

# 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 × 4
- Instruction manual

### Specifications

Model	E80H□-□-3-T-□-□	E80H□-□-3-N-□-□	E80H□-□-3-V-□-□	E80H□-□-6-L-5-□
<b>Resolution</b>	60 / 100 / 360 / 500 / 512 / 1,024 / 3,200 PPR model			
<b>Control output</b>	Totem pole output	NPN open collector output	Voltage output	Line driver output
<b>Output phase</b>	A, B, Z	A, B, Z	A, B, Z	A, $\bar{A}$ , B, $\bar{B}$ , Z, $\bar{Z}$
<b>Inflow current</b>	≤ 30 mA	≤ 30 mA	-	≤ 20 mA
<b>Residual voltage</b>	≤ 0.4 VDC $\pm$	≤ 0.4 VDC $\pm$	≤ 0.4 VDC $\pm$	≤ 0.5 VDC $\pm$
<b>Outflow current</b>	≤ 10 mA	-	≤ 10 mA	≤ -20 mA
<b>Output voltage (5 VDC<math>\pm</math>)</b>	≥ (power supply - 2.0) VDC $\pm$	-	-	≥ 2.5 VDC $\pm$
<b>Output voltage (12 - 24 VDC<math>\pm</math>)</b>	≥ (power supply - 3.0) VDC $\pm$	-	-	≥ (power supply - 3.0) VDC $\pm$
<b>Response speed <sup>01)</sup></b>	≤ 1 μs			≤ 0.5 μs
<b>Max. response freq.</b>	200 kHz			
<b>Max. allowable revolution <sup>02)</sup></b>	3,600 rpm			
<b>Starting torque</b>	≤ 0.02 N m			
<b>Inertia moment</b>	≤ 800 g · cm <sup>2</sup> (8 × 10 <sup>-5</sup> kg · m <sup>2</sup> )			
<b>Allowable shaft load</b>	Radial: ≤ 5 kgf, Thrust: ≤ 2.5 kgf			
<b>Unit weight</b>	≈ 560 g			
<b>Approval</b>	CE EAC	CE EAC	CE EAC	EAC

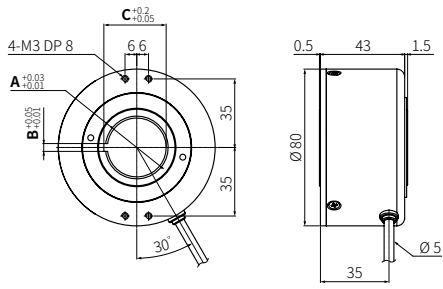
01) Based on cable length: 2 m, I sink: 20 mA

02) Select resolution to satisfy Max. allowable revolution ≥ Max. response revolution  
[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-□
<b>Power supply</b>	5 VDC $\pm$ 5% (ripple P-P: ≤ 5%) / 12 - 24 VDC $\pm$ 5% (ripple P-P: ≤ 5%) model			
<b>Current consumption</b>	Totem pole, NPN open collector, Voltage output: ≤ 80 mA (no load) Line driver output: ≤ 50 mA (no load)			
<b>Insulation resistance</b>	Between all terminals and case: ≥ 100 MΩ (500 VDC $\pm$ megger)			
<b>Dielectric strength</b>	Between all terminals and case: 750 VAC ~ 50 / 60 Hz for 1 minute			
<b>Vibration</b>	1 mm double amplitude at frequency 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 2 hours			
<b>Shock</b>	≤ 75 G			
<b>Ambient temp.</b>	-10 to 70 °C, storage: -25 to 85 °C (no freezing or condensation)			
<b>Ambient humi.</b>	35 to 85%RH, storage: 35 to 90%RH (no freezing or condensation)			
<b>Protection rating</b>	IP50 (IEC standard)			
<b>Connection</b>	Radial cable type / cable connector type model			
<b>Cable spec.</b>	Ø 5 mm, 5-wire (Line driver output: 8-wire), shield cable cable type: 2 m, cable connector type: 250 mm			
<b>Wire spec.</b>	AWG24 (0.08 mm, 40-core), insulator diameter: Ø 1 mm			
<b>Connector spec.</b>	Totem pole, NPN open collector, Voltage output: M17 6-pin socket type Line driver output: M17 9-pin socket type			

## Dimensions

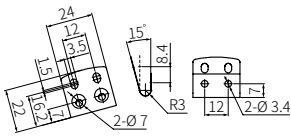
- Unit: mm, For the detailed drawings, follow the Autonics website.
- Following items are based on cable type.  
Refer to 'Specifications' for detailed specifications of cable, wire and connector.



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-□