

# Encoders without bearings - absolute

Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

## EAM500R-K - CANopen®



EAM500R-K CANopen®

### 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)
Initializing time	≤15 ms after power on
Interface	CANopen®
Update time	20 ms
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
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
Output stages	CAN-Bus, LV (3.3 V) compatible ISO 11898
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3

### Features

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

### Optional

- DEUTSCH or AMP connector on cable end on request

### Technical data - mechanical design

Size (flange)	ø50 mm
Shaft type	ø6 mm (magnet rotor bore) M7 screw
Protection DIN EN 60529	IP 67, IP 69K
Operating speed	≤3000 rpm
Working distance	1...3 mm (axial), ±0.8 mm (radial)
Materials	Housing: aluminium, anodised Magnet rotor: aluminium, anodised
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions C5-M (CX) according to ISO 12944-2
Operating temperature	-40...+85 °C
Service life	No limitation
Resistance	DIN EN 60068-2-6 Vibration 20 g, 10-2000 Hz DIN EN 60068-2-27 Shock 50 g, 6 ms
Temperature changes	EN60068-2-14, -40...+85 °C, 5 cycles
Weight approx.	53 g
Connection	Cable 0.3 m Cable 0.3 m with connector M12

# Encoders without bearings - absolute

Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

**EAM500R-K - CANopen®**

## Part number

EAM500R-KM 

	.	K			14	000.	A
--	---	---	--	--	----	------	---

							<u>Operating temperature</u>
						A	-40...+85 °C
							<u>Resolution</u>
					14		14 bit
							<u>Voltage supply / signals</u>
						C5	10...30 VDC / CANopen® (DS406) redundant sensing
						C6	10...30 VDC / CANopen® (DS406)
							<u>Connection</u>
						M	Cable 0.3 m, radial
						S	Cable 0.3 m with connector M12, 5-pin
							<u>Protection</u>
						K	IP 69K
							<u>Magnet rotor</u>
						7	M7 screw
						6	Bore $\varnothing 6$ mm (cylinder)

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

## Accessories

### Programming accessories

10147362	CD-ROM with GSD-/EDS-/XML files and user manuals
----------	--

# Encoders without bearings - absolute

Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

## EAM500R-K - CANopen®

### Data transfer

#### PDO Mapping

##### ID10 / PDO 1

LSB	...	...	MSB
Byte 0	1	2	3

**Channel 1** (inclination angle) = 0 → 3600<sub>dec</sub>  
Angle increasing in size and value

#### PDO Mapping (redundant sensing)

##### ID10 / PDO 1

LSB	...	...	MSB
Byte 0	1	2	3

**Channel 1** (inclination angle) = 0 → 3600<sub>dec</sub>  
Angle increasing in size and value

##### ID10 / PDO 2

LSB	...	...	MSB
Byte 0	1	2	3

**Channel 2** (inclination angle) = (3600<sub>dec</sub> → 0)  
Angle increasing in size and decreasing in value

### Terminal significance

Bus protocol	CANopen®
Device profile	CANopen® - CiA DS 406
Operating modes	- Event-Time - Synchronously triggered (Sync) - Timer-driven (Async)
Node Monitoring	Heartbeat (default: disabled)
Programmable parameters	Operating modes Rotating direction Scaling Zero position
Default	Baud rate 250 kbit/s Node ID 10 (0Ah) Timer-driven (Async) 100 ms

### Terminal assignment

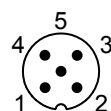
#### Cable

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 mm<sup>2</sup>

#### 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 GAN\_GND are internally connected and identical in their functions.

# Encoders without bearings - absolute

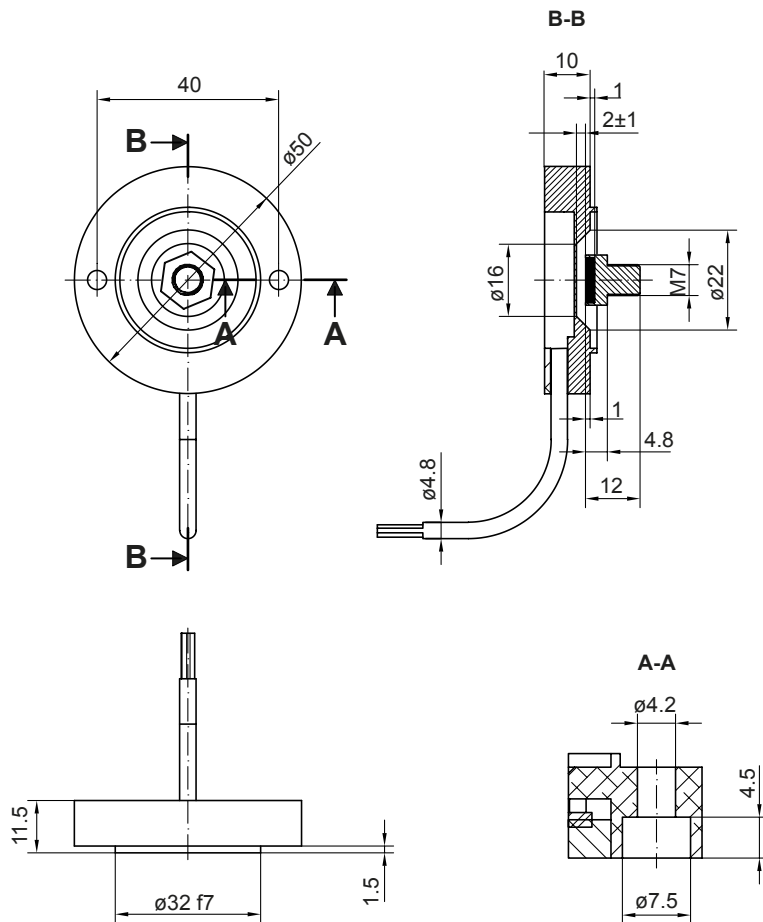
Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

