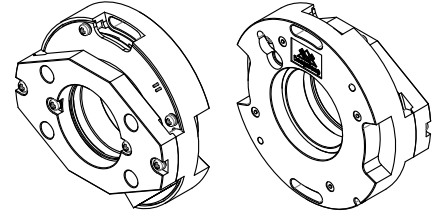


# Z58

## Specifications 1/4

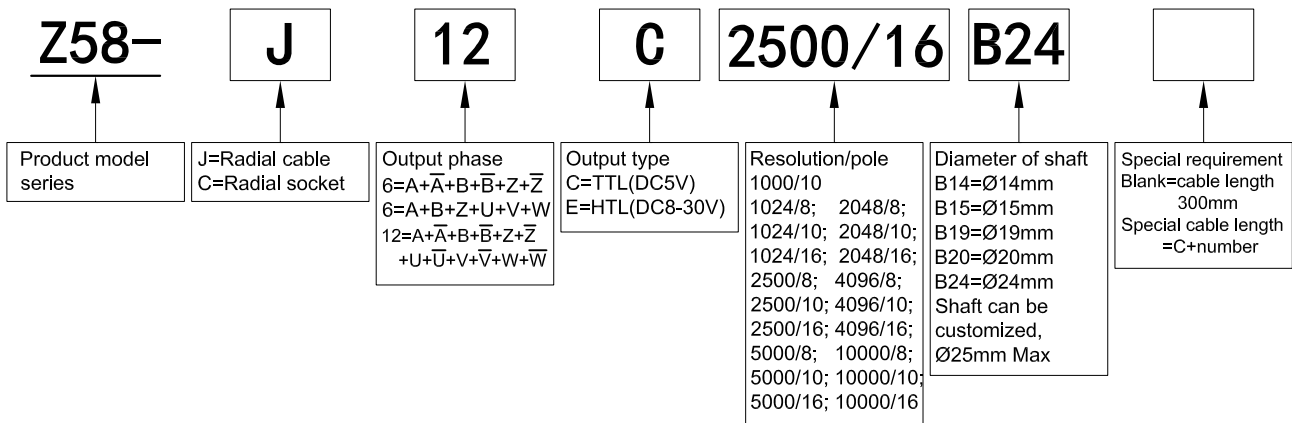
### Incremental Type (Through hole, Non-bearing)

- Feature: This product is a professional designed of ultra-thin monolithic structure bearingless encoder, easy to install and various shaft holes to select. It perfectly solve user's installation solution in the limited space, has obtained the national invention patent because of its unique structure.
- Application: servo motor, robot, etc .
- External dimensions: external diameter Ø58mm, thickness 15mm, diameter of shaft Ø24mm
- Resolution: up to 10000P/R
- Supply voltage: DC5V; DC8-30V
- Cable length: 300mm
- Weight: about 85g



### Model Guide

- Model form (filled required parameters in the box as following)



