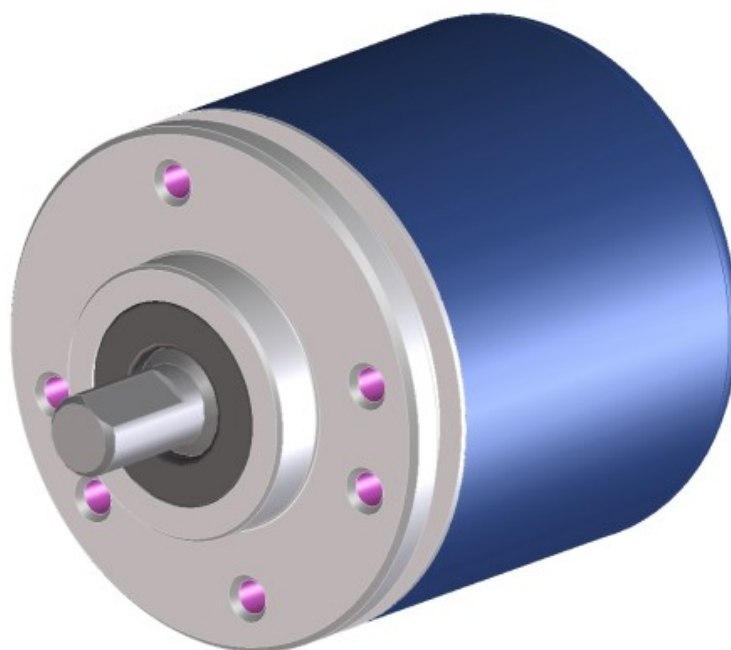




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OPTICAL
INCREMENTAL ENCODER

EN38MN



TECHNICAL DATASHEET

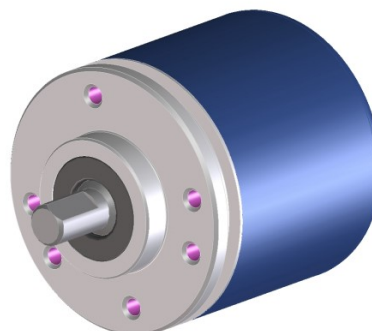


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OPTICAL ENCODER EN38MN

GENERAL FEATURES

- Incremental optical rotary encoder with small overall dimensions.
- Flange and body made of aluminium.
- Sealed cable output either radial or axial position.



MECHANICAL AND ELECTRICAL FEATURES

| MECHANICAL | Code EN38MN | | PP | L5 |
|---|----------------------------------|--|---|-------------|
| | Pulses per revolution | | from 5 to 3600 ppr | |
| <ul style="list-style-type: none"> • Flange and body made of aluminium. • Ring for high protection. • Shaft made of stainless steel. • Ball bearings. • Fixing by no. 3 screws M3 at 120° or no. 4 screws M3 at 90°. • Centring diameter 20mm. • High rotational precision. • High protection against environmental conditions. | Max. rotating speed | | momentary | 8000rpm |
| | Max. load on shaft | | permanent | 6000rpm |
| | Shaft (diameter A x length L) mm | | 30 N (radial) – 30 N (axial) | |
| | Protection class | | IP65 (standard) * | |
| | Operating temperature | | IP67 (optional) | |
| | Storage temperature | | 0 ÷ 70° C | |
| | Humidity | | -20 ÷ 80° C | |
| | Power supply | | 20 ÷ 90 % (not condensed) | |
| | Current consumption at 5V | | 5 ÷ 28V ± 10% | |
| | Max. output current | | 40 mA | 70 mA |
| ELECTRICAL <ul style="list-style-type: none"> • Protection against shortcuts. • High stability of output signals. | Max. frequency | | 120 kHz | |
| | Output | | Push-Pull | Line Driver |
| | Standard length of cable | | 1m | |
| | Electrical connections | | see rel. table | |
| | Electrical protections | | inversion of power supply polarity short-circuits on output port | |
| | Weight | | 80 g | |

* It is important to note that shaft rotates more freely in the version with protection class IP65.

