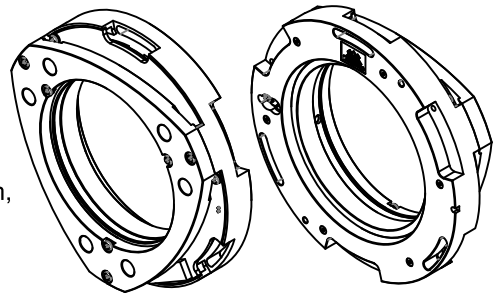


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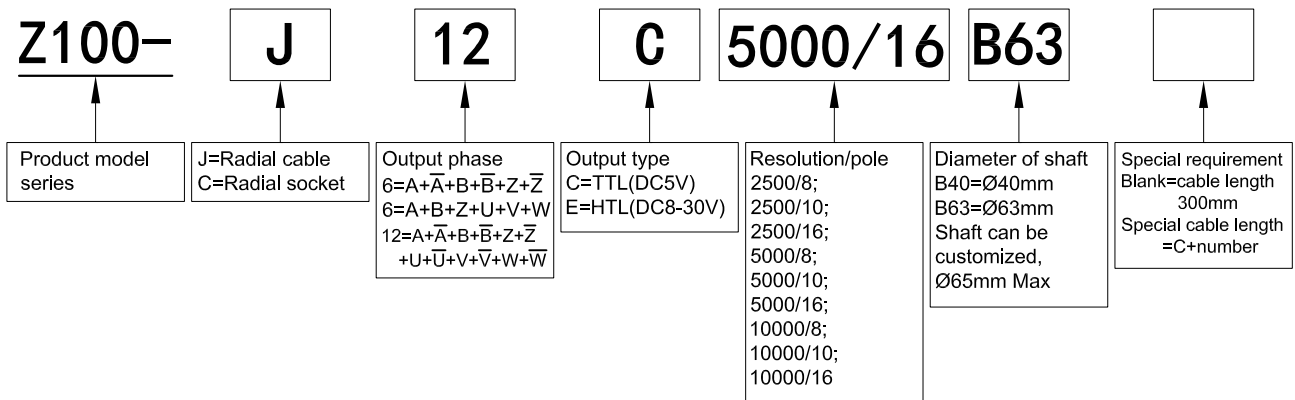
Incremental Type (Through hole, Non-bearing)

- Feature: This product is a professional designed of ultra-thin 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 $\varnothing 100\text{mm}$ thickness 16mm, diameter of shaft $\varnothing 63\text{mm}$
- Resolution: up to 10000P/R
- Supply voltage: DC5V; DC8-30V
- Cable length: 300mm
- Weight: about 200g

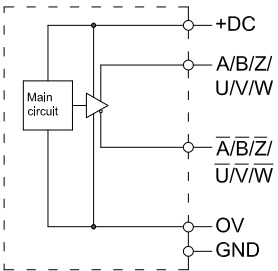
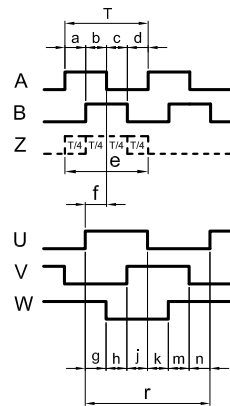
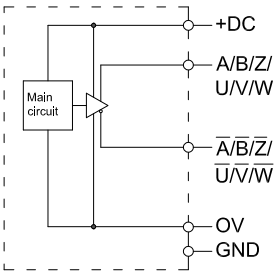
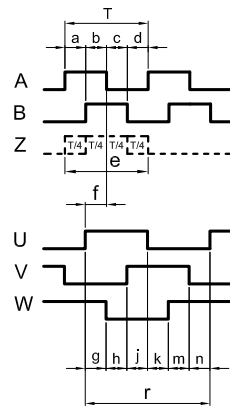


Model Guide

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



Output Mode

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

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■ 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	DC	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	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 cable14P (purchased by customer)															
Flexible plug (purchased by customer)															

