**QG series**

**QG30-KI-090H-AV-K5V**

**Inclination sensor**
1 axis

Non-programmable device

Output: 0.5 - 4.5 V

horizontal/vertical mounting

For demanding applications

Measuring range ± 90°

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**General specifications 04309, v20180115**

Plastic injection molded housing (Arnite T06 202 PBT black)

30x30x15 mm

Included: 2x M3x16 mm zinc plated steel pozidrive pan head screws, self-tapping (PZ DIN 7500C)

- **IP67**
  - 0 - 100%
  - approx. 15 gram (cable excluded)

- **Supply voltage**
  - 5 V dc

- **Current consumption**
  - ≤ 30 mA

- **Operating temperature**
  - -25 .. +80 °C

- **Storage temperature**
  - -25 .. +80 °C

- **Relative humidity**
  - 0 - 100%

- **Weight**
  - approx. 15 gram (cable excluded)

- **Supply voltage**
  - 5 V dc

- **Current consumption**
  - ≤ 30 mA

- **Measuring range**
  - ± 90°

- **Centering function**
  - No

- **Frequency response (-3dB)**
  - 0 - 18 Hz (±10 Hz)
  - overall 0,9° typ. (offset excluded) (-45°..+45°)

- **Accuracy (typ. and/or 2σ)**
  - < ± 1° typ. (< ± 3° max.)
  - < ± 0,6° (-45°..+45°)
  - < ± 2% typ. (< ± 3,5% max.)

- **Resolution**
  - 0,01°

- **Temperature coefficient**
  - ± 0,01°/K typ

- **Max mechanical shock**
  - 20,000g

- **Output load**
  - RLoad ≥20kΩ, CLoad ≤ 20 nF

- **Short circuit protection**
  - Yes (max 10 s)

- **Repeatability**
  - ± 0,1°

- **Programming options**
  - not applicable
QG series

QG30-KI-090H-AV-K-5V

Transfer characteristic

\[ U_{\text{out}} = 2.5 + 2 \cdot \sin(\alpha) \quad [\text{V}] \]

output clipping outside measuring range at 0.3 V and 4.7 V approximately

Measurement orientation

The QG30 can be used in both vertical and horizontal mounting position.

Connectivity (length ±10%)

<table>
<thead>
<tr>
<th>Connection</th>
<th>2 m PVC/PVC Lisy, black Ø 4.6 mm, wires: 3x0.34 mm² Sensor colors (static usage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire / pin coding</td>
<td>Brown + Supply Voltage, Black Output, Blue Gnd</td>
</tr>
</tbody>
</table>

Mechanical dimensions (indicative only)

Remarks

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.
QG series

QG40N-KDXYh-080-ASP-CM-UL

Tilt switch
2 axis horizontal mounting

Programmable device
Output: PNP

Switch points programmable between ±1° and ±80°

Measuring range
Factory defaults: ±80°

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### General specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td>Plastic injection molded housing (Arnite T06 202 PBT black) 40x40x25 mm</td>
</tr>
<tr>
<td>Dimensions (indicative)</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td></td>
</tr>
<tr>
<td>Ingress Protection (IEC 60529)</td>
<td></td>
</tr>
<tr>
<td>Relative humidity</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>8 - 30V dc</td>
</tr>
<tr>
<td>Polarity protection</td>
<td>Yes</td>
</tr>
<tr>
<td>Current consumption</td>
<td>≤ 25 mA</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-40 .. +85 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40 .. +85 °C</td>
</tr>
<tr>
<td>Measuring range</td>
<td>Factory defaults: ±80°</td>
</tr>
<tr>
<td>Centering function</td>
<td>Yes (0°), range: ±5°</td>
</tr>
<tr>
<td>Frequency response (3dB)</td>
<td>0-0,5 Hz</td>
</tr>
<tr>
<td>Accuracy (typ. and/or 2σ)</td>
<td>±0,5°</td>
</tr>
<tr>
<td>Offset error</td>
<td>0° (after zeroing)</td>
</tr>
<tr>
<td>Non linearity</td>
<td>not applicable</td>
</tr>
<tr>
<td>Sensitivity error</td>
<td>not applicable</td>
</tr>
<tr>
<td>Resolution</td>
<td>0,1°</td>
</tr>
<tr>
<td>Temperature coefficient</td>
<td>± 0,04°/K typ.</td>
</tr>
<tr>
<td>Max mechanical shock</td>
<td>10,000 g</td>
</tr>
<tr>
<td>Output</td>
<td>dual PNP</td>
</tr>
<tr>
<td>Output load</td>
<td>150 mA cont., 250 mA max 10 sec., protected against back EMF</td>
</tr>
<tr>
<td>Short circuit protection</td>
<td>Yes (max 10 s)</td>
</tr>
<tr>
<td>Boot time</td>
<td>&lt; 100 ms</td>
</tr>
<tr>
<td>Programming options</td>
<td>by optional QG40N-configurator (switch points, delay times, filtering)</td>
</tr>
</tbody>
</table>

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