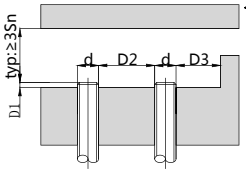


Model No.

Sensing range	Sn:8 mm	Sn:12 mm
NPN N.O	BB-M1808N-C11P2-S	BB-M1812N-C11P2-S
NPN N.C	BB-M1808N-C21P2-S	BB-M1812N-C21P2-S
PNP N.O	BB-M1808P-C11P2-S	BB-M1812P-C11P2-S
PNP N.C	BB-M1808P-C21P2-S	BB-M1812P-C21P2-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18
M1812	≥4	≥18	≥18

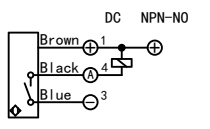
Tightening torque of the fastening screws: <20Nm!

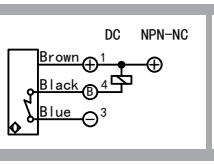
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

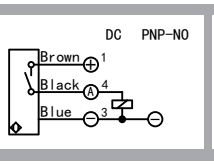
Technical data

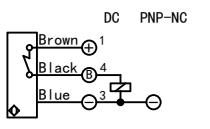
Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









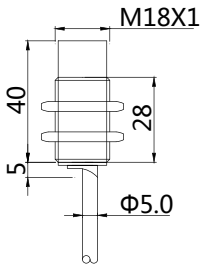


Features:

- M18*1 mm short body , Brass,nickel-plated housing;
- 16/20mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

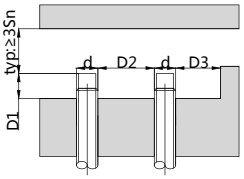


Model No.

Sensing range	Sn:16 mm	Sn:20 mm
NPN N.O	BN-M1816N-C11P2-S	BN-M1820N-C11P2-S
NPN N.C	BN-M1816N-C21P2-S	BN-M1820N-C21P2-S
PNP N.O	BN-M1816P-C11P2-S	BN-M1820P-C11P2-S
PNP N.C	BN-M1816P-C21P2-S	BN-M1820P-C21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18
M1820	≥25	≥54	≥18

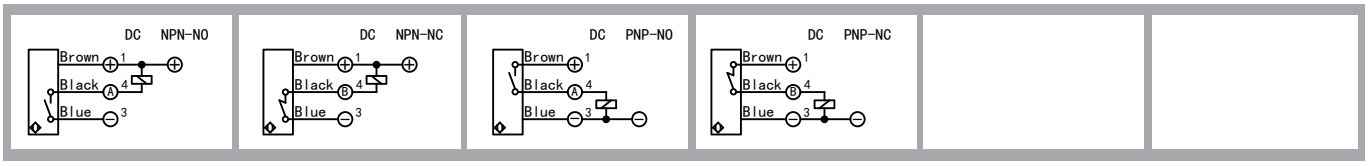
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



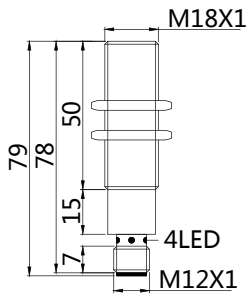


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8/12mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

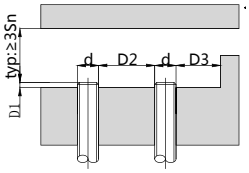


Model No.

Sensing range	Sn:8 mm	Sn:12 mm
NPN N.O	BB-M1808N-C11S12	BB-M1812N-C11S12
NPN N.C	BB-M1808N-C21S12	BB-M1812N-C21S12
PNP N.O	BB-M1808P-C11S12	BB-M1812P-C11S12
PNP N.C	BB-M1808P-C21S12	BB-M1812P-C21S12

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18
M1812	≥4	≥18	≥18

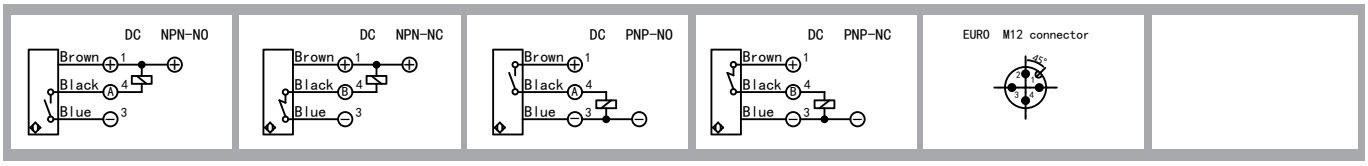
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



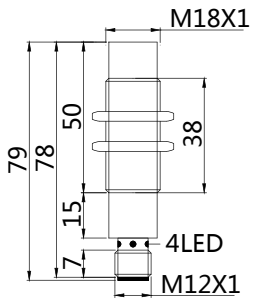


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 16/20mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

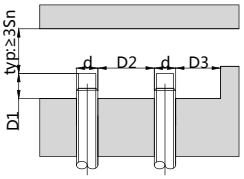


Model No.

Sensing range	Sn:16 mm	Sn:20 mm
NPN N.O	BN-M1816N-C11S12	BN-M1820N-C11S12
NPN N.C	BN-M1816N-C21S12	BN-M1820N-C21S12
PNP N.O	BN-M1816P-C11S12	BN-M1820P-C11S12
PNP N.C	BN-M1816P-C21S12	BN-M1820P-C21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18
M1820	≥25	≥54	≥18

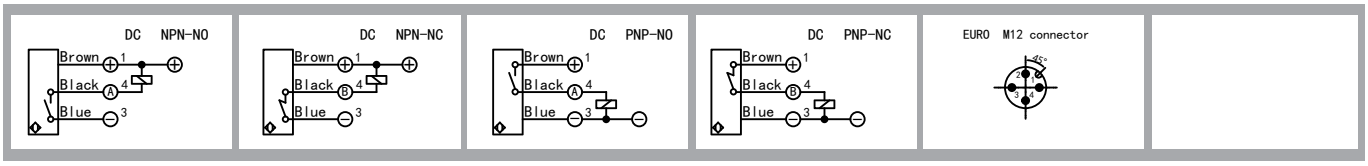
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4W V2
	(to be ordered separately)	

Wiring



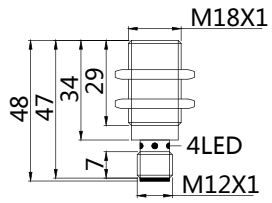


Features:

- M18*1 mm short body , Brass,nickel-plated housing;
- 8/12mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

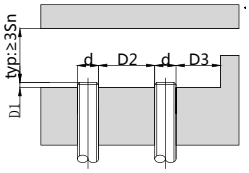


Model No.

Sensing range	Sn:8 mm	Sn:12 mm
NPN N.O	BB-M1808N-C11S12-S	BB-M1812N-C11S12-S
NPN N.C	BB-M1808N-C21S12-S	BB-M1812N-C21S12-S
PNP N.O	BB-M1808P-C11S12-S	BB-M1812P-C11S12-S
PNP N.C	BB-M1808P-C21S12-S	BB-M1812P-C21S12-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18
M1812	≥4	≥18	≥18

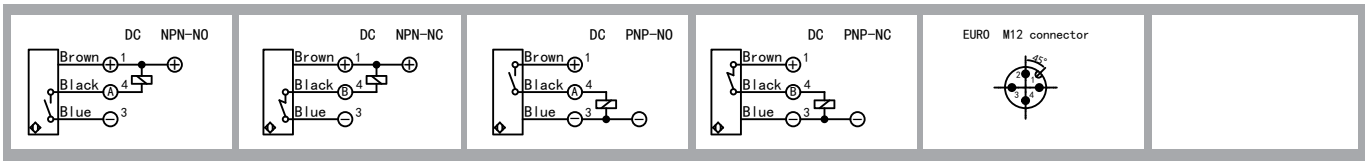
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/800Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



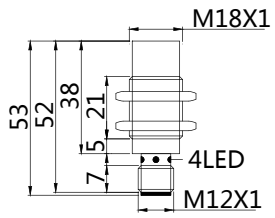


Features:

- M18*1 mm short body , Brass,nickel-plated housing;
- 16/20mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

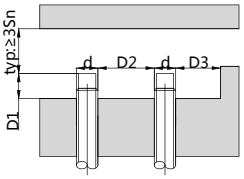


Model No.

Sensing range	Sn:16 mm	Sn:20 mm
NPN N.O	BN-M1816N-C11S12-S	BN-M1820N-C11S12-S
NPN N.C	BN-M1816N-C21S12-S	BN-M1820N-C21S12-S
PNP N.O	BN-M1816P-C11S12-S	BN-M1820P-C11S12-S
PNP N.C	BN-M1816P-C21S12-S	BN-M1820P-C21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18
M1820	≥25	≥54	≥18

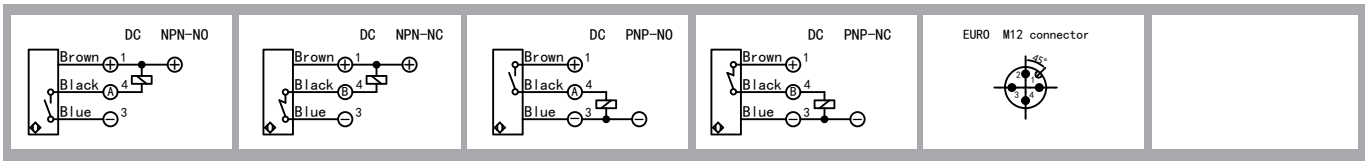
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/400Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4W V2
	(to be ordered separately)	

Wiring



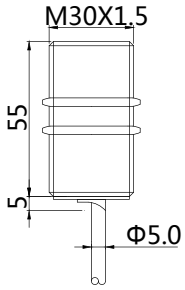


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16/22mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



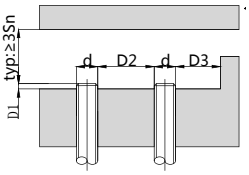
Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O	BB-M3010N-C11P2	BB-M3016N-C11P2
NPN N.C	BB-M3010N-C21P2	BB-M3016N-C21P2
PNP N.O	BB-M3010P-C11P2	BB-M3016P-C11P2
PNP N.C	BB-M3010P-C21P2	BB-M3016P-C21P2

Sensing range	Sn:22 mm
NPN N.O	BB-M3022N-C11P2
NPN N.C	BB-M3022N-C21P2
PNP N.O	BB-M3022P-C11P2
PNP N.C	BB-M3022P-C21P2

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30
M3022	≥8	≥30	≥30

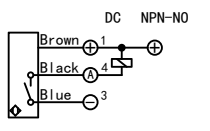
Tightening torque of the fastening screws: <40Nm!

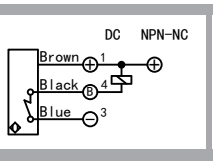
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

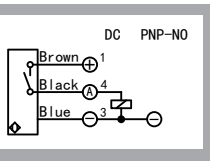
Technical data

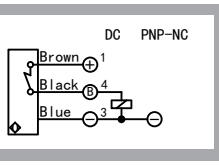
Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









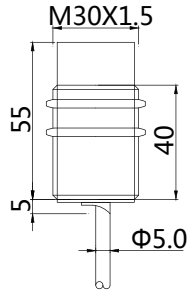


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25/40mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



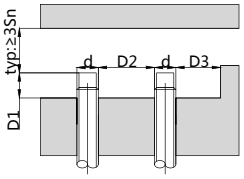
Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O	BN-M3015N-C11P2	BN-M3025N-C11P2
NPN N.C	BN-M3015N-C21P2	BN-M3025N-C21P2
PNP N.O	BN-M3015P-C11P2	BN-M3025P-C11P2
PNP N.C	BN-M3015P-C21P2	BN-M3025P-C21P2

Sensing range	Sn:40 mm
NPN N.O	BN-M3040N-C11P2
NPN N.C	BN-M3040N-C21P2
PNP N.O	BN-M3040P-C11P2
PNP N.C	BN-M3040P-C21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30
M3040	≥40	≥90	≥30

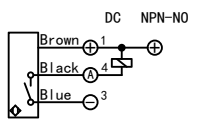
Tightening torque of the fastening screws: <40Nm!

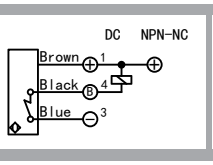
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

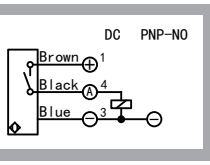
Technical data

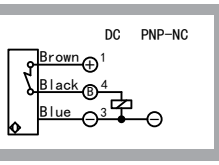
Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









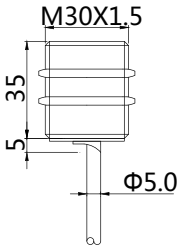


Features:

- M30*1.5 mm short body , Brass,nickel-plated housing;
- 10/16/22mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



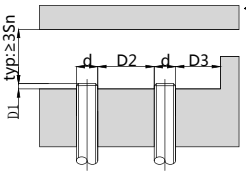
Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O	BB-M3010N-C11P2-S	BB-M3016N-C11P2-S
NPN N.C	BB-M3010N-C21P2-S	BB-M3016N-C21P2-S
PNP N.O	BB-M3010P-C11P2-S	BB-M3016P-C11P2-S
PNP N.C	BB-M3010P-C21P2-S	BB-M3016P-C21P2-S

Sensing range	Sn:22 mm
NPN N.O	BB-M3022N-C11P2-S
NPN N.C	BB-M3022N-C21P2-S
PNP N.O	BB-M3022P-C11P2-S
PNP N.C	BB-M3022P-C21P2-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30
M3022	≥8	≥30	≥30

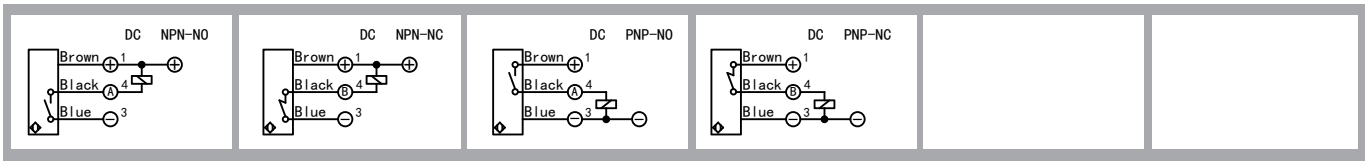
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



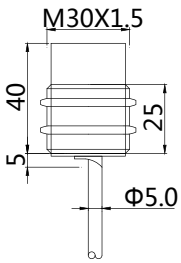


Features:

- M30*1.5 mm short body , Brass,nickel-plated housing;
- 15/25/40mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



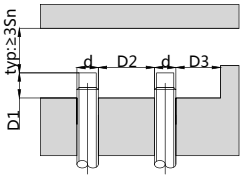
Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O	BN-M3015N-C11P2-S	BN-M3025N-C11P2-S
NPN N.C	BN-M3015N-C21P2-S	BN-M3025N-C21P2-S
PNP N.O	BN-M3015P-C11P2-S	BN-M3025P-C11P2-S
PNP N.C	BN-M3015P-C21P2-S	BN-M3025P-C21P2-S

Sensing range	Sn:40 mm
NPN N.O	BN-M3040N-C11P2-S
NPN N.C	BN-M3040N-C21P2-S
PNP N.O	BN-M3040P-C11P2-S
PNP N.C	BN-M3040P-C21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30
M3040	≥40	≥90	≥30

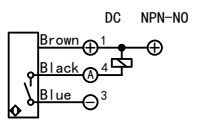
Tightening torque of the fastening screws: <40Nm!

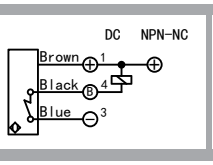
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

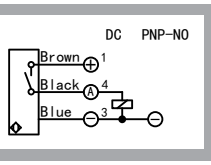
Technical data

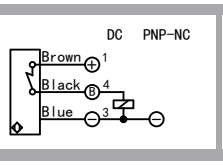
Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









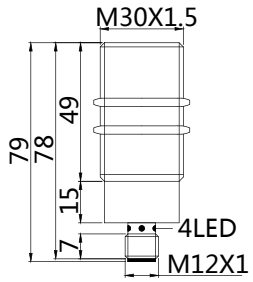


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16/22mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



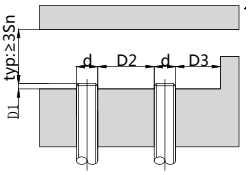
Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O	BB-M3010N-C11S12	BB-M3016N-C11S12
NPN N.C	BB-M3010N-C21S12	BB-M3016N-C21S12
PNP N.O	BB-M3010P-C11S12	BB-M3016P-C11S12
PNP N.C	BB-M3010P-C21S12	BB-M3016P-C21S12

Sensing range	Sn:22 mm
NPN N.O	BB-M3022N-C11S12
NPN N.C	BB-M3022N-C21S12
PNP N.O	BB-M3022P-C11S12
PNP N.C	BB-M3022P-C21S12

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30
M3022	≥8	≥30	≥30

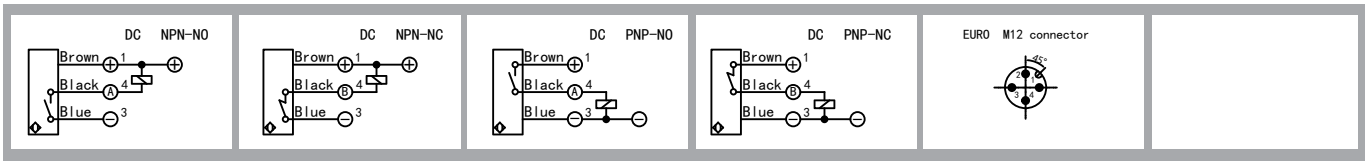
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



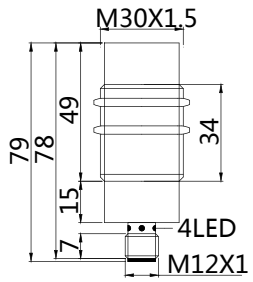


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25/40mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



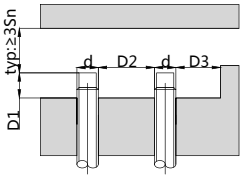
Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O	BN-M3015N-C11S12	BN-M3025N-C11S12
NPN N.C	BN-M3015N-C21S12	BN-M3025N-C21S12
PNP N.O	BN-M3015P-C11S12	BN-M3025P-C11S12
PNP N.C	BN-M3015P-C21S12	BN-M3025P-C21S12

Sensing range	Sn:40 mm
NPN N.O	BN-M3040N-C11S12
NPN N.C	BN-M3040N-C21S12
PNP N.O	BN-M3040P-C11S12
PNP N.C	BN-M3040P-C21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30
M3040	≥40	≥90	≥30

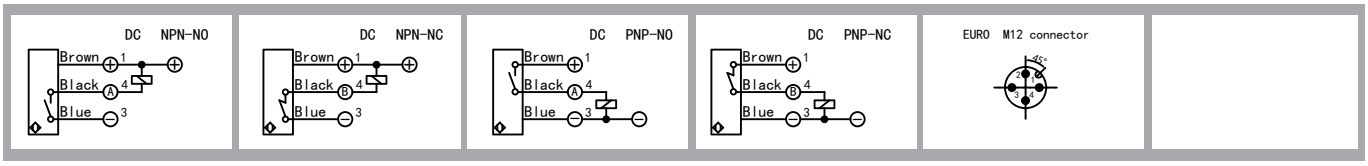
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4W V2
	(to be ordered separately)	

Wiring



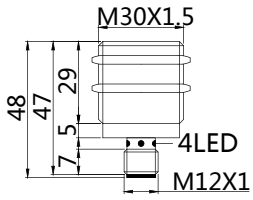


Features:

- M30*1.5 mm short body , Brass,nickel-plated housing;
- 10/16/22mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



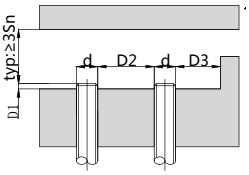
Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O	BB-M3010N-C11S12-S	BB-M3016N-C11S12-S
NPN N.C	BB-M3010N-C21S12-S	BB-M3016N-C21S12-S
PNP N.O	BB-M3010P-C11S12-S	BB-M3016P-C11S12-S
PNP N.C	BB-M3010P-C21S12-S	BB-M3016P-C21S12-S

Sensing range	Sn:22 mm
NPN N.O	BB-M3022N-C11S12-S
NPN N.C	BB-M3022N-C21S12-S
PNP N.O	BB-M3022P-C11S12-S
PNP N.C	BB-M3022P-C21S12-S

Mounting

(flush/quasi-flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30
M3022	≥8	≥30	≥30

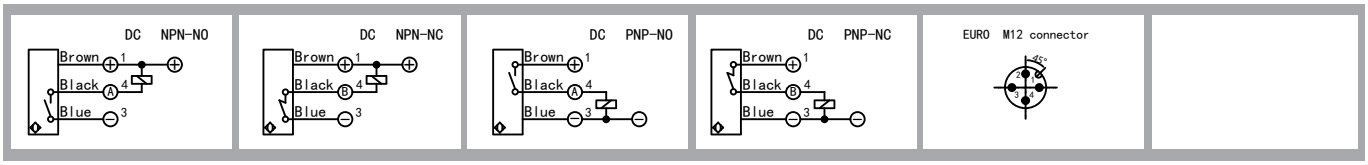
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



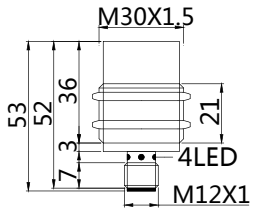


Features:

- M30*1.5 mm short body , Brass,nickel-plated housing;
- 15/25/40mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



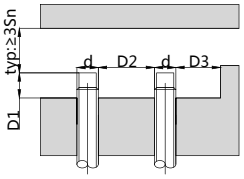
Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O	BN-M3015N-C11S12-S	BN-M3025N-C11S12-S
NPN N.C	BN-M3015N-C21S12-S	BN-M3025N-C21S12-S
PNP N.O	BN-M3015P-C11S12-S	BN-M3025P-C11S12-S
PNP N.C	BN-M3015P-C21S12-S	BN-M3025P-C21S12-S

Sensing range	Sn:40 mm
NPN N.O	BN-M3040N-C11S12-S
NPN N.C	BN-M3040N-C21S12-S
PNP N.O	BN-M3040P-C11S12-S
PNP N.C	BN-M3040P-C21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30
M3040	≥40	≥90	≥30

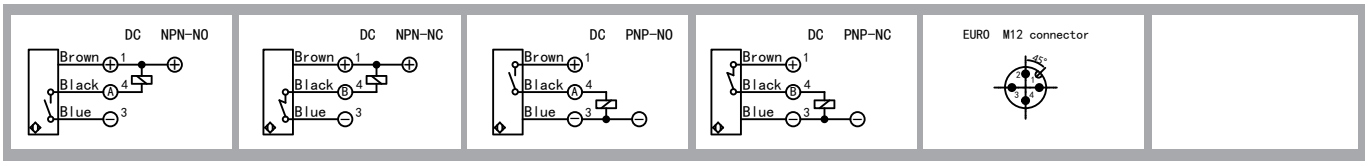
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4W V2
	(to be ordered separately)	

Wiring



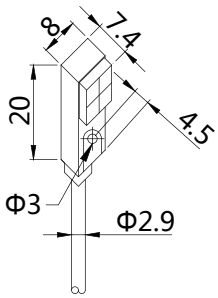


Features:

- Q8*8 mm , Plastic housing;
- 2.5mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

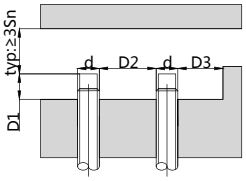


Model No.

Sensing range	Sn:2.5 mm
NPN N.O	BN-Q882.5N-P11P2
NPN N.C	BN-Q882.5N-P21P2
PNP N.O	BN-Q882.5P-P11P2
PNP N.C	BN-Q882.5P-P21P2

Mounting

(non-flush mounting)

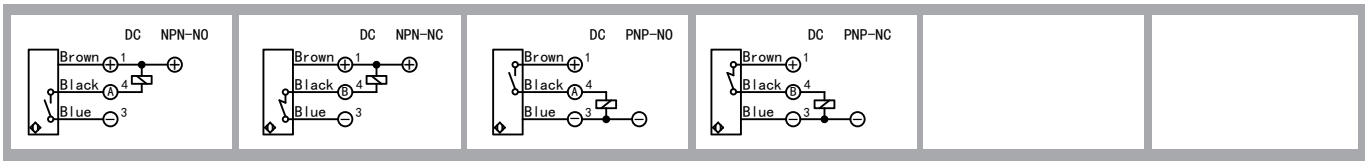


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



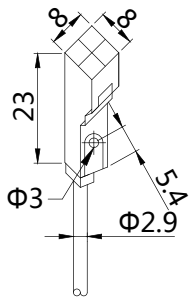


Features:

- Q8*8 mm , Plastic housing;
- 2.5mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

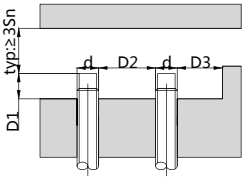


Model No.

Sensing range	Sn:2.5 mm
NPN N.O	BN-Q882.5N-P11P2-T
NPN N.C	BN-Q882.5N-P21P2-T
PNP N.O	BN-Q882.5P-P11P2-T
PNP N.C	BN-Q882.5P-P21P2-T

Mounting

(non-flush mounting)

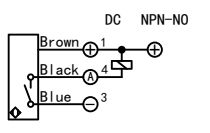


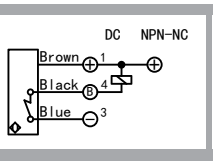
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

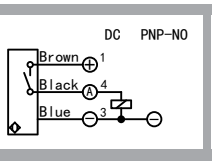
Technical data

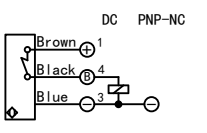
Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









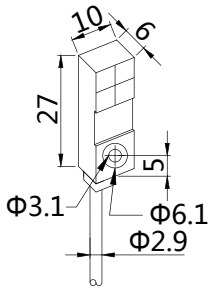


Features:

- Q10 Plastic housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

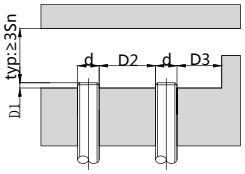


Model No.

Sensing range	Sn:2 mm
NPN N.O	BB-Q1002N-P11P2
NPN N.C	BB-Q1002N-P21P2
PNP N.O	BB-Q1002P-P11P2
PNP N.C	BB-Q1002P-P21P2

Mounting

(flush mounting)

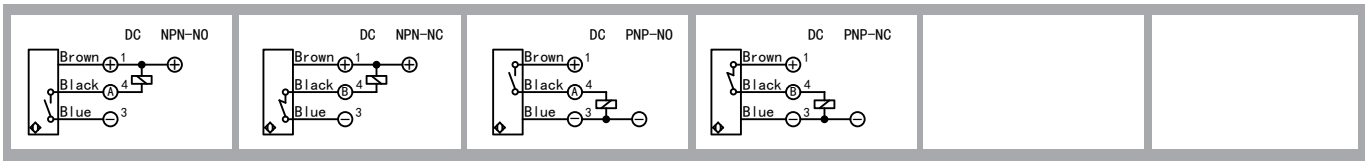


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



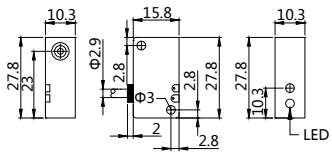


Features:

- Q28 Plastic housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- 90° side cable

CE

Dimensioned drawing

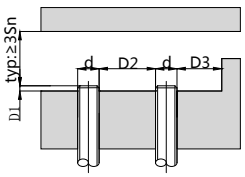


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q2802N-P11P2-T	BB-Q2803N-P11P2-T
NPN N.C	BB-Q2802N-P21P2-T	BB-Q2803N-P21P2-T
PNP N.O	BB-Q2802P-P11P2-T	BB-Q2803P-P11P2-T
PNP N.C	BB-Q2802P-P21P2-T	BB-Q2803P-P21P2-T

Mounting

(flush/quasi-flush mounting)

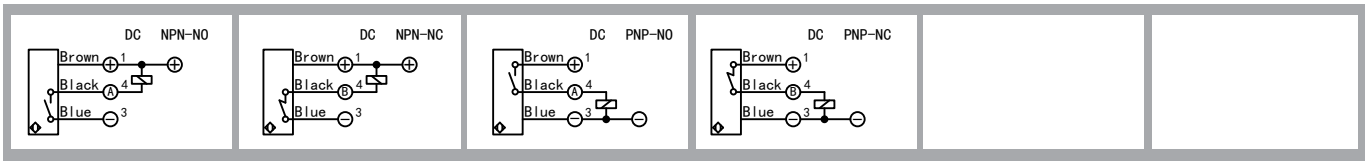


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



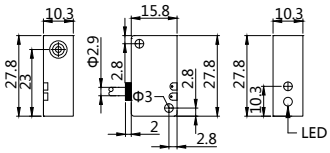


Features:

- Q28 Plastic housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- 90° side cable

CE

Dimensioned drawing

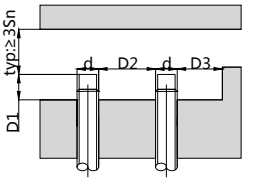


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-Q2804N-P11P2-T	BN-Q2806N-P11P2-T
NPN N.C	BN-Q2804N-P21P2-T	BN-Q2806N-P21P2-T
PNP N.O	BN-Q2804P-P11P2-T	BN-Q2806P-P11P2-T
PNP N.C	BN-Q2804P-P21P2-T	BN-Q2806P-P21P2-T

Mounting

(non-flush mounting)

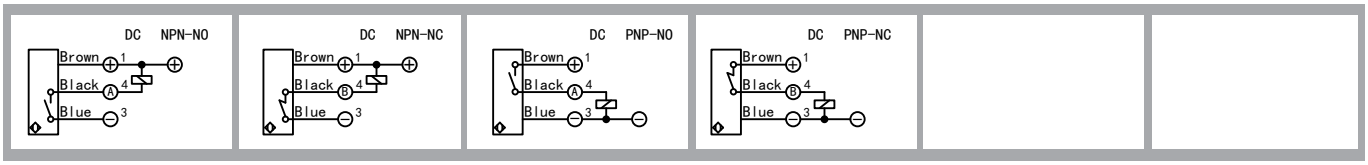


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



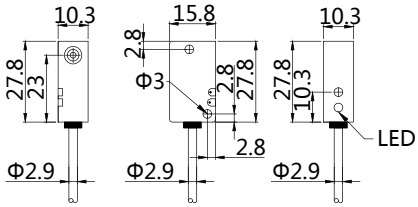


Features:

- Q28 Plastic housing;
- 2/3mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

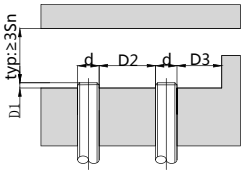


Model No.

Sensing range	Sn:2 mm	Sn:3 mm
NPN N.O	BB-Q2802N-P11P2	BB-Q2803N-P11P2
NPN N.C	BB-Q2802N-P21P2	BB-Q2803N-P21P2
PNP N.O	BB-Q2802P-P11P2	BB-Q2803P-P11P2
PNP N.C	BB-Q2802P-P21P2	BB-Q2803P-P21P2

Mounting

(flush/quasi-flush mounting)

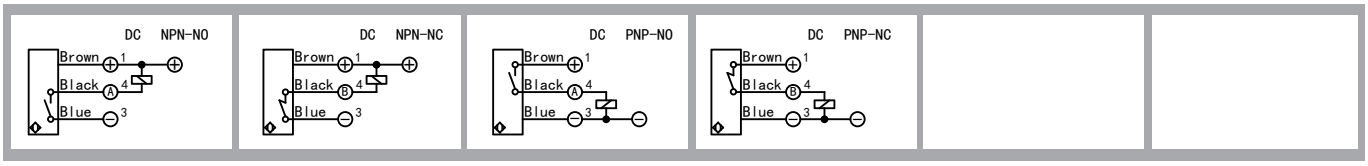


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz/2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



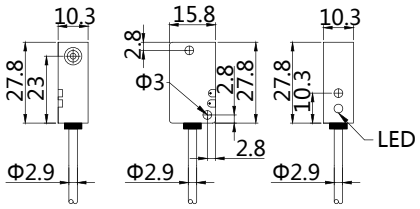


Features:

- Q28 Plastic housing;
- 4/6mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

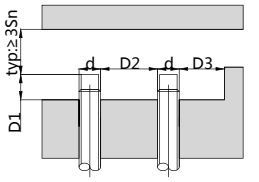


Model No.

Sensing range	Sn:4 mm	Sn:6 mm
NPN N.O	BN-Q2804N-P11P2	BN-Q2806N-P11P2
NPN N.C	BN-Q2804N-P21P2	BN-Q2806N-P21P2
PNP N.O	BN-Q2804P-P11P2	BN-Q2806P-P11P2
PNP N.C	BN-Q2804P-P21P2	BN-Q2806P-P21P2

Mounting

(non-flush mounting)

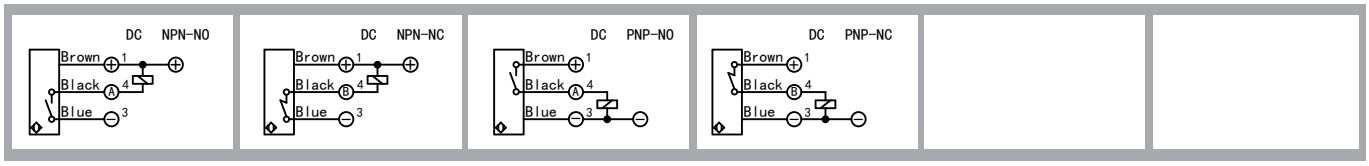


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/1000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



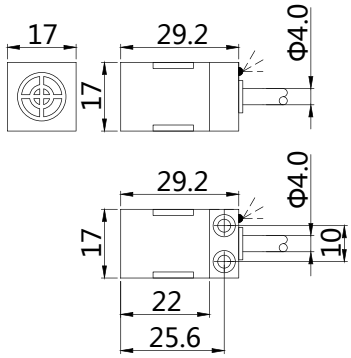


Features:

- Q16 Plastic housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

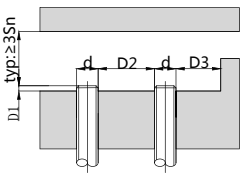


Model No.

Sensing range	Sn:5 mm
NPN N.O	BB-Q1605N-P11P2
NPN N.C	BB-Q1605N-P21P2
PNP N.O	BB-Q1605P-P11P2
PNP N.C	BB-Q1605P-P21P2

Mounting

(flush mounting)

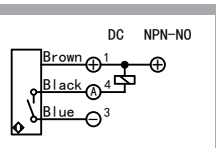


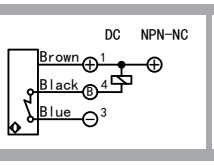
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

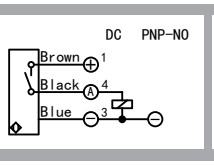
Technical data

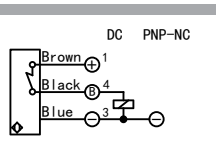
Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









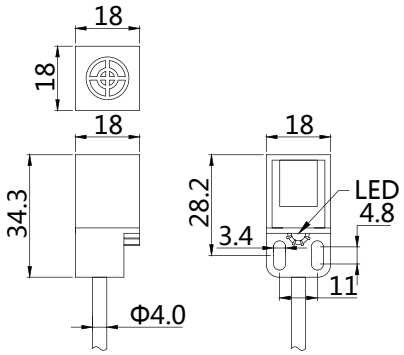


Features:

- Q18 Plastic housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

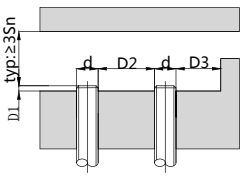


Model No.

Sensing range	Sn:5 mm
NPN N.O	BB-Q1805N-P11P2
NPN N.C	BB-Q1805N-P21P2
PNP N.O	BB-Q1805P-P11P2
PNP N.C	BB-Q1805P-P21P2

Mounting

(flush mounting)

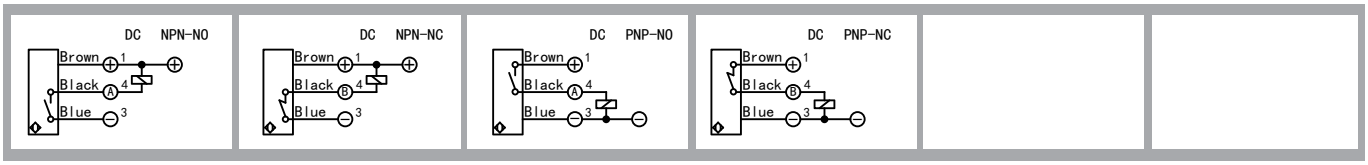


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m ; 3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



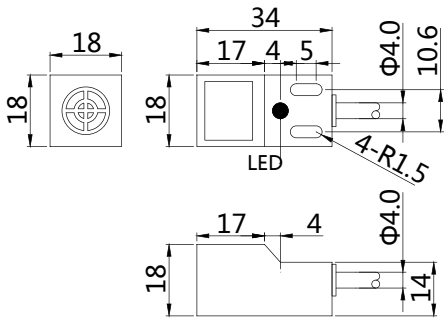


Features:

- Q18B Plastic housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

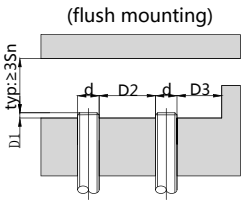


Model No.

Sensing range	Sn:5 mm
NPN N.O	BB-Q18B05N-P11P2
NPN N.C	BB-Q18B05N-P21P2
PNP N.O	BB-Q18B05P-P11P2
PNP N.C	BB-Q18B05P-P21P2

Mounting

(flush mounting)

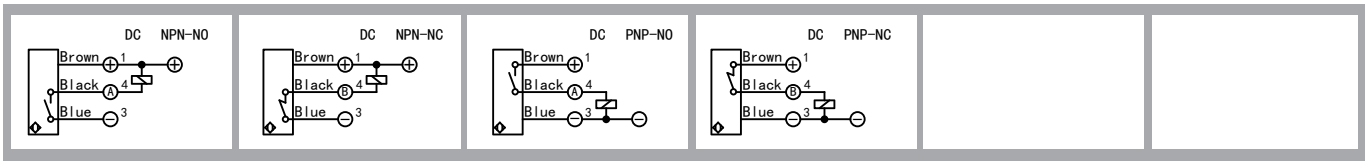


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m;3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



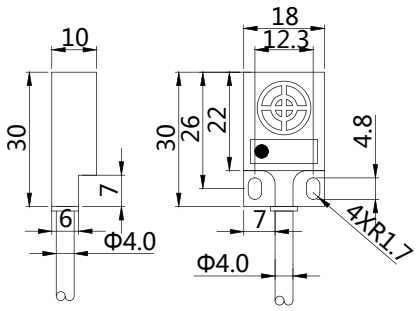


Features:

- Q18C Plastic housing;
- 4mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

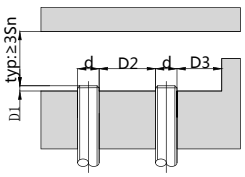


Model No.

Sensing range	Sn:4 mm
NPN N.O	BB-Q18C04N-P11P2
NPN N.C	BB-Q18C04N-P21P2
PNP N.O	BB-Q18C04P-P11P2
PNP N.C	BB-Q18C04P-P21P2

Mounting

(flush mounting)

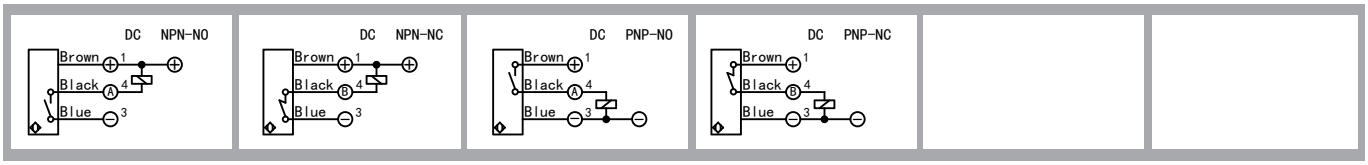


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m ; 3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



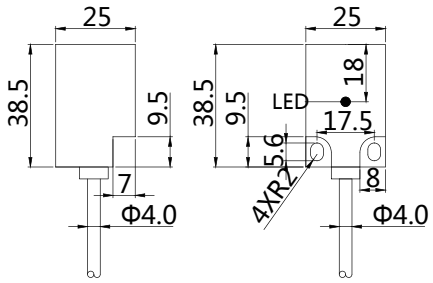


Features:

- Q25 Plastic housing;
- 10mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

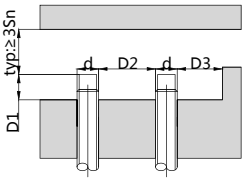


Model No.

Sensing range	Sn:10 mm
NPN N.O	BN-Q2510N-P11P2
NPN N.C	BN-Q2510N-P21P2
PNP N.O	BN-Q2510P-P11P2
PNP N.C	BN-Q2510P-P21P2

Mounting

(non-flush mounting)

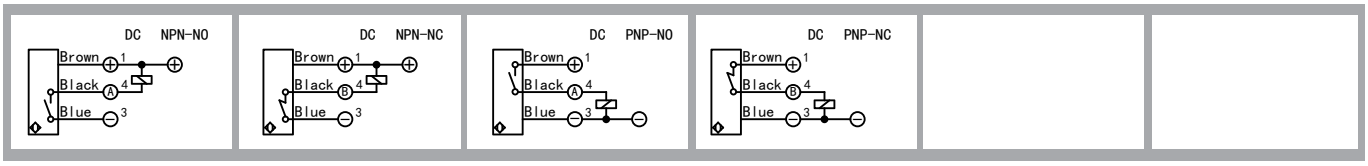


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m;3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



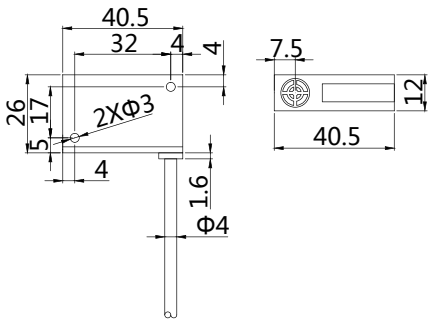


Features:

- Q25T Plastic housing;
- 2/4mm , flush/non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

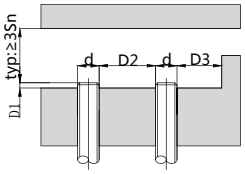


Model No.

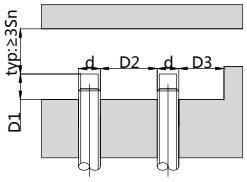
Sensing range	Sn:2 mm	Sn:4 mm
NPN N.O	BB-Q25T02N-P11P2	BN-Q25T04N-P11P2
NPN N.C	BB-Q25T02N-P21P2	BN-Q25T04N-P21P2
PNP N.O	BB-Q25T02P-P11P2	BN-Q25T04P-P11P2
PNP N.C	BB-Q25T02P-P21P2	BN-Q25T04P-P21P2

Mounting

(flush mounting)



(non-flush mounting)

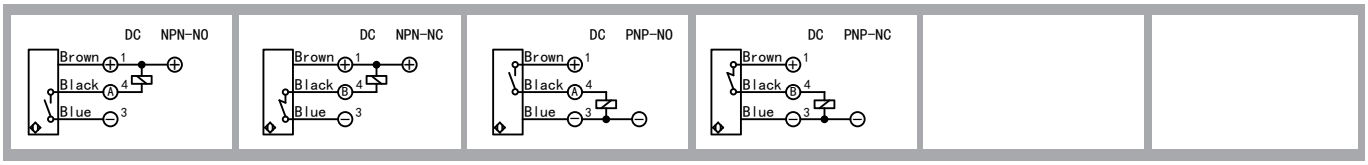


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



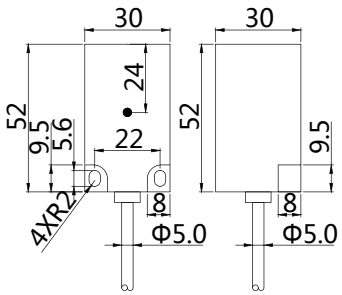


Features:

- Q30 Plastic housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

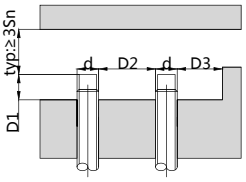


Model No.

Sensing range	Sn:15 mm
NPN N.O	BN-Q3015N-P11P2
NPN N.C	BN-Q3015N-P21P2
PNP N.O	BN-Q3015P-P11P2
PNP N.C	BN-Q3015P-P21P2

Mounting

(non-flush mounting)

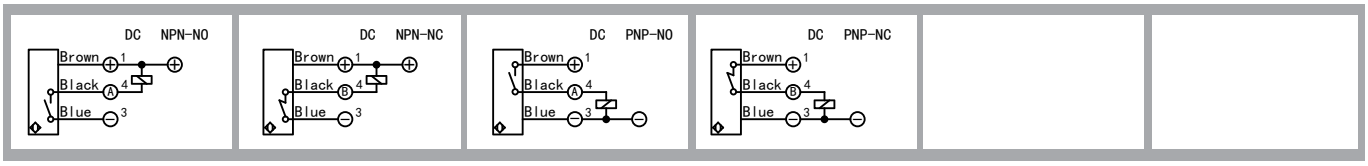


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



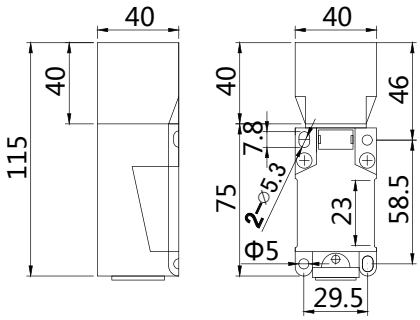


Features:

- Q40 Plastic housing;
- 15/20/30mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing



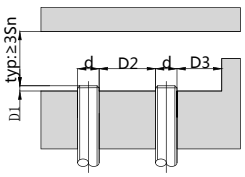
Model No.

Sensing range	Sn:15 mm	Sn:20 mm
NPN N.O	BB-Q4015N-P11T	BB-Q4020N-P11T
NPN N.C	BB-Q4015N-P21T	BB-Q4020N-P21T
PNP N.O	BB-Q4015P-P11T	BB-Q4020P-P11T
PNP N.C	BB-Q4015P-P21T	BB-Q4020P-P21T

Sensing range	Sn:30 mm
NPN N.O	BB-Q4030N-P11T
NPN N.C	BB-Q4030N-P21T
PNP N.O	BB-Q4030P-P11T
PNP N.C	BB-Q4030P-P21T

Mounting

(flush mounting)

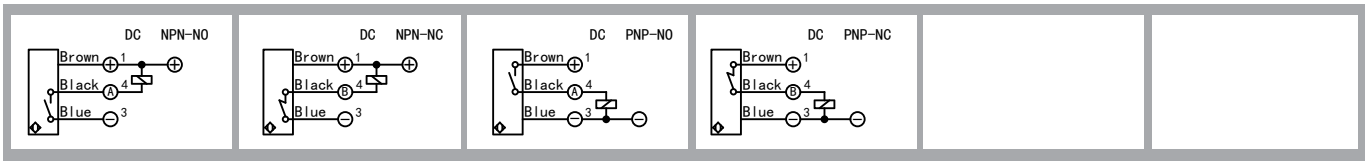


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



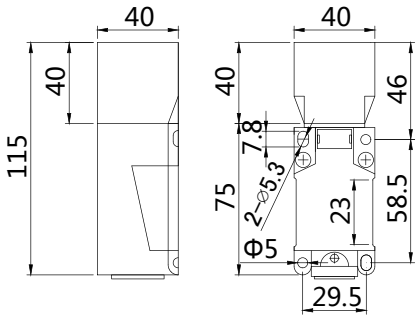


Features:

- Q40 Plastic housing;
- 20/30/40mm , non-flush mountable;
- DC 3-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing



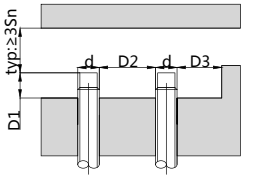
Model No.

Sensing range	Sn:20 mm	Sn:30 mm
NPN N.O	BN-Q4020N-P11T	BN-Q4030N-P11T
NPN N.C	BN-Q4020N-P21T	BN-Q4030N-P21T
PNP N.O	BN-Q4020P-P11T	BN-Q4030P-P11T
PNP N.C	BN-Q4020P-P21T	BN-Q4030P-P21T

Sensing range	Sn:40 mm
NPN N.O	BN-Q4040N-P11T
NPN N.C	BN-Q4040N-P21T
PNP N.O	BN-Q4040P-P11T
PNP N.C	BN-Q4040P-P21T

Mounting

(non-flush mounting)

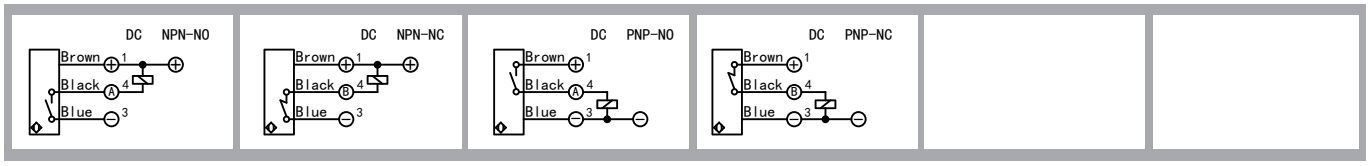


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



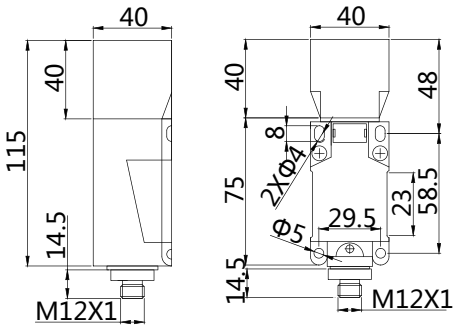


Features:

- Q40 Plastic housing;
- 15/20/30mm , flush/quasi-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



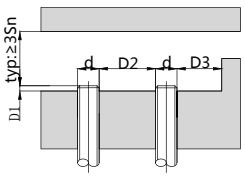
Model No.

Sensing range	Sn:15 mm	Sn:20 mm
NPN N.O	BB-Q4015N-P11S12	BB-Q4020N-P11S12
NPN N.C	BB-Q4015N-P21S12	BB-Q4020N-P21S12
PNP N.O	BB-Q4015P-P11S12	BB-Q4020P-P11S12
PNP N.C	BB-Q4015P-P21S12	BB-Q4020P-P21S12

Sensing range	Sn:30 mm
NPN N.O	BB-Q4030N-P11S12
NPN N.C	BB-Q4030N-P21S12
PNP N.O	BB-Q4030P-P11S12
PNP N.C	BB-Q4030P-P21S12

Mounting

(flush mounting)

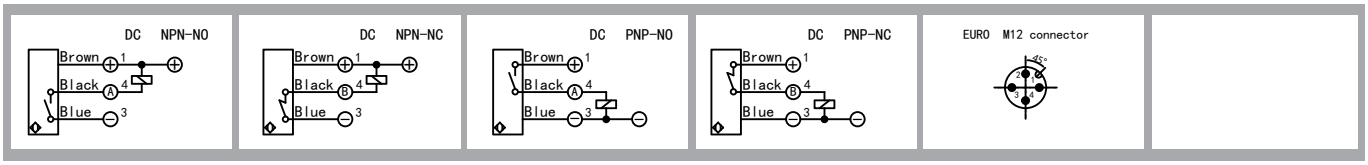


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



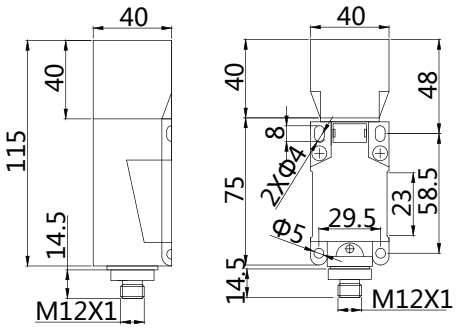


Features:

- Q40 Plastic housing;
- 20/30/40mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



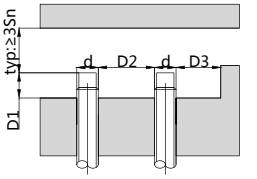
Model No.

Sensing range	Sn:20 mm	Sn:30 mm
NPN N.O	BN-Q4020N-P11S12	BN-Q4030N-P11S12
NPN N.C	BN-Q4020N-P21S12	BN-Q4030N-P21S12
PNP N.O	BN-Q4020P-P11S12	BN-Q4030P-P11S12
PNP N.C	BN-Q4020P-P21S12	BN-Q4030P-P21S12

Sensing range	Sn:40 mm
NPN N.O	BN-Q4040N-P11S12
NPN N.C	BN-Q4040N-P21S12
PNP N.O	BN-Q4040P-P11S12
PNP N.C	BN-Q4040P-P21S12

Mounting

(non-flush mounting)

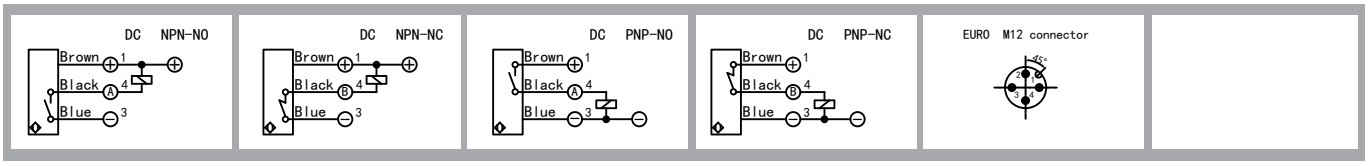


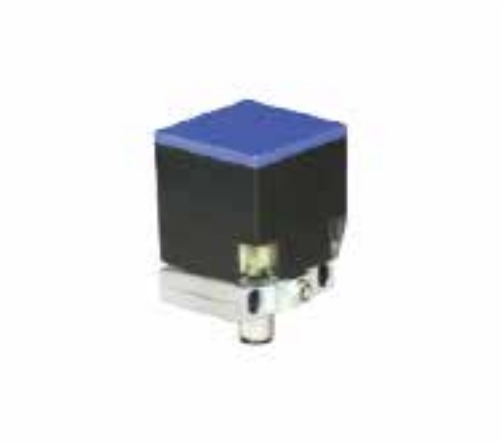
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



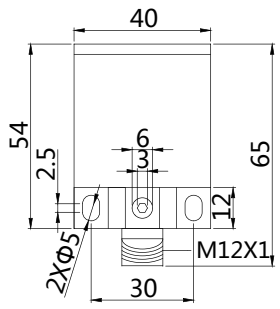


Features:

- Q40S Plastic housing;
- 20/40mm , flush/non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

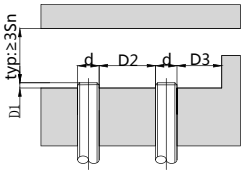


Model No.

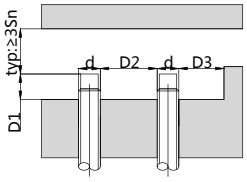
Sensing range	Sn:20 mm	Sn:40 mm
NPN N.O	BB-Q4020N-P11S12-S	BN-Q4040N-P11S12-S
NPN N.C	BB-Q4020N-P21S12-S	BN-Q4040N-P21S12-S
PNP N.O	BB-Q4020P-P11S12-S	BN-Q4040P-P11S12-S
PNP N.C	BB-Q4020P-P21S12-S	BN-Q4040P-P21S12-S

Mounting

(flush mounting)



(non-flush mounting)

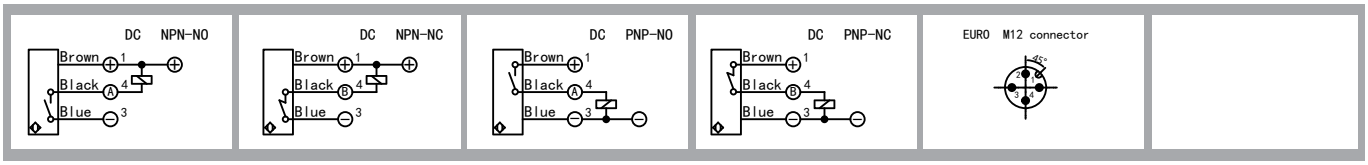


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz/100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



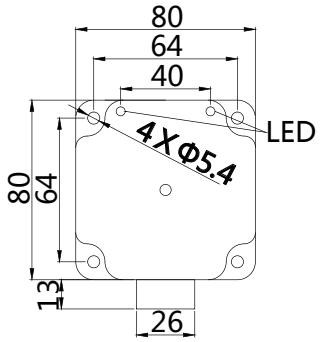


Features:

- Q80 Plastic housing;
- 50mm , non-flush mountable;
- DC 3-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

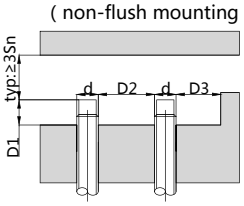


Model No.

Sensing range	Sn:50 mm
NPN N.O	BN-Q8050N-P11T
NPN N.C	BN-Q8050N-P21T
PNP N.O	BN-Q8050P-P11T
PNP N.C	BN-Q8050P-P21T

Mounting

(non-flush mounting)

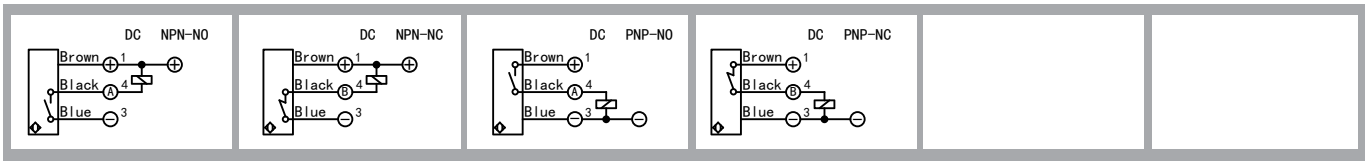


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



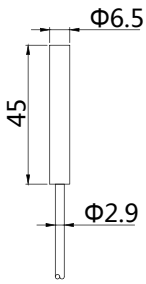


Features:

- Φ6.5 mm , Stainless steel housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

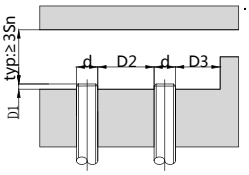


Model No.

Sensing range	Sn:2 mm
N.O	BB-H6.502C-V13P2
N.C	BB-H6.502C-V23P2

Mounting

(flush mounting)



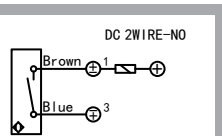
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8

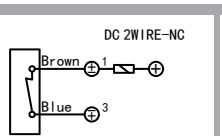
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





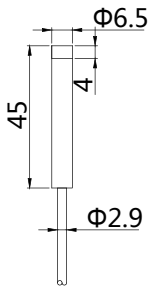


Features:

- Φ6.5 mm , Stainless steel housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



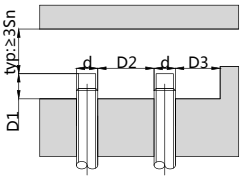
Model No.

Sensing range	Sn:4 mm
N.O	BN-H6.504C-V13P2
N.C	BN-H6.504C-V23P2

Mounting

(non-flush mounting)

Sn	D1	D2	D3
H6.504	≥8	≥16	≥8

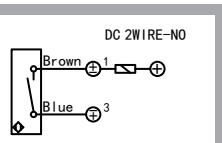


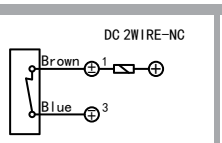
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





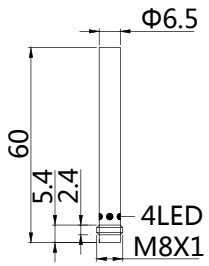


Features:

- Φ6.5 mm , Stainless steel housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

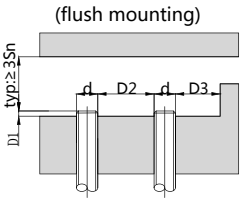


Model No.

Sensing range	Sn:2 mm
N.O	BB-H6.502C-V13S8
N.C	BB-H6.502C-V23S8

Mounting

(flush mounting)



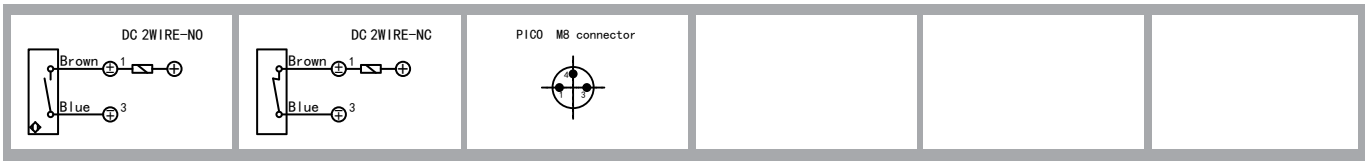
Sn	D1	D2	D3
H6.502	≥0	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



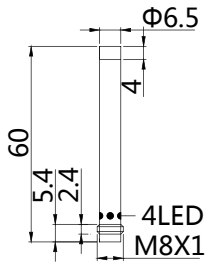


Features:

- Φ6.5 mm , Stainless steel housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing



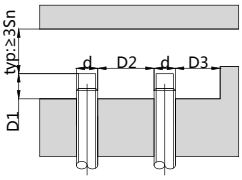
Model No.

Sensing range	Sn:4 mm
N.O	BN-H6.504C-V13S8
N.C	BN-H6.504C-V23S8

Mounting

(non-flush mounting)

Sn	D1	D2	D3
H6.504	≥8	≥16	≥8

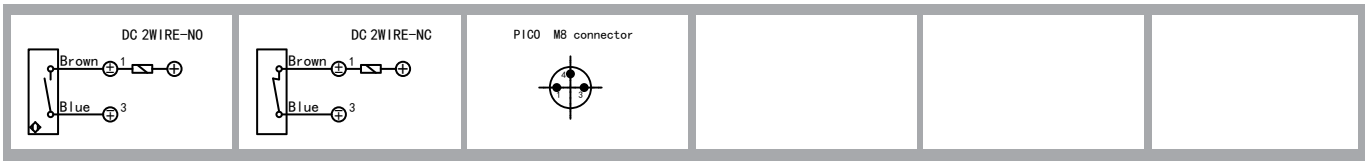


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



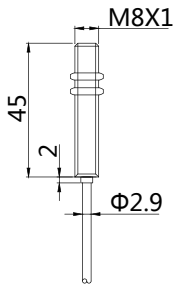


Features:

- M8*1 mm , Stainless steel housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

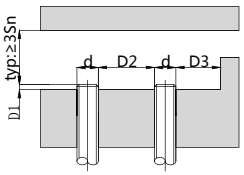


Model No.

Sensing range	Sn:2 mm
N.O	BB-M802C-V13P2
N.C	BB-M802C-V23P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

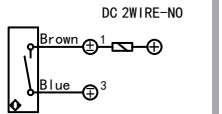
Tightening torque of the fastening screws: <10Nm!

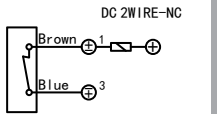
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





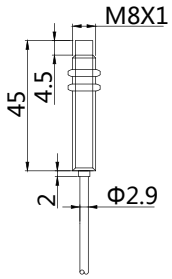


Features:

- M8*1 mm , Stainless steel housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

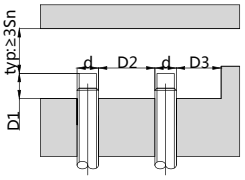


Model No.

