

Wheel Type Incremental Rotary Encoders



ENC 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

- Wheel type encoders ideal for measuring length or speed of continuously moving objects
- Output waveform of measured distance is proportional to International Weights and Measures (meters / inches)
- 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.

ENC - 1 - ① - ② - ③ - ④

① Min. measuring unit

- 1: 1 mm
- 2: 1 cm
- 3: 1 m
- 4: 0.01 yd
- 5: 0.1 yd
- 6: 1 yd

③ Power supply

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

② Control output

- T: Totem pole output
- N: NPN open collector output
- V: Voltage output

④ Connection

- No mark: Axial cable type
- C: Axial cable connector type

Product Components

- Product
- Instruction manual

Specifications

Model	ENC-1-□-T-□-□	ENC-1-□-N-□-□	ENC-1-□-V-□-□
Min. measuring unit [pulse]	1 mm / 1 cm / 1 m / 0.01 yd / 0.1 yd / 1 yd model		
Control output	Totem pole output	NPN open collector output	Voltage output
Output phase	A, B	A, B	A, B
Inflow current	≤ 30 mA	≤ 30 mA	-
Residual voltage	≤ 0.4 VDC \pm	≤ 0.4 VDC \pm	≤ 0.4 VDC \pm
Outflow current	≤ 10 mA	-	≤ 10 mA
Output voltage (5 VDC \pm)	≥ (power supply -2.0) VDC \pm	-	-
Output voltage (12 - 24 VDC \pm)	≥ (power supply -3.0) VDC \pm	-	-
Response speed ⁰¹⁾	≤ 1 μs		
Max. response freq.	180 kHz		
Max. allowable revolution ⁰²⁾	5,000 rpm		
Starting torque	Dependent on the coefficient of friction		
Unit weight	≈ 494 g		
Approval	CE EAC	CE EAC	CE EAC

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

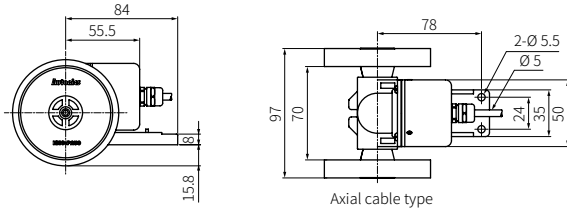
02) Select resolution to satisfy Max. allowable revolution ≥ Max. response revolution

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

Power supply	5 VDC \pm 5% (ripple P-P: ≤ 5%) / 12 - 24 VDC \pm 5% (ripple P-P: ≤ 5%) model
Current consumption	≤ 80 mA (no load)
Insulation resistance	Between all terminals and case: ≥ 100 MΩ (500 VDC \pm 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	IP50 (IEC standard)
Connection	Axial cable type / Cable connector type model
Cable spec.	Ø 5 mm, 4-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.	M17 6-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.



■ Min. measuring unit and wheel circumference

Min. measuring unit [pulse]	Revolution wheel circumference	Pulse / 1 revolution	Gear ratio
1 mm	250 mm	250	1:1
1 cm		100	4:1
1 m		1	4:1
0.01 yd	228.6 mm (0.25 yd)	100	4:1
0.1 yd		10	4:1
1 yd		1	4:1

Sold Separately

- Connector cable: CID6S-□