QG series

QG65N CAN series

QG65N-KDXYh-090-CAN-C(F)M

Inclination sensor

2 axis horizontal mounting

Programmable device
Interface: CANopen

Parameters programmable
by CANopen object dictionary

Measuring range
± 90°



	General specifications 11778/11544, v20180824
Housing	Reinforced plastic injection molded (Faradex DS, black, EMI shielded by stainless steel fiber in PC)
Dimensions (indicative)	60x50x27 mm
Mounting	4x M5x25 mm zinc plated pozidrive screws included (optional: 2x Ø4mm positioning pins)
Ingress Protection (IEC 60529)	IP67
Relative humidity	0 - 100%
Weight	approx. 110 gram
Supply voltage	8 - 30 V dc
Polarity protection	Yes
Current consumption	≤ 50 mA
Operating temperature	-40 .. +85 °C
Storage temperature	-40 .. +85 °C
Measuring range	± 90°
Centering function	Yes (CANout 0 = 0°), range: ±5°
Frequency response (-3dB)	0 - 20 Hz
Accuracy (typ. and/or 2σ)	overall 0,1° typ.
Offset error	< ± 0,05° typ. after centering
Non linearity	< ± 0,1° typ. (< ± 0,15° max.)
Sensitivity error	not applicable
Resolution	0,01°
Temperature coefficient	± 0,01°/K typ.
Max mechanical shock	10.000 g
CAN interface (hardware)	According to ISO 11898-1 & ISO 11898-2 (also known as CAN 2.0 A/B)
CANopen application layer and communication profile	CANopen protocol: EN 50325-4 (CiA 301 v4.0 & and v4.2.0) CANopen device profile for inclinometers: CiA 410 version 2.0.0
Baud rate Node Id TPDO messages TPDO1 event time Sync mode Heartbeat Programming options Output format Filtering	125 kbit/s (default, range 50/125/250/500/1000 kbit/s) 01h (range: 01h - 7Fh) TPDO1: 181h (for Node ID=01h) 50 ms (default, range 10-500 ms) On/off (default: off) On/off (default: on, 2s) Baudrate, Node Id, Event time, Sync mode, Heartbeat, Output format Integer: -9000 to +9000 (PDO1:X=byte2,1;Y=byte4,3) Output filter disabled
Boot time	< 1 s
Programming options	by CANopen object dictionary (CAN parameters, filtering)

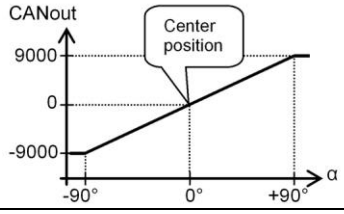
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CANoutput = 100*α

Clipping outside measuring range

Transfer characteristic

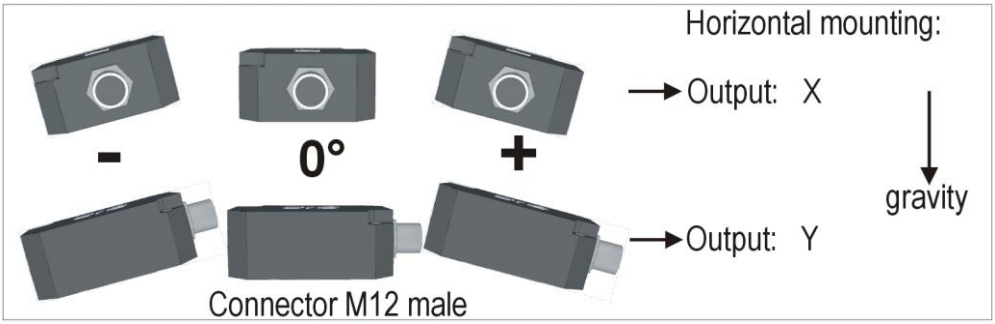


Default 0°: horizontal (label upwards), no acceleration applied. To eliminate mounting offsets the sensor can be centered within ±5° tilt (by the CAN object dictionary)

Cross tilt sensitivity error:
< (0,12 * cross tilt angle)² % typ.

→ one axis <10° tilt for max. accuracy
→ only one axis may exceed 45° tilt

Measurement orientation



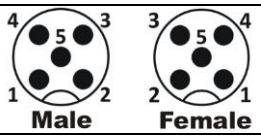
Connection

Connectivity (length ±10%)

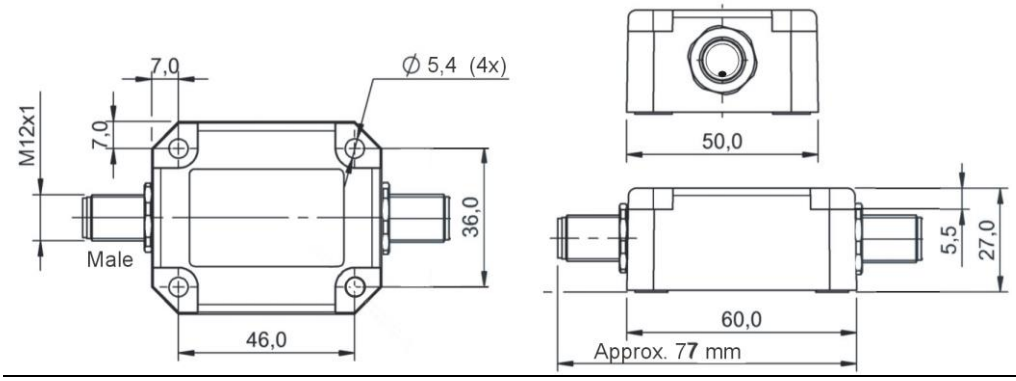
Male only or Male & Female (internal T-junction) M12 connector (5 pins, A-coding)
(CiA303 V1.8.0) (Brass Nickel coated, contacts copper alloy)
No bus termination inside. A CANbus always has to be terminated properly. For bus termination order seperate M12 termination resistor (optional: T-connector)

Wire / pin coding

Pin 1:	Shield
Pin 2:	Vcc
Pin 3:	Gnd & CAN_GND
Pin 4:	CAN_H
Pin 5:	CAN_L



Mechanical dimensions (indicative only)



E4, CAN-manual, EDS-file, Ordering codes

This product is approved for automotive use, approval number: E4-10R-04-2889

A CAN-manual (Ftype), an EDS-file (Ftype) and a Declaratoin of conformity are available at www.dis-sensors.com, see 'downloads'

As this device is accelerometer-based the sensor is inherent sensitive for accelerations/vibrations. Application specific testing must be carried out to check whether this sensor will fulfil your requirements.

Ordering codes:
M12 Male: QG65N-KDXYh-090-CAN-CM, 11778
M12 Male & Female: QG65N-KDXYh-090-CAN-CFM, 11544