QG series

Preliminary

QG65N-KIXv-360-CANS-CM

Inclination sensor SIL2 / PLd Redundant

1 axis vertical mounting

Output
CANopen Safety

Supply voltage
8 - 30 Vdc

Measuring range
360°

CANopen safety easy to use

CE

QG65N-KIXv-360-CANS-CM	General specifications v20140311
Housing	Plastic injection molded housing (Faradex DS, black, EMI shielded by stainless steel fiber in PC)
Dimensions	60x50x27 mm
Mounting	4x stainless M5x25 mm screws
Ingress Protection (IEC 60529)	IP67
Humidity	0 - 100% RH
Weight	ca 110 gr
Supply voltage	8 - 30 Vdc
Polarity protection	Yes
Current consumption	≤ 75 mA
Operating temperature	-40 .. +85°C
Storage temperature	-40 .. +85°C
Measuring range	360°
Centering function	Yes, range 360°
Frequency response (-3dB)	10 Hz
Accuracy	overall 0,05° typ.
Offset error	< ± 0,01° typ. (< ± 0,03° max.) after centering
Non linearity	< ± 0,04° typ. (< ± 0,15° max.)
Sensitivity error	< ± 0,01% typ. (< ± 0,04% max.)
Resolution	0,01°
Temperature coefficient	< ± 0,005°/K
Max mechanical shock	10.000g
CAN interface (hardware)	CAN 2.0 A and B according to ISO 11898-1 & ISO 11898-2
CAN communication profile	CANopen CiA301 4.2.0 (EN50325-4) & CANopen Safety EN50325-5 july2010 (CiA304) Safety-relevant communication according to SIL2/PLd IEC61508
Baud rate	125 kbit/s (default, range 125/250/500/1000 kbit/s)
Node Id	01h (default, range: 01h - 3Fh)
TPDO1	181h (default for Node ID=01h)
TPDO1 event time	20 ms (default, range 5-500 ms)
Sync mode, Heartbeat	off (default, range on/off)
Output format	Integer: 0 to 35999 (SRDO:byte2,1) (byte 3,4,5,6,7,8: integer 0)
SRDO1	FFh + 2x node ID (for Node ID=01h: SRDO1=101h)
SRDO2	100h + 2x node ID (for Node ID=01h: SRDO2=102h)
Safety cycle time	40ms
Filtering	Input filter enabled, output filter enabled (30ms)
Reaction on error	Emergency message folowed by NMT stop state (no CAN communication)
Boot up time	< 1s

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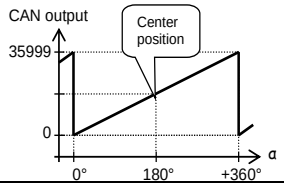
QG65N-KIXv-360-CANS-CM

CANoutput = 100*α

Transfer characteristic



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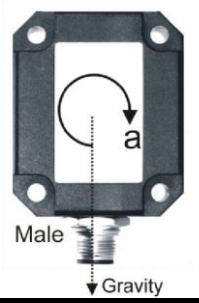
The sensor should be rotated in the vertical plane.

The sensor is compensated for cross Z-axis displacement
Note: the vertical plane should be within 10° parallel to the gravity direction for maximum accuracy.

Drawn in the default 0° position.

Measurement orientation



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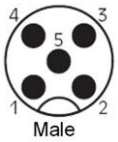
Connection

Wire / pin coding

M12 connector: 1x male (5 pins, A-coding) (CiA303 V1.8.0)
No integrated termination resistor inside (optional available). A CANbus always has to be terminated properly.

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



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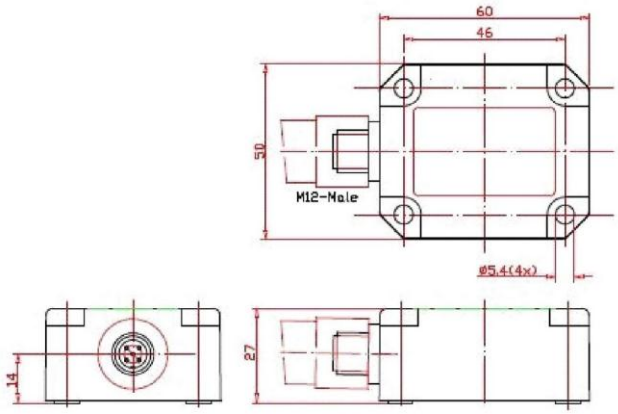
Mechanical dimensions



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Center function, CAN-manual, EDS-file, Safety information

Centering can be done by CAN object 300Fh
The current sensor position will be stored internally as the new Center position in the internal Eeprom.
Centering can be used to compensate mechanical offset

A CAN-manual is not yet available
EDS-file (CiA306 V1.3.0) not yet available
Declaration of conformity not yet available
TuV certification pending

Safety level:	SIL2 / PLd
MTTFd:	598 year
DC:	91%
CCF:	70 pt
error:	any recognizable or unexpected error or a difference of > 1° between the two redundant sensor paths