

EAM580-K - PROFINET

Encoder kit

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Overview

- Encoder kit 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 $\pm 15^\circ$ C) $\pm 0,25^\circ$ (-40...+85 $^\circ$ 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 $^\circ$ 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)

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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

PROFINET (data line)

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



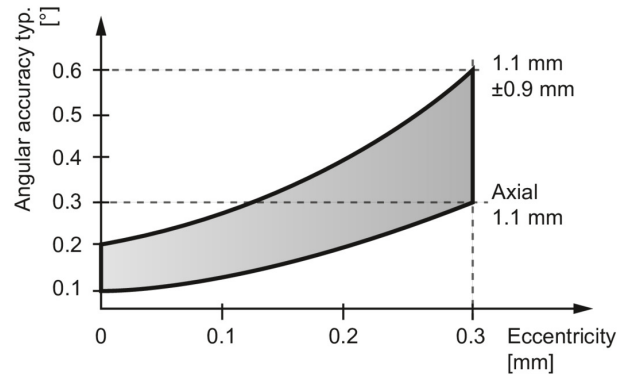
2 x flange connector M12 (female), D-coded

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

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.

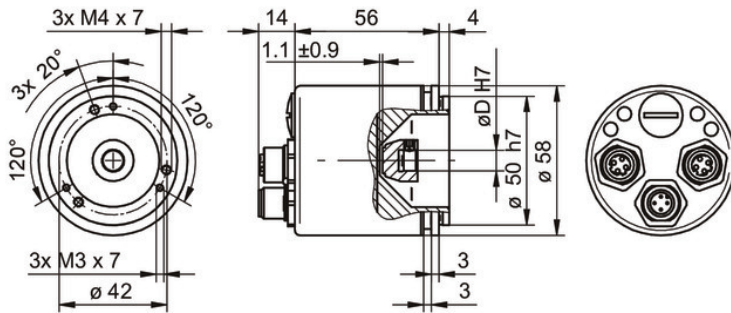


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Dimensions



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Ordering reference

	EAM580	-	K	Y	##	.	7	Y	PT	.	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, 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

10252773 Clamp set ø15 mm

Connectors and cables

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)