

Absolute encoders - bus interfaces

Blind hollow shaft

Magnetic multiturn encoders 14 bit ST / 16 bit MT

EAM580-B - PROFINET - MAGRES



EAM580 with hollow shaft

Features

- Encoder multiturn / PROFINET IO
- 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

Optional

- Protection against corrosion C5-M

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	$\pm 0.15^\circ$ (+20 $\pm 15^\circ$ C) $\pm 0.25^\circ$ (-40...+85 $^\circ$ 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

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10...15$ mm (blind hollow shaft)
Protection DIN EN 60529	IP 65 (without shaft seal), IP 67 (with shaft seal)
Operating speed	≤ 6000 rpm
Starting torque	≤ 2 Ncm (+20 $^\circ$ C, IP 65) ≤ 2.5 Ncm (+20 $^\circ$ C, IP 67)
Moment of inertia	46.75 gcm ²
Materials	Housing: steel zinc-coated Flange: aluminium Hollow shaft: stainless steel
Operating temperature	-40...+85 $^\circ$ C (see general information)
Relative humidity	95 %
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 250 g, 6 ms
Weight approx.	360 g
Connection	Flange connector 3 x M12

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Part number

EAM580-B

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Resolution multiturn

16 16 bit

Resolution singleturn

14 14 bit

Connection

Y 3 x flange connector M12, 4-pin, axial

Protection

5 IP 65

7 IP 67

Specification hollow shaft

A ø10 mm, clamping ring at A side

C ø12 mm, clamping ring at A side

E ø14 mm, clamping ring at A side

F ø15 mm, clamping ring at A side

Flange

N Without stator coupling

A With stator coupling ø68 mm

E Torque pin 5 mm, axial

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 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 IRT: 250 µs, 500 µs, 1 ms, 2 ms, 4 ms
Update time	Min. 500 µs
Features	- 100 MBaud Fast Ethernet - Device replacement without interchangeable media - Media redundancy MRP - Gear factor / Round axis
Process data	- Position value 32 bit input data with/without rotation speed 16 or 32 bit - Telegrams 81-83 of PROFIdrive profile
LED status indicator	Link/Activity, Status, Error

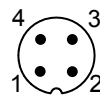
General information

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 6 K (IP 65 protection) respectively 12 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

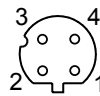
Pin	Assigned	Significance
1	+Vs	Voltage supply
2	d.u.	Do not connect
3	0 V	Voltage supply
4	d.u.	Do not connect



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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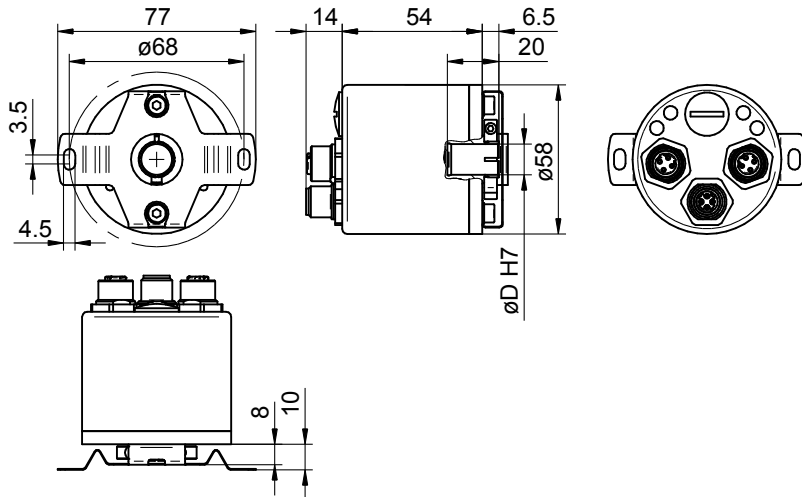
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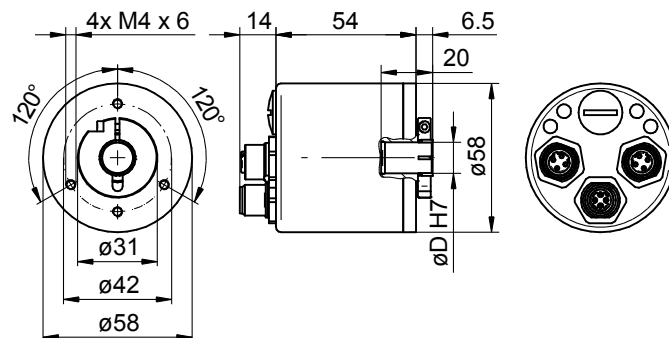
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Dimensions

EAM580, with stator coupling



EAM580, w/o stator coupling



EAM580, torque pin

