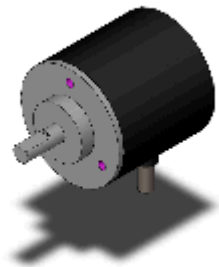


Incremental 40-mm-dia. Rotary Encoder

E6B2-CWZ6C 1024P/R 0.5M

Rotary Encoder, Incremental, External Diameter: 40 dia., NPN open-collector output, 1024 P/R, 5 to 24 VDC, Phases A/B/Z, Pre-wired model, 0.5 m



Image

Encoding method	Incremental Shaft model
Resolution	1024 P/R
Output phases	A, B and Z
Control output	NPN open collector
Connection method	Pre-wired models (Cable length: 0.5 m)

Ratings / Performance

As of July 25, 2024

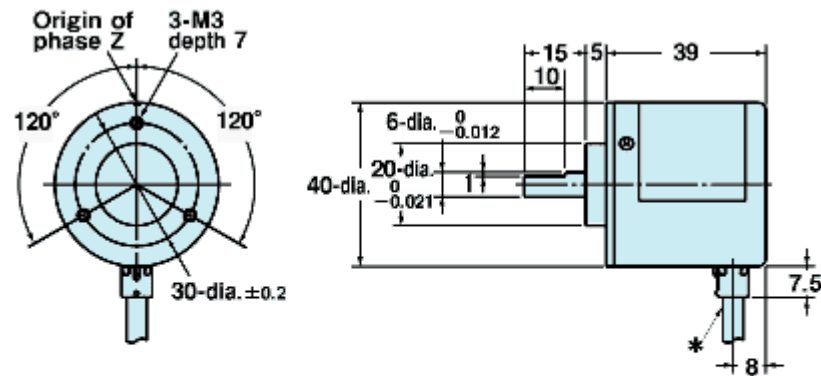
Categorise		Incremental Shaft model
Diameter		40 mm dia.
Power supply voltage		5 to 24 VDC (-5% to +15%) Ripple (p-p) 5% max.
Current consumption		80 mA max.
Resolution		1024 P/R
Inrush current		Approx. 9 A (0.3 ms)
Output phases		A, B and Z
Control output	Output type	NPN open collector
	Load power supply voltage	30 V max.DC

	Sink current	35 mA max.
	Residual voltage	0.4 V max. (at sink current 35 mA)
Starting positional point	Equipped	
Max. response frequency	100 kHz	
Phase difference on output	90±45 ° between A and B (1/4 T ± 1/8 T)	
Rise and fall times of output	1 µs max. (Cable length: 2 m max., output voltage: 5 V, load resistance: 1 kΩ)	
Starting torque	0.98 mN.m max.	
Moment of inertia	1 x 10 ⁻⁶ kg.m ² max.	
Shaft loading	Radial: 30 N Thrust: 20 N	
Max. permissible rotation	6000 r/min	
Protective circuit	Output short-cut protection Power supply reverse polarity protection	
Ambient temperature	Operating: -10 to 70 °C (with no icing) Storage: -25 to 85 °C (with no icing)	
Ambient humidity	Operating: 35 to 85 % (with no condensation) Storage: 35 to 85 % (with no condensation)	
Insulation resistance	Between charged parts and the case: 20 MΩ or higher (500 VDC megger)	
Dielectric strength	Between charged parts and the case: 500 VAC 50/60 Hz 1 min	
Vibration resistance	Destruction: 10 to 500 Hz, 2-mm or 150 m/s ² double amplitude for 11 min 3 times each in X, Y, and Z directions	
Shock resistance	Destruction: 1000 m/s ² for 3 times each in X, Y, and Z directions	
Degree of protection	IEC: IP50	
Connection method	Pre-wired models (Cable length: 0.5 m)	
Material	Case: ABS Main Unit: Aluminum Shaft: SUS420J2	
Weight	Package: Approx. 100 g	
Accessories	Instruction manual, Couplings, Hex-head spanner	

