

GCA8 - CANopen®

Interface CANopen® or CANopen® redundant

Measuring length absolute up to 8 m

Overview

- Interface CANopen® or CANopen® redundant
- Potentiometer sensing measuring method
- Operating temperature -40...+85 °C
- Protection IP 65
- Flange connector M12 or cable
- Removable stickers for drainage
- Isolation voltage 3 kV



Technical data

Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption typ.	25 mA (24 VDC, w/o load)
Initializing time typ.	500 ms after power on
Interface	CANopen®
Function	Linear position feedback
Profile conformity	CANopen® CiA DS 301, DS 406, DS 410
Measuring range	Up to 8 m (linear position) 360° (inclination angle)
Resolution	0.1 mm (linear position) 0.1 ° (inclination angle)
Temperature coefficient	0.02 °/K (inclination angle)
Linearity	±0.3 % FS (linear position) ±0.5 % FS (inclination angle)
Absolute accuracy	±0.3 % FS (linear position) ±0.5 % FS (inclination angle) ±0.2 ° (+25 °C / inclination angle)
Sensing method	Potentiometer
Code sequence	Programmable
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Programmable parameters	Operating modes Rotating direction Scaling Zero position

Technical data - mechanical design

Protection EN 60529	IP 65 (housing, drainage holes closed) IP 54 (cable inlet)
Material	Cable: stainless steel cable AISI 316 coated with nylon PA12 Housing: plastic
Operating temperature	-40...+85 °C
Measuring length	8 m
Cable diameter	0.7 mm
Cable fastening	Eyelet Height: 5 mm Internal diameter: 5 mm Outer diameter: 10 mm
Pull-in force	>2.5 N (pull-in force reduced at low temperatures)
Pull-out force	≤8 N
Relative humidity	95 % non-condensing
Resistance	EN 60068-2-6 Vibration 10 g, 10-2000 Hz EN 60068-2-27 Shock 50 g, 11 ms
Weight approx.	775 g
Connection	Cable 2 m, radial Flange connector M12, 5-pin
Instruction	Please consider the assembly instructions

Optional

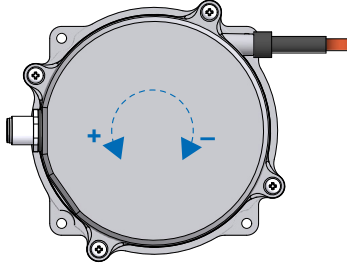
- Integrated inclination sensor

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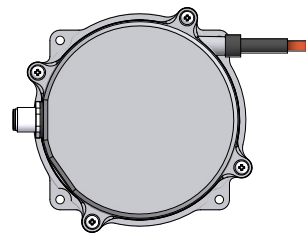
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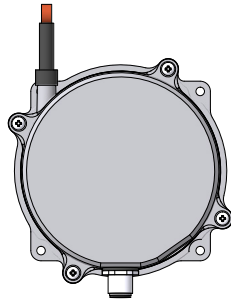
Installation position



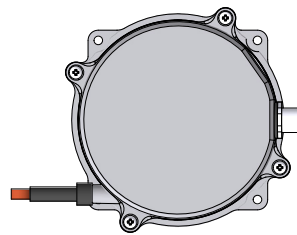
Position 1: 0/360°



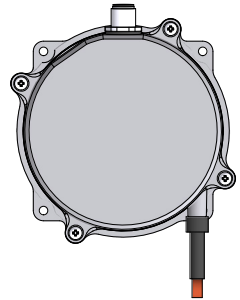
Position 2: +90°



Position 3: +180°



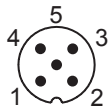
Position 4: +270°



Terminal assignment

Flange connector M12, male, 5-pin

Pin	Signals	Description
1	CAN_GND	Ground connection relating to CAN
2	+Vs	Voltage supply
3	GND	Ground connection relating to +Vs
4	CAN_H	CAN Bus Signal (dominant High)
5	CAN_L	CAN Bus Signal (dominant Low)



Cable

Core colour	Signals	Description
white	GND	Ground connection relating to +Vs
brown	+Vs	Voltage supply
green	CAN_H	CAN Bus Signal (dominant High)
yellow	CAN_L	CAN Bus Signal (dominant Low)
grey	CAN_GND	Ground connection relating to CAN

Cable data: 5 x 0.5 mm², 2 m

Terminals GND and CAN_GND are internally connected and identical in their functions.

