

EN580C.ML-BN12.HH2C1.21160.H

Blind hollow shaft, optical multiturn encoder up to 21 bit ST / 16 bit MT

Article number: 11267451

Overview

- Encoder multiturn / bus cover
- Optical sensing method
- Resolution: singleturn 21 bit (default: 13 bit), multiturn 16 bit (default: 16 bit)
- Total resolution up to 31 bit
- Blind hollow shaft
- Interface: CANopen®
- Internal continuity check with diagnostic information by bus
- Maximum resistant against magnetic fields
- Gear factor adjustable via numerator / denominator
- Dynamic PDO-mapping



Picture similar

Technical data

Technical data - electrical ratings

| | |
|-----------------------------|---|
| Voltage supply | 8...30 VDC |
| Reverse polarity protection | Yes |
| Consumption w/o load | ≤100 mA (24 VDC) |
| Initializing time typ. | 180 ms after power on |
| Interface | CANopen® |
| Function | Multiturn |
| Profile conformity | CANopen® CiA 301 V4.2.0 |
| Node-ID | Adjustable via rotary switches in bus cover or interface |
| Steps per revolution | ≤2097152 / 21 bit |
| Number of revolutions | ≤65536 / 16 bit |
| Absolute accuracy | ±0.01 ° |
| Sensing method | Optical |
| Code | Binary |
| Interference immunity | EN 61000-6-2 |
| Emitted interference | EN 61000-6-3 |
| Programmable parameters | Steps per revolution Number of revolutions Preset Scaling Rotating direction Gear factor |
| Diagnostic function | Position or parameter error Multiturn sensing Operating hour counter |
| Status indicator | DUO-LED integrated in bus cover |

Technical data - electrical ratings

Approval UL approval / E217823

Technical data - mechanical design

| | |
|-----------------------|--|
| Size (flange) | ø58 mm |
| Shaft type | ø12 mm (blind hollow shaft) |
| Protection EN 60529 | IP 65 / IP 67 (with shaft seal) |
| Operating speed | ≤6000 rpm (+25 °C) |
| Starting acceleration | ≤1000 U/s ² |
| Starting torque | ≤0.04 Nm (+25 °C, IP 65 / IP 67) |
| Motor shaft tolerance | ± 0.2 mm (axial offset) ≤ 0.1 mm (radial offset) ≤ 0.1 mm (concentricity) |
| Material | Housing: aluminium Flange: aluminium Bus cover: zinc die-cast Shaft: stainless steel |
| Operating temperature | -25...+85 °C (see general information) |
| Relative humidity | 95 % non-condensing |
| Resistance | EN 60068-2-6 Vibration ±0.75 mm - 10-58 Hz, 10 g - 58-2000 Hz EN 60068-2-27 Shock 200 g, 3 ms |
| Weight approx. | 550 g |
| Connection | Cable gland |
| Instruction | Resonance frequency with stator coupling (11721627): 450...600 Hz |

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General information

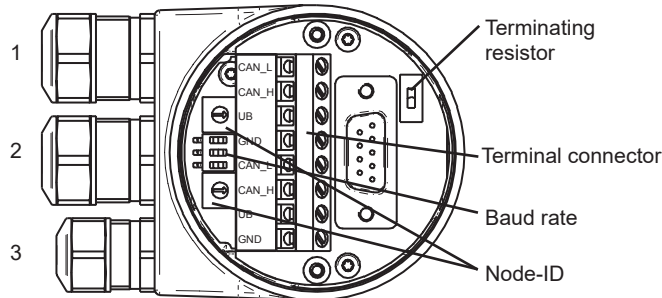
Self-heating correlated to installation and ambient conditions as well as to electronics and supply voltage must be considered for precise thermal dimensioning. Operating the encoder close to the maximum limits requires measuring the real prevailing temperature at the encoder flange.

Terminal assignment

| Signals | Description |
|---------|----------------------------------|
| GND | Ground connection relating to UB |
| UB | Voltage supply |
| CAN_H | CAN bus signal (dominant High) |
| CAN_L | CAN bus signal (dominant Low) |

Terminals of the same significance are internally connected and identical in their functions. Max. load on the internal terminal connections UB-UB and GND-GND is 1 A each.

View inside bus cover



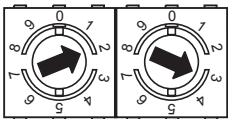
Cable: 1, 2 = \varnothing 8-10 mm (-40-85 °C) / \varnothing 5-9 mm (-25-85 °C)
Cable: 3 = \varnothing 4.5-6 mm (-40-85 °C) / \varnothing 3-6 mm (-25-85 °C)

Terminating resistor



ON = final user
OFF = user X
Default: OFF

Node-ID



Defined by rotary switch (Node-ID 01 to 99). If a higher node ID is required use the CANopen configuration.

If the rotary switch is set to 00, the Node-ID and the baud rate can be configured via the CANopen objects 2101h (Node-ID) and 2100h (baud rate).

