50 mm Diameter Incremental

Rotary Encoders

E50 Series



Features

- \cdot Ø 50 mm housing, Ø 8 mm solid shaft
- · Accurate measurement of angle, position, revolution, speed, acceleration, and distance
- · 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--- ± 5%, 12 - 24 VDC--- ± 5%

Specifications

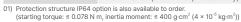
Model	E50S8-□- □-T-□-□	E50S8 - N	E50S8-□- □-V-□-□	E50S8-□- □-L-□-□		
Resolution	1/2/5 PPR ⁰¹⁾ 10 to 8,000 PPR model					
Control output	Totem pole output	NPN open collector output	Voltage output	Line driver output		
Output phase	A, B, Z	A, B, Z	A, B, Z	$A, \overline{A}, B, \overline{B}, Z, \overline{Z}$		
Inflow current	≤ 30 mA	≤ 30 mA	-	≤ 20 mA		
Residual voltage	≤ 0.4 VDC==	≤ 0.4 VDC==	≤ 0.4 VDC==	≤ 0.5 VDC==		
Outflow current	≤ 10 mA	-	≤ 10 mA	≤ -20 mA		
Output voltage (5 VDC==)	≥ (power supply -2.0) VDC==	-	-	≥ 2.5 VDC==		
Output voltage (12 - 24 VDC==)	≥ (power supply -3.0) VDC==	-	-	≥ (power supply -3.0) VDC==		
Response speed 02)	≤ 1 µs	≤ 0.5 µs				
Max. response freq.	300 kHz					
Max. allowable revolution 03)	5,000 rpm					
Approval	C € ERI	C € ERI	C € EHI	C € EHI		

- (01) Depending on the control output, only A, B or A, Ā, B, 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{max. response frequency}{resolution} \times 60 \text{ sec}]

Connection	Axial cable type	Axial cable connector type	Axial connector type	Radial connector type		
Starting torque	≤ 0.007 N m		≤ 0.078 N m			
Inertia moment	$\leq 80 \text{ g} \cdot \text{cm}^2 (8 \times 10^{-6} \text{ kg} \cdot \text{m}^2)$		$\leq 400 \text{ g} \cdot \text{cm}^2 (4 \times 10^{-5} \text{ kg} \cdot \text{m}^2)$			
Allowable shaft load	Radial: ≤ 10 kgf, Thrust: ≤ 2.5 kgf					
Unit weight (packaged)	≈ 275 g (≈ 363 g)		≈ 180 g (≈ 268 g)			
Power supply	5 VDC== ± 5% (ripple P-P: ≤ 5%) / 12 - 24 VDC== ± 5% (ripple P-P: ≤ 5%) model					
Current consumption	Totempole, NPN open collector, Voltage output: \leq 80 mA (no load) Line driver output: \leq 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	Axial cable type / cable connector type: IP50 (IEC standard) ⁰¹⁾ Axial / Radial connector type: IP64 (IEC standard)					
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.	Totempole, NPN open collector, Voltage output: M17 6-pin socket type Line driver output: M17 9-pin socket type					
21) Protection structure IP64 ention is also available to order						





View product detail