

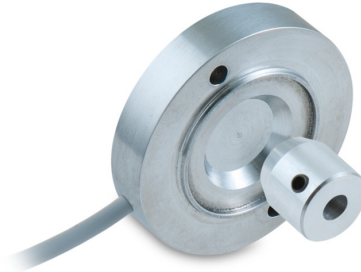
EAM500R-K - CANopen®

Magnet rotor bore ø6 mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

Overview

- Encoder kit singleturn / CANopen®
- Contactless measuring method, flat design
- Maintenance-free for the entire service life
- Protection against corrosion CX (C5-M)
- Operating temperature -40...+85 °C
- Resolution 14 bit
- Redundant version available
- Protection up to IP 69K
- Detection of magnetic loss



Technical data

Technical data - electrical ratings

Voltage supply	10...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes (14 VDC or ground)
Consumption typ.	14 mA (24 VDC, w/o load)
Update time	25 ms (max. 2400 rpm)
Initializing time	≤ 500 ms after power on
Interface	CANopen®
Function	Singleturn
Profile conformity	CANopen® CiA communication profile DS 301, LSS profile DSP 305, device profile DS 406
Measuring range	0...360°
Steps per revolution	≤16384 / 14 bit
Output stages	CAN-Bus, LV (3.3 V) compatible ISO 11898
Linearity	±0.3 % FS
Absolute accuracy	±1.2 ° (+25 °C)
Sensing method	Magnetic
Code sequence	CW: ascending values with clockwise sense of rotation; looking at flange
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - mechanical design

Size (flange)	ø50 mm
Shaft type	ø6 mm (magnet rotor bore) M7 screw
Protection EN 60529	IP 67 IP 69K
Operating speed	≤3000 rpm
Working distance	1 ... 3 mm (axial), ±0.8 mm (radial)
Material	Housing: aluminium, anodised Magnet rotor: aluminium, anodised
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2
Operating temperature	-40...+85 °C
Service life	No limitation
Resistance	EN 60068-2-6 Vibration 20 g, 10-2000 Hz EN 60068-2-27 Shock 50 g, 6 ms
Temperature changes	EN 60068-2-14, -40...+85 °C, 5 cycles
Weight approx.	53 g
Connection	Cable 0.3 m Cable 0.3 m with connector M12

Optional

- DEUTSCH or AMP connector on cable end on request

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Terminal assignment

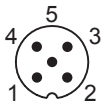
Cable

Core color	Signal	Description
White	0 V	Voltage supply
Brown	+Vs	Voltage supply
Green	CAN_H	Bus (dominant HIGH)
Yellow	CAN_L	Bus (dominant LOW)
Grey	CAN_GND	CAN ground

Cable data: 5 x 0,25 mm²

Cable with flange connector M12, male, 5-pin, A-coded

Pin	Signal	Description
1	CAN_GND	CAN ground
2	+Vs	Voltage supply
3	0 V	Voltage supply
4	CAN_H	Bus (dominant HIGH)
5	CAN_L	Bus (dominant LOW)



Terminals 0 V and CAN_GND are internally connected and identical in their functions.

CANopen® features

Operating modes	Event-Time Synchronously triggered (Sync) Timer-driven (Async)
Node Monitoring	Heartbeat (default: disabled)
Programmable parameters	Operating modes Rotating direction Zero position Scaling
Default	Baud rate 250 kbit/s Node ID 10 (0Ah) Timer-driven (Async) 100 ms

Data transfer

PDO Mapping

ID10 / PDO 1

LSB	MSB
Byte 0	1	2	3

Channel 1 (position angle) = 0 → 3600_{dec}
Angle increasing in size and value

PDO Mapping (redundant sensing)