Sensing range	Sn:4 mm
N.O	BN-M804C-V13P2
N.C	BN-M804C-V23P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8

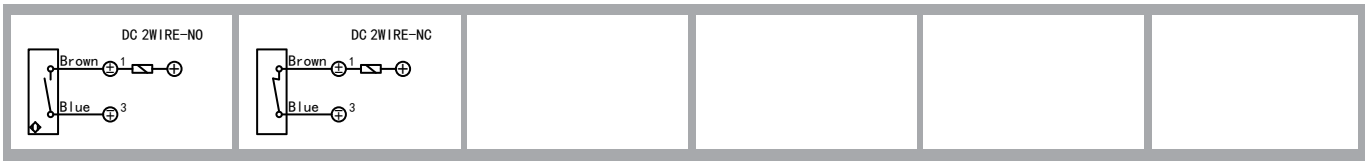
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m,3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



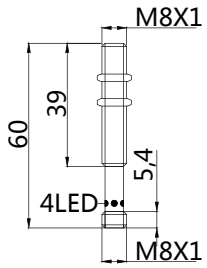


Features:

- M8*1 mm , Stainless steel housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

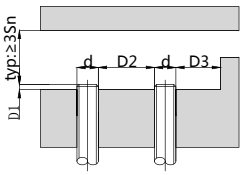


Model No.

Sensing range	Sn:2 mm
N.O	BB-M802C-V13S8
N.C	BB-M802C-V23S8

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

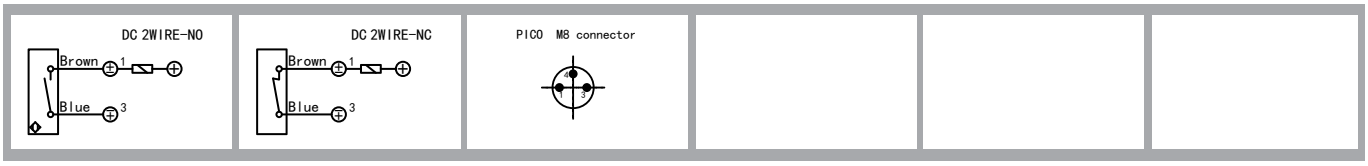
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



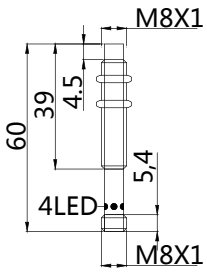


Features:

- M8*1 mm , Stainless steel housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

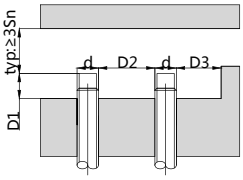


Model No.

Sensing range	Sn:4 mm
N.O	BN-M804C-V13S8
N.C	BN-M804C-V23S8

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8

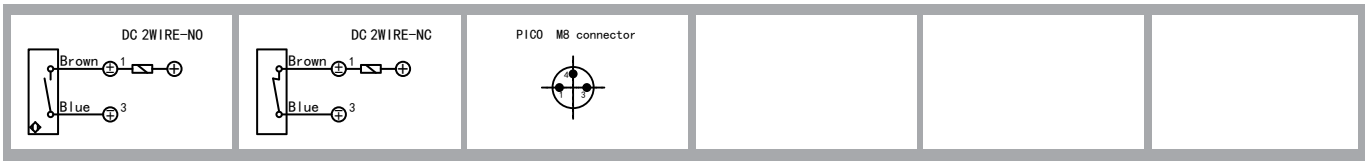
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



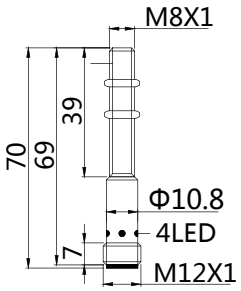


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

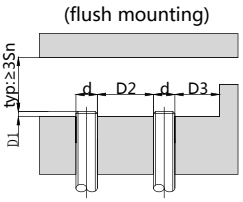
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm
N.O	BB-M802C-C13S12
N.C	BB-M802C-C23S12

Mounting



Sn	D1	D2	D3
M802	≥0	≥8	≥8

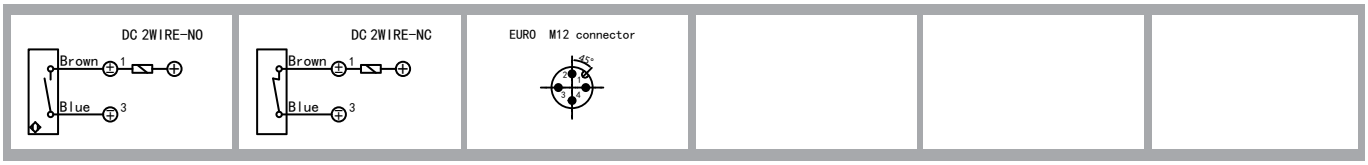
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



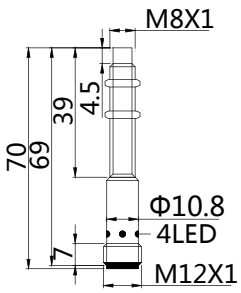


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

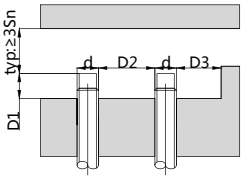


Model No.

Sensing range	Sn:4 mm
N.O	BN-M804C-C13S12
N.C	BN-M804C-C23S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M804	≥8	≥16	≥8

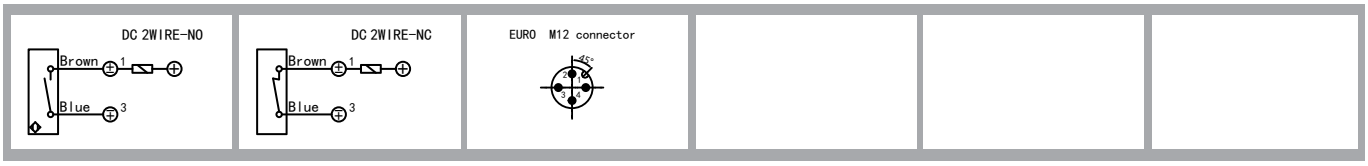
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	100mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



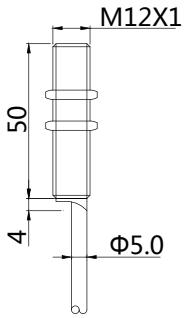


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

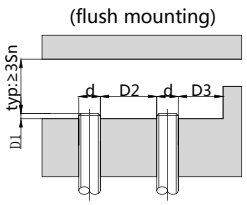
Dimensioned drawing



Model No.

Sensing range	Sn:4 mm
N.O	BB-M1204C-C13P2
N.C	BB-M1204C-C23P2

Mounting



Sn	D1	D2	D3
M1204	≥1	≥12	≥12

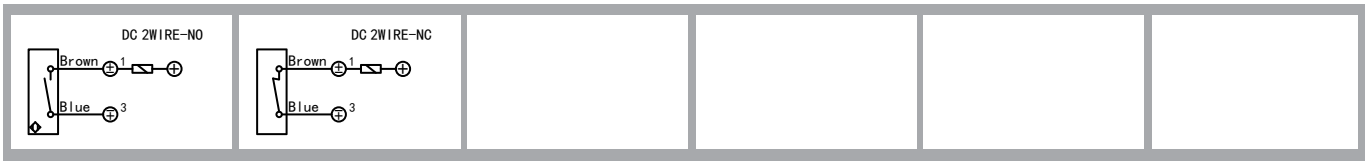
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



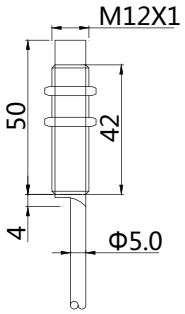


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

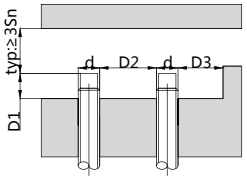


Model No.

Sensing range	Sn:8 mm
N.O	BN-M1208C-C13P2
N.C	BN-M1208C-C23P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12

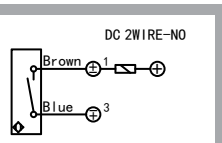
Tightening torque of the fastening screws: <10Nm!

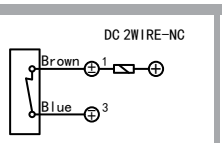
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





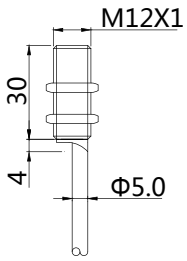


Features:

- M12*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 4mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

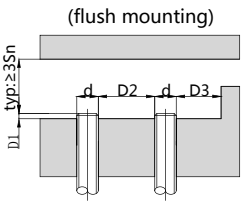
Dimensioned drawing



Model No.

Sensing range	Sn:4 mm
N.O	BB-M1204C-C13P2-S
N.C	BB-M1204C-C23P2-S

Mounting



Sn	D1	D2	D3
M1204	≥1	≥12	≥12

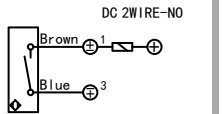
Tightening torque of the fastening screws: <10Nm!

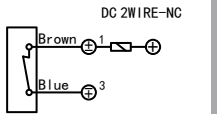
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





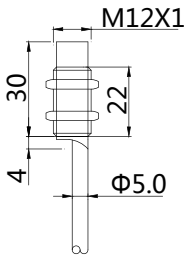


Features:

- M12*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 8mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

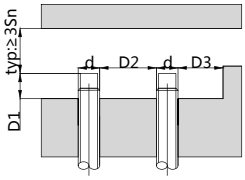


Model No.

Sensing range	Sn:8 mm
N.O	BN-M1208C-C13P2-S
N.C	BN-M1208C-C23P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12

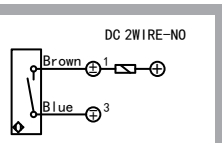
Tightening torque of the fastening screws: <10Nm!

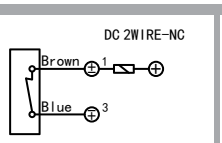
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





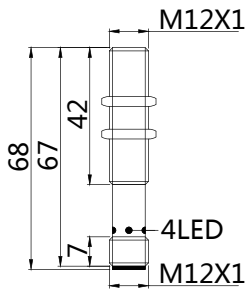


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

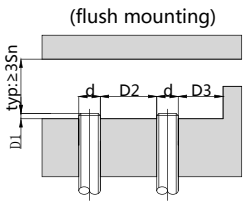
Dimensioned drawing



Model No.

Sensing range	Sn:4 mm
N.O	BB-M1204C-C13S12
N.C	BB-M1204C-C23S12

Mounting



Sn	D1	D2	D3
M1204	≥1	≥12	≥12

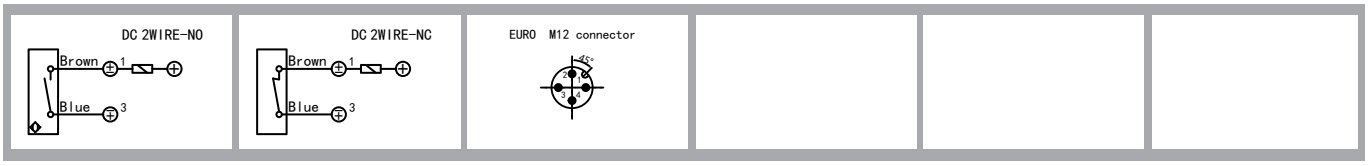
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



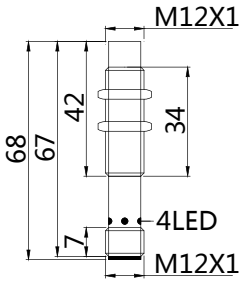


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

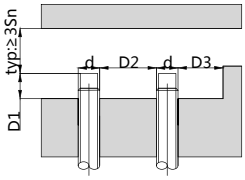


Model No.

Sensing range	Sn:8 mm
N.O	BN-M1208C-C13S12
N.C	BN-M1208C-C23S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12

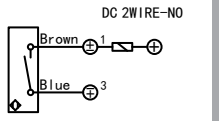
Tightening torque of the fastening screws: <10Nm!

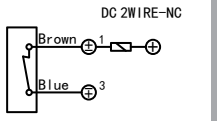
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

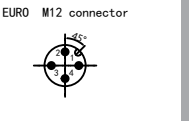
Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







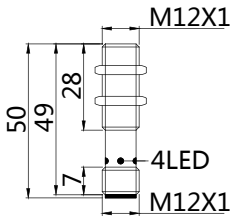


Features:

- M12*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 4mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

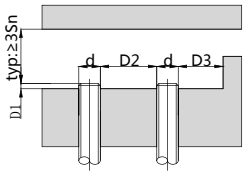


Model No.

Sensing range	Sn:4 mm
N.O	BB-M1204C-C13S12-S
N.C	BB-M1204C-C23S12-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M1204	≥1	≥12	≥12

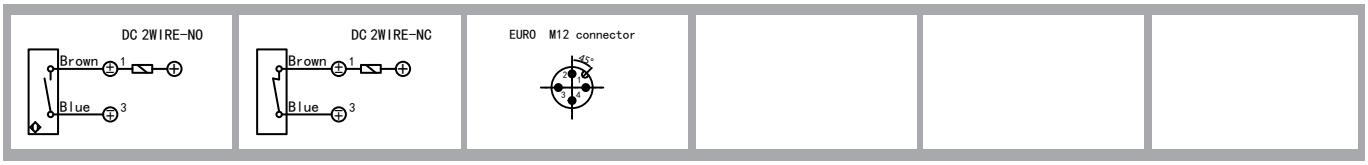
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



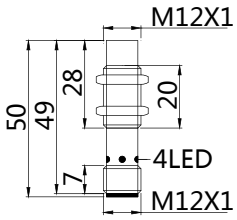


Features:

- M12*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 8mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

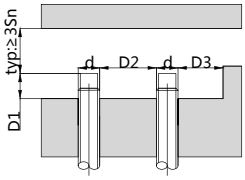


Model No.

Sensing range	Sn:8 mm
N.O	BN-M1208C-C13S12-S
N.C	BN-M1208C-C23S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12

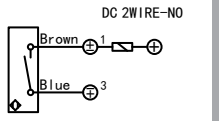
Tightening torque of the fastening screws: <10Nm!

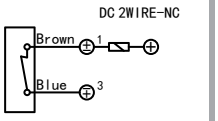
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

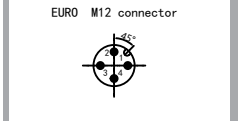
Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







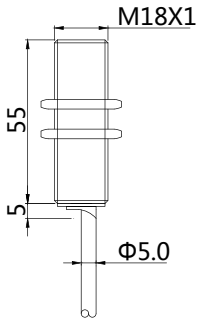


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

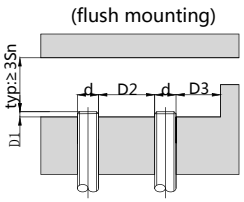
Dimensioned drawing



Model No.

Sensing range	Sn:8 mm
N.O	BB-M1808C-C13P2
N.C	BB-M1808C-C23P2

Mounting



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

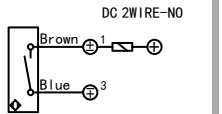
Tightening torque of the fastening screws: <20Nm!

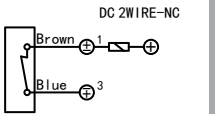
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





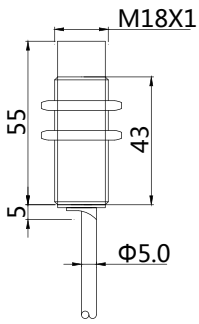


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 16mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

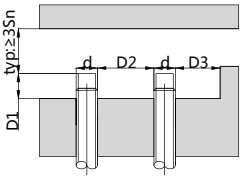


Model No.

Sensing range	Sn:16 mm
N.O	BN-M1816C-C13P2
N.C	BN-M1816C-C23P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

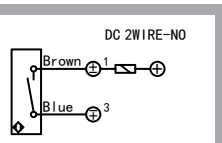
Tightening torque of the fastening screws: <20Nm!

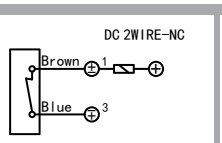
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





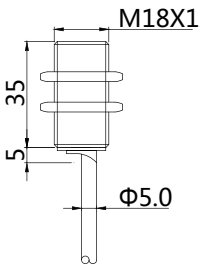


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 8mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

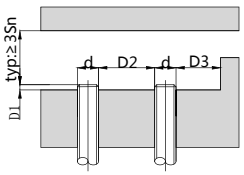


Model No.

Sensing range	Sn:8 mm
N.O	BB-M1808C-C13P2-S
N.C	BB-M1808C-C23P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

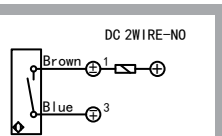
Tightening torque of the fastening screws: <20Nm!

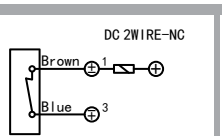
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





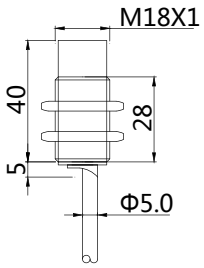


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 16mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

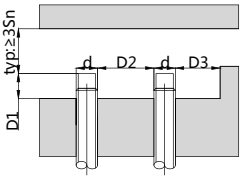


Model No.

Sensing range	Sn:16 mm
N.O	BN-M1816C-C13P2-S
N.C	BN-M1816C-C23P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

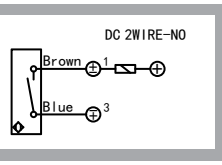
Tightening torque of the fastening screws: <20Nm!

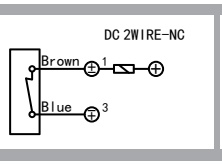
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





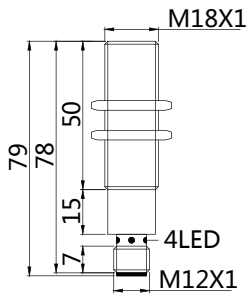


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

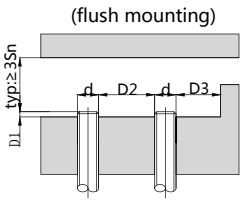
Dimensioned drawing



Model No.

Sensing range	Sn:8 mm
N.O	BB-M1808C-C13S12
N.C	BB-M1808C-C23S12

Mounting



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

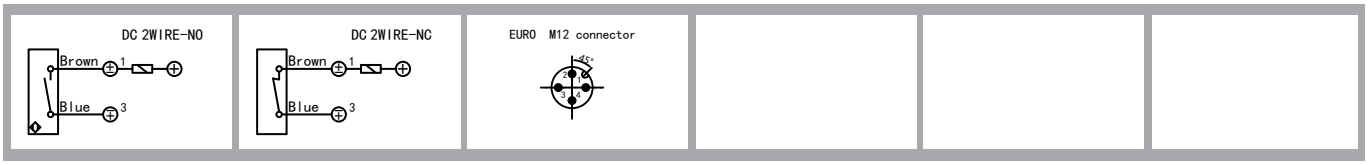
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



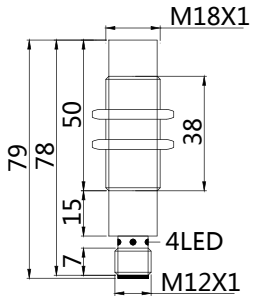


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 16mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

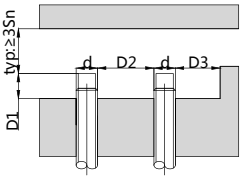


Model No.

Sensing range	Sn:16 mm
N.O	BN-M1816C-C13S12
N.C	BN-M1816C-C23S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

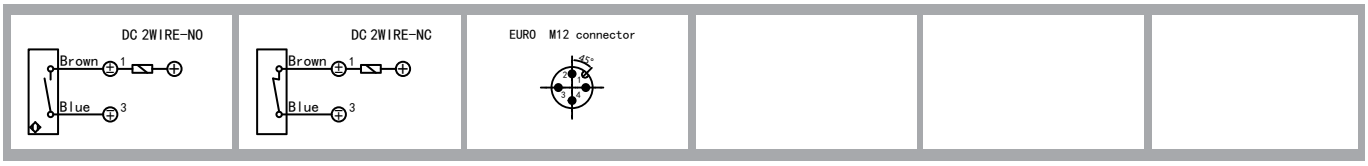
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



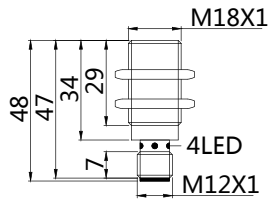


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 8mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

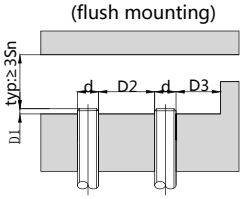


Model No.

Sensing range	Sn:8 mm
N.O	BB-M1808C-C13S12-S
N.C	BB-M1808C-C23S12-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

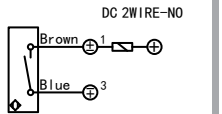
Tightening torque of the fastening screws: <20Nm!

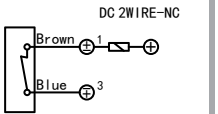
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

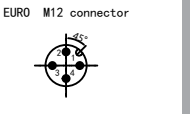
Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	500Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







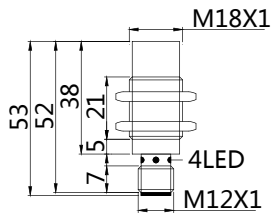


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 16mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

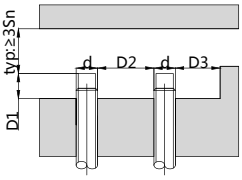


Model No.

Sensing range	Sn:16 mm
N.O	BN-M1816C-C13S12-S
N.C	BN-M1816C-C23S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

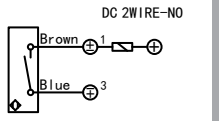
Tightening torque of the fastening screws: <20Nm!

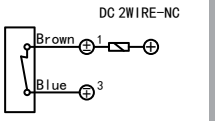
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

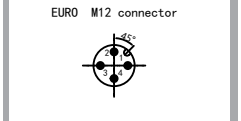
Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







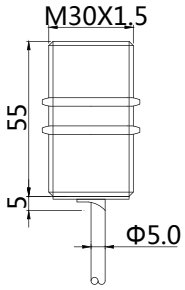


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

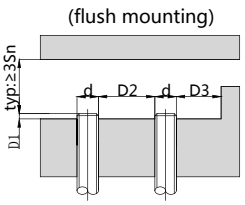
Dimensioned drawing



Model No.

Sensing range	Sn:10 mm	Sn:16 mm
N.O	BB-M3010C-C13P2	BB-M3016C-C13P2
N.C	BB-M3010C-C23P2	BB-M3016C-C23P2

Mounting



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

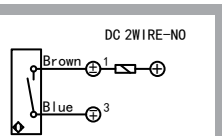
Tightening torque of the fastening screws: <40Nm!

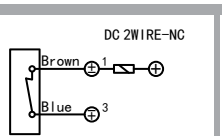
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





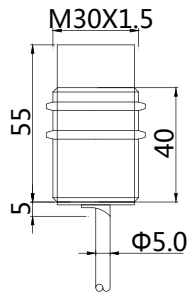


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

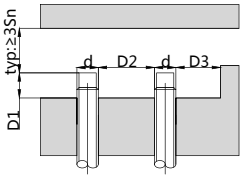


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
N.O	BN-M3015C-C13P2	BN-M3025C-C13P2
N.C	BN-M3015C-C23P2	BN-M3025C-C23P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

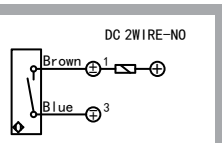
Tightening torque of the fastening screws: <40Nm!

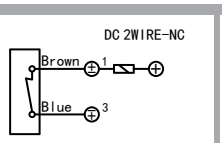
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





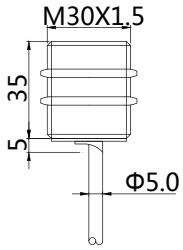


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 10/16mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

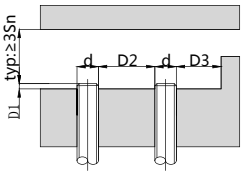


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
N.O	BB-M3010C-C13P2-S	BB-M3016C-C13P2-S
N.C	BB-M3010C-C23P2-S	BB-M3016C-C23P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

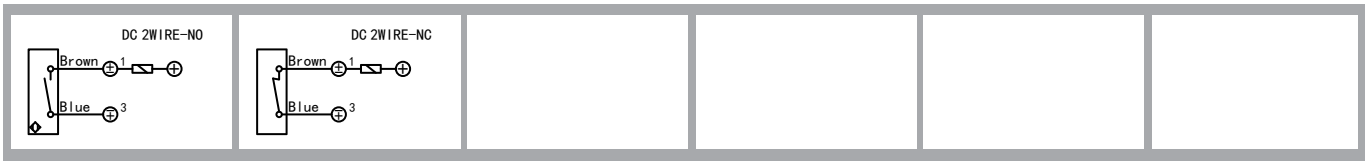
⚠ Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



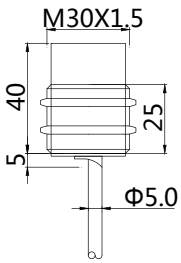


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 15/25mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

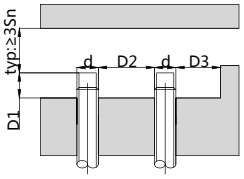


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
N.O	BN-M3015C-C13P2-S	BN-M3025C-C13P2-S
N.C	BN-M3015C-C23P2-S	BN-M3025C-C23P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

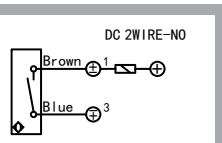
Tightening torque of the fastening screws: <40Nm!

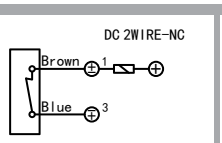
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





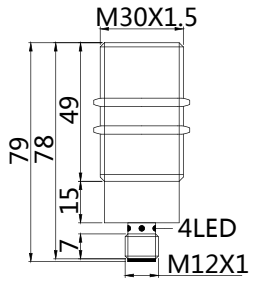


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

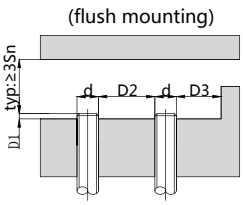
Dimensioned drawing



Model No.

Sensing range	Sn:10 mm	Sn:16 mm
N.O	BB-M3010C-C13S12	BB-M3016C-C13S12
N.C	BB-M3010C-C23S12	BB-M3016C-C23S12

Mounting



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

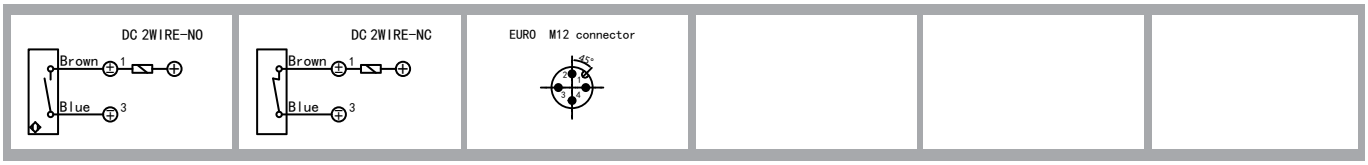
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



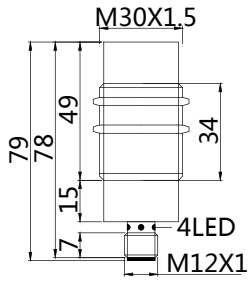


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

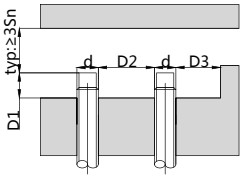


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
N.O	BN-M3015C-C13S12	BN-M3025C-C13S12
N.C	BN-M3015C-C23S12	BN-M3025C-C23S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

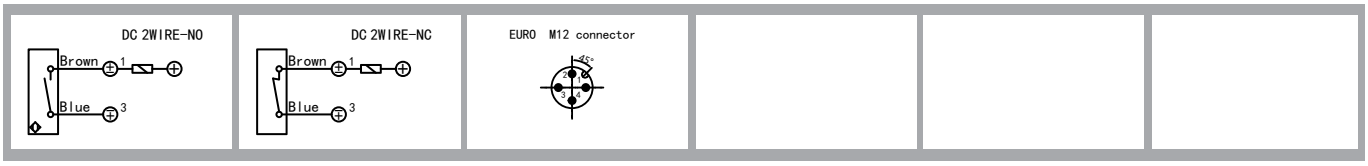
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



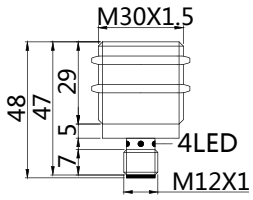


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 10/16mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

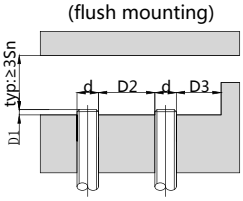


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
N.O	BB-M3010C-C13S12-S	BB-M3016C-C13S12-S
N.C	BB-M3010C-C23S12-S	BB-M3016C-C23S12-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

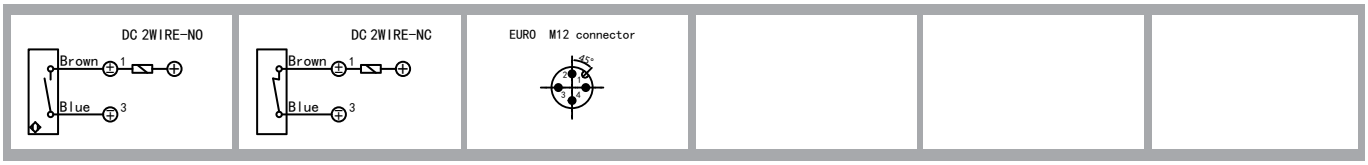
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



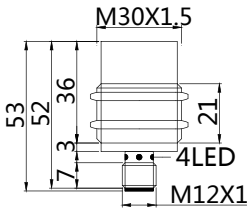


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 15/25mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

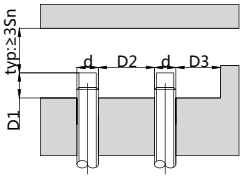


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
N.O	BN-M3015C-C13S12-S	BN-M3025C-C13S12-S
N.C	BN-M3015C-C23S12-S	BN-M3025C-C23S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	300Hz/150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



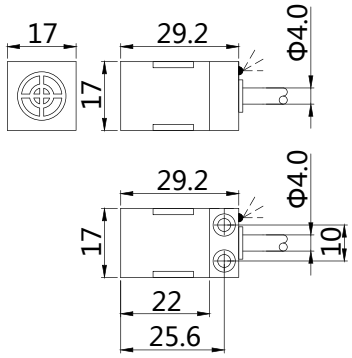


Features:

- Q16 Plastic housing;
- 4mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

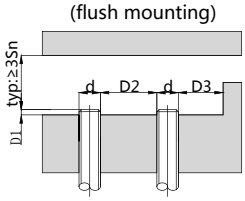


Model No.

Sensing range	Sn:4 mm
N.O	BB-Q1604C-P13P2
N.C	BB-Q1604C-P23P2

Mounting

(flush mounting)

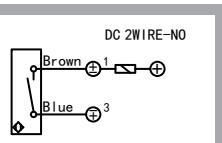


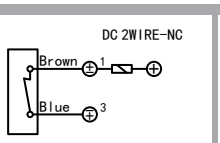
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m;2*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





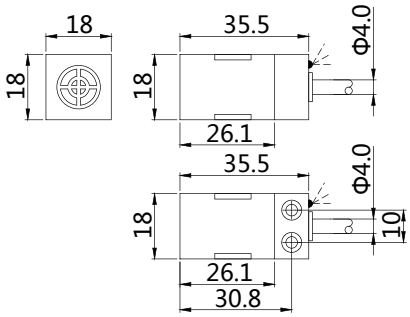


Features:

- Q18 Plastic housing;
- 4mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

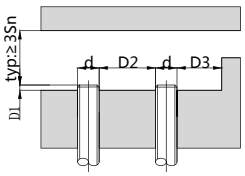


Model No.

Sensing range	Sn:4 mm
N.O	BB-Q1804C-P13P2
N.C	BB-Q1804C-P23P2

Mounting

(flush mounting)

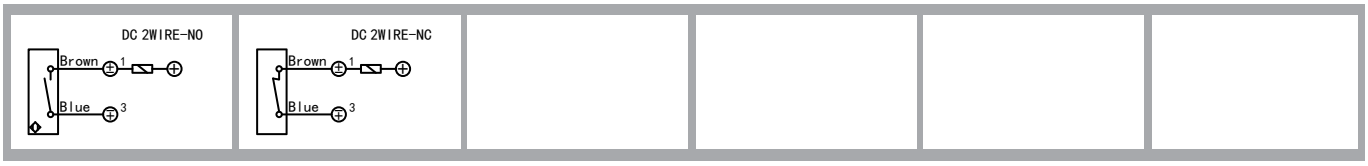


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	1000Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m;2*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



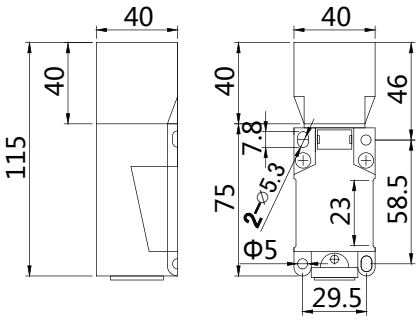


Features:

- Q40 Plastic housing;
- 15mm , flush mountable;
- DC 2-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

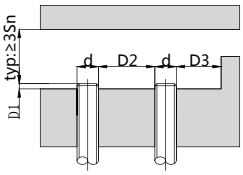


Model No.

Sensing range	Sn:15 mm
N.O	BB-Q4015C-P13T
N.C	BB-Q4015C-P23T

Mounting

(flush mounting)

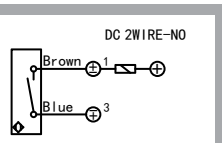


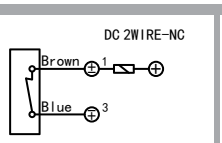
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





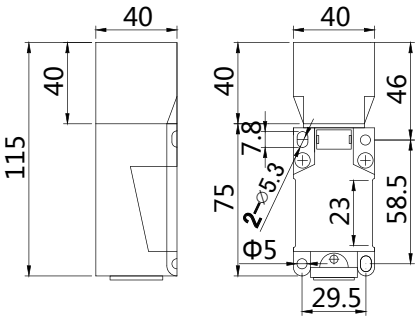


Features:

- Q40 Plastic housing;
- 20/30mm , non-flush mountable;
- DC 2-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

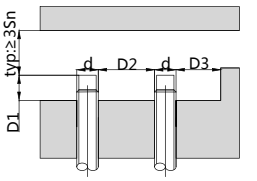


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
N.O	BN-Q4020C-P13T	BN-Q4030C-P13T
N.C	BN-Q4020C-P23T	BN-Q4030C-P23T

Mounting

(non-flush mounting)

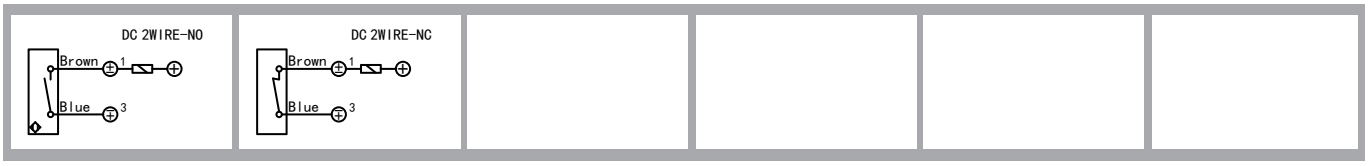


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



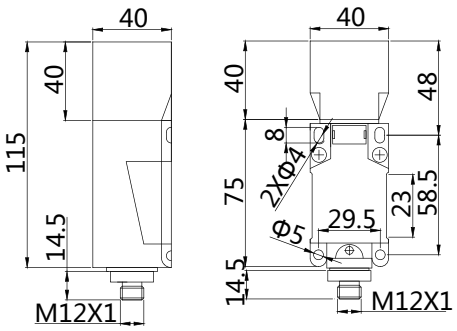


Features:

- Q40 Plastic housing;
- 15mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

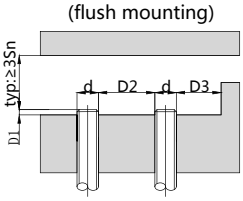


Model No.

Sensing range	Sn:15 mm
N.O	BB-Q4015C-P13S12
N.C	BB-Q4015C-P23S12

Mounting

(flush mounting)

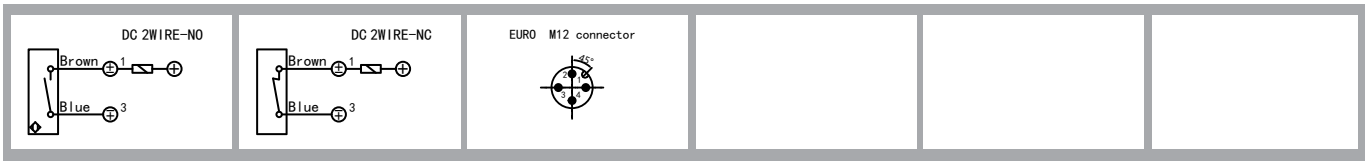


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



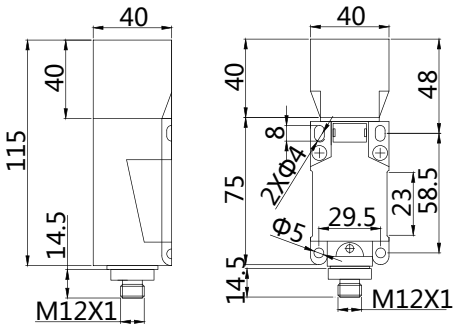


Features:

- Q40 Plastic housing;
- 20/30mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

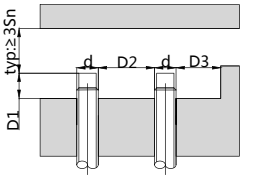


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
N.O	BN-Q4020C-P13S12	BN-Q4030C-P13S12
N.C	BN-Q4020C-P23S12	BN-Q4030C-P23S12

Mounting

(non-flush mounting)

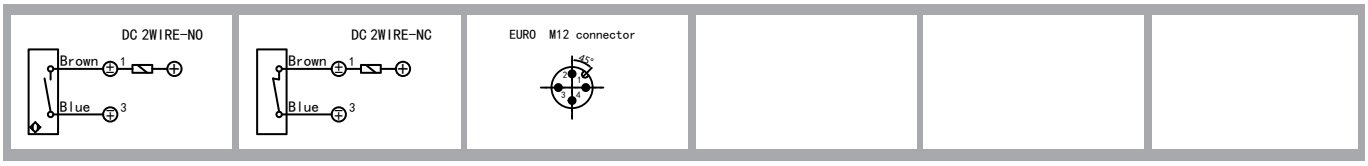


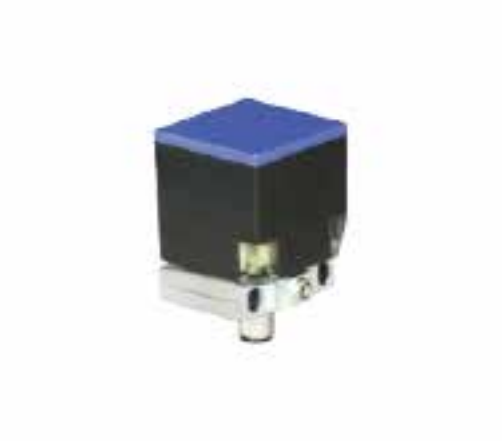
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



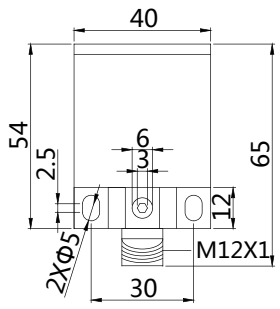


Features:

- Q40S Plastic housing;
- 15mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

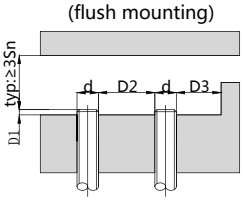


Model No.

Sensing range	Sn:15 mm
N.O	BB-Q4015C-P13S12-S
N.C	BB-Q4015C-P23S12-S

Mounting

(flush mounting)

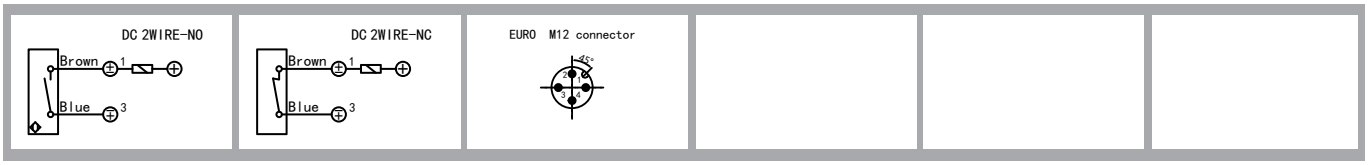


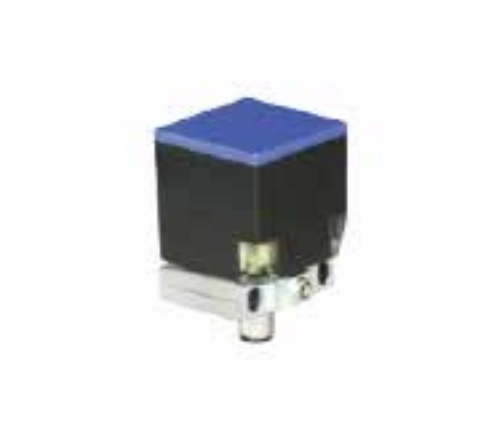
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	150Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



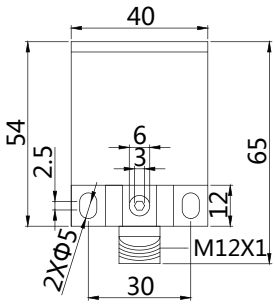


Features:

- Q40S Plastic housing;
- 20/30mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

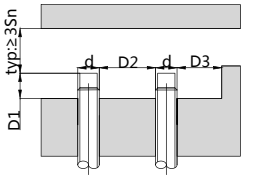


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
N.O	BN-Q4020C-P13S12-S	BN-Q4030C-P13S12-S
N.C	BN-Q4020C-P23S12-S	BN-Q4030C-P23S12-S

Mounting

(non-flush mounting)

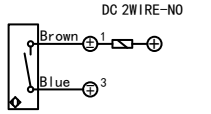


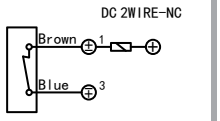
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

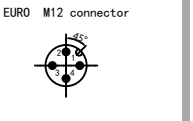
Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







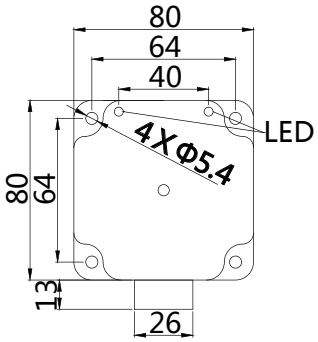


Features:

- Q80 Plastic housing;
- 50mm , non-flush mountable;
- DC 2-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

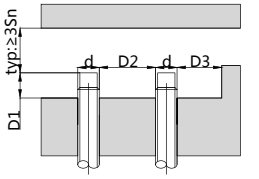


Model No.

Sensing range	Sn:50 mm
N.O	BN-Q8050C-P13T
N.C	BN-Q8050C-P23T

Mounting

(non-flush mounting)

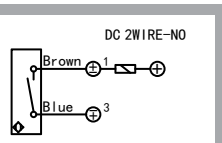


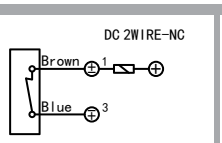
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Load current	200mA
	Leakge current	≤0.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





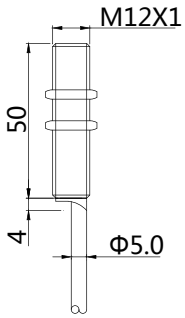


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing



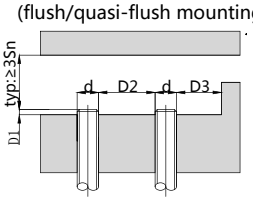
Model No.

Sensing range	Sn:4 mm
NPN N.O+N.C	BB-M1204N-C31P2
PNP N.O+N.C	BB-M1204P-C31P2

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
M1204	≥1	≥12	≥12



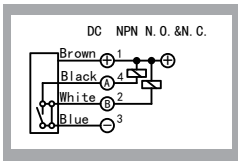
Tightening torque of the fastening screws: <10Nm!

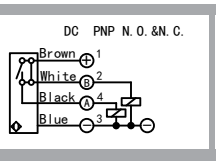
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





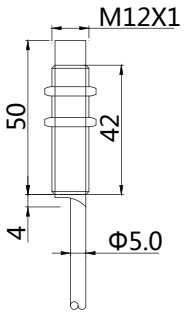


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

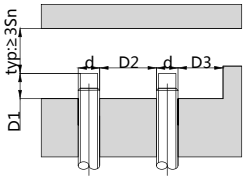


Model No.

Sensing range	Sn:8 mm
NPN N.O+N.C	BN-M1208N-C31P2
PNP N.O+N.C	BN-M1208P-C31P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12

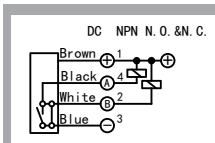
Tightening torque of the fastening screws: <10Nm!

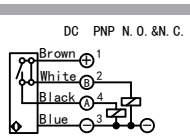
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





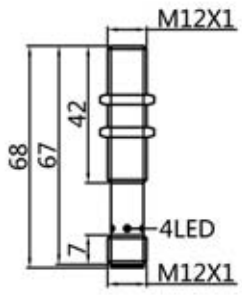


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing



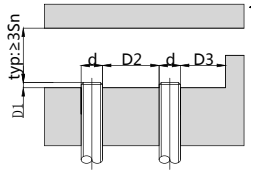
Model No.

Sensing range	Sn:4 mm
NPN N.O+N.C	BB-M1204N-C31S12
PNP N.O+N.C	BB-M1204P-C31S12

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
M1204	≥1	≥12	≥12



Tightening torque of the fastening screws: <10Nm!

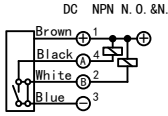
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

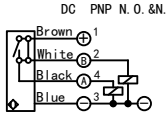
Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring

DC NPN N.O.&N.C.



DC PNP N.O.&N.C.



EURO M12 connector



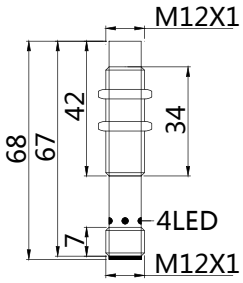


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

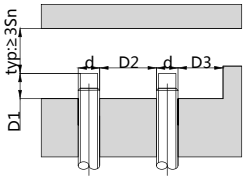


Model No.

Sensing range	Sn:8 mm
NPN N.O+N.C	BN-M1208N-C31S12
PNP N.O+N.C	BN-M1208P-C31S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1208	≥12	≥24	≥12

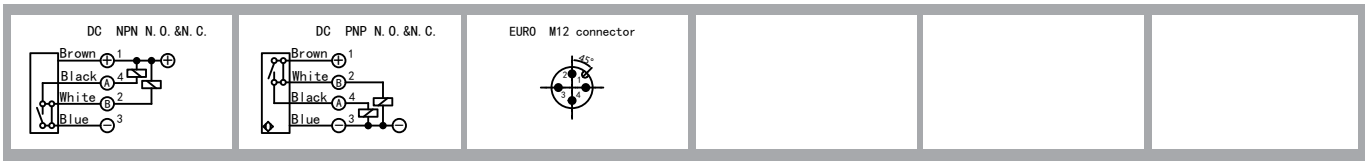
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



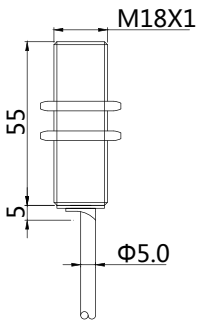


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 4-wire , switching output;
- Cable

CE

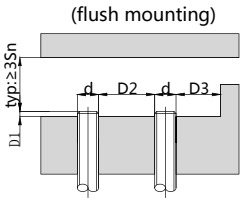
Dimensioned drawing



Model No.

Sensing range	Sn:8 mm
NPN N.O+N.C	BB-M1808N-C31P2
PNP N.O+N.C	BB-M1808P-C31P2

Mounting



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

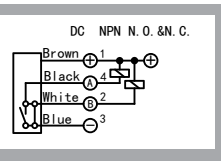
Tightening torque of the fastening screws: <20Nm!

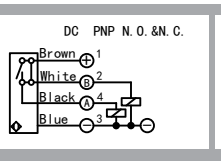
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





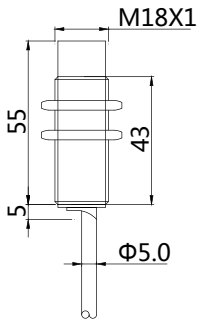


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 16mm , non-flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

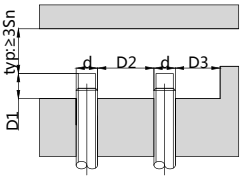


Model No.

Sensing range	Sn:16 mm
NPN N.O+N.C	BN-M1816N-C31P2
PNP N.O+N.C	BN-M1816P-C31P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

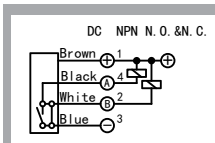
Tightening torque of the fastening screws: <20Nm!

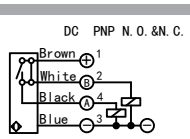
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





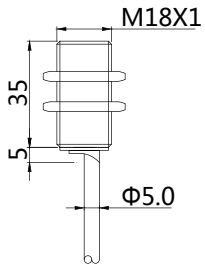


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 8mm , flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

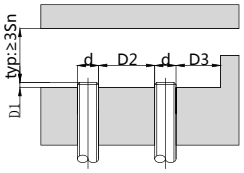


Model No.

Sensing range	Sn:8 mm
NPN N.O+N.C	BB-M1808N-C31P2-S
PNP N.O+N.C	BB-M1808P-C31P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

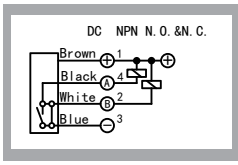
Tightening torque of the fastening screws: <20Nm!

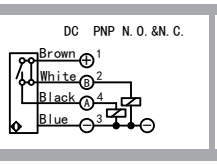
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





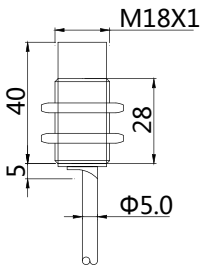


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 16mm , non-flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

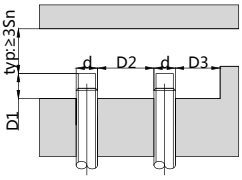


Model No.

Sensing range	Sn:16 mm
NPN N.O+N.C	BN-M1816N-C31P2-S
PNP N.O+N.C	BN-M1816P-C31P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

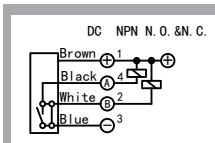
⚠ Tightening torque of the fastening screws: <20Nm!

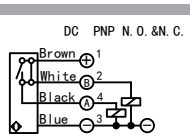
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





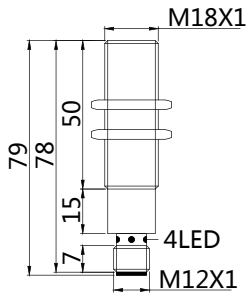


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

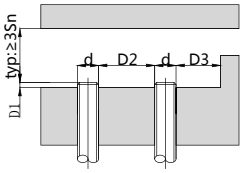


Model No.

Sensing range	Sn:8 mm
NPN N.O+N.C	BB-M1808N-C31S12
PNP N.O+N.C	BB-M1808P-C31S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

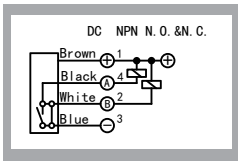
Tightening torque of the fastening screws: <20Nm!

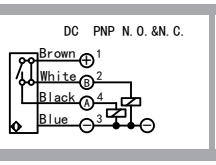
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

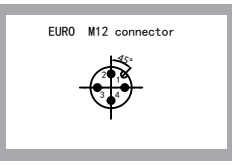
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







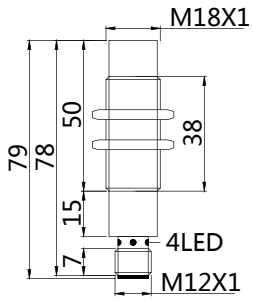


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 16mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

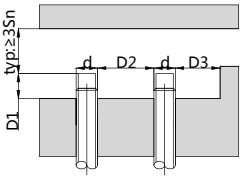


Model No.

Sensing range	Sn:16 mm
NPN N.O+N.C	BN-M1816N-C31S12
PNP N.O+N.C	BN-M1816P-C31S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

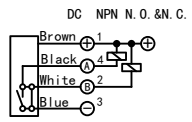
Tightening torque of the fastening screws: <20Nm!

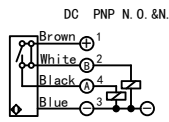
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

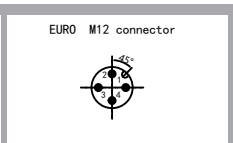
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







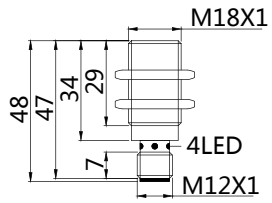


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 8mm , flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

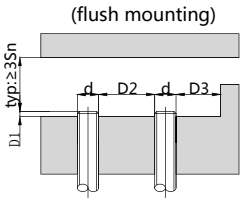
Dimensioned drawing



Model No.

Sensing range	Sn:8 mm
NPN N.O+N.C	BB-M1808N-C31S12-S
PNP N.O+N.C	BB-M1808P-C31S12-S

Mounting



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

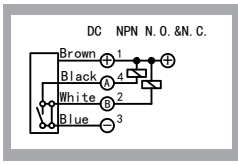
Tightening torque of the fastening screws: <20Nm!

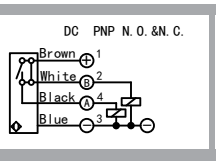
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

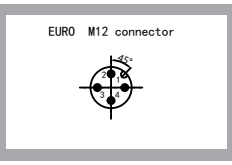
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







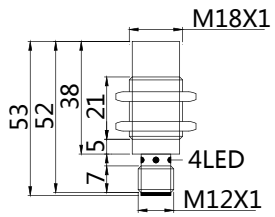


Features:

- M18*1 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 16mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

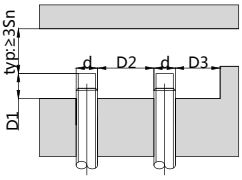


Model No.

Sensing range	Sn:16 mm
NPN N.O+N.C	BN-M1816N-C31S12-S
PNP N.O+N.C	BN-M1816P-C31S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1816	≥25	≥36	≥18

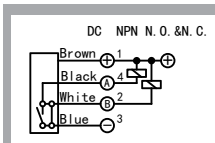
Tightening torque of the fastening screws: <20Nm!

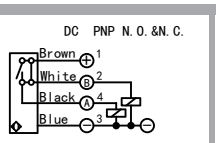
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

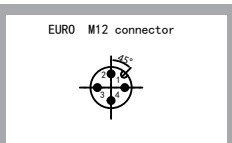
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







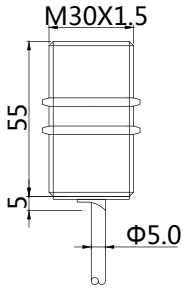


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16mm , flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

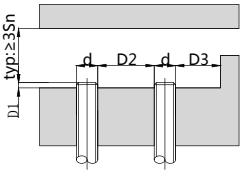


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O+N.C	BB-M3010N-C31P2	BB-M3016N-C31P2
PNP N.O+N.C	BB-M3010P-C31P2	BB-M3016P-C31P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

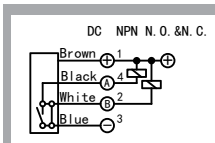
Tightening torque of the fastening screws: <40Nm!

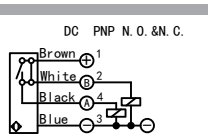
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/200Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





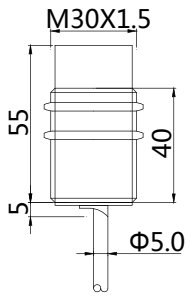


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25mm , non-flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

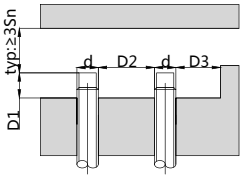


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O+N.C	BN-M3015N-C31P2	BN-M3025N-C31P2
PNP N.O+N.C	BN-M3015P-C31P2	BN-M3025P-C31P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

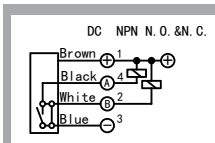
⚠ Tightening torque of the fastening screws: <40Nm!

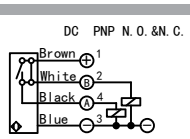
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





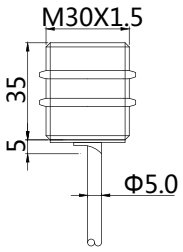


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 10/16mm , flush mountable;
- DC 4-wire , switching output;
- Cable

CE

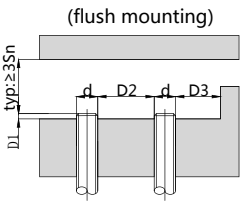
Dimensioned drawing



Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O+N.C	BB-M3010N-C31P2-S	BB-M3016N-C31P2-S
PNP N.O+N.C	BB-M3010P-C31P2-S	BB-M3016P-C31P2-S

Mounting



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

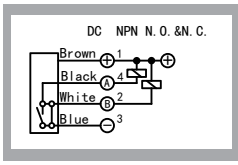
Tightening torque of the fastening screws: <40Nm!

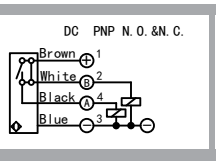
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/200Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





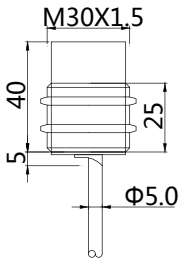


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 15/25mm , non-flush mountable;
- DC 4-wire , switching output;
- Cable

CE

Dimensioned drawing

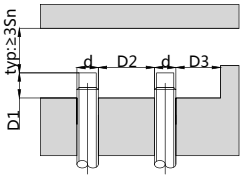


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O+N.C	BN-M3015N-C31P2-S	BN-M3025N-C31P2-S
PNP N.O+N.C	BN-M3015P-C31P2-S	BN-M3025P-C31P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

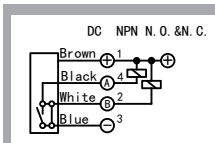
⚠ Tightening torque of the fastening screws: <40Nm!

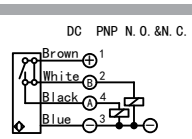
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





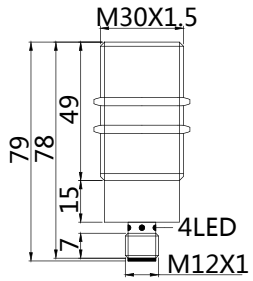


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16mm , flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

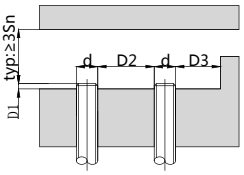


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O+N.C	BB-M3010N-C31S12	BB-M3016N-C31S12
PNP N.O+N.C	BB-M3010P-C31S12	BB-M3016P-C31S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

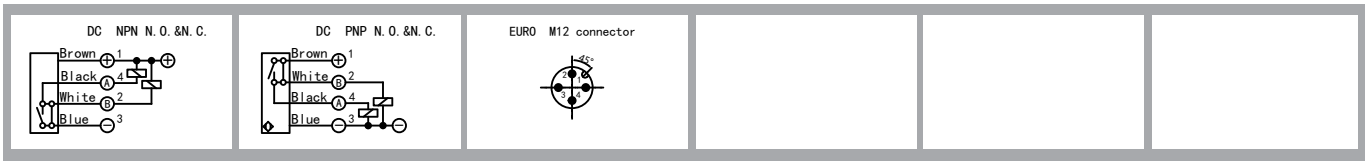
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/200Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



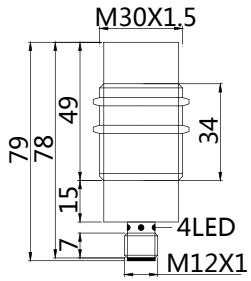


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

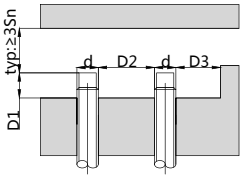


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O+N.C	BN-M3015N-C31S12	BN-M3025N-C31S12
PNP N.O+N.C	BN-M3015P-C31S12	BN-M3025P-C31S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

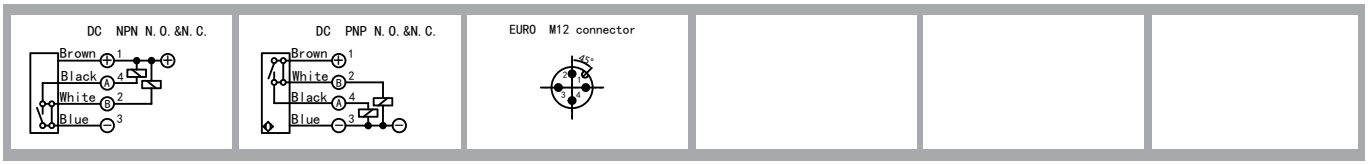
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



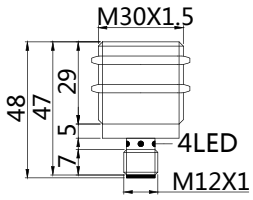


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 10/16mm , flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

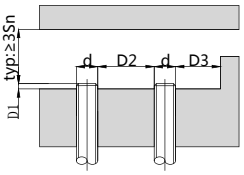


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
NPN N.O+N.C	BB-M3010N-C31S12-S	BB-M3016N-C31S12-S
PNP N.O+N.C	BB-M3010P-C31S12-S	BB-M3016P-C31S12-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

Tightening torque of the fastening screws: <40Nm!

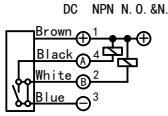
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

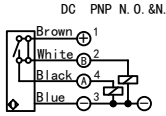
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/200Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring

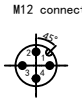
DC NPN N.O.&N.C.



DC PNP N.O.&N.C.



EURO M12 connector



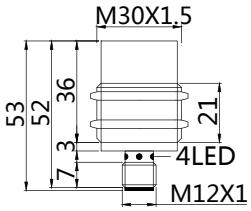


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- The shortest body , compact construction;
- 15/25mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

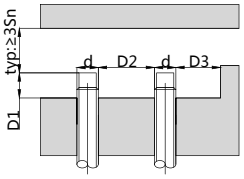


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
NPN N.O+N.C	BN-M3015N-C31S12-S	BN-M3025N-C31S12-S
PNP N.O+N.C	BN-M3015P-C31S12-S	BN-M3025P-C31S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

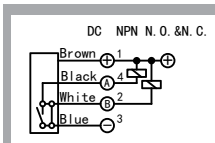
Tightening torque of the fastening screws: <40Nm!

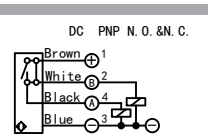
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

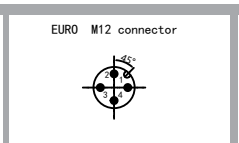
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2000Hz/150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







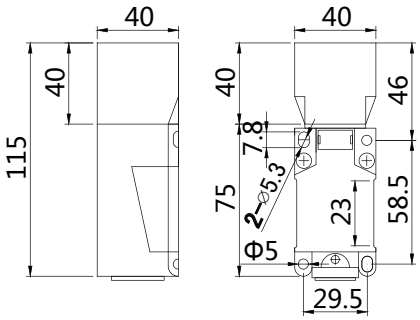


Features:

- Q40 Plastic housing;
- 15mm , flush mountable;
- DC 4-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

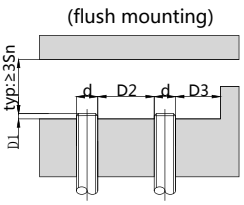


Model No.

