QG series



QG76N2-SDXYh-010H-AI-CM-UL

Inclination sensor

2 axis horizontal mounting

Factory programmable device Output: 4 - 20 mA

Measuring range programmable between $\pm 1^{\circ}$ and $\pm 10^{\circ}$

Measuring range Factory defaults: ± 10°

QG76N2 Analog High accuracy series



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
Output
Output load
Short circuit protection
Output refresh rate
Programming options

General specifications 14322, v20241017
Stainless steel (AISI 316)
70x60x33 mm
Not Included: 4x M4 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
10 - 32 V dc
Yes
≤ 25 mA (excluding output signal)
-40 +80 °C
-40 +85 °C
Factory defaults: ± 10°
Yes (12 mA = 0°), range: ±5°
0 - 10 Hz
0,07° typ.
± 0,02° typ. (± 0.04° 2σ) after zero adjustment
± 0,06° typ., ± 0,08° 2σ, ± 0,1° max.
not applicable. Repeatability 0,05°
0,01°
±0,3° typ., ±0,5° 2 sigma (over full temperature range)
10,000g (max 0,2ms, non-repetitive)
4 - 20 mA
0 ≤ Rload ≤ (Vcc-3) / 20mA (Ω), 32 ≥ Vcc ≥ 3+(Rload * 20) (V)
Yes
10 ms
Factory programmable (measuring range, filtering)

QG series

DIS sensors

lout = $12 + 8*(\alpha/10)$ [mA]

Clipping outside measuring range

Zero adjustment: eliminate mech. offsets

Connect zero adjustment input to ground (>0,5sec) within 1 min. after power up. Normally this input should be left unconnected or permanent connected to Gnd

Default 0°: horizontal (label upwards), no acceleration applied.

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

Measurement orientation

Transfer characteristic

Center position

lout [mA]

20

12

Connection

Wire / pin coding

Connectivity (cable length ±10%)

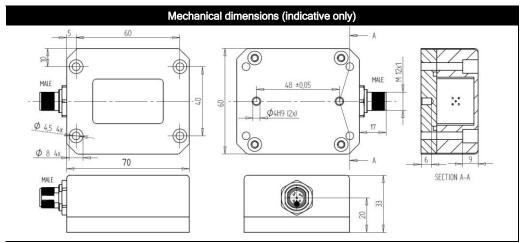
M12 male 5p A-coding connector (stainless steel 1.4404 (316L), contacts copper alloy)

Pin 1: + Supply voltage
Pin 2: Output Y
Pin 3: Gnd
Pin 4: Output X
Pin 5: Zero adjustment input

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Remarks, Installation instructions, UL, E4ready

QG series sensors are intended to measure inclination/acceleration/tilt. Flawless function (acc. spec.) is ensured only when used within specifications. This device is not a safety component acc. to EU Machine Directive (ISO13849). For full redundancy two devices can be used. Modifications or non-approved use 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)

Installation instructions:

- The cable must always be used as a whole (wires may not be separated from each other)
- 2. For the automotive (non-R10) standards ISO 13766-1 and -2 (earth moving machinery) and ISO 14982 (agricultural), the sensor may not be directly powered from the vehicle's battery.

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

This product is E4ready and meets Automotive EMC requirements