

# E6B2 Rotary encoder instruction sheet

Thank you for selecting the product, This sheet primarily describes precautions required in installing and operating the product. Before operating the product, read the sheet thoroughly to acquire sufficient knowledge of the product. For your convenience, keep the instruction sheet at your disposal.

## ■ Precautions for Safe Use

- 1) Do not use the product in excess of the rated voltage. Applying voltages beyond the rated voltage range may cause the product to break or burn.
- 2) Avoid wiring the product's cables parallel to power lines or high-voltage lines, Doing so may cause the product to malfunction due to induction or may cause the damage the product.
- 3) If surge occurs in the power supply, connect a surge absorber between the power supply terminals to absorb the surge. Minimize the wiring length to prevent the product from being affected by noise, etc.
- 4) Since improper pulses may occur when the power is turned on or off, use the devices connected to this product at least 1.0 seconds before or after the power is turned on or off.
- 5) Be careful when wiring, such as being careful with the polarities of the power supply. Incorrect wiring may break or burn the product.
- 6) Do not short-circuit the load. Doing so may break or burn the product.
- 7) Do not use the encoder under the environment with explosive or ignition gas.
- 8) Never disassemble, repair nor tamper with the product.

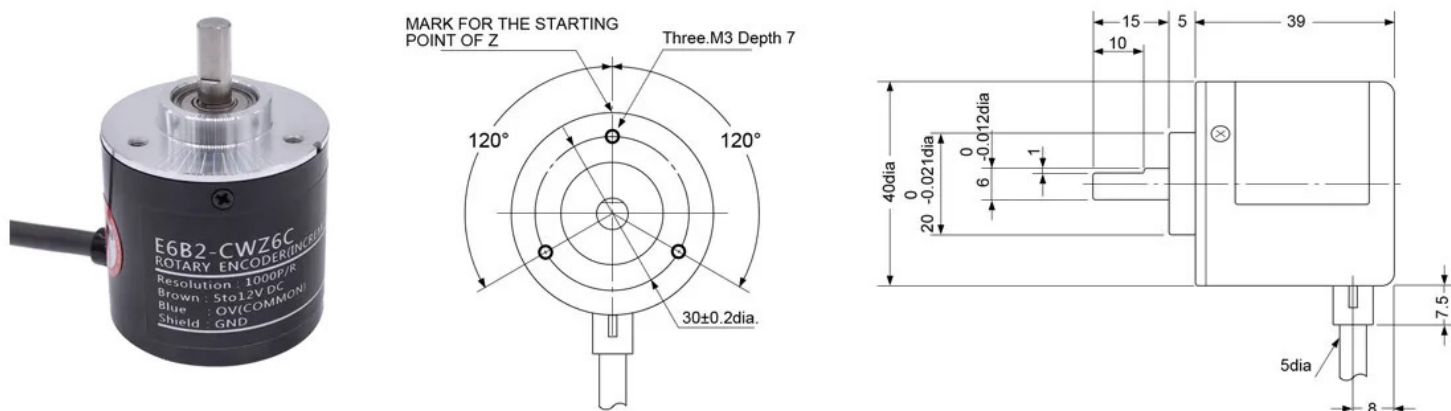
## ■ Precautions for Correct Use

- 1) Since the product consists of high-precision components, handle it with utmost care.
- 2) Be careful not to expose the product to water or oil.
- 3) Be sure to turn off the power supply before wiring. If the output line contacts the power supply line while the power is being supplied, the output circuit may be damaged.
- 4) If the product is mounted and wired with a cord, do not pull the cord with force greater than 29.4N.
- 5) Be careful not to apply excessive load to the shaft. Excessive load may cause the product break. Especially when linking with a chain, timing belt, or gears, connect a separate bearing before the coupling to the product.
- 6) If an installation error such as misalignment is too large; (in case using the coupling or without coupling) the shaft will be subjected to an excessive load which will damage it or shorten its service life. Be careful when installing.
- 7) When inserting the shaft in the coupling, do not use excessive force (by striking it with hammer, for example).
- 8) When installing or removing the coupling, do not apply an excessive being, compressing, or tensile force.

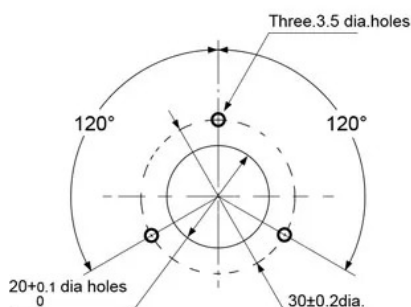
## ■ Ratings

Item/Type	E6B2-CWZ3E	E6B2-CWZ6C	E6B2-CWZ1X	E6B2-CWZ5B
Supply voltage	5 to 12V DC(+10%/-5%)	5 to 24V DC(+15%/-5%)	5V DC(±5%)	12 to 24V DC(+15%/-10%)
Current consumption	100mA max.	80mA max.	160mA max.	100mA max.
Output circuit configuration	Voltage output	NPN open collector output	Line driver output	PNP open collector output
Output capacity	Output resistance :2kΩ Residual voltage :0.4V max. Output current :20mA max.	Applied voltage :30V DC max. Sink current :35mA max. Residual voltage :0.4V max.	"H" level output voltage:2.5Vmin (at output current :20mA) "L" level output voltage:0.5Vmax (At output current :20mA)	Source current :35mA max. Residual voltage :0.4V max.
Maximum response frequency		100kHz		50kHz
Phase difference of output		Between output A and output B 90±45°		
Starting torque		1mN·m max.		
Moment of inertia		1×10 <sup>-6</sup> kg·m <sup>2</sup> max.		
Slewing speed		6000r/min		
Shaft loading		Radial:30N Axial:20N		
Ambient temperature		-10 to +70°C		
Ambient humidity		35 to 85%RH		

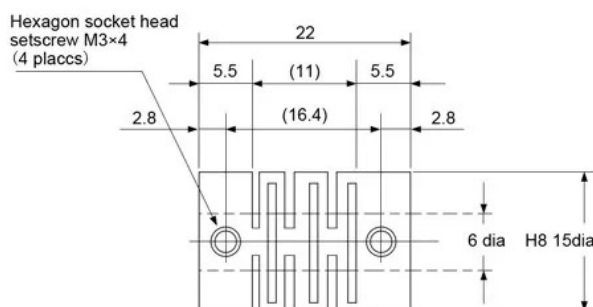
## ■ Outline drawing



## ■ Mounting



## ■ Coupling



## ■ Output circuit diagram