EAM500R-K - CANopen®

## Dimensions

With cable, magnet rotor with M7 screw



# Encoders without bearings - absolute

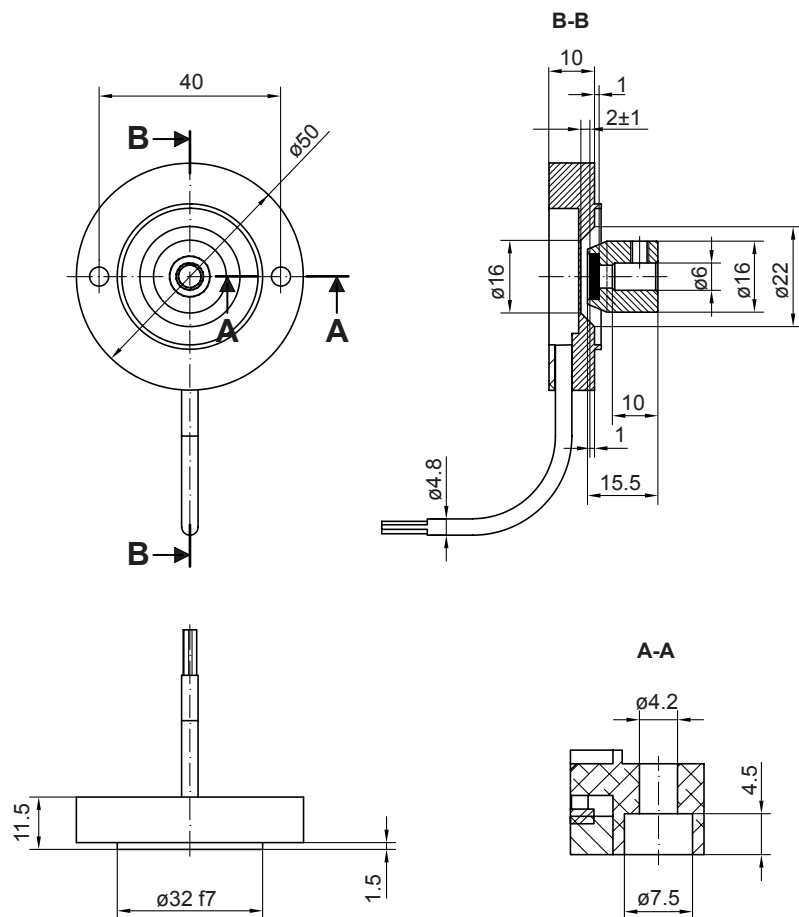
Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

## EAM500R-K - CANopen®

### Dimensions

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



# Encoders without bearings - absolute

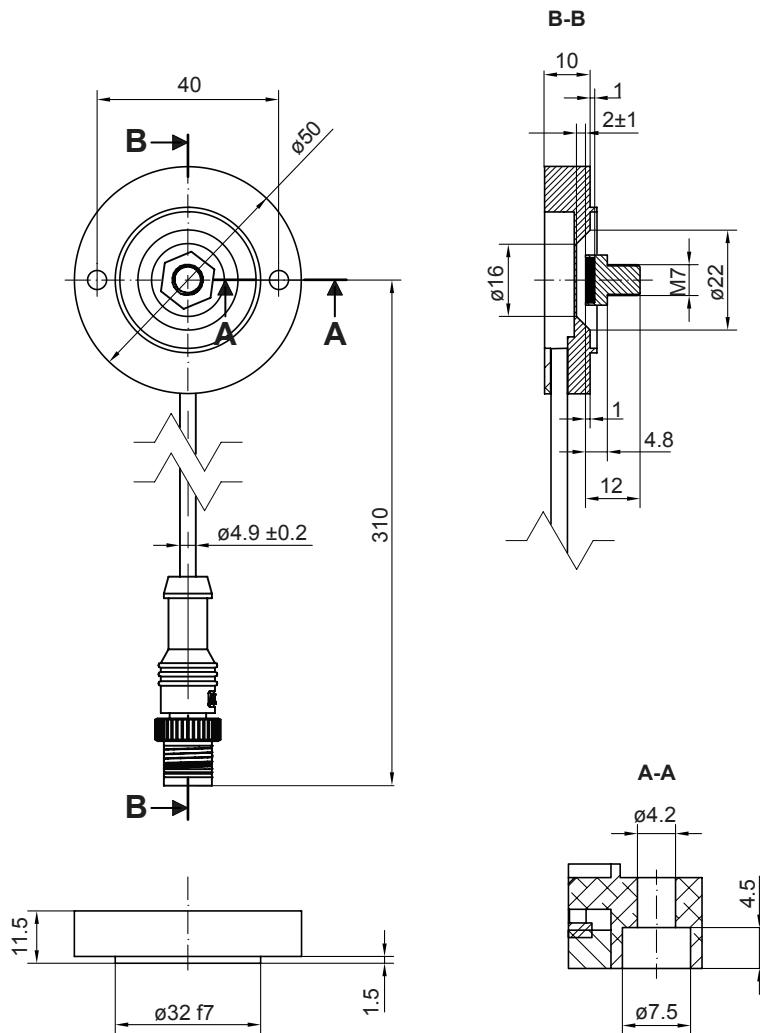
Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

EAM500R-K - CANopen®

## Dimensions

With cable and M12, magnet rotor with M7 screw



# Encoders without bearings - absolute

Magnet rotor bore  $\varnothing 6$  mm or M7 screw

Magnetic singleturn encoder kit 14 bit, CANopen®

## EAM500R-K - CANopen®

### Dimensions

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