ID10 / PDO 1

LSB	MSB
Byte 0	1	2	3

Channel 1 (position angle) = 0 → 3600_{dec}
Angle increasing in size and value

ID10 / PDO 2

LSB	MSB
Byte 0	1	2	3

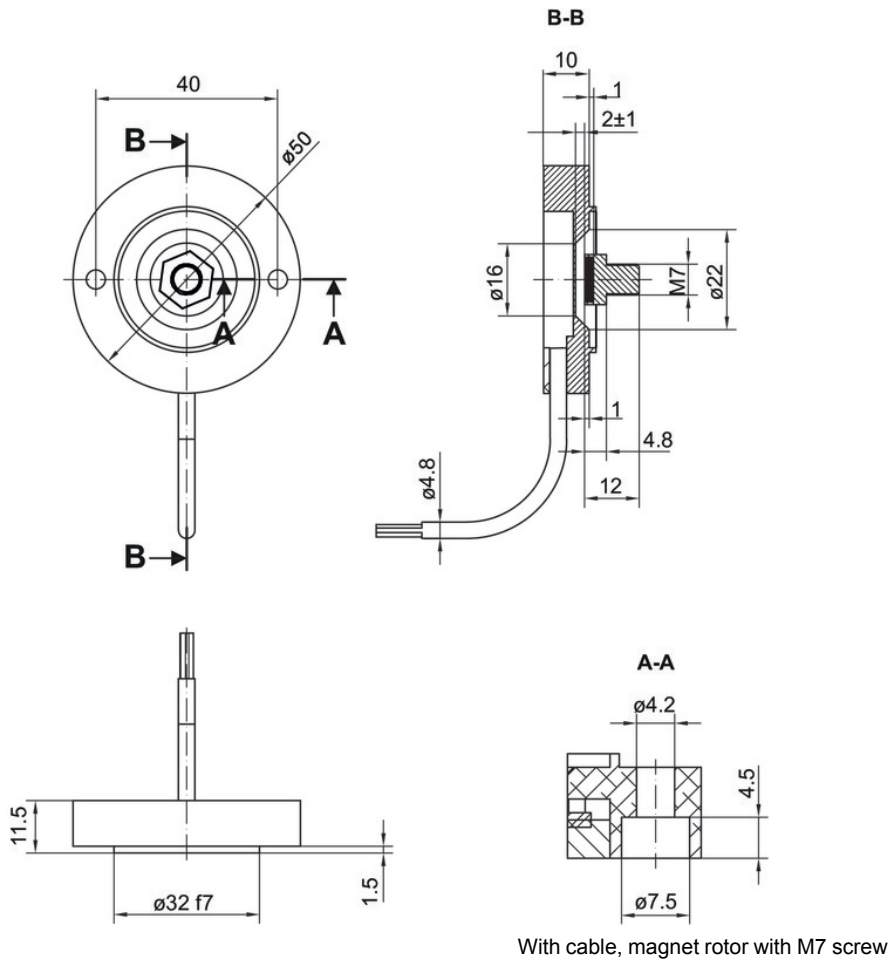
Channel 2 (position angle) = (3600_{dec} → 0)
Angle increasing in size and decreasing in value

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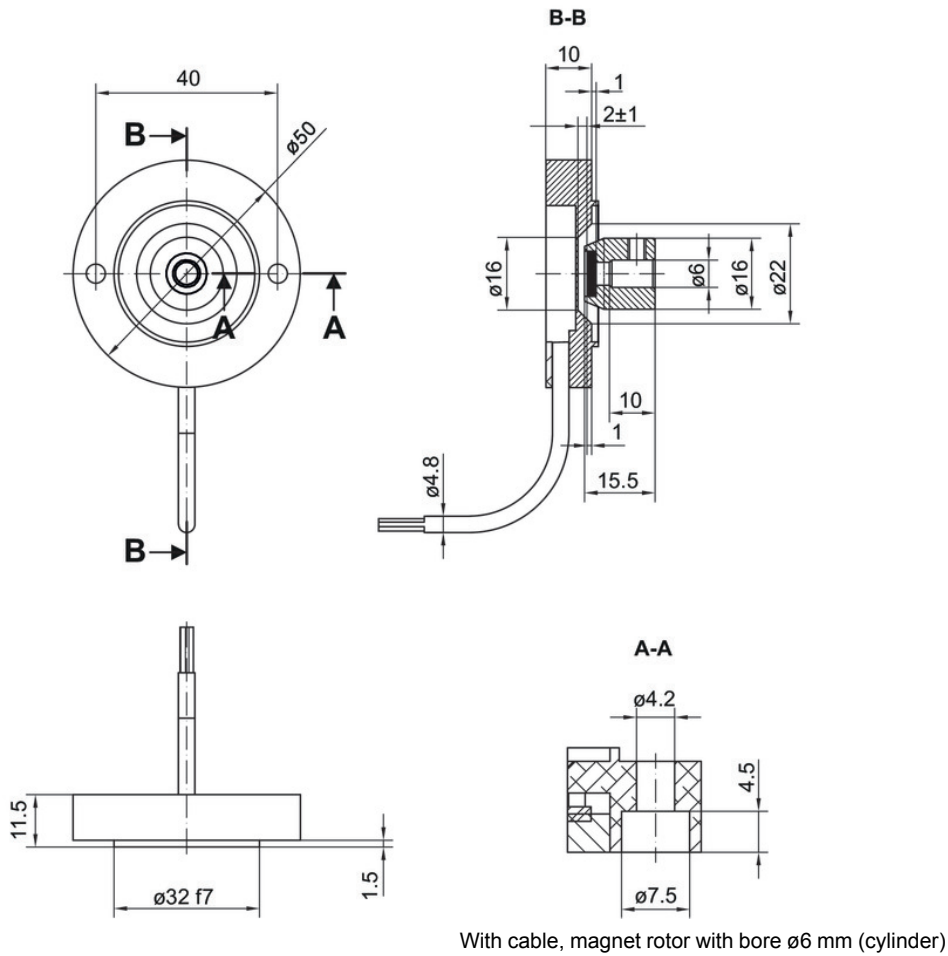
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Dimensions