Sensing range	Sn:15 mm
NPN N.O+N.C	BB-Q4015N-P31T
PNP N.O+N.C	BB-Q4015P-P31T

Mounting

(flush mounting)

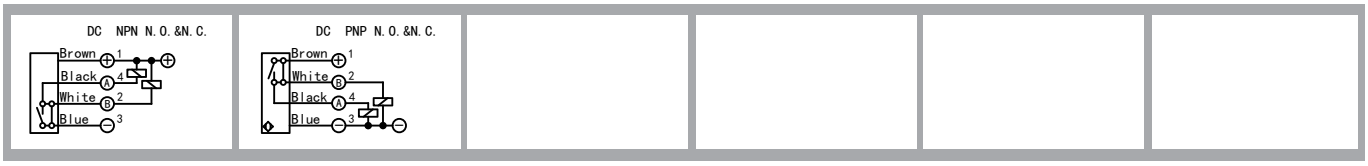


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



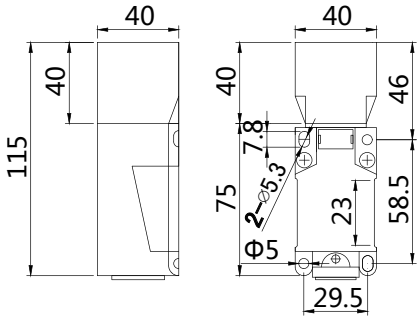


Features:

- Q40 Plastic housing;
- 20/30mm , non-flush mountable;
- DC 4-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

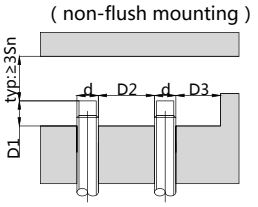


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
NPN N.O+N.C	BN-Q4020N-P31T	BN-Q4030N-P31T
PNP N.O+N.C	BN-Q4020P-P31T	BN-Q4030P-P31T

Mounting

(non-flush mounting)

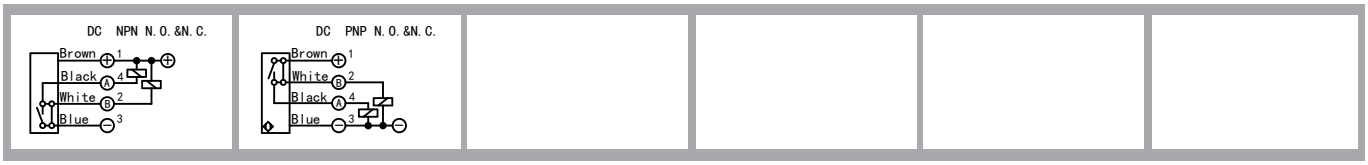


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



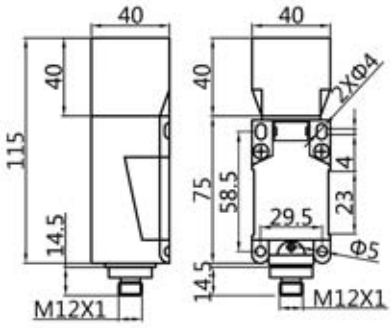


Features:

- Q40 Plastic housing;
- 15mm , flush mountable;
- DC 4-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

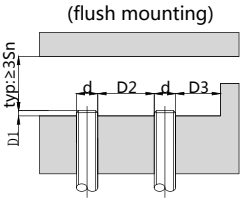


Model No.

Sensing range	Sn:15 mm
NPN N.O+N.C	BB-Q4015N-P31S12
PNP N.O+N.C	BB-Q4015P-P31S12

Mounting

(flush mounting)

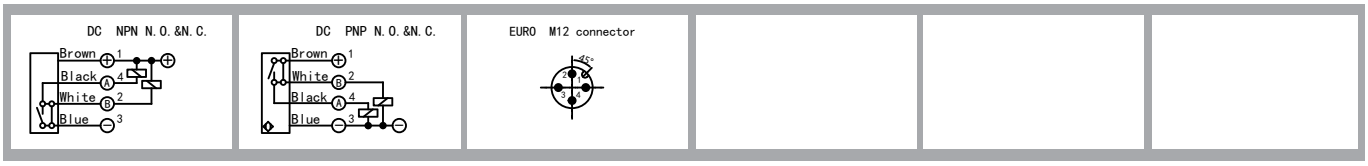


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



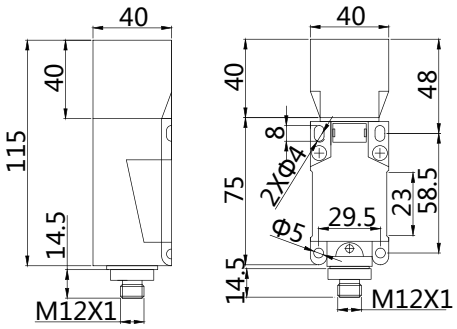


Features:

- Q40 Plastic housing;
- 20/30mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

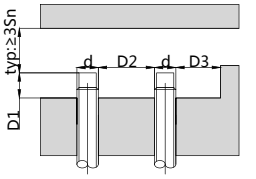


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
NPN N.O+N.C	BN-Q4020N-P31S12	BN-Q4030N-P31S12
PNP N.O+N.C	BN-Q4020P-P31S12	BN-Q4030P-P31S12

Mounting

(non-flush mounting)

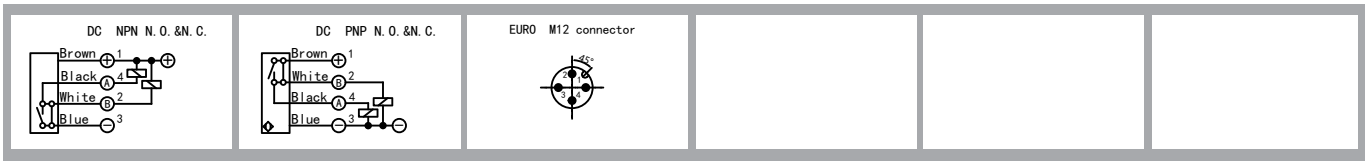


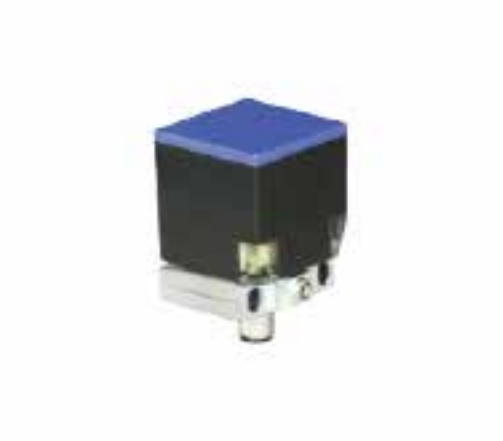
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



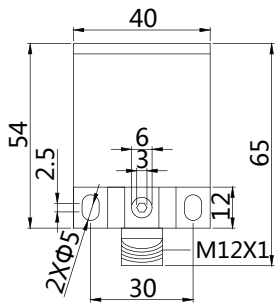


Features:

- Q40S Plastic housing;
- 15mm , flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

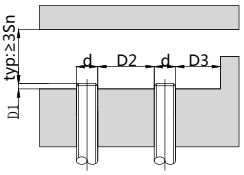


Model No.

Sensing range	Sn:15 mm
NPN N.O+N.C	BB-Q4015N-P31S12-S
PNP N.O+N.C	BB-Q4015P-P31S12-S

Mounting

(flush mounting)

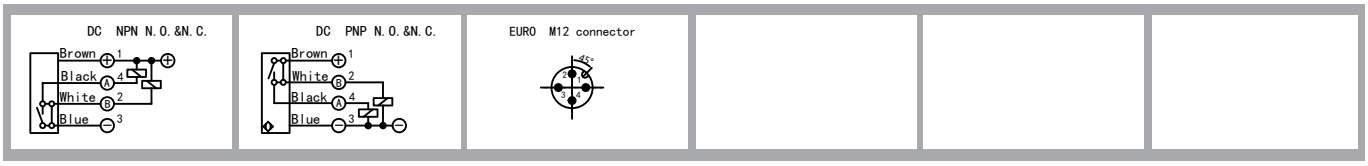


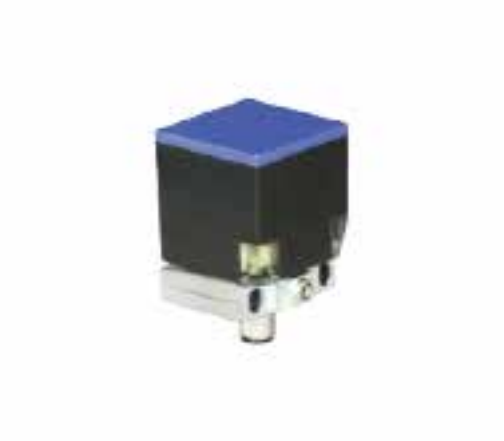
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	150Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



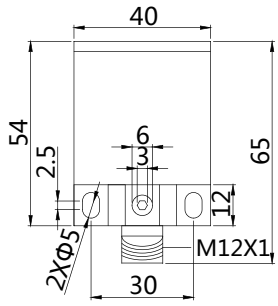


Features:

- Q40S Plastic housing;
- 20/30mm , non-flush mountable;
- DC 4-wire , switching output;
- Connector versions

CE

Dimensioned drawing

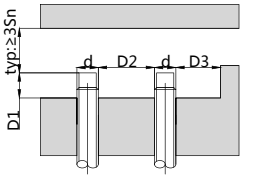


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
NPN N.O+N.C	BN-Q4020N-P31S12-S	BN-Q4030N-P31S12-S
PNP N.O+N.C	BN-Q4020P-P31S12-S	BN-Q4030P-P31S12-S

Mounting

(non-flush mounting)

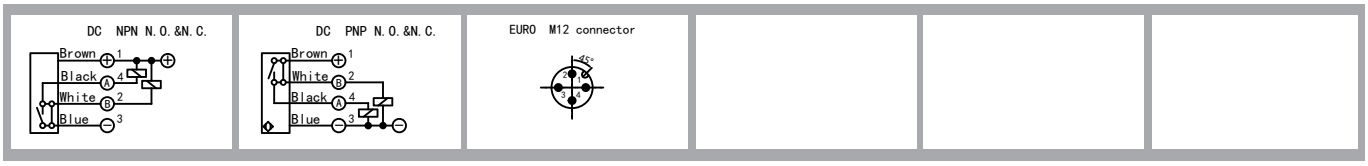


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



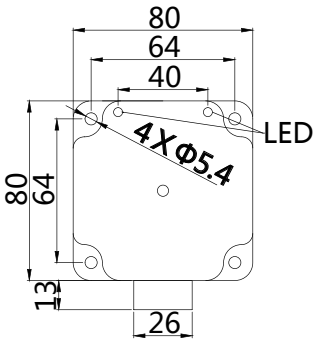


Features:

- Q80 Plastic housing;
- 50mm , non-flush mountable;
- DC 4-wire , switching output;
- Terminal compartment

CE

Dimensioned drawing

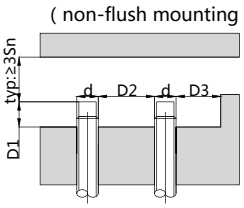


Model No.

Sensing range	Sn:50 mm
NPN N.O+N.C	BN-Q8050N-P31T
PNP N.O+N.C	BN-Q8050P-P31T

Mounting

(non-flush mounting)

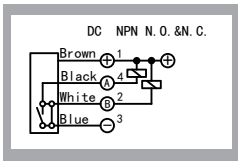


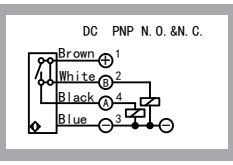
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





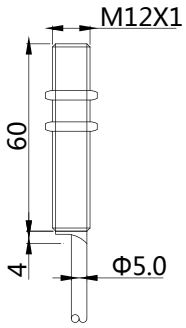


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 2/4mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

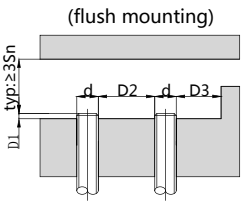
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm	Sn:4 mm
N.O	BB-M1202A-C14P2	BB-M1204A-C14P2
N.C	BB-M1202A-C24P2	BB-M1204A-C24P2
N.O	BB-M1202U-C15P2	BB-M1204U-C15P2
N.C	BB-M1202U-C25P2	BB-M1204U-C25P2

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12
M1204	≥1	≥12	≥12

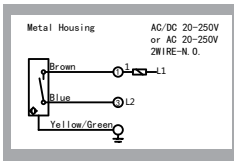
⚠ Tightening torque of the fastening screws: <10Nm!

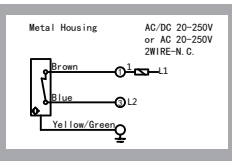
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





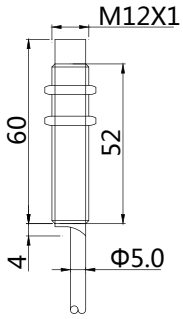


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

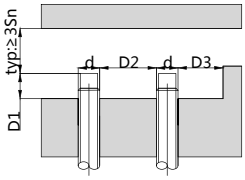


Model No.

Sensing range	Sn:4 mm
N.O	BN-M1204A-C14P2
N.C	BN-M1204A-C24P2
N.O	BN-M1204U-C15P2
N.C	BN-M1204U-C25P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

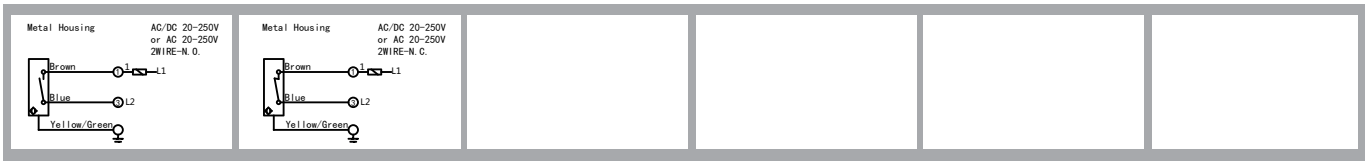
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



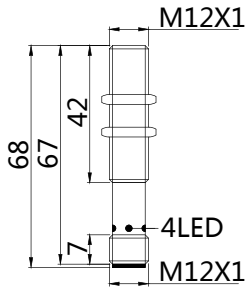


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 2/4mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

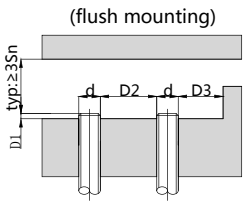
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm	Sn:4 mm
N.O	BB-M1202A-C14S12	BB-M1204A-C14S12
N.C	BB-M1202A-C24S12	BB-M1204A-C24S12
N.O	BB-M1202U-C15S12	BB-M1204U-C15S12
N.C	BB-M1202U-C25S12	BB-M1204U-C25S12

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12
M1204	≥1	≥12	≥12

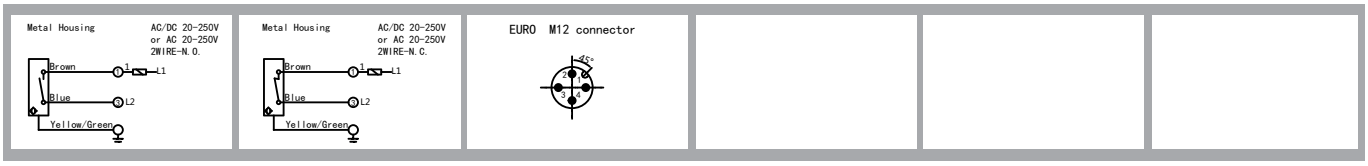
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



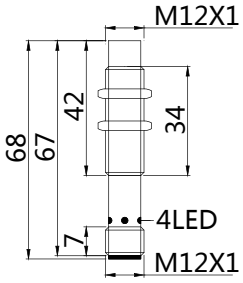


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

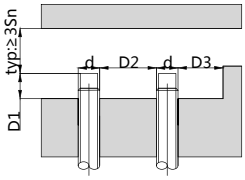


Model No.

Sensing range	Sn:4 mm
N.O	BN-M1204A-C14S12
N.C	BN-M1204A-C24S12
N.O	BN-M1204U-C15S12
N.C	BN-M1204U-C25S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

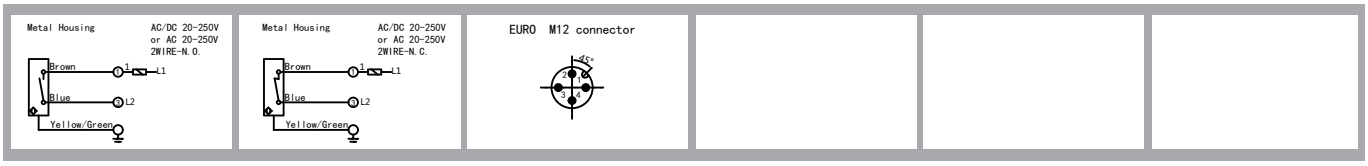
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



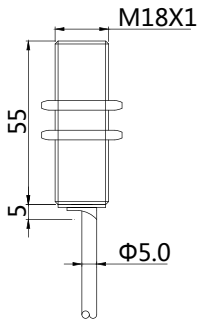


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 5/8mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

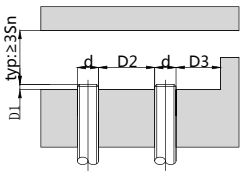


Model No.

Sensing range	Sn:5 mm	Sn:8 mm
N.O	BB-M1805A-C14P2	BB-M1808A-C14P2
N.C	BB-M1805A-C24P2	BB-M1808A-C24P2
N.O	BB-M1805U-C15P2	BB-M1808U-C15P2
N.C	BB-M1805U-C25P2	BB-M1808U-C25P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

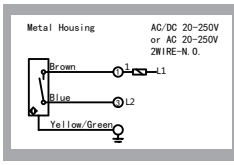
⚠ Tightening torque of the fastening screws: <20Nm!

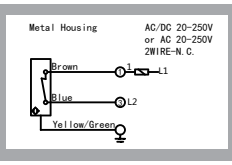
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





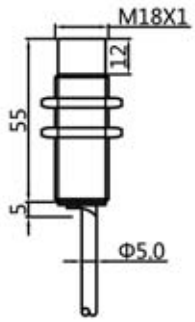


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8/16mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

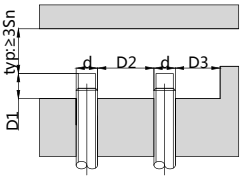


Model No.

Sensing range	Sn:8 mm	Sn:16 mm
N.O	BN-M1808A-C14P2	BN-M1816A-C14P2
N.C	BN-M1808A-C24P2	BN-M1816A-C24P2
N.O	BN-M1808U-C15P2	BN-M1816U-C15P2
N.C	BN-M1808U-C25P2	BN-M1816U-C25P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18
M1816	≥25	≥36	≥18

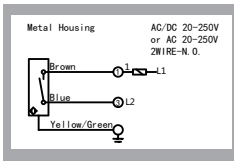
⚠ Tightening torque of the fastening screws: <20Nm!

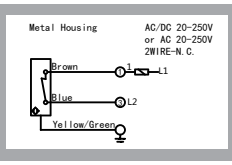
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





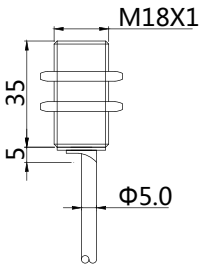


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 5mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

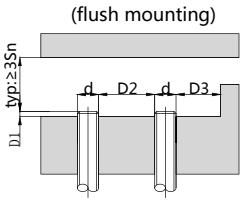
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm
N.O	BB-M1805A-C14P2-S
N.C	BB-M1805A-C24P2-S
N.O	BB-M1805U-C15P2-S
N.C	BB-M1805U-C25P2-S

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

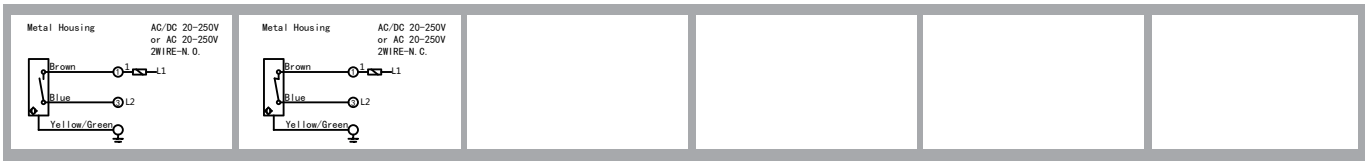
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



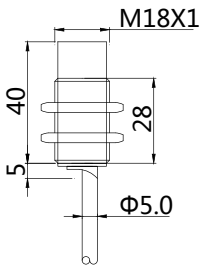


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

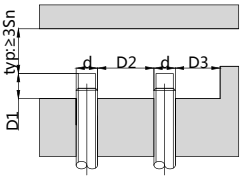


Model No.

Sensing range	Sn:8 mm
N.O	BN-M1808A-C14P2-S
N.C	BN-M1808A-C24P2-S
N.O	BN-M1808U-C15P2-S
N.C	BN-M1808U-C25P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

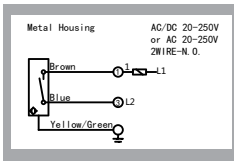
⚠ Tightening torque of the fastening screws: <20Nm!

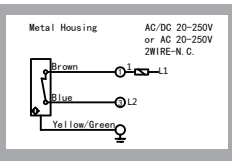
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





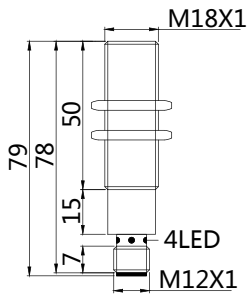


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 5/8mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

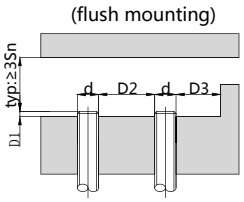
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm	Sn:8 mm
N.O	BB-M1805A-C14S12	BB-M1808A-C14S12
N.C	BB-M1805A-C24S12	BB-M1808A-C24S12
N.O	BB-M1805U-C15S12	BB-M1808U-C15S12
N.C	BB-M1805U-C25S12	BB-M1808U-C25S12

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

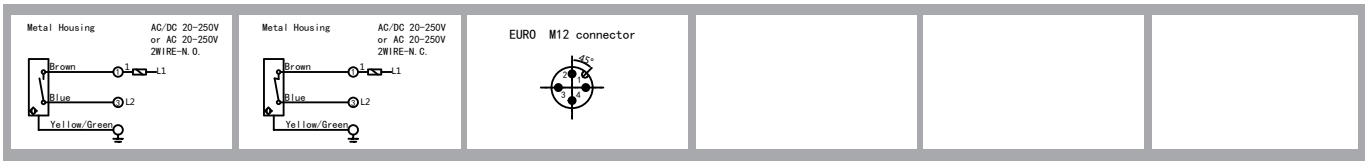
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



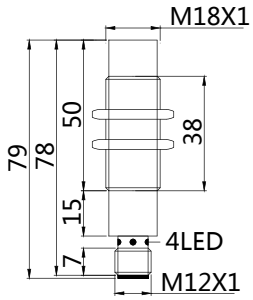


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8/16mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

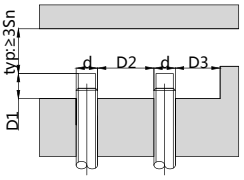


Model No.

Sensing range	Sn:8 mm	Sn:16 mm
N.O	BN-M1808A-C14S12	BN-M1816A-C14S12
N.C	BN-M1808A-C24S12	BN-M1816A-C24S12
N.O	BN-M1808U-C15S12	BN-M1816U-C15S12
N.C	BN-M1808U-C25S12	BN-M1816U-C25S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18
M1816	≥25	≥36	≥18

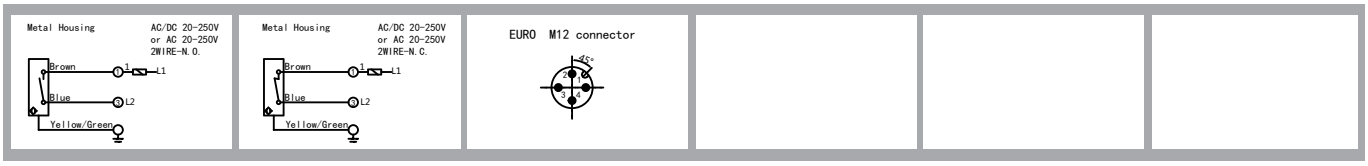
⚠ Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



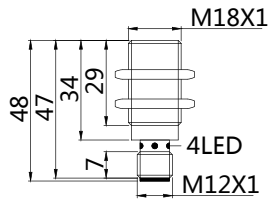


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 5mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

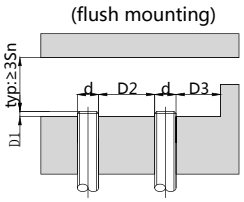
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm
N.O	BB-M1805A-C14S12-S
N.C	BB-M1805A-C24S12-S
N.O	BB-M1805U-C15S12-S
N.C	BB-M1805U-C25S12-S

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

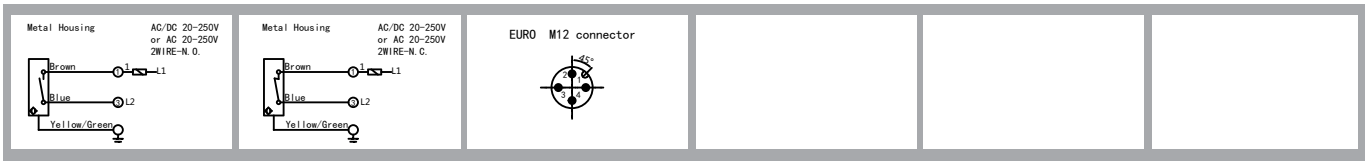
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



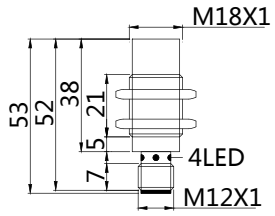


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

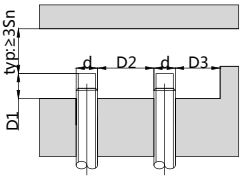


Model No.

Sensing range	Sn:8 mm
N.O	BN-M1808A-C14S12-S
N.C	BN-M1808A-C24S12-S
N.O	BN-M1808U-C15S12-S
N.C	BN-M1808U-C25S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥25	≥36	≥18
M1816	≥25	≥36	≥18

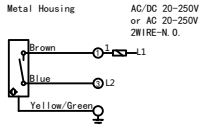
Tightening torque of the fastening screws: <20Nm!

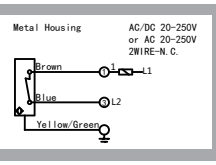
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

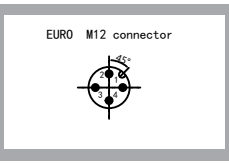
Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







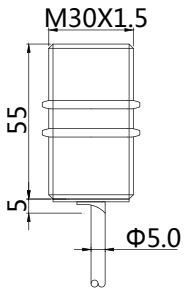


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

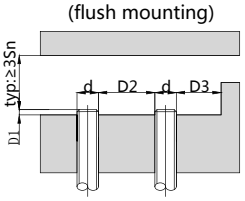


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
N.O	BB-M3010A-C14P2	BB-M3016A-C14P2
N.C	BB-M3010A-C24P2	BB-M3016A-C24P2
N.O	BB-M3010U-C15P2	BB-M3016U-C15P2
N.C	BB-M3010U-C25P2	BB-M3016U-C25P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

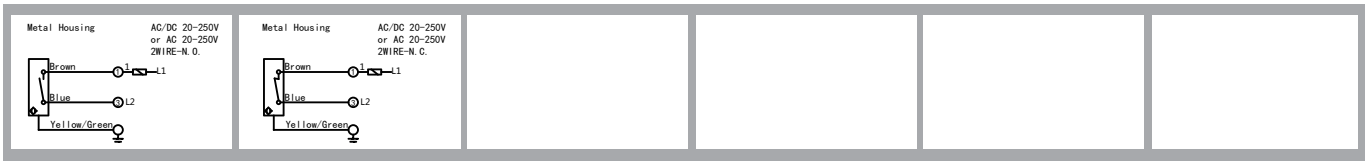
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



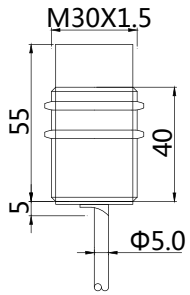


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

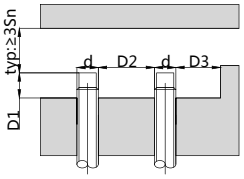


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
N.O	BN-M3015A-C14P2	BN-M3025A-C14P2
N.C	BN-M3015A-C24P2	BN-M3025A-C24P2
N.O	BN-M3015U-C15P2	BN-M3025U-C15P2
N.C	BN-M3015U-C25P2	BN-M3025U-C25P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

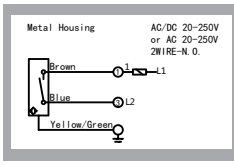
Tightening torque of the fastening screws: <40Nm!

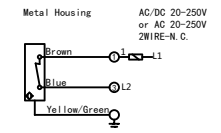
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





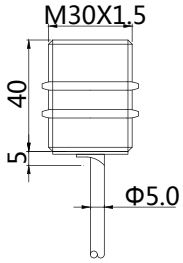


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

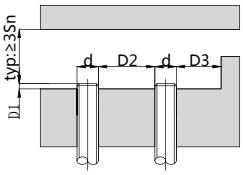


Model No.

Sensing range	Sn:10 mm
N.O	BB-M3010A-C14P2-S
N.C	BB-M3010A-C24P2-S
N.O	BB-M3010U-C15P2-S
N.C	BB-M3010U-C25P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

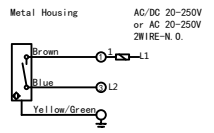
Tightening torque of the fastening screws: <40Nm!

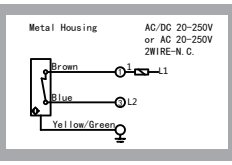
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





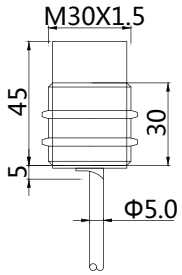


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

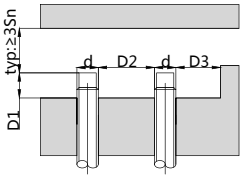


Model No.

Sensing range	Sn:15 mm
N.O	BN-M3015A-C14P2-S
N.C	BN-M3015A-C24P2-S
N.O	BN-M3015U-C15P2-S
N.C	BN-M3015U-C25P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

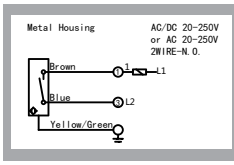
Tightening torque of the fastening screws: <40Nm!

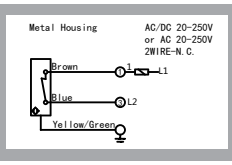
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m,3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





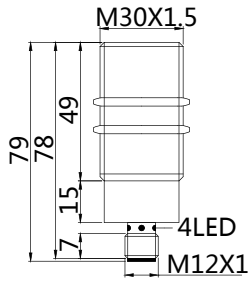


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10/16mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

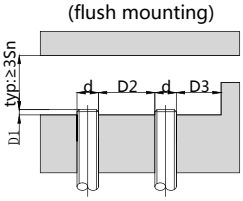


Model No.

Sensing range	Sn:10 mm	Sn:16 mm
N.O	BB-M3010A-C14S12	BB-M3016A-C14S12
N.C	BB-M3010A-C24S12	BB-M3016A-C24S12
N.O	BB-M3010U-C15S12	BB-M3016U-C15S12
N.C	BB-M3010U-C25S12	BB-M3016U-C25S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30
M3016	≥3.5	≥30	≥30

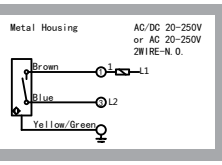
Tightening torque of the fastening screws: <40Nm!

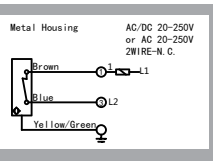
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

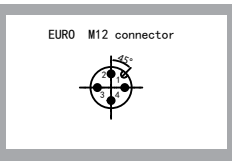
Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







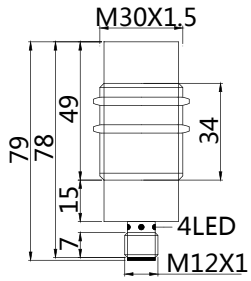


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15/25mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

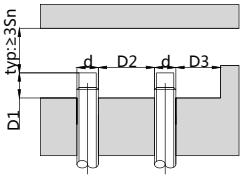


Model No.

Sensing range	Sn:15 mm	Sn:25 mm
N.O	BN-M3015A-C14S12	BN-M3025A-C14S12
N.C	BN-M3015A-C24S12	BN-M3025A-C24S12
N.O	BN-M3015U-C15S12	BN-M3025U-C15S12
N.C	BN-M3015U-C25S12	BN-M3025U-C25S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30
M3025	≥40	≥60	≥30

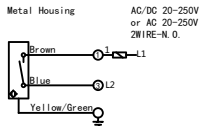
Tightening torque of the fastening screws: <40Nm!

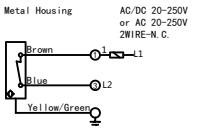
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

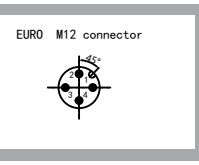
Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







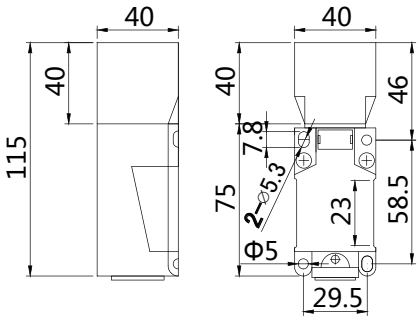


Features:

- Q40 Plastic housing;
- 15mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Terminal compartment

CE

Dimensioned drawing

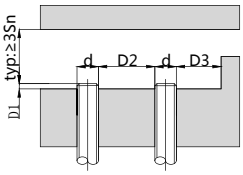


Model No.

Sensing range	Sn:15 mm
N.O	BB-Q4015A-P14T
N.C	BB-Q4015A-P24T
N.O+N.C	BB-Q4015A-P34T
N.O	BB-Q4015U-P15T
N.C	BB-Q4015U-P25T

Mounting

(flush mounting)

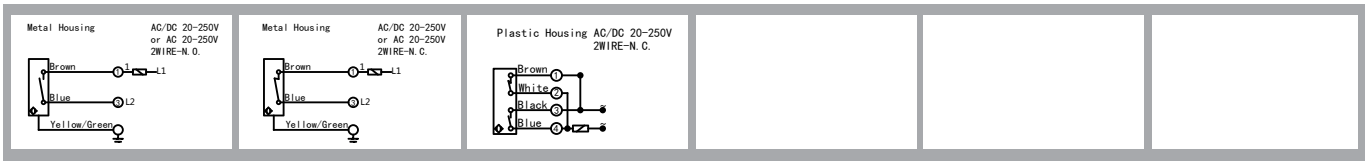


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



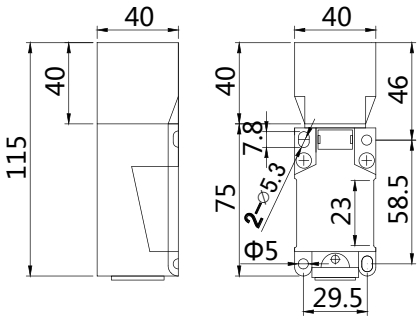


Features:

- Q40 Plastic housing;
- 20/30mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Terminal compartment

CE

Dimensioned drawing

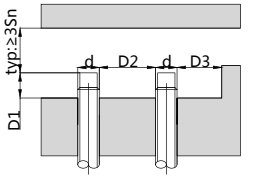


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
N.O	BN-Q4020A-P14T	BN-Q4030A-P14T
N.C	BN-Q4020A-P24T	BN-Q4030A-P24T
N.O+N.C	BN-Q4020A-P34T	BN-Q4030A-P34T
N.O	BN-Q4020U-P15T	BN-Q4030U-P15T
N.C	BN-Q4020U-P25T	BN-Q4030U-P25T

Mounting

(non-flush mounting)

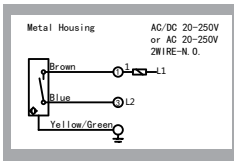


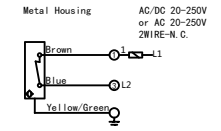
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

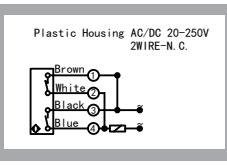
Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring







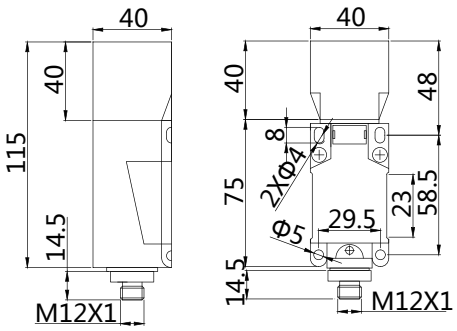


Features:

- Q40 Plastic housing;
- 15mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

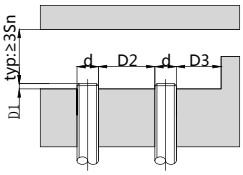


Model No.

Sensing range	Sn:15 mm
N.O	BB-Q4015A-P14S12
N.C	BB-Q4015A-P24S12
N.O+N.C	BB-Q4015A-P34S12
N.O	BB-Q4015U-P15S12
N.C	BB-Q4015U-P25S12

Mounting

(flush mounting)

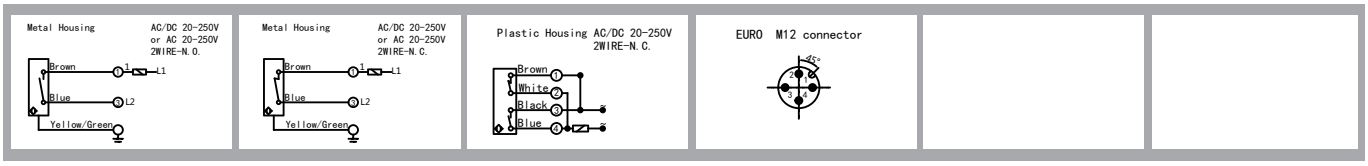


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



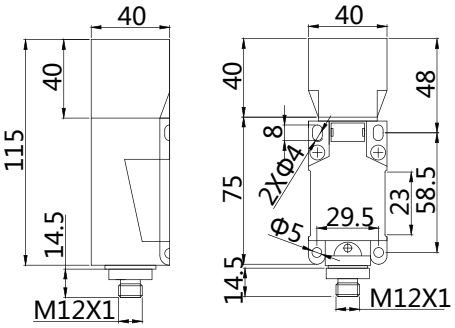


Features:

- Q40 Plastic housing;
- 20/30mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

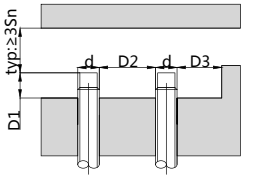


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
N.O	BN-Q4020A-P14S12	BN-Q4030A-P14S12
N.C	BN-Q4020A-P24S12	BN-Q4030A-P24S12
N.O+N.C	BN-Q4020A-P34S12	BN-Q4030A-P34S12
N.O	BN-Q4020U-P15S12	BN-Q4030U-P15S12
N.C	BN-Q4020U-P25S12	BN-Q4030U-P25S12

Mounting

(non-flush mounting)

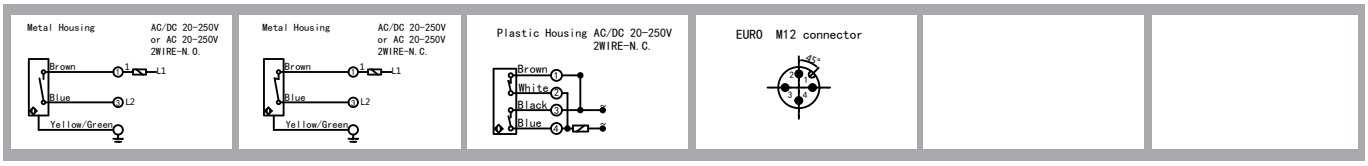


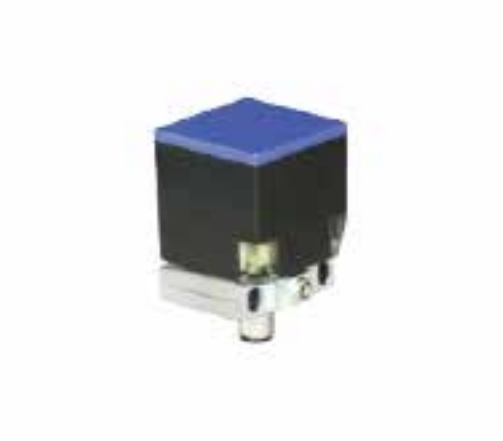
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



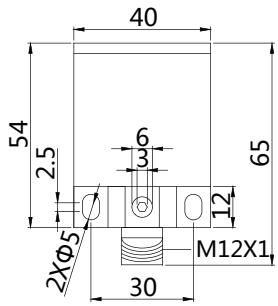


Features:

- Q40S Plastic housing;
- 15mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

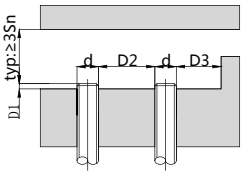


Model No.

Sensing range	Sn:15 mm
N.O	BB-Q4015A-P14S12-S
N.C	BB-Q4015A-P24S12-S
N.O+N.C	BB-Q4015A-P34S12-S
N.O	BB-Q4015U-P15S12-S
N.C	BB-Q4015U-P25S12-S

Mounting

(flush mounting)

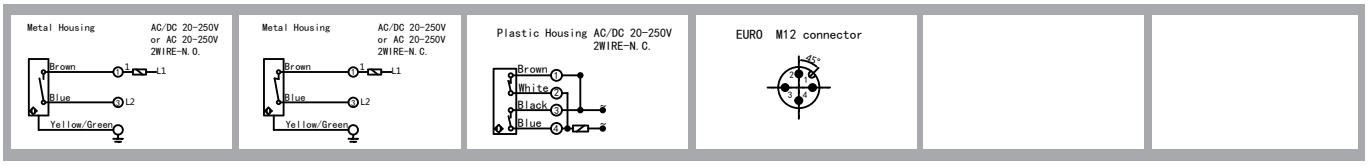


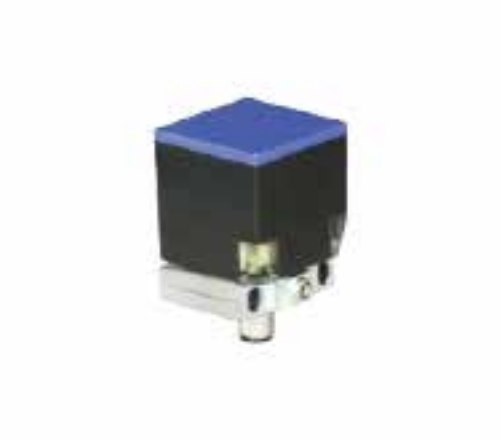
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



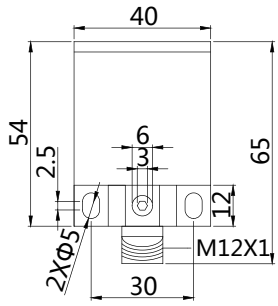


Features:

- Q40S Plastic housing;
- 20/30mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

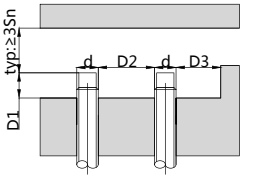


Model No.

Sensing range	Sn:20 mm	Sn:30 mm
N.O	BN-Q4020A-P14S12-S	BN-Q4030A-P14S12-S
N.C	BN-Q4020A-P24S12-S	BN-Q4030A-P24S12-S
N.O+N.C	BN-Q4020A-P34S12-S	BN-Q4030A-P34S12-S
N.O	BN-Q4020U-P15S12-S	BN-Q4030U-P15S12-S
N.C	BN-Q4020U-P25S12-S	BN-Q4030U-P25S12-S

Mounting

(non-flush mounting)

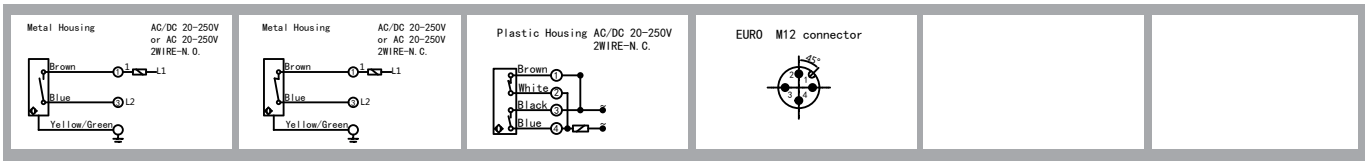


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



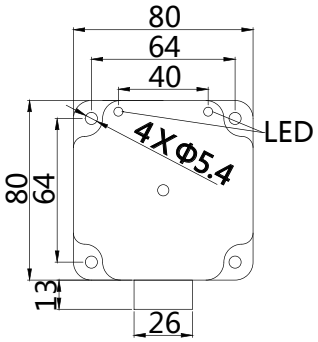


Features:

- Q80 Plastic housing;
- 50mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Terminal compartment

CE

Dimensioned drawing

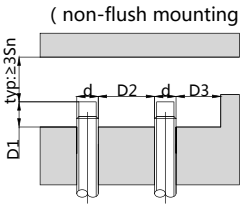


Model No.

Sensing range	Sn:50 mm
N.O	BN-Q8050A-P14T
N.C	BN-Q8050A-P24T
N.O+N.C	BN-Q8050A-P34T
N.O	BN-Q8050U-P15T
N.C	BN-Q8050U-P25T

Mounting

(non-flush mounting)

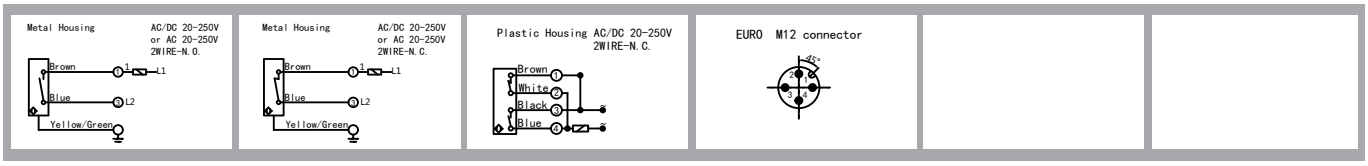


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	20-250V AC/20-250V AC/DC
	Switching frequency	25Hz/25Hz AC;40Hz DC
	Voltage drop	≤8V AC/≤10V AC,8V DC
	Load current	Max.load:400mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤1.8mA/≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



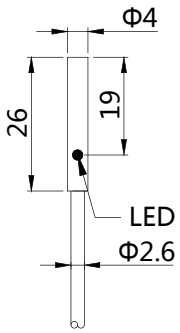
Features:

- Φ4 mm , Stainless steel housing;
- 0.8mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable



CE

Dimensioned drawing

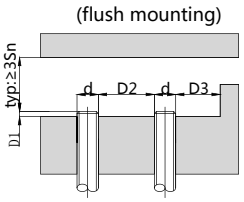


Model No.

Sensing range	Sn:0.8 mm
N.O	BB-H40.8NA-V10P2

Mounting

(flush mounting)



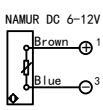
Sn	D1	D2	D3
H40.8	≥0	≥4	≥4

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



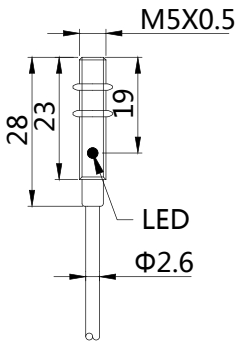


Features:

- M5*0.5 mm , Stainless steel housing;
- 0.8mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

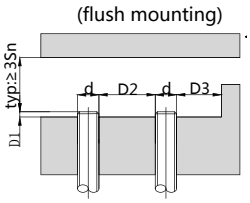
Dimensioned drawing



Model No.

Sensing range	Sn:0.8 mm
N.O	BB-M50.8NA-V10P2

Mounting



Sn	D1	D2	D3
M50.8	≥0	≥5	≥5

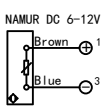
Tightening torque of the fastening screws: <1.5Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



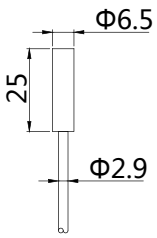


Features:

- Φ6.5 mm , Stainless steel housing;
- 1mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



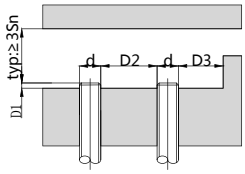
Model No.

Sensing range	Sn:1 mm
N.O	BB-H6.501NA-V10P2

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
H6.501	≥0	≥8	≥8

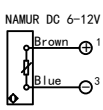


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



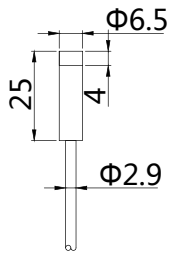


Features:

- Φ6.5 mm , Stainless steel housing;
- 2mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



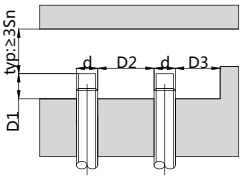
Model No.

Sensing range	Sn:0.8 mm
N.O	BN-H6.502NA-V10P2

Mounting

(non-flush mounting)

Sn	D1	D2	D3
H6.502	≥8	≥16	≥8

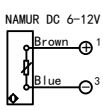


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	1000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



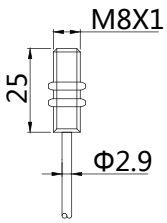


Features:

- M8*1 mm , Stainless steel housing;
- 1mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



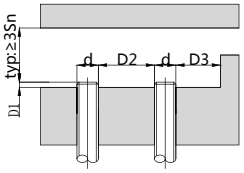
Model No.

Sensing range	Sn:1 mm
N.O	BB-M801NA-V10P2

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
M801	≥0	≥8	≥8



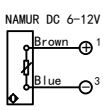
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



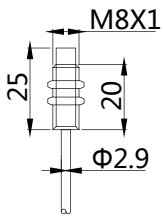


Features:

- M8*1 mm , Stainless steel housing;
- 2mm , non-flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

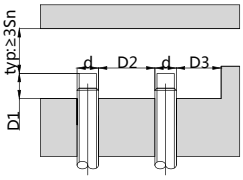


Model No.

Sensing range	Sn:2 mm
N.O	BN-M802NA-V10P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M802	≥6	≥16	≥8

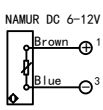
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	1000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



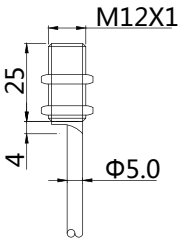


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 2mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



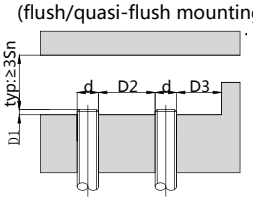
Model No.

Sensing range	Sn:2 mm
N.0	BB-M1202NA-C10P2

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
M1202	≥0	≥12	≥12



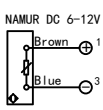
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



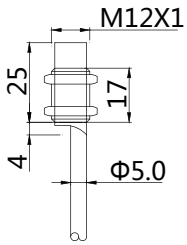


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , non-flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

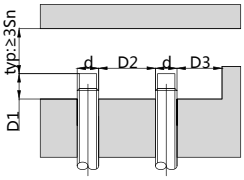


Model No.

Sensing range	Sn:2 mm
N.O	BN-M1204NA-C10P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

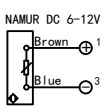
⚠ Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	1000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



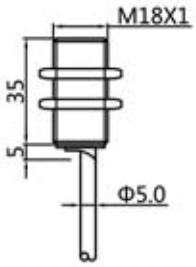


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 5mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



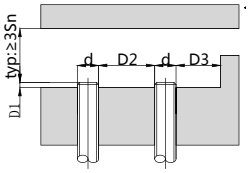
Model No.

Sensing range	Sn:5 mm
N.O	BB-M1805NA-C10P2

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
M1805	≥0	≥18	≥18



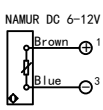
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	1000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



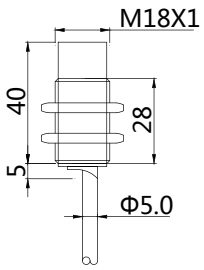


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

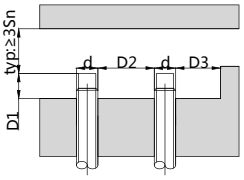


Model No.

Sensing range	Sn:8 mm
N.0	BN-M1808NA-C10P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥25	≥36	≥18

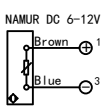
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	300Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



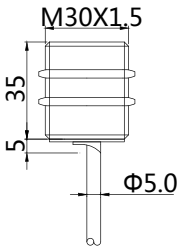


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing



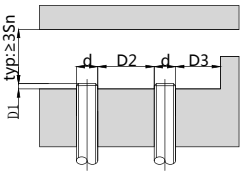
Model No.

Sensing range	Sn:10 mm
N.O	BB-M3010NA-C10P2

Mounting

(flush/quasi-flush mounting)

Sn	D1	D2	D3
M3010	≥0	≥30	≥30



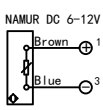
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	300Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



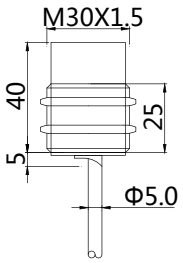


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

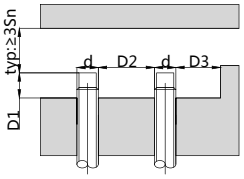


Model No.

Sensing range	Sn:15 mm
N.O	BN-M3015NA-C10P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

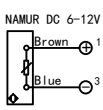
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	100Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



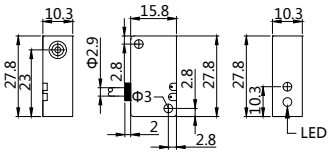


Features:

- Q28 Plastic housing;
- 2mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- 90° side cable

CE

Dimensioned drawing

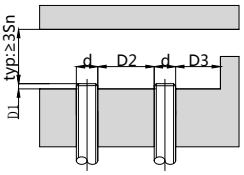


Model No.

Sensing range	Sn:2 mm
N.O	BB-Q2802NA-P10P2-T

Mounting

(flush/quasi-flush mounting)

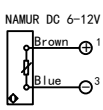


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



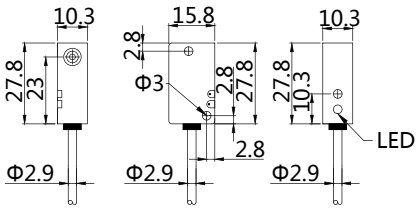


Features:

- Q28 Plastic housing;
- 2mm , flush mountable;
- NAMUR DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

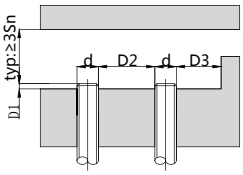


Model No.

Sensing range	Sn:2 mm
N.O	BB-Q2802NA-P10P2

Mounting

(flush/quasi-flush mounting)

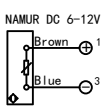


Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	6-12V DC
	Switching frequency	2000Hz
	Leakge current	>2.2mA(OFF),<1.1mA(ON)
	Hysteresis	<15%(Sr)
	Repeatability	<2.0%(Sr)
	Power-up delay	≤10ms
	Temperature drift	<10%(Sr)
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



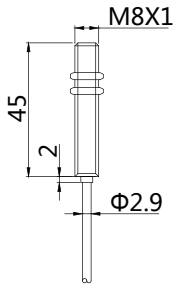


Features:

- M8*1 mm , Full stainless steel housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

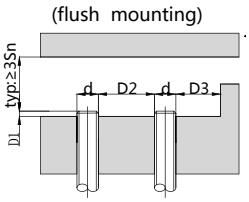
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm
NPN N.O	BFB-M802N-V11P2
NPN N.C	BFB-M802N-V21P2
PNP N.O	BFB-M802P-V11P2
PNP N.C	BFB-M802P-V21P2

Mounting



Sn	D1	D2	D3
M802	≥0	≥8	≥8

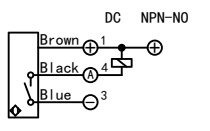
Tightening torque of the fastening screws: <10Nm!

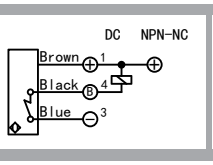
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

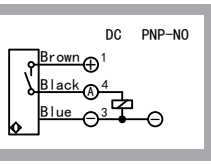
Technical data

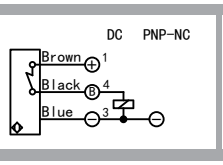
Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









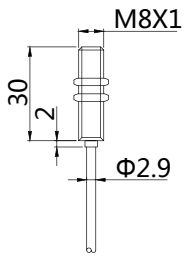


Features:

- M8*1 mm , Full stainless steel housing;
- Short body,compact construction;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

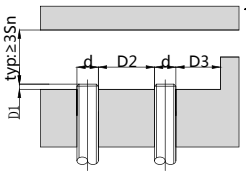


Model No.

Sensing range	Sn:2 mm
NPN N.O	BFB-M802N-V11P2-S
NPN N.C	BFB-M802N-V21P2-S
PNP N.O	BFB-M802P-V11P2-S
PNP N.C	BFB-M802P-V21P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

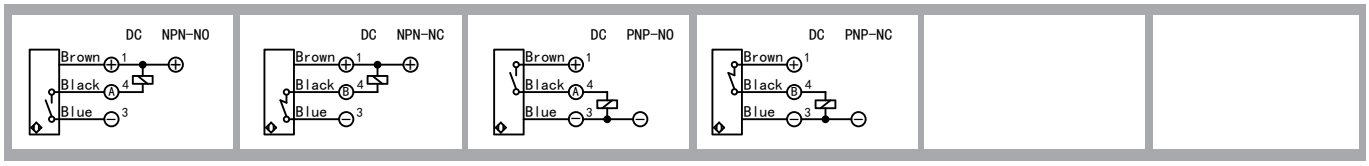
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



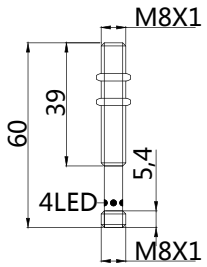


Features:

- M8*1 mm , Full stainless steel housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

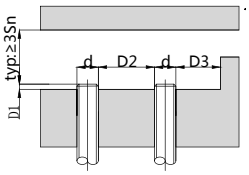


Model No.

Sensing range	Sn:2 mm
NPN N.O	BFB-M802N-V11S8
NPN N.C	BFB-M802N-V21S8
PNP N.O	BFB-M802P-V11S8
PNP N.C	BFB-M802P-V21S8

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

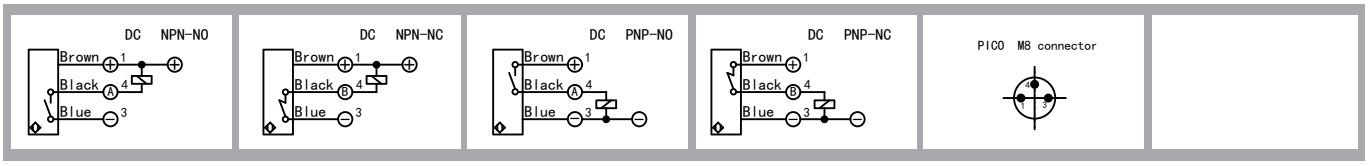
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



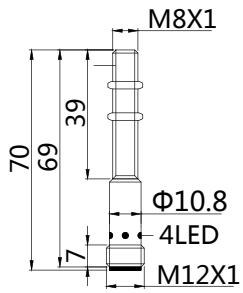


Features:

- M8*1 mm , Full stainless steel housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

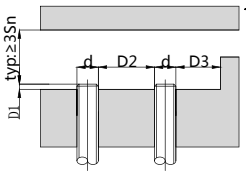


Model No.

Sensing range	Sn:2 mm
NPN N.O	BFB-M802N-V11S12
NPN N.C	BFB-M802N-V21S12
PNP N.O	BFB-M802P-V11S12
PNP N.C	BFB-M802P-V21S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

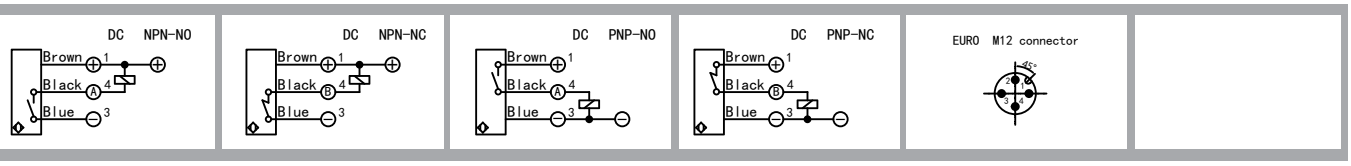
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



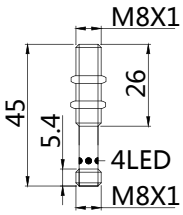


Features:

- M8*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

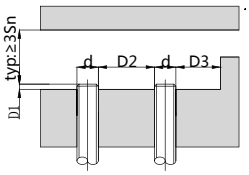


Model No.

Sensing range	Sn:2 mm
NPN N.O	BFB-M802N-V11S8-S
NPN N.C	BFB-M802N-V21S8-S
PNP N.O	BFB-M802P-V11S8-S
PNP N.C	BFB-M802P-V21S8-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

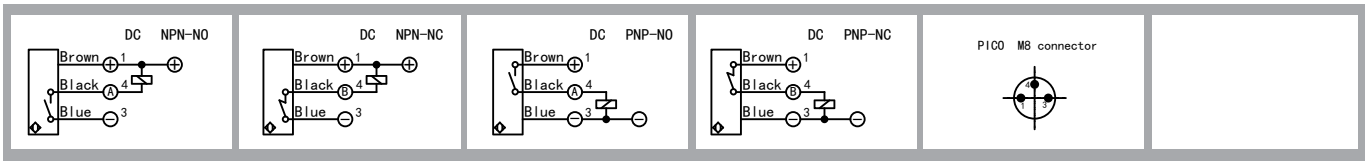
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



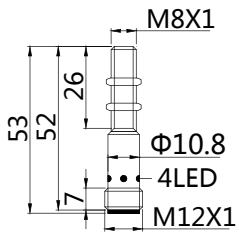


Features:

- M8*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

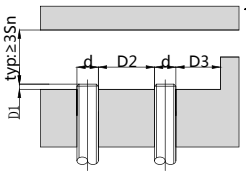


Model No.

Sensing range	Sn:2 mm
NPN N.O	BFB-M802N-V11S12-S
NPN N.C	BFB-M802N-V21S12-S
PNP N.O	BFB-M802P-V11S12-S
PNP N.C	BFB-M802P-V21S12-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

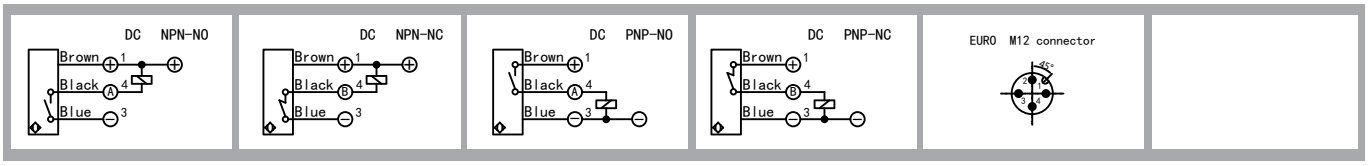
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



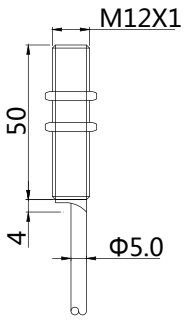


Features:

- M12*1 mm , Full stainless steel housing;
- 2/4mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

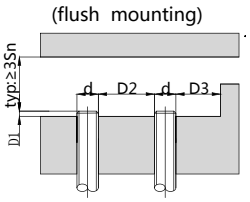
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm	Sn:4 mm
NPN N.O	BFB-M1202N-V11P2	BFB-M1204N-V11P2
NPN N.C	BFB-M1202N-V21P2	BFB-M1204N-V21P2
PNP N.O	BFB-M1202P-V11P2	BFB-M1204P-V11P2
PNP N.C	BFB-M1202P-V21P2	BFB-M1204P-V21P2

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12
M1204	≥1	≥12	≥12

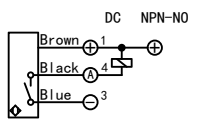
Tightening torque of the fastening screws: <30Nm!

