

QG series



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 v20210614

Stainless steel (AISI 316)

70x60x33 mm

Included: 4x M4x30 mm stainless steel (A4) Hexagon socket head screws

IP67, IP69K (with IP69K mating connector), (IP68 with optional cable gland)

0 - 95% (non condensing, housing fully potted)

approx. 700 gram

8 - 30 V dc

Yes

≤ 25 mA For CFM models (daisy-chained CANbus): max. current internal T-junction: 2.5A

-40 .. +80 °C

-40 .. +85 °C

± 8 g

Yes, 2 horizontal axes only, (CANout 0 = 0 g), range: $\pm 5^\circ$

0 - 1600 Hz

$\pm 1.5/4/8$ g: overall 0,04/0,07/0,1 g typ.

± 20 mg typ. (± 40 mg 2σ) after zeroing

$\pm 1\%$ typ. full scale

$\pm 2\%$ typ.

16 mg

$\pm 0,3$ mg/K typ.

10.000g

According to ISO 11898-1 & ISO 11898-2 (CAN 2.0 A/B), Short circuit protected

CANopen protocol: EN 50325-4 (CiA 301 v4.0 and v4.2.0)

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 10-32767 ms)

On/off (default: off)

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Baudrate, Node-Id, Event time, Sync mode, Heartbeat, Output format

Integer: -8000 to +8000 (PDO1:X=byte2,1;Y=byte4,3; Z=byte6,5)

High pass filter disabled. Default output mode: Signed Peak

< 1 s

by CANopen object dictionary (CAN parameters, filtering)

Housing

Dimensions (indicative)

Mounting

Ingress Protection (IEC 60529)

Relative humidity

Weight

Supply voltage

Polarity protection

Current consumption

Operating temperature

Storage temperature

Measuring range

Centering function

Frequency response (-3dB)

Accuracy (overall @20°C)

Offset error

Non linearity

Sensitivity error

Resolution

Temperature coefficient

Max mechanical shock

CAN interface (physical layer)

CANopen application layer and communication profile

Baud rate

Node Id

TPDO messages

TPDO1 event time

Sync mode

Heartbeat

Programming options

Output format

Filtering

Boot time

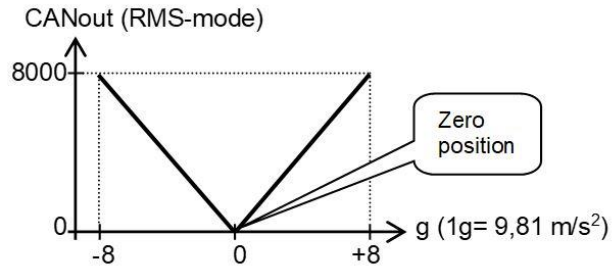
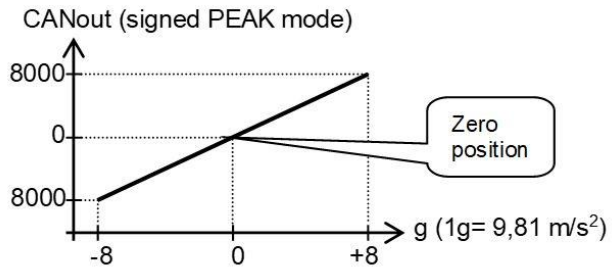
Programming options

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

CANoutput = 1000*g

No clipping outside measuring range

Transfer characteristic



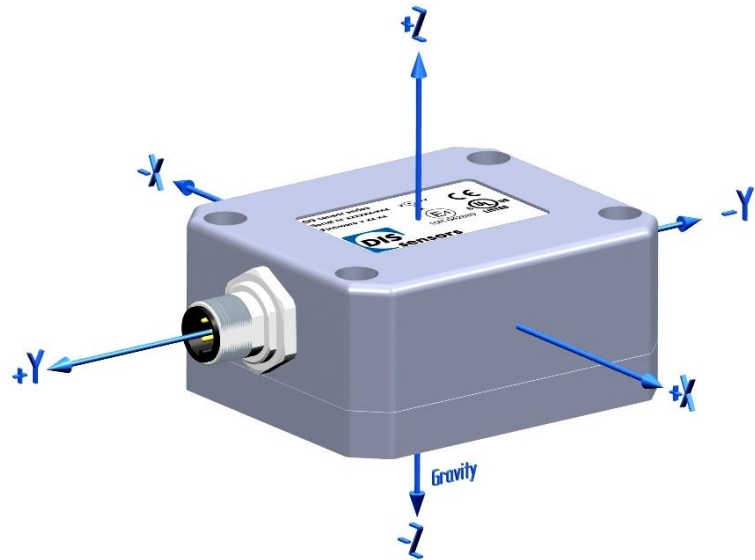
The default 0 g position is when the sensor is mounted horizontal or vertical and no acceleration is applied. The axis parallel to earth gravity will indicate 1 g, the two horizontal axes will indicate 0 g. The two horizontal axes can be zero-ed within $\pm 5^\circ$ tilt (by the CAN object dictionary) 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)

Measurement orientation



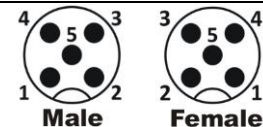
Connection

Connectivity (cable length $\pm 10\%$)

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)

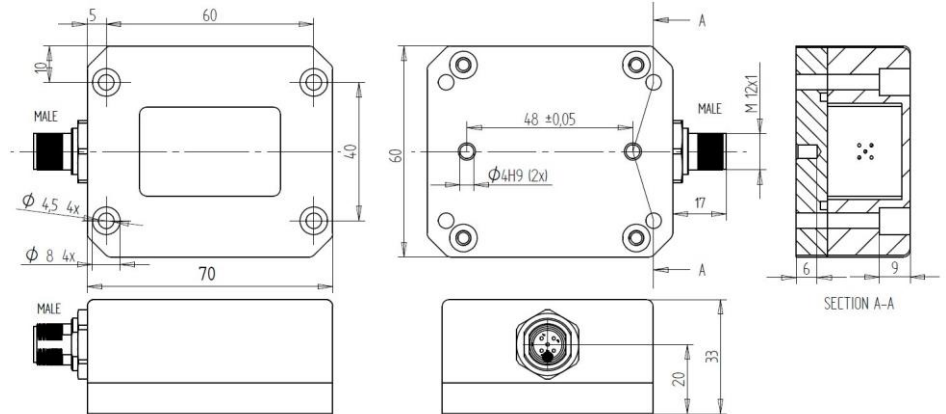
No bus termination inside. A CANbus always has to be terminated properly. For bus termination order separate M12 termination resistor (optional: T-connector)

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



Wire / pin coding

Mechanical dimensions (indicative only)



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

Before using this device, please read this datasheet, the Manual and the Declaration of Conformity carefully (download from dis-sensors.com)

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