QG series

QG40N-series

QG40N-KAXYZh-1,5-AI-PT

Acceleration sensor

3 axis

Programmable device
Output: 4 - 20 mA

Measuring range programmable between 0,1 g and 16 g

Measuring range
Factory defaults: ± 1,5 g



	General specifications v20170717
Housing	Plastic injection molded housing (Arnite T06 202 PBT black)
Dimensions (indicative)	40x40x25 mm
Mounting	2x M3x25 mm zinc plated steel pozidrive screws included
Ingress Protection (IEC 60529)	IP67
Relative humidity	0 - 100%
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 .. +85 °C
Storage temperature	-40 .. +85 °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 (2σ)	overall 0,04 g typ.
Offset error	< ± 0,3% F.S. (after zeroing)
Non linearity	< ± 0,3% F.S.
Sensitivity error	< ± 1%
Resolution	0,001 g
Temperature coefficient	± 0,5 mg/K typ.
Max mechanical shock	10.000 g
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	3 ms
Programming options	by optional QG40N-configurator + optional QG40N breakout-cable (measuring range, filtering)

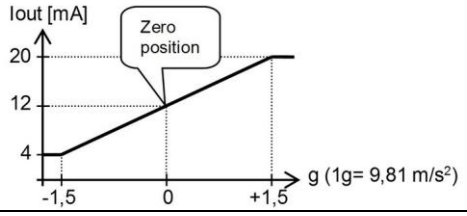
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Iout = 12 + 5.33*g [mA]
clipping outside measuring range

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.

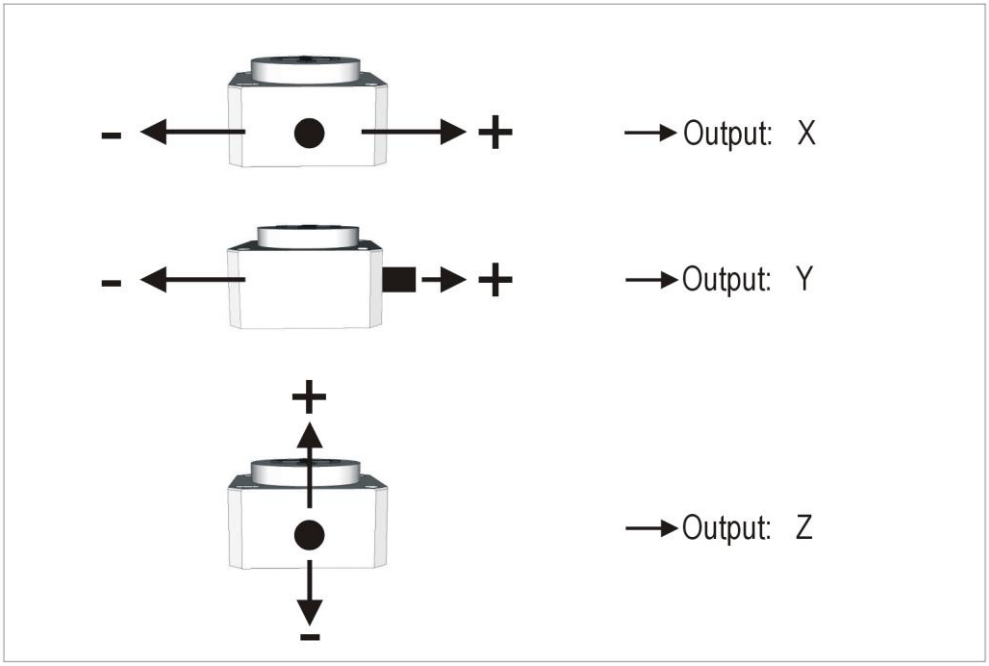
Connect output-X and/or output-Y and/or output-Z according the plot at the right

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 (length ±10%)

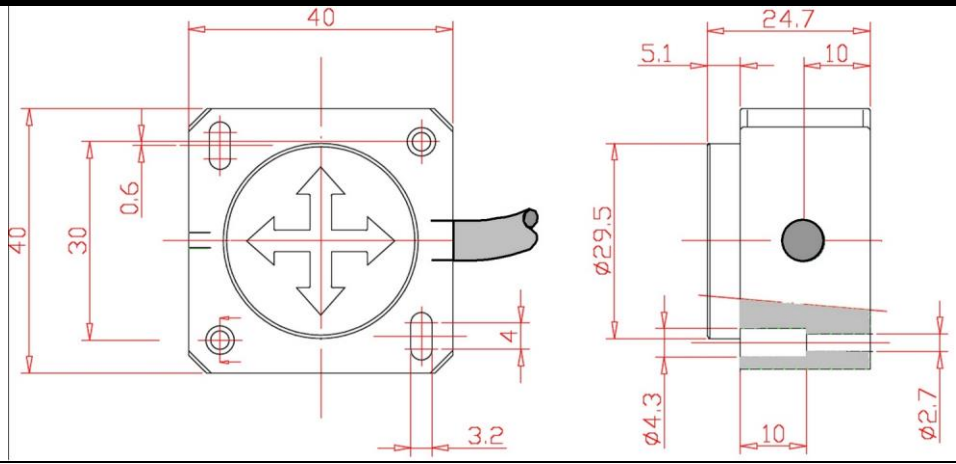
Connection

2 m PUR/TPE Li12y11y, black Ø 5,4 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.