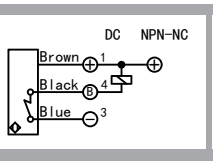
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

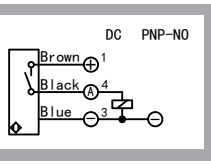
Technical data

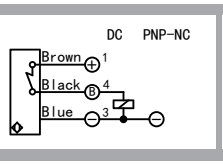
Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









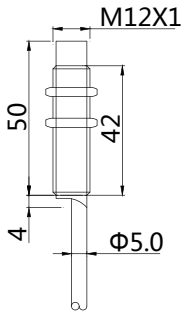


Features:

- M12*1 mm , Full stainless steel housing;
- 4mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

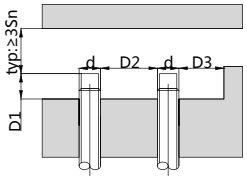


Model No.

Sensing range	Sn:4 mm
NPN N.O	BFN-M1204N-V11P2
NPN N.C	BFN-M1204N-V21P2
PNP N.O	BFN-M1204P-V11P2
PNP N.C	BFN-M1204P-V21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

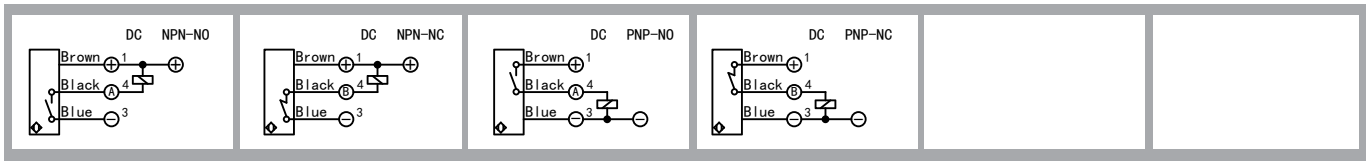
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



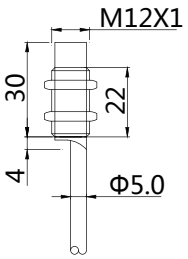


Features:

- M12*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 2/4mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

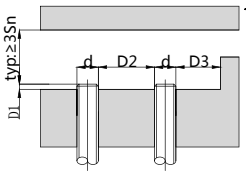


Model No.

Sensing range	Sn:2 mm	Sn:4 mm
NPN N.O	BFB-M1202N-V11P2-S	BFB-M1204N-V11P2-S
NPN N.C	BFB-M1202N-V21P2-S	BFB-M1204N-V21P2-S
PNP N.O	BFB-M1202P-V11P2-S	BFB-M1204P-V11P2-S
PNP N.C	BFB-M1202P-V21P2-S	BFB-M1204P-V21P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M1202	≥0	≥12	≥12
M1204	≥1	≥12	≥12

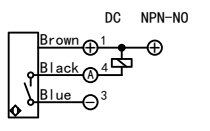
Tightening torque of the fastening screws: <30Nm!

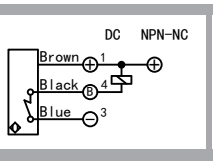
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

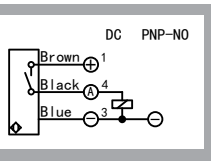
Technical data

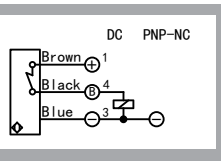
Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









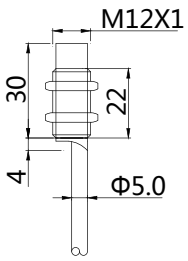


Features:

- M12*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 4mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

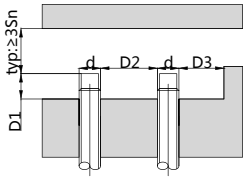


Model No.

Sensing range	Sn:4 mm
NPN N.O	BFN-M1204N-V11P2-S
NPN N.C	BFN-M1204N-V21P2-S
PNP N.O	BFN-M1204P-V11P2-S
PNP N.C	BFN-M1204P-V21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

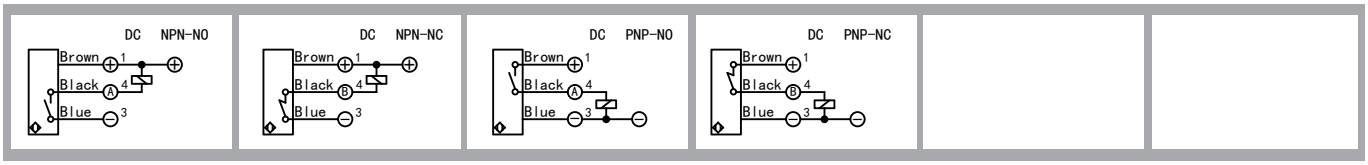
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



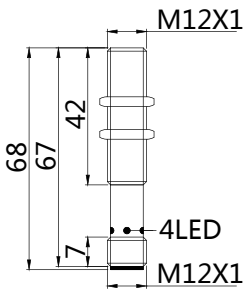


Features:

- M12*1 mm , Full stainless steel housing;
- 2/4mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

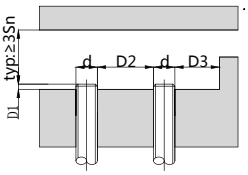


Model No.

Sensing range	Sn:2 mm	Sn:4 mm
NPN N.O	BFB-M1202N-V11S12	BFB-M1204N-V11S12
NPN N.C	BFB-M1202N-V21S12	BFB-M1204N-V21S12
PNP N.O	BFB-M1202P-V11S12	BFB-M1204P-V11S12
PNP N.C	BFB-M1202P-V21S12	BFB-M1204P-V21S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M1202	≥0	≥12	≥12
M1204	≥1	≥12	≥12

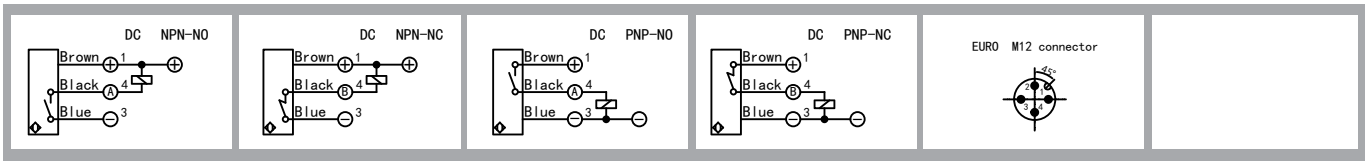
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



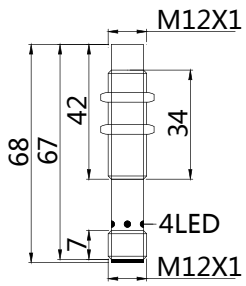


Features:

- M12*1 mm , Full stainless steel housing;
- 4mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

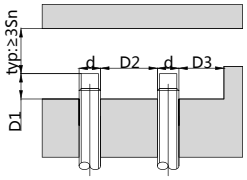


Model No.

Sensing range	Sn:4 mm
NPN N.O	BFN-M1204N-V11S12
NPN N.C	BFN-M1204N-V21S12
PNP N.O	BFN-M1204P-V11S12
PNP N.C	BFN-M1204P-V21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

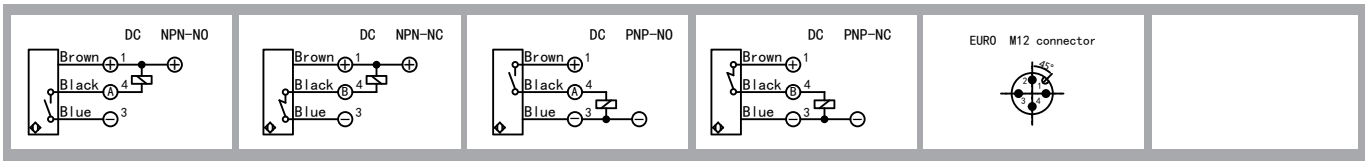
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



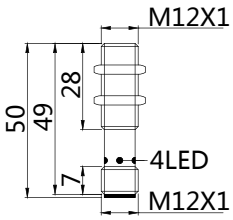


Features:

- M12*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 2/4mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

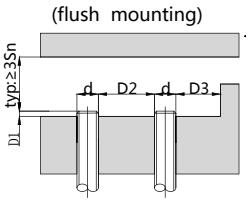
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm	Sn:4 mm
NPN N.O	BFB-M1202N-V11S12-S	BFB-M1204N-V11S12-S
NPN N.C	BFB-M1202N-V21S12-S	BFB-M1204N-V21S12-S
PNP N.O	BFB-M1202P-V11S12-S	BFB-M1204P-V11S12-S
PNP N.C	BFB-M1202P-V21S12-S	BFB-M1204P-V21S12-S

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12
M1204	≥1	≥12	≥12

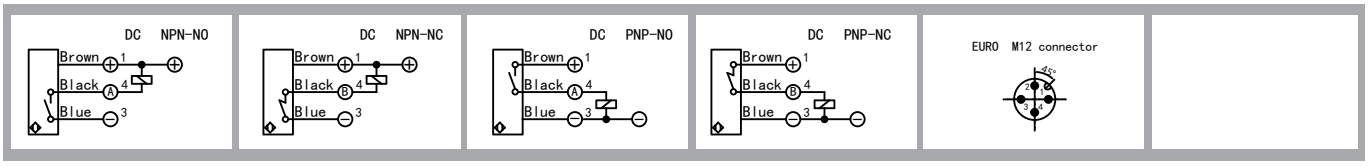
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



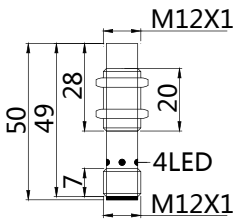


Features:

- M12*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 4mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

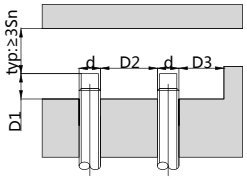


Model No.

Sensing range	Sn:4 mm
NPN N.O	BFN-M1204N-V11S12-S
NPN N.C	BFN-M1204N-V21S12-S
PNP N.O	BFN-M1204P-V11S12-S
PNP N.C	BFN-M1204P-V21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

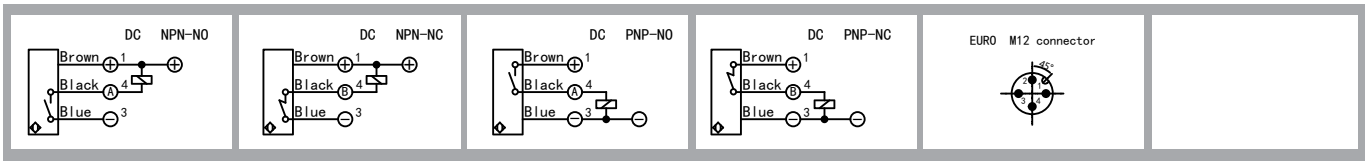
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



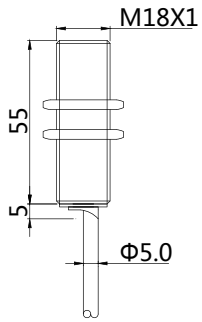


Features:

- M18*1 mm , Full stainless steel housing;
- 5/8mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

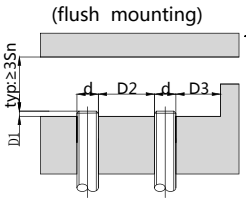
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm	Sn:8 mm
NPN N.O	BFB-M1805N-V11P2	BFB-M1808N-V11P2
NPN N.C	BFB-M1805N-V21P2	BFB-M1808N-V21P2
PNP N.O	BFB-M1805P-V11P2	BFB-M1808P-V11P2
PNP N.C	BFB-M1805P-V21P2	BFB-M1808P-V21P2

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

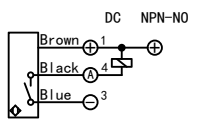
Tightening torque of the fastening screws: <40Nm!

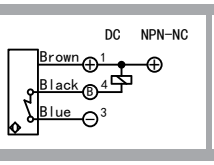
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

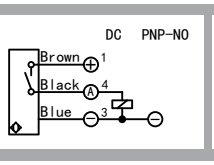
Technical data

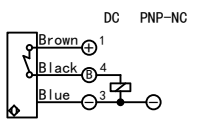
Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m,3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









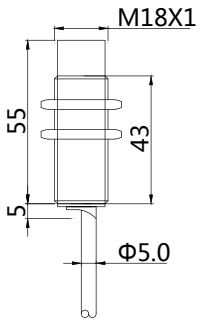


Features:

- M18*1 mm , Full stainless steel housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

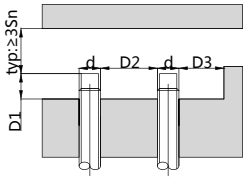


Model No.

Sensing range	Sn:8 mm
NPN N.O	BFN-M1808N-V11P2
NPN N.C	BFN-M1808N-V21P2
PNP N.O	BFN-M1808P-V11P2
PNP N.C	BFN-M1808P-V21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

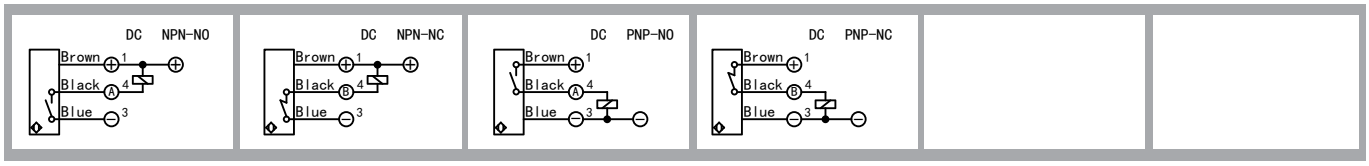
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m,3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



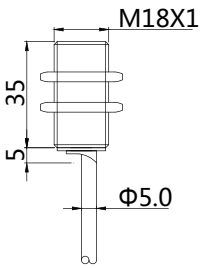


Features:

- M18*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 5/8mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

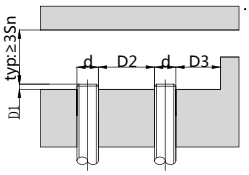


Model No.

Sensing range	Sn:5 mm	Sn:8 mm
NPN N.O	BFB-M1805N-V11P2-S	BFB-M1808N-V11P2-S
NPN N.C	BFB-M1805N-V21P2-S	BFB-M1808N-V21P2-S
PNP N.O	BFB-M1805P-V11P2-S	BFB-M1808P-V21P2-S
PNP N.C	BFB-M1805P-V21P2-S	BFB-M1808P-V21P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

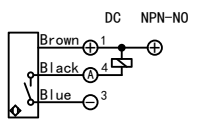
Tightening torque of the fastening screws: <40Nm!

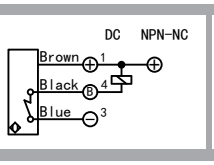
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

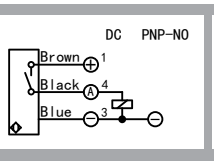
Technical data

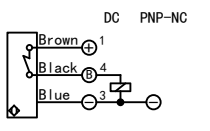
Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m,3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









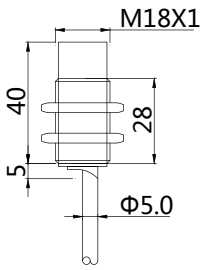


Features:

- M18*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

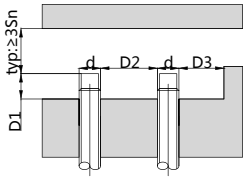


Model No.

Sensing range	Sn:8 mm
NPN N.O	BFN-M1808N-V11P2-S
NPN N.C	BFN-M1808N-V21P2-S
PNP N.O	BFN-M1808P-V11P2-S
PNP N.C	BFN-M1808P-V21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

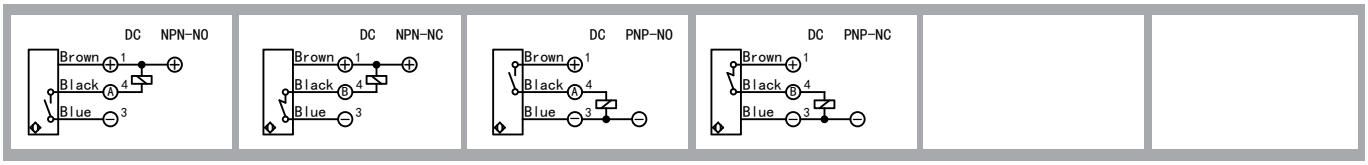
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m,3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



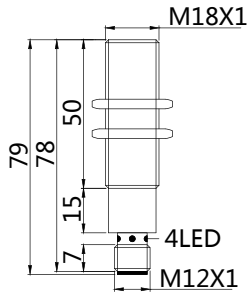


Features:

- M18*1 mm , Full stainless steel housing;
- 5/8mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

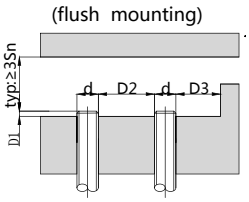
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm	Sn:8 mm
NPN N.O	BFB-M1805N-V11S12	BFB-M1808N-V11S12
NPN N.C	BFB-M1805N-V21S12	BFB-M1808N-V21S12
PNP N.O	BFB-M1805P-V11S12	BFB-M1808P-V11S12
PNP N.C	BFB-M1805P-V21S12	BFB-M1808P-V21S12

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

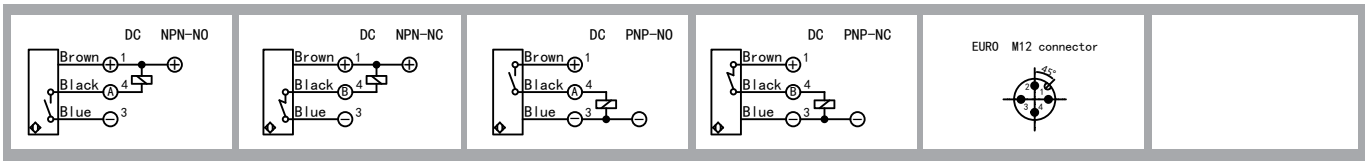
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~0.1
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



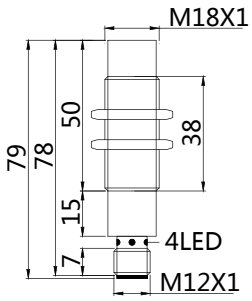


Features:

- M18*1 mm , Full stainless steel housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

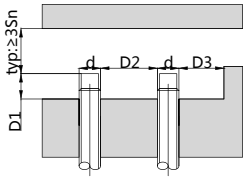


Model No.

Sensing range	Sn:8 mm
NPN N.O	BFN-M1808N-V11S12
NPN N.C	BFN-M1808N-V21S12
PNP N.O	BFN-M1808P-V11S12
PNP N.C	BFN-M1808P-V21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

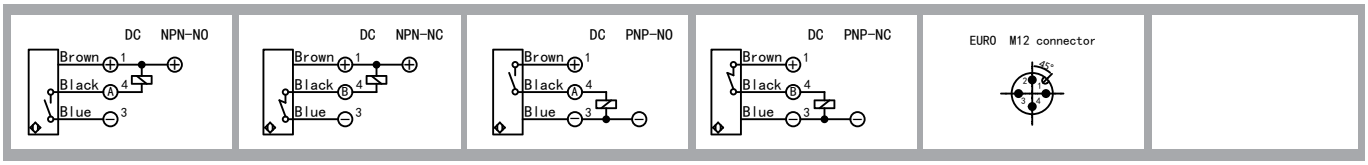
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



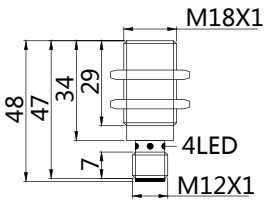


Features:

- M18*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 5/8mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

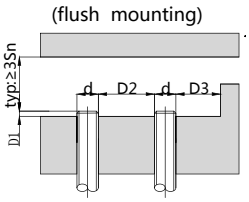
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm	Sn:8 mm
NPN N.O	BFB-M1805N-V11S12-S	BFB-M1808N-V11S12-S
NPN N.C	BFB-M1805N-V21S12-S	BFB-M1808N-V21S12-S
PNP N.O	BFB-M1805P-V11S12-S	BFB-M1808P-V11S12-S
PNP N.C	BFB-M1805P-V21S12-S	BFB-M1808P-V21S12-S

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18
M1808	≥2.5	≥18	≥18

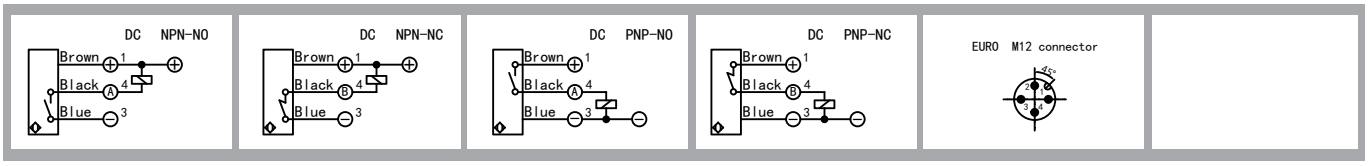
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



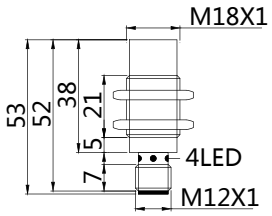


Features:

- M18*1 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

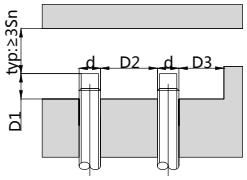


Model No.

Sensing range	Sn:8 mm
NPN N.O	BFN-M1808N-V11S12-S
NPN N.C	BFN-M1808N-V21S12-S
PNP N.O	BFN-M1808P-V11S12-S
PNP N.C	BFN-M1808P-V21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

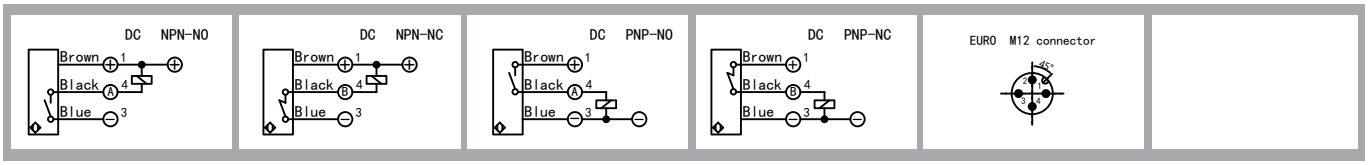
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



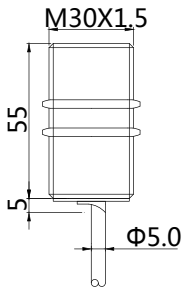


Features:

- M30*1.5 mm , Full stainless steel housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

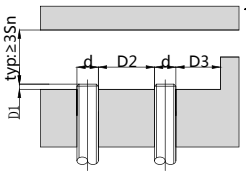


Model No.

Sensing range	Sn:10 mm
NPN N.O	BFB-M3010N-V11P2
NPN N.C	BFB-M3010N-V21P2
PNP N.O	BFB-M3010P-V11P2
PNP N.C	BFB-M3010P-V21P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

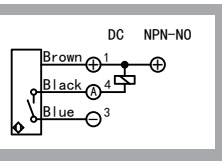
Tightening torque of the fastening screws: <40Nm!

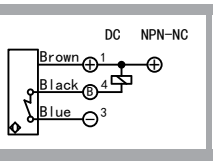
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

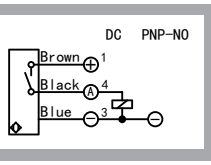
Technical data

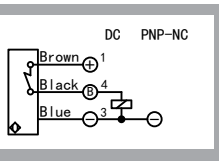
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









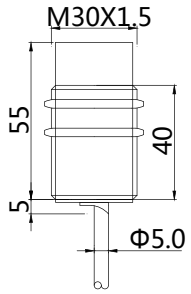


Features:

- M30*1.5mm , Full stainless steel housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

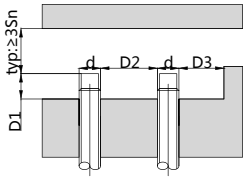


Model No.

Sensing range	Sn:15 mm
NPN N.O	BFN-M3015N-V11P2
NPN N.C	BFN-M3015N-V21P2
PNP N.O	BFN-M3015P-V11P2
PNP N.C	BFN-M3015P-V21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

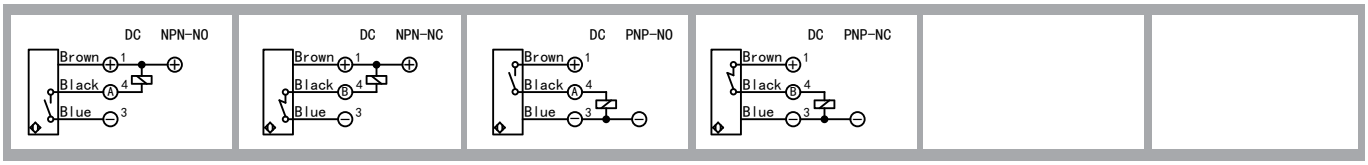
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



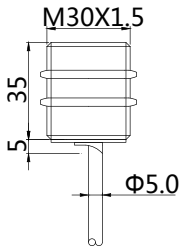


Features:

- M30*1.5 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

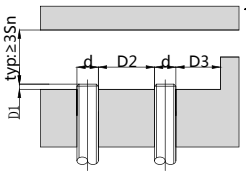


Model No.

Sensing range	Sn:10 mm
NPN N.O	BFB-M3010N-V11P2-S
NPN N.C	BFB-M3010N-V21P2-S
PNP N.O	BFB-M3010P-V11P2-S
PNP N.C	BFB-M3010P-V21P2-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

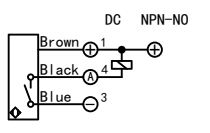
Tightening torque of the fastening screws: <40Nm!

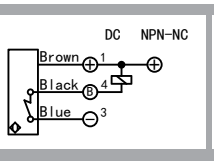
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

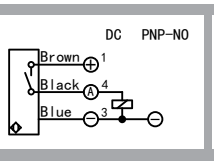
Technical data

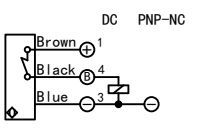
Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









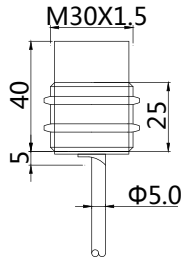


Features:

- M30*1.5mm , Full stainless steel housing;
- The shortest body , compact construction;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

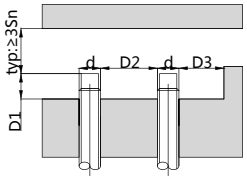


Model No.

Sensing range	Sn:15 mm
NPN N.O	BFN-M3015N-V11P2-S
NPN N.C	BFN-M3015N-V21P2-S
PNP N.O	BFN-M3015P-V11P2-S
PNP N.C	BFN-M3015P-V21P2-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

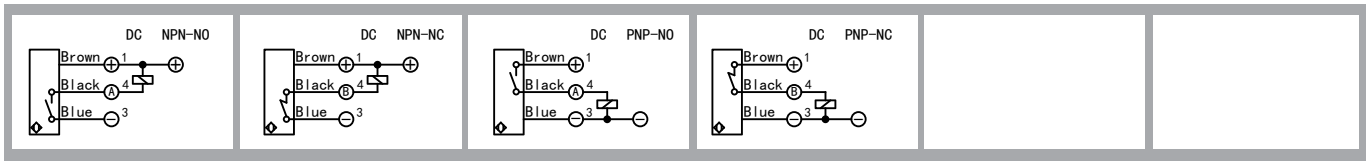
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



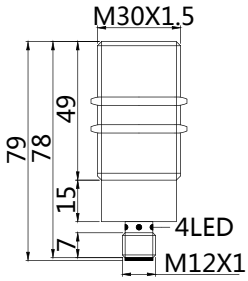


Features:

- M30*1.5 mm , Full stainless steel housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

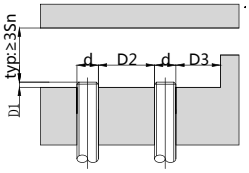


Model No.

Sensing range	Sn:10 mm
NPN N.O	BFB-M3010N-V11S12
NPN N.C	BFB-M3010N-V21S12
PNP N.O	BFB-M3010P-V11S12
PNP N.C	BFB-M3010P-V21S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

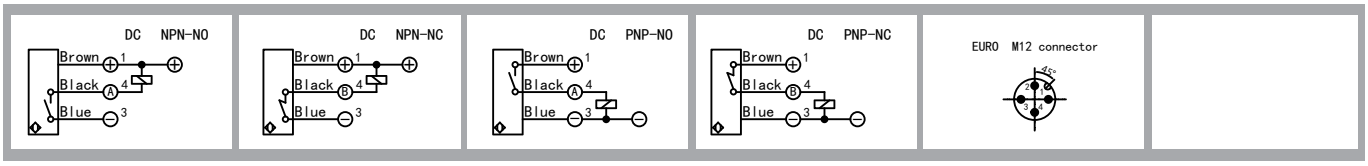
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



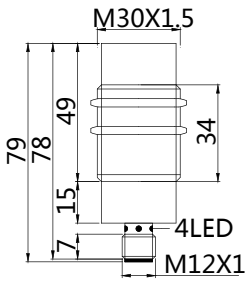


Features:

- M30*1.5mm , Full stainless steel housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

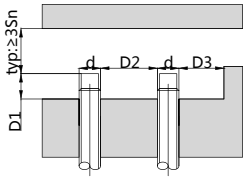


Model No.

Sensing range	Sn:15 mm
NPN N.O	BFN-M3015N-V11S12
NPN N.C	BFN-M3015N-V21S12
PNP N.O	BFN-M3015P-V11S12
PNP N.C	BFN-M3015P-V21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

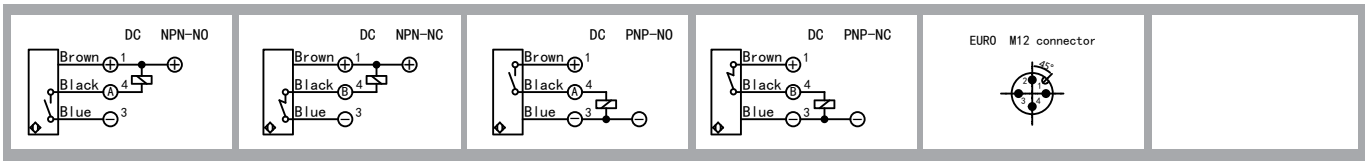
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



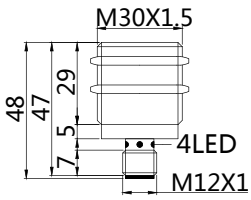


Features:

- M30*1.5 mm , Full stainless steel housing;
- The shortest body , compact construction;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

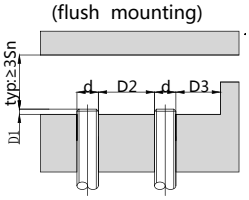


Model No.

Sensing range	Sn:10 mm
NPN N.O	BFB-M3010N-V11S12-S
NPN N.C	BFB-M3010N-V21S12-S
PNP N.O	BFB-M3010P-V11S12-S
PNP N.C	BFB-M3010P-V21S12-S

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

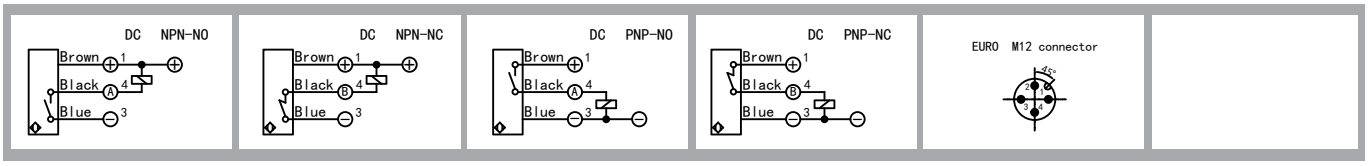
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



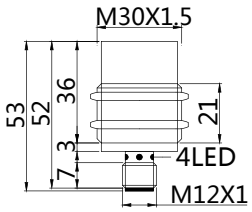


Features:

- M30*1.5mm , Full stainless steel housing;
- The shortest body , compact construction;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

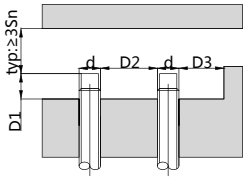


Model No.

Sensing range	Sn:15 mm
NPN N.O	BFN-M3015N-V11S12-S
NPN N.C	BFN-M3015N-V21S12-S
PNP N.O	BFN-M3015P-V11S12-S
PNP N.C	BFN-M3015P-V21S12-S

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

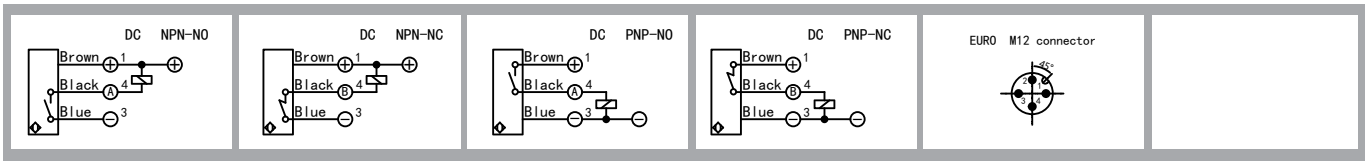
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	2Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



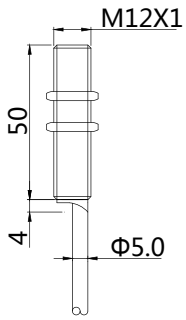


Features:

- M12*1 mm , Full stainless steel housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

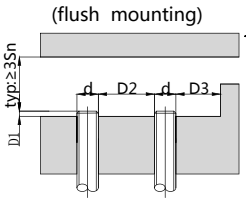
Dimensioned drawing



Model No.

Sensing range	Sn: 2 mm
N.O	BFB-M1202C-V13P2
N.C	BFB-M1202C-V23P2

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12

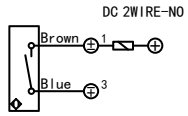
Tightening torque of the fastening screws: <30Nm!

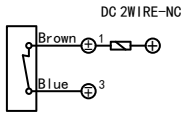
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





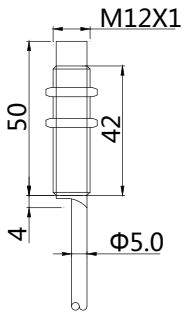


Features:

- M12*1mm , Full stainless steel housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

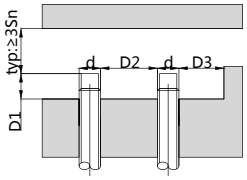


Model No.

Sensing range	Sn:4 mm
N.O	BFN-M1204C-V13P2
N.C	BFN-M1204C-V23P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

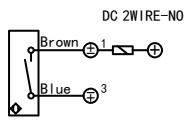
Tightening torque of the fastening screws: <30Nm!

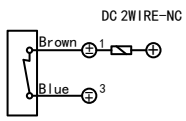
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤1.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





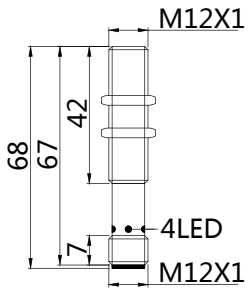


Features:

- M12*1 mm , Full stainless steel housing;
- 2mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

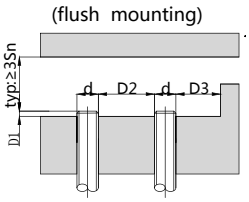
Dimensioned drawing



Model No.

Sensing range	Sn: 2 mm
N.O	BFB-M1202C-V13S12
N.C	BFB-M1202C-V23S12

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12

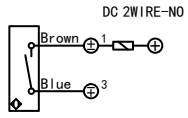
Tightening torque of the fastening screws: <30Nm!

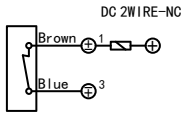
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

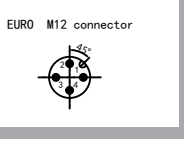
Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







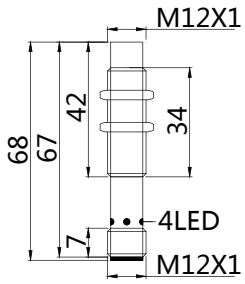


Features:

- M12*1mm , Full stainless steel housing;
- 4mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

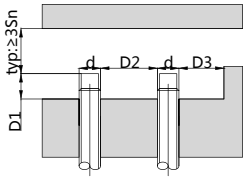


Model No.

Sensing range	Sn:4 mm
N.O	BFN-M1204C-V13S12
N.C	BFN-M1204C-V23S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

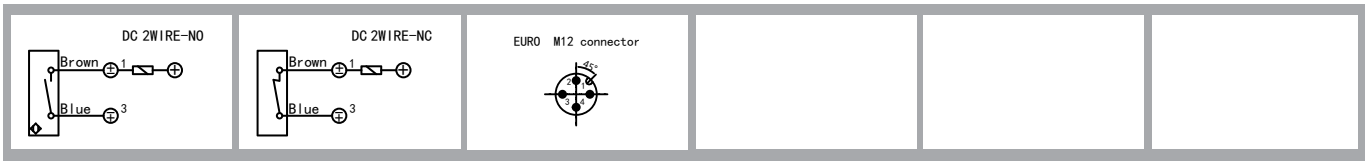
Tightening torque of the fastening screws: <30Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤1.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



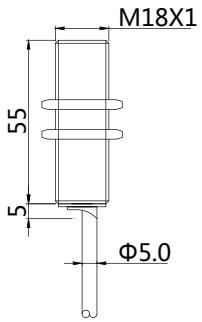


Features:

- M18*1 mm , Full stainless steel housing;
- 5mm , flush mountable;
- DC 2-wire , switching output;
- Cable

CE

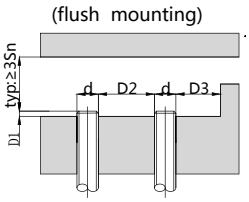
Dimensioned drawing



Model No.

Sensing range	Sn: 5 mm
N.O	BFB-M1805C-V13P2
N.C	BFB-M1805C-V23P2

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

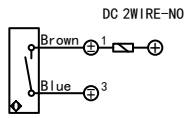
Tightening torque of the fastening screws: <40Nm!

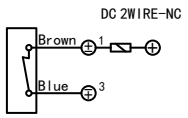
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m ; 2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





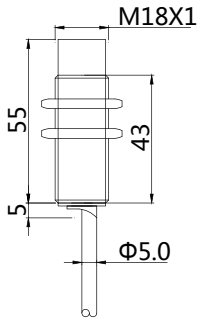


Features:

- M18*1mm , Full stainless steel housing;
- 8mm , non-flush mountable;
- DC 2-wire , switching output;
- Cable

CE

Dimensioned drawing

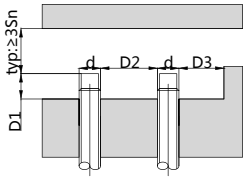


Model No.

Sensing range	Sn:8 mm
N.O	BFN-M1808C-V13P2
N.C	BFN-M1808C-V23P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

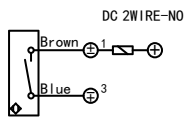
Tightening torque of the fastening screws: <40Nm!

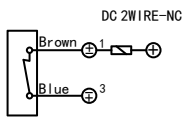
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤1.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	PVC cable/2m,2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





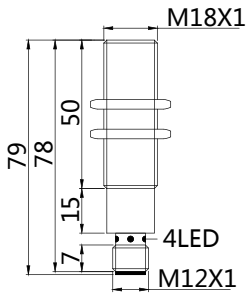


Features:

- M18*1 mm , Full stainless steel housing;
- 5mm , flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

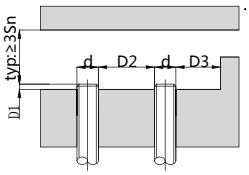


Model No.

Sensing range	Sn: 5 mm
N.O	BFB-M1805C-V13S12
N.C	BFB-M1805C-V23S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

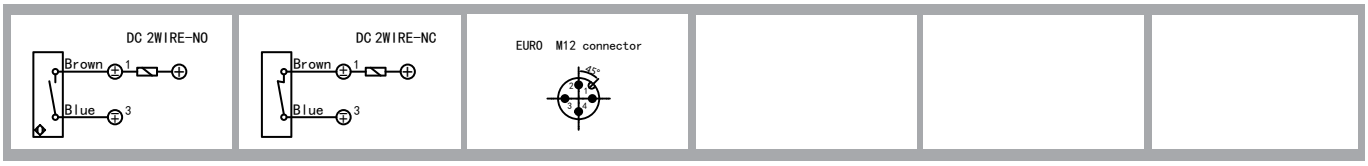
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



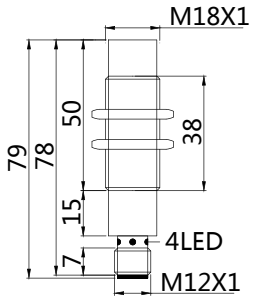


Features:

- M18*1mm , Full stainless steel housing;
- 8mm , non-flush mountable;
- DC 2-wire , switching output;
- Connector versions

CE

Dimensioned drawing

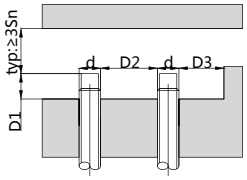


Model No.

Sensing range	Sn:8 mm
N.O	BFN-M1808C-V13S12
N.C	BFN-M1808C-V23S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

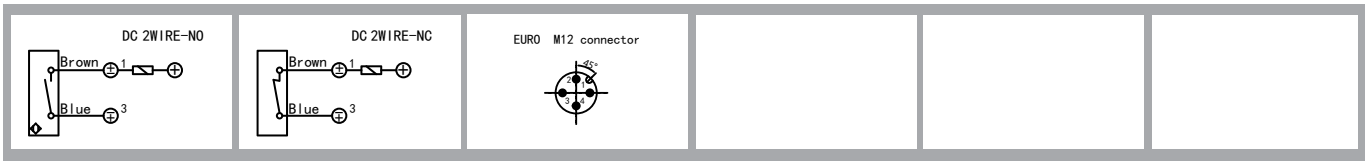
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-60V DC
	Switching frequency	100Hz
	Voltage drop	≤4.5V
	Leakge current	≤0.8mA
	Load current	200mA
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	Stainless steel
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



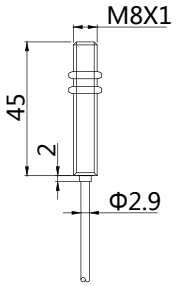


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 0.1-1.5mm , flush mountable;
- DC 3-wire , analog output;
- Cable

CE

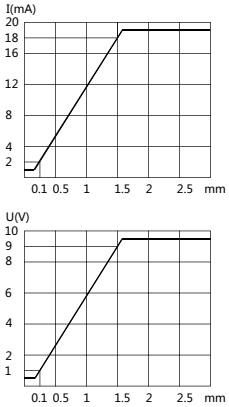
Dimensioned drawing



Model No.

Sensing range	Sn:0.1-1.5 mm
0-20mA	BAB-M81.5-CI2P2
0-10V	BAB-M81.5-CV2P2

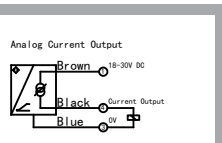
Deviation curve

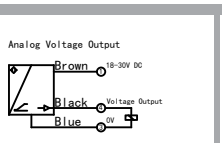


Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





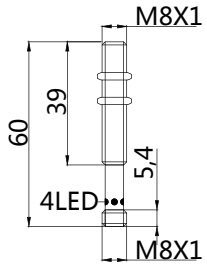


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 0.1-1.5mm , flush mountable;
- DC 3-wire , analog output;
- Connector versions

CE

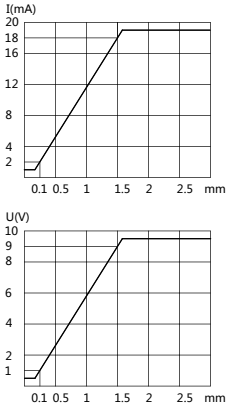
Dimensioned drawing



Model No.

Sensing range	**Sn:0.1-1.5 mm**
0-20mA	**BAB-M81.5-CI2S8**
0-10V	**BAB-M81.5-CV2S8**

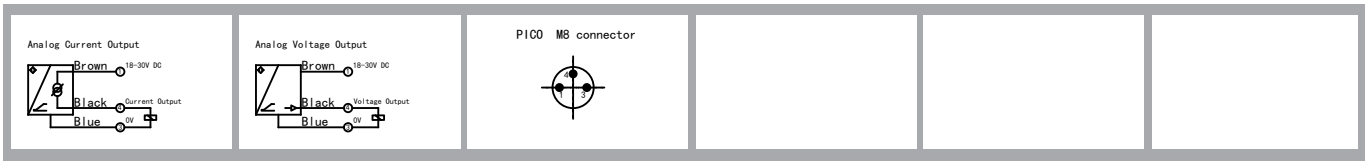
Deviation curve



Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



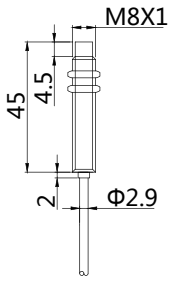


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 0.1-2.5mm , non-flush mountable;
- DC 3-wire , analog output;
- Cable

CE

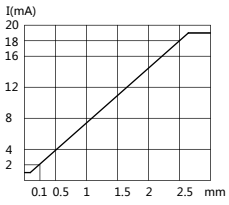
Dimensioned drawing

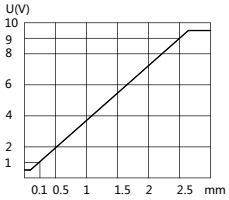


Model No.

Sensing range	**Sn:0.1-2.5 mm**
0-20mA	**BAN-M82.5-CI2P2**
0-10V	**BAN-M82.5-CV2P2**

Deviation curve

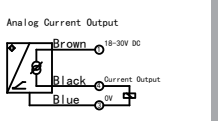


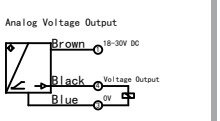


Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





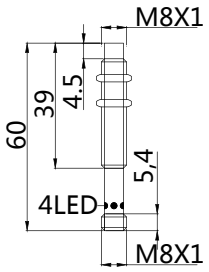


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 0.1-2.5mm , non-flush mountable;
- DC 3-wire , analog output;
- Connector versions

CE

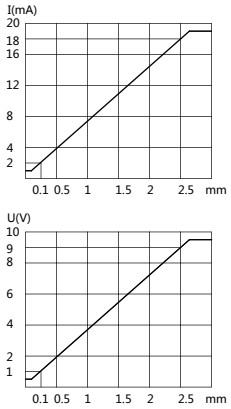
Dimensioned drawing



Model No.

Sensing range	Sn:0.1-2.5 mm
0-20mA	BAN-M82.5-CI2S8
0-10V	BAN-M82.5-CV2S8

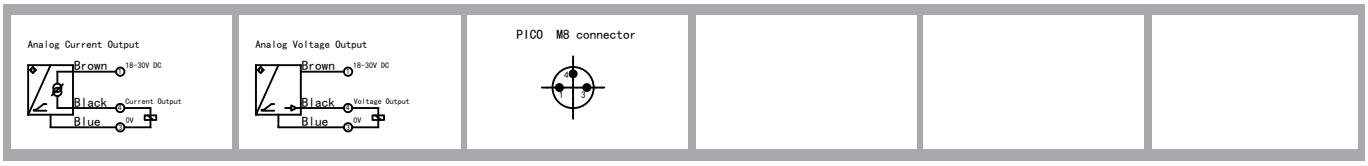
Deviation curve



Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



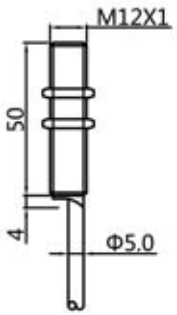


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 0.1-3.0mm , flush mountable;
- DC 3-wire , analog output;
- Cable

CE

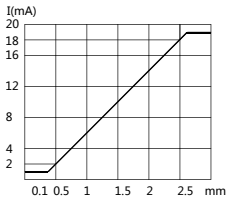
Dimensioned drawing

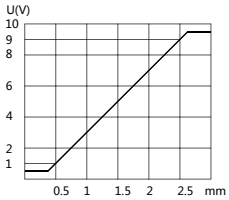


Model No.

Sensing range	**Sn:0.1-3.0 mm**
0-20mA	**BAB-M1203-CI2P2**
0-10V	**BAB-M1203-CV2P2**

Deviation curve

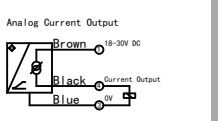


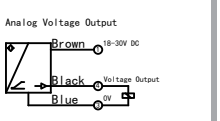


Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





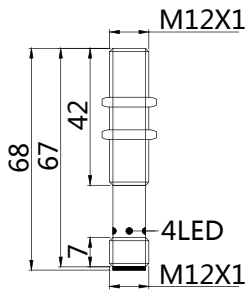


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 0.1-3.0mm , flush mountable;
- DC 3-wire , analog output;
- Connector versions

CE

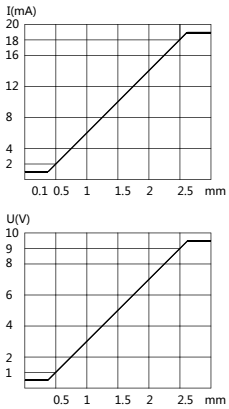
Dimensioned drawing



Model No.

Sensing range	Sn:0.1-3.0 mm
0-20mA	BAB-M1203-CI2S12
0-10V	BAB-M1203-CV2S12

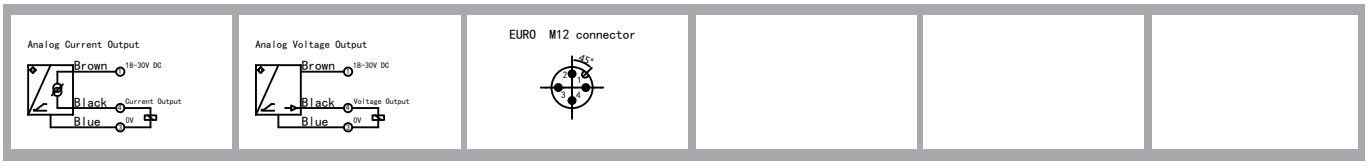
Deviation curve



Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



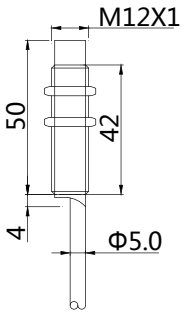


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 0.1-4.0mm , non-flush mountable;
- DC 3-wire , analog output;
- Cable

CE

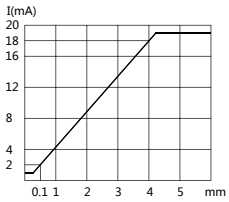
Dimensioned drawing

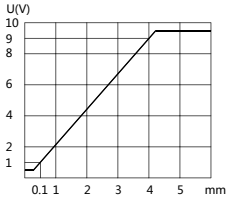


Model No.

Sensing range	**Sn:0.1-4.0 mm**
0-20mA	**BAN-M1204-CI2P2**
0-10V	**BAN-M1204-CV2P2**

Deviation curve

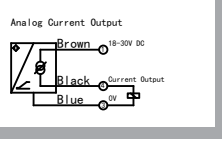


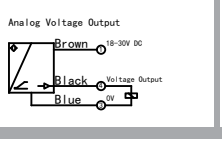


Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





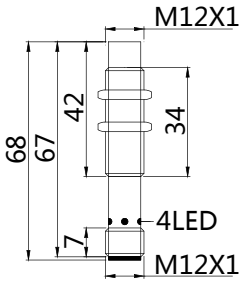


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 0.1-4.0mm , non-flush mountable;
- DC 3-wire , analog output;
- Connector versions

CE

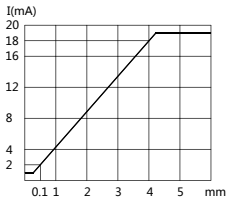
Dimensioned drawing

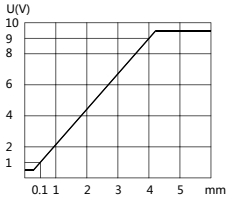


Model No.

Sensing range	**Sn:0.1-4.0 mm**
0-20mA	**BAN-M1204-CI2S12**
0-10V	**BAN-M1204-CV2S12**

Deviation curve

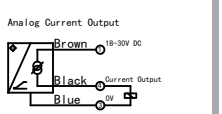


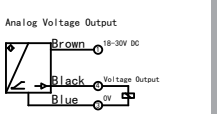


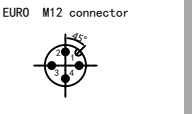
Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







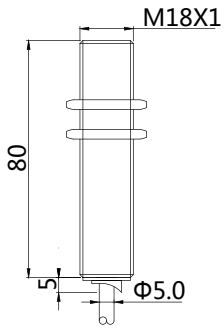


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 1.0-4.0mm , flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Cable

CE

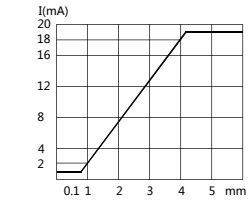
Dimensioned drawing

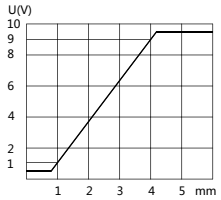


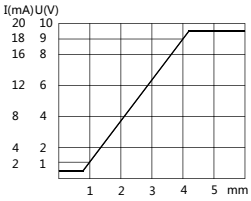
Model No.

Sensing range	**Sn:1.0-4.0 mm**
0-20mA	**BAB-M1804-CI2P2**
0-10V	**BAB-M1804-CV2P2**
0-20mA/0-10V	**BAB-M1804-CM2P2**

Deviation curve



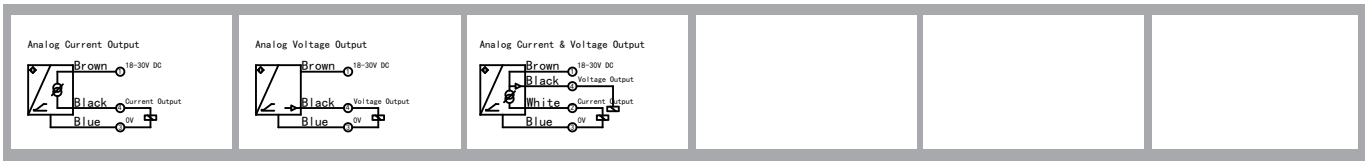




Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²/4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



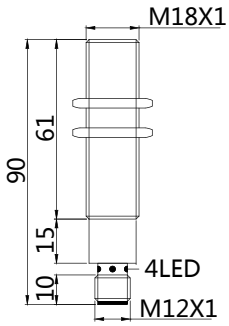


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 1.0-4.0mm , flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Connector versions

CE

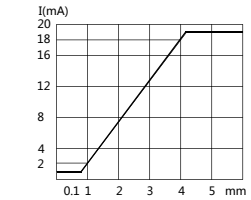
Dimensioned drawing

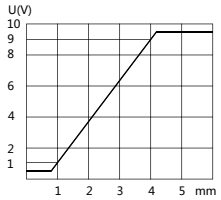


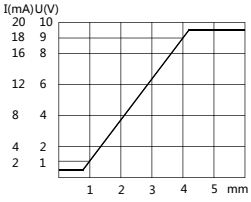
Model No.

Sensing range	Sn:1.0-4.0 mm
0-20mA	BAB-M1804-CI2S12
0-10V	BAB-M1804-CV2S12
0-20mA/0-10V	BAB-M1804-CM2S12

Deviation curve



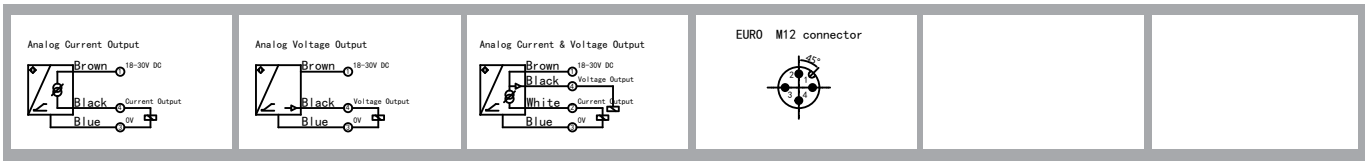




Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connecotr
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



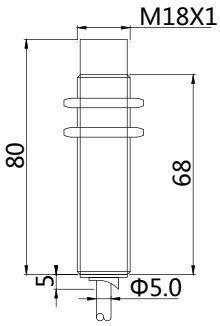


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 1.0-7.0mm , non-flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Cable

CE

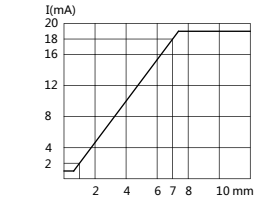
Dimensioned drawing

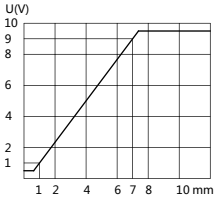


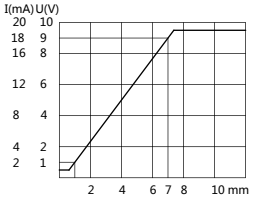
Model No.

Sensing range	**Sn:1.0-7.0 mm**
0-20mA	**BAN-M1807-CI2P2**
0-10V	**BAN-M1807-CV2P2**
0-20mA/0-10V	**BAN-M1807-CM2P2**

Deviation curve



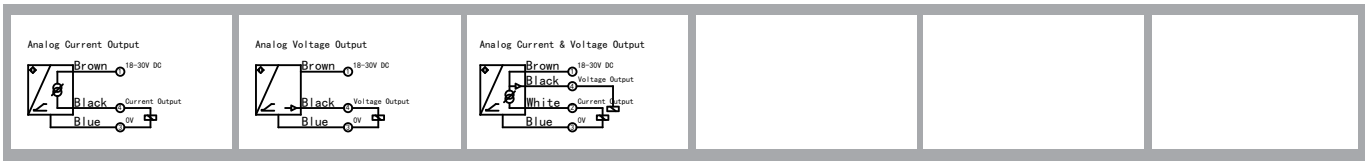




Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²/4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



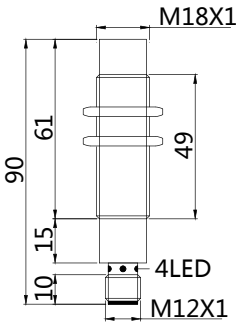


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 1.0-7.0mm , non-flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Connector versions

CE

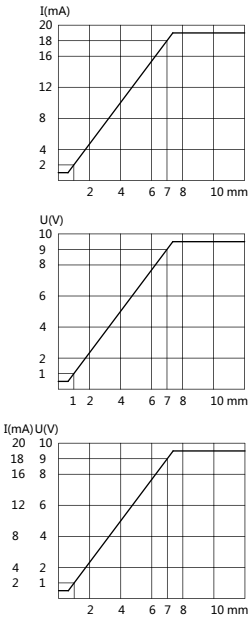
Dimensioned drawing



Model No.

Sensing range	**Sn:1.0-7.0 mm**
0-20mA	**BAN-M1807-CI2S12**
0-10V	**BAN-M1807-CV2S12**
0-20mA/0-10V	**BAN-M1807-CM2S12**

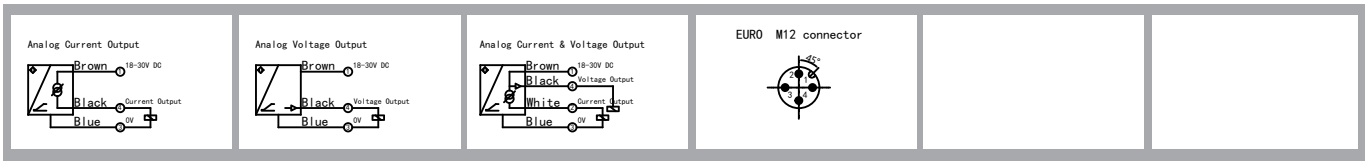
Deviation curve



Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connecotr
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



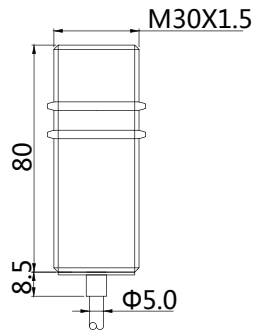


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 5.0-10mm , flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Cable

CE

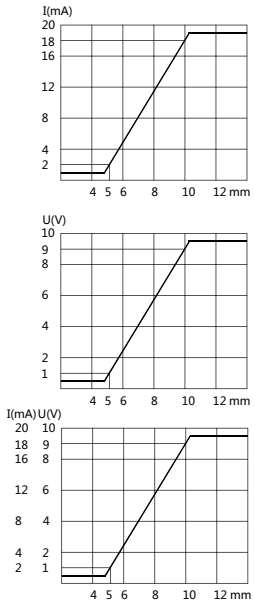
Dimensioned drawing



Model No.

Sensing range	Sn:5.0-10 mm
0-20mA	BAB-M3010-CI2P2
0-10V	BAB-M3010-CV2P2
0-20mA/0-10V	BAB-M3010-CM2P2

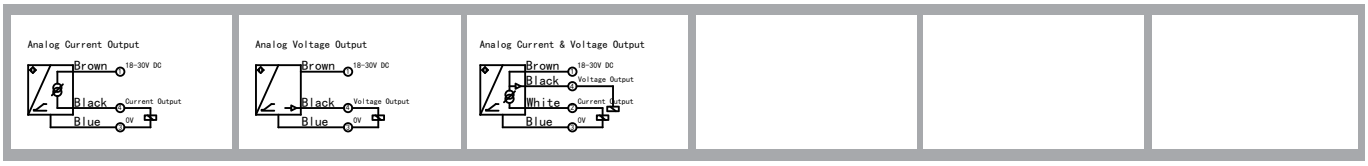
Deviation curve



Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²/4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



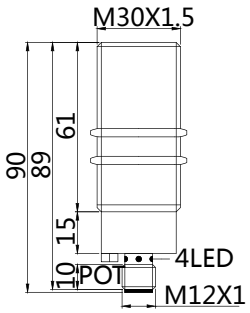


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 5.0-10mm , flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Connector versions

CE

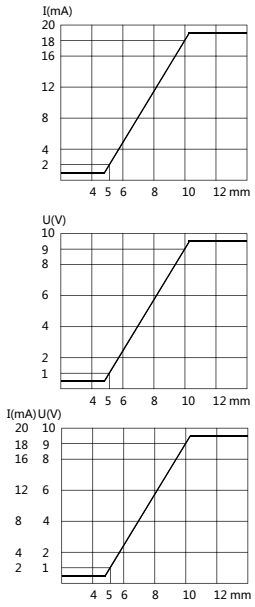
Dimensioned drawing



Model No.

Sensing range	Sn:5.0-10 mm
0-20mA	BAB-M3010-CI2S12
0-10V	BAB-M3010-CV2S12
0-20mA/0-10V	BAB-M3010-CM2S12

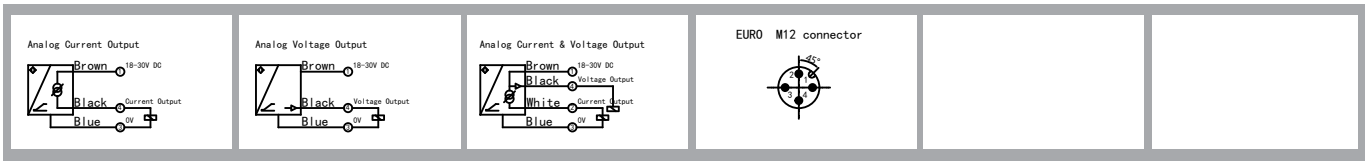
Deviation curve



Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



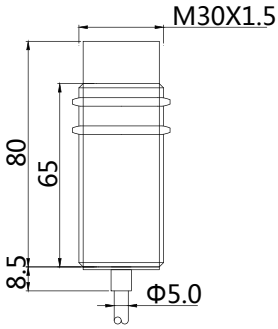


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 7.0-14mm , non-flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Cable

CE

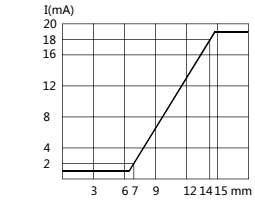
Dimensioned drawing

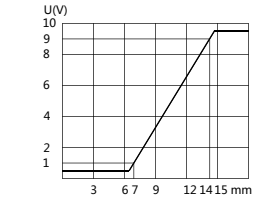


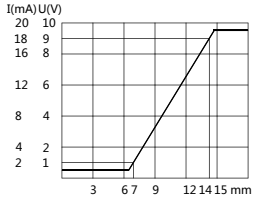
Model No.

