40 mm Diameter Incremental
Rotary Encoders

E40 Series



Features

- Ø 40 mm housing incremental rotary encoders
- Shaft, hollow shaft, blind hollow shaft models available
- Easy installation in tight or limited spaces
- Low shaft moment of inertia
- Various resolutions:
  1 to 5000 pulses per revolution
- Various control output options
- Power supply:
  5 VDC⎓ ± 5%, 12 - 24 VDC⎓ ± 5%

Specifications

Model	E40□□-□-□-T-□-□	E40□□-□-□-N-□-□	E40□□-□-□-V-□-□	E40□□-□-□-L-□-□
Resolution	1 / 2 / 5 / 12 PPR [01] 10 to 5,000 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			
Starting torque	E40S: ≤ 0.004 N m E40H, E40HB: ≤ 0.005 N m			
Inertia moment	≤ 40 g·cm^2 (4 × 10^{-6} kg·m^2)			
Allowable shaft load	Radial: ≤ 2 kgf, Thrust: ≤ 1 kgf			
Unit weight	≈ 120 g			
Approval	CE EAC	CE EAC	CE EAC	EAC

01) Depending on the control output, only A, B or A, $\overline{A}$, B, $\overline{B}$ are output.
02) Based on cable length: 2 m, I sink: 20 mA
03) Select resolution to satisfy Max. allowable revolution ≥ Max. response revolution

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

View product detail

Shaft Type

Hollow Shaft Type

Blind Hollow Shaft Type