QG series

**QG40N-series**

**Acceleration sensor**  
3 axis

Programmable device  
Output: 4 - 20 mA

Measuring range programmable between 0.1 g and 16 g

Measuring range  
Factory defaults: ± 4 g

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**General specifications v20170717**

Plastic injection molded housing (Arnite T06 202 PBT black)

| 40x40x25 mm |

Included: 2x M3x25 mm zinc plated steel pozidrive pan head screws, self-tapping (PZ DIN 7500C)

**IP67**

| 0 - 100% |

approx. 45 gram (cable excluded)

**Yes**

≤ 15 mA (excluding output signal)

**-40 .. +80 °C**

**-40 .. +80 °C**

Factory defaults: ± 4 g

Yes (12 mA = 0 G), range: ±5° (horizontal axes only)

0 - 50 Hz

overall 0.15 g typ.

< ± 2% F.S. (after zeroing)

< ± 1% F.S.

< ± 2%

4 mg

± 1 mg/K typ.

10,000 g

4 - 20 mA

Rload ≤ (50*Vs-300) [Ω] (Eg: Vs = 24 V: Rload ≤ 900 Ω)

Yes (max 10 s)

3 ms

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by optional QG40N-configurator + optional QG40N breakout-cable (measuring range, filtering)
QG series

QG40N-KAXYZh-4,0-AI-PT

Transfer characteristic

\[ I_{out} = 12 + 2 \times g \] [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.

Measurement orientation

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.

Connectivity (length ±10%)

2 m PUR/TPE Li12y11y, black Ø 5.4 mm, wires: 6x0.34 mm² DIN colors

Wire / pin coding

<table>
<thead>
<tr>
<th>Color</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>Zeroing</td>
</tr>
<tr>
<td>Brown</td>
<td>+ Supply Voltage</td>
</tr>
<tr>
<td>Green</td>
<td>GND</td>
</tr>
<tr>
<td>Yellow</td>
<td>Output X</td>
</tr>
<tr>
<td>Grey</td>
<td>Output Y</td>
</tr>
<tr>
<td>Pink</td>
<td>Output Z</td>
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</tbody>
</table>

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 fulfill your requirements.