

58 mm Diameter Incremental Rotary Encoders

E58 Series



Features

- Ø 58 mm flange incremental rotary encoders
- Accurate measurement of angle, position, revolution, speed, acceleration, and distance
- Shaft, hollow shaft, blind hollow shaft models available
- Cable type, cable connector type, axial / radial connector types available
- Various resolutions:
1 to 8000 pulses per revolution
- Various control output options
- Power supply:
5 VDC \pm 5%, 12 - 24 VDC \pm 5%

Specifications

Model	E58□□-□-□-□-□-□ □-T-□-□	E58□□-□-□-□-□-□ □-N-□-□	E58□□-□-□-□-□-□ □-V-□-□	E58□□-□-□-□-□-□ □-L-□-□
Resolution	1 / 2 / 5 / 12 PPR ⁰¹⁾ 10 to 8,000 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 \pm	≤ 0.4 VDC \pm	≤ 0.4 VDC \pm	≤ 0.5 VDC \pm
Outflow current	≤ 10 mA	-	≤ 10 mA	≤ -20 mA
Output voltage (5 VDC \pm)	≥ (power supply -2.0) VDC \pm	-	-	≥ 2.5 VDC \pm
Output voltage (12 - 24 VDC \pm)	≥ (power supply -3.0) VDC \pm	-	-	≥ (power supply -3.0) VDC \pm
Response speed ⁰²⁾	≤ 1 μs			≤ 0.5 μs
Max. response freq.	300 kHz			
Max. allowable revolution ⁰³⁾	5,000 rpm			
Approval	CE EAC	CE EAC	CE EAC	EAC

01) Depending on the control output, only A, B or A, \bar{A} , B, \bar{B} are output.

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

03) Select resolution to satisfy Max. allowable revolution ≥ Max. response revolution.

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

Shaft type	Shaft clamping type	Shaft synchro type	Hollow type	Hollow Built-in type
Starting torque	≤ 0.004 N m		≤ 0.009 N m	
Inertia moment	≤ 15 g·cm ² (1.5 × 10 ⁻⁶ kg·m ²)		≤ 20 g·cm ² (2 × 10 ⁻⁶ kg·m ²)	
Allowable shaft load	Radial: ≤ 10 kgf, Thrust: ≤ 2.5 kgf		Radial: ≤ 2 kgf, Thrust: ≤ 1 kgf	
Unit weight (packaged)	Varies according to connection type			
Cable type, cable connector type	≈ 310 g (≈ 420 g)	≈ 285 g (≈ 395 g)	≈ 270 g (≈ 380 g)	≈ 270 g (≈ 380 g)
Connector type	≈ 230 g (≈ 340 g)	≈ 205 g (≈ 315 g)	-	≈ 200 g (≈ 310 g)
Power supply	5 VDC≡ ± 5% (ripple P-P: ≤ 5%) / 12 - 24 VDC≡ ± 5% (ripple P-P: ≤ 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 MΩ (500 VDC≡ megger)			
Dielectric strength	Between all terminals and case: 750 VAC~ 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	Shaft type, Hollow Built-in type : Axial cable type / Axial cable connector type / Axial connector type / Radial connector type model Hollow type: Radial cable type / Radial 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



Clamping
Shaft Type



Synchro
Shaft Type



Hollow Shaft Type



Blind Hollow
Shaft Type