

# Absolute encoders - bus interfaces

Solid shaft with synchro flange

Magnetic multiturn encoders 14 bit ST / 16 bit MT

## EAM580-SY - PROFINET - MAGRES



EAM580-SY with synchro flange

### 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             | PROFINET IO                                    |
| Function              | Multiturn                                      |
| Steps per revolution  | ≤16384 / 14 bit                                |
| Number of revolutions | ≤65536 / 16 bit                                |
| Absolute accuracy     | ±0.15 ° (+20 ±15 °C)<br>±0.25 ° (-40...+85 °C) |
| Sensing method        | Magnetic                                       |
| Interference immunity | DIN EN 61000-6-2                               |
| Emitted interference  | DIN EN 61000-6-4                               |
| Status indicator      | 4x LED integrated in housing                   |

### Features

- Encoder multiturn / PROFINET IO
- Precise magnetic sensing
- Resolution max. 30 bit (14 bit ST, 16 bit MT)
- Angular accuracy up to ±0.15°
- High protection up to IP 67
- High resistance to shock and vibrations
- LED status display

### Optional

- Protection against corrosion C5-M

### Technical data - mechanical design

|                         |   |
|-------------------------|---|
| Size (flange)           | ø58 mm  |
| Shaft type              | ø6 x 10 mm, solid shaft with flat   |
| Flange                  | Synchro flange  |
| Protection DIN EN 60529 | IP 65 (without shaft seal),<br>IP 67 (with shaft seal)                                |
| Operating speed         | ≤6000 rpm   |
| Starting torque         | ≤2 Ncm (+20 °C, IP 65)<br>≤2.5 Ncm (+20 °C, IP 67)                                    |
| Admitted shaft load     | ≤40 N axial<br>≤80 N radial   |
| Materials               | Housing: steel zinc-coated<br>Flange: aluminium<br>Shaft: stainless steel             |
| Operating temperature   | -40...+85 °C<br>(see general information)   |
| Relative humidity       | 95 %  |
| Resistance              | DIN EN 60068-2-6<br>Vibration 30 g, 10-2000 Hz<br>IEC 60068-2-27<br>Shock 250 g, 6 ms |
| Weight approx.          | 360 g   |
| Connection              | Flange connector 3 x M12  |

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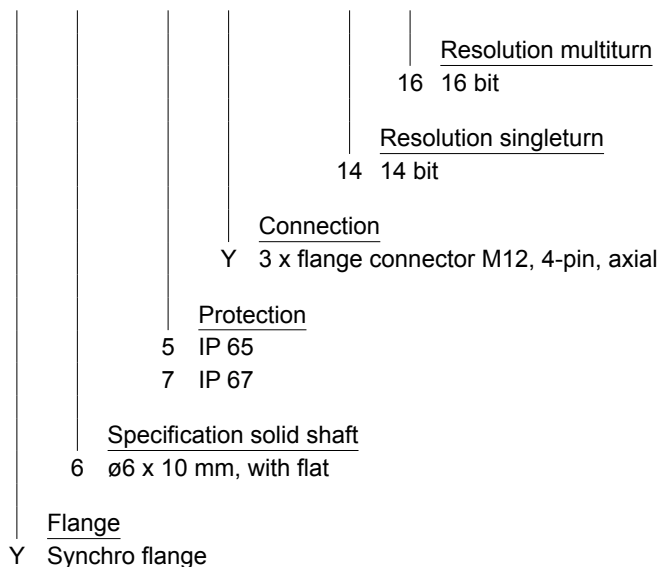
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### Part number

EAM580-S Y 6 . Y PT. 14 16 0.A



### Accessories

#### Connectors and cables

11034355 Cable connector M12, 4-pin, on both sides, D-coded, 5 m cable (Z 185.E05)

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##### PROFINET features

|                      |   |
|----------------------|---|
| Bus protocol         | PROFINET IO   |
| Device profile       | Encoder Profil PNO 3.162 V4.1 und V3.1<br>PROFIdrive Profil PNO 3.172 V4.1  |
| Real time classes    | Realtime (RT) Class 1, IRT Class 3  |
| Send clock           | RT: 1 ms, 2 ms, 4 ms<br>IRT: 250 µs, 500 µs, 1 ms, 2 ms, 4 ms   |
| Update time          | Min. 500 µs   |
| Features             | - 100 MBaud Fast Ethernet<br>- Device replacement without interchangeable media<br>- Media redundancy MRP<br>- Gear factor / Round axis |
| Process data         | - Position value 32 bit input data with/without rotation speed 16 or 32 bit<br>- Telegrams 81-83 of PROFIdrive profile                  |
| LED status indicator | Link/Activity, Status, Error  |

##### General information

Self-heating interrelated to speed, protection, attachment method and ambient conditions as well electronics and supply voltage must be considered for precise thermal dimensioning. Self-heating is supposed to approximate 3 K (IP 65 protection) respectively 8 K (IP 67 protection) per 1000 rpm. 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      | Voltage supply |
| 4   | d.u.     | Do not connect |



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

###### PROFINET (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

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## Dimensions