Sensing range	Sn:7.0-14 mm
0-20mA	BAN-M3014-CI2P2
0-10V	BAN-M3014-CV2P2
0-20mA/0-10V	BAN-M3014-CM2P2

Deviation curve



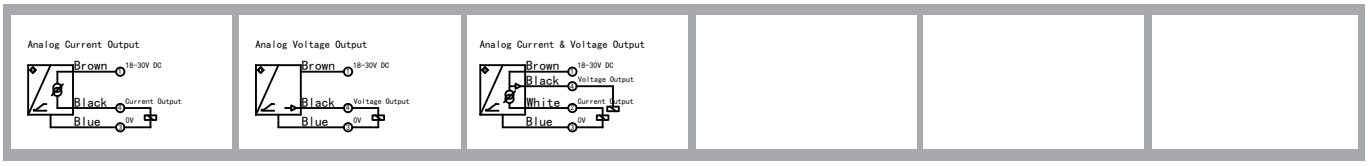




Technical data

Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²/4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



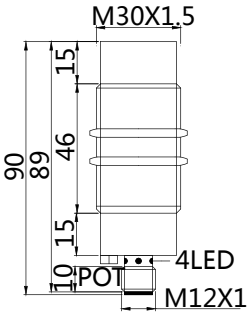


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 7.0-14mm , non-flush mountable;
- DC 3-wire/DC 4-wire , analog output;
- Connector versions

CE

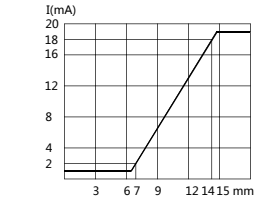
Dimensioned drawing

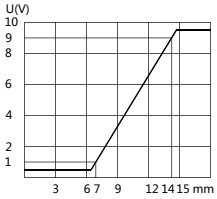


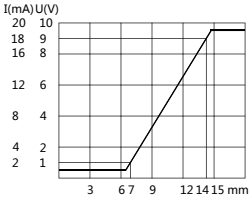
Model No.

Sensing range	Sn:7.0-14 mm
0-20mA	BAN-M3014-CI2S12
0-10V	BAN-M3014-CV2S12
0-20mA/0-10V	BAN-M3014-CM2S12

Deviation curve



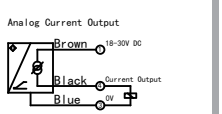


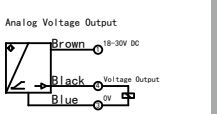


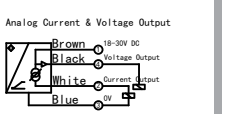
Technical data

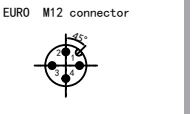
Electrical data	Operating voltage	18-30V DC
	Switching frequency	100Hz
	Output function	0-20mA;<400Ω/0-10VDC;>2000Ω
		0-10VDC,>2000Ω+0-20mA;<400Ω
	Load current	<35mA
	Temperature drift	<10%(Sr)
	Repeatability	<2%(Sr)
	Linearity	<5%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring









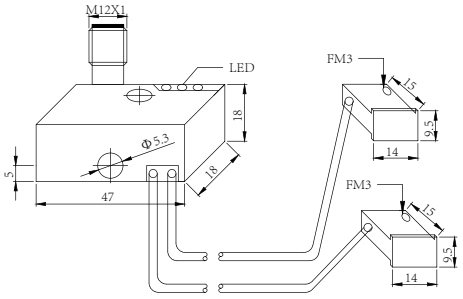


Features:

- Q45 Plastic housing;
- With 2*NO contact,switching output;
- 2mm,non-flush montable;
- DC 4-wire,10...30V DC;
- Connector version

CE

Dimensioned drawing



Model No.

Sensing range	Sn:2 mm
NPN	BN-Q4502N-P41S12
PNP	BN-Q4502P-P41S12

Remarks:

Please note,non-flush mounting of this sensor isobligatory

The following conditions allow semi-flush mounting

N1=0 mm and S1=1 mm or

N1=1 mm and S1=0 mm

These values apply for mounting in aluminium

N1=0 mm and S1=5 mm or

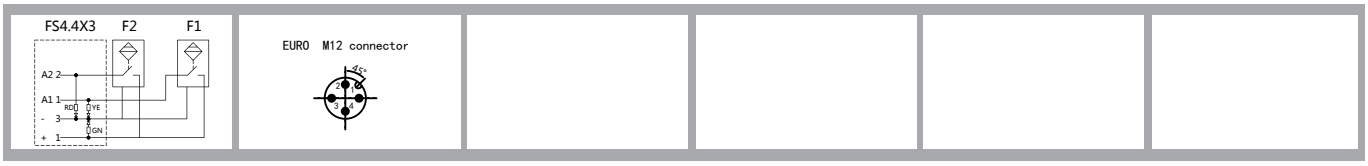
N1=5 mm and S1=0 mm

These values apply for mounting in St37

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz/500Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



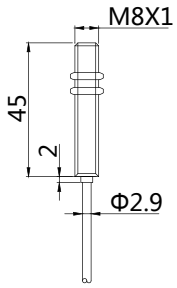


Features:

- M8*1 mm , Stainless steel housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Withstand low-temperatures(-40...85℃);
- Cable

CE

Dimensioned drawing

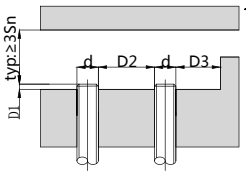


Model No.

Sensing range	Sn:2 mm
NPN N.O	BLB-M802N-V11U2
NPN N.C	BLB-M802N-V21U2
PNP N.O	BLB-M802P-V11U2
PNP N.C	BLB-M802P-V21U2

Mounting

(flush mounting)



Sn	D1	D2	D3
M802	≥0	≥8	≥8

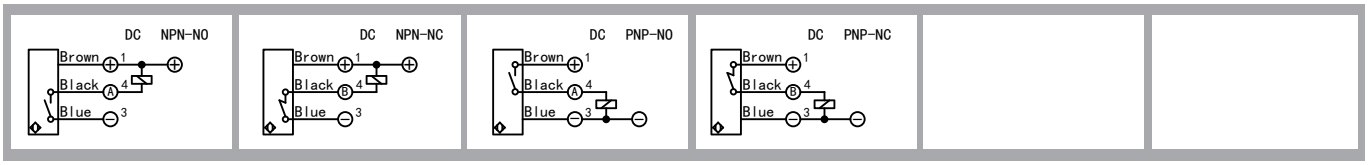
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤1.5V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-40...85℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PUR cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



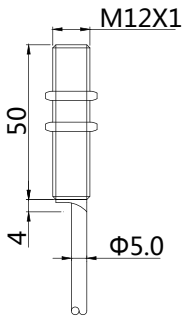


Features:

- M12*1 mm , Brass,nickel-plated housing;
- 4mm , flush mountable;
- DC 3-wire , switching output;
- Withstand low-temperatures(-40...85℃);
- Cable

CE

Dimensioned drawing

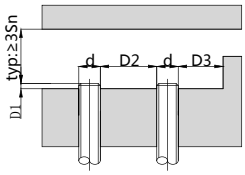


Model No.

Sensing range	Sn:4 mm
NPN N.O	BLB-M1204N-C11U2
NPN N.C	BLB-M1204N-C21U2
PNP N.O	BLB-M1204P-C11U2
PNP N.C	BLB-M1204P-C21U2

Mounting

(flush mounting)



Sn	D1	D2	D3
M1204	≥1	≥12	≥12

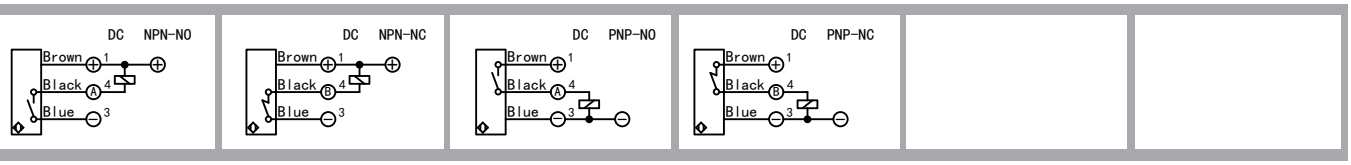
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤1.5V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-40...85℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PUR cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



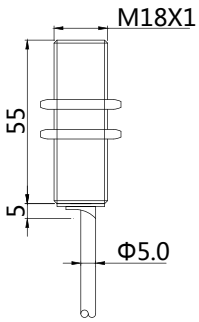


Features:

- M18*1 mm , Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 3-wire , switching output;
- Withstand low-temperatures(-40...85℃);
- Cable

CE

Dimensioned drawing

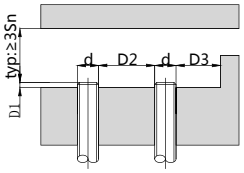


Model No.

Sensing range	Sn:8 mm
NPN N.O	BLB-M1808N-C11U2
NPN N.C	BLB-M1808N-C21U2
PNP N.O	BLB-M1808P-C11U2
PNP N.C	BLB-M1808P-C21U2

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

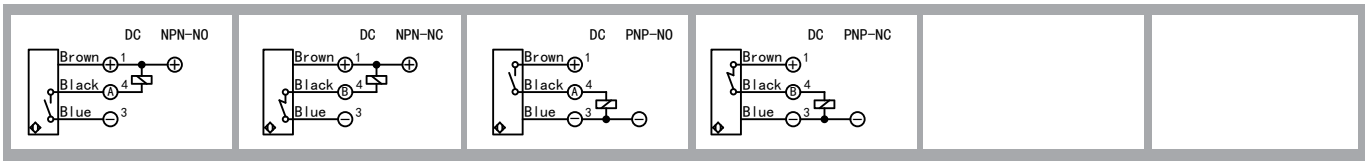
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	3000Hz
	Voltage drop	≤1.5V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-40...85℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PUR cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



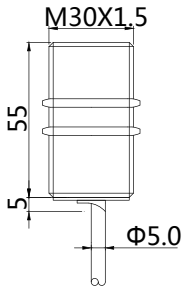


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Withstand low-temperatures(-40...85℃);
- Cable

CE

Dimensioned drawing

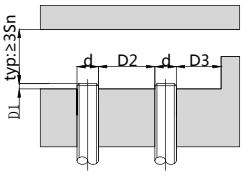


Model No.

Sensing range	Sn:10 mm
NPN N.O	BLB-M3010N-C11U2
NPN N.C	BLB-M3010N-C21U2
PNP N.O	BLB-M3010P-C11U2
PNP N.C	BLB-M3010P-C21U2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

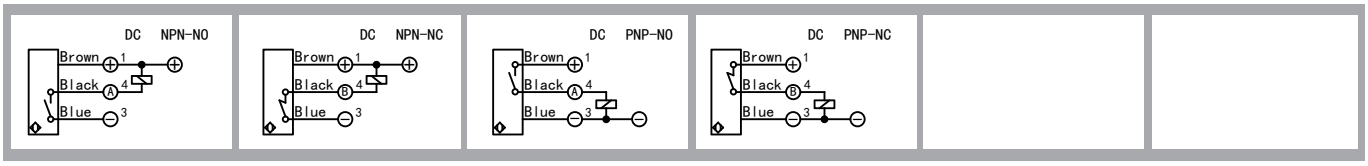
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	300Hz
	Voltage drop	≤1.5V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-40...85℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PUR cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



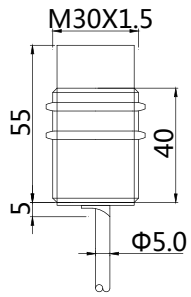


Features:

- M30*1.5 mm , Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand low-temperatures(-40...85℃);
- Cable

CE

Dimensioned drawing

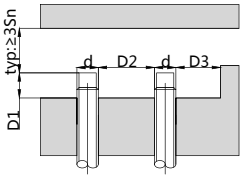


Model No.

Sensing range	Sn:15 mm
NPN N.O	BLN-M3015N-C11U2
NPN N.C	BLN-M3015N-C21U2
PNP N.O	BLN-M3015P-C11U2
PNP N.C	BLN-M3015P-C21U2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

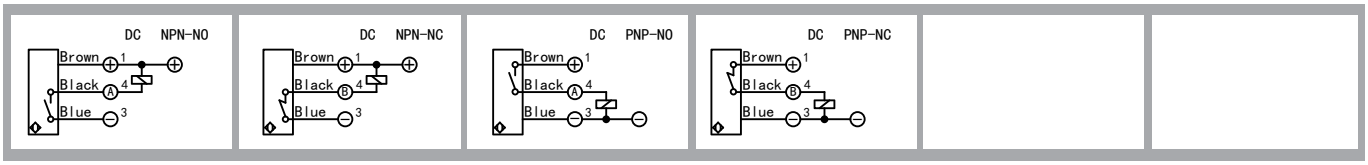
Tightening torque of the fastening screws: <40Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	150Hz
	Voltage drop	≤1.5V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<1.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-40...85℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	PBT
Electrical connection	Connectors	PUR cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



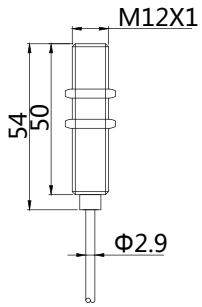


Features:

- M12*1 mm , Metal housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...120℃);
- Cable

CE

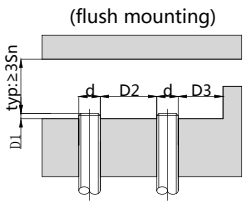
Dimensioned drawing



Model No.

Sensing range	Sn:2 mm
NPN	BHB-M1202N-V11F2-120
PNP	BHB-M1202P-V11F2-120

Mounting



Sn	D1	D2	D3
M1202	≥0	≥12	≥12

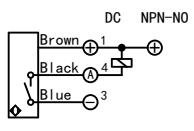
⚠ Tightening torque of the fastening screws: <10Nm!

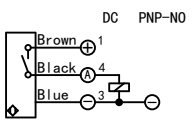
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/120℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	Load current	100mA/24V DC
	No load current	≤10mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...120℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





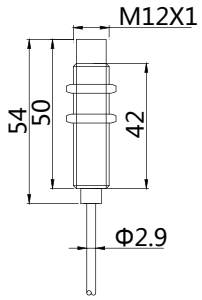


Features:

- M12*1 mm , Metal housing;
- 4mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...120℃);
- Cable

CE

Dimensioned drawing

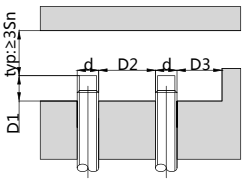


Model No.

Sensing range	Sn:4 mm
NPN	BHN-M1204N-V11F2-120
PNP	BHN-M1204P-V11F2-120

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

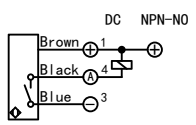
Tightening torque of the fastening screws: <10Nm!

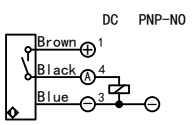
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/120℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	Load current	100mA/24V DC
	No load current	≤10mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...120℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





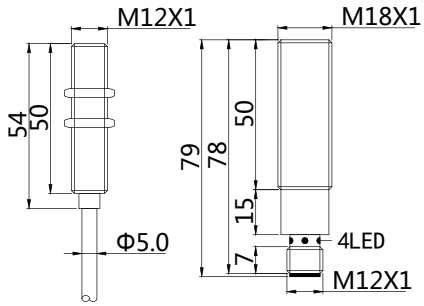


Features:

- M12*1 mm , Metal housing;
- 3mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...150℃);
- Cable & Connector versions

CE

Dimensioned drawing

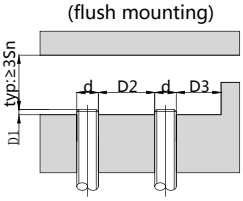


Model No.

Sensing range	Sn:3 mm
NPN	BHB-M1203N-V11F3-Z12-150EXT
PNP	BHB-M1203P-V11F3-Z12-150EXT

Mounting

(flush mounting)



Sn	D1	D2	D3
M1203	≥0	≥12	≥12

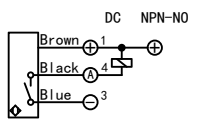
Tightening torque of the fastening screws: <10Nm!

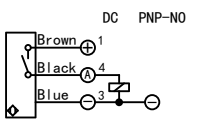
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/150℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...150℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/3m ; 3*0.35mm²
		S12 connetor
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





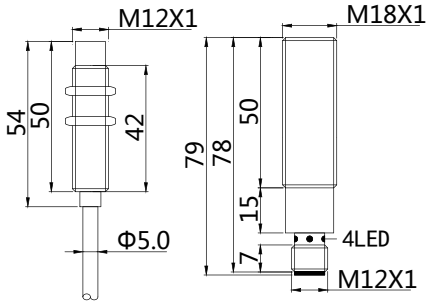


Features:

- M12*1 mm , Metal housing;
- 4mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...150℃);
- Cable & Connector versions

CE

Dimensioned drawing

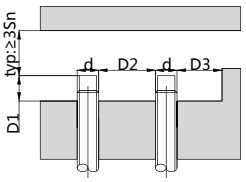


Model No.

Sensing range	Sn:4 mm
NPN	BHN-M1204N-V11F3-Z12-150EXT
PNP	BHN-M1204P-V11F3-Z12-150EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1204	≥9	≥24	≥12

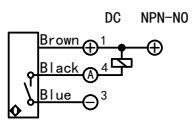
⚠ Tightening torque of the fastening screws: <10Nm!

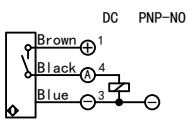
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/150℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...150℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/3m ; 3*0.35mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





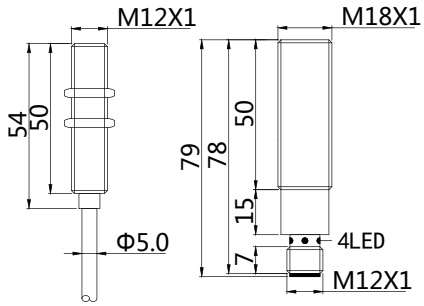


Features:

- M12*1 mm , Metal housing;
- 2mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...220℃);
- Cable & Connector versions

CE

Dimensioned drawing

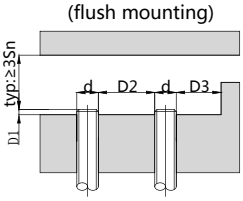


Model No.

Sensing range	Sn:2 mm
NPN	BHB-M1202N-V11A3-Z12-220EXT
PNP	BHB-M1202P-V11A3-Z12-220EXT

Mounting

(flush mounting)



Sn	D1	D2	D3
M1202	≥0	≥12	≥12

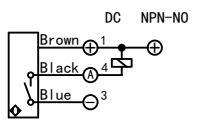
Tightening torque of the fastening screws: <10Nm!

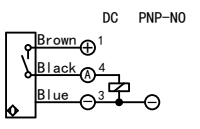
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/220℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...220℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connetor
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





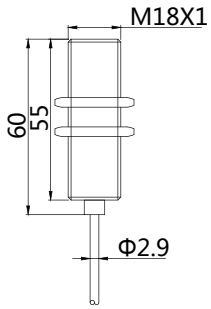


Features:

- M18*1 mm , Metal housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...120℃);
- Cable

CE

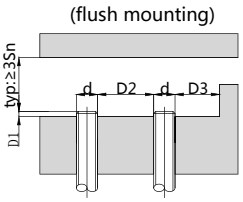
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm
NPN	BHB-M1805N-V11F2-120
PNP	BHB-M1805P-V11F2-120

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

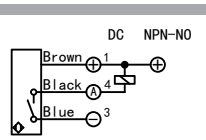
⚠ Tightening torque of the fastening screws: <20Nm!

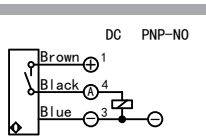
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	800Hz/120℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	Load current	100mA/24V DC
	No load current	≤10mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...120℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





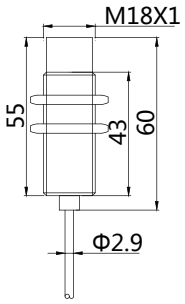


Features:

- M18*1 mm , Metal housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...120℃);
- Cable

CE

Dimensioned drawing

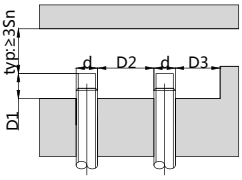


Model No.

Sensing range	Sn:8 mm
NPN	BHN-M1808N-V11F2-120
PNP	BHN-M1808P-V11F2-120

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

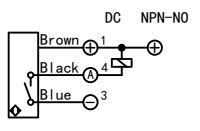
Tightening torque of the fastening screws: <20Nm!

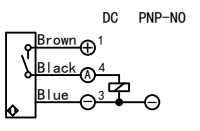
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	800Hz/120℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	Load current	100mA/24V DC
	No load current	≤10mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...120℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





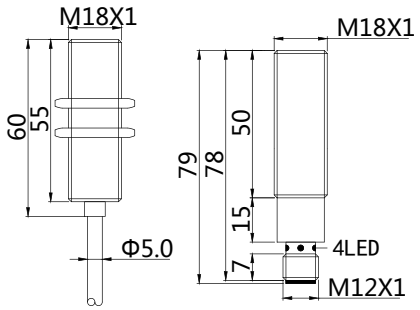


Features:

- M18*1 mm , Metal housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...150℃);
- Cable & Connector versions

CE

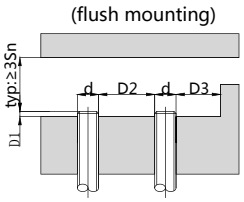
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm
NPN	BHB-M1805N-V11F3-Z12-150EXT
PNP	BHB-M1805P-V11F3-Z12-150EXT

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

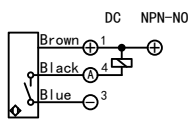
Tightening torque of the fastening screws: <20Nm!

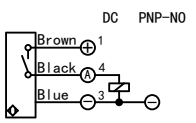
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	800Hz/150℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...150℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/3m ; 3*0.35mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





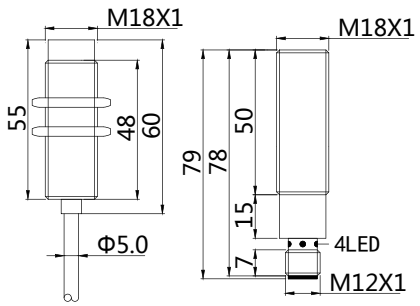


Features:

- M18*1 mm , Metal housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...150℃);
- Cable & Connector versions

CE

Dimensioned drawing

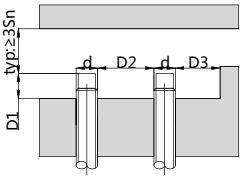


Model No.

Sensing range	Sn:8 mm
NPN	BHN-M1808N-V11F3-Z12-150EXT
PNP	BHN-M1808P-V11F3-Z12-150EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

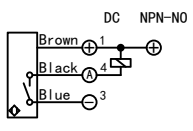
Tightening torque of the fastening screws: <20Nm!

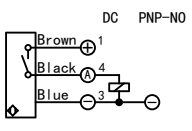
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	800Hz/150℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...150℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/3m ; 3*0.35mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





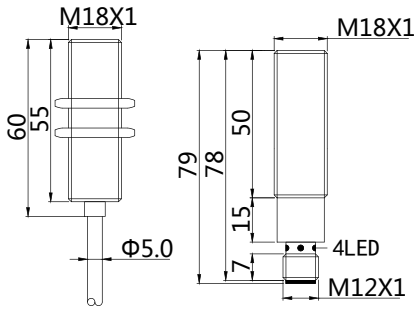


Features:

- M18*1 mm , Metal housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...180℃);
- Cable & Connector versions

CE

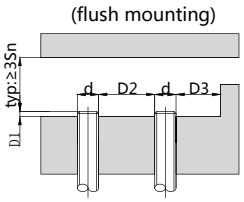
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm
NPN	BHB-M1805N-V11A3-Z12-180EXT
PNP	BHB-M1805P-V11A3-Z12-180EXT

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

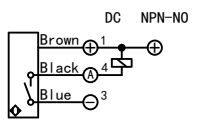
Tightening torque of the fastening screws: <20Nm!

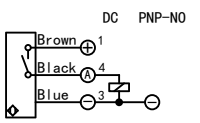
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	800Hz/180℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...180℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





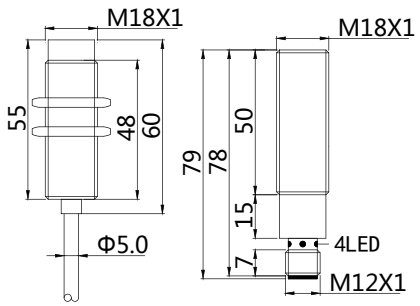


Features:

- M18*1 mm , Metal housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...180℃);
- Cable & Connector versions

CE

Dimensioned drawing

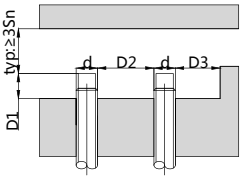


Model No.

Sensing range	Sn:8 mm
NPN	BHN-M1808N-V11A3-Z12-180EXT
PNP	BHN-M1808P-V11A3-Z12-180EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

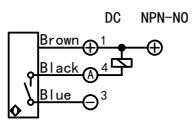
Tightening torque of the fastening screws: <20Nm!

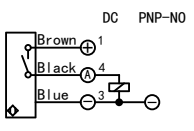
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	800Hz/180℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...180℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





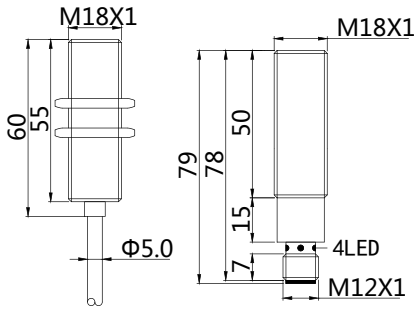


Features:

- M18*1 mm , Metal housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...230℃);
- Cable & Connector versions

CE

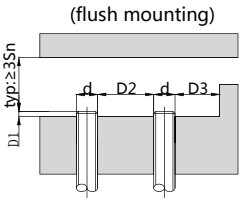
Dimensioned drawing



Model No.

Sensing range	Sn:5 mm
NPN	BHB-M1805N-V11A3-Z12-230EXT
PNP	BHB-M1805P-V11A3-Z12-230EXT

Mounting



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

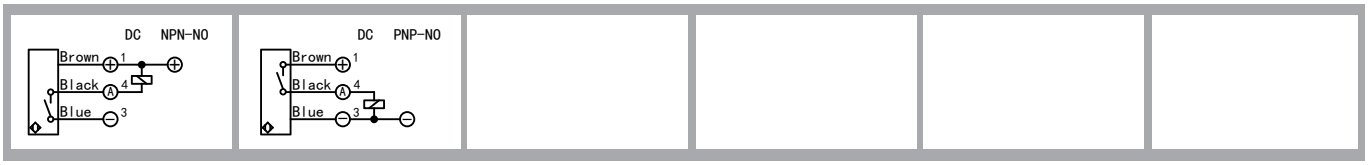
Tightening torque of the fastening screws: <20Nm!

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/230℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...230℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



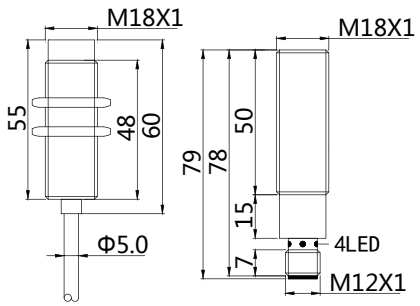


Features:

- M18*1 mm , Metal housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...230℃);
- Cable & Connector versions

CE

Dimensioned drawing

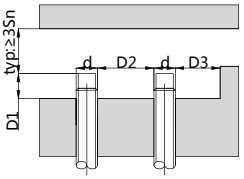


Model No.

Sensing range	Sn:8 mm
NPN	BHN-M1808N-V11A3-Z12-230EXT
PNP	BHN-M1808P-V11A3-Z12-230EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

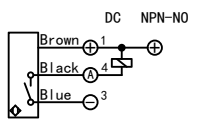
Tightening torque of the fastening screws: <20Nm!

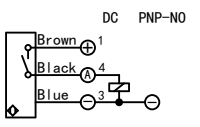
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz/230℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...230℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





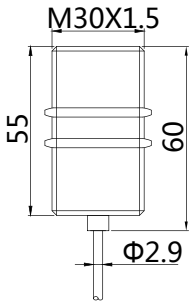


Features:

- M30*1.5 mm , Metal housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...120℃);
- Cable

CE

Dimensioned drawing

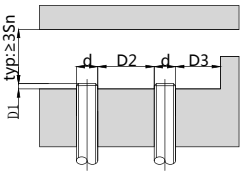


Model No.

Sensing range	Sn:10 mm
NPN	BHB-M3010N-V11F2-120
PNP	BHB-M3010P-V11F2-120

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

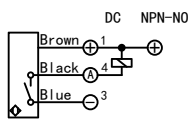
Tightening torque of the fastening screws: <40Nm!

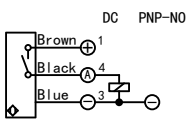
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/120℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	Load current	150mA/24V DC
	No load current	≤10mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...120℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





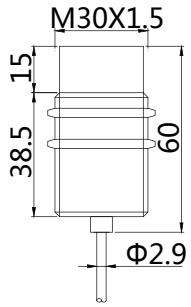


Features:

- M30*1.5 mm , Metal housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...120℃);
- Cable

CE

Dimensioned drawing

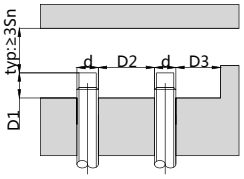


Model No.

Sensing range	Sn:15 mm
NPN	BHN-M3015N-V11F2-120
PNP	BHN-M3015P-V11F2-120

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

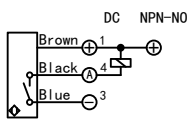
Tightening torque of the fastening screws: <40Nm!

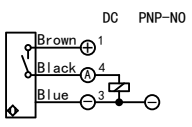
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/120℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	Load current	150mA/24V DC
	No load current	≤10mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...120℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





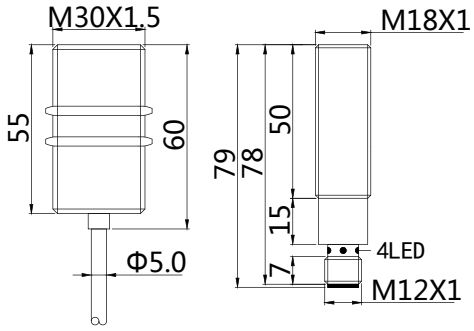


Features:

- M30*1.5 mm , Metal housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...150℃);
- Cable & Connector versions

CE

Dimensioned drawing

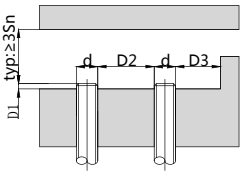


Model No.

Sensing range	Sn:10 mm
NPN	BHB-M3010N-V11F3-Z12-150EXT
PNP	BHB-M3010P-V11F3-Z12-150EXT

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

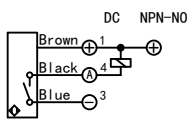
Tightening torque of the fastening screws: <40Nm!

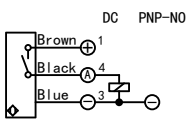
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/150℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...150℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/3m ; 3*0.35mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





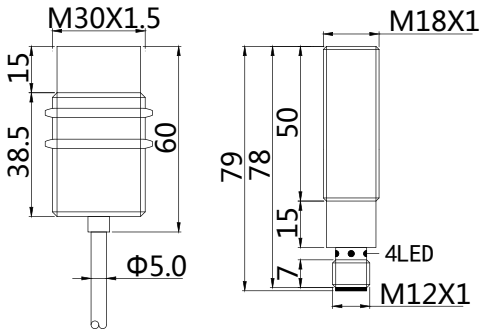


Features:

- M30*1.5 mm , Metal housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...150℃);
- Cable & Connector versions

CE

Dimensioned drawing

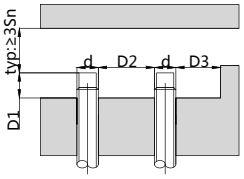


Model No.

Sensing range	Sn:15 mm
NPN	BHN-M3015N-V11F3-Z12-150EXT
PNP	BHN-M3015P-V11F3-Z12-150EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

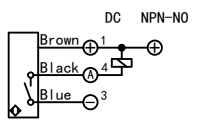
Tightening torque of the fastening screws: <40Nm!

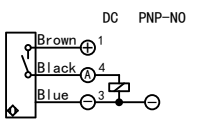
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/150℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...150℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	PTFE cable/3m ; 3*0.35mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





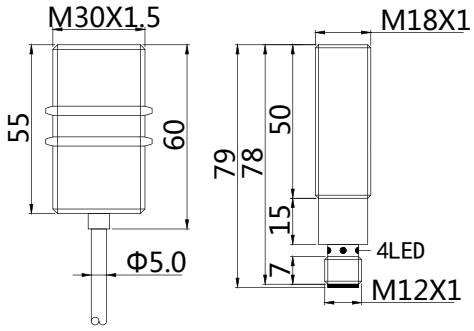


Features:

- M30*1.5 mm , Metal housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...180℃);
- Cable & Connector versions

CE

Dimensioned drawing

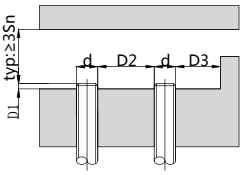


Model No.

Sensing range	Sn:10 mm
NPN	BHB-M3010N-V11A3-Z12-180EXT
PNP	BHB-M3010P-V11A3-Z12-180EXT

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

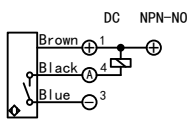
Tightening torque of the fastening screws: <40Nm!

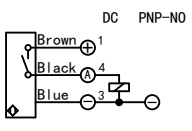
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/180℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...180℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





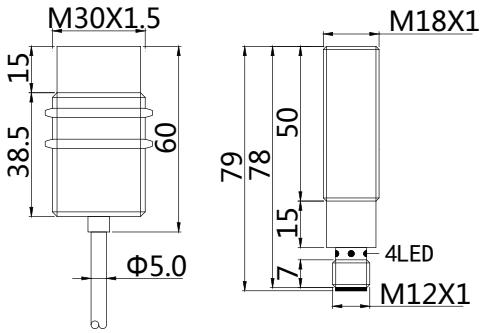


Features:

- M30*1.5 mm , Metal housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...180℃);
- Cable & Connector versions

CE

Dimensioned drawing

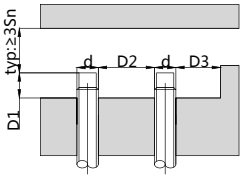


Model No.

Sensing range	Sn:15 mm
NPN	BHN-M3015N-V11A3-Z12-180EXT
PNP	BHN-M3015P-V11A3-Z12-180EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

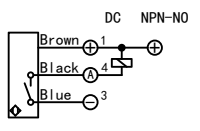
Tightening torque of the fastening screws: <40Nm!

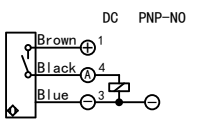
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/180℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...180℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





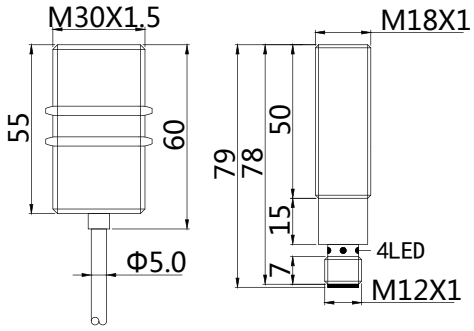


Features:

- M30*1.5 mm , Metal housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...230℃);
- Cable & Connector versions

CE

Dimensioned drawing

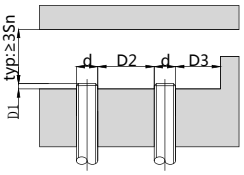


Model No.

Sensing range	Sn:10 mm
NPN	BHB-M3010N-V11A3-Z12-230EXT
PNP	BHB-M3010P-V11A3-Z12-230EXT

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

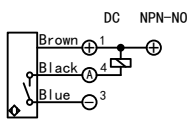
Tightening torque of the fastening screws: <40Nm!

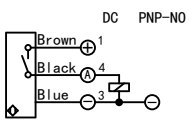
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/230℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...230℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





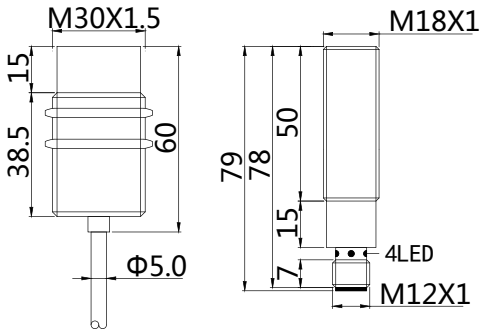


Features:

- M30*1.5 mm , Metal housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Withstand High-temperatures(-25...230℃);
- Cable & Connector versions

CE

Dimensioned drawing

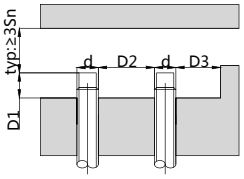


Model No.

Sensing range	Sn:15 mm
NPN	BHN-M3015N-V11A3-Z12-230EXT
PNP	BHN-M3015P-V11A3-Z12-230EXT

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

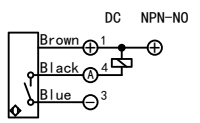
Tightening torque of the fastening screws: <40Nm!

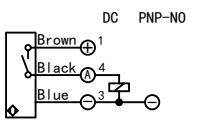
Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~1.0
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz/230℃
	Voltage drop	≤1.8V
	Leakge current	<0.01mA
	amplifier	External
	No load current	≤25mA
	Hysteresis	3-15%(Sr)
	Repeatability	<3.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...230℃
	Ingress protection	IP66
Mechanical data	Housing material	Stainless steel
	Face material	PTFE
Electrical connection	Connectors	KFF46PH cable/3m ; 3*0.26mm²
		S12 connector
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





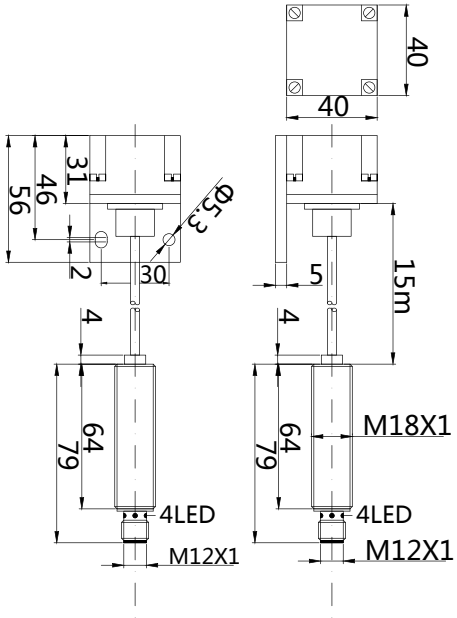


Features:

- Stainless steel housing,25mm,flush mountable;
- The sensor element’ s temperature range 0...250℃;
- Betwwn sensor and amplifier’ s 3m cable,Metallic shield;
- Applicable to conveying chain;
- Move minimum bending radius of 15cm

CE

Dimensioned drawing



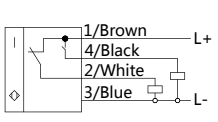
Model No.

Sensing range	Sn:25 mm
PNP N.O	BHN-Q4025P-F11A3-Z12-250EXT
PNP N.C	BHN-Q4025P-F21A3-Z12-250EXT

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	0...20Hz
	Hysteresis	0.3...5 typical value 2%
	Voltage drop	≤3V
	Load current	0...200mA
	No load current	≤25mA
	Reliable operating range	0...20mm
Environment	Ambient temperature	0...250℃ (273...523K)
	Ingress protection	Amplifier IP67,Sensor IP40
Mechanical data	Short-circuit protection	Pulse
	Switching operating indicator	Yellow LED indicator light
	Attenuation coefficient r_{AI}	0.5
	Attenuation coefficient r_{CU}	0.5
	Attenuation coefficient r_{V2A}	0.6...1
	Setting angle	AI
	Housing material	Stainless steel (amplifier’ shousing) , PTFE/AI/V2A
	Face material	PTFE
Electrical connection	connectors	KFF46PH cable/3m , 3*0.26mm
		S12 connector

Wiring



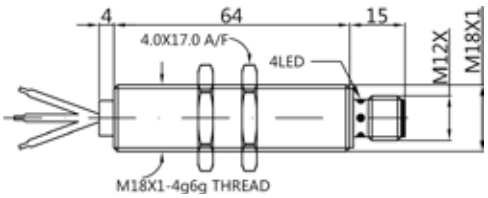
Attachment "M" external amplifier (M18 connector)



Features:

- M18 threaded cylindrical shell
- Suitable for piercing/bracket assembly
- LED yellow indicator light
- Stainless steel case
- The factory calibration
- Electrode reverse protection
- Output overload protection
- Output short circuit protection
- Protection grade IP66

Dimensioned drawing



Technical data

Power supply voltage	10-30VDC
Rated voltage	10-30VDC
No load current	<10mA
Output way	NPN N.O/N.C or PNP N.O/N.C
Maximum load current	200mA
Pressure drop	<2.0VDC
Outside temperature	-25...70℃

Cable/connector

All high temperature components are designed to be connected directly to sensors/amplifiers via cables for the M18 and larger size sensors. For its access to LEMO connection system, it has been widely received in many industrial design fields. The following table shows the access method of LEMO connection system (note: our products are not only limited to the common LEMO connection system in European countries, but also can be made according to the requirements of your connection system).



Cable indicators

HT separated sensor is equipped with PFA teflon cable, which can resist most chemical erosion. Please contact our technical sales department for details.

Technical note

All products operate independently with high precision and can be customized according to customer requirements.

Technical data

Power supply voltage	10-30VDC
Rated voltage	10-30VDC
No load current	<10mA
Output way	NPN N.O/N.C or PNP N.O/N.C
Maximum load current	200mA
Pressure drop	<2.0VDC
Outside temperature	-25...70℃

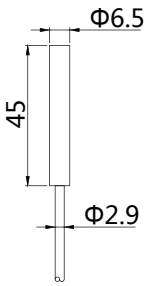


Features:

- Φ6.5 mm , Stainless steel housing;
- 1mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

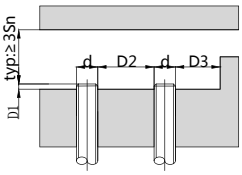


Model No.

Sensing range	Sn:1 mm
NPN N.O	CB-H6.501N-V11P2
NPN N.C	CB-H6.501N-V21P2
PNP N.O	CB-H6.501P-V11P2
PNP N.C	CB-H6.501P-V21P2

Mounting

(flush mounting)



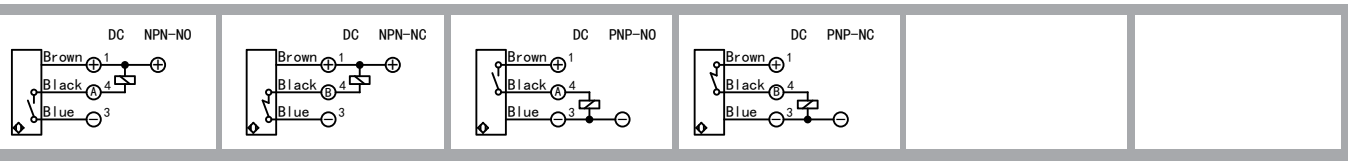
Sn	D1	D2	D3
H6.501	≥0	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Fe360	1
Aluminum	0.35~0.45
Brass	0.35~0.5
Copper	0.25~0.45
Stainless steel	0.6~0.1
Cast Iron	0.93~1.05
Nickel	0.65~0.75

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



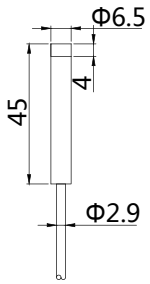


Features:

- Φ6.5 mm , Stainless steel housing;
- 2mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



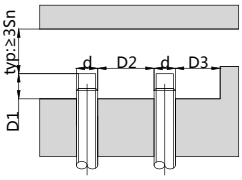
Model No.

Sensing range	Sn:2 mm
NPN N.O	CN-H6.502N-V11P2
NPN N.C	CN-H6.502N-V21P2
PNP N.O	CN-H6.502P-V11P2
PNP N.C	CN-H6.502P-V21P2

Mounting

(non-flush mounting)

Sn	D1	D2	D3
H6.502	≥6	≥16	≥8

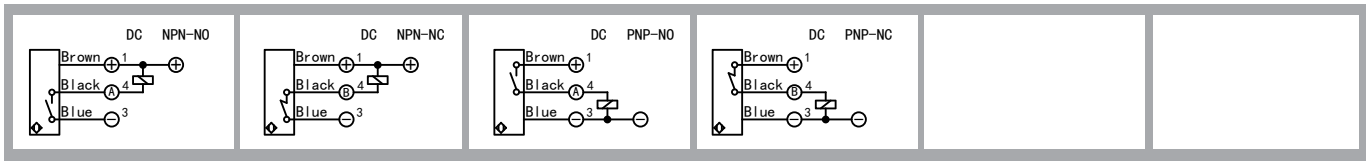


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



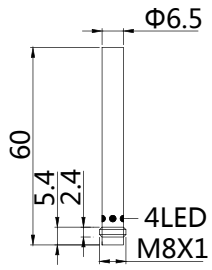


Features:

- Φ6.5 mm , Stainless steel housing;
- 1mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

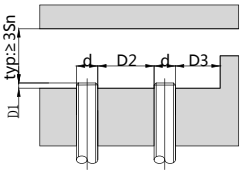


Model No.

Sensing range	Sn:1 mm
NPN N.O	CB-H6.501N-V11S8
NPN N.C	CB-H6.501N-V21S8
PNP N.O	CB-H6.501P-V11S8
PNP N.C	CB-H6.501P-V21S8

Mounting

(flush mounting)



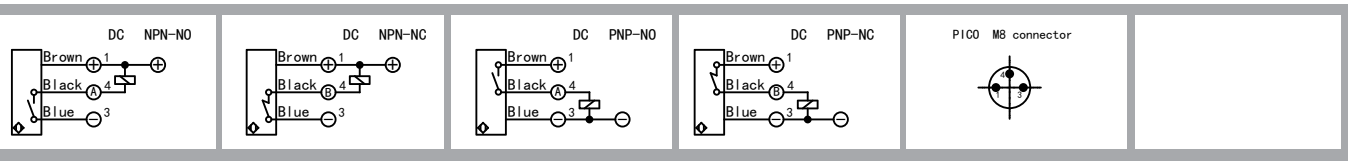
Sn	D1	D2	D3
H6.501	≥0	≥8	≥8

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



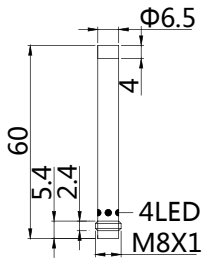


Features:

- Φ6.5 mm , Stainless steel housing;
- 2mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



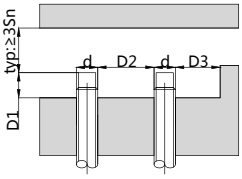
Model No.

Sensing range	Sn:2 mm
NPN N.O	CN-H6.502N-V11S8
NPN N.C	CN-H6.502N-V21S8
PNP N.O	CN-H6.502P-V11S8
PNP N.C	CN-H6.502P-V21S8

Mounting

(non-flush mounting)

Sn	D1	D2	D3
H6.502	≥6	≥16	≥8

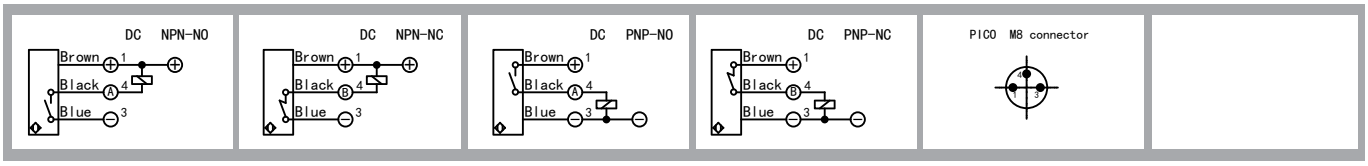


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oi	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Stainless steel
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



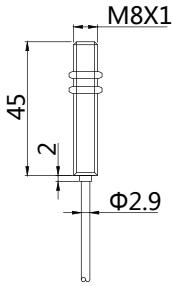


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 1mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

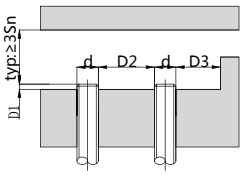


Model No.

Sensing range	Sn:1 mm
NPN N.O	CB-M801N-C11P2
NPN N.C	CB-M801N-C21P2
PNP N.O	CB-M801P-C11P2
PNP N.C	CB-M801P-C21P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M801	≥0	≥8	≥8

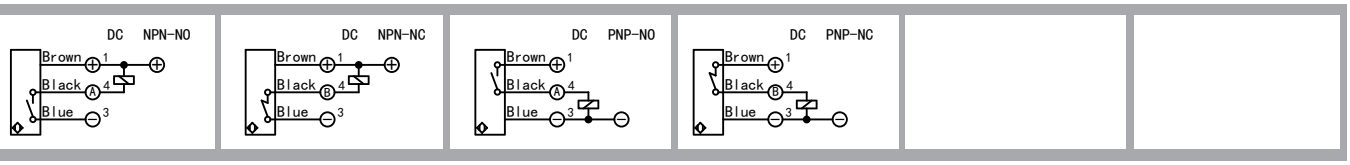
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



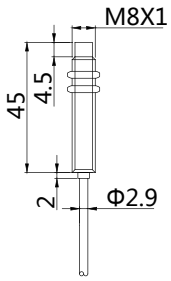


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 2mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

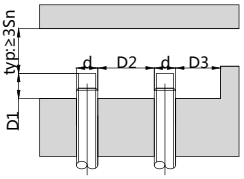


Model No.

Sensing range	Sn:2 mm
NPN N.O	CN-M802N-C11P2
NPN N.C	CN-M802N-C21P2
PNP N.O	CN-M802P-C11P2
PNP N.C	CN-M802P-C21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M802	≥6	≥16	≥8

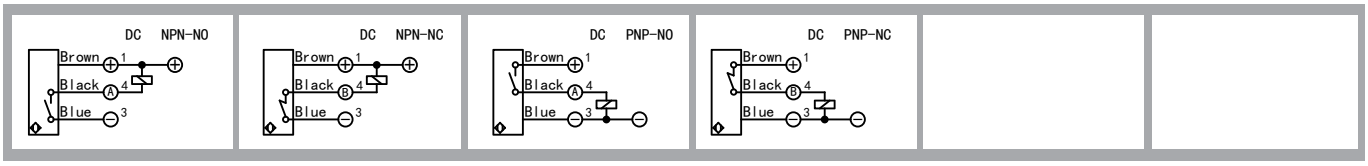
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	PVC cable/2m ; 3*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



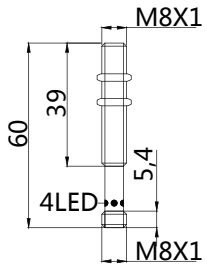


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 1mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

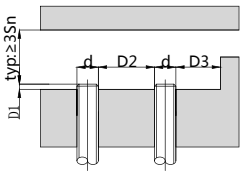


Model No.

Sensing range	Sn:1 mm
NPN N.O	CB-M801N-C11S8
NPN N.C	CB-M801N-C21S8
PNP N.O	CB-M801P-C11S8
PNP N.C	CB-M801P-C21S8

Mounting

(flush mounting)



Sn	D1	D2	D3
M801	≥0	≥8	≥8

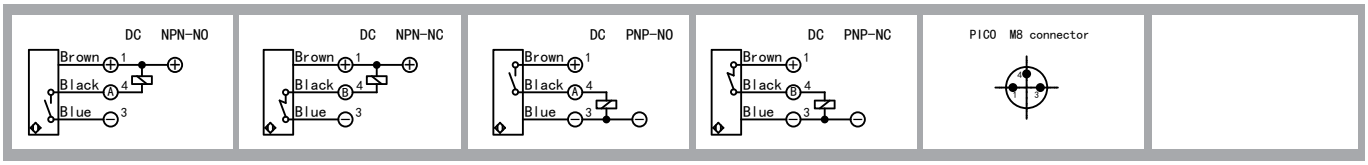
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



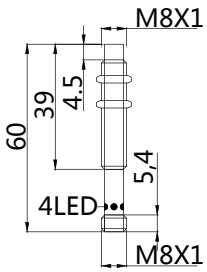


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 2mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

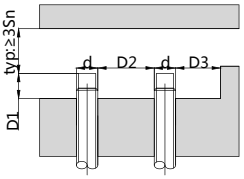


Model No.

Sensing range	Sn:2 mm
NPN N.O	CN-M802N-C11S8
NPN N.C	CN-M802N-C21S8
PNP N.O	CN-M802P-C11S8
PNP N.C	CN-M802P-C21S8

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M802	≥6	≥16	≥8

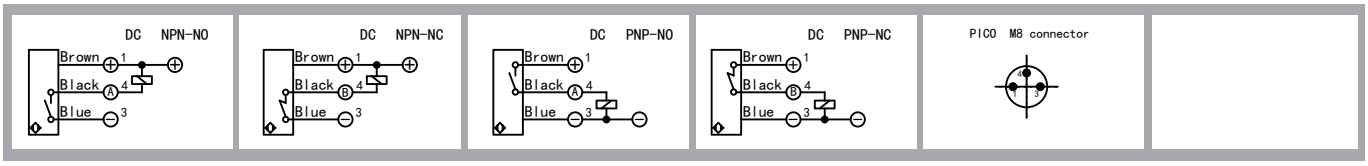
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M8 connector
Accessories	Accessories	B8-3GV2/B8-3WV2
	(to be ordered separately)	

Wiring



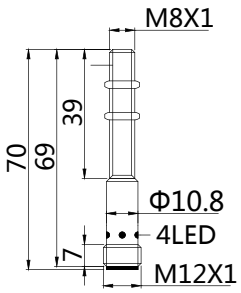


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 1mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

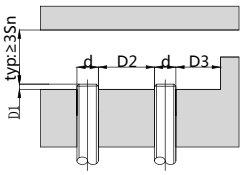


Model No.

Sensing range	Sn:1 mm
NPN N.O	CB-M801N-C11S12
NPN N.C	CB-M801N-C21S12
PNP N.O	CB-M801P-C11S12
PNP N.C	CB-M801P-C21S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M801	≥0	≥8	≥8

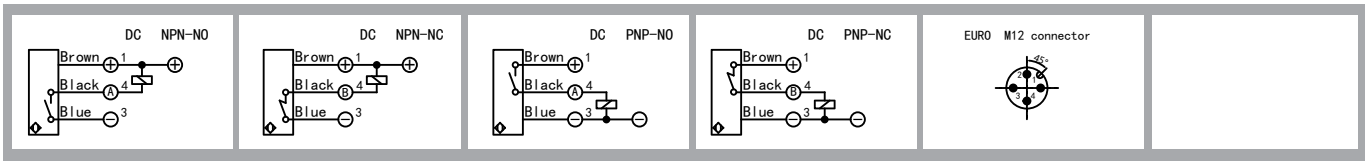
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



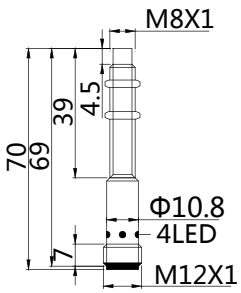


Features:

- M8*1 mm , Brass,nickel-plated housing;
- 2mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

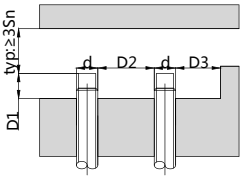


Model No.

Sensing range	Sn:2 mm
NPN N.O	CN-M802N-C11S12
NPN N.C	CN-M802N-C21S12
PNP N.O	CN-M802P-C11S12
PNP N.C	CN-M802P-C21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M802	≥6	≥16	≥8

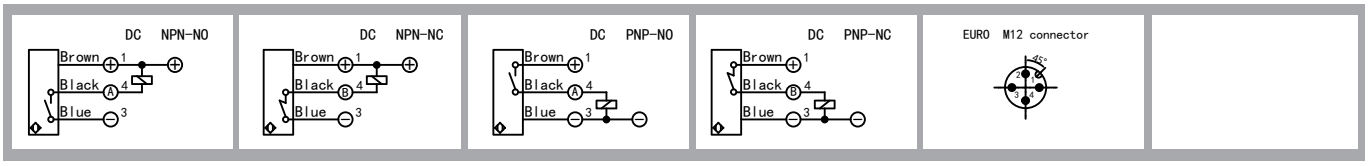
Tightening torque of the fastening screws: <10Nm!

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	100mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated
	Face material	POM
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



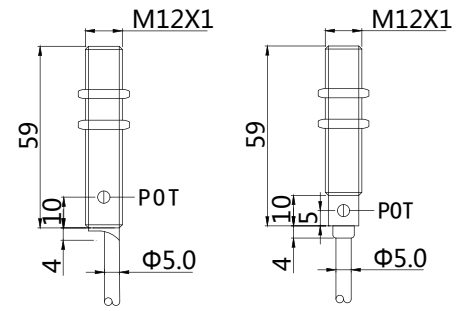


Features:

- M12*1 mm , Plastic/Brass,nickel-plated housing;
- 3mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



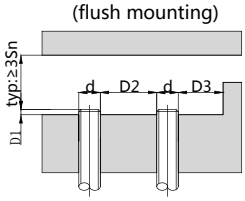
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M1203N-C11P2	CB-M1203N-P11P2
NPN N.C	CB-M1203N-C21P2	CB-M1203N-P21P2
PNP N.O	CB-M1203P-C11P2	CB-M1203P-P11P2
PNP N.C	CB-M1203P-C21P2	CB-M1203P-P21P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M1203	≥1	≥12	≥12

Tightening torque of the fastening screws: <10Nm!

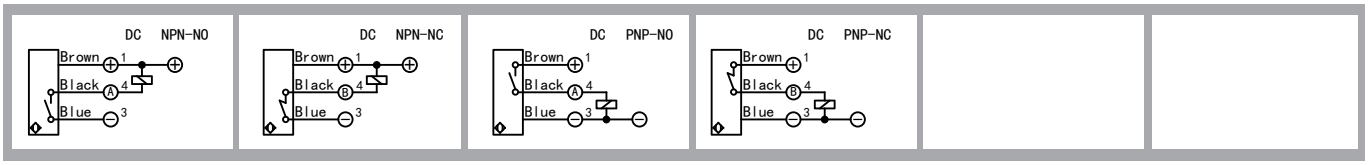
Tightening torque of the fastening screws: <1Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



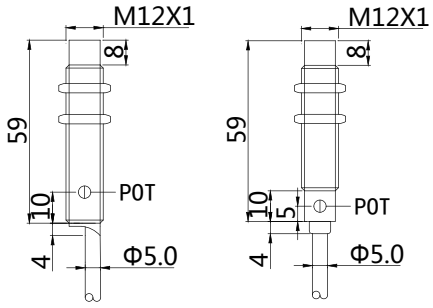


Features:

- M12*1 mm , Plastic/Brass,nickel-plated housing;
- 6mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



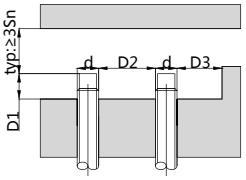
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M1206N-C11P2	CN-M1206N-P11P2
NPN N.C	CN-M1206N-C21P2	CN-M1206N-P21P2
PNP N.O	CN-M1206P-C11P2	CN-M1206P-P11P2
PNP N.C	CN-M1206P-C21P2	CN-M1206P-P21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1206	≥12	≥24	≥12

Tightening torque of the fastening screws: <10Nm!

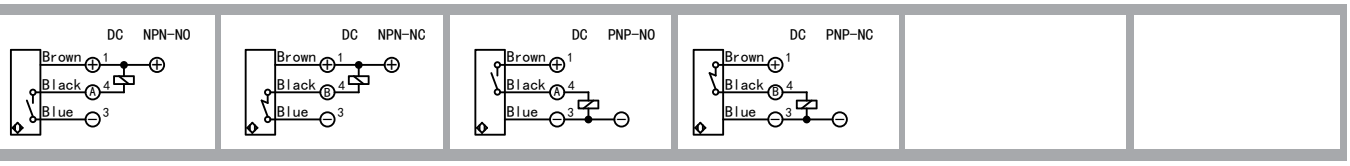
Tightening torque of the fastening screws: <1Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



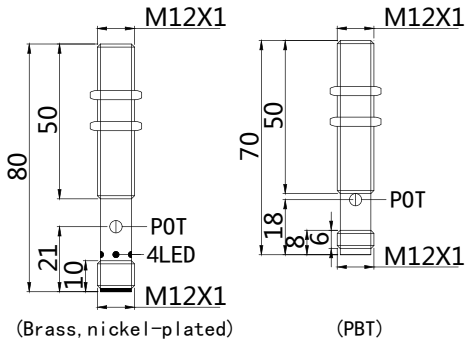


Features:

- M12*1 mm , Plastic/Brass,nickel-plated housing;
- 3mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

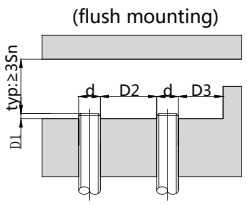
Dimensioned drawing



Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M1203N-C11S12	CB-M1203N-P11S12
NPN N.C	CB-M1203N-C21S12	CB-M1203N-P21S12
PNP N.O	CB-M1203P-C11S12	CB-M1203P-P11S12
PNP N.C	CB-M1203P-C21S12	CB-M1203P-P21S12

Mounting



Sn	D1	D2	D3
M1203	≥1	≥12	≥12

Tightening torque of the fastening screws: <10Nm!

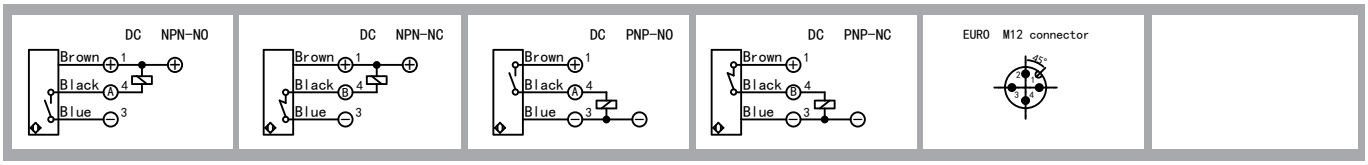
Tightening torque of the fastening screws: <1Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



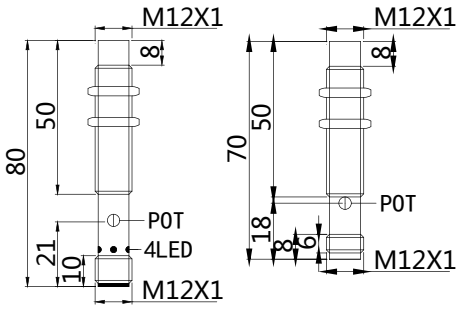


Features:

- M12*1 mm , Plastic/Brass,nickel-plated housing;
- 6mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing



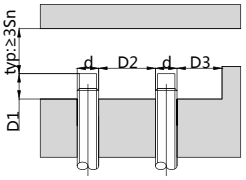
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M1206N-C11S12	CN-M1206N-P11S12
NPN N.C	CN-M1206N-C21S12	CN-M1206N-P21S12
PNP N.O	CN-M1206P-C11S12	CN-M1206P-P11S12
PNP N.C	CN-M1206P-C21S12	CN-M1206P-P21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1206	≥12	≥24	≥12

Tightening torque of the fastening screws: <10Nm!

