QG series

QG76 analog H-series

QG76-SD-010H-AI-CM

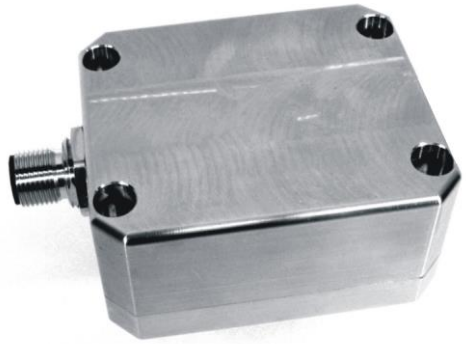
Inclination sensor

2 axis horizontal mounting

Programmable device
Output: 4 - 20 mA

Measuring range programmable between ±1° and ±10°

Measuring range
Factory defaults: ± 10°



CE

	General specifications 12388, v20170825
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
Relative humidity	0 - 100%
Weight	approx. 700 gram
Supply voltage	10 - 30 V dc
Polarity protection	Yes
Current consumption	≤ 50 mA (excluding output signal)
Operating temperature	-40 .. +85 °C
Storage temperature	-40 .. +85 °C
Measuring range	Factory defaults: ± 10°
Centering function	Yes (12 mA = 0°), range: ±5°
Frequency response (-3dB)	0 - 10 Hz
Accuracy (typ. and/or 2σ)	overall 0,04° typ.
Offset error	< ± 0,02° typ. (< ± 0,05° max.) after centering
Non linearity	< ± 0,04° typ. (< ± 0,09° max.)
Sensitivity error	not applicable
Resolution	0,01°
Temperature coefficient	± 0,005°/K typ.
Max mechanical shock	20.000g
Output	4 - 20 mA
Output load	Rload ≤ (50*Vs-300) [Ω] (Eg: Vs = 24 V: Rload ≤ 900 Ω)
Short circuit protection	Yes (max 10 s)
Output refresh rate	20 ms
Programming options	by optional QG65-configurator (measuring range, filtering)

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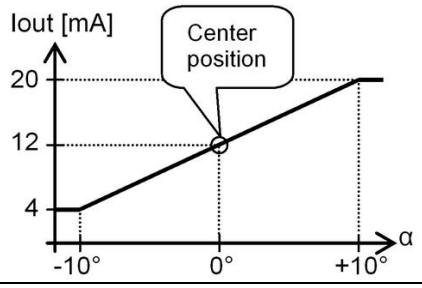
Iout = 12 + 8*(α/10) [mA]

clipping outside measuring range

Transfer characteristic

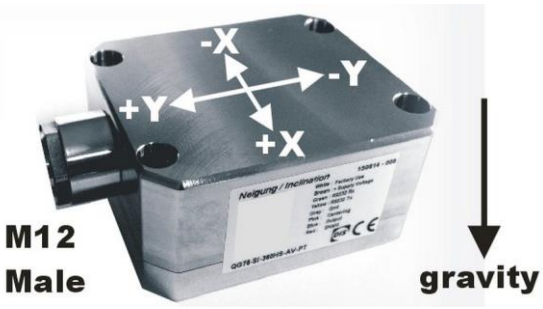


Default 0°: horizontal (top upwards), no acceleration applied.

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

→ one axis <10° tilt for max. accuracy

Measurement orientation



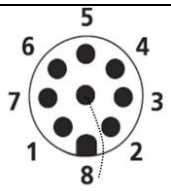
Connectivity (length ±10%)

Connection

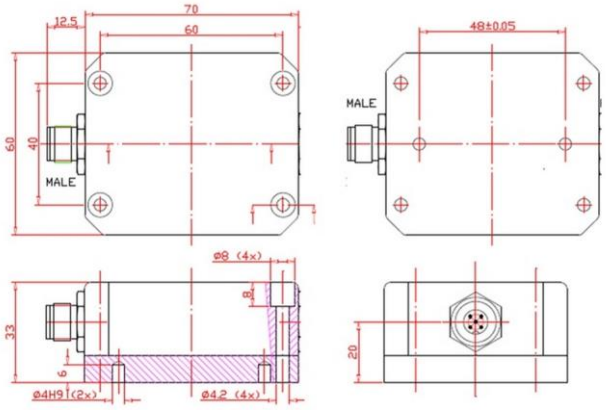
M12 male 8p connector (stainless steel 1.4404 (316L), contacts copper alloy)

Wire / pin coding

Pin 1:	Output Y
Pin 2:	Supply voltage
Pin 3:	Programming interface RS232 Rx
Pin 4:	Programming interface RS232 Tx
Pin 5:	Gnd
Pin 6:	Centering input
Pin 7:	Output X
Pin 8:	Not connected



Mechanical dimensions (indicative only)



Center function

Centering can be done to eliminate mechanical offsets. To execute centering connect center input to ground (>0,5sec) within 1 min. after power up. After centering you have 1 min. left for another centering. Normally the center input should be left unconnected.

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.