

EN580E.ML-TT12.GA1B1.13120.H

Through hollow shaft, optical multiturn encoders 13 bit ST / 12 bit MT, BiSS C Certified

Article number: 11246045

Overview

- Absolute encoder multiturn
- Optical sensing method
- Resolution: singleturn 13 bit, multiturn 12 bit
- Maximum resistant against magnetic fields
- High connection flexibility thanks to flexible connector M12



Technical data

Technical data - electrical ratings

| | |
|-----------------------------|---|
| Voltage supply | 8...30 VDC |
| Reverse polarity protection | Yes |
| Short-circuit proof | Yes |
| Consumption w/o load | ≤80 mA (24 VDC) |
| Interface | BiSS C Certified |
| Function | Multiturn |
| Steps per revolution | 8192 / 13 bit |
| Number of revolutions | 4096 / 12 bit |
| Absolute accuracy | ±0.03 ° |
| Sensing method | Optical |
| Code | Binary |
| Code sequence | CW: ascending values with clockwise sense of rotation (looking at flange) |
| Input signals | BiSS clock (MA) Zero setting input Counting direction |
| Output stages | BiSS data: Linedriver RS422 |
| Output signals | BiSS data (SLO) |
| Clock frequency | 80...10000 kHz |
| Interference immunity | EN 61000-6-2 |
| Emitted interference | EN 61000-6-4 |

Technical data - electrical ratings

Approval UL-Listing: E217823

Technical data - mechanical design

| | |
|-----------------------|--|
| Size (flange) | ø58 mm |
| Shaft type | ø12 mm (through hollow shaft) |
| Protection EN 60529 | IP 54 (flange side) IP 65 (housing side) |
| Operating speed | ≤6000 rpm (+25 °C) |
| Starting torque | ≤0.04 Nm |
| Motor shaft tolerance | ± 0.2 mm (axial offset) ≤ 0.1 mm (radial offset) ≤ 0.1 mm (concentricity) |
| Material | Housing: aluminium Shaft: stainless steel |
| Operating temperature | -25...+85 °C (see general information) |
| Relative humidity | 95 % non-condensing |
| Resistance | IEC 60068-2-6 Vibration ±0.75 mm - 10-58 Hz, 10 g - 58-2000 Hz EN 60068-2-27 Shock 100 g, 11 ms |
| Weight approx. | 400 g |
| Connection | Connector M12, 8-pin, flexible |

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

Connector M12, 8-pin

| Pin | Assignment |
|-----|------------|
| 1 | 0 V |
| 2 | +Vs |
| 3 | MA+ |
| 4 | MA- |
| 5 | SLO+ |
| 6 | SLO- |
| 7 | SET |
| 8 | DIR |



Terminal significance

| | |
|-----|--|
| SET | <p>Zero setting input. Input for zero setting at any position. The zero setting operation is triggered by a high pulse and has to be in line with the selected direction of rotation (DIR). Impulse duration >100 ms. Connect to 0 V after zero setting for maximum interference immunity.</p> |
| DIR | <p>Counting direction input. This input is standard on high. DIR-High means ascending output data with clockwise shaft rotation when looking at flange. DIR-Low means ascending values with counterclockwise shaft rotation when looking at flange. For maximum interference immunity connect to +Vs respectively 0 V depending on counting direction.</p> |

Trigger level

| BiSS C | Circuit |
|--------------|---------------------------------------|
| BiSS C-Clock | RS422 with terminating resistor 120 Ω |
| BiSS C-Data | RS422 |