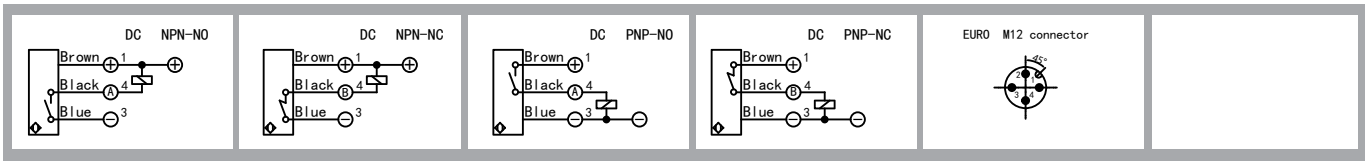
Tightening torque of the fastening screws: <1Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



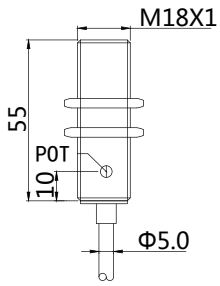


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 5mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

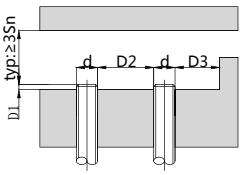


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M1805N-C11P2	CB-M1805N-P11P2
NPN N.C	CB-M1805N-C21P2	CB-M1805N-P21P2
PNP N.O	CB-M1805P-C11P2	CB-M1805P-P11P2
PNP N.C	CB-M1805P-C21P2	CB-M1805P-P21P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M1805	≥0	≥18	≥18

Tightening torque of the fastening screws: <20Nm!

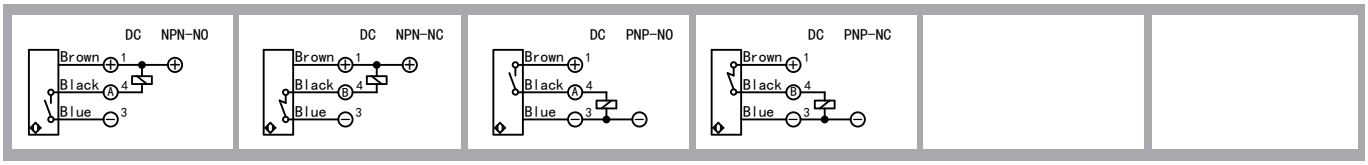
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



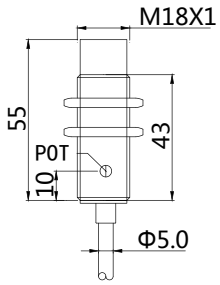


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 8mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

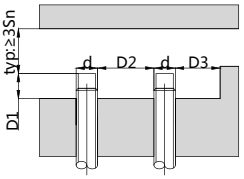


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M1808N-C11P2	CN-M1808N-P11P2
NPN N.C	CN-M1808N-C21P2	CN-M1808N-P21P2
PNP N.O	CN-M1808P-C11P2	CN-M1808P-P11P2
PNP N.C	CN-M1808P-C21P2	CN-M1808P-P21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1808	≥16	≥36	≥18

Tightening torque of the fastening screws: <20Nm!

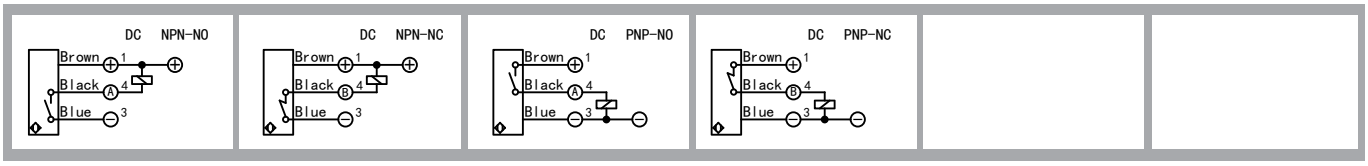
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



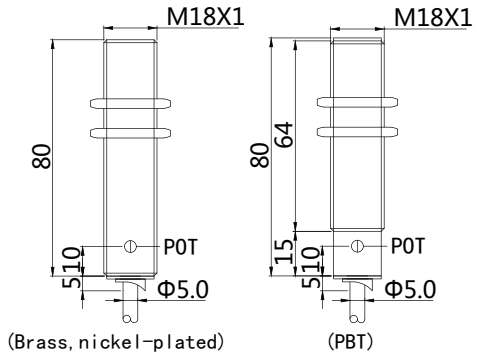


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

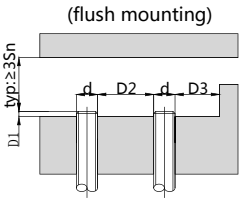
Dimensioned drawing



Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M1808N-C11P2	CB-M1808N-P11P2
NPN N.C	CB-M1808N-C21P2	CB-M1808N-P21P2
PNP N.O	CB-M1808P-C11P2	CB-M1808P-P11P2
PNP N.C	CB-M1808P-C21P2	CB-M1808P-P21P2

Mounting



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

Tightening torque of the fastening screws: <20Nm!

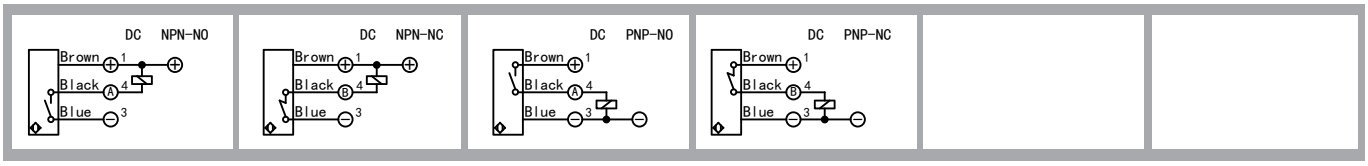
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



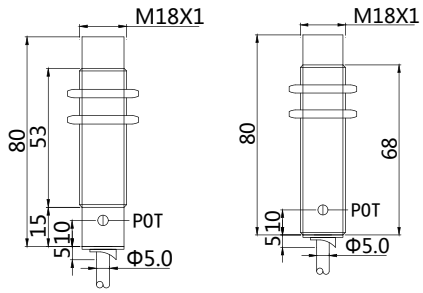


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



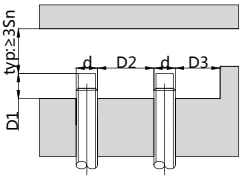
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M1815N-C11P2	CN-M1815N-P11P2
NPN N.C	CN-M1815N-C21P2	CN-M1815N-P21P2
PNP N.O	CN-M1815P-C11P2	CN-M1815P-P11P2
PNP N.C	CN-M1815P-C21P2	CN-M1815P-P21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1815	≥25	≥36	≥18

Tightening torque of the fastening screws: <20Nm!

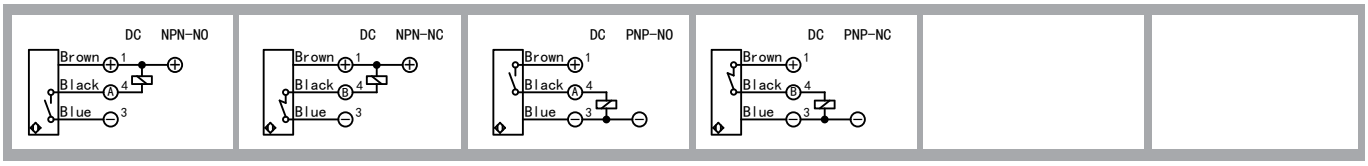
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



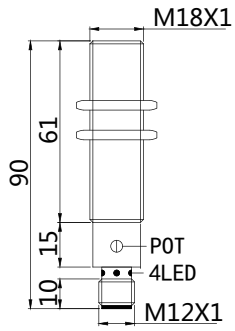


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 8mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

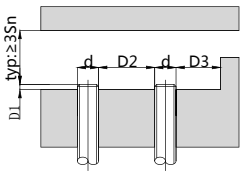


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M1808N-C11S12	CB-M1808N-P11S12
NPN N.C	CB-M1808N-C21S12	CB-M1808N-P21S12
PNP N.O	CB-M1808P-C11S12	CB-M1808P-P11S12
PNP N.C	CB-M1808P-C21S12	CB-M1808P-P21S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

Tightening torque of the fastening screws: <20Nm!

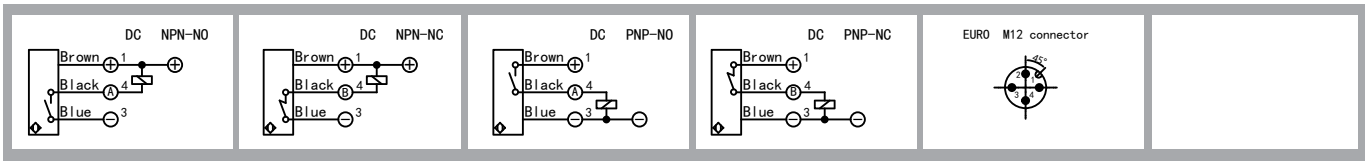
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



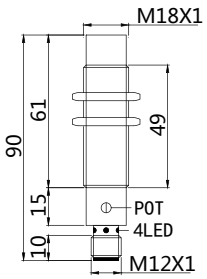


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

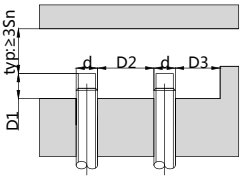


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M1815N-C11S12	CN-M1815N-P11S12
NPN N.C	CN-M1815N-C21S12	CN-M1815N-P21S12
PNP N.O	CN-M1815P-C11S12	CN-M1815P-P11S12
PNP N.C	CN-M1815P-C21S12	CN-M1815P-P21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1815	≥25	≥36	≥18

Tightening torque of the fastening screws: <20Nm!

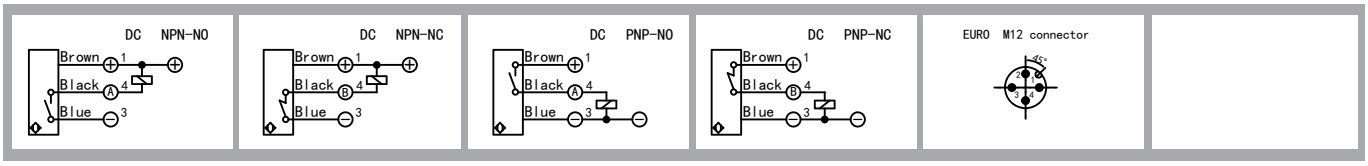
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



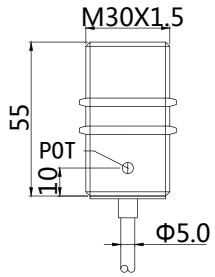


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 10mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

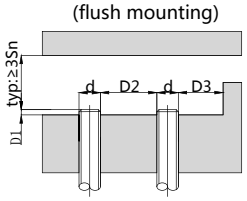


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M3010N-C11P2	CB-M3010N-P11P2
NPN N.C	CB-M3010N-C21P2	CB-M3010N-P21P2
PNP N.O	CB-M3010P-C11P2	CB-M3010P-P11P2
PNP N.C	CB-M3010P-C21P2	CB-M3010P-P21P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

Tightening torque of the fastening screws: <40Nm!

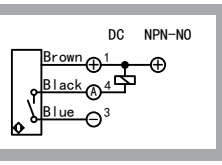
Tightening torque of the fastening screws: <1.5Nm!(PBT)

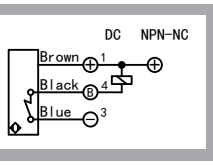
Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

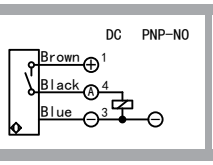
Technical data

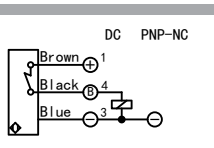
Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring









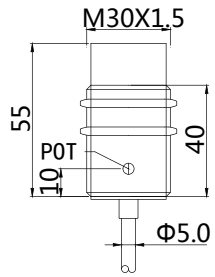


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

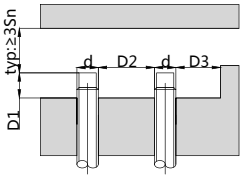


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M3015N-C11P2	CN-M3015N-P11P2
NPN N.C	CN-M3015N-C21P2	CN-M3015N-P21P2
PNP N.O	CN-M3015P-C11P2	CN-M3015P-P11P2
PNP N.C	CN-M3015P-C21P2	CN-M3015P-P21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3015	≥22	≥60	≥30

Tightening torque of the fastening screws: <40Nm!

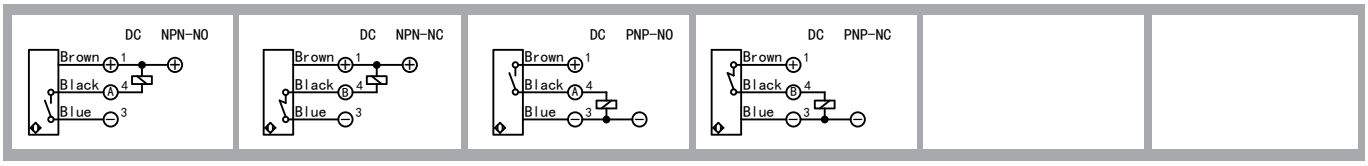
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



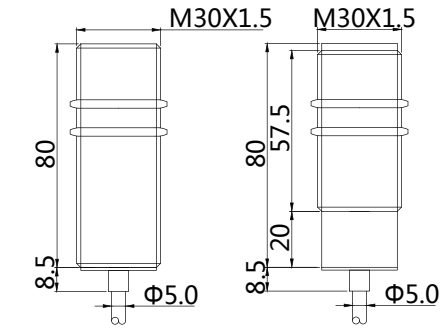


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 20mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



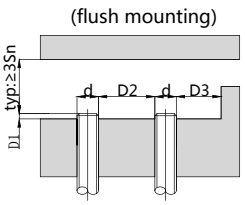
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M3020N-C11P2	CB-M3020N-P11P2
NPN N.C	CB-M3020N-C21P2	CB-M3020N-P21P2
PNP N.O	CB-M3020P-C11P2	CB-M3020P-P11P2
PNP N.C	CB-M3020P-C21P2	CB-M3020P-P21P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3010	≥0	≥30	≥30

Tightening torque of the fastening screws: <40Nm!

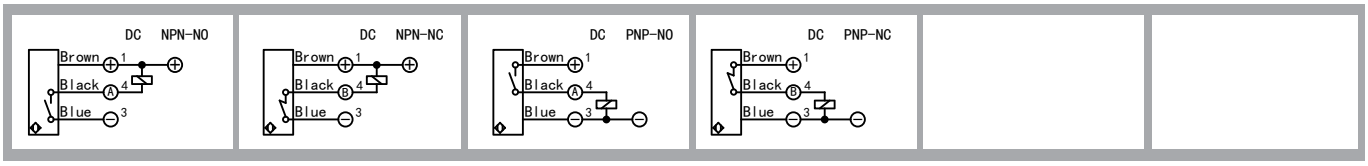
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



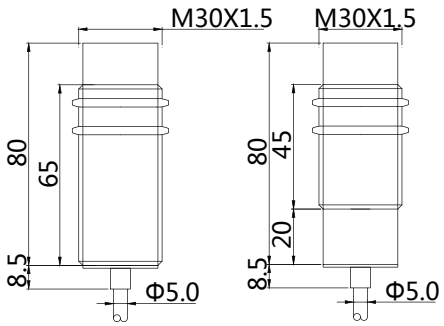


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 30mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing



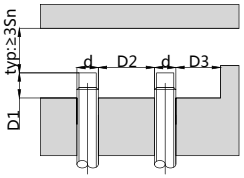
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M3030N-C11P2	CN-M3030N-P11P2
NPN N.C	CN-M3030N-C21P2	CN-M3030N-P21P2
PNP N.O	CN-M3030P-C11P2	CN-M3030P-P11P2
PNP N.C	CN-M3030P-C21P2	CN-M3030P-P21P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3030	≥40	≥60	≥30

Tightening torque of the fastening screws: <40Nm!

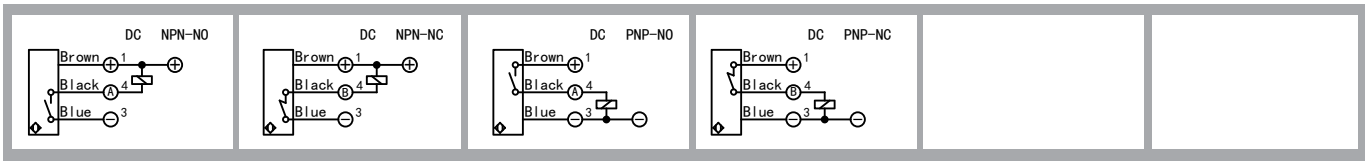
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



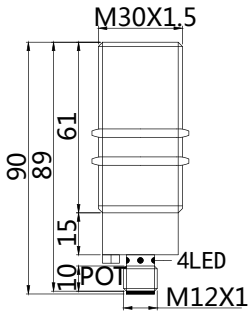


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 20mm , flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

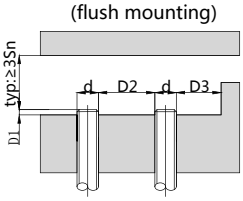


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CB-M3020N-C11S12	CB-M3020N-P11S12
NPN N.C	CB-M3020N-C21S12	CB-M3020N-P21S12
PNP N.O	CB-M3020P-C11S12	CB-M3020P-P11S12
PNP N.C	CB-M3020P-C21S12	CB-M3020P-P21S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M3020	≥8	≥30	≥30

Tightening torque of the fastening screws: <40Nm!

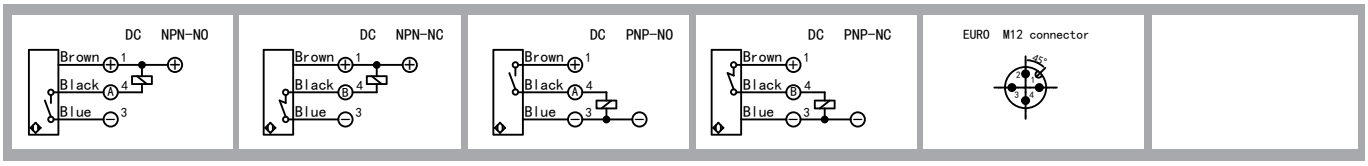
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



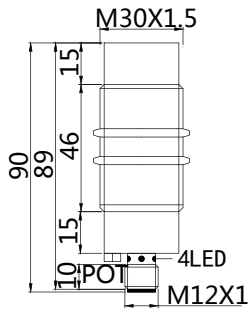


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 30mm , non-flush mountable;
- DC 3-wire , switching output;
- Connector versions

CE

Dimensioned drawing

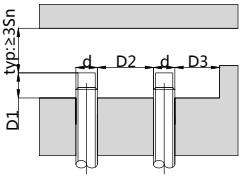


Model No.

Housing material	Brass, nickel-plated	PBT
NPN N.O	CN-M3030N-C11S12	CN-M3030N-P11S12
NPN N.C	CN-M3030N-C21S12	CN-M3030N-P21S12
PNP N.O	CN-M3030P-C11S12	CN-M3030P-P11S12
PNP N.C	CN-M3030P-C21S12	CN-M3030P-P21S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3030	≥40	≥60	≥30

Tightening torque of the fastening screws: <40Nm!

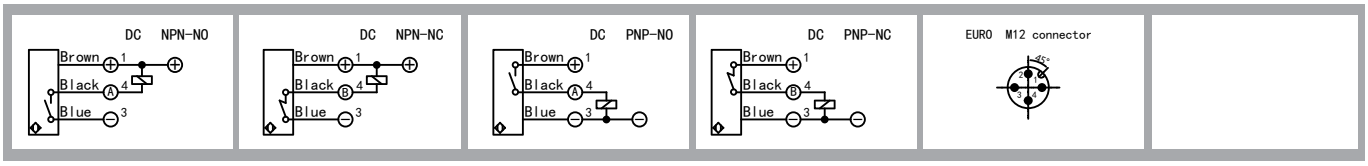
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



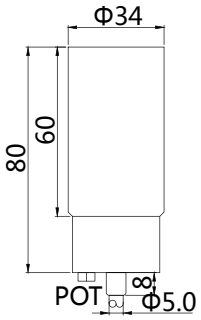


Features:

- Φ34 mm , Plastic housing;
- 25mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

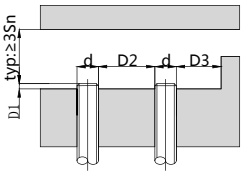


Model No.

Sensing range	Sn:2-25 mm
NPN N.O	CB-H3425N-P11P2
NPN N.C	CB-H3425N-P21P2
PNP N.O	CB-H3425P-P11P2
PNP N.C	CB-H3425P-P21P2

Mounting

(flush mounting)

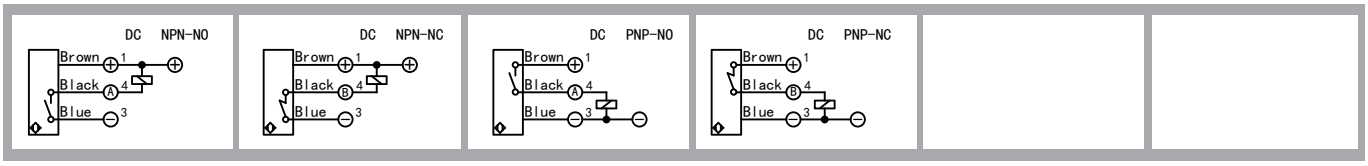


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



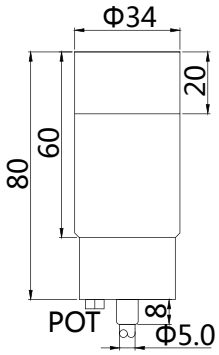


Features:

- Φ34 mm , Plastic housing;
- 35mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

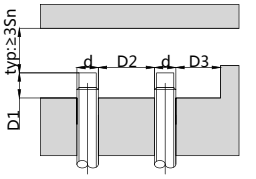


Model No.

Sensing range	Sn:2-35 mm
NPN N.O	CN-H3435N-P11P2
NPN N.C	CN-H3435N-P21P2
PNP N.O	CN-H3435P-P11P2
PNP N.C	CN-H3435P-P21P2

Mounting

(non-flush mounting)

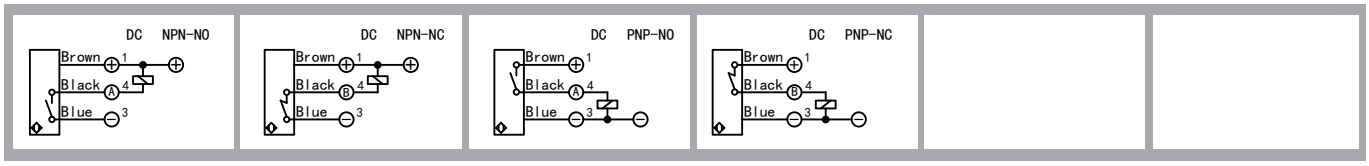


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



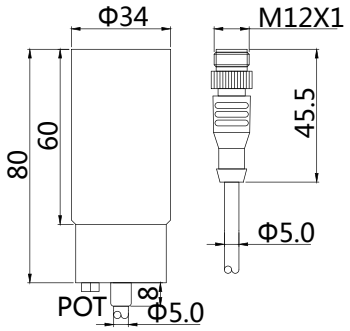


Features:

- Φ34 mm , Plastic housing;
- 25mm , flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

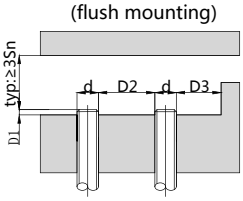


Model No.

Sensing range	Sn:2-25 mm
NPN N.O	CB-H3425N-P11Z12
NPN N.C	CB-H3425N-P21Z12
PNP N.O	CB-H3425P-P11Z12
PNP N.C	CB-H3425P-P21Z12

Mounting

(flush mounting)

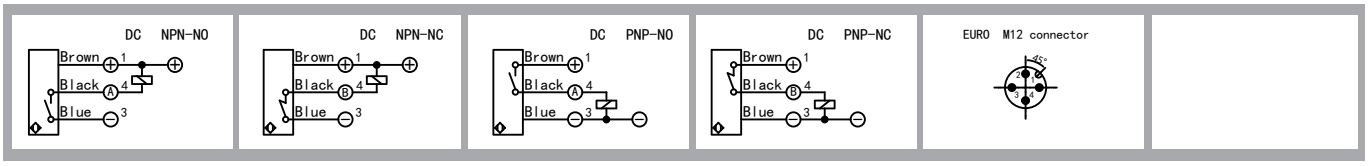


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connecotr
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



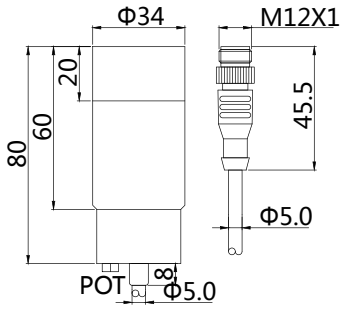


Features:

- Φ34 mm , Plastic housing;
- 35mm , non-flush mountable;
- DC 3-wire , switching output;
- Cable & pigtail versions

CE

Dimensioned drawing

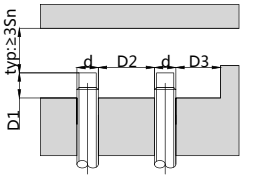


Model No.

Sensing range	Sn:2-35 mm
NPN N.O	CN-H3435N-P11Z12
NPN N.C	CN-H3435N-P21Z12
PNP N.O	CN-H3435P-P11Z12
PNP N.C	CN-H3435P-P21Z12

Mounting

(non-flush mounting)

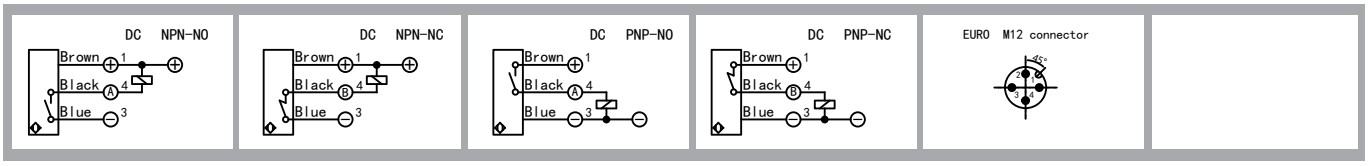


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



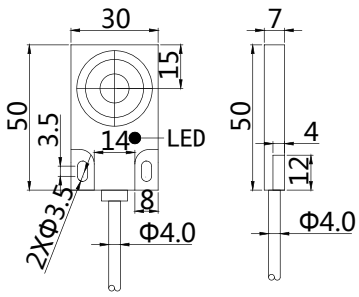


Features:

- Q30 Plastic housing;
- 6/10mm , flush/non-flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

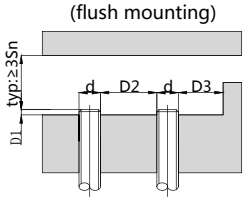


Model No.

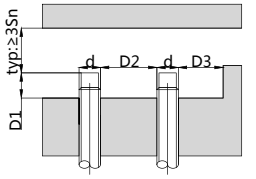
Sensing range	Sn:2-6 mm	Sn:2-10 mm
NPN N.O	CB-Q3006N-P11P2	CN-Q3010N-P11P2
NPN N.C	CB-Q3006N-P21P2	CN-Q3010N-P21P2
PNP N.O	CB-Q3006P-P11P2	CN-Q3010P-P11P2
PNP N.C	CB-Q3006P-P21P2	CN-Q3010P-P21P2

Mounting

(flush mounting)



(non-flush mounting)

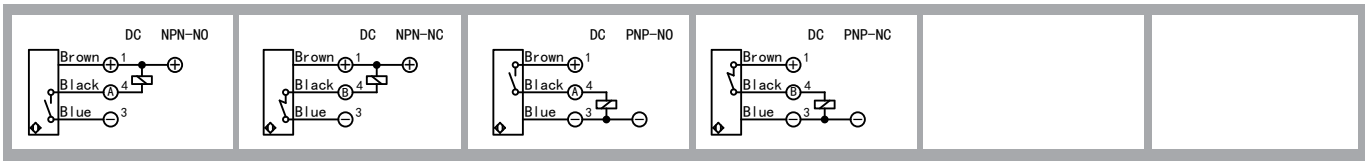


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



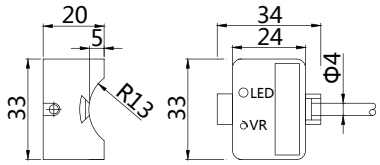


Features:

- Q33 Plastic housing;
- 3mm , flush mountable;
- DC 3-wire , switching output;
- Cable

CE

Dimensioned drawing

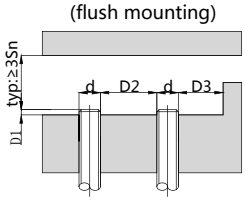


Model No.

Sensing range	Sn:3 mm
NPN N.O	CB-Q3303N-P11P2
NPN N.C	CB-Q3303N-P21P2
PNP N.O	CB-Q3303P-P11P2
PNP N.C	CB-Q3303P-P21P2

Mounting

(flush mounting)

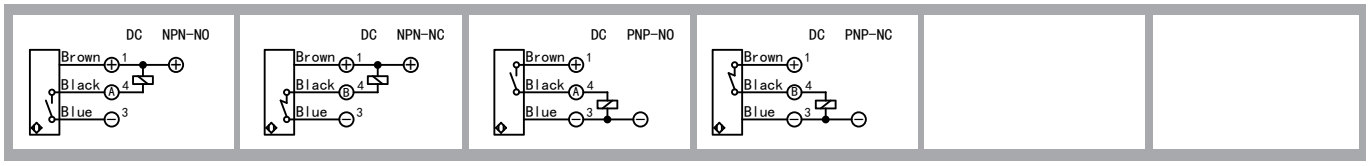


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	100Hz
	Voltage drop	≤2.0V
	Leakge current	<0.01mA
	Load current	200mA
	No load current	≤10mA(24V)
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Short circuit protection	Yes
	Overload protection	Yes
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	ABS
	Face material	ABS
Electrical connection	Connectors	PVC cable/2m ; 3*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



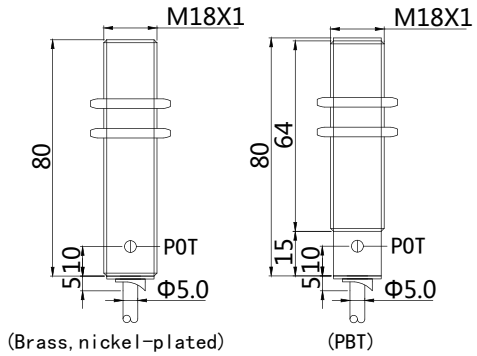


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 8mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

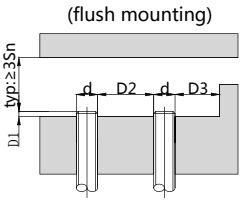
Dimensioned drawing



Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CB-M1808A-C14P2	CB-M1808A-P14P2
N. C	CB-M1808A-C24P2	CB-M1808A-P24P2
N. O	CB-M1808U-C15P2	CB-M1808U-P15P2
N. C	CB-M1808U-C25P2	CB-M1808U-P25P2

Mounting



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

Tightening torque of the fastening screws: <20Nm!

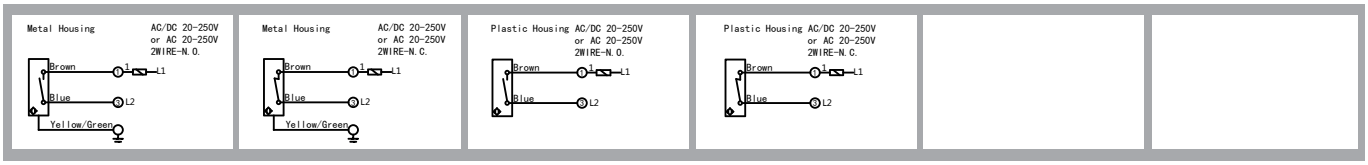
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



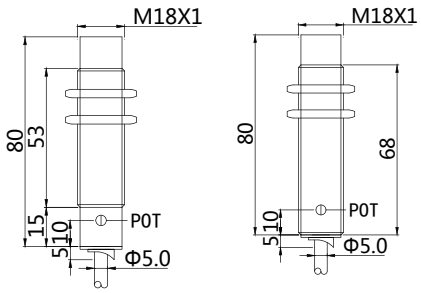


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing



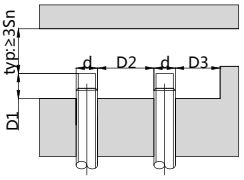
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CN-M1815A-C14P2	CN-M1815A-P14P2
N. C	CN-M1815A-C24P2	CN-M1815A-P24P2
N. O	CN-M1815U-C15P2	CN-M1815U-P15P2
N. C	CN-M1815U-C25P2	CN-M1815U-P25P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1815	≥25	≥36	≥18

Tightening torque of the fastening screws: <20Nm!

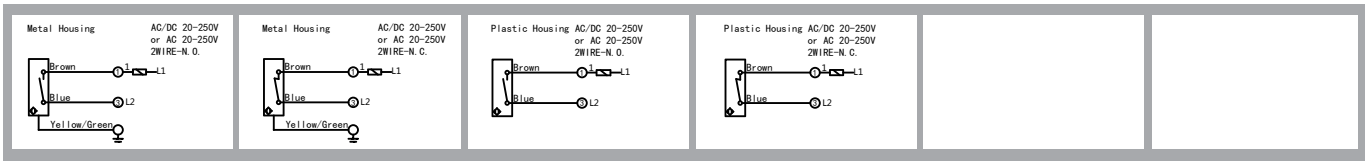
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m ; 3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



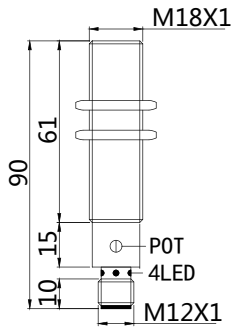


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 8mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

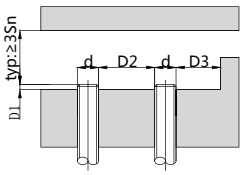


Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CB-M1808A-C14S12	CB-M1808A-P14S12
N. C	CB-M1808A-C24S12	CB-M1808A-P24S12
N. O	CB-M1808U-C15S12	CB-M1808U-P15S12
N. C	CB-M1808U-C25S12	CB-M1808U-P25S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M1808	≥2.5	≥18	≥18

Tightening torque of the fastening screws: <20Nm!

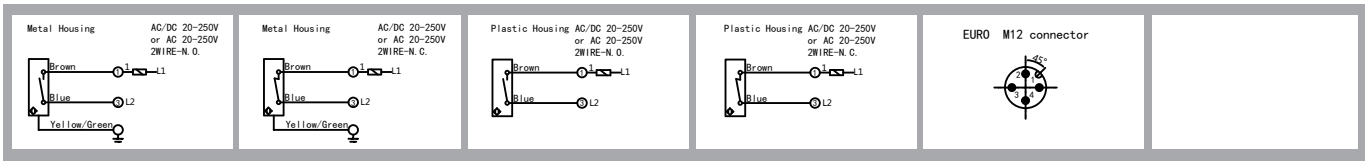
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



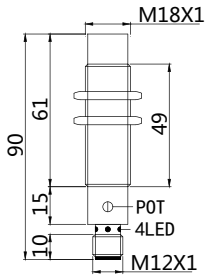


Features:

- M18*1 mm , Plastic/Brass,nickel-plated housing;
- 15mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

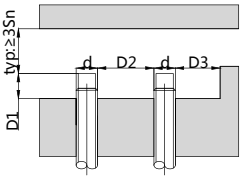


Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CN-M1815A-C14S12	CN-M1815A-P14S12
N. C	CN-M1815A-C24S12	CN-M1815A-P24S12
N. O	CN-M1815U-C15S12	CN-M1815U-P15S12
N. C	CN-M1815U-C25S12	CN-M1815U-P25S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M1815	≥25	≥36	≥18

Tightening torque of the fastening screws: <20Nm!

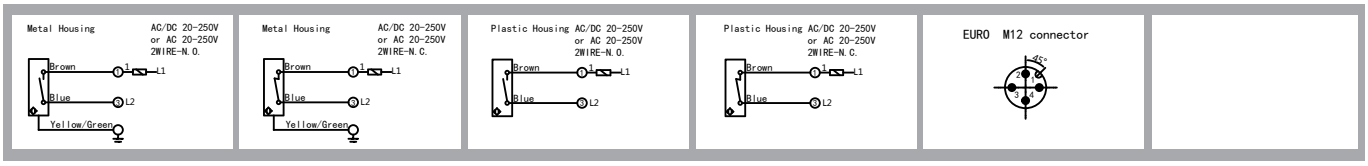
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



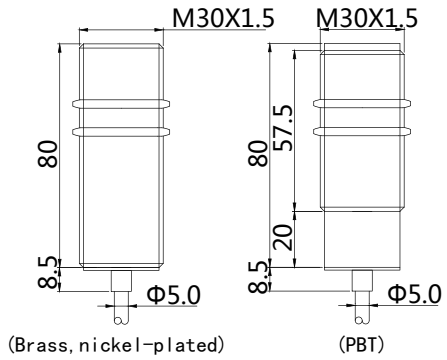


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 20mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing



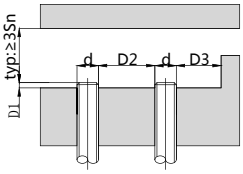
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CB-M3020A-C14P2	CB-M3020A-P14P2
N. C	CB-M3020A-C24P2	CB-M3020A-P24P2
N. O	CB-M3020U-C15P2	CB-M3020U-P15P2
N. C	CB-M3020U-C25P2	CB-M3020U-P25P2

Mounting

(flush mounting)



Sn	D1	D2	D3
M3020	≥8	≥30	≥30

Tightening torque of the fastening screws: <40Nm!

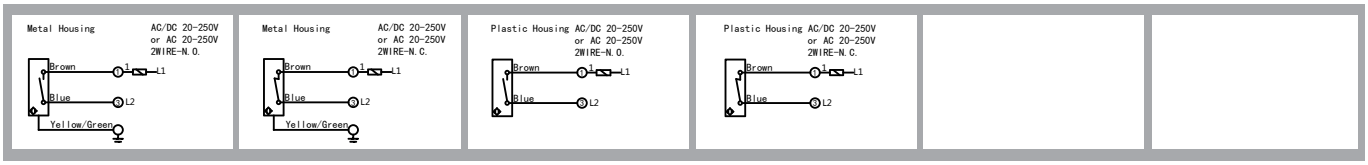
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;2*0.5mm²/3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



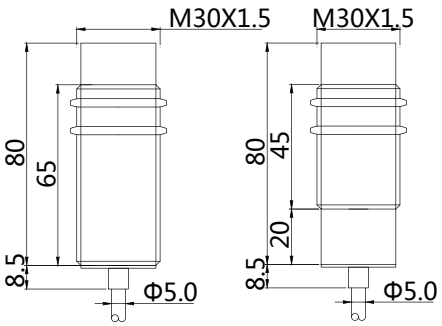


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 30mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing



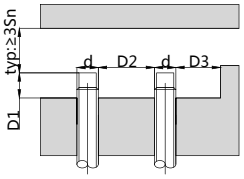
(Brass, nickel-plated) (PBT)

Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CN-M3030A-C14P2	CN-M3030A-P14P2
N. C	CN-M3030A-C24P2	CN-M3030A-P24P2
N. O	CN-M3030U-C15P2	CN-M3030U-P15P2
N. C	CN-M3030U-C25P2	CN-M3030U-P25P2

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3030	≥40	≥60	≥30

Tightening torque of the fastening screws: <40Nm!

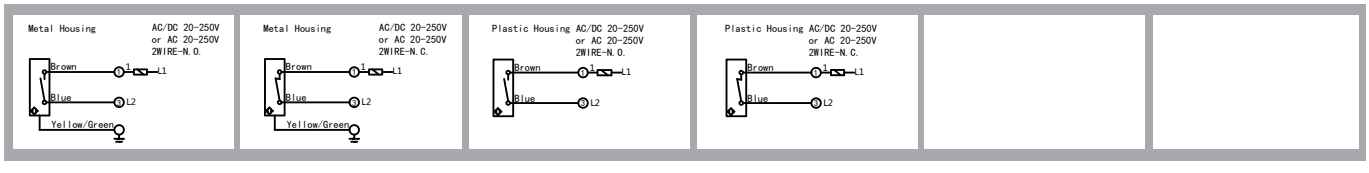
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;2*0.5mm²/3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



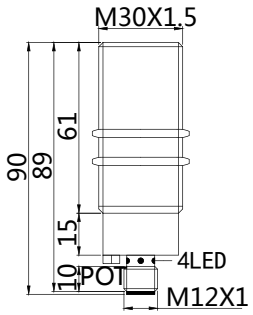


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 20mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

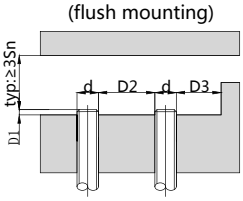


Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CB-M3020A-C14S12	CB-M3020A-P14S12
N. C	CB-M3020A-C24S12	CB-M3020A-P24S12
N. O	CB-M3020U-C15S12	CB-M3020U-P15S12
N. C	CB-M3020U-C25S12	CB-M3020U-P25S12

Mounting

(flush mounting)



Sn	D1	D2	D3
M3020	≥8	≥30	≥30

Tightening torque of the fastening screws: <40Nm!

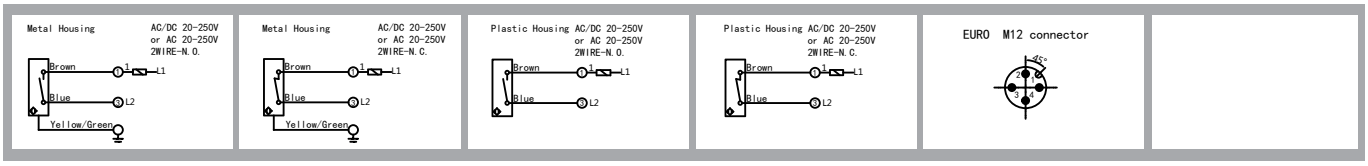
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



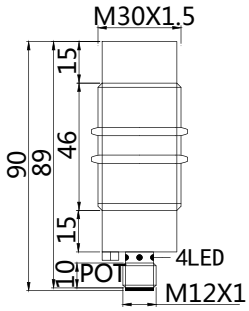


Features:

- M30*1.5 mm , Plastic/Brass,nickel-plated housing;
- 30mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Connector versions

CE

Dimensioned drawing

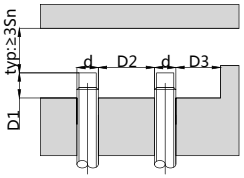


Model No.

Housing material	Brass, nickel-plated	PBT
N. O	CN-M3030A-C14S12	CN-M3030A-P14S12
N. C	CN-M3030A-C24S12	CN-M3030A-P24S12
N. O	CN-M3030U-C15S12	CN-M3030U-P15S12
N. C	CN-M3030U-C25S12	CN-M3030U-P25S12

Mounting

(non-flush mounting)



Sn	D1	D2	D3
M3030	≥40	≥60	≥30

Tightening torque of the fastening screws: <40Nm!

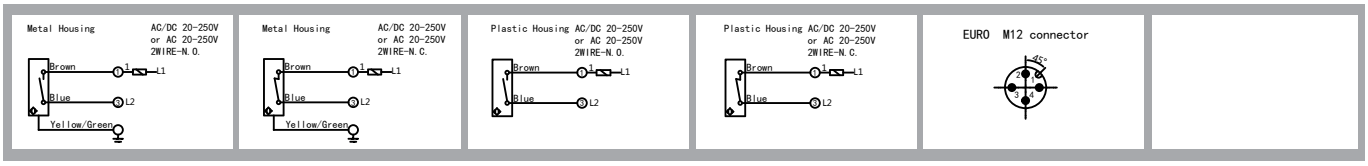
Tightening torque of the fastening screws: <1.5Nm!(PBT)

Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



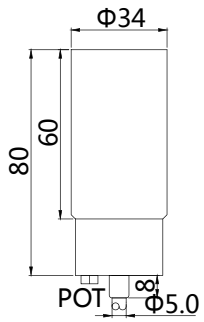


Features:

- Φ34mm Plastic housing;
- 25mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

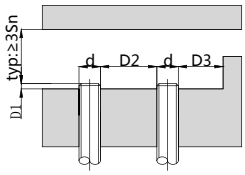


Model No.

Sensing range	Sn:2-25 mm
N.O	CN-H3425A-P14P2
N.C	CN-H3425A-P24P2
N.O	CN-H3425U-P15P2
N.C	CN-H3425U-P25P2

Mounting

(flush mounting)

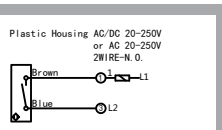


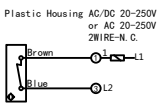
Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	PVC cable/2m;2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





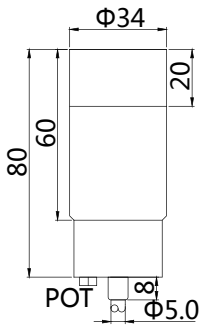


Features:

- Φ34mm Plastic housing;
- 35mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable

CE

Dimensioned drawing

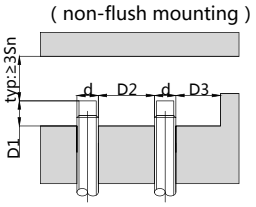


Model No.

Housing material	Sn:2-35 mm
N.O	CN-H3435A-P14P2
N.C	CN-H3435A-P24P2
N.O	CN-H3435U-P15P2
N.C	CN-H3435U-P25P2

Mounting

(non-flush mounting)

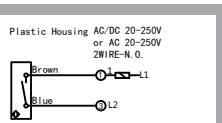


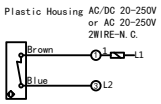
Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	PVC 线缆/2m;2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





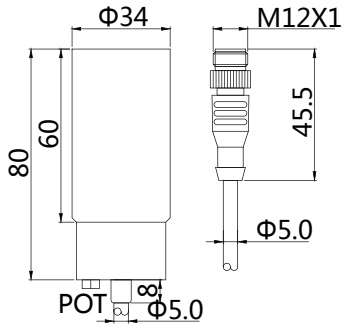


Features:

- Φ34mm Plastic housing;
- 25mm , flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable & pigtail versions

CE

Dimensioned drawing

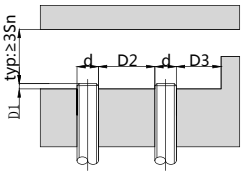


Model No.

Sensing range	Sn:2-25 mm
N.O	CB-H3425A-P14Z12
N.C	CB-H3425A-P24Z12
N.O	CB-H3425U-P15Z12
N.C	CB-H3425U-P25Z12

Mounting

(flush mounting)

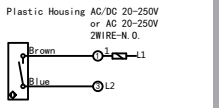


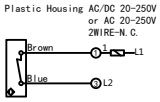
Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







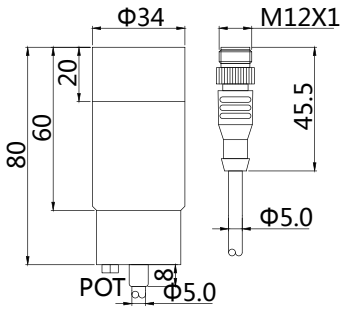


Features:

- Φ34mm Plastic housing;
- 35mm , non-flush mountable;
- AC 2-wire , AC/DC 2-wire , switching output;
- Momentary current:5A(20ms)/2.2A(20ms)
- Cable & pigtail versions

CE

Dimensioned drawing

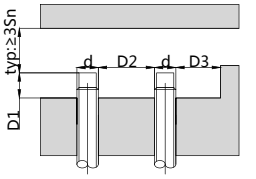


Model No.

Housing material	Sn:2-35 mm
N.O	CN-H3435A-P14Z12
N.C	CN-H3435A-P24Z12
N.O	CN-H3435U-P15Z12
N.C	CN-H3435U-P25Z12

Mounting

(non-flush mounting)

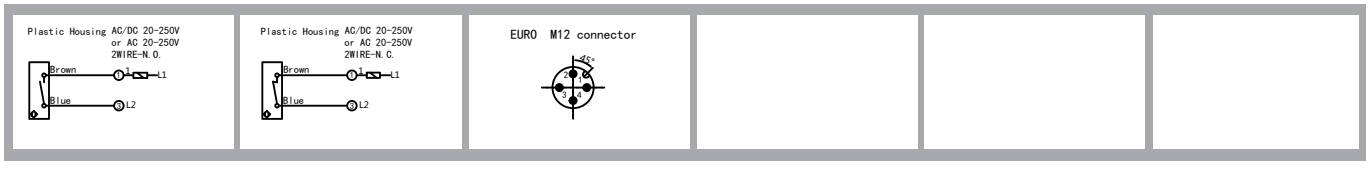


Correction Factor	
Nav-ferrous metal	Factor
Water	1
Alcohol	0.7
Ceramic	0.6
Glass	0.5
Oil	0.3

Technical data

Electrical data	Operating voltage	20-250V AC,20-250V AC/DC
	Switching frequency	25Hz/25Hz AC,40Hz DC
	Voltage drop	<9VAC(300mA)/<10VAC,<8VDC
	Load current	Max.load:300mA;min.Load:5mA
		Max.load:200mA;min.Load:5mA
	Leakge current	≤2.5mA
	Hysteresis	<15%(Sr)
	Repeatability	<5.0%(Sr)
	Temperature drift	<10%(Sr)
	Polarity reversal protection	Yes
Environment	Ambient temperature	-25...70℃
	Ingress protection	IP67
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Face material	PBT
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



Selction Guide

1	2	3		4	5	6		7	8	9	10	11		12
F	M	12	-	T	02	P	-	P	3	1	P	2	-	

1 Type

F	Photoelectric sensor

2 Shape

M	Threaded barrel
Q	Square housing
G	Forked housing

3 Dimension

12
18
30
40
.....

4 Sensing mode

T	Diffuse
R	Retro-reflective
L	Through-beam
F	Optical Fiber Amplifier
H	Background Suppression

.....

5 Sensing range(mm)

02	200mm
05	500mm
15	15 m

.....

6 Electrical design

P	PNP
N	NPN
D	PNP/NPN
A	AC
U	AC/DC

7 Housing material

C	Nickel plated brass
V	Stainless steel
P	Plastic
F	PTFE

8 Output mode

1	Light On
2	Dark On
3	Dark On/Light On
4	SPDT relay
5	Emitter

9 Operating voltage

1	DC10-30V
2	DC18-30V
3	DC10-60V
4	AC24-240V
5	24-240VAC/DC

10 Connection

P	PVC cable
U	PUR cable
F	PTFE cable
S8	M8 connector
S12	M12 connector
Z8	M8 connector(pigtail type)
Z12	M12 connector(pigtail type)
T	Terminal

11 Cable length

2	2m
3	3m
5	5m

.....

12 Others

F	With polarizing filter
D	With time delay

.....

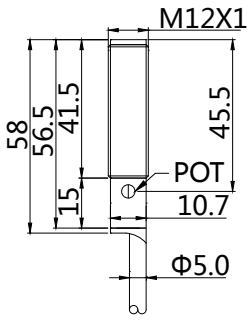


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M12*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

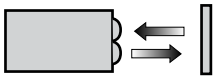


Model No.

Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM12-T02N-P31P2	FM12-T02N-C31P2
PNP Light/Dark-on	FM12-T02P-P31P2	FM12-T02P-C31P2

Background suppression

Diffuse type sensors

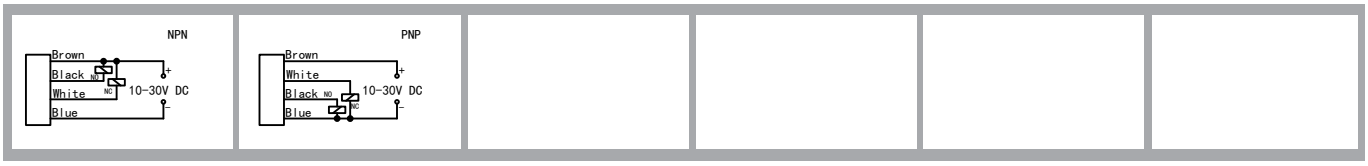


Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	≤150mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



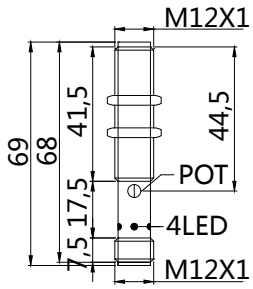


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M12*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

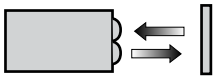


Model No.

Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM12-T02N-P31S12	FM12-T02N-C31S12
PNP Light/Dark-on	FM12-T02P-P31S12	FM12-T02P-C31S12

Background suppression

Diffuse type sensors

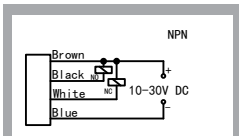


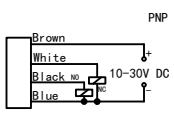
Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

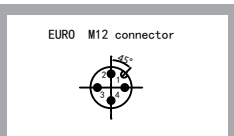
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	≤150mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring







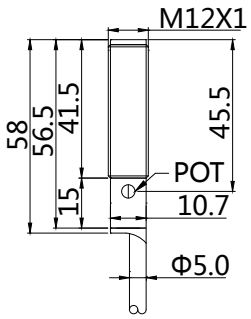


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- M12*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

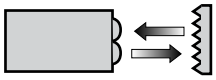


Model No.

Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM12-R2N-P31P2	FM12-R2N-C31P2
PNP Light/Dark-on	FM12-R2P-P31P2	FM12-R2P-C31P2

Background suppression

Retro-reflective sensors



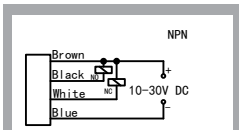
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

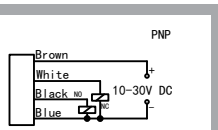
When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	≤150mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<20cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	FR-Q51
	(to be ordered separately)	

Wiring





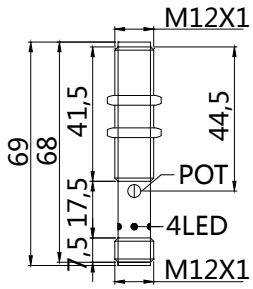


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- M12*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

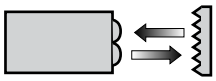


Model No.

Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM12-R2N-P31S12	FM12-R2N-C31S12
PNP Light/Dark-on	FM12-R2P-P31S12	FM12-R2P-C31S12

Background suppression

Retro-reflective sensors



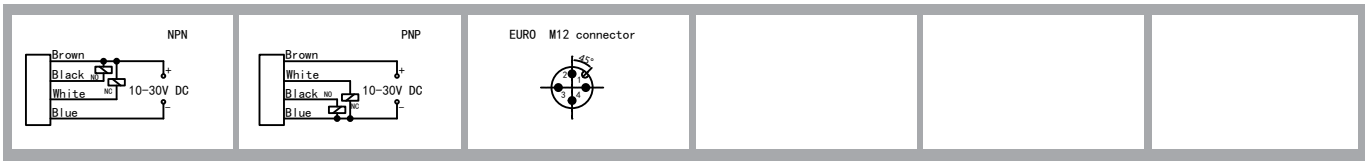
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	≤150mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<20cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2/FR-Q51
	(to be ordered separately)	

Wiring



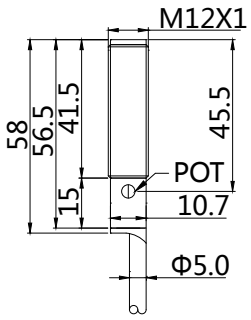


Features:

- Through-beam,Emitter/receiver set,DC3-wire discrete output;
- Cable & connector versions;
- M12*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Housing material	PBT	Brass, nickel-plated
Transmitter	FM12-L52D-P51P2	FM12-L52D-C51P2
NPN Dark-on	FM12-L52N-P11P2	FM12-L52N-C11P2
NPN Light-on	FM12-L52N-P21P2	FM12-L52N-C21P2
PNP Dark-on	FM12-L52P-P11P2	FM12-L52P-C11P2
PNP Light-on	FM12-L52P-P21P2	FM12-L52P-C21P2

Background suppression

Through-beam sensors

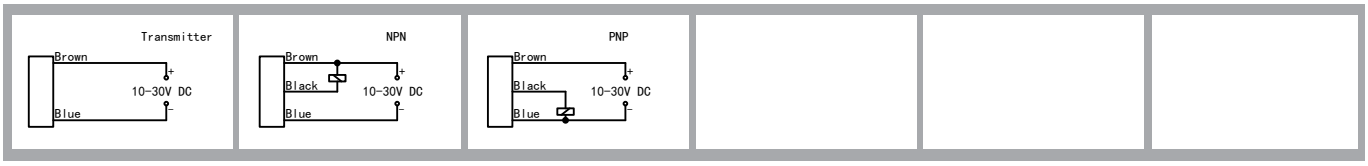


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	≤150mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



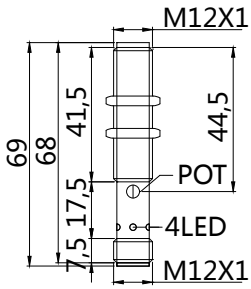


Features:

- Through-beam,Emitter/receiver set,DC3-wire discrete output;
- Cable & connector versions;
- M12*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Housing material	PBT	Brass, nickel-plated
Transmitter	FM12-L52D-P51S12	FM12-L52D-C51S12
NPN Dark-on	FM12-L52N-P11S12	FM12-L52N-C11S12
NPN Light-on	FM12-L52N-P21S12	FM12-L52N-C21S12
PNP Dark-on	FM12-L52P-P11S12	FM12-L52P-C11S12
PNP Light-on	FM12-L52P-P21S12	FM12-L52P-C21S12

Background suppression

Through-beam sensors

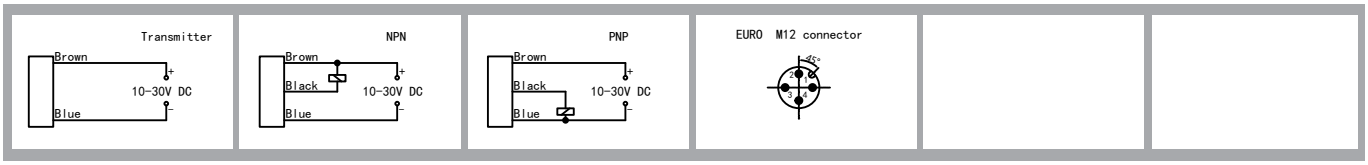


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	≤150mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



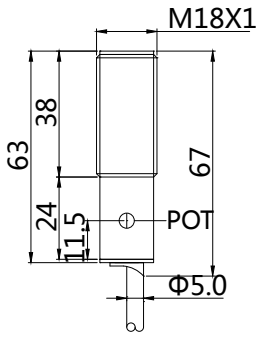


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



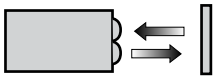
Model No.

Sensing range	Sn: 150 mm	Sn: 150 mm
Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-T015N-P31P2-E	FM18-T015N-C31P2-E
PNP Light/Dark-on	FM18-T015P-P31P2-E	FM18-T015P-C31P2-E

Sensing range	Sn: 500 mm	Sn: 500 mm
Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-T05N-P31P2-E	FM18-T05N-C31P2-E
PNP Light/Dark-on	FM18-T05P-P31P2-E	FM18-T05P-C31P2-E

Background suppression

Diffuse type sensors

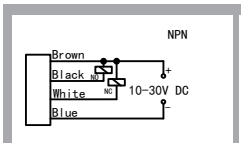


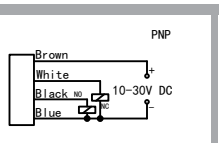
Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





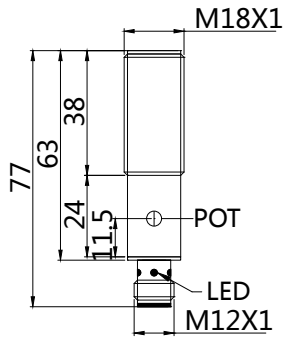


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



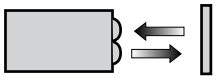
Model No.

Sensing range	Sn: 150 mm	Sn: 150 mm
Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-T015N-P31S12-E	FM18-T015N-C31S12-E
PNP Light/Dark-on	FM18-T015P-P31S12-E	FM18-T015P-C31S12-E

Sensing range	Sn: 500 mm	Sn: 500 mm
Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-T05N-P31S12-E	FM18-T05N-C31S12-E
PNP Light/Dark-on	FM18-T05P-P31S12-E	FM18-T05P-C31S12-E

Background suppression

Diffuse type sensors

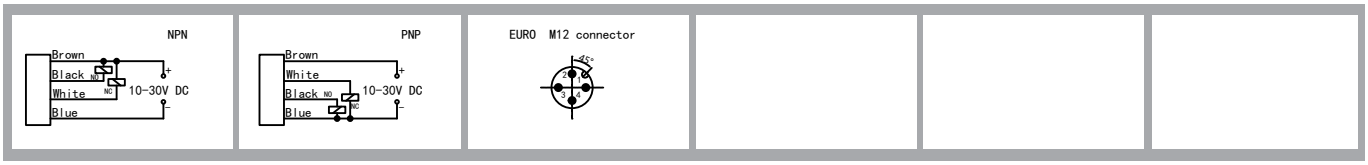


Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



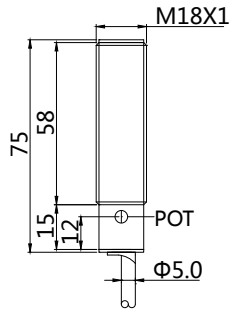


Features:

- Diffuse type,AC 3-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



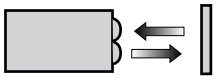
Model No.

Sensing range	Sn: 150 mm	Sn: 150 mm
Housing material	PBT	Brass, nickel-plated
Light/Dark-on	FM18-T015A-P14P2	FM18-T015A-C14P2
Light/Dark-on	FM18-T015A-P24P2	FM18-T015A-C24P2

Sensing range	Sn: 500 mm	Sn: 500 mm
Housing material	PBT	Brass, nickel-plated
Light/Dark-on	FM18-T05A-P14P2	FM18-T05A-C14P2
Light/Dark-on	FM18-T05A-P24P2	FM18-T05A-C24P2

Background suppression

Diffuse type sensors

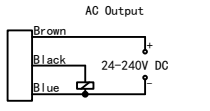


Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	24-240V AC
	Switching frequency	25Hz
	Light type	Infrared light 880nm
	Response time	<5ms
	Load current	300mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



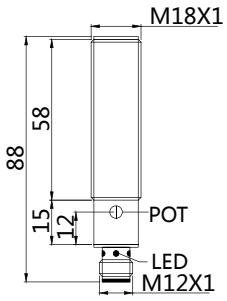


Features:

- Diffuse type,AC 3-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



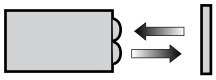
Model No.

Sensing range	Sn: 150 mm	Sn: 150 mm
Housing material	PBT	Brass, nickel-plated
Light/Dark-on	FM18-T015A-P14S12	FM18-T015A-C14S12
Light/Dark-on	FM18-T015A-P24S12	FM18-T015A-C24S12

Sensing range	Sn: 500 mm	Sn: 500 mm
Housing material	PBT	Brass, nickel-plated
Light/Dark-on	FM18-T05A-P14S12	FM18-T05A-C14S12
Light/Dark-on	FM18-T05A-P24S12	FM18-T05A-C24S12

Background suppression

Diffuse type sensors

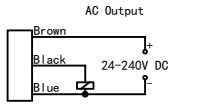


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Technical data

Electrical data	Operating voltage	24-240V AC
	Switching frequency	25Hz
	Light type	Infrared light 880nm
	Response time	<5ms
	Load current	300mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring





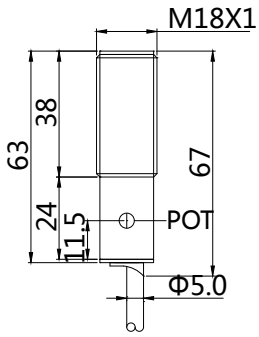


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

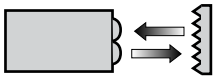


Model No.

Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-R3N-P31P2-E	FM18-R3N-C31P2-E
PNP Light/Dark-on	FM18-R3P-P31P2-E	FM18-R3P-C31P2-E

Background suppression

Retro-reflective sensors



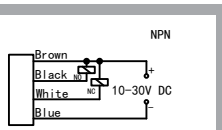
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

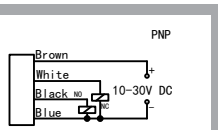
When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<10cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	FR-Q51
	(to be ordered separately)	

Wiring





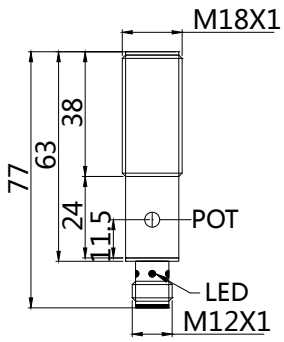


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

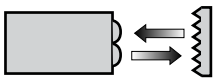


Model No.

Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-R3N-P31S12-E	FM18-R3N-C31S12-E
PNP Light/Dark-on	FM18-R3P-P31S12-E	FM18-R3P-C31S12-E

Background suppression

Retro-reflective sensors



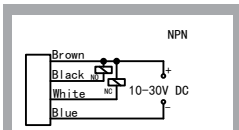
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

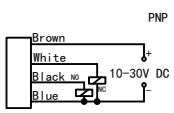
When the beam is occlusion,generate a switch changes.

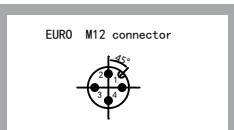
Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<10cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2/FR-Q51
	(to be ordered separately)	

Wiring







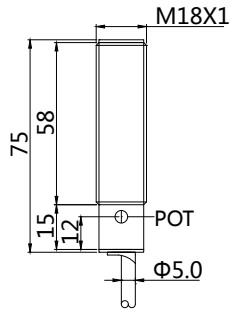


Features:

- Retro-reflective,AC 3-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

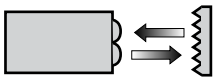


Model No.

Housing material	PBT	Brass, nickel-plated
Light/Dark-on	FM18-R3A-P14P2	FM18-R3A-C14P2
Light/Dark-on	FM18-R3A-P24P2	FM18-R3A-C24P2

Background suppression

Retro-reflective sensors



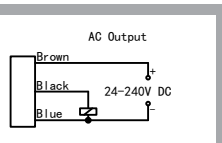
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	24-240V AC
	Switching frequency	25Hz
	Light type	Infrared light 880nm
	Response time	<5ms
	Load current	300mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<10cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



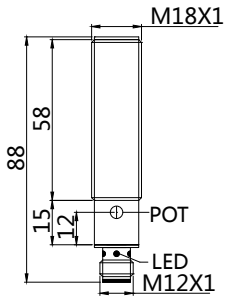


Features:

- Retro-reflective,AC 3-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

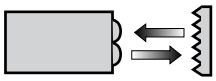


Model No.

Housing material	PBT	Brass, nickel-plated
Light/Dark-on	FM18-R3A-P14S12	FM18-R3A-C14S12
Light/Dark-on	FM18-R3A-P24S12	FM18-R3A-C24S12

Background suppression

Retro-reflective sensors



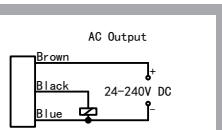
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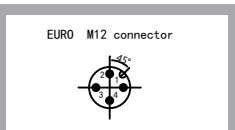
When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	24-240V AC
	Switching frequency	25Hz
	Light type	Infrared light 880nm
	Response time	<5ms
	Load current	300mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<10cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2/FR-Q51
	(to be ordered separately)	

Wiring





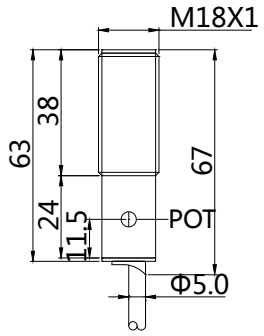


Features:

- Through-beam,Emitter/receiver set,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Housing material	PBT	Brass, nickel-plated
Transmitter	FM18-L15MD-P51P2-E	FM18-L15MD-C51P2-E
NPN Light/Dark-on	FM18-L15MN-P31P2-E	FM18-L15MN-C31P2-E
PNP Light/Dark-on	FM18-L15MP-P31P2-E	FM18-L15MP-C31P2-E

Background suppression

Through-beam sensors

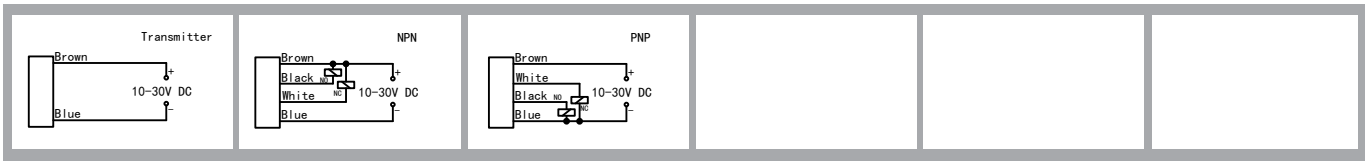


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;2*0.5mm²/4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



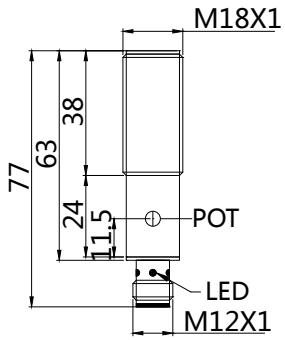


Features:

- Through-beam,Emitter/receiver set,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Housing material	PBT	Brass, nickel-plated
Transmitter	FM18-L15MD-P51S12-E	FM18-L15MD-C51S12-E
NPN Light/Dark-on	FM18-L15MN-P31S12-E	FM18-L15MN-C3S12-E
PNP Light/Dark-on	FM18-L15MP-P31S12-E	FM18-L15MP-C31S12-E

Background suppression

Through-beam sensors

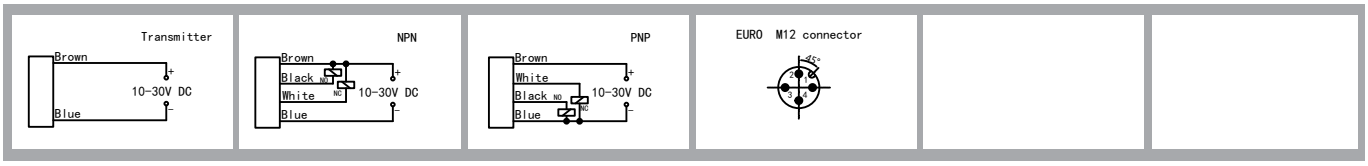


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



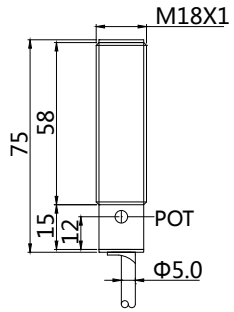


Features:

- Through-beam,Emitter/receiver set,AC 3-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Housing material	PBT	Brass, nickel-plated
Transmitter	FM18-L15MD-P54P2	FM18-L15MD-C54P2
Light/Dark-on	FM18-L15MA-P14P2	FM18-L15MA-C14P2
Light/Dark-on	FM18-L15MA-P24P2	FM18-L15MA-C24P2

Background suppression

Through-beam sensors

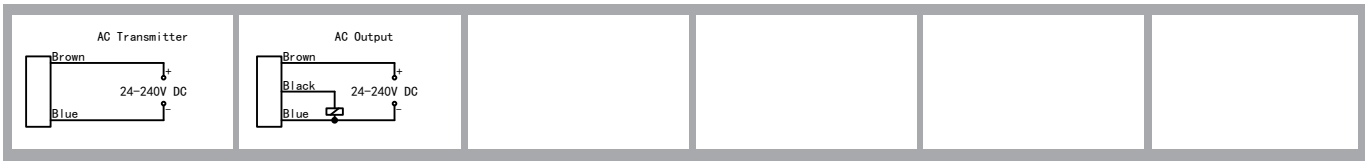


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	24-240V AC
	Switching frequency	50Hz
	Light type	Infrared light 880nm
	Response time	<5ms
	Load current	300mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



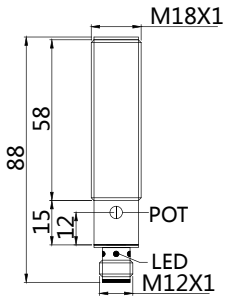


Features:

- Through-beam,Emitter/receiver set,AC 3-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Housing material	PBT	Brass, nickel-plated
Transmitter	FM18-L15MD-P54S12	FM18-L15MD-C54S12
Light/Dark-on	FM18-L15MA-P14S12	FM18-L15MA-C14S12
Light/Dark-on	FM18-L15MA-P24S12	FM18-L15MA-C24S12

Background suppression

Through-beam sensors

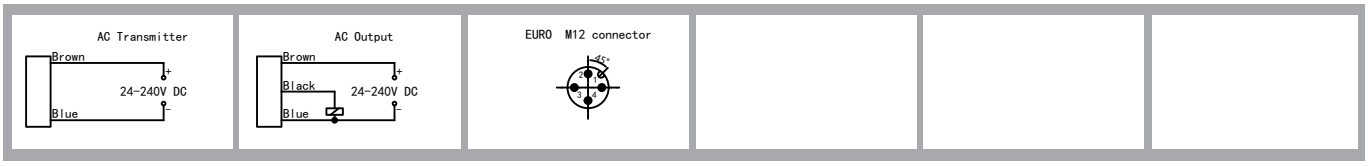


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Technical data

Electrical data	Operating voltage	24-240V AC
	Switching frequency	50Hz
	Light type	Infrared light 880nm
	Response time	<5ms
	Load current	300mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



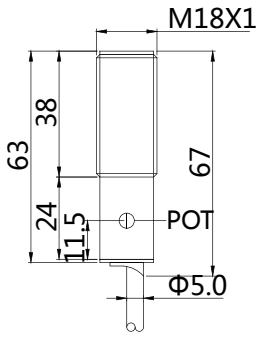


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/Brass ,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

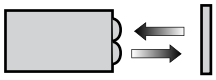


Model No.

Sensing range	Sn: 100 mm	Sn: 100 mm
Housing material	PBT	Brass, nickel-plated
NPN Light/Dark-on	FM18-T01N-P31P2-D	FM18-T01N-C31P2-D
PNP Light/Dark-on	FM18-T01P-P31P2-D	FM18-T01P-C31P2-D

Background suppression

Diffuse type sensors

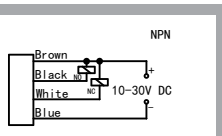


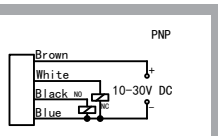
Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





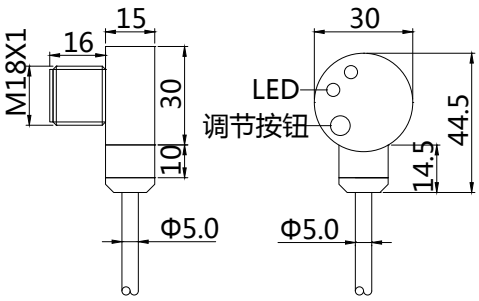


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,Right-angle plastic housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

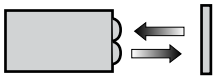


Model No.

Sensing range	Sn: 150 mm	Sn: 500 mm
NPN Light/Dark-on	FQ18-T015N-P31P2-E	FQ18-T05N-P31P2-E
PNP Light/Dark-on	FQ18-T015P-P31P2-E	FQ18-T05P-P31P2-E

Background suppression

Diffuse type sensors

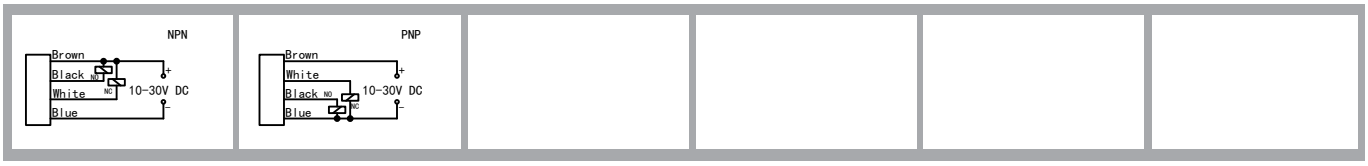


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Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



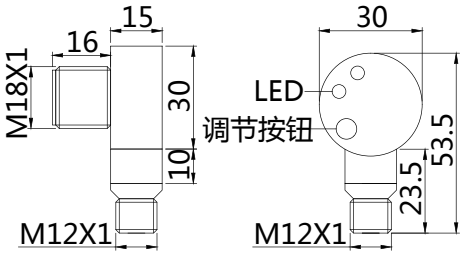


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,Right-angle plastic housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

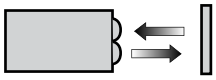


Model No.

Sensing range	Sn: 150 mm	Sn: 500 mm
NPN Light/Dark-on	FQ18-T015N-P31S12-E	FQ18-T05N-P31S12-E
PNP Light/Dark-on	FQ18-T015P-P31S12-E	FQ18-T05P-P31S12-E

Background suppression

Diffuse type sensors



Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



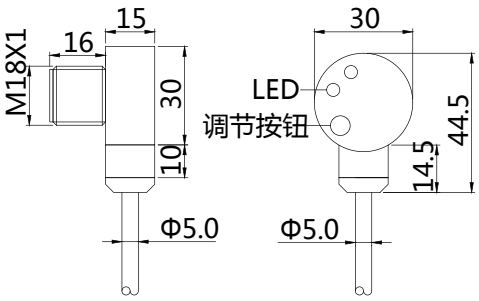


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,Right-angle plastic housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

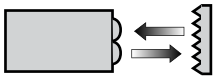


Model No.

Sensing range	Sn: 0.1-3 m
NPN Light/Dark-on	FQ18-R3N-P31P2-E
PNP Light/Dark-on	FQ18-R3N-P31P2-E

Background suppression

Retro-reflective sensors



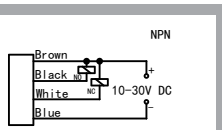
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

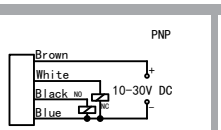
When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	FR-Q51
	(to be ordered separately)	

Wiring





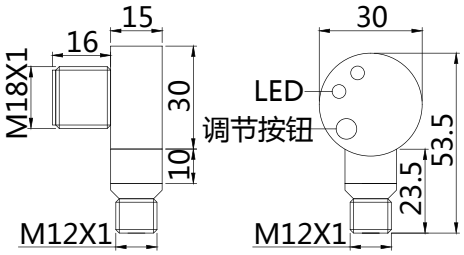


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,Right-angle plastic housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing

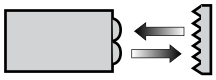


Model No.

Sensing range	Sn: 0.1-3 m
NPN Light/Dark-on	FQ18-R3N-P31S12-E
PNP Light/Dark-on	FQ18-R3P-P31S12-E

Background suppression

Retro-reflective sensors



Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2/FR-Q51
	(to be ordered separately)	

Wiring



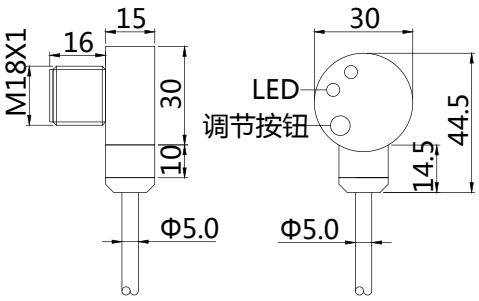


Features:

- Through-beam,Emitter/receiver set,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,Right-angle plastic housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 15 m
Transmitter	FQ18-L15MD-P51P2-E
NPN Light/Dark-on	FQ18-L15MN-P31P2-E
PNP Light/Dark-on	FQ18-L15MP-P31P2-E

Background suppression

Through-beam sensors

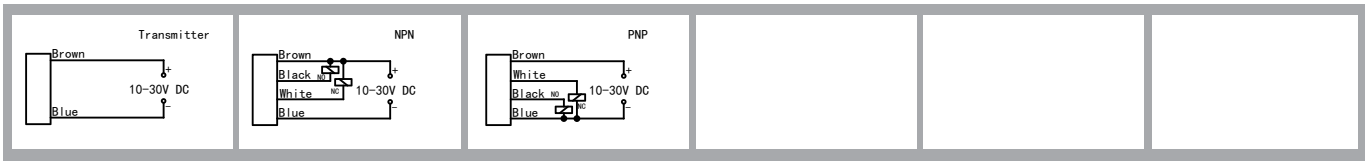


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²/2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



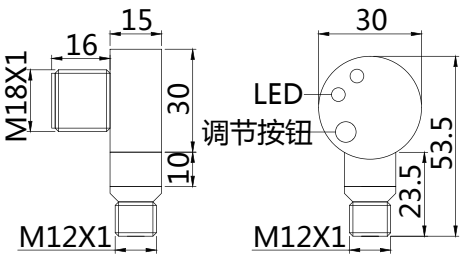


Features:

- Through-beam,Emitter/receiver set,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,Right-angle plastic housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 15 m
Transmitter	FQ18-L15MD-P51S12-E
NPN Light/Dark-on	FQ18-L15MN-P31S12-E
PNP Light/Dark-on	FQ18-L15MP-P31S12-E

Background suppression

Through-beam sensors

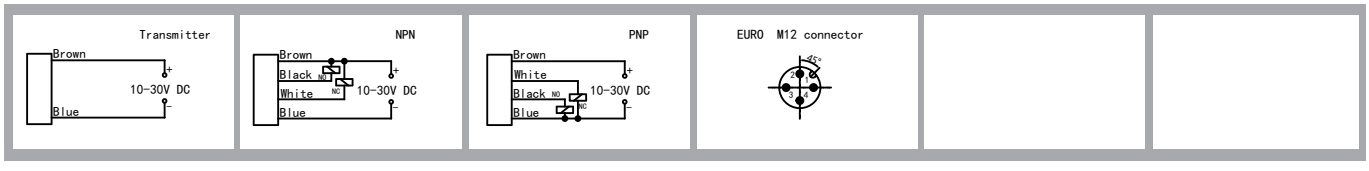


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Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



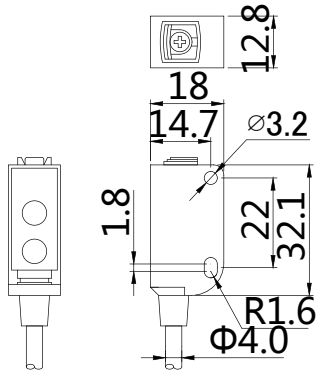


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- Q31,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

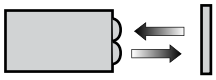


Model No.

Sensing range	Sn: 110 mm	Sn: 350 mm
NPN Light/Dark-on	FQ31-T011N-P31P2	FQ31-T035N-P31P2
PNP Light/Dark-on	FQ31-T011P-P31P2	FQ31-T035P-P31P2
Sensing range	Sn: 800 mm	
NPN Light/Dark-on	FQ31-T08N-P31P2	
PNP Light/Dark-on	FQ31-T08P-P31P2	

Background suppression

Diffuse type sensors

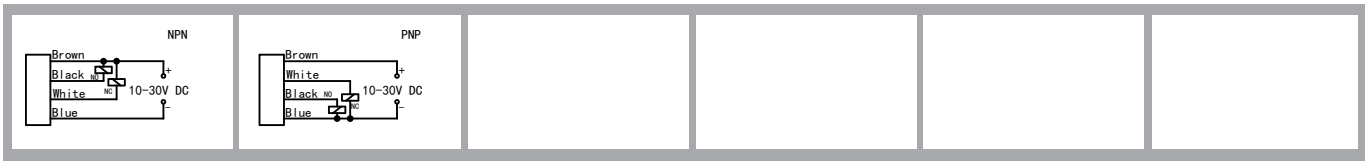


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Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.18mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



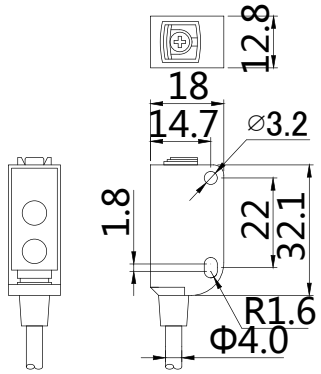


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- Q31,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

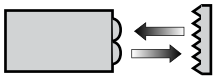


Model No.

Sensing range	Sn: 2 m	Sn: 4 m
NPN Light/Dark-on	FQ31-R2N-P31P2	FQ31-R4N-P31P2
PNP Light/Dark-on	FQ31-R2P-P31P2	FQ31-R4P-P31P2

Background suppression

Retro-reflective sensors



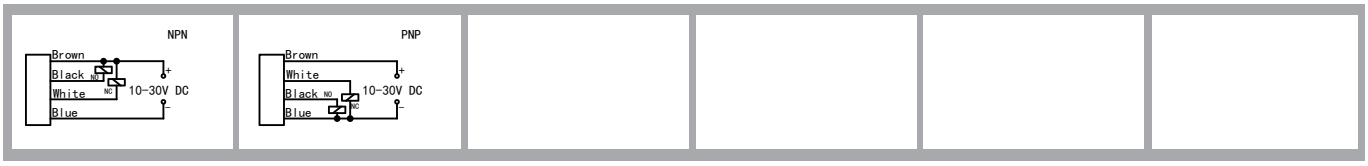
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	No photosensitivity/<25cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.18mm²
Accessories	Accessories	FR-Q51
	(to be ordered separately)	

Wiring



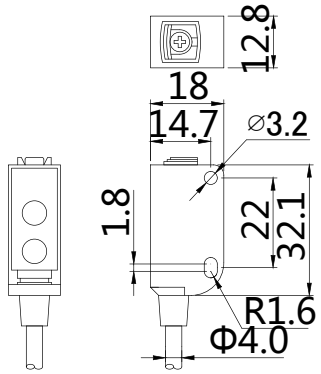


Features:

- Through-beam,Emitter/receiver set,DC4-wire discrete output;
- Cable & connector versions;
- Q31,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 5 m
Transmitter	FQ31-L5D-P51P2
NPN Light/Dark-on	FQ31-L5N-P31P2
PNP Light/Dark-on	FQ31-L5P-P31P2

Background suppression

Through-beam sensors

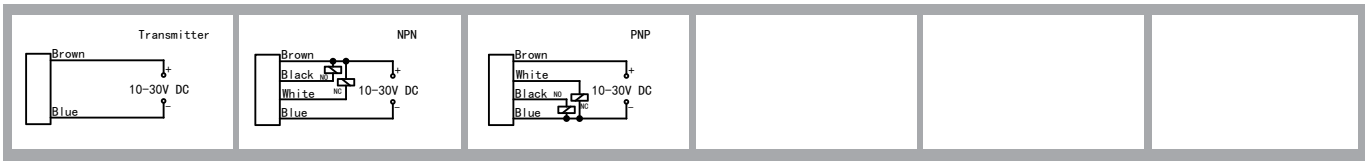


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.18mm²/2*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



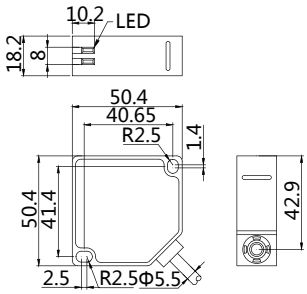


Features:

- Diffuse type,DC4-wire discrete output;
- Cable & connector versions;
- Q50,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

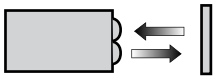


Model No.

Sensing range	Sn: 0.2-1 m	Sn: 0.3-2 m
NPN Light/Dark-on	FQ50-T1N-P31P2	FQ50-T2N-P31P2
PNP Light/Dark-on	FQ50-T1P-P31P2	FQ50-T2P-P31P2

Background suppression

Diffuse type sensors

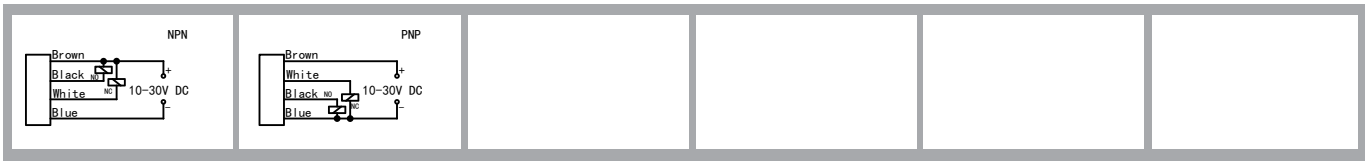


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Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<100ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



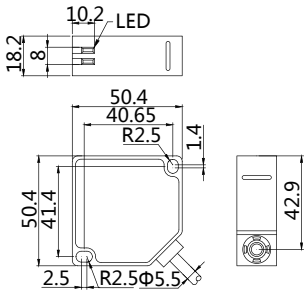


Features:

- Diffuse type,AC/DC5-wire;
- Cable & connector versions;
- Q50,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

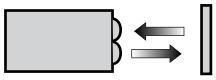


Model No.

Sensing range	Sn: 0.2-1 m	Sn: 0.3-2 m
Light/Dark-on	FQ50-T1U-P45P2	FQ50-T2U-P45P2

Background suppression

Diffuse type sensors

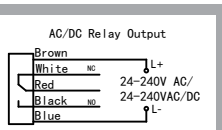


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Technical data

Electrical data	Operating voltage	24-240V AC/DC
	Switching frequency	10Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<5ms
	Load current	3A/30VDC;1A/220VAC
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;5*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



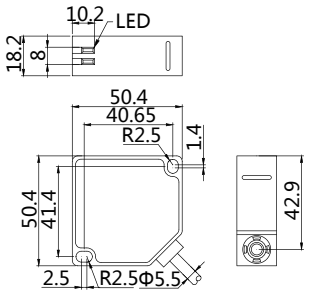


Features:

- Retro-reflective,DC4-wire discrete output;
- Cable & connector versions;
- Q50,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

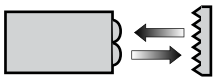


Model No.

Sensing range	Sn: 5 m	Sn: 5 m
NPN Light/Dark-on	FQ50-R5N-P31P2	FQ50-R5N-P31P2-F
PNP Light/Dark-on	FQ50-R5P-P31P2	FQ50-R5P-P31P2-F

Background suppression

Retro-reflective sensors



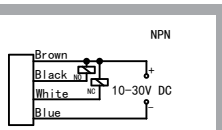
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

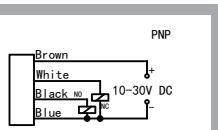
When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<100ms
	Adjustment	Single-turn protentiometer
	Blind distance	No photosensitivity
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





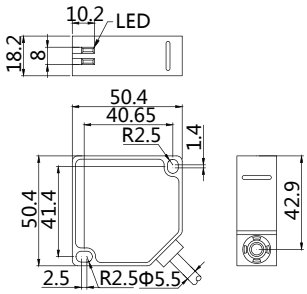


Features:

- Retro-reflective,AC/DC5-wire;
- Cable & connector versions;
- Q50,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

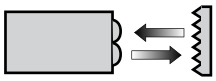


Model No.

Sensing range	Sn: 5 m
Light/Dark-on	FQ50-R5U-P45P2
Light/Dark-on	FQ50-R5U-P45P2-F

Background suppression

Retro-reflective sensors



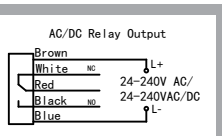
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	24-240V AC/DC
	Switching frequency	10Hz
	Light type	Red light 650nm
	Response time	<5ms
	Load current	3A/30VDC;1A/220VAC
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	No photosensitivity
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;5*0.25mm²
Accessories	Accessories	FR-D83
	(to be ordered separately)	

Wiring



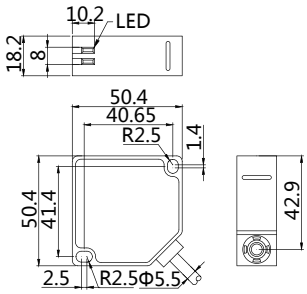


Features:

- Through-beam,Emitter/receiver set,DC4-wire discrete output;
- Cable & connector versions;
- Q50,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 20 m	Sn: 40 m
Transmitter	FQ50-L20MD-P51P2	FQ50-L40MD-P51P2
NPN Light/Dark-on	FQ50-L20MN-P31P2	FQ50-L40MN-P31P2
PNP Light/Dark-on	FQ50-L20MP-P31P2	FQ50-L40MP-P31P2

Background suppression

Through-beam sensors

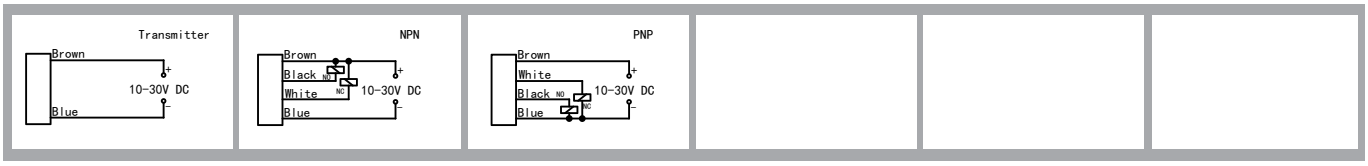


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz
	Light type	Infrared light 880nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<100ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



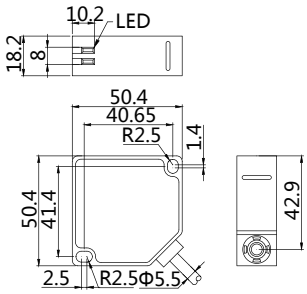


Features:

- Through-beam,Emitter/receiver set,AC/DC5-wire;
- Cable & connector versions;
- Q50,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 20 m	Sn: 40 m
Transmitter	FQ50-L20MU-P55P2	FQ50-L40MU-P55P2
NPN/PNP Light/Dark-on	FQ50-L20MU-P45P2	FQ50-L40MU-P45P2

Background suppression

Through-beam sensors

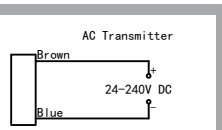


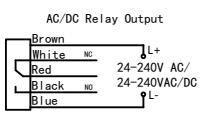
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Technical data

Electrical data	Operating voltage	24-240V AC/DC
	Switching frequency	10Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<5ms
	Load current	3A/30VDC;1A/220VAC
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;5*0.25mm²/2*0.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





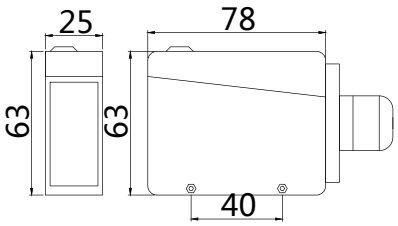


Features:

- Diffuse type,DC3-wire discrete output;
- Cable & connector versions;
- Q78,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

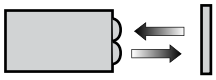


Model No.

Sensing range	Sn: 2 m	Sn: 2 m
NPN Light/Dark-on	FQ78-T2N-P31T	FQ78-T2N-P31T-D
PNP Light/Dark-on	FQ78-T2P-P31T	FQ78-T2P-P31T-D

Background suppression

Diffuse type sensors

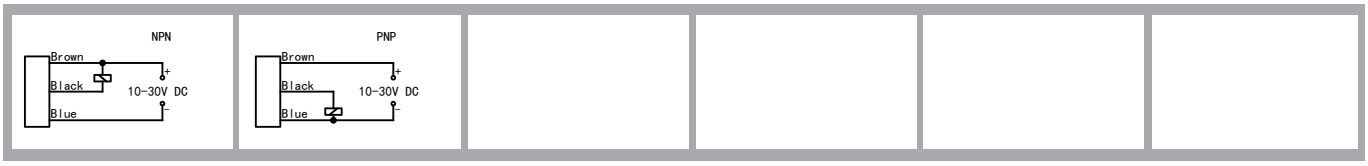


Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<100ms
	Adjustment	Single-turn protentiometer
	Time control	0.1s-7s±2s
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



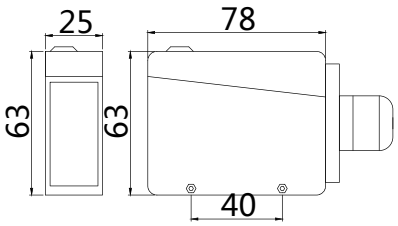


Features:

- Diffuse type,AC/DC5-wire;
- Cable & connector versions;
- Q78,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

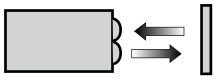


Model No.

Sensing range	Sn: 2 m	Sn: 2 m
NPN/PNP Light/Dark-on	FQ78-T2U-P45T	FQ78-T2U-P45T-D

Background suppression

Diffuse type sensors

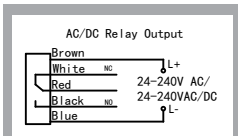


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Technical data

Electrical data	Operating voltage	24-240VAC/DC
	Switching frequency	10Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<5ms
	Load current	5A/30VDC;5A/220VAC
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Time control	0.1s-7s±2s
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



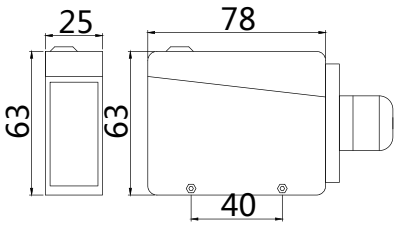


Features:

- Retro-reflective,DC3-wire discrete output;
- Cable & connector versions;
- Q78,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

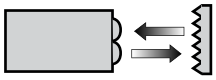


Model No.

Sensing range	Sn: 10 m	Sn: 10 m
NPN Light/Dark-on	FQ78-R10MN-P31T-F	FQ78-R10MN-P31T-FD
PNP Light/Dark-on	FQ78-R10MP-P31T-F	FQ78-R10MP-P31T-FD

Background suppression

Retro-reflective sensors



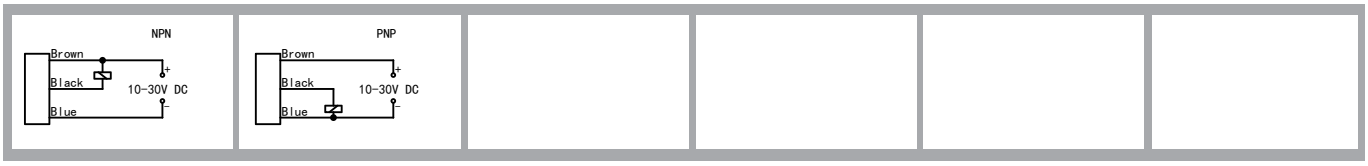
Retro-reflective sensor put transmitter andreceiver encapsulated into same shel,in the opposite install aspeculum,the light emitted by the reflector is reflected therough the reflector back to the receiver.

When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<100ms
	Adjustment	Single-turn protentiometer
	Time control	0.1s-7s±2s
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	FR-D83
	(to be ordered separately)	

Wiring



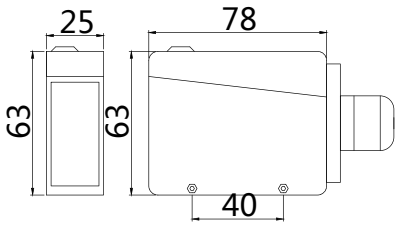


Features:

- Retro-reflective,AC-DC5-wire;
- Cable & connector versions;
- Q78,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing

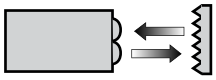


Model No.

Sensing range	Sn: 10 m	Sn: 10 m
NPN/PNP Light/Dark-on	FQ78-R10MU-P45T-F	FQ78-R10MU-P45T-FD

Background suppression

Retro-reflective sensors



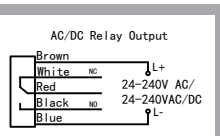
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When the beam is occlusion,generate a switch changes.

Technical data

Electrical data	Operating voltage	24-240VAC/DC
	Switching frequency	10Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<5ms
	Load current	5A/30VDC;5A/220VAC
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Time control	0.1s-7s±2s
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	FR-D83
	(to be ordered separately)	

Wiring



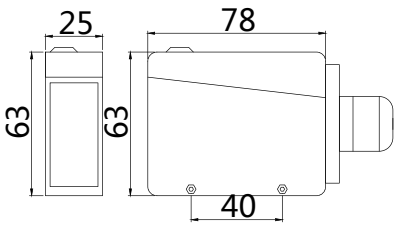


Features:

- Through-beam,Emitter/receiver set,DC3-wire discrete output;
- Cable & connector versions;
- Q78,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 50 m	Sn: 50 m
Transmitter	FQ78-L50MD-P51T	FQ78-L50MD-P51T-D
NPN Light/Dark-on	FQ78-L50MN-P31T	FQ78-L50MN-P31T-D
PNP Light/Dark-on	FQ78-L50MP-P31T	FQ78-L50MP-P31T-D

Background suppression

Through-beam sensors

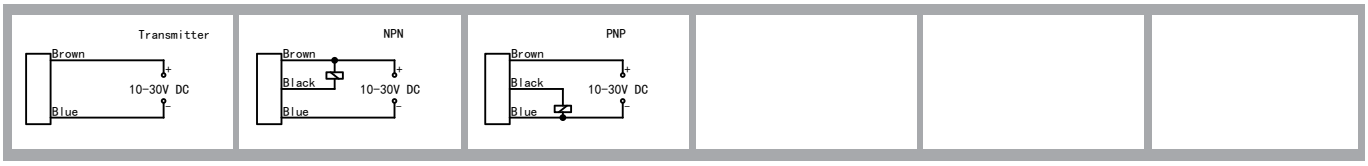


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Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	200Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<100ms
	Adjustment	Single-turn protentiometer
	Time control	0.1s-7s±2s
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



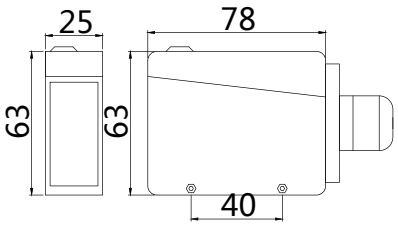


Features:

- Through-beam,Emitter/receiver set,AC/DC5-wire;
- Cable & connector versions;
- Q78,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 50 m	Sn: 50 m
Transmitter	FQ78-L50MU-P55T	FQ78-L50MU-P55T-D
NPN/PNP Light/Dark-on	FQ78-L50MU-P45T	FQ78-L50MU-P45T-D

Background suppression

Through-beam sensors

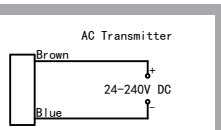


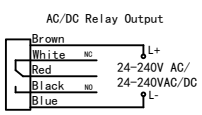
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Technical data

Electrical data	Operating voltage	24-240VAC/DC
	Switching frequency	10Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<5ms
	Load current	5A/30VDC;5A/220VAC
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Time control	0.1s-7s±2s
Environment	Light immunity	<10000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	PBT
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	Terminal up to 2.5mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





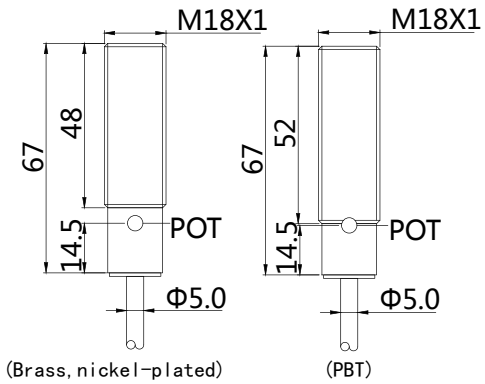


Features:

- 100mm,Background suppression,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/brass,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

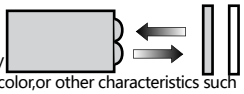
Dimensioned drawing



Model No.

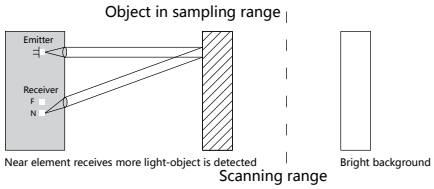
Housing material	PBT	Brass,nickel-plated
NPN Light/Dark-on	FM18-H01N-P31P2	FM18-H01N-C31P2
PNP Light/Dark-on	FM18-H01P-P31P2	FM18-H01P-C31P2

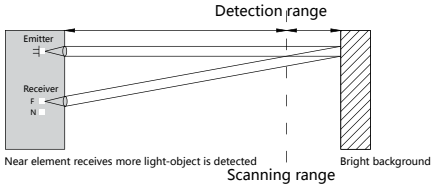
Background suppression



Background suppression sensors were developed to reach a defined detection range for any object,regardless of its brightness,color,or other characteristics such as the brightness of the background.The following figure illustrates the functional principle of a background suppression sensor.The light emitted by the emitter is directed by the lens and hits the object.If the boject is located within the detection range,a portion of the reflected light,bundled by the receiver lens,is mapped to th

As the object’ s distance increases,this light spot moves in the direction of the far element(F).At the detection range limit,one half of the light spot is on the near element,the other on the far element and the sensor registers” off” .IF the object moves further away,the light only hits the far element and the sensor still registers” off” .

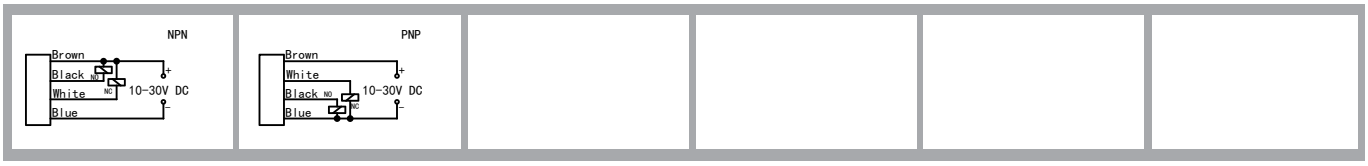




Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz
	Light type	Red light 624nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<1cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



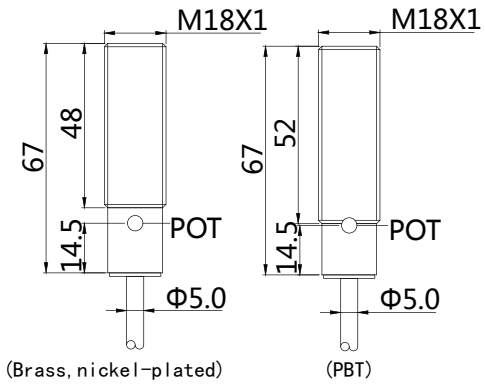


Features:

- 100mm,Background suppression,DC4-wire discrete output;
- Cable & connector versions;
- M18*1mm,plastic/brass,nickel-plated housing;
- VDE safety class:III;
- Ingress protection:IP66

CE

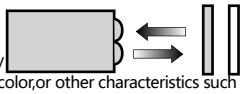
Dimensioned drawing



Model No.

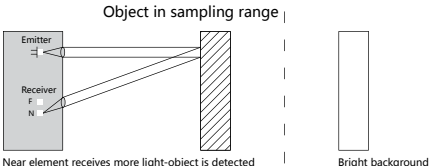
Housing material	PBT	Brass,nickel-plated
NPN Light/Dark-on	FM18-H01N-P31S12	FM18-H01N-C31S12
PNP Light/Dark-on	FM18-H01P-P31S12	FM18-H01P-C31S12

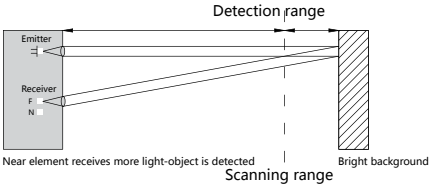
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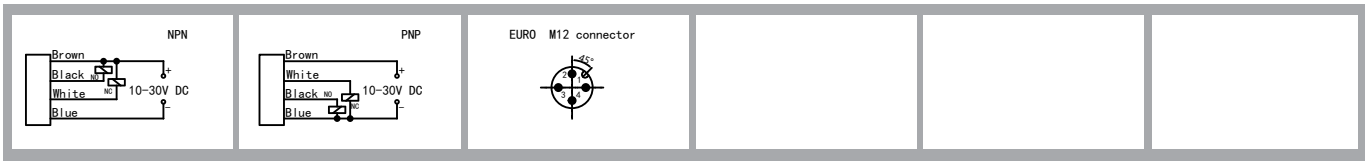




Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz
	Light type	Red light 624nm
	Response time	<2ms
	Load current	200mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<1cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	Brass,nickel-plated/PBT
	Lens material	PMMA
	Operating indicator	Yellow
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



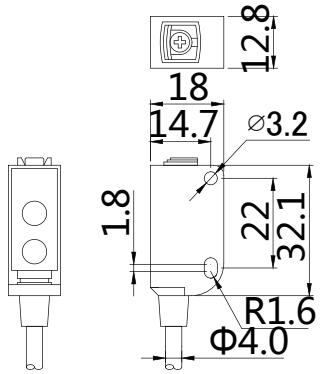


Features:

- 200mm,Background suppression,DC4-wire discrete output;
- Cable & connector versions;
- Q31,plastic housing;
- VDE safety class:III;
- Ingress protection:IP65

CE

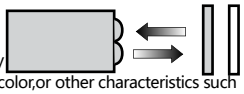
Dimensioned drawing



Model No.

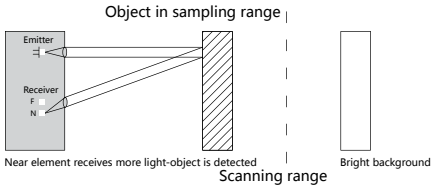
Sensing range	Sn:10-200mm
NPN Light/Dark-on	FQ31-H02N-P31P2
PNP Light/Dark-on	FQ31-H02P-P31P2

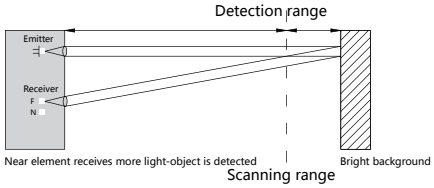
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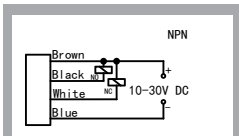


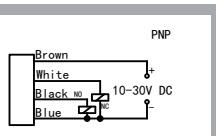


Technical data

Electrical data	Operating voltage	10-30V DC
	Switching frequency	1000Hz
	Light type	Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
	Blind distance	<1cm
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m;4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





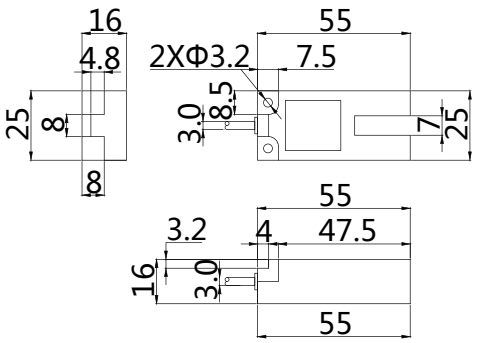


Features:

- Rectangular plastic housing;
- DC 4-wire,switching output;
- Cable version;
- VDE safety class:III;
- Ingress protection:IP67

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 7 mm
NPN Light/Dark-on	FG25-G07N-P31P2
PNP Light/Dark-on	FG25-G07P-P31P2

Background suppression

Through-beam sensors

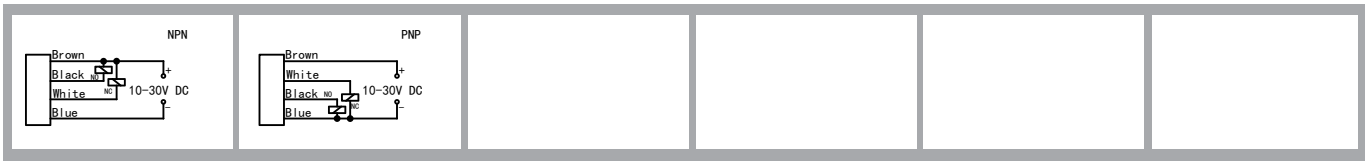


Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Electrical data	Operating voltage	10-30VDC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m,4*0.15mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



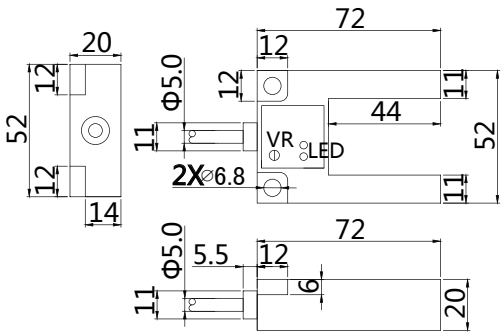


Features:

- Rectangular plastic housing;
- DC 4-wire,switching output;
- Cable version;
- VDE safety class:III;
- Ingress protection:IP67

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 30 mm
NPN Light/Dark-on	FG50-G30N-P31P2
PNP Light/Dark-on	FG50-G30P-P31P2

Background suppression

Through-beam sensors

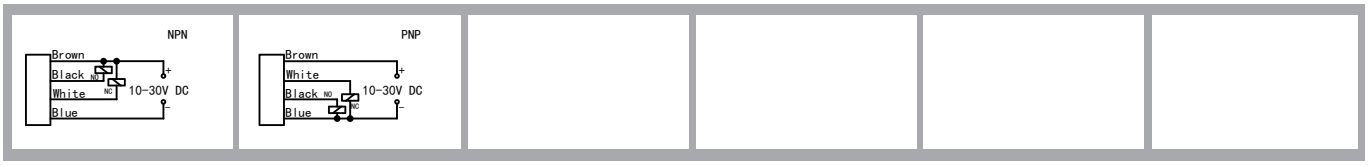


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Technical data

Electrical data	Operating voltage	10-30VDC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m,4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



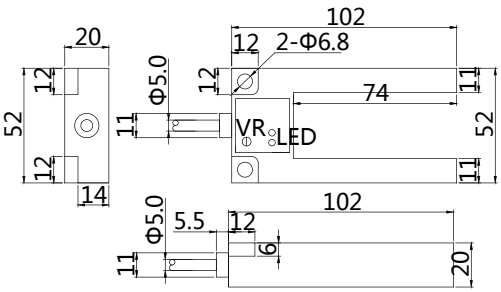


Features:

- Rectangular plastic housing;
- DC 4-wire,switching output;
- Cable version;
- VDE safety class:III;
- Ingress protection:IP67

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 30 mm
NPN Light/Dark-on	FG50-G30N-P31P2-L
PNP Light/Dark-on	FG50-G30P-P31P2-L

Background suppression

Through-beam sensors

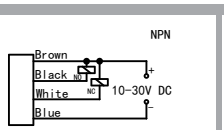


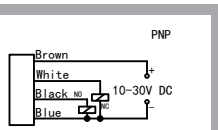
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Technical data

Electrical data	Operating voltage	10-30VDC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m,4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring





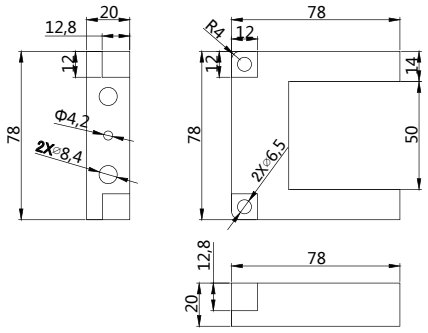


Features:

- Rectangular plastic housing;
- DC 4-wire,switching output;
- Cable version;
- VDE safety class:III;
- Ingress protection:IP67

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 50 mm
NPN Light/Dark-on	FG78-G50N-P31P2
PNP Light/Dark-on	FG78-G50P-P31P2

Background suppression

Through-beam sensors

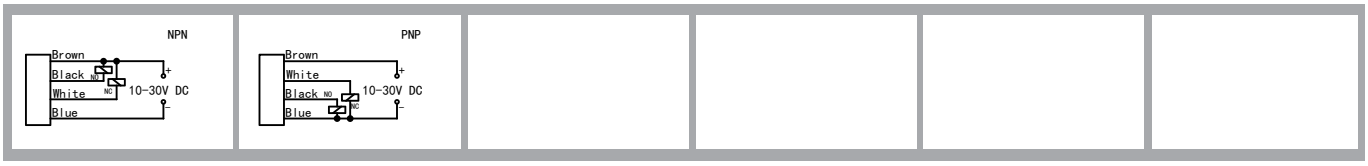


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Technical data

Electrical data	Operating voltage	10-30VDC
	Switching frequency	500Hz
	Light type	Infrared light 880nm/Red light 650nm
	Response time	<2ms
	Load current	100mA
	Power-up delay	<300ms
	Adjustment	Single-turn protentiometer
Environment	Light immunity	<5000Lux.
	Ambient temperature	-25...55℃
	Ambient humidity	35-85%
Mechanical data	Housing material	ABS
	Lens material	PMMA
	Operating indicator	Yellow:output/Green:power supply
Electrical connection	Connectors	PVC cable/2m,4*0.25mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



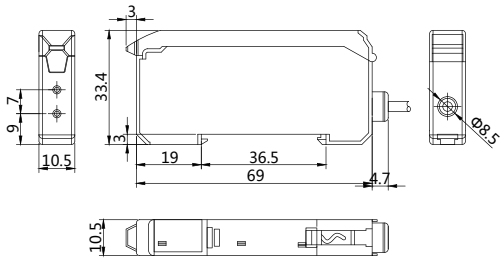


Features:

- Plastic housing;
- DC 3-wire,switching output;
- Cable version;
- VDE safety class:III;
- Ingress protection:IP65

CE

Dimensioned drawing



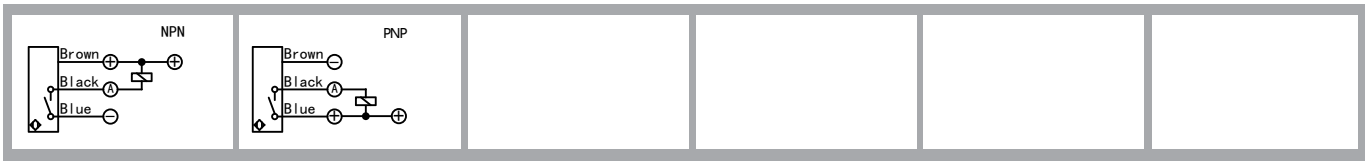
Model No.

Light source	Red LED	Green LED
Housing material	PC+ABS	PC+ABS
NPN	FQ10-FRN-P31P2	FQ10-FGN-P31P2
PNP	FQ10-FRP-P31P2	FQ10-FGP-P31P2

Technical data

Electrical data	Operating voltage	12-24VDC
	Light type	Red LED/Green LED
	Load current	≤100mA
	No load current	≤40mA
	Voltage drop	<250us
	Switching frequency	1K Hz
	Light immunity	Incandescent Lamp:Max 10000lux;Fluorescent:Max 20000lux
	Ambient temperature	-10...55℃
Environment	Ambient humidity	35-85%
	Housing material	PC
	Operating indicator	Output indicator:Red LED
Mechanical data		Digital Display:Red LED
		Square LED display:Green/Red LED
Electrical connection	Connectors	PVC cable/2m;3*0.35mm²
Accessories	Accessories	NO
	(to be ordered separately)	

Wiring



Selction Guide

1	2	3		4	5	6		7	8
F	M	6	-	T	11	P	-	P	1

1 Type

F Photoelectric sensor

2 Shape

M Threaded barrel

3 Dimension

3 External diameter 3mm
4 External diameter 4mm
6 External diameter 6mm
.....

4 Sensing mode

T Diffuse
R Retro-reflective
L Through-beam
F Optical Fiber Amplifier
H Background Suppression
.....

5 Core diameter

1 1mm
2 2mm
11 1.0mm*2
14 1.0mm/0.25mm
22 0.5mm*2
24 0.5mm/0.25mm
.....

6 Housing material

P Plastic rectangular housing

7 Cable material

P Plastic rectangular
F PTFE

8 Cable length

1 1m
.....

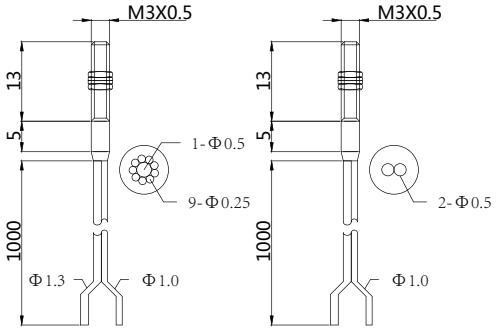


Features:

- Precision、Stabilization;
- Stainless steel housing;
- Performance optimization;
- Compact structure;
- Internal short-circuit protection、Over load protection and polarity protection

CE

Dimensioned drawing

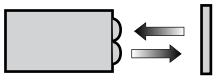


Model No.

Sensing range	Sn: 50 mm	
Housing material	Stainless steel housing	
Type	FM3-C24P-P1	FM3-T22P-P1

Background suppression

Diffuse type sensors



Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Housing	Stainless steel	Stainless steel
Line body	PVC	PVC
Imports of plastic optical fiber	Φ0.5mm*1/Φ0.25mm*9	Φ0.5mm*2
Plastic cptical fiber diameter	Φ1.0mm*1+Φ1.3mm*1	Φ1.0mm*1
Plastic optical fiber length	1mm	1m
Accessories	NO	NO

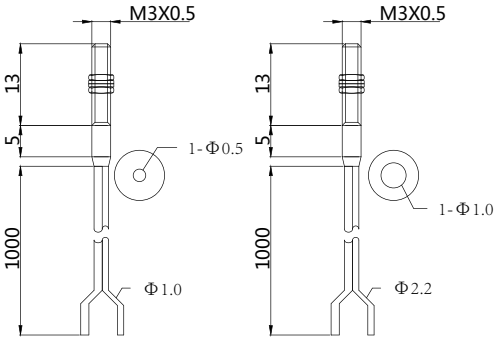


Features:

- Precision、Stabilization;
- Stainless steel housing;
- Performance optimization;
- Compact structure;
- Internal short-circuit protection、Over load protection and polarity protection

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 200 mm	Sn: 400 mm
Housing material	Stainless steel housing	Stainless steel housing
Type	FM3-L1P-P1	FM3-L2P-P1

Background suppression

Through-beam sensors



Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Housing	Stainless steel	Stainless steel
Line body	PVC	PVC
Imports of plastic optical fiber	Φ0.5mm	Φ1.0mm
Plastic cptical fiber diameter	Φ1.0mm*1	Φ2.2mm*1
Plastic optical fiber length	1mm	1m
Accessories	NO	NO

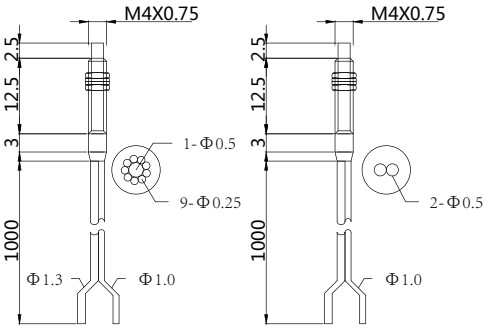


Features:

- Precision、Stabilization;
- Stainless steel housing;
- Performance optimization;
- Compact structure;
- Internal short-circuit protection、Over load protection and polarity protection

CE

Dimensioned drawing



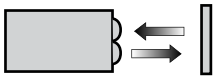
(Coaxial) (Don't coaxial)

Model No.

Sensing range	Sn: 50 mm	
Housing material	Stainless steel housing	
Type	FM4-C24P-P1	FM4-T22P-P1

Background suppression

Diffuse type sensors



Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Housing	Stainless steel	Stainless steel
Line body	PVC	PVC
Imports of plastic optical fiber	Φ0.5mm*1/Φ0.25mm*9	Φ0.5mm*2
Plastic cptical fiber diameter	Φ1.0mm*1+Φ1.3mm*1	Φ1.0mm*1
Plastic optical fiber length	1mm	1m
Accessories	NO	NO

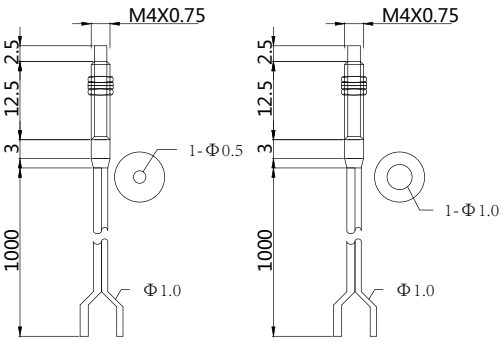


Features:

- Precision、Stabilization;
- Stainless steel housing;
- Performance optimization;
- Compact structure;
- Internal short-circuit protection、Over load protection and polarity protection

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 200 mm	Sn: 400 mm
Housing material	Stainless steel housing	Stainless steel housing
Type	FM4-L1P-P1	FM4-L2P-P1

Background suppression

Through-beam sensors



Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Housing	Stainless steel	Stainless steel
Line body	PVC	PVC
Imports of plastic optical fiber	Φ0.5mm	Φ1.0mm
Plastic cptical fiber diameter	Φ1.0mm*1	Φ2.2mm*1
Plastic optical fiber length	1mm	1m
Accessories	NO	NO

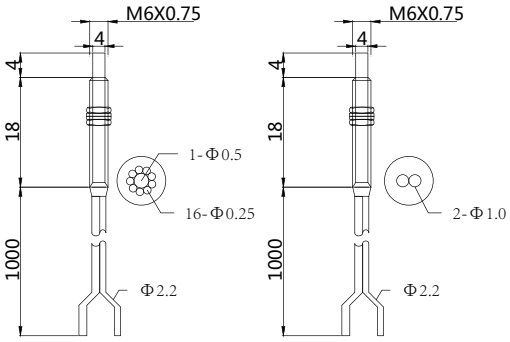


Features:

- Precision、Stabilization;
- Stainless steel housing;
- Performance optimization;
- Compact structure;
- Internal short-circuit protection、Over load protection and polarity protection

CE

Dimensioned drawing



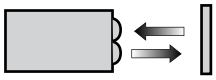
(Coaxial) (Don't coaxial)

Model No.

Sensing range	Sn: 100 mm	
Housing material	Stainless steel housing	
Type	FM6-C14P-P1	FM6-T11P-P1

Background suppression

Diffuse type sensors



Diffuse reflection type photoelectric sensorprinciple and the principle of mirror reflection type photoelectric sensor is the same,butit doesn’ t take reflective lenses,The light emittedby the transmitter directly sendingback receiver bythe analyte.Receiver estimate dtection of objects reflected back to the lightrays,the positioning of bojects is not very strict Whenobject under test enterinto effective light rays area,output state changes.The detection rangedepends on object under test size,shape,color and surface properties.

Technical data

Housing	Stainless steel	Stainless steel
Line body	PVC	PVC
Imports of plastic optical fiber	Φ1.0mm*1/Φ0.25mm*16	Φ1.0mm*2
Plastic cptical fiber diameter	Φ2.2mm*2	Φ2.2mm*2
Plastic optical fiber length	1mm	1m
Accessories	NO	NO

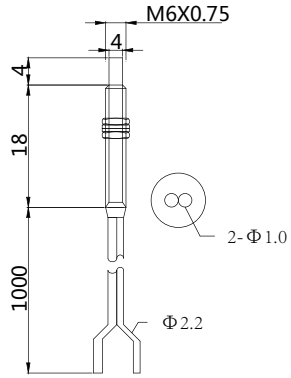


Features:

- Precision、Stabilization;
- Stainless steel housing;
- Performance optimization;
- Compact structure;
- Internal short-circuit protection、Over load protection and polarity protection

CE

Dimensioned drawing



Model No.

Sensing range	Sn: 400 mm
Housing material	Stainless steel housing
Type	FM6-L2P-P1

Background suppression

Through-beam sensors



Through-beam photoelectric sensors has independent transmitters and receivers,structure two are separated from each other,the emitter(E)directly transmitted to the receiver(R).At the time of installation,must be bothaligned establish light path. No matter any objectblocking the light,the voltage of the receiver drops,switch changes.

