

80 mm Diameter Incremental Rotary Encoders



E80 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 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%

Ordering Information

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

E80 H ① - ② - ③ - ④ - ⑤ - ⑥

① Shaft inner diameter

30: Ø 30 mm
32: Ø 32 mm

④ Control output

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

② Resolution

Number: Refer to resolution in 'Specifications'

⑤ Power supply

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

③ Output phase

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

⑥ Connection

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

Product Components

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

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	$\leq$ 30 mA	$\leq$ 30 mA	-	$\leq$ 20 mA
Residual voltage	$\leq$ 0.4 VDC $\approx$	$\leq$ 0.4 VDC $\approx$	$\leq$ 0.4 VDC $\approx$	$\leq$ 0.5 VDC $\approx$
Outflow current	$\leq$ 10 mA	-	$\leq$ 10 mA	$\leq$ -20 mA
Output voltage (5 VDC $\approx$)	$\geq$ (power supply -2.0) VDC $\approx$	-	-	$\geq$ 2.5 VDC $\approx$
Output voltage (12 - 24 VDC $\approx$)	$\geq$ (power supply -3.0) VDC $\approx$	-	-	$\geq$ (power supply -3.0) VDC $\approx$
Response speed ⁰¹⁾	$\leq$ 1 μ s			$\leq$ 0.5 μ s
Max. response freq.	200 kHz			
Max. allowable revolution ⁰²⁾	3,600 rpm			
Starting torque	$\leq$ 0.02 N m			
Inertia moment	$\leq$ 800 g $\cdot$ cm ² (8×10^{-5} kg $\cdot$ m ²)			
Allowable shaft load	Radial: $\leq$ 5 kgf, Thrust: $\leq$ 2.5 kgf			
Unit weight	$\approx$ 560 g			
Approval	CE ENEC	CE ENEC	CE ENEC	ENEC

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

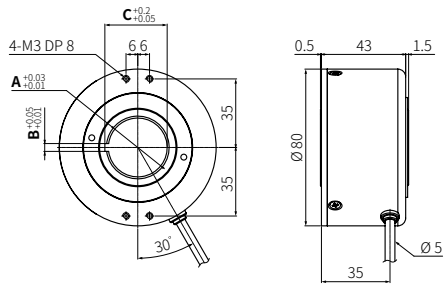
02) Select resolution to satisfy Max. allowable revolution $\geq$ Max. response revolution

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

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: $\leq$ 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 $\approx$ 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	$\leq$ 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			

Dimensions

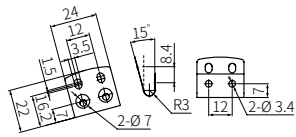
- Unit: mm, For the detailed drawings, follow the Autonics website.
- Following items are based on cable type.
Refer to 'Specifications' for detailed specifications of cable, wire and connector.



Radial cable type

	A	B	C
E80H30	Ø 30	4	31.8
E80H32	Ø 32	10	33.8

■ **Bracket**



Sold Separately

- Connector cable: CID6S-□, CID9S-□