EAM580-K - EtherNet/IP

Encoder kit

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Overview

- Encoder kit multiturn / EtherNet/IP
- 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	EtherNet/IP
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) (see info working distance)
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

Technical data - mechanical design	
Shaft type	ø6 mm (magnet bore) ø8 mm (magnet bore) ø12 mm (magnet bore)
Protection DIN 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 °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 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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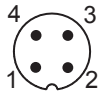
General information

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

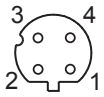
Pin	Assigned	Significance
1	+Vs	Voltage supply
2	d.u.	Do not connect
3	0 V	Ground
4	d.u.	Do not connect



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

EtherNet/IP (data line)

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



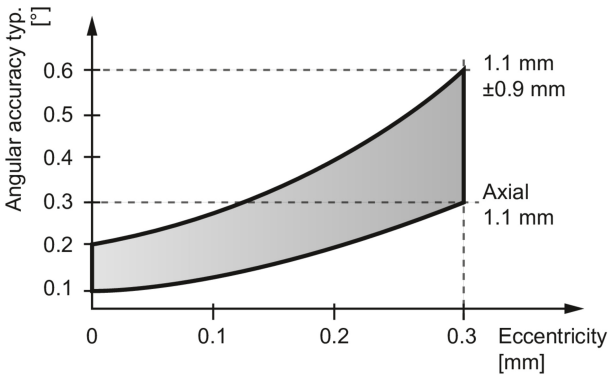
2 x flange connector M12 (female), D-coded

EtherNet/IP features

Bus protocol	EtherNet/IP
Device profile	CIP Nov 2016, 22_{hex} Encoder
Cycle time	1 ms
Features	- Gear factor (round shaft) and endless loop mode - Plausibility check of the adjustable parameters - Comprehensive diagnostic functions - Adress Conflict Detection - Device Level Ring - Multiple simultaneous IO connections
LED status indicator	2x Link/Activity, Module Status, Network Status

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.



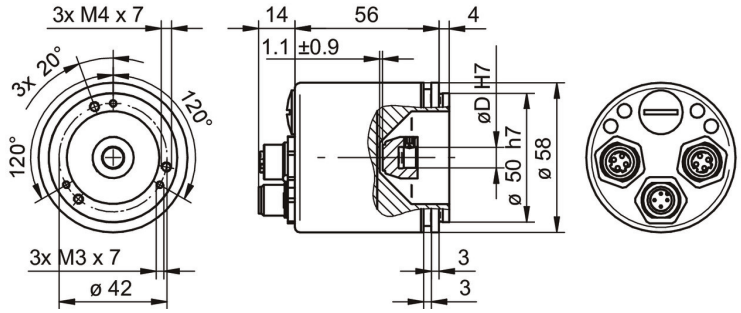
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Dimensions



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Ordering reference

	EAM580	-	K	Y	##	.	7	Y	EN	.	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, EtherNet/IP									EN						
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

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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