

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).
Approval	UL approval / E217823

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 gcm ²
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

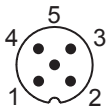
for connection reference -L

Core colour	Signals
white	0 V
brown	+Vs
green	CAN_H
yellow	CAN_L
grey	CAN_GND
Cable data: 5 x 0.5 mm ²	

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

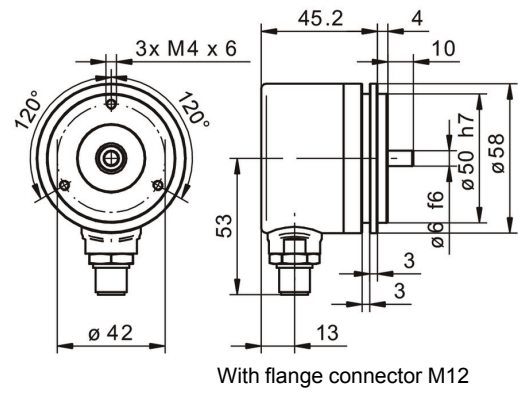
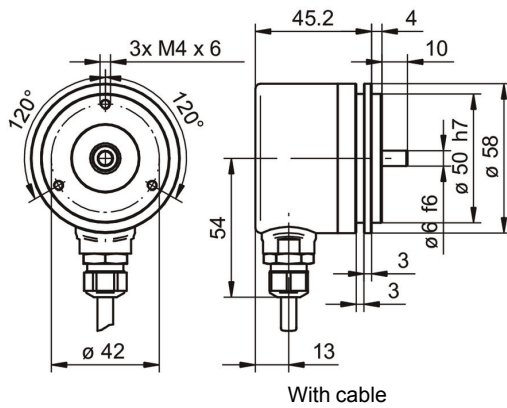
Operating modes	Timer-driven (Event-Time) Synchronously triggered (Sync)
Node Monitoring	Heartbeat Node guarding
Programmable parameters	Operating modes Total resolution Scaling
Diagnosis	Multiturn sensing Position error Temperature exceeding Speed exceeding
Default	50 kbit/s Channel A: Node ID 1 Channel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

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Dimensions



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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
11050507	Bellows coupling (D1=06 / D2=10)
11065922	Coupling CPS25 (L=19, D1=10 / D2=06)
11065916	Coupling CPS25 (L=19, D1=06 / D2=06)
10141132	Spring washer coupling (D1=6 / D2=10)
10141131	Spring washer coupling (D1=6 / D2=6)
11069333	Coupling CPS37 (L=24, D1=06 / D2=06)
11069337	Coupling CPS37 (L=24, D1=10 / D2=06)
11065545	Set of eccentric fixings type A
10117667	Mounting adaptor