

# EB360R.SC-C.S012.AC6HN.14000N

Magnetic singleturn encoder, magnetic rotor with threaded screw

Article number: 11266764

## Overview

- Non contact absolute encoder / CANopen®
- Parameterizable resolution up to 14 bit
- Precise magnetic sensing
- Reliable outdoor design
- High ingress protection IP 69K
- Corrosion protection CX (C5-M)
- High resistance to shock and vibrations
- Flylead connector M12, 5-pin
- Speed information mappable
- Magnetic rotor included in delivery (calibrated set)



## Technical data

### Technical data - electrical ratings

|                       |   |
|-----------------------|---|
| Voltage supply        | 10...30 VDC   |
| Consumption typ.      | 20 mA (24 VDC, w/o load)  |
| Initializing time     | ≤ 170 ms after power on   |
| Interface             | CANopen®  |
| Function              | Singleturn  |
| Profile conformity    | CANopen® CiA communication profile DS 301, LSS profile DSP 305, device profile DS 406 |
| Steps per revolution  | 16384 / 14 bit  |
| Output stages         | CAN-Bus, LV (3.3 V) compatible<br>ISO 11898   |
| Absolute accuracy     | ±0.3 ° (+20 ±15 °C)<br>±0.5 ° (-40...+85 °C)  |
| Sensing method        | Magnetic  |
| Code sequence         | CW: ascending values with clockwise sense of rotation (looking at flange)             |
| Interference immunity | EN 61000-6-2  |
| Emitted interference  | EN 61000-6-4  |
| Approval              | UL approval / E217823<br>CE   |

### Technical data - mechanical design

|                       |  |
|-----------------------|--|
| Size (flange)         | ø36 mm   |
| Magnet rotor          | ø12 mm, screw mount  |
| Protection EN 60529   | IP 69K (sensor housing)  |
| Operating speed       | ≤6000 rpm  |
| Working distance      | 0.1 ... 4 mm (axial)<br>≤ 2 mm (radial)  |
| Material              | Housing: PA10T / GF30<br>Cable sheath: PUR<br>Magnet rotor: stainless steel        |
| Corrosion protection  | IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2 |
| Operating temperature | -40...+85 °C (see general information)   |
| Relative humidity     | 95 %   |
| Resistance            | EN 60068-2-6<br>Vibration 30 g, 10-2000 Hz<br>EN 60068-2-27<br>Shock 500 g, 1 ms   |
| Weight approx.        | 100 g  |
| Connection            | Flylead connector M12, 5-pin, length 300 mm  |

## Optional

- Gear function (on request)
- Terminal resistance (on request)

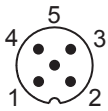
**General information**

Self-heating correlated to installation and ambient conditions as well as to electronics and supply voltage must be considered for precise thermal dimensioning. Operating the encoder close to the maximum limits requires measuring the real prevailing temperature at the encoder flange.

**Terminal assignment**

**Flylead connector M12, 5-pin, male, A-encoding**

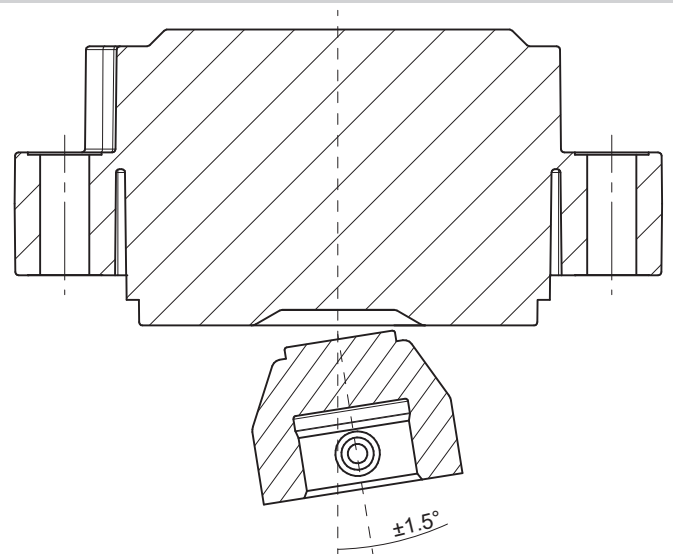
| Pin | Signals |
|-----|---------|
| 1   | CAN_GND |
| 2   | +Vs     |
| 3   | 0 V     |
| 4   | CAN_H   |
| 5   | CAN_L   |