### Output Mode

Output type	Output circuit	Output wave form												
TTL(DC5V)		<p> <math>a.b.c.d = \frac{T}{4} \pm \frac{T}{8}</math>  <math>e = T \pm \frac{T}{2}</math>                      f: center of phase Z to rise point of phase U, that is <math>\pm 1T</math> </p> <p>CW direction <math>\rightarrow</math> (View from front, direction is CW rotation)</p> <p> <math>\frac{A.B.Z.U.V.W}{A.B.Z.U.V.W}</math> </p> <table border="1"> <thead> <tr> <th>poles</th> <th>g,h,j,k,m,n</th> <th>r</th> </tr> </thead> <tbody> <tr> <td>8</td> <td><math>15 \pm 1^\circ</math></td> <td><math>90^\circ</math></td> </tr> <tr> <td>10</td> <td><math>12 \pm 1^\circ</math></td> <td><math>72^\circ</math></td> </tr> <tr> <td>16</td> <td><math>7.5 \pm 1^\circ</math></td> <td><math>45^\circ</math></td> </tr> </tbody> </table>	poles	g,h,j,k,m,n	r	8	$15 \pm 1^\circ$	$90^\circ$	10	$12 \pm 1^\circ$	$72^\circ$	16	$7.5 \pm 1^\circ$	$45^\circ$
poles	g,h,j,k,m,n	r												
8	$15 \pm 1^\circ$	$90^\circ$												
10	$12 \pm 1^\circ$	$72^\circ$												
16	$7.5 \pm 1^\circ$	$45^\circ$												
HTL(DC8-30V)		<p> <math>a.b.c.d = \frac{T}{4} \pm \frac{T}{8}</math>  <math>e = T \pm \frac{T}{2}</math>                      f: center of phase Z to rise point of phase U, that is <math>\pm 1T</math> </p> <p>CW direction <math>\rightarrow</math> (View from front, direction is CW rotation)</p> <p> <math>\frac{A.B.Z.U.V.W}{A.B.Z.U.V.W}</math> </p> <table border="1"> <thead> <tr> <th>poles</th> <th>g,h,j,k,m,n</th> <th>r</th> </tr> </thead> <tbody> <tr> <td>8</td> <td><math>15 \pm 1^\circ</math></td> <td><math>90^\circ</math></td> </tr> <tr> <td>10</td> <td><math>12 \pm 1^\circ</math></td> <td><math>72^\circ</math></td> </tr> <tr> <td>16</td> <td><math>7.5 \pm 1^\circ</math></td> <td><math>45^\circ</math></td> </tr> </tbody> </table>	poles	g,h,j,k,m,n	r	8	$15 \pm 1^\circ$	$90^\circ$	10	$12 \pm 1^\circ$	$72^\circ$	16	$7.5 \pm 1^\circ$	$45^\circ$
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10	$12 \pm 1^\circ$	$72^\circ$												
16	$7.5 \pm 1^\circ$	$45^\circ$												

# Z58

## Specifications 2/4

### ■ Connection

#### ● Radial cable

No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Color	shielding	red	black	white	green	yellow	white/black	green/black	yellow/black	blue	gray	pink	blue/black	gray/black	pink/black
Function	GND	DC5V; DC8-30V	OV	A	B	Z	$\bar{A}$	$\bar{B}$	$\bar{Z}$	U	V	W	$\bar{U}$	$\bar{V}$	$\bar{W}$

#### ● Radial socket

Socket Pin No.	Pin1	—	—	—	—	—	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin Assignments
	Pin1	—	—	Pin2	—	Pin3	Pin4	—	Pin5	—	Pin6	—	Pin7	Pin8	
	Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8	Pin9	Pin10	Pin11	Pin12	Pin13	Pin14	
Function	V	$\bar{V}$	$\bar{U}$	U	$\bar{W}$	W	Z	$\bar{Z}$	B	$\bar{B}$	A	$\bar{A}$	OV	+DC	

**Flexible flat cable 14P**  
(purchased by customer)

Socket FPC  
Pin1 Pin14

Socket of lower contact

**Flexible plug**  
(purchased by customer)

Socket BM08B-GHS-TB  
Pin1 Pin8

matching plug GHR-08V-S

### ■ Electrical Characteristics

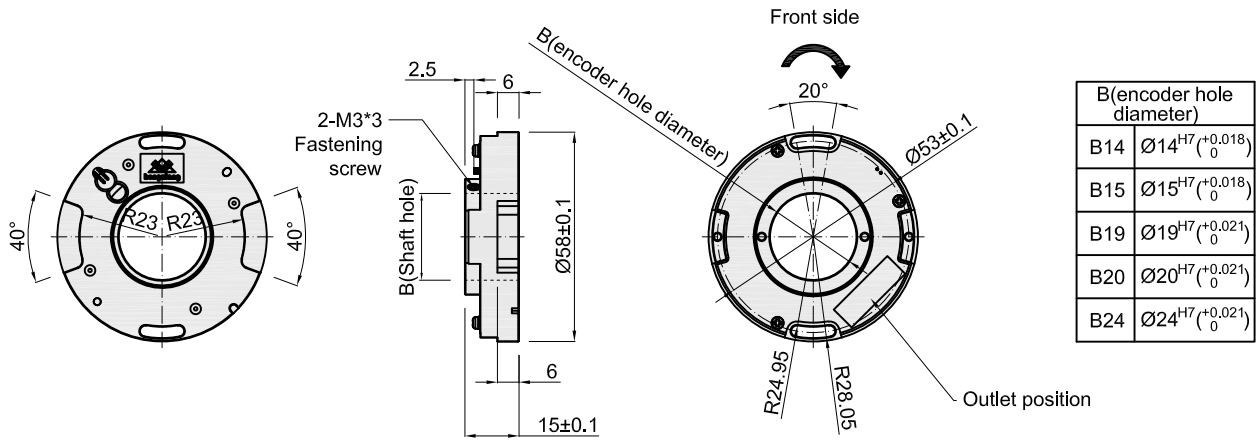
Parameter	Output type	TTL		HTL	
		Item		Item	
Supply voltage		DC+5V±5%		DC8-30V±5%	
Consumption current		120mA Max			
Top response frequency		200KHz		300KHz	
Output volume	Output current	≤±20mA		≤±50mA	
	Output voltage	"H"	≥2.5V	≥Vcc-3 V <sub>DC</sub>	
"L"		≤0.5V	≤ 1V V <sub>DC</sub>		
Rise & Fall time		Less than 1us(cable length: 2m)			
GND		not connect to encoder			

