

80 mm Diameter Incremental Rotary Encoders

E80 Series



Features

- Ø 80 mm housing,
Ø 30 mm / Ø 32 mm hollow shaft
- Install directly on motors or rotating shaft.
Couplings not required.
- Various resolutions:
up to 3200 pulses per revolution
- Various control output options
- Power supply:
5 VDC \pm 5%, 12 - 24 VDC \pm 5%

Specifications

Model	E80H□-□- 3-T-□-□	E80H□-□- 3-N-□-□	E80H□-□- 3-V-□-□	E80H□-□- 6-L-5-□
Resolution	60 / 100 / 360 / 500 / 512 / 1,024 / 3,200 PPR model			
Control output	Totem pole output	NPN open collector output	Voltage output	Line driver output
Output phase	A, B, Z	A, B, Z	A, B, Z	A, \bar{A} , B, \bar{B} , Z, \bar{Z}
Inflow current	≤ 30 mA	≤ 30 mA	-	≤ 20 mA
Residual voltage	≤ 0.4 VDC \equiv	≤ 0.4 VDC \equiv	≤ 0.4 VDC \equiv	≤ 0.5 VDC \equiv
Outflow current	≤ 10 mA	-	≤ 10 mA	≤ -20 mA
Output voltage (5 VDC \equiv)	\geq (power supply -2.0) VDC \equiv	-	-	≥ 2.5 VDC \equiv
Output voltage (12 - 24 VDC \equiv)	\geq (power supply -3.0) VDC \equiv	-	-	\geq (power supply -3.0) VDC \equiv
Response speed ⁰¹⁾	≤ 1 μ s			≤ 0.5 μ s
Max. response freq.	200 kHz			
Max. allowable revolution ⁰²⁾	3,600 rpm			
Starting torque	≤ 0.02 N m			
Inertia moment	≤ 800 g \cdot cm ² (8×10^{-5} kg \cdot m ²)			
Allowable shaft load	Radial: ≤ 5 kgf, Thrust: ≤ 2.5 kgf			
Unit weight	≈ 560 g			
Approval	CE EAC	CE EAC	CE EAC	EAC

01) Based on cable length: 2 m, I sink: 20 mA

02) Select resolution to satisfy Max. allowable revolution \geq Max. response revolution

$$[\text{max. response revolution (rpm)}] = \frac{\text{max. response frequency}}{\text{resolution}} \times 60 \text{ sec}$$

Model	E80H□-□- 3-T-□-□	E80H□-□- 3-N-□-□	E80H□-□- 3-V-□-□	E80H□-□- 6-L-5-□
Power supply	5 VDC \pm 5% (ripple P-P: $\leq 5\%$) / 12 - 24 VDC \pm 5% (ripple P-P: $\leq 5\%$) model			
Current consumption	Totem pole, NPN open collector, Voltage output: ≤ 80 mA (no load) Line driver output: ≤ 50 mA (no load)			
Insulation resistance	Between all terminals and case: ≥ 100 M Ω (500 VDC \equiv megger)			
Dielectric strength	Between all terminals and case: 750 VAC \sim 50 / 60 Hz for 1 minute			
Vibration	1 mm double amplitude at frequency 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 2 hours			
Shock	≤ 75 G			
Ambient temp.	-10 to 70 °C, storage: -25 to 85 °C (no freezing or condensation)			
Ambient humi.	35 to 85%RH, storage: 35 to 90%RH (no freezing or condensation)			
Protection rating	IP50 (IEC standard)			
Connection	Radial cable type / cable connector type model			
Cable spec.	Ø 5 mm, 5-wire (Line driver output: 8-wire), shield cable cable type: 2 m, cable connector type: 250 mm			
Wire spec.	AWG24 (0.08 mm, 40-core), insulator diameter: Ø 1 mm			
Connector spec.	Totem pole, NPN open collector, Voltage output: M17 6-pin socket type Line driver output: M17 9-pin socket type			



View product detail