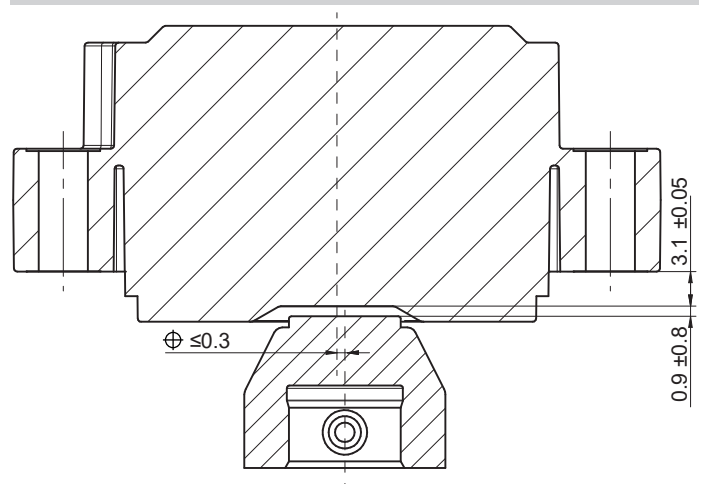
**CANopen® features**

|                         |  |
|-------------------------|--|
| Process data            | Position value<br>Speed (mappable)<br>Encoder diagnostic                   |
| Operating modes         | Time-driven (Event-Time)<br>Synchronously triggered (Sync)                 |
| Node Monitoring         | Heartbeat<br>Node guarding   |
| Programmable parameters | Operating modes<br>Total resolution<br>Scaling<br>Electronic gear function |
| Diagnosis               | Position error<br>Temperature exceeding<br>Speed exceeding                 |
| Default                 | 250 kbit/s<br>Node-ID 1  |

**Angular misalignment**



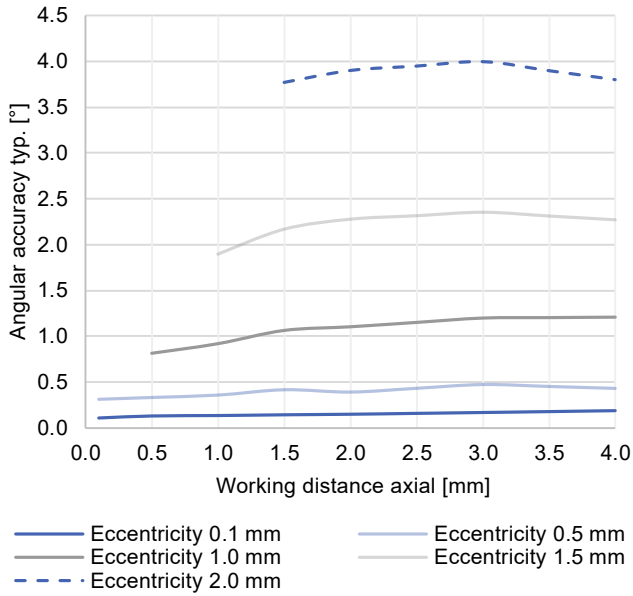
**Working distance**



Working distance axial and radial eccentricity

**Working distance**

The ideal working distance of the magnet related to the encoder is at an eccentricity of 0 mm and an axial distance of 0.9 mm. Deviation affects the accuracy as shown in following diagram.

