

EAM580-K - EtherNet/IP

Encoder kit

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Overview

- Encoder kit multiturn / EtherNet/IP
- Precise magnetic sensing
- Resolution max. 30 bit (14 bit ST, 16 bit MT)
- Angular accuracy up to $\pm 0.15^\circ$
- High protection up to IP 67
- High resistance to shock and vibrations
- LED status display



Technical data

Technical data - electrical ratings

| | |
|-----------------------|--|
| Voltage supply | 10...30 VDC |
| Consumption typ. | 90 mA (24 VDC, w/o load) |
| Initializing time | ≤ 10 s after power on |
| Interface | EtherNet/IP |
| Function | Multiturn |
| Steps per revolution | ≤ 16384 / 14 bit |
| Number of revolutions | ≤ 65536 / 16 bit |
| Absolute accuracy | $\pm 0.15^\circ$ (+20 $\pm 15^\circ\text{C}$) $\pm 0.25^\circ$ (-40...+85 $^\circ\text{C}$) (see info working distance) |
| Sensing method | Magnetic |
| Interference immunity | EN 61000-6-2 |
| Emitted interference | EN 61000-6-4 |
| Status indicator | 4x LED integrated in housing |
| Approval | UL approval / E217823 |

Technical data - mechanical design

| | |
|-----------------------|---|
| Size (flange) | $\varnothing 58$ mm |
| Shaft type | $\varnothing 6$ mm (magnet bore) $\varnothing 8$ mm (magnet bore) $\varnothing 12$ mm (magnet bore) |
| Protection EN 60529 | IP 67 |
| Operating speed | ≤ 6000 rpm |
| Working distance | 1.1 ± 0.9 mm axial / ≤ 0.3 mm eccentricity |
| Material | Housing: steel zinc-coated Flange: aluminium |
| Operating temperature | -40...+85 $^\circ\text{C}$ (see general information) |
| Relative humidity | 95 % |
| Resistance | EN 60068-2-6 Vibration 30 g, 10-2000 Hz EN 60068-2-27 Shock 500 g, 1 ms |
| Weight approx. | 250 g |
| Connection | Flange connector 3 x M12 |

Optional

- Protection against corrosion CX (C5-M)

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

Voltage supply

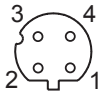
| Pin | Assigned | Significance |
|-----|----------|----------------|
| 1 | +Vs | Voltage supply |
| 2 | d.u. | Do not connect |
| 3 | 0 V | Ground |
| 4 | d.u. | Do not connect |



1 x flange connector M12 (male), A-coded

EtherNet/IP (data line)

| Pin | Assigned | Significance |
|-----|----------|--------------------|
| 1 | TxD+ | Transmission data+ |
| 2 | RxD+ | Receiving data+ |
| 3 | TxD- | Transmission data- |
| 4 | RxD- | Receiving data- |



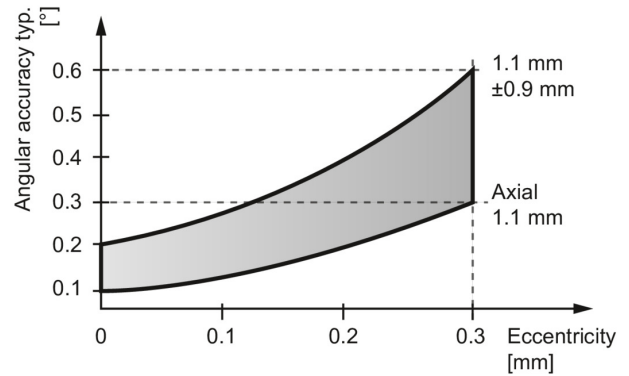
2 x flange connector M12 (female), D-coded

EtherNet/IP features

| | |
|----------------------|---|
| Bus protocol | EtherNet/IP |
| Device profile | CIP Nov 2016, 22 _{hex} Encoder |
| Cycle time | 1 ms |
| Features | <ul style="list-style-type: none"> - Gear factor (round shaft) and endless loop mode - Plausibility check of the adjustable parameters - Comprehensive diagnostic functions - Address Conflict Detection - Device Level Ring - Multiple simultaneous IO connections |
| LED status indicator | 2x Link/Activity, Module Status, Network Status |

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 1.1 mm. Deviation affects the accuracy as shown in following diagram.

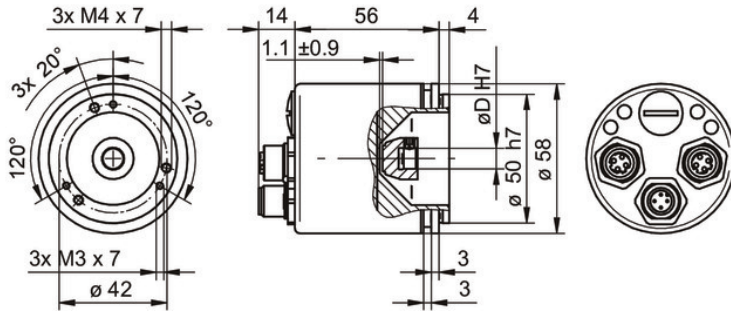


EAM580-K - EtherNet/IP

Encoder kit

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Dimensions



EAM580-K - EtherNet/IP

Encoder kit

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Ordering reference

| | | | | | | | | | | | | | | | |
|--------------------------------------|---|---|---|---|----|---|---|---|----|---|----|----|---|---|---|
| | EAM580 | - | K | Y | ## | . | 7 | Y | EN | . | 14 | 16 | 0 | . | A |
| Product | EAM580 | | | | | | | | | | | | | | |
| Shaft type | Kit | | | K | | | | | | | | | | | |
| Flange (kit) | Servoflansch, Nut ø53 mm, M3/M4 | | | Y | | | | | | | | | | | |
| Magnet holder / bore diameter | ø6 mm | | | | 6 | | | | | | | | | | |
| | ø8 mm | | | | 8 | | | | | | | | | | |
| | ø12 mm | | | | C | | | | | | | | | | |
| Protection class | IP 67 | | | | | | 7 | | | | | | | | |
| Connection | Flange socket axial M12, 4-pin, female contacts, CW, 1 x M12, 4-pin, male contacts, CCW | | | | | | | Y | | | | | | | |
| Voltage supply / interface | 10...30 VDC, EtherNet/IP | | | | | | | | EN | | | | | | |
| Resolution Singleturn | 14 Bit | | | | | | | | | | 14 | | | | |
| Resolution Multiturn | 16 Bit | | | | | | | | | | | 16 | | | |
| Resolution supplement | No option | | | | | | | | | | | | | 0 | |
| Operating temperature | -40...+85 °C | | | | | | | | | | | | | | A |

Accessories

Mounting accessories

10252773 Clamp set ø15 mm