

QG76N CAN series

QG76N-SAXYZ-8,0-CAN-C(F)M-UL

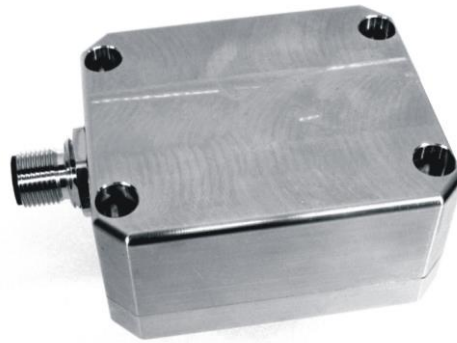
Acceleration sensor

3 axis horizontal/vertical mounting
(RMS or Signed Peak value)

Programmable device
Interface: CANopen

Parameters programmable
by CANopen object dictionary

Measuring range
 ± 8 g

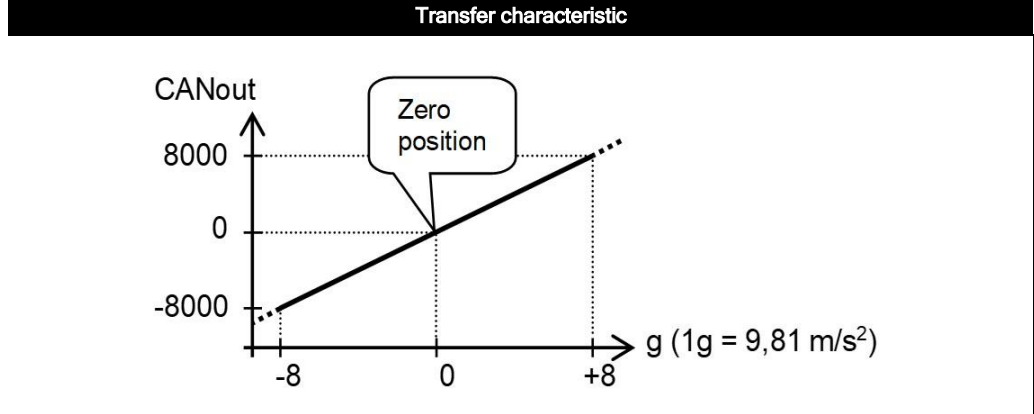


General specifications v20200327	
Housing	Stainless steel (AISI 316)
Dimensions (indicative)	70x60x33 mm
Mounting	Included: 4x M4x30 mm stainless steel (A4) Hexagon socket head screws
Ingress Protection (IEC 60529)	IP67 (IP68 with optional cable gland)
Relative humidity	0 - 95% (non condensing, housing fully potted)
Weight	approx. 700 gram
Supply voltage	8 - 30 V dc
Polarity protection	Yes
Current consumption	≤ 25 mA
Operating temperature	-40 .. +80 °C
Storage temperature	-40 .. +85 °C
Measuring range	± 8 g
Centering function	Yes, 2 horizontal axes only, (CANout 0 = 0 g), range: $\pm 5^\circ$
Frequency response (-3dB)	0 - 1600 Hz
Typ. Accuracy @20°C (2 σ)	$\pm 1.5/4/8$ g: overall 0,04/0,07/0,1 g typ.
Offset error	$< \pm 20$ mg after zeroing
Non linearity	$< \pm 1\%$ full scale
Sensitivity error	$< \pm 2\%$
Resolution	16 mg
Temperature coefficient	$\pm 0,3$ mg/K typ.
Max mechanical shock	10.000 g
CAN interface (physical layer)	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)
Baud rate	125 kbit/s (default, range 50/125/250/500/1000 kbit/s)
Node Id	01h (range: 01h - 7Fh)
TPDO messages	TPDO1: 181h (for Node ID=01h)
TPDO1 event time	50 ms (default, range 10-32767 ms)
Sync mode	On/off (default: off)
Heartbeat	On/off (default: off)
Programming options	Baudrate, Node-Id, Event time, Sync mode, Heartbeat, Output format
Output format	Integer: -8000 to +8000 (PDO1:X=byte2,1;Y=byte4,3; Z=byte6,5)
Filtering	High pass filter disabled. Default output mode: Signed Peak
Boot time	< 1 s
Programming options	by CANopen object dictionary (CAN parameters, filtering)