ORDERING CODE

| MODEL | CABLE OUTPUT | PPR | POWER SUPPLY | SHAFT Ø | CABLE | OUTPUT | OPTIONS |
|---------------------------|--------------|--------------------------|--------------|--------------------------|---|--|--|
| EN38MN | HR | xxxxx | 05V | D06 | M01 | L5 C | V2 |
| HR = radial HA = axial | | 05V = 5V 0528 = 5÷28V | | D06 = ø6mm D08 = ø8mm | M0.5 = 0.5m M01 = 1m M40 = 40m _{MAX} | L5 C = LINE DRIVER PP C = PUSH-PULL | No code = standard configuration V2 = protection class IP67 |

Example ➤ **OPTICAL ENCODER EN38MN HR 00300 05V D06M01 L5 C V2**



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CABLE AND ELECTRICAL CONNECTIONS

Cable 8 cores $\varnothing = 4.5\text{mm}$, PVC external sheath

Wires section:

- for power supply: 0.14mm^2
- for signals: 0.14mm^2

Cable 5 cores $\varnothing = 4.1\text{mm}$, PVC external sheath

Wires section:

- for power supply: 0.35mm^2
- for signals: 0.14mm^2

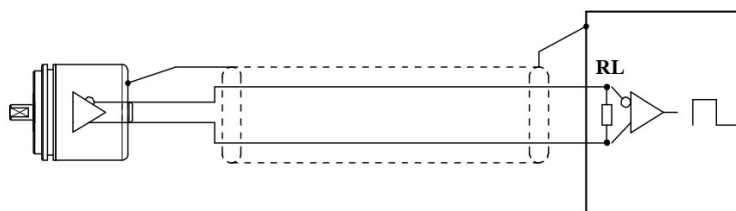
NOTES:

Respect a minimum bending radius of 50mm for cables.

| PP | | L5 | |
|---------|-------------|-----------|-------------|
| SIGNAL | WIRE COLOUR | SIGNAL | WIRE COLOUR |
| A | Green | A | Green |
| B | White | B | White |
| Z | Brown | Z | Brown |
| | | \bar{A} | Orange |
| | | \bar{B} | Light Blue |
| | | \bar{Z} | Yellow |
| V+ | Red | V+ | Red |
| GND | Blue | GND | Blue |
| \perp | Shield | \perp | Shield |

N.C. = Wire not connected

SHIELDED CABLE



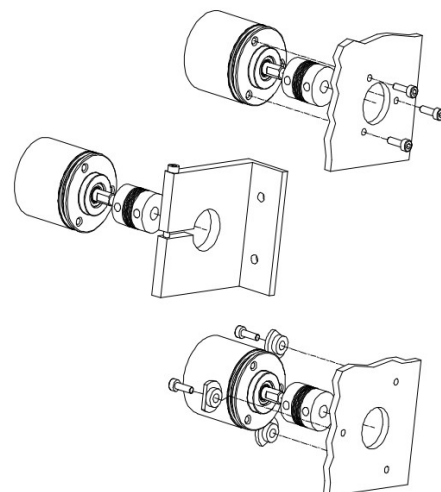
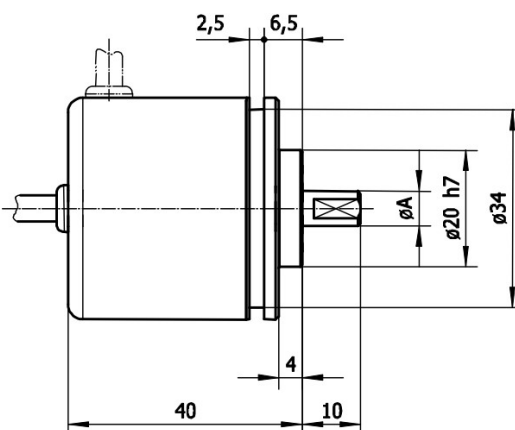
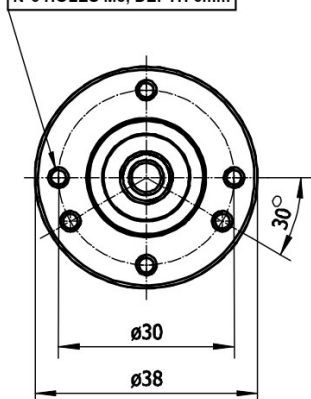
LINE-DRIVER CONNECTION

| POWER SUPPLY | RL |
|--------------|---------------|
| 5V | 120 Ω |
| 12V | 330 Ω |
| 24V | 1000 Ω |

In case of cable extension, ensure the electrical connection between the body of connectors.

DIMENSIONS AND RECOMMENDED FIXING

N°6 HOLES M3, DEPTH 6mm



- Use an elastic coupling for shaft junction.
- For fixing through brackets, drill on the mounting surface no. 3 holes M4 on a diameter of 50mm.

WHAT TO AVOID

- Any type of mechanical working (cut, drill, mill, etc.)
- Any modification either on the body or on the shaft of the encoder
- Any kind of bad usage
- External hits or stresses