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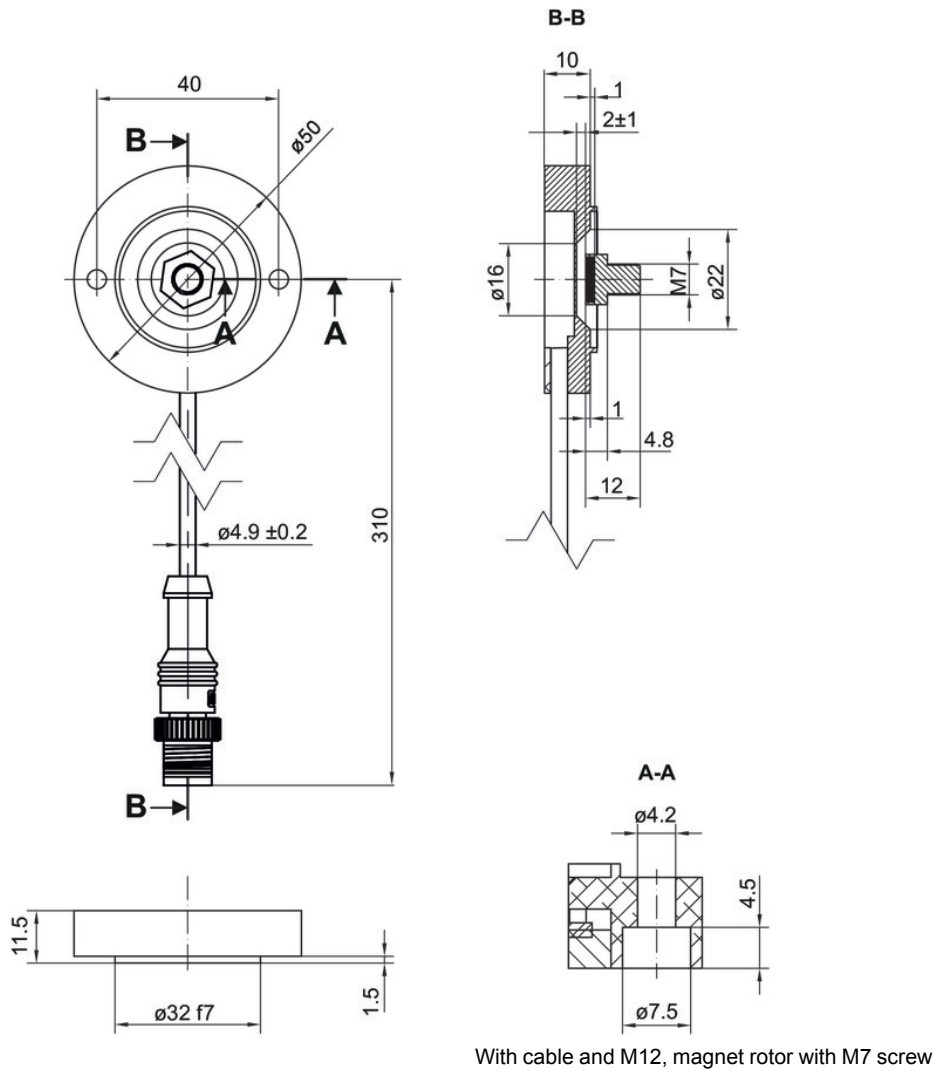