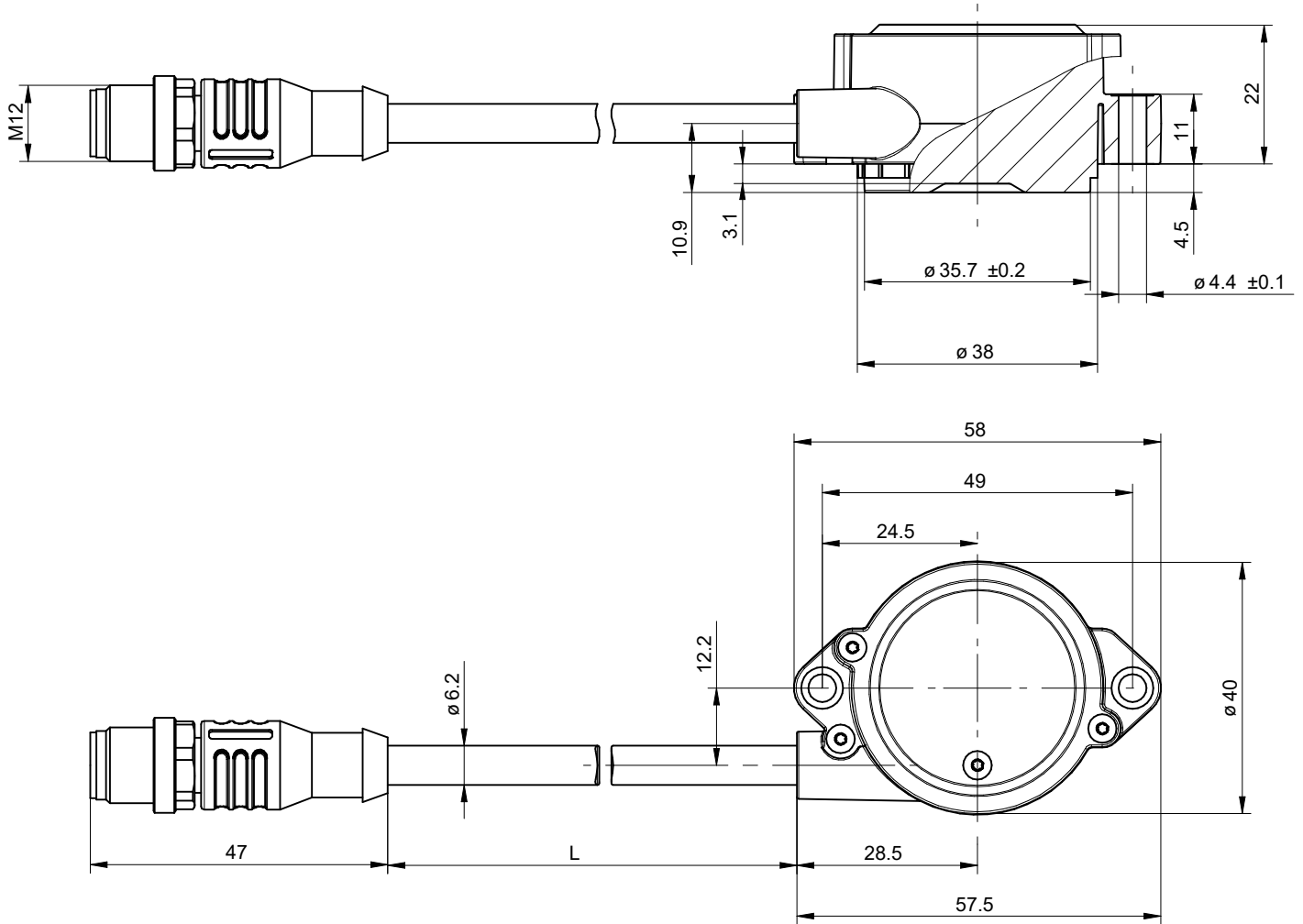


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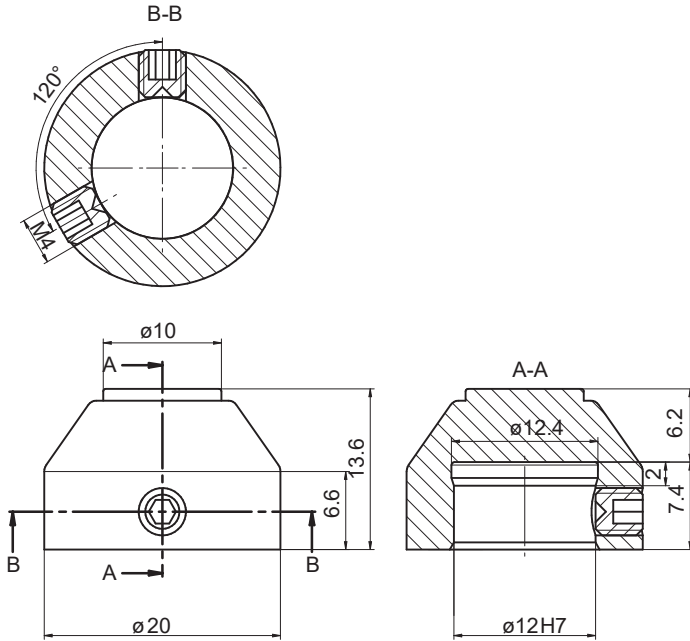
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## Dimensions



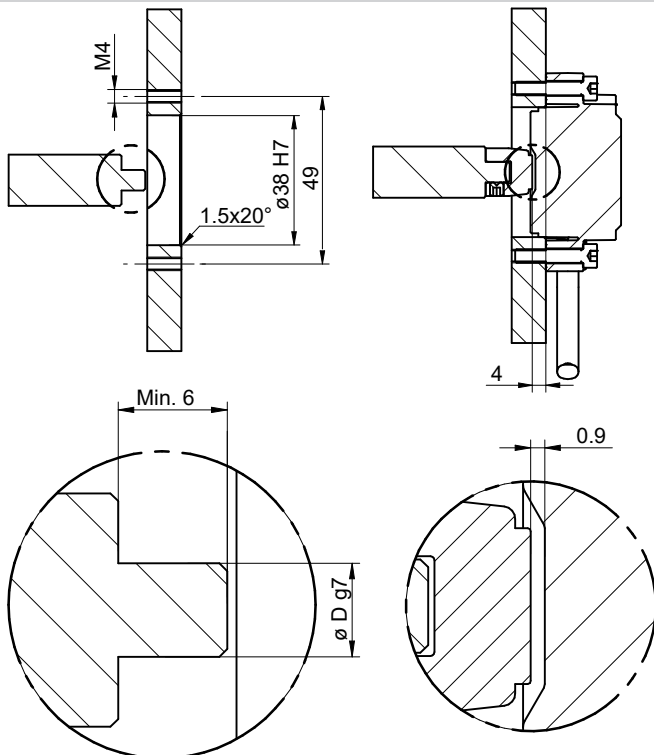
Sensor with flylead connector M12

**Dimensions**



Magnetic rotor screw mounting,  $\varnothing 12$  mm

**Mounting recommendation**



Screw mount