Example: 23
Default: 00

Baud rate



| Baud rate | Dip switch position | | | |
|------------|---------------------|-----|-----|-----------|
| | 1 | 2 | 3 | |
| 10 kBit/s* | OFF | OFF | OFF | |
| 20 kBit/s* | OFF | OFF | ON | |
| 50 kBit/s | OFF | ON | OFF | |
| 125 kBit/s | OFF | ON | ON | |
| 250 kBit/s | ON | OFF | OFF | (default) |
| 500 kBit/s | ON | OFF | ON | |
| 800 kBit/s | ON | ON | OFF | |
| 1 MBit/s | ON | ON | ON | |

Note:

The baud rate 100 kBit/s can only be configured via CANopen object (2100h).

* not supported

CANopen® features

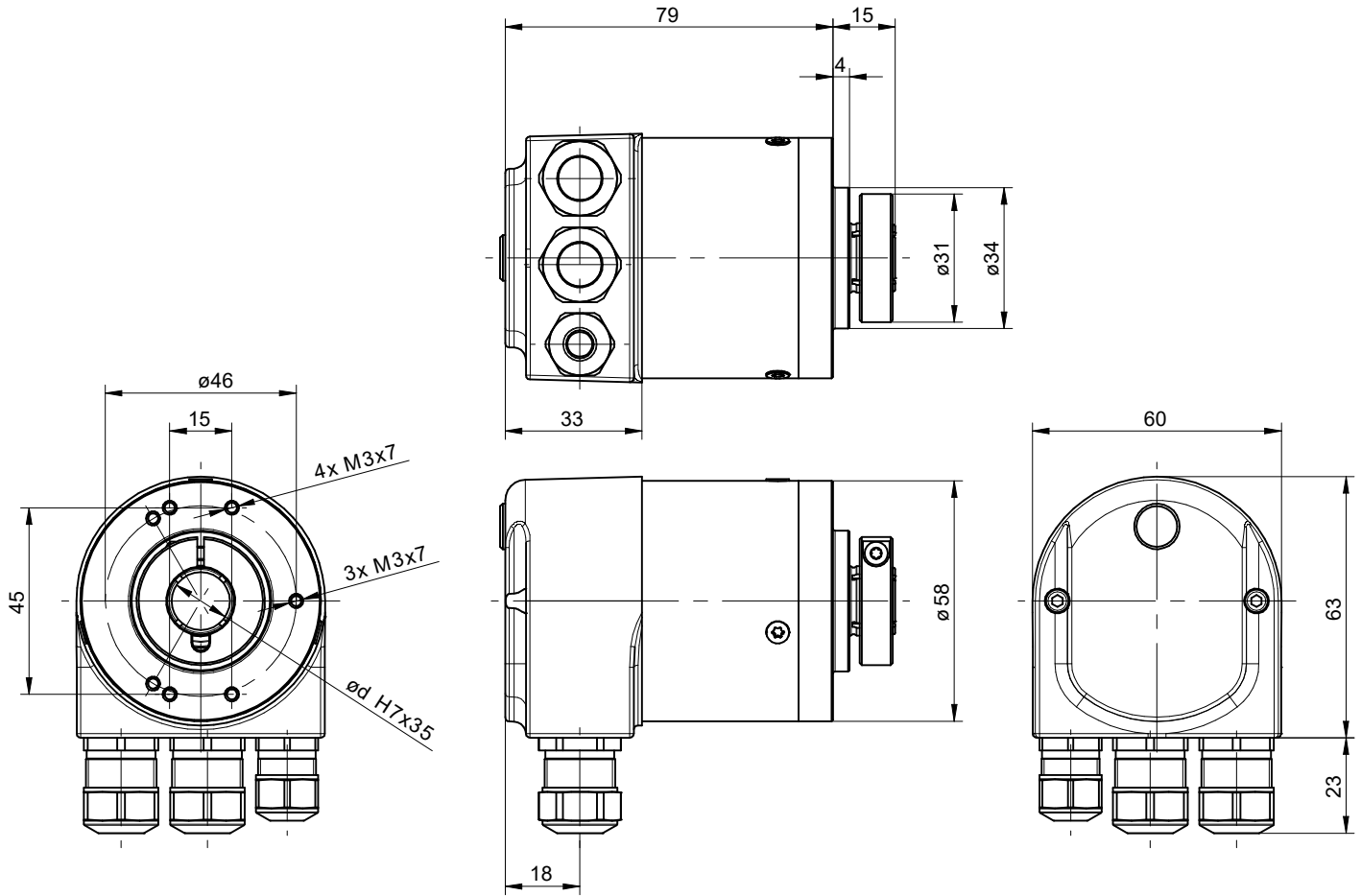
| | |
|-------------------------|---|
| Operating modes | Timer-driven (Event-Time) Synchronously triggered (Sync) |
| Node Monitoring | Heartbeat Node guarding |
| Programmable parameters | Scaling Rotating direction Electronic gear function (adjustable via numerator / denominator) MUR (Measuring Units per Revolution) TMR (Total Measuring Range) Speed configuration Operating modes |
| Diagnosis | Multiturn sensing Position error Battery level |
| Functions | Electronic gear function Dynamic PDO mapping Preset value LED status |

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Dimensions



EN580C.ML-B - cable gland

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Accessories

Mounting accessories

11721627 Stator coupling, 2-armed (mounting kit 207)