

QG series

QG76 analog H-series

QG76-SI-360H-AV-CM

Inclination sensor

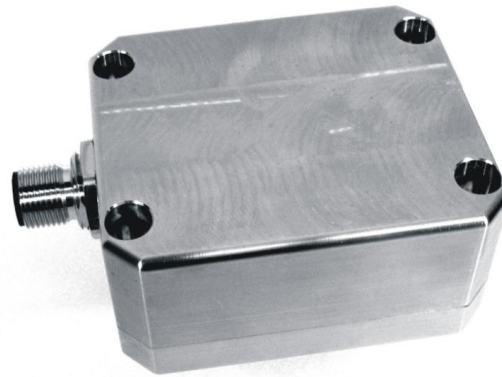
1 axis vertical mounting

Programmable device

Output: 0,5 - 4,5 V

Measuring range programmable
between 1° and 360°

Measuring range
Factory default: 360°



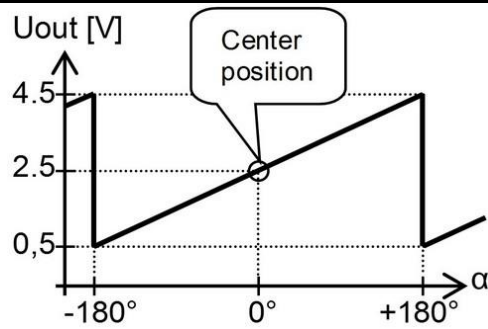
General specifications 11626, v20170825

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	8 - 30V dc
Polarity protection	Yes
Current consumption	≤ 50 mA
Operating temperature	-40 .. +85 °C
Storage temperature	-40 .. +85 °C
Measuring range	Factory default: 360°
Centering function	Yes (2,5 V = 0°), range 360°
Frequency response (-3dB)	0 - 10 Hz
Accuracy (typ. and/or 2σ)	overall 0,07° typ.
Offset error	< ± 0,03° typ. (< ± 0,08° max.) after centering
Non linearity	< ± 0,06° typ. (< ± 0,15° max.)
Sensitivity error	not applicable
Resolution	0,01°
Temperature coefficient	± 0,005°/K typ.
Max mechanical shock	20.000g
Output	0,5 - 4,5 V
Output load	Rload ≥20kΩ, Cload ≤20 nF
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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$$U_{out} = 0,5 + 4 \cdot (\alpha/360) [V]$$

Transfer characteristic



Rotation in vertical plane.

Lateral tilt sensitivity error:
 $< \pm 0,03^\circ$ lateral tilt (typ.)
 Max. lateral tilt: 45°

Drawn in default 0° position.

Measurement orientation



Direction of gravity

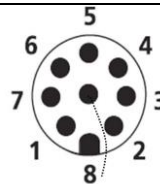
Connectivity (length $\pm 10\%$)

Connection

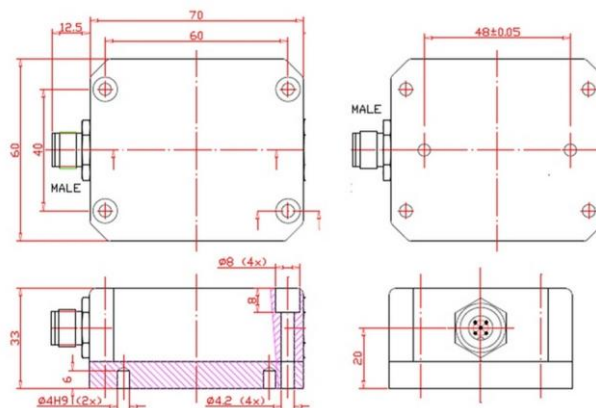
Wire / pin coding

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

- Pin 1: Output for factory use only
- 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
- 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 ($>0,5\text{sec}$) 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.