Technical data

Housing	Stainless steel
Line body	PVC
Imports of plastic optical fiber	Φ1.0mm
Plastic cptical fiber diameter	Φ2.2mm
Plastic optical fiber length	1mm
Accessories	NO

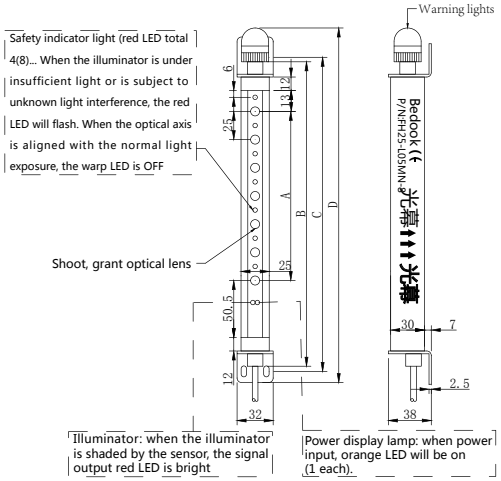


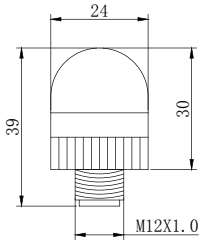
Features:

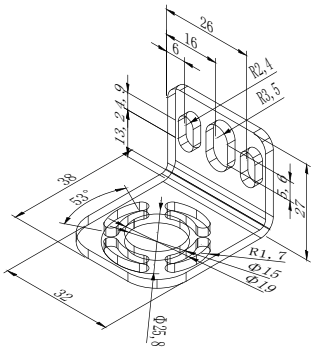
- Through-beam,Emitter/receiver set;
- 30*30*light curtain height;
- Aluminum alloys housing;
- DC 4-wire,switching output;
- Pigtail version;Imfrared light

CE

Dimensioned drawing







Model No.

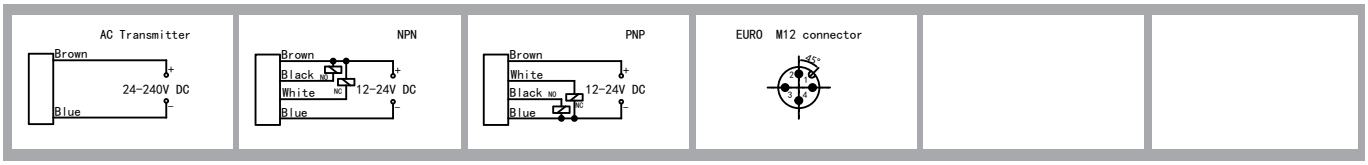
No.of beams	8	12	16
Detection height(A)	175	275	375
Light screen height(B)	262.5	362.5	462.5
Mounting hol center distance(C)	293.1	393.1	493.1
Total height(D)	328.8	428.8	528.8
NPN	FH25-L05MN-8	FH25-L05MN-12	FH25-L05MN-16
PNP	FH25-L05MP-8	FH25-L05MP-12	FH25-L05MP-16

No.of beams	20	24	32
Detection height(A)	475	575	775
Light screen height(B)	562.5	662.5	862.5
Mounting hol center distance(C)	593.1	693.1	893.1
Total height(D)	628.8	728.8	928.8
NPN	FH25-L05MN-20	FH25-L05MN-24	FH25-L05MN-32
PNP	FH25-L05MP-20	FH25-L05MP-24	FH25-L05MP-32

Technical data

Electrical data	Operating voltage	12-24V DC
	Light type	Infrared light 870nm
	Response time	ON-12...50ms;OFF-12ms
	Load current	≤200mA
Environment	Light immunity	Lamplight:<3000Lux/Sunlight:<10000Lux
	Ambient temperature	-10...55℃ with no icing
	Ambient humidity	35%...85% with no condensation
	Ingress protection	IP65
Mechanical data	Housing material	Protective cover:PMMA;Housing;Aluminum alloys;
		The upper&lower lid;Zinc die-castings;Bracket;
		(306S12);Sealing ring;silicone
Electrical connection	Operating indicator	Red LED
Accessories	Connectors	M12 connector+PVC-cable/200mm; 4*0.16mm²
	Accessories(to be ordered separately)	NO

Wiring



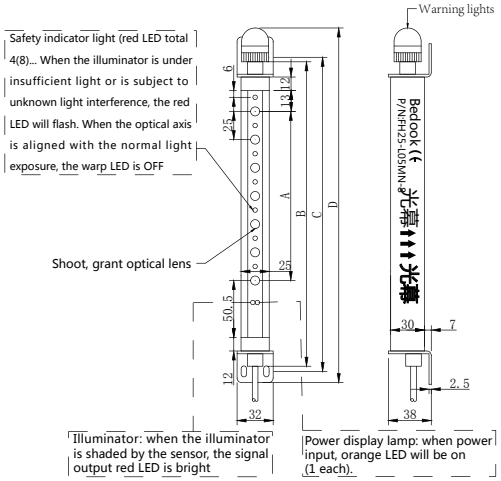


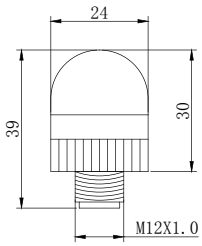
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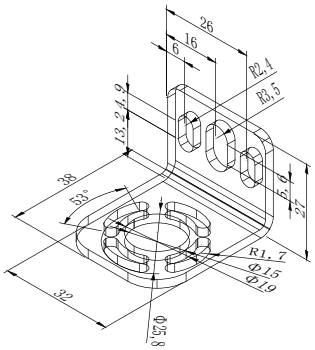
- Through-beam,Emitter/receiver set;
- 30*30*light curtain height;
- Plastic housing;
- DC 4-wire,switching output;
- Pigtail version;Imfrared light

CE

Dimensioned drawing







Model No.

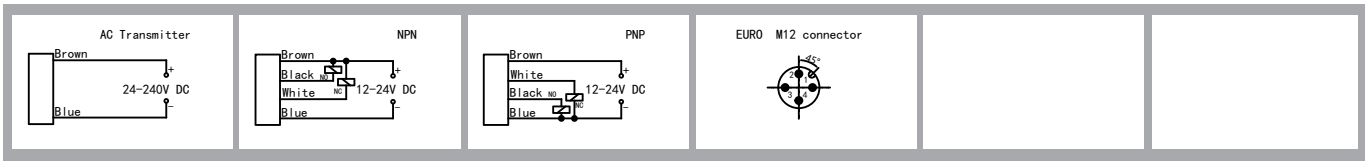
No.of beams	8	12	16
Detection height(A)	175	275	375
Light screen height(B)	262.5	362.5	462.5
Mounting hol center distance(C)	293.1	393.1	493.1
Total height(D)	328.8	428.8	528.8
NPN	FH25-L05MN-8W	FH25-L05MN-12W	FH25-L05MN-16W
PNP	FH25-L05MP-8W	FH25-L05MP-12W	FH25-L05MP-16W

No.of beams	20	24	32
Detection height(A)	475	575	775
Light screen height(B)	562.5	662.5	862.5
Mounting hol center distance(C)	593.1	693.1	893.1
Total height(D)	628.8	728.8	928.8
NPN	FH25-L05MN-20W	FH25-L05MN-24W	FH25-L05MN-32W
PNP	FH25-L05MP-20W	FH25-L05MP-24W	FH25-L05MP-32W

Technical data

Electrical data	Operating voltage	12-24V DC
	Light type	Infrared light 870nm
	Response time	ON-12...50ms;OFF-12ms
	Load current	≤200mA
Environment	Light immunity	Lamplight:<3000Lux/Sunlight:<10000Lux
	Ambient temperature	-10...55℃ with no icing
	Ambient humidity	35%...85% with no condensation
	Ingress protection	IP67
Mechanical data	Housing material	Protective cover:PMMA;Housing;Plastic;
		The upper&lower lid;Zinc die-castings;Bracket;
		(306S12);Sealing ring;silicone
Electrical connection	Operating indicator	Red LED
Accessories	Connectors	M12 connector+PVC-cable/200mm; 4*0.16mm²
	Accessories(to be ordered separately)	NO

Wiring



Ultrasonic sensors

Selction Guide

1	2	3		4	5	6		7	8	9	10	11		12
U	M	18	-	T	07	N	-	P	1	2	P	2	-	□

1 Type
U Ultrasonic sensor

2 Shape
M Threaded barrel
Q Rectangular,plastics

3 Dimension
12
18
30
40
.....

4 Sensing mode
T Diffuse
L Through-beam
.....

5 Sensing range(mm)
015 150mm
035 350mm
07 700mm
.....

6 Electrical design
P PNP
N NPN
I Current output0-20mA
V1 Voltage output0-5VDC
V2 Current/Voltage 0-20mA/0-10VDC

7 Housing material
C Nickel plated brass
P Plastic(PBT etc.)

8 Output mode
1 N.O.
2 N.C.

9 Operating voltage
1 DC10-30V
2 DC18-30V
3 DC10-60V

10 Connection
P PVC cable
U PUR cable
S8 M8 connector
S12 M12 connector

11 Cable length
2 2meter
3 3meter
5 5meter
.....

12 Others

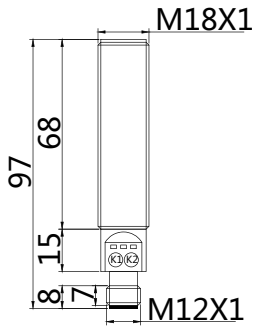


Features:

- Diffuse type;
- M18*1mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



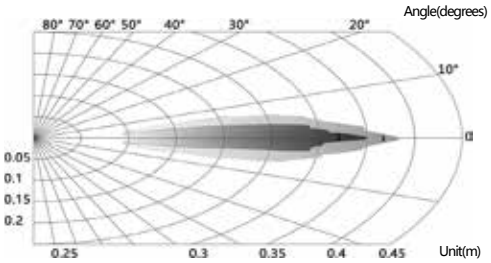
Model No.

Sensing range	Sn: 100-350 mm
NPN N.O/N.C	UM18-T035N-C31S12
PNP N.O/N.C	UM18-T035P-C31S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



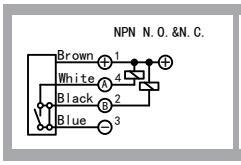
Technical data

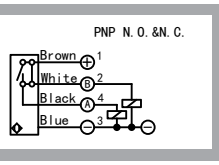
Electrical data	Operating voltage	10-30V DC
	Sensing distance	100-350mm
	Sensing distance far-limit	90-380mm
	Voltage drop	<2V DC
	Load current	<200mA
	No Load current	≤60mA
	Hysteresis	10mm
	Sonic frequency	200K Hz
Environment	Ambient temperature	-20...70℃
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Wiring







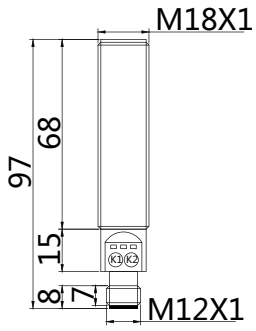


Features:

- Diffuse type;
- M18*1mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



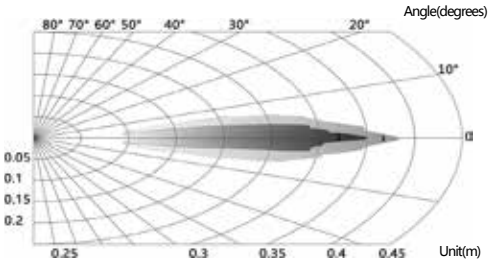
Model No.

Sensing range	Sn: 100-350 mm
0-20mA	UM18-T035I-C12S12
0-10VDC	UM18-T035V2-C12S12
0-20mA/0-10VDC	UM18-T035M-C12S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



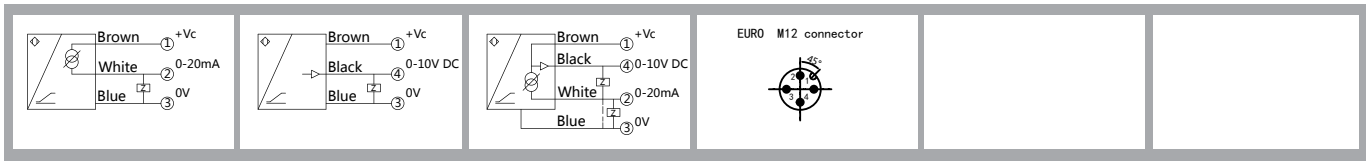
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Technical data

Electrical data	Operating voltage	18-30V DC
	Sensing distance	100-350mm
	Sensing distance far-limit	90-380mm
	No load current	≤60mA
	Output current	0-20mA/20-0mA
	Output voltage	0-10V/10-0V
	Current output load	<500Ω
	Voltage output load	≥4.7k
	Acoustic frequency	200K Hz
Environment	Ambient temperature	-20...70°C
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



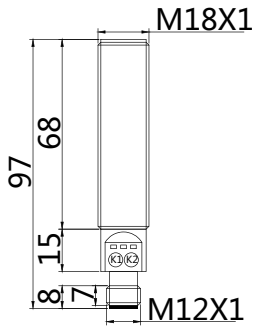


Features:

- Diffuse type;
- M18*1mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



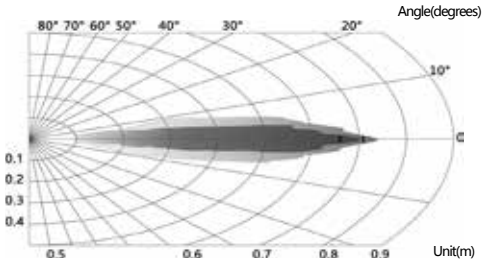
Model No.

Sensing range	Sn: 100-700 mm
NPN N.O/N.C	UM18-T07N-C31S12
PNP N.O/N.C	UM18-T07P-C31S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



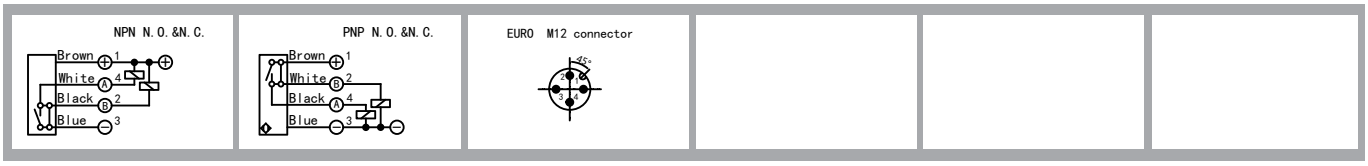
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Technical data

Electrical data	Operating voltage	10-30V DC
	Sensing distance	100-700mm
	Sensing distance far-limit	90-720mm
	Voltage drop	<2V DC
	Load current	<200mA
	No Load current	≤60mA
	Hysteresis	10mm
	Sonic frequency	200K Hz
Environment	Ambient temperature	-20...70℃
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



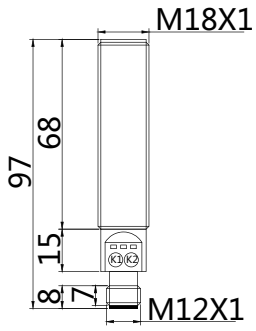


Features:

- Diffuse type;
- M18*1mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



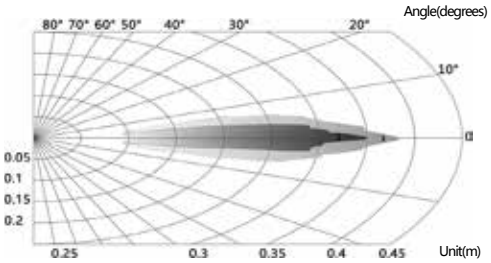
Model No.

Sensing range	Sn: 100-700 mm
0-20mA	UM18-T07I-C12S12
0-10VDC	UM18-T07V2-C12S12
0-20mA/0-10VDC	UM18-T07M-C12S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



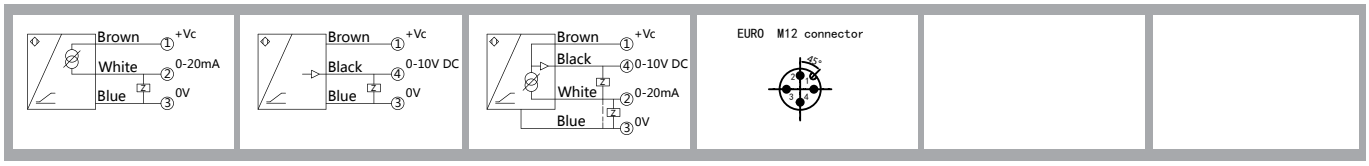
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Technical data

Electrical data	Operating voltage	18-30V DC
	Sensing distance	100-700mm
	Sensing distance far-limit	90-720mm
	No load current	≤60mA
	Output current	0-20mA/20-0mA
	Output voltage	0-10V/10-0V
	Current output load	<500Ω
	Voltage output load	≥4.7k
	Acoustic frequency	200K Hz
Environment	Ambient temperature	-20...70°C
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



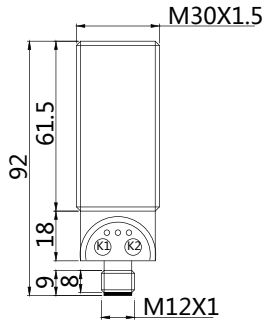


Features:

- Diffuse type;
- M30*1.5mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



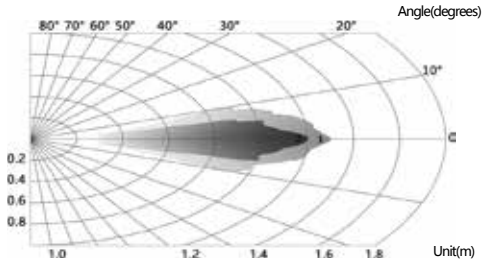
Model No.

Sensing range	Sn: 300-1200 mm
NPN N.O/N.C	UM30-T12N-C31S12
PNP N.O/N.C	UM30-T12P-C31S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



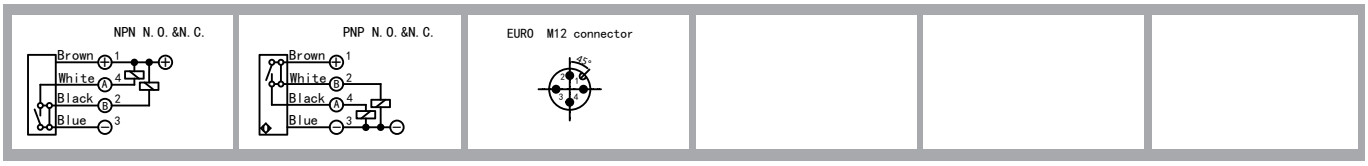
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Technical data

Electrical data	Operating voltage	10-30V DC
	Sensing distance	300-1200mm
	Sensing distance far-limit	280-1300mm
	Voltage drop	<2V DC
	Load current	<200mA
	No Load current	≤60mA
	Hysteresis	10mm
	Sonic frequency	112K Hz
Environment	Ambient temperature	-20...70℃
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



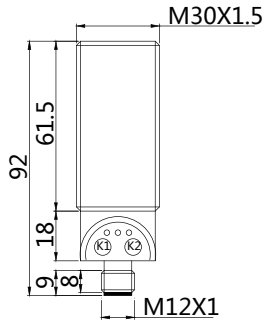


Features:

- Diffuse type;
- M30*1.5mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



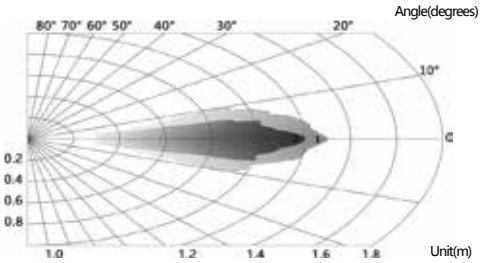
Model No.

Sensing range	Sn: 300-1200 mm
0-20mA	UM30-T12I-C12S12
0-10VDC	UM30-T12V2-C12S12
0-20mA/0-10VDC	UM30-T12M-C12S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



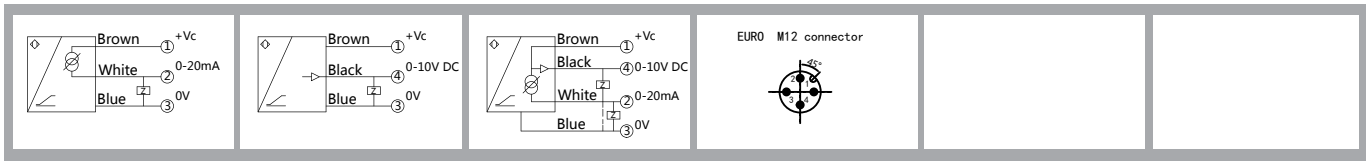
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Technical data

Electrical data	Operating voltage	18-30V DC
	Sensing distance	300-1200mm
	Sensing distance far-limit	280-1300mm
	No load current	≤60mA
	Output current	0-20mA/20-0mA
	Output voltage	0-10V/10-0V
	Current output load	<500Ω
	Voltage output load	≥4.7k
	Acoustic frequency	112K Hz
Environment	Ambient temperature	-20...70°C
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



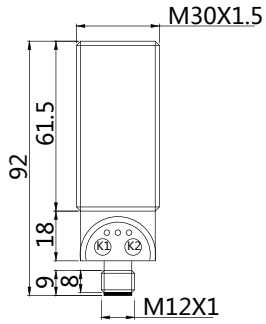


Features:

- Diffuse type;
- M30*1.5mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



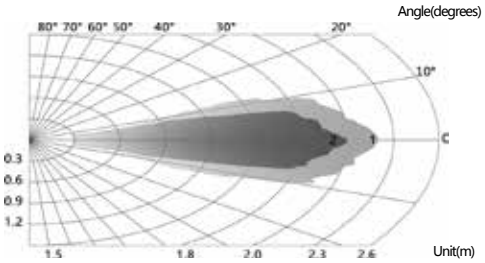
Model No.

Sensing range	Sn: 300-2000 mm
NPN N.O/N.C	UM30-T20N-C31S12
PNP N.O/N.C	UM30-T20P-C31S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



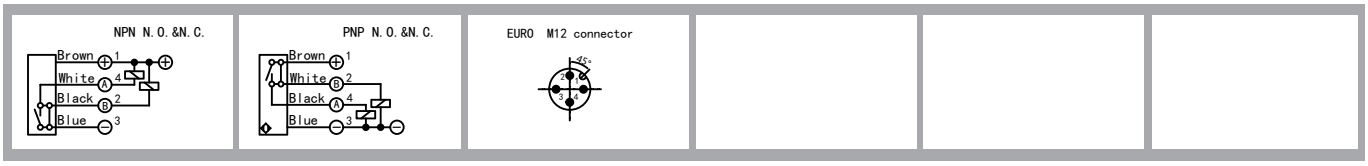
Technical data

Electrical data	Operating voltage	10-30V DC
	Sensing distance	300-2000mm
	Sensing distance far-limit	280-2200mm
	Voltage drop	<2V DC
	Load current	<200mA
	No Load current	≤60mA
	Hysteresis	10mm
	Sonic frequency	112K Hz
Environment	Ambient temperature	-20...70℃
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Wiring



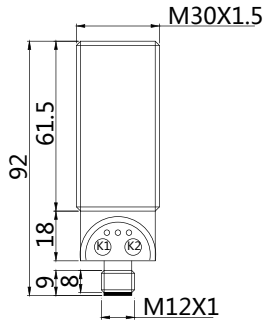


Features:

- Diffuse type;
- M30*1.5mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



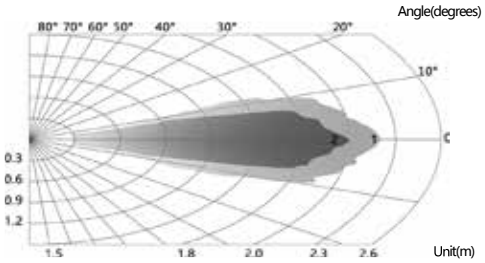
Model No.

Sensing range	Sn: 300-2000 mm
0-20mA	UM30-T20I-C12S12
0-10VDC	UM30-T20V2-C12S12
0-20mA/0-10VDC	UM30-T20M-C12S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



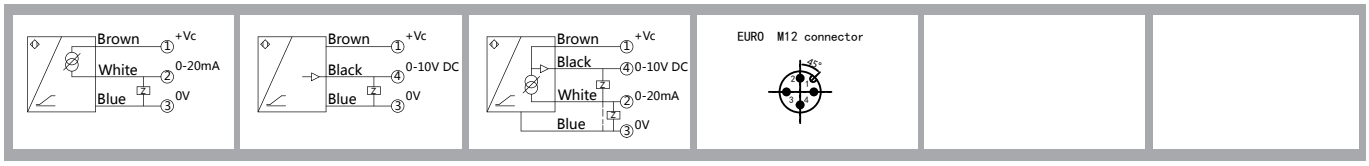
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Technical data

Electrical data	Operating voltage	18-30V DC
	Sensing distance	300-2000mm
	Sensing distance far-limit	280-2200mm
	No load current	≤60mA
	Output current	0-20mA/20-0mA
	Output voltage	0-10V/10-0V
	Current output load	<500Ω
	Voltage output load	≥4.7k
	Acoustic frequency	112K Hz
Environment	Ambient temperature	-20...70°C
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Wiring



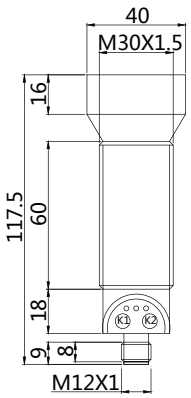


Features:

- Diffuse type;
- M30*1.5mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



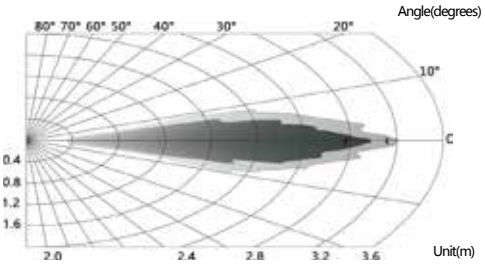
Model No.

Sensing range	Sn: 400-3000 mm
NPN N.O/N.C	UM40-T30N-C31S12
PNP N.O/N.C	UM40-T30P-C31S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



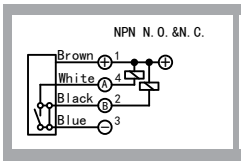
Technical data

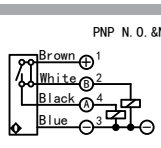
Electrical data	Operating voltage	10-30V DC
	Sensing distance	400-3000mm
	Sensing distance far-limit	380-3200mm
	Voltage drop	<2V DC
	Load current	<200mA
	No Load current	≤60mA
	Hysteresis	10mm
	Sonic frequency	75K Hz
Environment	Ambient temperature	-20...70℃
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

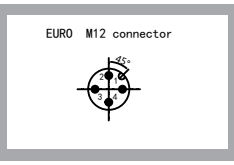
Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Wiring







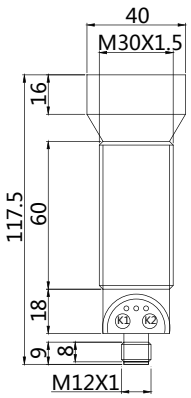


Features:

- Diffuse type;
- M30*1.5mm,brass,nickel-plated housing
- DC 4-wire,switching output;
- Connector versions

CE

Dimensioned drawing



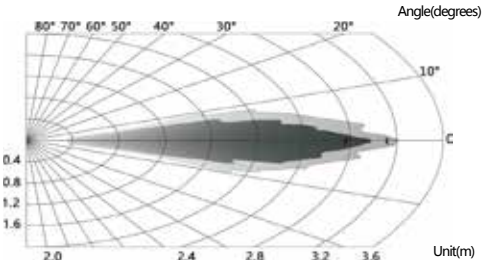
Model No.

Sensing range	Sn: 400-3000 mm
0-20mA	UM30-T30I-C12S12
0-10V	UM30-T30V2-C12S12
0-20mA/0-10V	UM30-T30M-C12S12

Background suppression

Angle(degrees) : 7°

Curve1 : Sensing distance far-limit(sde)
Curve2 : Sensing distance
Standard target plate : Flat surface100mm*100mm



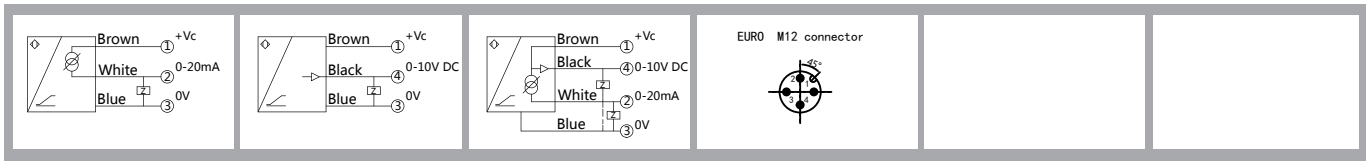
Technical data

Electrical data	Operating voltage	18-30V DC
	Sensing distance	400-3000mm
	Sensing distance far-limit	380-3200mm
	No load current	≤60mA
	Output current	0-20mA/20-0mA
	Output voltage	0-10V/10-0V
	Current output load	<500Ω
	Voltage output load	≥4.7k
Environment	Acoustic frequency	75K Hz
	Ambient temperature	-20...70℃
	Ingress protection	IP65
Mechanical data	Housing material	Brass,nickel-plated
	Operating indicator	Alignment of green/Output of yellow/Teach of red
	Aligner	Target indication flashing
Electrical connection	Connectors	M12 connector
Accessories	Accessories	B12-4GV2/B12-4WV2
	(to be ordered separately)	

Sensor adjustment imstructions

Indicator light : Green for instructions,when the sound return back bright,yellow for the output instructions, red for the teaching instructions.
Teaching methods:When objects placement in front of the sensor green light teaching,near point teach for K1 ,far point teach for K2,hold down the switch until the red light flashing finished teaching,release switch.

Wiring



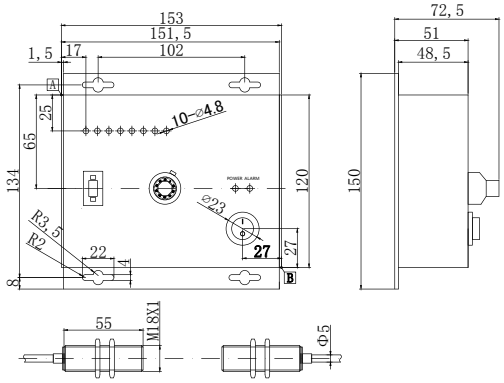


Features:

- Through-beam;
- Brass,nickel-plated housing
- AC 8-wire,switching output;
- Metal overlap detection device
- Ingress protection:IP67

CE

Dimensioned drawing

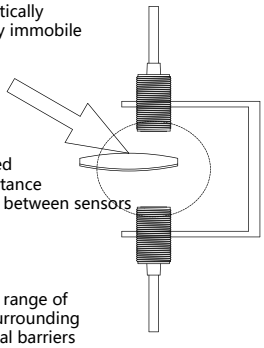


Model No.

Sensing range	Sn: 50 mm
Main body NPN N.O/N.C	BAL050N
Sensor	BB-M1850-CP5

Installation and debugging

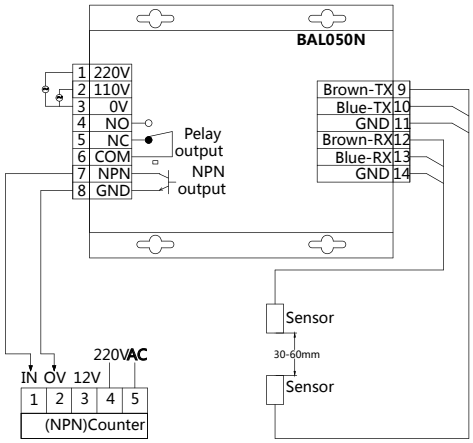
The sensor should be installed optically and the whole should be relatively immobile



The circumference of the measured area should be larger than the distance between sensors and should pass between sensors

No strong magnetic field within a range of 100mm around the sensor; The surrounding 40mm cannot be shielded by metal barriers

Wiring



Technical data

Main body	Host model	BAL050N
	Working voltage	110V/220VAC±10%
	Switching frequency	50/60Hz
	Testing way	Separation type
	Output state	NPN 100mA/<24VDC,250VAC/3A
	The reaction time	<50ms
	Sensitivity adjustment	Knob to adjust
	Action indicator light	Red LED indicator light
	Protection grade	IEC IP20
	Ambient temperature/humidity	0...55℃(Non-freezing state)/RH35...85%
Sensor	Host model	BB-M1850-CP5
	Sensing range	30...60mm
	Test thickness	Iron : 0.1...3.5mm
		Aluminum : 0.1...3.5mm
		Copper : 0.1...3.5mm
		Stainless steel : 0.3...3.5mm
	Standard test	200*200*1 (mm) Iron plate
	Protection grade	IEC IP67
	The material	-10...55℃(Non-freezing state)/RH35...85%
	cable	Body: Brass,nickel-plated/sensor: PBT
		PVC cable/5m(2*0.35mm²)
	accessories	PVC shielded wire/5m(2*0.35mm²)
		A screwdriver,Nut

Typical applications

Products are widely used in PCB industry, metal packaging industry, household appliances industry, metal parts such as automatic feeding system in the stamping industry,automobile industry, testing to prevent double layeror multilayer films together into the next process,effective protection equipment molds, avoid the waste of materials.

Directions for use

Make sure the Power is on normally and the Power indicator light is on.

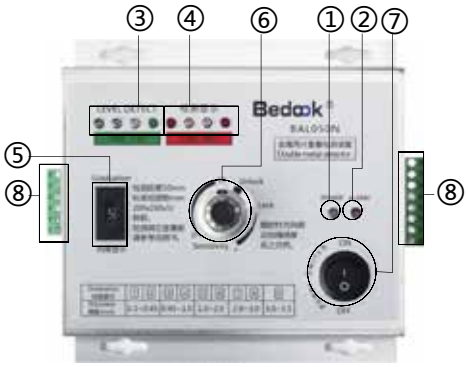
Confirm the measured thickness and adjust the scale display according to the mark on the product (calibration display and thickness reference standard).

Place the single piece of material in the middle of the two sensors, adjust the sensitivity adjustment knob, and turn it to the green light of the single signal to light up 2-3 pieces.

Place two pieces of material in the middle of two sensors, one to four red signal indicator lights up and the Alarm red output indicator lights up.

Debug complete, lock the knob.

Functional specifications



编码	名称	说明
①	电源指示灯	通电后灯亮起来
②	双张输出指示灯	双张检测时灯亮起来
③	单张信号绿灯	检测到单张料时绿灯亮1-4个
④	双张信号红灯	检测到双张料时红灯亮1-4个
⑤	刻度显示	根据材料厚度选择相应挡位
⑥	灵敏度调节	通过旋钮调节最佳检测信号
⑦	电源开关	0N:电源开启, OFF:电源关闭
⑧	接线端子	插入式接线端子

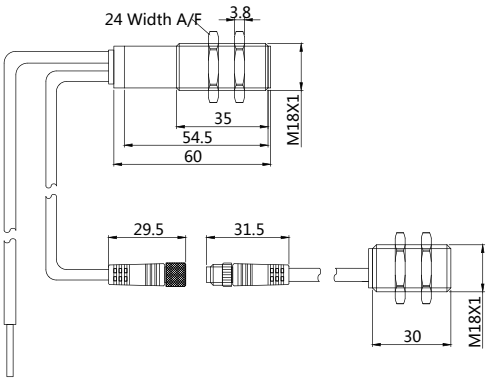


Features:

- Through-beam;
- Brass,nickel-plated housing
- DC 7-wire,switching output;
- Connector versions
- Ingress protection:IP65

CE

Dimensioned drawing



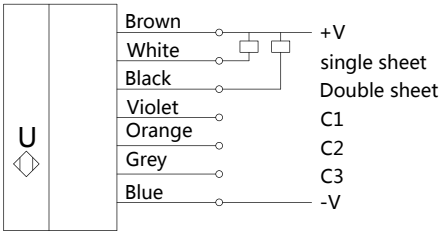
Main features

- 3 control inputs: external sensitivity selection and self-learning can be conducted according to the tested materials。
- Optional self-learning: for example, a solar silicon wafer that is coated with water。
- There is an M18 receiving amplifier and an M18 transmitter。

Fundamental feature

- Single or double sheets of reliable test materials。
- No self-learning (plug-and-play)。
- Single, double/multiple and paperless testing
- Working distance between transmitter and receiver ranges from 20mm to 40mm, optional

Wiring diagram



Model No.

Sensing range	Sn: 20...40 mm
NPN N.O/N.C	UM18-L040N-C34U2-M184

Technical data

Working range	Papers with weights of 20 - 1200 g/m2, Washi, metal-laminated
	Sheets and films up to 0.4 mm thick, self-adhesive films
Design	Cylindrical M18with a swapped-out ultrasonic transducer
Operating mode	Double sheet control
Means of measurement	pulse operation with amplitude evaluation
Transducer frequency	400 kHz
Blind zone	5 mm in front of transmitter and receiver
Operating voltage	20-30 VDC, reverse polarity protection
Voltage ripple	±10%
No-load current consumption	≤50mA
Type of connection	2 m PUR cable,7*0.25mm²
Transmitter cable	Transmitter: 1.2m PVC cable
	M8 connector is used to connect the cable to the ultrasonic
	Transducer: 1.2m PVC cable
Output	NPN output: I_{max}=200mA(-V+2V)short circuit protection
Output logic relation	Paperless state: white line OFF, black line OFF;
	Single status: white line ON, black line OFF;
	Double/multiple states: white line OFF, black line ON
Response time	Automatic running mode is 2.5ms
Delay prior to availability	<750ms
Transmitter/receiver spacing	20-40mm;optimal:20mm±2mm
Permissible angular deviation	± 45° from the perpendicular to the sheet
Material	Brass sleeve, nickel-plated
Ultrasonic transducer	Polyurethane foam, epoxy resin with glass contents
Max. tightening torque of nuts	M18:15Nm
Class of protection to EN 60529	IP65
Operating temperature	+5℃ to +60℃
Storage temperature	-40℃ to +85℃
Weight	177g
Control device	Control input: C1 to C3
Control description	<-v+6V: logic 1 (control input terminal to connect -v or hover);
	>-v +10V: logic 0 (control input terminal +V)
Set the range	Use this control input to teach
Indicator light	Green light: single; Green light flashing: instruction;
	Red light: double/multiple; Red light flashing: none

Working principle

An ultra-high frequency ultrasonic emitter emits an ultrasonic beam from below the chip. Sound waves make the sheet vibrate, and this creates a very small sound wave on the other side of the sheet, which is picked up by an ultrasonic receiver. When the signal passes through the two layers of the chip, it becomes too weak to reach thereceiver. UM18 can detect missing sheets, single sheets, and double sheets。

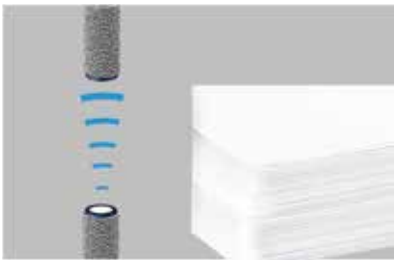
UM18 scope of application

- Paper printer
- Assembly
- Folding machine
- Packaging machinery
- Solar cell and silicon wafer manufacturing
- A label
- PCB board manufacturing industry



Installation

Recommended installation spacing between the transmitter and receiver is 20mm.
If necessary, the installation space can be selected from 20mm to 40mm according to field conditions. The installation and debugging process can be completed through single sheet self - learning.



Working area

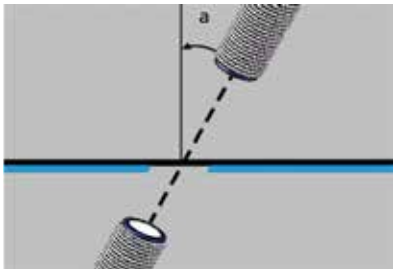
UM18 can preset three detection ranges with three control inputs. The standard test range includes sheet material weight per area from 20g/mm² to 1200g/mm². Very thin materials such as regular printing paper with a weight of less than 20g/mm² per unit area can be scanned by setting it to "thin". You can also set "thick" to scan cardboard containers and corrugated boards. The detection range of sensors can be changed while the work is in progress, without the need for self-learning Settings on the tested materials. If none of the three control inputs are connected, the UM18 works within the standard operating range, even though it can detect a wide range of materials.

Since the study

When the material cannot be scanned by any one of the three detection ranges, additional self-learning functions come in handy. Self-learning of materials can be completed by placing single sheet material into a double sheet controller. C1 and C2 in the brown line first, and then set the control input C3 on the brown line big paper 3 seconds must move in the process of self-learning materials uneven ingredients, make its can be UM18 detected. When the green light comes on, it represents the successful completion of the learning operation. Now the material can be scanned. Self-learning ensures that wafers from paper to adhesive water film can be scanned.

Installation Angle

For paper and film, double - tensioning controller is installed perpendicular to the material. Swing motion does not deactivate detection. As for thin corrugated board, thin sheet metal, crystal and thick plastic film (such as credit card), UM18 with a special Angle of a deviation from the vertical direction, relative to the installation of materials.



- Thin corrugated board, the best installation Angle 35 ° or a
- Thick thin sheet metal or plastic as 27 °
- Chip installation Angle of 11 °

Automatic operation mode

UM18 works in automatic mode as a standard. This means that UM18 is measured in cycles at a high rate of measurement. In continuous work, the scope of work can be changed and self-learning can be carried out through the control input from C1 to C3. (note: logic 0 is the brown line, logic 1 is the suspended or blue line.)

控制输入端	C1(紫色)	C2(橙色)	C3(灰色)
标准模式	1	1	1
厚　模式	1	0	1
薄　模式	0	1	1
示教模式	0	0	1
示教	0	0	0

Maintenance

Due to the products use for a long time, the product surface will produce dirt, regular cleaning surface of transmitters and receivers, we recommend that users on the cotton cleaning is the best way to apply some of isopropyl alcohol, and then quickly dry the surface of the sensor.

Selction Guide

1	2		3	4	5	6		7	8	9		10
B	12	-	4	G	V	2	-	M	12	W	-	P

1 Type
B Mable
M Female

2 Dimension
12 M12 Connector
8 M8 Connector

3 Needle numbers
3 3Pin
4 4Pin
5 5Pin

4 Type
G Straight head
W Angle head

5 Connection
V PVC Cable
U PUR Cable
F PTFE Cable
T Terminal

6 Cable length
2 2m
5 5m
10 10m

7 Output mode
B Mable
M Female

8 Connection
12 M12 Connector
8 M8 Connector

9 Output type
G Straight head
W Angle head

10 Output mode
P PNP LED light display
N NPN LED light display

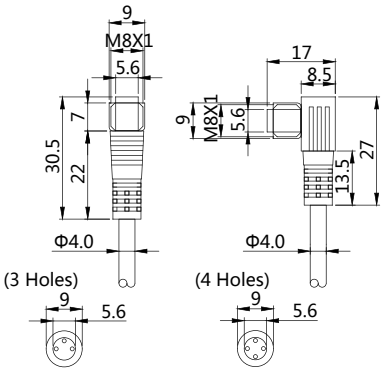


Features:

- Precision,Stabilization;
- Plastic rectangular housing;
- PICO type female cable;
- Automatic safety nut locking function;
- Injection cable

CE

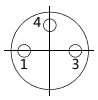
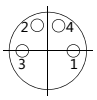
Dimensioned drawing



Model No.

Number of holes(needles)	3	4
Housing material	PVC	PVC
Type	B8-3GV2	B8-4GV2
Type	B8-3WV2	B8-4WV2

Contact arrangements

Face view Female		
Color code	1=Brown 3=Blue 4=Black	1=Brown 4=Black 2=White 3=Blue
Conductors gage	0.34mm²	0.25mm²
Conductors stranding	42 ϕ0.10	32 ϕ0.10
Outer jacket Dia : mm	5.0	5.0
Outer jacket Material	PVC	PVC

Technical data

Applicable grade	HNE according to DIN 40040(-25℃/+90℃/≤75%rF)standard
Injection of ontology	TPU
Rated current	4A
Rated voltage	60VAC/75VDC
Terminal	Brass,gold-plated
Waterproof ring	Viton
Body material	TPU
Safety nuts	Brass,nickel-plated
Ingress protection	IP67
Connection impedance	≤5mΩ
Insulation grade	C according to VDE 0110 standard
Test voltage	1.5KV eff./60s.
Insulation impedance	>10Ω

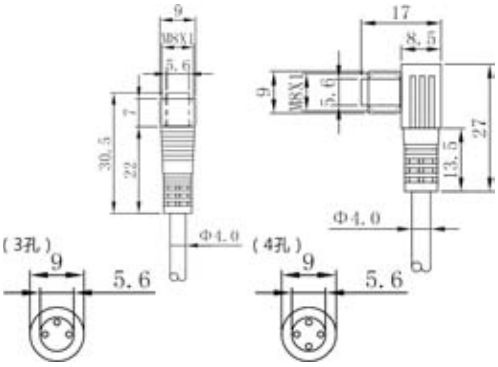


Features:

- Precision,Stabilization;
- Plastic rectangular housing;
- PICO type female cable;
- Automatic safety nut locking function;
- Terminal connection

CE

Dimensioned drawing



Model No.

Number of holes(needles)	3	4
Housing material	PVC	PVC
Type	BM8-3GT	BM8-4GT

Contact arrangements

Face view Female		
Color code	1=Brown 3=Blue 4=Black	1=Brown 4=Black 2=White 3=Blue
Conductors gage	0.34mm²	0.25mm²
Conductors stranding	42 ϕ0.10	32 ϕ0.10
Outer jacket Dia : mm	5.0	5.0
Outer jacket Material	PVC	PVC

Technical data

Applicable grade	HNE according to DIN 40040(-25℃/+90℃/≤75%rF)standard
Injection of ontology	TPU
Rated current	4A
Rated voltage	60VAC/75VDC
Terminal	Brass,gold-plated
Waterproof ring	Viton
Body material	TPU
Safety nuts	Brass,nickel-plated
Ingress protection	IP67
Connection impedance	≤5mΩ
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Test voltage	1.5KV eff./60s.
Insulation impedance	>10Ω

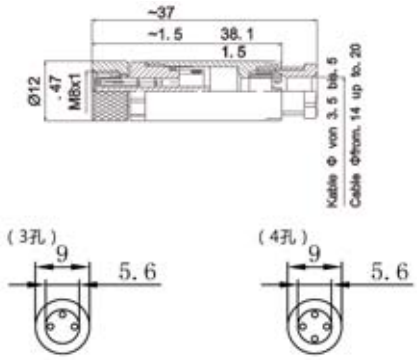


Features:

- Precision,Stabilization;
- Plastic rectangular housing;
- PICO type female cable;
- Automatic safety nut locking function;
- Terminal connection

CE

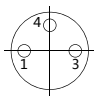
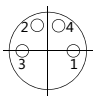
Dimensioned drawing



Model No.

Number of holes(needles)	3	4
Housing material	PVC	PVC
Type	B8-3GT	B8-4GT

Contact arrangements

Face view Female		
Color code	1=Brown 3=Blue 4=Black	1=Brown 4=Black 2=White 3=Blue
Conductors gage	0.34mm²	0.25mm²
Conductors stranding	42 ϕ0.10	32 ϕ0.10
Outer jacket Dia : mm	5.0	5.0
Outer jacket Material	PVC	PVC

Technical data

Applicable grade	HNE according to DIN 40040(-25℃/+90℃/≤75%rF)standard
Injection of ontology	TPU
Rated current	4A
Rated voltage	60VAC/75VDC
Terminal	Brass,gold-plated
Waterproof ring	Viton
Body material	TPU
Safety nuts	Brass,nickel-plated
Ingress protection	IP67
Connection impedance	≤5mΩ
Insulation grade	C according to VDE 0110 standard
Test voltage	1.5KV eff./60s.
Insulation impedance	>10Ω

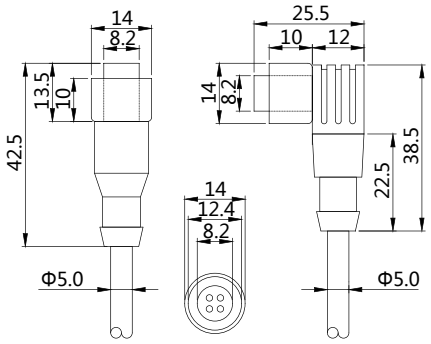


Features:

- Precision,Stabilization;
- Plastic rectangular housing;
- EURO type female cable;
- Automatic safety nut locking function;
- Injection cable

CE

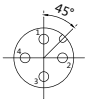
Dimensioned drawing



Model No.

Number of holes(needles)	4	4
Housing material	PVC/PUR	PVC/PUR
Type	B12-4GV2	B12-4WV2

Contact arrangements

Face view Female			
Color code	1=Brown 2=White 3=Blue 4=Black		
Conductors gage	0.25mm²	0.34mm²	0.25mm²
Conductors stranding	32 ϕ0.10	42 ϕ0.10	32 ϕ0.10
Outer jacket Dia : mm	5.0	5.0	5.0
Outer jacket Material	PVC	PVC shielding function	PVC/PUR

Technical data

Applicable grade	HNE according to DIN 40040(-25℃/+90℃/≤75%rF)standard
Injection of ontology	TPU
Rated current	4A
Rated voltage	60VAC/75VDC
Terminal	Brass,gold-plated
Waterproof ring	Viton
Body material	TPU
Safety nuts	Brass,nickel-plated
Ingress protection	IP67
Connection impedance	≤5mΩ
Insulation grade	C according to VDE 0110 standard
Test voltage	1.5KV eff./60s.
Insulation impedance	>10Ω

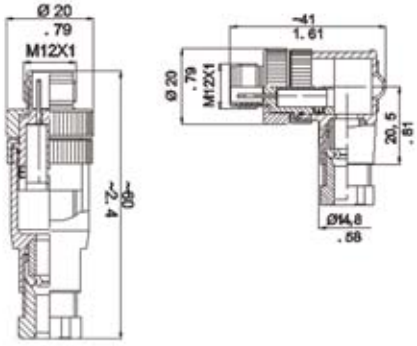


Features:

- Precision,Stabilization;
- Plastic rectangular housing;
- MICRO type female cable;
- Automatic safety nut locking function;
- Terminal connection

CE

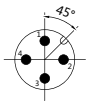
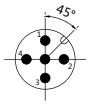
Dimensioned drawing



Model No.

Number of holes(needles)	4	5
Housing material	PVC	PVC
Type	BM12-4GT	BM12-5GT
Type	BM12-4WT	BM12-5WT

Contact arrangements

Face view Female		
Color code	1=Brown 2=White 3=Blue 4=Black	
Conductors gage	0.25mm²	0.25mm²
Conductors stranding	32 ϕ0.10	32 ϕ0.10
Outer jacket Dia : mm	5.0	5.0
Outer jacket Material	PVC	PVC/PUR

Technical data

Applicable grade	HNE according to DIN 40040(-25℃/+90℃/≤75%rF)standard
Injection of ontology	TPU
Rated current	4A
Rated voltage	60VAC/75VDC
Terminal	Brass,gold-plated
Waterproof ring	Viton
Body material	TPU
Safety nuts	Brass,nickel-plated
Ingress protection	IP67
Connection impedance	≤5mΩ
Insulation grade	C according to VDE 0110 standard
Test voltage	1.5KV eff./60s.
Insulation impedance	>10Ω

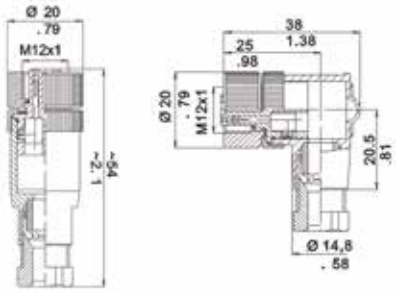


Features:

- Precision,Stabilization;
- Plastic rectangular housing;
- MICRO type female cable;
- Automatic safety nut locking function;
- Injection cable

CE

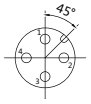
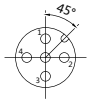
Dimensioned drawing



Model No.

Number of holes(needles)	4	5
Housing material	PVC	PVC
Type	B12-4GT	B12-5GT
Type	B12-4WT	B12-5WT

Contact arrangements

Face view Female		
Color code	1=Brown 2=White 3=Blue 4=Black	
Conductors gage	0.25mm²	0.25mm²
Conductors stranding	32 ϕ0.10	32 ϕ0.10
Outer jacket Dia : mm	5.0	5.0
Outer jacket Material	PVC	PVC/PUR

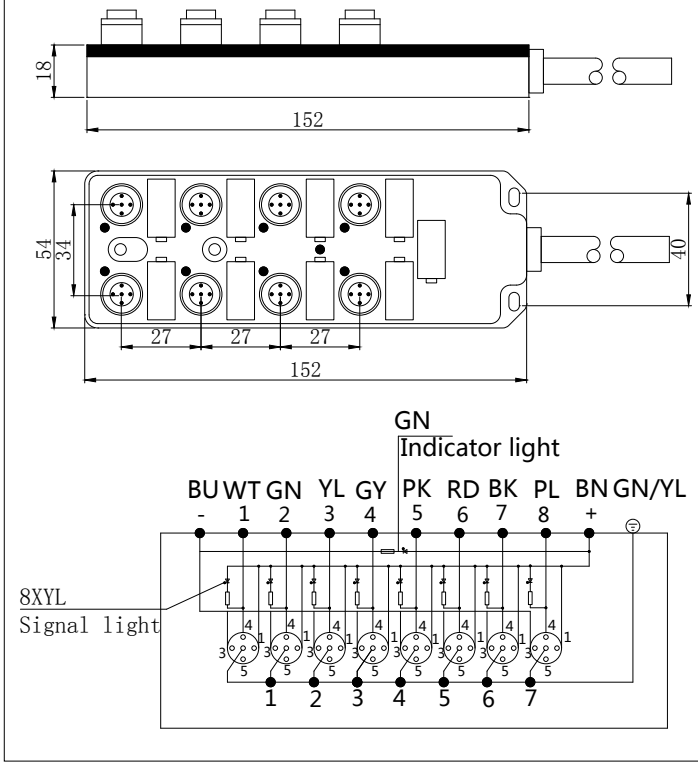
Technical data

Applicable grade	HNE according to DIN 40040(-25℃/+90℃/≤75%rF)standard
Injection of ontology	TPU
Rated current	4A
Rated voltage	60VAC/75VDC
Terminal	Brass,gold-plated
Waterproof ring	Viton
Body material	TPU
Safety nuts	Brass,nickel-plated
Ingress protection	IP67
Connection impedance	≤5mΩ
Insulation grade	C according to VDE 0110 standard
Test voltage	1.5KV eff./60s.
Insulation impedance	>10Ω

View



Dimensioned(Unit:mm)



Description

- Distribution boxes,8port cable version.
- 5 poles 4 wires,with built-in LED' s(NPN).
- Earth connection,with dust covers and attachable molds.
- Standard length is 5 mater cable,other cable length or cable specifications on requests.

Technical data

1.Application class : -15℃-+90℃

2.Materials:

Housing:	Nylon 6/6
Color:	Blue
Contact:	Brass,gold over nickel plating
Receptacle shell:	Brass,nickel-plated
Insert:	PUR(Polyurethane),black
O-Ring:	Viton

3.Electrical data

Contact resistance	≤5mΩ
Current rating:	4 Amps per outlet
	12 Amp max per box
Supply voltage	10-30VDC
Insulation resistance:	>109Ω

4. Mechanical data:

Insertion force (contact):	≤2.0N(.11LBS)
Withdrawal force (contact):	≥0.5 (.11LBS)
Protection:	IP68 , NEMA6P(only in fully locked positon)
Shock:	IEC-68-2-27
Vibration:	IEC-68-2-6

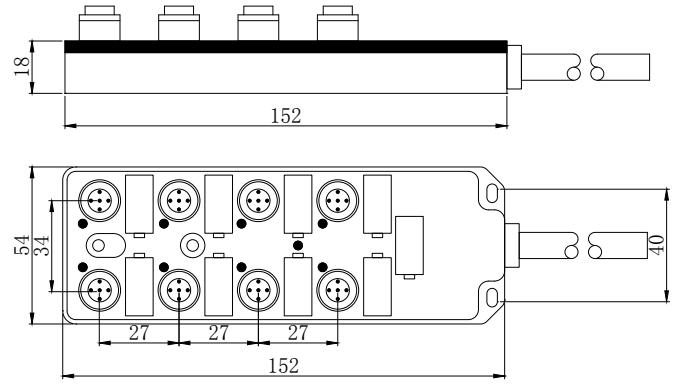
5. CE Conformity with standards:
EN50082-1,EN50082-2,IEC60947-5-2

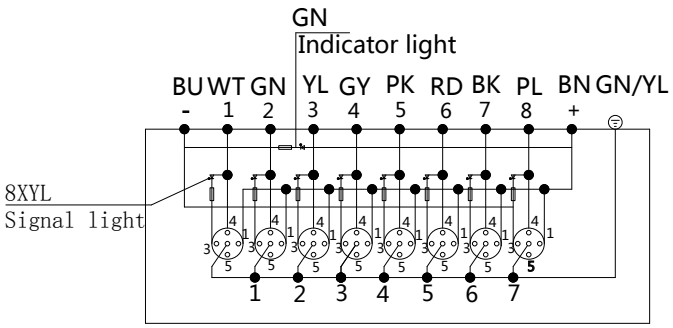
Part number	Poles	Color code	Cable type	
			Lead(mm²)	Outer jacket
BB12-P5/408-V05N		1=Brown (+) 2=No wire 3=Blue (-) 4=White (1) Green (2) Yellow (3) Grey (4) Pink (5) Red (6) Black (7) Violet (8) 5=Green/Yellow(GND)	3*0.75 (96*ϕ0.10) 8*0.34 (42*ϕ0.10)	ϕ9.0 PVC

View



Dimensioned(Unit:mm)





Description

- Distribution boxes,8port cable version.
- 5 poles 4 wires,with built-in LED' s(PNP).
- Earth connection,with dust covers and attachable molds.
- Standard length is 5 mater cable,other cable length or cable specifications on requests.

Technical data

1.Application class : -15℃-+90℃

2.Materials:

Housing:	Nylon 6/6
Color:	Blue
Contact:	Brass,gold over nickel plating
Receptacle shell:	Brass,nickel-plated
Insert:	PUR(Polyurethane),black
O-Ring:	Viton

3.Electrical data

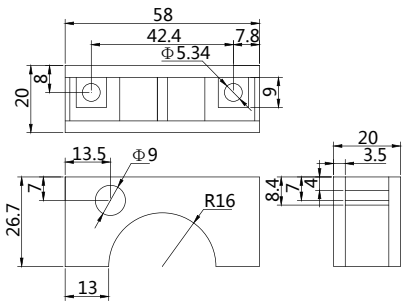
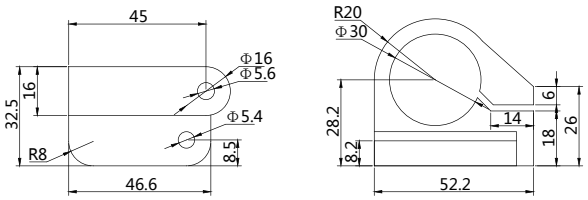
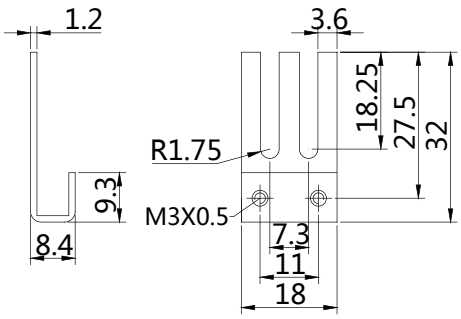
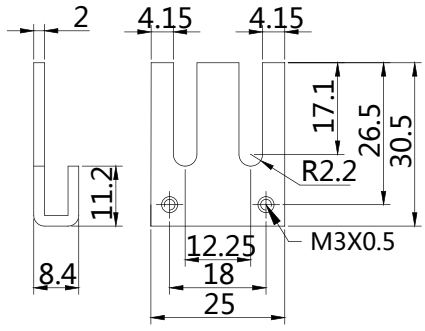
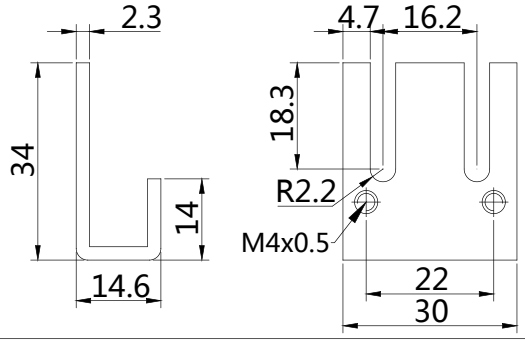
Contact resistance	≤5mΩ
Current rating:	4 Amps per outlet
	12 Amp max per box
Supply voltage	10-30VDC
Insulation resistance:	>109Ω

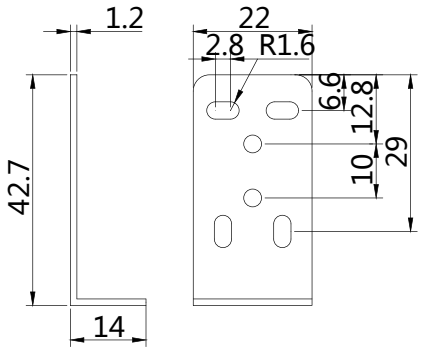
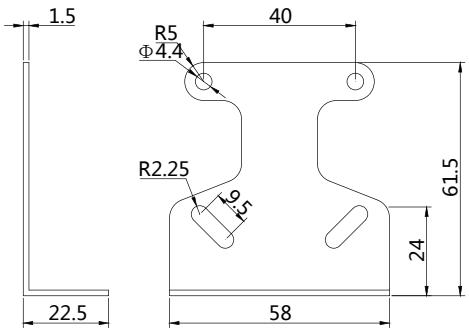
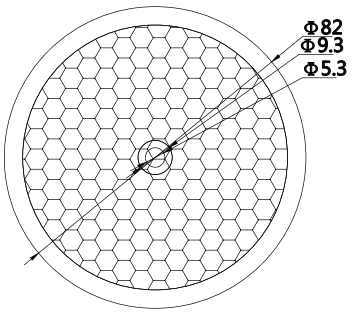
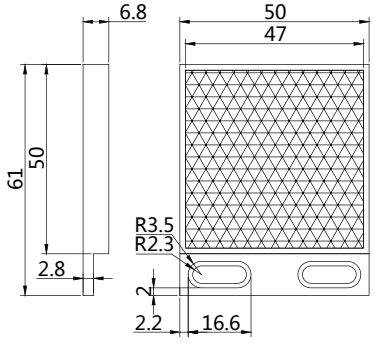
4. Mechanical data:

Insertion force (contact):	≤2.0N(.11LBS)
Withdrawal force (contact):	≥0.5 (.11LBS)
Protection:	IP68 , NEMA6P(only in fully locked positon)
Shock:	IEC-68-2-27
Vibration:	IEC-68-2-6

5. CE Conformity with standards:
EN50082-1,EN50082-2,IEC60947-5-2

Part number	Poles	Color code	Cable type	
			Lead(mm²)	Outer jacket
BB12-P5/408-V05P		1=Brown (+) 2=No wire 3=Blue (-) 4=White (1) Green (2) Yellow (3) Grey (4) Pink (5) Red (6) Black (7) Violet (8) 5=Green/Yellow(GND)	3*0.75 (96*ϕ0.10) 8*0.34 (42*ϕ0.10)	ϕ9.0 PVC

Mode number	Picture	Dimensioned drawing
IB-D34		
IB-D30		
IB-Q18		
IB-Q25		
IB-Q30		

Mode number	Picture	Dimensioned drawing
IB-Q31		
IB-Q50		
FR-D83		
FR-Q51		

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BB-H30.6N-V11Z8	015
BB-H30.6N-V21Z8	015
BB-H30.6P-V11Z8	015
BB-H30.6P-V21Z8	015
BB-M40.6N-V11P2	016
BB-M40.6N-V21P2	016
BB-M40.6P-V11P2	016
BB-M40.6P-V21P2	016
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BB-H6.502P-V21S8-S	034
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BB-H6.502P-V11P2-T	037
BB-H6.502P-V21P2-T	037
BB-H6.503N-V11P2-T	037
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BB-H6.503P-V21P2-T	037
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BB-H6.502P-V11Z8-R	038
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