■ Electrical Characteristics

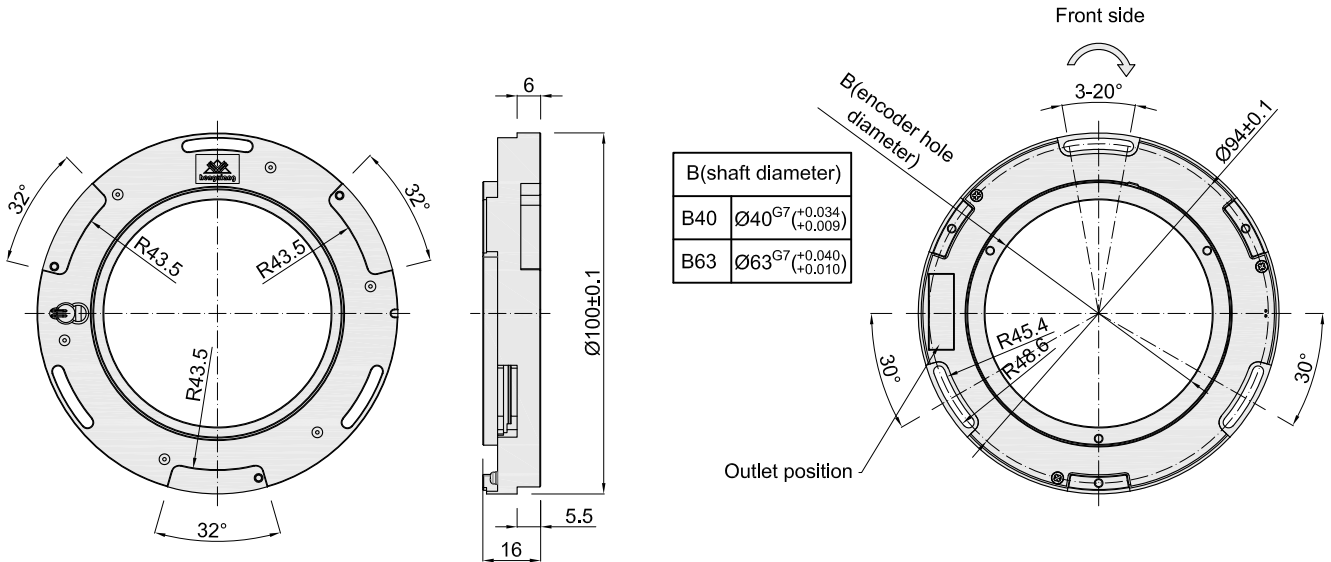
Parameter	Output type		TTL	HTL
	Item			
Supply voltage			DC+5V±5%	DC8-30V±5%
Consumption current			120mA Max	
Top response frequency			200KHz	300KHz
Output volume	Output current		≤±20mA	≤±50mA
	Output voltage	"H"	≥2.5V	≥Vcc-3 Vdc
"L"		≤0.5V	≤ 1V Vdc	
Rise & Fall time			Less than 1us(cable length: 2m)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

■ Environmental Specifications

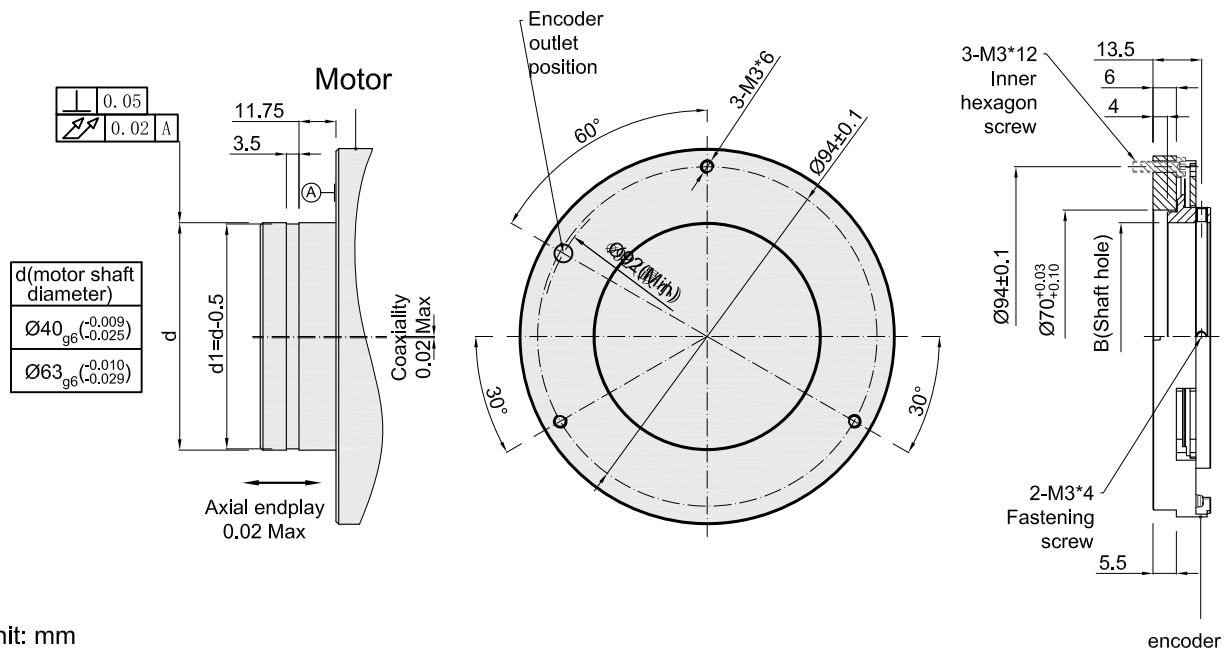
Slew speed	5000rpm
Environmental temperature	Operating: -20~+80°C; Storage: -25~+85°C
Environmental humidity	Operating and storage: 35~85%RH (noncondensing)

