

EAM580-B - PROFINET

Blind hollow shaft

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Overview

- 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



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	PROFINET IO
Function	Multiturn
Steps per revolution	≤ 16384 / 14 bit
Number of revolutions	≤ 65536 / 16 bit
Absolute accuracy	$\pm 0.15^\circ$ (+20 $\pm 15^\circ\text{C}$) $\pm 0.25^\circ$ (-40...+85 $^\circ\text{C}$)
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
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Technical data - mechanical design

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

Optional

- Protection against corrosion CX (C5-M)

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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	Ground
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

PROFINET features

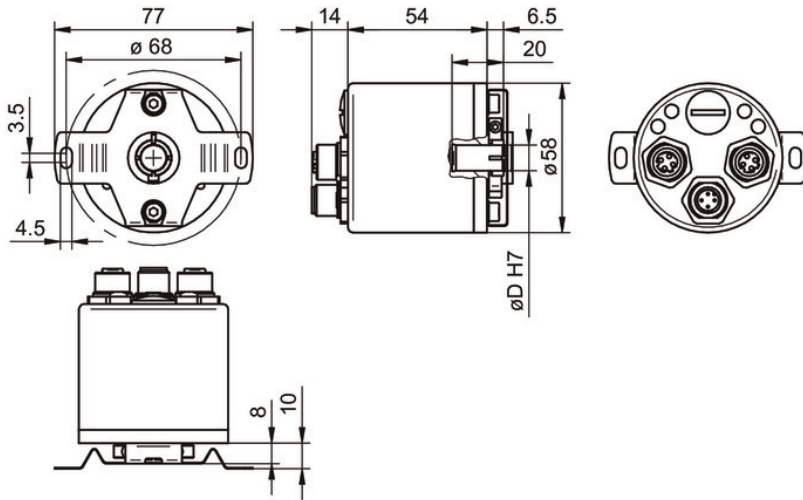
Bus protocol	PROFINET IO
Device profile	Encoder Profil PNO 3.162 V4.1 und V3.1 PROFIdrive Profil PNO 3.172 V4.1
Real time classes	Realtime (RT) Class 1, IRT Class 3
Send clock	RT: 1 ms, 2 ms, 4 ms IRT: 250 µs, 500 µs, 1 ms, 2 ms, 4 ms
Update time	Min. 500 µs
Features	<ul style="list-style-type: none"> - 100 MBaud Fast Ethernet - Device replacement without interchangeable media - Media redundancy MRP - Gear factor / Round axis
Process data	<ul style="list-style-type: none"> - 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

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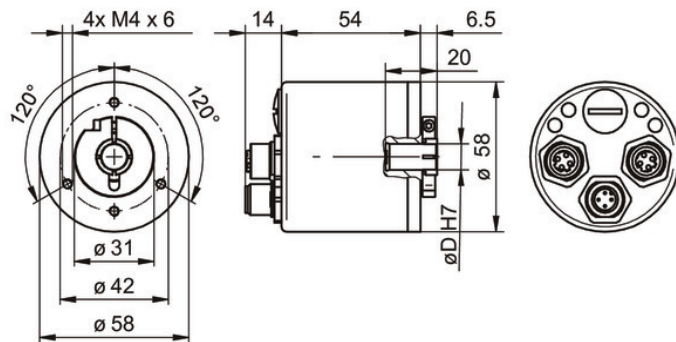
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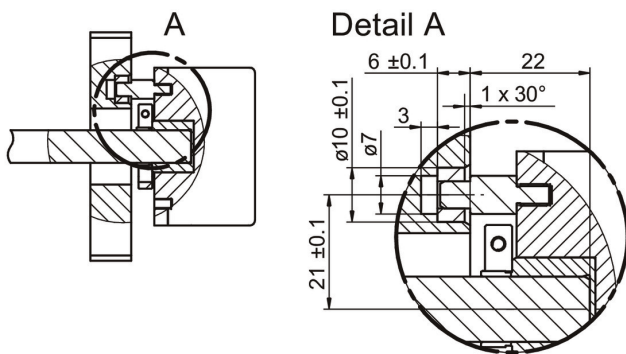
Dimensions



EAM580, with stator coupling



EAM580, w/o stator coupling



Torque pin

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Ordering reference		EAM580	-	B	#	##	.	#	Y	PT	.	14	16	0	.	A
Product		EAM580														
Shaft type	Blind hollow shaft															
																B
Flange (Hollow shaft)																
	Without stator coupling															N
	With stator coupling 68 mm															A
	Pin torque support 5 mm, axial															E
Blind hollow shaft																
	ø10 mm, clamping ring, A-side															A
	ø12 mm, clamping ring, A-side															C
	ø14 mm, clamping ring, A-side															E
	ø15 mm, clamping ring, A-side															F
Protection class																
	IP 65															5
	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, PROFINET IO															PT
Resolution Singleturn																
	14 Bit															14
Resolution Multiturn																
	16 Bit															16
Resolution supplement																
	No option															0
Operating temperature																
	-40...+65 °C															A