### ■ Environmental Specifications

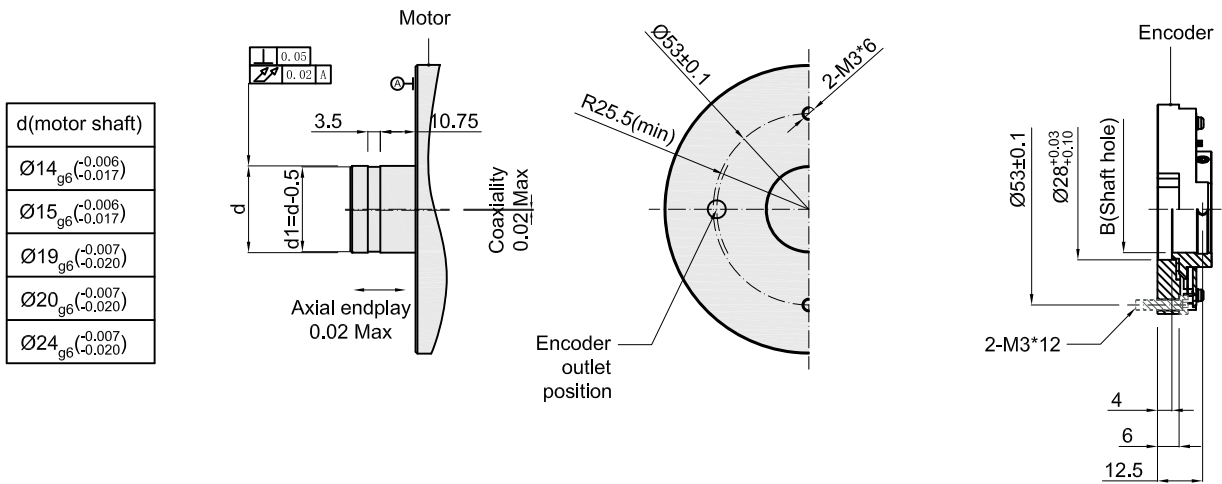
Slew speed	5000rpm
Environmental temperature	Operating: -20~+80°C; Storage: -25~+85°C
Environmental humidity	Operating and storage: 35~85%RH (noncondensing)