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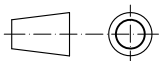
Basic Dimensions



Assembling requirement



Unit: mm

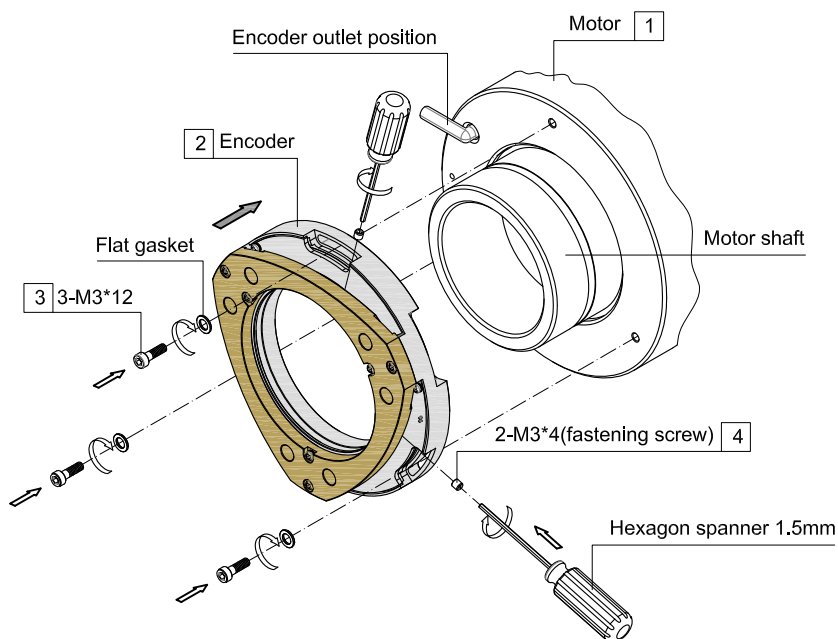


= Rotate direction of signal output shaft

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Assemblage

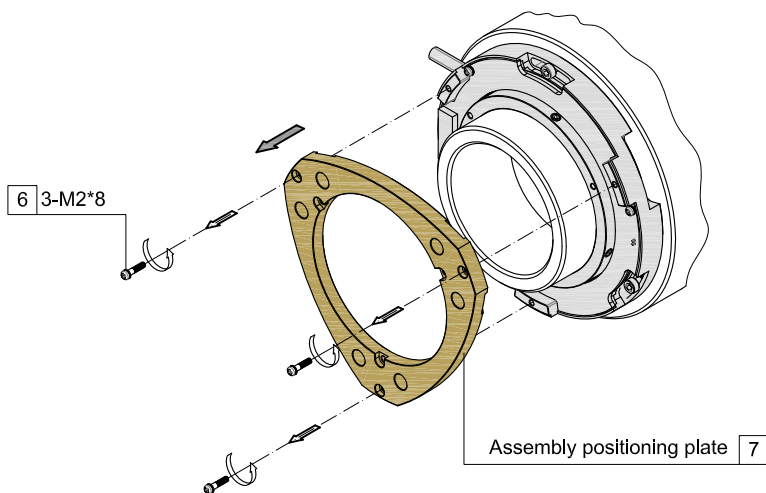
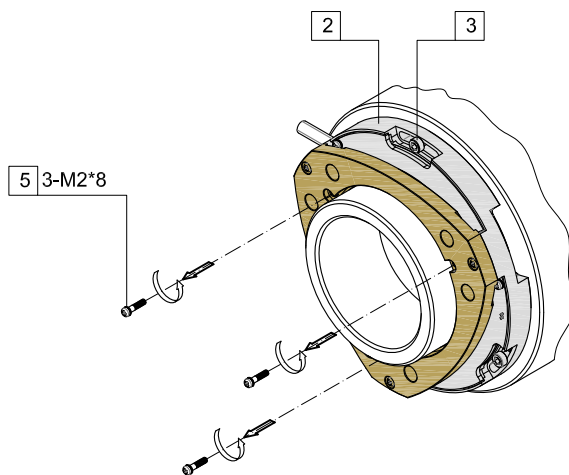


Step 1

- a. Put the encoder(2) on the motor(1) shaft and gently push it by hand.
- b. Fix the three 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)
- c. Then tighten the two 2-M3*4 locking screws(4) on the side to ensure tightening, recommend tightening force 0.6Nm

Step 2

- a. Connect encoder (2) with cable.
- b. Remove the three M2*8 round phillips head screws (5) after this:
skip to Step 3 for encoder which doesn't need to align the zero position
otherwise continue to following steps c & d which needs to align the zero position
- c. Then loosen the three M3*12 screw (3) just enough to turn the encoder (2) by hand.
- d. 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 three M3*12 screw(3).



Step 3

- a. Remove the three M2*8 round phillips head screw (6).
- b. 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).