

EAM580R-B - CANopen®

Blind hollow shaft

Magnetic single- or multiturn encoders 14 bit ST / 18 bit MT

Overview

- Encoder single- or multiturn / CANopen® redundant
- Redundant sensing with galvanical separation
- Resolution max. 32 bit (14 bit ST, 18 bit MT)
- E1 approval (KBA)
- High protection IP 67
- High resistance to shock and vibrations
- Protection against corrosion CX (C5-M)
- Wire cross section 0.5 mm²
- Applicable up to PLd (ISO 13849)



Technical data

Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption typ.	35 mA (24 VDC, w/o load)
Initializing time	≤ 1 s after power on
Interface	CANopen®
Function	Multiturn Singleturn
Profile conformity	CANopen® CiA Communication profile DS 301 LSS profile DSP 305 Device profile DS 406
Steps per revolution	≤16384 / 14 bit
Number of revolutions	≤262144 / 18 bit
Absolute accuracy	±0.15 ° (+20 ±15 °C) ±0.25 ° (-40...+85 °C)
Sensing method	Magnetic
Code sequence	CW: ascending values with clockwise sense of rotation (looking at flange)
Output stages	CAN-Bus, LV (5 V) compatible ISO 11898
Interference immunity	EN 61000-6-2 UN ECE R10
Emitted interference	EN 61000-6-4 UN ECE R10
MTTF _d (ISO 13849)	High (>100 years) per channel Use in safety functions exclusively based on Application Note and MTTF _d reliability prediction (request separately).

Technical data - electrical ratings

Approval	UL approval / E217823 E1 approval (KBA)
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Technical data - mechanical design

Size (flange)	ø58 mm
Shaft type	ø10...15 mm (blind hollow shaft)
Protection EN 60529	IP 67 (with shaft seal)
Operating speed	≤6000 rpm
Starting torque	≤2.5 Ncm (+20 °C, IP 67)
Moment of inertia	46.75 gcm ²
Material	Housing: steel, powder-coated Flange: aluminium Hollow shaft: stainless steel
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2
Operating temperature	-40...+85 °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 M12, 5-pin Cable 2 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 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

Cable

for connection reference **-L**

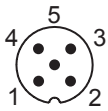
Core colour	Signals
white	0 V
brown	+Vs
green	CAN_H
yellow	CAN_L
grey	CAN_GND

Cable data: 5 x 0.5 mm²

Flange connector M12, 5-pin

for connection reference **-N**

Pin	Signals
1	CAN_GND
2	+Vs
3	0 V
4	CAN_H
5	CAN_L



CANopen® features

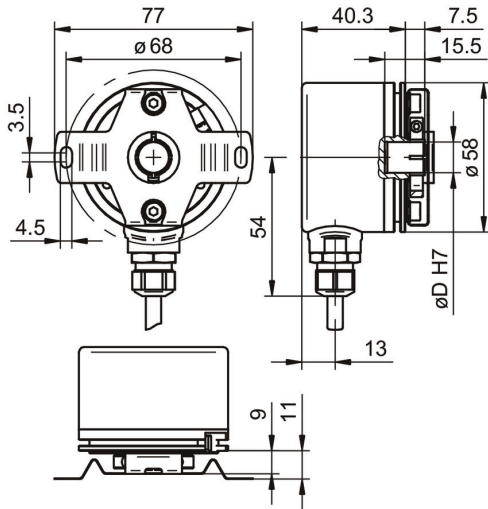
Operating modes	Timer-driven (Event-Time) Synchronously triggered (Sync)
Node Monitoring	Heartbeat Node guarding
Programmable parameters	Operating modes Total resolution Scalling
Diagnosis	Multiturn sensing Position error Temperature exceeding Speed exceeding
Default	50 kbit/s Channel A: Node ID 1 Channel B: Node ID 2