QG series

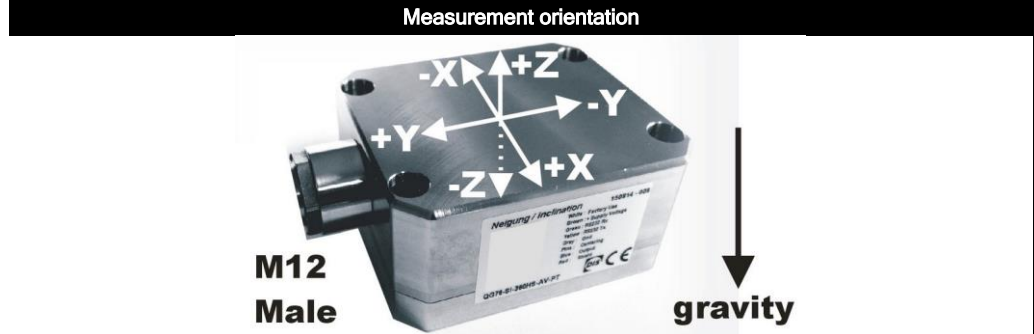
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CANoutput = 1000*g
No clipping outside measuring range



The default 0 g position is when the sensor is mounted horizontal or vertical and no acceleration is applied. The axis parallel to earth gravity will indicate 1 g, the two horizontal axes will indicate 0 g. The two horizontal axes can be zero-ed within ±5° tilt (by the CAN object dictionary) to eliminate mounting offsets. The axis parallel to earth gravity cannot be zero-ed. Optional the axis parallel to earth gravity can be compensated for 1 g gravity by the CAN object dictionary

Output value: Signed Peak (default) or RMS (selectable by CAN object dictionary)



Connection

Connectivity (length ±10%)

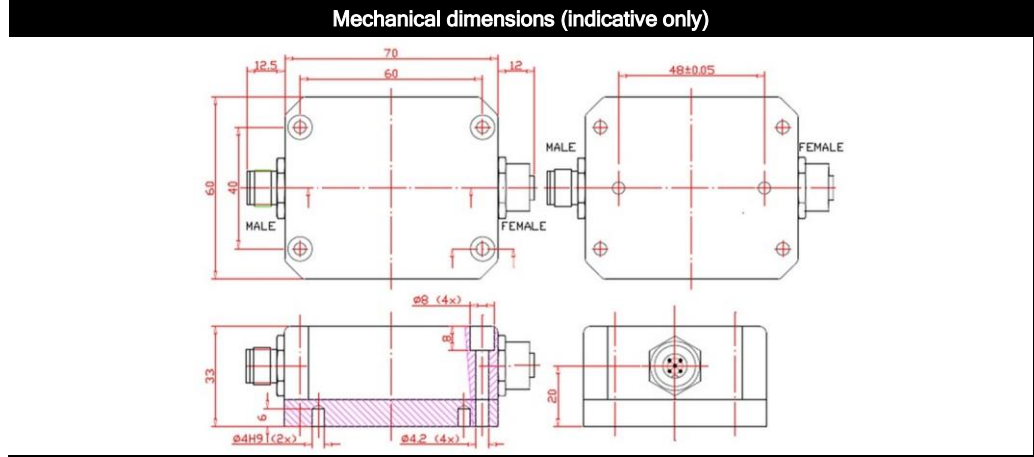
Male only or Male & Female (internal T-junction) M12 connector (5 pins, A-coding) (CiA303 V1.8.0) (stainless steel 1.4404 (316L), contacts copper alloy)
No bus termination inside. A CANbus always has to be terminated properly. For bus termination order separate M12 termination resistor (optional: T-connector)

Wire / pin coding

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

Male

Female



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

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

QG series sensors are intended to measure inclination, acceleration or tilt angle after installing in machines, equipment and systems. Flawless function in accordance with the specifications is ensured only when the device is used within its specifications. This device is not a safety component according to the EU Machine Directive (ISO13849). For full redundancy two devices can be used in the application. Modifications or non-approved use are not permitted and will result in loss of warranty and void any claims against the manufacturer.

UL & c-UL listed product (File number E312057, UL508 standards UL60947-5-2 & CSA-C22,2 No. 14)
Product Identity / Category Code Number (CCN): Industrial Control Equipment / NRKH & NRKH7
Enclosure rating: type 1, Ambient temperature: max 80 °C (see also datasheet, lowest value applies)
Electrical ratings: Intended to be used with a Class 2 power source in accordance with UL1310, max. input Voltage 32V dc (see also datasheet, lowest value applies), max. current 200mA
Accessory Cable Assembly: Any UL-listed (CYJV/7) mating connector with mechanical locking, wire thickness of at least 30 AWG (0,05 mm²), recommended ≤23 AWG (≥0,25 mm²)

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

This sensor is inherent sensitive to accelerations/vibrations. Application specific testing must be carried out to check whether this sensor will fulfil your requirements.

Ordering codes:

M12 Male: QG76N-SAXYZ-8,0-CAN-CM

M12 Male & Female: QG76N-SAXYZ-8,0-CAN-CFM