60 mm Diameter Absolute Single-Turn Rotary Encoders (Optical)

ENP 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 10 mm solid shaft
- Output code: BCD code
- Various resolutions: up to 360 divisions
- Power supply: 5 VDC⎓ ± 5%, 12 - 24 VDC⎓ ± 5%

Ordering Information

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

ENP	-	1	❶	❷	❸	-	❹	-	❺

❶ Output type
0: Negative logic
1: Positive logic

❷ Power supply
0: 5 VDC⎓ ±5%
1: 12 - 24 VDC⎓ ±5%

❸ Rotating direction
F: Increase output when the rotating direction is clockwise base on facing the shaft
R: Increase output when the rotating direction is counter-clockwise base on facing the shaft

❹ Resolution
Number: Refer to resolution in 'Output Phase / Output Angle'

❺ Control output
N: NPN open collector output
P: PNP open collector output

Product Components

- Product
- Instruction manual
- Bolt × 4
- Coupling × 1
- Bracket × 2

Specifications

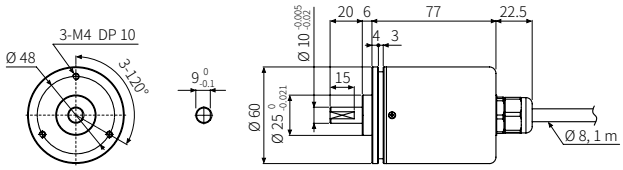
Model	ENP-1□□□-□-N	ENP-1□□□-□-P
Resolution 01)	≤ 360 division	
Output code	BCD code	
Control output	NPN open collector output	PNP open collector output
Inflow current	≤ 32 mA	-
Residual voltage	≤ 1 VDC⎓	-
Outflow current	-	≤ 32 mA
Output voltage	-	≥ (power supply - 1.5) VDC⎓
Response speed 02)	T_{ON} ≤ 800 nsec, T_{OFF} ≤ 800 nsec	
Max. response freq.	20 kHz	
Max. allowable revolution 03)	3,600 rpm	
Starting torque	≤ 0.05 N m	
Inertia moment	≤ 300 g·cm² (3 × 10^{-5} kg·m²)	
Allowable shaft load	Radial: 10 kgf, Thrust: 2.5 kgf	
Unit weight (packaged)	≈ 400 g (≈ 478 g)	
Approval	EAC	

01) Refer to resolution in 'Output Phase / Output Angle'.
02) Based on cable length: 1 m, I sink = 32 mA
03) Select resolution to satisfy Max. allowable revolution ≥ Max. response revolution
[max. response revolution (rpm) = $\frac{\text{max. response frequency}}{\text{resolution}} \times 60$ sec]

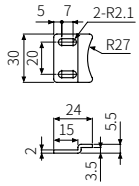
Power supply	5 VDC⎓ ± 5% (ripple P-P: ≤ 5%) / 12 - 24 VDC⎓ ± 5% (ripple P-P: ≤ 5%) model
Current consumption	≤ 100 mA (no load)
Insulation resistance	Between all terminals and case: ≥ 100 MΩ (500 VDC⎓ megger)
Dielectric strength	Between all terminals and case: 750 VAC~ 50 / 60 Hz for 1 minute
Vibration	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 spec.	Ø 8 mm, 12-wire, 1 m, double shield cable
Wire spec.	AWG24 (0.08 mm, 40-core), insulator diameter - power wire: Ø 1.5 mm, signal wire: Ø 1 mm

Dimensions

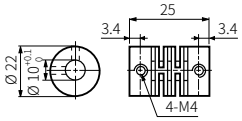
• Unit: mm, For the detailed drawings, follow the Autonics website.



■ Bracket



■ Coupling



- Parallel misalignment: ≤ 0.25 mm
- Angular misalignment: ≤ 5°
- End-play: ≤ 0.5 mm

18, Bansong-ro 513Beon-gil, Haeundae-gu, Busan, Republic of Korea, 48002
www.autonics.com | +82-2-2048-1577 | sales@autonics.com