# Z58 Specifications 3/4

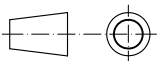
## Basic Dimensions



## Assembling requirement

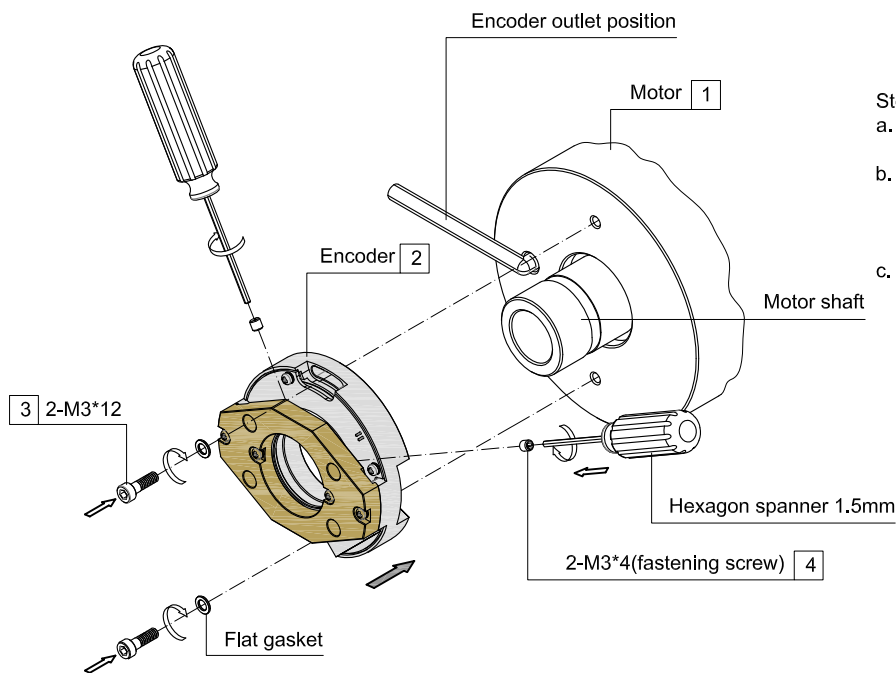


Unit: mm



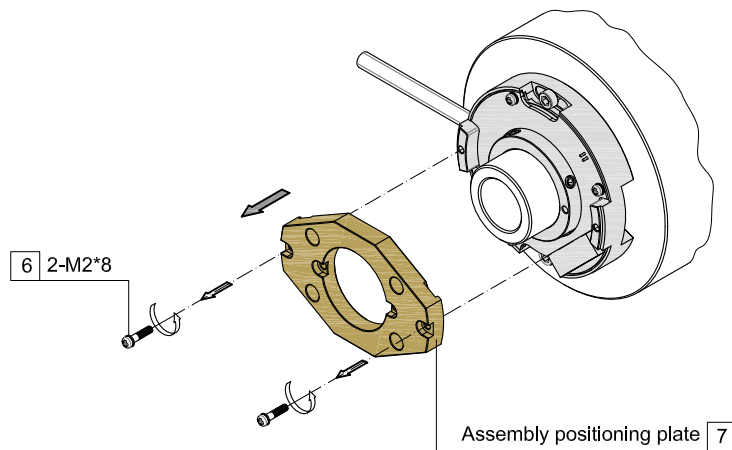
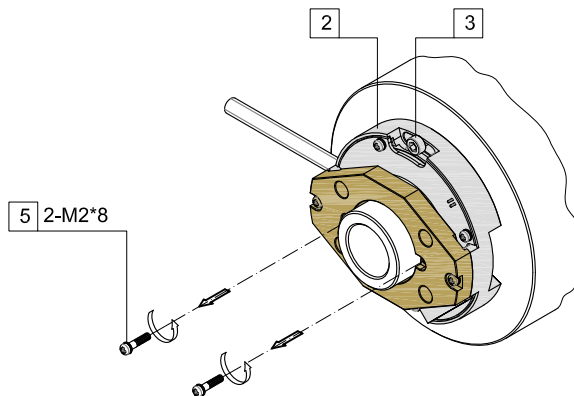
= Rotate direction of signal output shaft

■ Assemblage



- Step 1
- Put the encoder(2) on the motor(1) shaft and gently push it by hand.
  - Fix the two M3\*12 screws on the motor(1). (do not fasten too tightly for encoder with UVW signal which needs to align zero position to motor)
  - Then tighten the two 2-M3\*4 locking screws(4) on the side to ensure tightening, recommend tightening force 0.6Nm

- Step 2
- Connect encoder (2) with cable.
  - Remove the two M2\*8 round phillips head screws (5) after this:  
 skip to Step 3 for encoder which doesn't need to align the zero position  
 or continue to following steps c & d which needs to align the zero position
  - Then loosen the two M3\*12 screw (3) just enough to turn the encoder (2) by hand.
  - Checked without error, turn on the power to debug the zero starting point, turn the encoder (2) by hand to align the electric zero signal to starting point of motor, then make sure to tighten the M3\*12 screw(3).



- Step 3
- Remove the two M2\*8 round phillips head screw (6).
  - Push out the assembly positioning plate (7), so that the encoder can be used.

Note: If you want to Re-search zero starting point or remove the encoder (2), you must replace the assembly positioning plate(7).