QG series
QG65 analog H-series

Inclination sensor
2 axis horizontal mounting
Programmable device
Output: 4 - 20 mA
Measuring range programmable between ±1° and ±30°

Measuring range
Factory defaults: ± 30°

General specifications 11444, v20170825
Reinforced plastic injection molded (Faradex DS, black, EMI shielded by stainless steel fiber in PC)
60x50x27 mm
4x M5x25 mm zinc plated pozidrive screws included (optional: 2x Ø4mm positioning pins)
IP67
0 - 100%
approx. 110 gram
Supply voltage
10 - 30 V dc
Polarity protection
Yes
≤ 25 mA (excluding output signal)
Operating temperature
-40 .. +85 °C
-40 .. +85 °C
Storage temperature
Factory defaults: ± 30°
Measuring range
Yes (12 mA = 0°), range: ±5°
Centering function
0 - 10 Hz
overall 0,05° typ.
Frequency response (-3dB)
< ± 0,03° typ. (< ± 0,08° max.) after centering
< ± 0,04° typ. (< ± 0,09° max.)
Accuracy (typ. and/or 2σ)
not applicable
Offset error
0,01°
Non linearity
± 0,005°/K typ.
Sensitivity error
Resolution
20.000g
Temperature coefficient
Max mechanical shock
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
20 ms
by optional QG65-configurator (measuring range, filtering)

Housing
Dimensions (indicative)
Mounting
Ingress Protection (IEC 60529)
Relative humidity
Weight
Supply voltage
Polarity protection
Current consumption
Operating temperature
Storage temperature
Measuring range
Centering function
Frequency response (-3dB)
Accuracy (typ. and/or 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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QG65-KD-030H-AI-CM

Transfer characteristic

\[ I_{\text{out}} = 12 + 8 \left( \frac{\alpha}{30} \right) \text{ [mA]} \]

clipping outside measuring range

Measurement orientation

Default 0°: horizontal (label upwards), no acceleration applied.

Cross tilt sensitivity error:

\(< (0.12 \times \text{cross tilt angle})^2 \% \text{ typ.} \>

→ one axis <10° tilt for max. accuracy

Connectivity (length ±10%)

M12 male 8p connector (Brass Nickel coated, contacts copper alloy)

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<tbody>
<tr>
<td>Output Y</td>
<td>Supply voltage</td>
<td>Programming interface RS232 Rx</td>
<td>Programming interface RS232 Tx</td>
<td>Gnd</td>
<td>Centering input</td>
<td>Output X</td>
<td>Not connected</td>
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</tbody>
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Mechanical dimensions (indicative only)

Center function

Centering can be done to eliminate mechanical offsets. To execute centering connect center input to ground (>0.5sec) within 1 min. after power up. After centering you have 1 min. left for another centering. Normally the center input should be left unconnected.

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.