QG series

QG40N-series

QG40N-KAXYZh-1,5-AI-PT

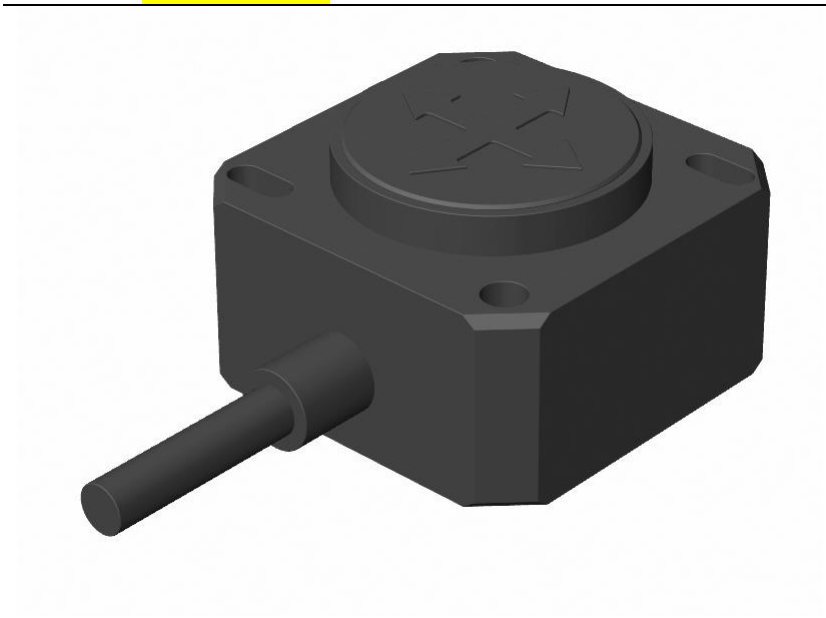
Acceleration sensor

3 axis

Factory programmable device
Output: 4 - 20 mA

Measuring range factory programmable
between 0,1 g and 16 g

Measuring range
Factory defaults: ± 1,5 g



General specifications 11938, v20230725	
Housing	Plastic injection molded housing (Arnite T06 202 PBT black)
Dimensions (indicative)	40x40x25 mm
Mounting	Included: 2x M3x25 mm zinc plated steel pozidrive pan head screws, self-tapping (PZ DIN 7500CZ) Mounting on flat surface only. Screw with care
Ingress Protection (IEC 60529)	IP67
Relative humidity	0 - 95% (non condensing, housing fully potted)
Weight	approx. 45 gram (cable excluded)
Supply voltage	10 - 30 V dc
Polarity protection	Yes
Current consumption	≤ 15 mA (excluding output signal)
Operating temperature	-40 .. +80 °C
Storage temperature	-40 .. +80 °C
Measuring range	Factory defaults: ± 1,5 g
Centering function	Yes (12 mA = 0 G), range: ±5° (horizontal axes only)
Frequency response (-3dB)	0 - 50 Hz
Accuracy (overall @20°C)	overall 0,06 g typ.
Offset error	± 30 mg typ. (± 60 mg 2σ) after zero adjustment
Non linearity	±0,04 g typ.
Sensitivity error	± 1% typ.
Resolution	2 mg
Temperature coefficient	± 1 mg/K typ.
Max mechanical shock	10.000g
Output	4 - 20 mA
Output load	Rload ≤ (50*Vs -300) (Ω) (Eg: Vs = 24 V: Rload ≤ 900 Ω)
Short circuit protection	Yes (T<55°C), Max 10 s (T>55°C)
Output refresh rate	3 ms
Programming options	Factory programmable only

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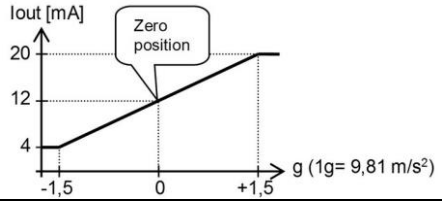
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Iout = 12 + 5.33*g [mA]
clipping outside measuring range

Zeroing: eliminate mech. offsets
Connect zeroing input to ground (>0,5sec) within 1 min. after power up. Normally the zeroing input should be left unconnected.

Transfer characteristic



The default 0 g position is when the sensor is mounted horizontal or vertical and no acceleration is applied.
The Z-axis is compensated for 1g earth gravity.

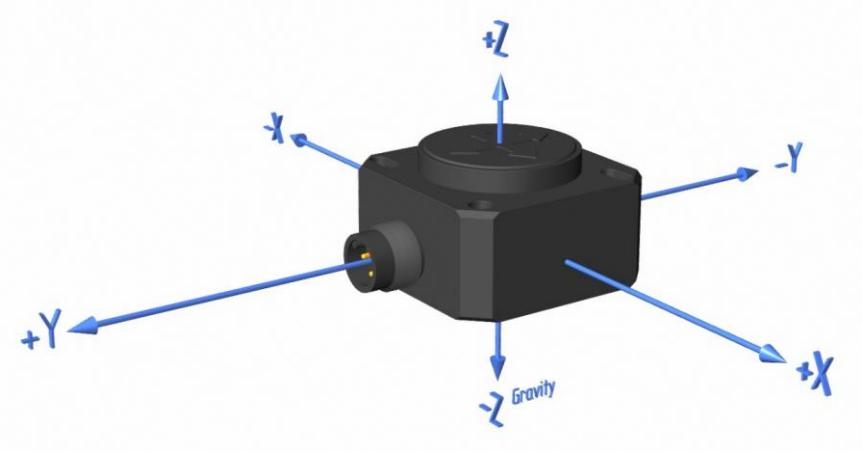
Connect output-X and/or output-Y and/or output-Z according the plot at the right

Mounting horizontal position

The two horizontal axes can be zero-ed within ±5° tilt to eliminate mounting offsets.

The axis parallel to earth gravity cannot be zero-ed.

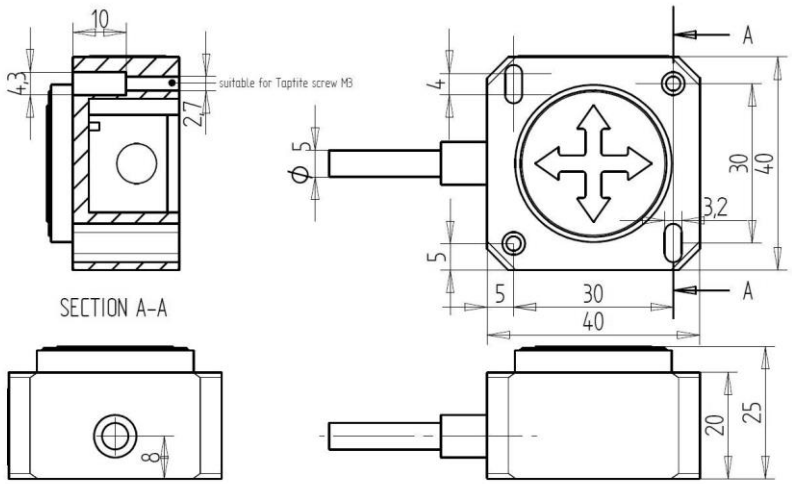
Measurement orientation



Connectivity (cable length ±10%)

Connection	2 m PUR/TPE Li12y11y, black Ø 5,2 mm, wires: 6x0,34 mm² DIN colors
Wire / pin coding	
White	Zeroing
Brown	+ Supply Voltage
Green	GND
Yellow	Output X
Grey	Output Y
Pink	Output Z

Mechanical dimensions (indicative only)



Intended use, Remarks

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.

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.

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