EAM580R-SY - CANopen®

Solid shaft with synchro flange

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 compliant design
- 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 ISO 11452-2:2004* / -5:2002* ISO 7637-2:2011* ISO 16750-2:2012* ISO 10605:2008 + Amd 1:2014 (CD ±8 kV / AD ±15 kV) * Severity level according to ECE R10 (Rev. 5)
Emitted interference	EN 61000-6-4 CISPR 25:2008 (30...1000 MHz) ISO 7637-2:2011* * Severity level according to ECE R10 (Rev. 5)

Technical data - electrical ratings	
$MTTF_d$ (ISO 13849)	High (>100 years) per channel Use in safety functions exclusively based on Application Note and MTTFd reliability prediction (request separately).

Technical data - mechanical design	
Size (flange)	ø58 mm
Shaft type	ø6 x 10 mm, solid shaft with flat
Flange	Synchro flange
Protection EN 60529	IP 67 (with shaft seal)
Operating speed	≤6000 rpm
Starting torque	≤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, powder-coated Flange: aluminium 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 approximates 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.

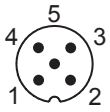
Terminal assignment

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

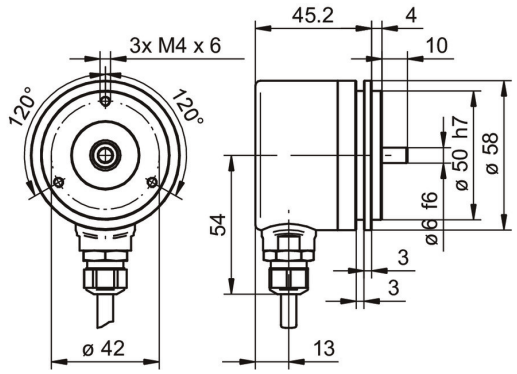
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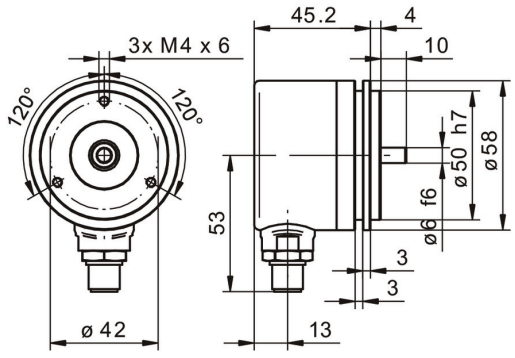
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Dimensions



With cable



With flange connector M12

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Ordering reference

	EAM580R	-	S	Y	6	.	7	#	C8	.	14	##	0	.	A
Product															
	EAM580R														
Shaft type															
Solid shaft			S												
Flange (shaft)															
Synchro flange, centering collar Ø50 x 4 mm, flute Ø53 mm, pitch circle diameter Ø42 - 3xM3/3xM4				Y											
Shaft															
ø6 x 10 mm, with flat					6										
Protection class															
IP 67							7								
Connection															
Cable radial, 2 m								L							
Flange socket radial, M12, 5-pin, male contacts, A-coded								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	
10252773	Clamp set ø15 mm

Connectors and cables	
11046264	Female connector M12, 5-pin, straight, shielded, 2 m cable
11046266	Female connector M12, 5-pin, straight, shielded, 5 m cable

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