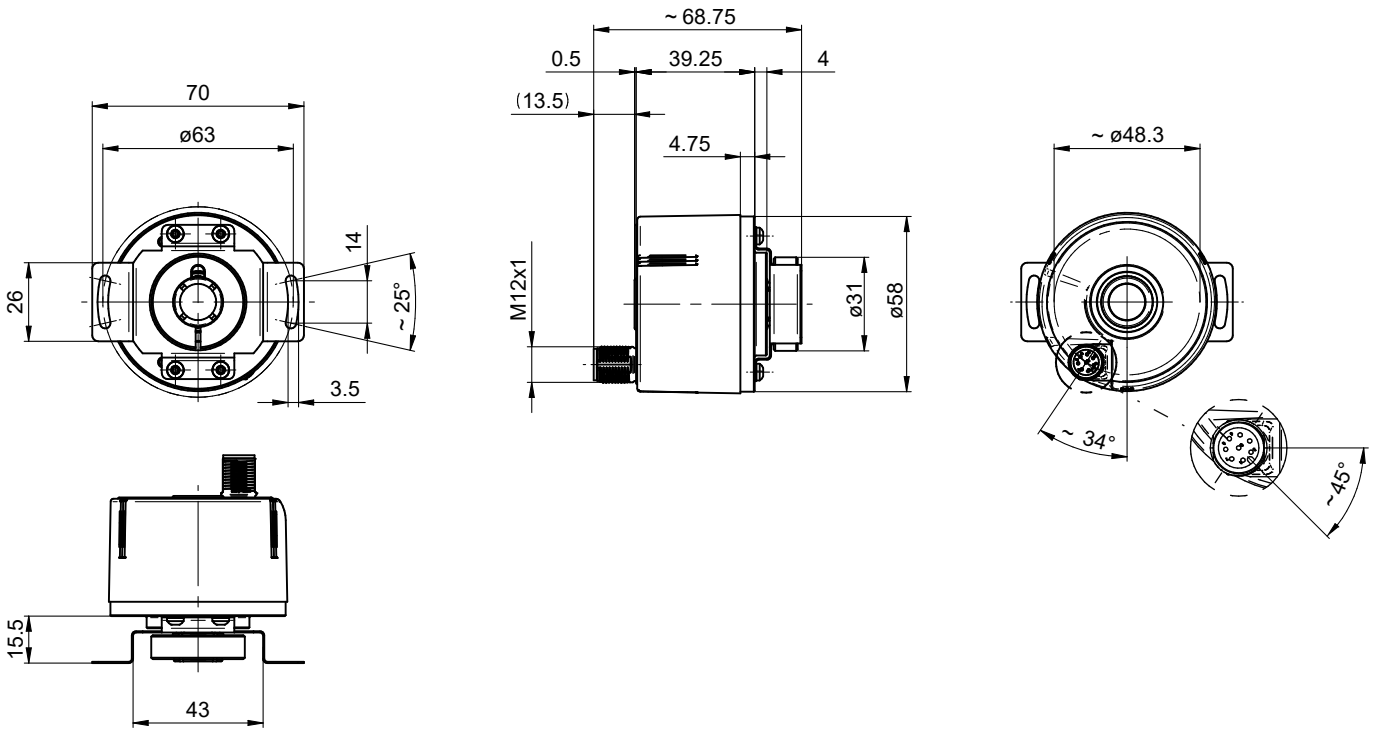
| Control inputs | Input circuit |
|------------------|---------------|
| Input level High | >0.7 +Vs |
| Input level Low | <0.3 +Vs |
| Input resistance | 10 kΩ |

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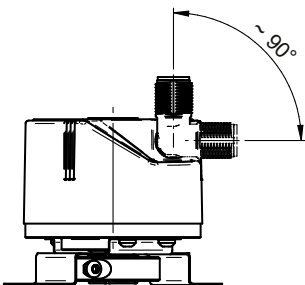
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Dimensions



Through hollow shaft, connector M12



Through hollow shaft, flexible connector M12

Accessories**Mounting accessories**

| | |
|----------|---|
| 11066083 | Torque arm, 1-arm (mounting kit 006) |
| 11073119 | Torque arm, 1-arm (mounting kit 021) |
| 11067367 | Torque arm, 1-arm (mounting kit 028) |
| 11113210 | Torque arm, 1-arm (mounting kit 047) |
| 11124300 | Torque arm, 1-arm (mounting kit 048) |
| 11106627 | Fan cover clip 8 mm |
| 11116921 | Insulating sleeve \varnothing 10 mm/ \varnothing 12 mm/25 mm long |
| 11116923 | Insulating sleeve \varnothing 12 mm/ \varnothing 14 mm/25 mm long |
| 11730156 | Stator coupling, 2-arm - EN5xx / \varnothing 68 mm / M3 |
| 11730157 | Stator coupling, 2-arm - EN5xx / \varnothing 68 mm / M4 |
| 11730158 | Stator coupling, 2-arm - EN5xx / \varnothing 73 mm / M3 |
| 11721627 | Stator coupling, 2-arm (mounting kit 207) |