As of July 25, 2024

Dimensions

As of July 25, 2024



* E6B2-CWZ6C, E6B2-CWZ5B, E6B2-CWZ3E

5-dia. Shielded cable with 5 conductors
(conductor cross section: 0.2mm², insulator diameter: 1.0mm)
Standard length: 500mm

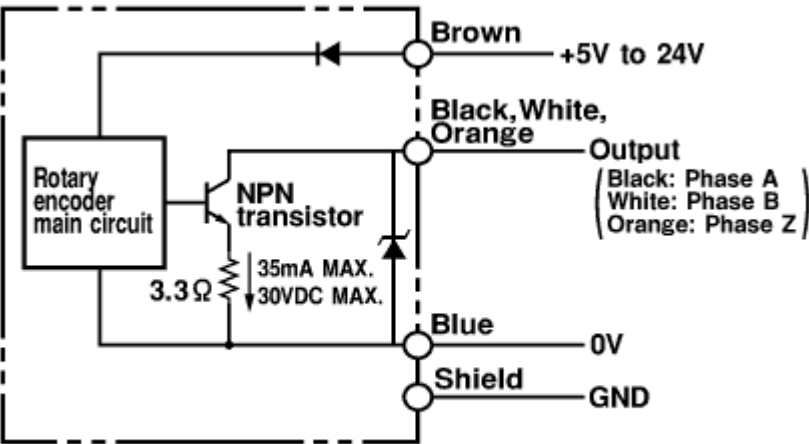
E6B2-CWZ1X

5-dia. Shielded cable with 8 conductors
(conductor cross section: 0.2mm², insulator diameter: 1.0mm)
Standard length: 500mm

As of July 25, 2024

Output circuit diagram

As of July 25, 2024



- * 1.The shielded cable outer core is not connected to the inner area or the case.
- 2.Normally, connect GND to 0V or to an external ground.

As of July 25, 2024

Connected specification chart

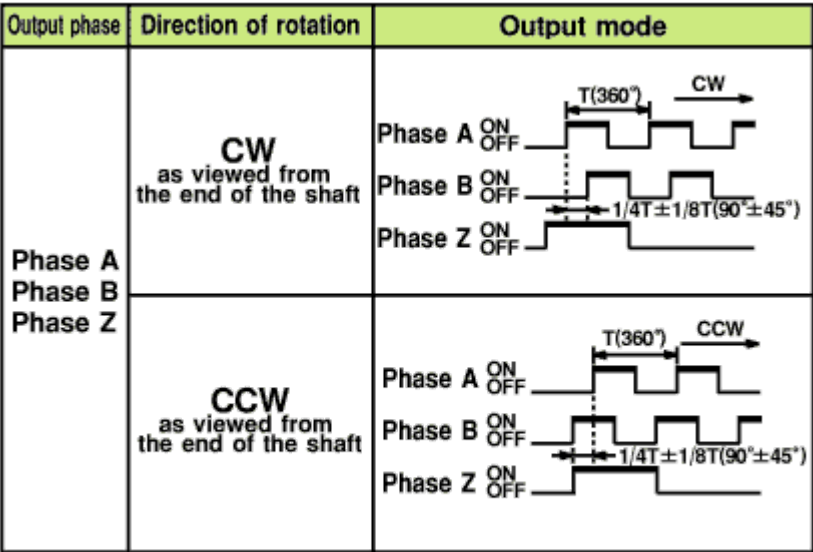
As of July 25, 2024

Color	Terminal
Brown	Vcc
Black	Phase A
White	Phase B
Orange	Phase Z
Blue	0V(COMMON)
Shield	GND

As of July 25, 2024

Timing chart

As of July 25, 2024



*CW direction: Phase A is $\frac{1}{4} \pm \frac{1}{8}T$ faster than phase B.
CCW direction: Phase A is $\frac{1}{4} \pm \frac{1}{8}T$ slower than phase B.

As of July 25, 2024