**QG40N-series**

**Acceleration sensor**

2 axis horizontal mounting

Programmable device

Output: 4 - 20 mA

Measuring range programmable between 0.1 g and 16 g

Measuring range

Factory defaults: ± 1.5 g

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**General specifications**

Plastic injection molded housing (Amite T06 202 PBT black)

40x40x25 mm

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

IP67, IP69K

0 - 95% (non condensing, housing fully potted)

approx. 45 gram

≤ 15 mA (excluding output signal)

-40 .. +80 °C

-40 .. +85 °C

Factory defaults: ± 1.5 g

Yes (12 mA = 0 G), range: ±5°

0 - 50 Hz

overall 0.04 g typ.

< ± 2% F.S. (after zeroing)

< ± 1% F.S.

< ± 1%

2 mg

± 1 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)

Yes (T<55°C), Max 10 s (T>55°C)

3 ms

by optional QG40N-configurator (measuring range, filtering)

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**Housing**

Dimensions (indicative)

Mounting

Ingress Protection (IEC 60529)

Relative humidity

Supply voltage

Polarity protection

Current consumption

Operating temperature

Storage temperature

Measuring range

Centering function

Frequency response (-3dB)

Typ. Accuracy @20°C (2σ)

Offset error

Non linearity

Sensitivity error

Resolution

Temperature coefficient

Max mechanical shock

Output

Output load

Short circuit protection

Output refresh rate

Programming options

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**QG series**

**QG40N-KAXYh-1,5-AJ-CM-UL**

### Transfer characteristic

\[ I_{out} = 12 + 5.33 \times g \ [mA] \]

- Clipping outside measuring range
- Zeroing: eliminate mech. offsets
- Connect zeroing input to ground (>0.5 sec) within 1 min. after power up. Normally the zeroing input should be left unconnected.

### Measurement orientation

- 0 g when no acceleration applied
- Horizontal mounting: 1-axis or 2-axis usage
- Connect output-X and/or output-Y according the plot at the right.
- Upside down mounting possible (sensor nose down)

### Connectivity (length ±10%)

M12 5p male connector (Glass fibre reinforced grade, contacts CuZn pre-nickeled galv. Au)

<table>
<thead>
<tr>
<th>Pin 1:</th>
<th>+ Supply Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 2:</td>
<td>output Y</td>
</tr>
<tr>
<td>Pin 3:</td>
<td>Gnd</td>
</tr>
<tr>
<td>Pin 4:</td>
<td>output X</td>
</tr>
<tr>
<td>Pin 5:</td>
<td>zeroing</td>
</tr>
</tbody>
</table>

If connected with M12 F (accessory sold by DIS):

<table>
<thead>
<tr>
<th>Brown:</th>
<th>+ Supply Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White:</td>
<td>output Y</td>
</tr>
<tr>
<td>Blue:</td>
<td>Gnd</td>
</tr>
<tr>
<td>Black:</td>
<td>output X</td>
</tr>
<tr>
<td>Green/yellow:</td>
<td>zeroing</td>
</tr>
</tbody>
</table>
### Intended use, UL, 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.

UL & c-UL listed product (File number E312057, UL508 standards UL60947-5-2 & CSA-C22.2 No. 14)  
Product Identity / Category Code Number (CCN): Industrial Control Equipment / NRKH & NRKH7  
Enclosure rating: type 1, Ambient temperature: max 80 °C (see also datasheet, lowest value applies)  
Electrical ratings: Intended to be used with a Class 2 power source in accordance with UL1310, max. input Voltage 32V dc (see also datasheet, lowest value applies), max. current 200mA  
Accessory Cable Assembly: Any UL-listed (CYJV/7) mating connector with mechanical locking, wire thickness of at least 30 AWG (0,05 mm²), recommended ≤23 AWG (≥0,25 mm²)

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.