CANopen® features

Bus protocol	CANopen®
Device profile	CANopen® - CiA DS 301, DS 406, DS 410
Operating modes	Time-triggered Sync (cyclic)
Node Monitoring	Heartbeat (default: disabled)
Programmable parameters	Operating modes Rotating direction Scaling Zero position
Default	Baud rate 250 kbit/s, Node ID 4 (04h)

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Data transfer

PDO Mapping

PDO 1 (linear position)

LSB	MSB
Bit 0	1	2	3	4	5	6	7
Channel 1 (linear position) 0 → 60000\80000 _{dec} Position increasing in size and value							

PDO 2 (inclination angle)

LSB	...	...	MSB	...	...	...	...
Bit 0	1	2	3	4	5	6	7
Channel 1 (inclination angle) 0 → 3600 _{dec} Angle increasing in size and value							

PDO Mapping (redundant)

PDO 1 (redundant linear position)

LSB	...	...	MSB	LSB	...	...	MSB
Bit 0	1	2	3	4	5	6	7
Channel 1 (linear position) 0 → 60000\80000 _{dec} Position increasing in size and value				Channel 2 (linear position) 60000\80000 → 0 _{dec} Position increasing in size and decreasing in value			

PDO 2 (redundant inclination angle)

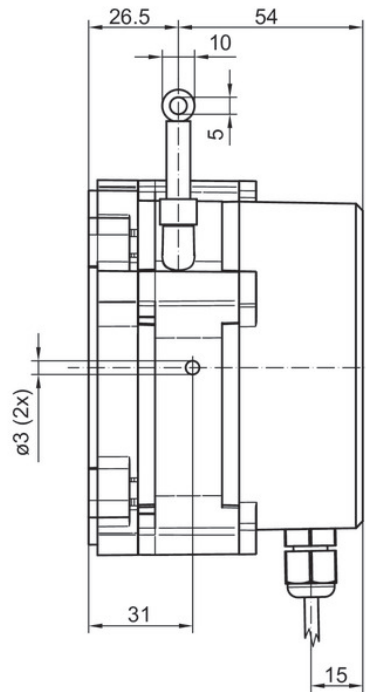
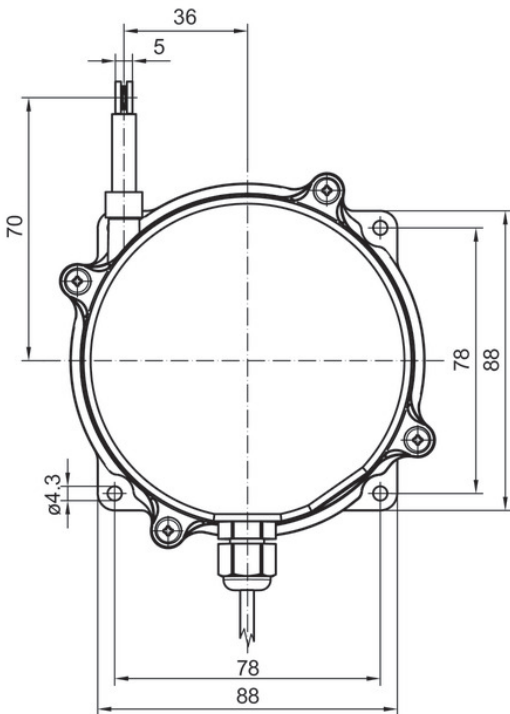
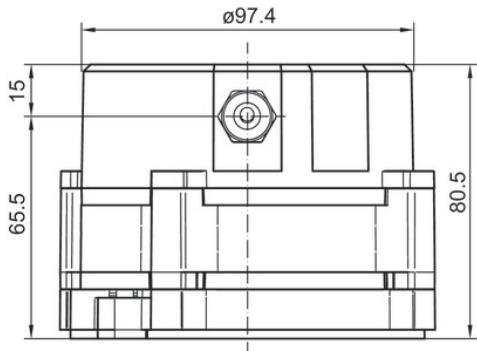
LSB	...	...	MSB	LSB	...	...	MSB
Bit 0	1	2	3	4	5	6	7
Channel 1 (inclination angle) 0 → 3600 _{dec} Angle increasing in size and value				Channel 2 (inclination angle) 3600 → 0 _{dec} Angle increasing in size and decreasing in value			

