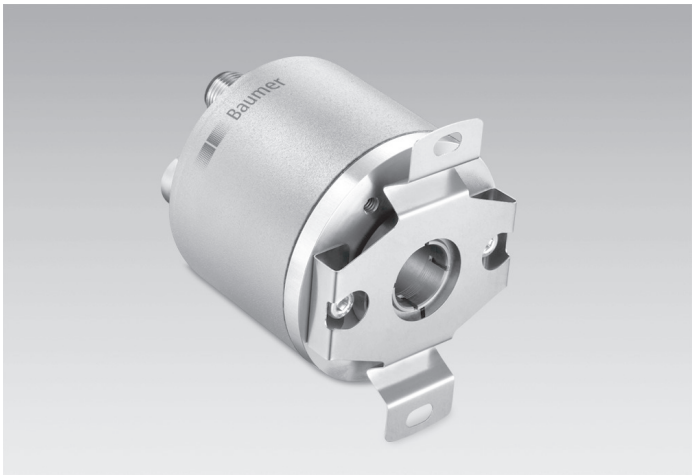
EAM580-B - EtherCAT

Blind hollow shaft

Magnetic multiturn encoders 14 bit ST / 16 bit MT

Overview

- Encoder multiturn / EtherCAT
- 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	EtherCAT
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...15 mm (blind hollow shaft)

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	46,75 gcm²
Material	Housing: steel zinc-coated Flange: aluminium Hollow 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 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

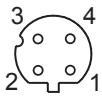
Voltage supply

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

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

EtherCAT (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

EtherCAT features

Bus protocol	EtherCAT
Device profile	Encoder-Profil CANopen® CiA 406 Vers. 4.0.2 from 18.08.2016
Operating modes	Free Run, Synchronous with SM3 Event, DC Mode (Distributed Clocks)
Cycle time	Min. 62.5 µs
Features	- Gear factor (round shaft) and endless loop mode - Time stamp (time of position data acquisition) - Plausibility check of the configurable parameters - Comprehensive diagnostic functions - Preset button for position - File Access over EtherCAT (FoE)
Process data	- Position value 32 bits input data with/without speed 32 bits - Extensive process data mapping
LED status indicator	2x Link/Activity, RUN, ERR

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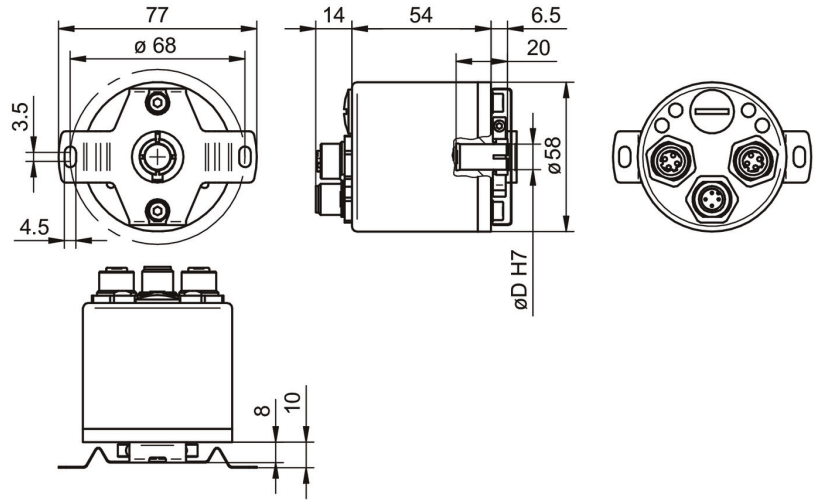
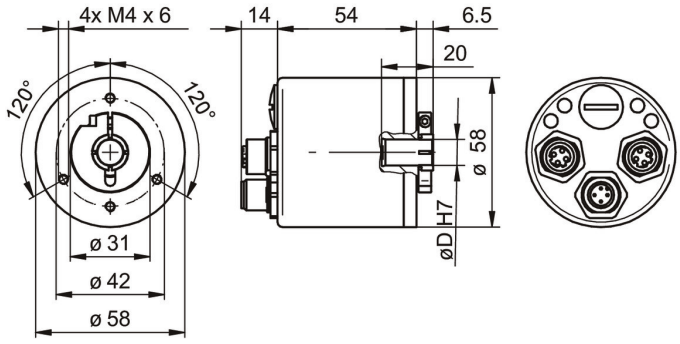
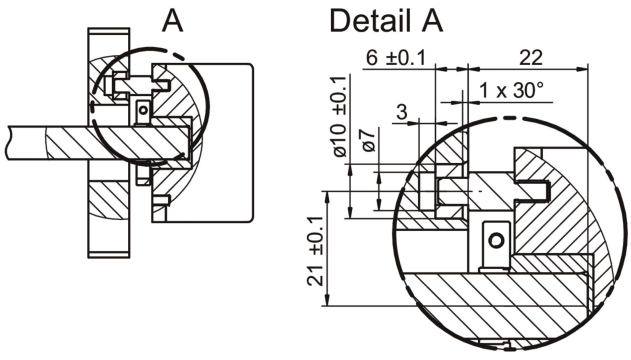
Dimensions



EAM580, with stator coupling



EAM580, w/o stator coupling



EAM580, torque pin

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Ordering reference

	EAM580	-	B	#	##	.	#	Y	EC	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, EtherCAT									EC					
Resolution Singleturn														
14 Bit										14				
Resolution Multiturn														
16 Bit											16			
Resolution supplement														
No option												0		
Operating temperature														
-40...+85 °C														A

Accessories

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)