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Dimensions

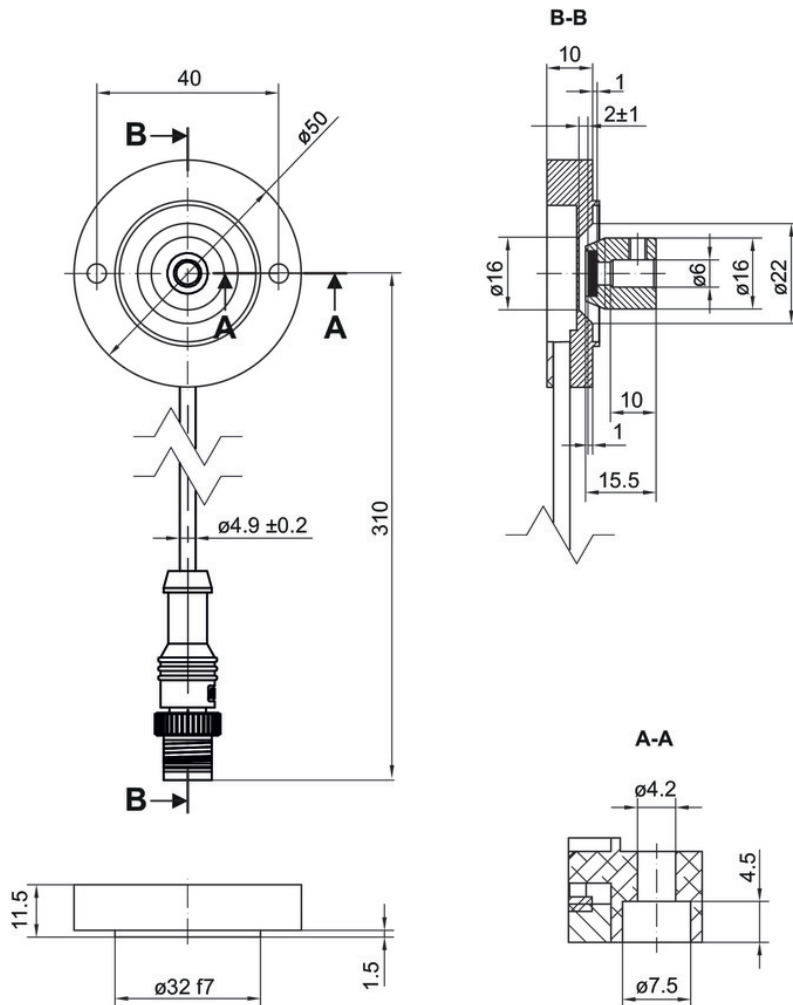


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Dimensions



With cable and M12, magnet rotor with bore $\varnothing 6$ mm (cylinder)

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Ordering reference

	EAM500R	-	K	M	##	.	K	##	##	.	14	00	0	####	#	.	A
Product	EAM500R																
Shaft type																	
Kit				K													
Flange (kit)																	
Flat mounting flange, ø40 mm				M													
Magnet holder / bore diameter																	
ø6 mm					6												
M7 screw					7												
Protection class																	
IP69K							K										
Connection⁽¹⁾																	
Cable radial, 0.3 m								M									
Cable 0.3 m with connector M12, 5-pin, A-coded								S									
Voltage supply / interface																	
10...30 VDC / CANopen (DS406) redundant (sensing)									C5								
10...30 VDC, CANopen (DS 406)									C6								
Resolution Singleturn																	
14 Bit											14						
Resolution Multiturn																	
No option												00					
Resolution supplement																	
No option													0				
Measuring range																	
0...30°															A030		
0...60°															A060		
0...180°															A180		
0...270°															A270		
0...360°															A360		
Output characteristics																	
One-channel, rising CW																1	
One-channel, rising CCW																2	
Redundant, CH1 rising CW, CH2 rising CCW																3	
Redundant, CH1 rising CCW, CH2 rising CW																4	
Redundant, CH1 rising CW, CH2 rising CW																5	
Redundant, CH1 rising CCW, CH2 rising CCW																6	
Operating temperature																	
-40...+85 °C																	A

(1) Other cable lengths with assembled DEUTSCH or AMP connector on request.