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Dimensions



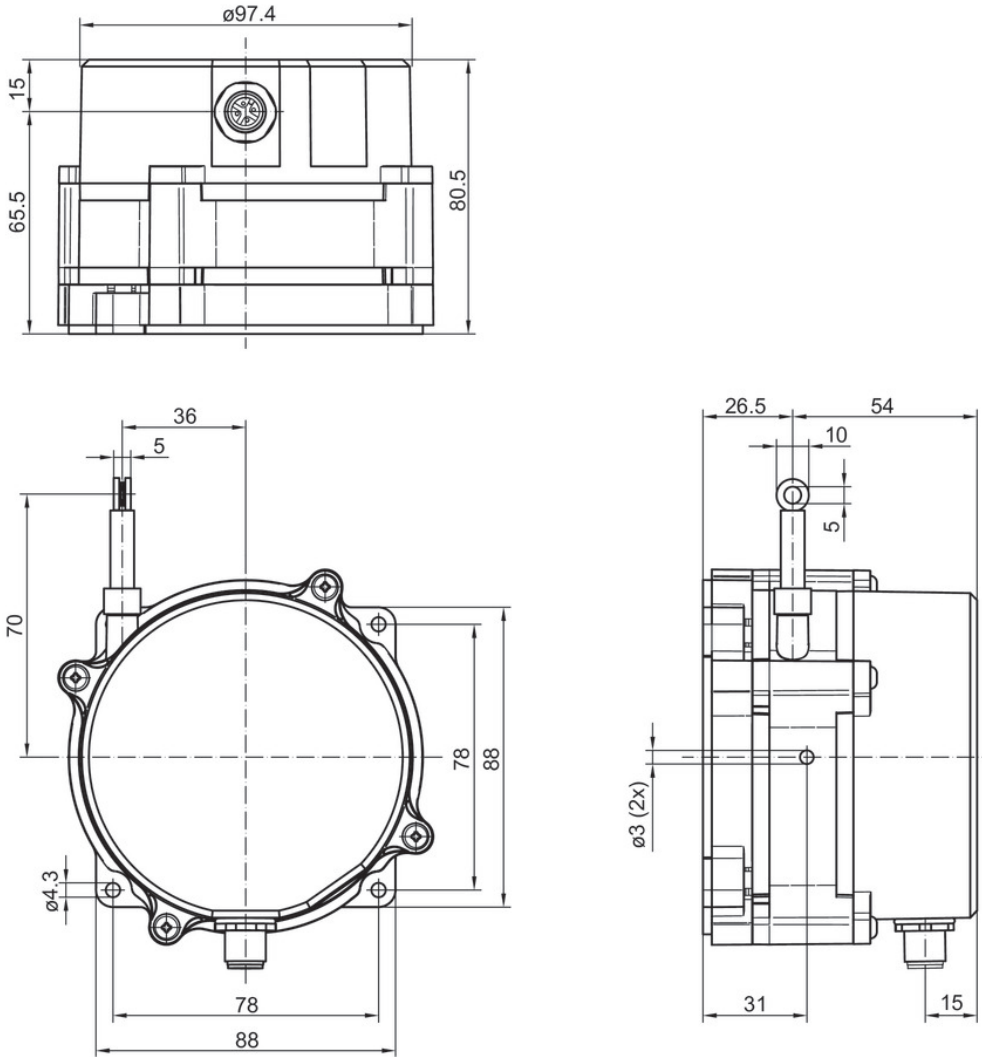
GCA8 with cable

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Dimensions



GCA8 with flange connector (male) M12

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Ordering reference

	GCA8-PP	###	.	R	C	#	.	##	0	.	A	.	#
Product	GCA8-PP												
Measuring range													
6 m		060											
8 m		080											
Measuring wire fixation													
Mount with retaining ring				R									
Measuring wire diameter													
0.70 mm					C								
Connection													
Cable radial, 2 m						L							
Flange connector M12, 5-pin, radial, male contacts, CCW						N							
Voltage supply / interface													
10...30 VDC / CANopen® (DS406)									C6				
10...30 VDC / CANopen® (DS406) redundant									C8				
Resolution supplement													
No option									0				
Operating temperature													
-40...+85 °C											A		
Inclination sensor (axes / measuring range)													
Without inclination sensor													
1-dimensional / 0...360°													

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