

60 mm Diameter Incremental Rotary Encoders



E60 Series CATALOG

For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

Features

- Ø 60 mm housing, Ø 20 mm hollow shaft
- Accurate measurement of angle, position, revolution, speed, acceleration, and distance
- Various resolutions: up to 8192 pulses per revolution
- Various control output options
- Power supply: 5 VDC \pm 5%, 12 - 24 VDC \pm 5%

Ordering Information

This is only for reference, the actual product does not support all combinations. For selecting the specified model, follow the Autonics website.

E60 H 20 - ① - ② - ③ - ④ - ⑤

① Resolution

Number: Refer to resolution in 'Specifications'

② Output phase

3: A, B, Z
6: A, \bar{A} , B, \bar{B} , Z, \bar{Z}

③ Control output

T: Totem pole output
N: NPN open collector output
V: Voltage output
L: Line driver output

④ Power supply

5: 5 VDC \pm 5%
24: 12 - 24 VDC \pm 5%

⑤ Connection

No mark: Radial cable type
C: Radial cable connector type

Product Components

- Product (+ bracket)
- Bolt \times 4
- Instruction manual

Specifications

Model	E60H20-□-3-T-□-□	E60H20-□-3-N-□-□	E60H20-□-3-V-□-□	E60H20-□-6-L-□-□
Resolution	100 / 1,024 / 5,000 / 8,192 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	\leq 30 mA	\leq 30 mA	-	\leq 20 mA
Residual voltage	\leq 0.4 VDC \pm	\leq 0.4 VDC \pm	\leq 0.4 VDC \pm	\leq 0.5 VDC \pm
Outflow current	\leq 10 mA	-	\leq 10 mA	\leq -20 mA
Output voltage (5 VDC \pm)	\geq (power supply -2.0) VDC \pm	-	-	\geq 2.5 VDC \pm
Output voltage (12 - 24 VDC \pm)	\geq (power supply -3.0) VDC \pm	-	-	\geq (power supply -3.0) VDC \pm
Response speed ⁰¹⁾	\leq 1 μ s			\leq 0.5 μ s
Max. response frequency	300 kHz			
Max. allowable revolution ⁰²⁾	6,000 rpm			
Starting torque	\leq 0.0147 N m			
Inertia moment	\leq 110 g \cdot cm ² (11×10^{-6} kg \cdot m ²)			
Allowable shaft load	Radial: \leq 5 kgf, Thrust: \leq 2.5 kgf			
Unit weight (packaged)	\approx 300 g (\approx 397 g)			
Approval	CE EAC	CE EAC	CE EAC	EAC

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

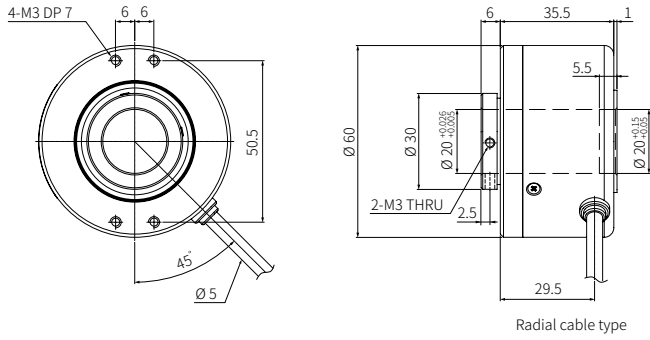
02) Select resolution to satisfy Max. allowable revolution \geq Max. response revolution

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

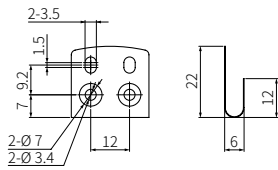
Power supply	5 VDC \pm 5% (ripple P-P: \leq 5%) / 12 - 24 VDC \pm 5% (ripple P-P: \leq 5%) model
Current consumption	Totem pole, NPN open collector, Voltage output: \leq 80 mA (no load) Line driver output: \leq 50 mA (no load)
Insulation resistance	Between all terminals and case: \geq 100 M Ω (500 VDC \pm 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	\leq 100 G
Ambient temp.	-10 to 70 $^{\circ}$ C, storage: -25 to 85 $^{\circ}$ 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.	\varnothing 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: \varnothing 1 mm
Connector spec.	Totem pole, NPN open collector, Voltage output: M17 6-pin socket type Line driver output: M17 9-pin socket type

Dimensions

- Unit: mm, For the detailed drawings, follow the Autonics website.
 - Following items are based on cable type.
- Refer to 'Specifications' for detailed specifications of cable, wire and connector.



■ Bracket



Sold Separately

- Connector cable: CID6S-□, CID9S-□