EAM580-SC - PROFINET

Solid shaft with clamping flange

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 ±0.15°
- 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	±0,15 ° (+20 ±15 °C) ±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
Technical data - mechanical design	
Size (flange)	ø58 mm
Shaft type	ø10 x 20 mm, solid shaft with flat
Flange	Clamping flange

Technical data - mechanical design	
Protection DIN EN 60529	IP 65 (without shaft seal) IP 67 (with shaft seal)
Operating speed	≤6000 rpm
Starting torque	≤2 Ncm (+20 °C, IP 65) ≤2,5 Ncm (+20 °C, IP 67)
Moment of inertia	15,38 gcm²
Admitted shaft load	≤40 N axial ≤80 N radial
Material	Housing: steel zinc-coated Flange: aluminium Shaft: stainless steel
Operating temperature	-40...+85 °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

Optional

- Protection against corrosion CX (C5-M)

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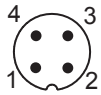
General information

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 approximates 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

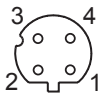
Pin	Assigned	Significance
1	+Vs	Voltage supply
2	d.u.	Do not connect
3	0 V	Ground
4	d.u.	Do not connect



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	- 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

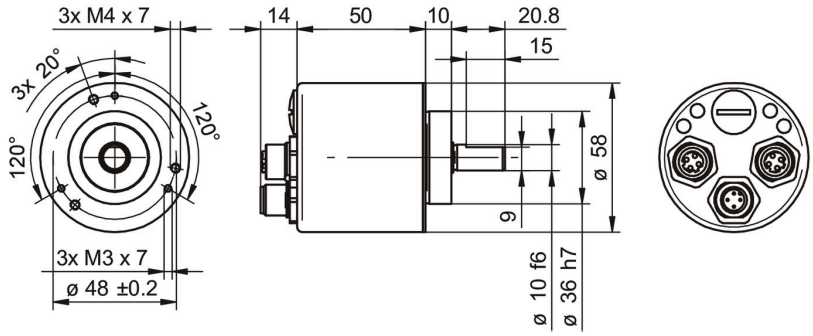
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Dimensions



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Ordering reference

	EAM580	-	S	C	0	.	#	Y	PT	.	14	16	0	.	A
Product															
	EAM580														
Shaft type															
Solid shaft			S												
Flange (shaft)															
Clamping flange, centering collar Ø36 x 10 mm, pitch circle diameter 48 mm - 3xM3/3xM4				C											
Shaft															
ø10 x 20 mm, with flat					0										
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...+85 °C															A

Accessories

Mounting accessories

11053277	Bellows coupling aluminium/stainless steel 10 mm

Connectors and cables

10160565	Cable connector/connector M12, EtherCAT, straight, 5 m
11174046	Cable connector M12, 4-pin, straight, D-coded, without cable (Z 185.S01)
11174047	Cable connector M12, 4-pin, angled, D-coded, without cable (Z 185.S02)
11202545	Cable connector M12, 4-pin, on both sides, D-coded, 1 m cable (Z 185.E01)
11202549	Cable connector M12, 4-pin, on both sides, D-coded, 2 m cable (Z 185.E02)
11034355	Cable connector M12, 4-pin, on both sides, D-coded, 5 m cable (Z 185.E05)
11202560	Cable connector M12, 4-pin, on both sides, D-coded, 10 m cable (Z 185.E10)
11034356	Female connector M12, 5-pin, A-coded, 5 m cable (Z 185.P05)
11212237	Female connector M12, 5-pin, A-coded, 10 m cable (Z 185.P10)

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