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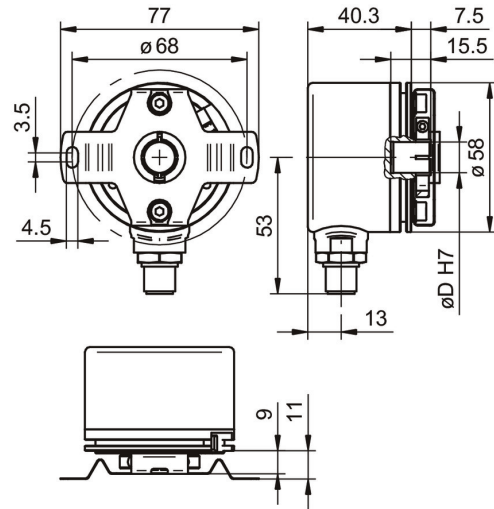
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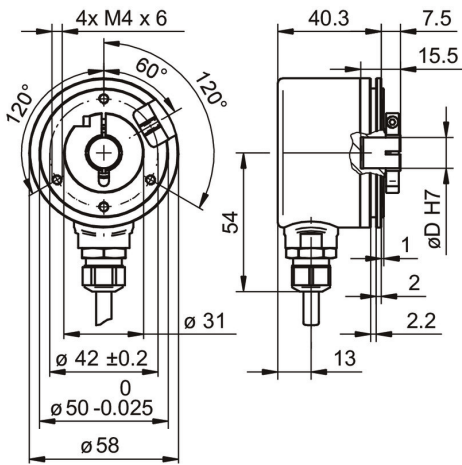
Dimensions



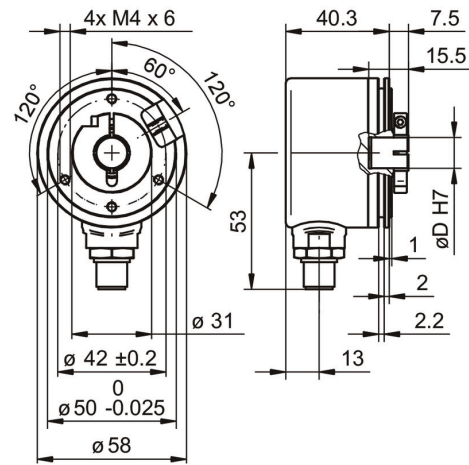
EAM580R, cable with stator coupling



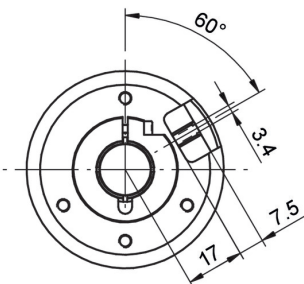
EAM580R, M12 with stator coupling



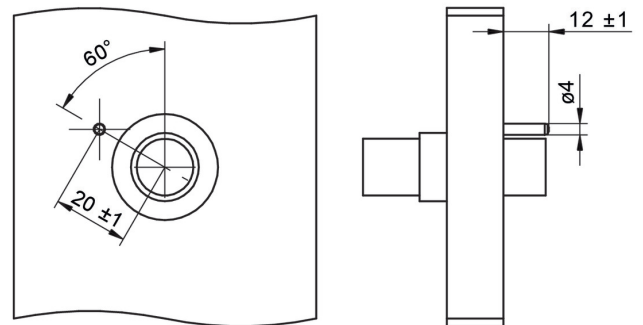
EAM580R, cable w/o stator coupling



EAM580R, M12 w/o stator coupling



Torque pin support



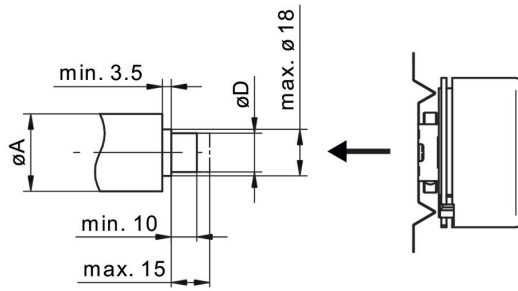
Bore torque pin

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Dimensions



Hollow shaft mounting

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Ordering reference

	EAM580R	-	B	#	##	.	7	#	C8	.	14	##	0	.	A
Product	EAM580R														
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 67														7
Connection	Cable radial, 2 m														L
	Flange socket radial, M12, 5-pin, male contacts, CCW														N
Voltage supply / interface	10...30 VDC / CANopen (DS406) redundant (2-channel design)														C8
Resolution Singleturn	14 Bit														14
Resolution Multiturn	No option														00
	18 Bit														18
Resolution supplement	No option														0
Operating temperature	-40...+85 °C														A

Accessories

Mounting accessories

11136718 Set of spring washers - EAM580