

# QG series

## QG40N-series

QG40N-KAXYZh-1,5-AV-PT

### Acceleration sensor

3 axis

Factory programmable device

Output: 0,5 - 4,5 V

Measuring range factory programmable

between 0,1 g and 16 g

Measuring range

Factory defaults:  $\pm 1,5$  g



### General specifications 11939, v20230725

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 7500CZ)  
Mounting on flat surface only. Screw with care

IP67

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

approx. 45 gram (cable excluded)

6 - 30 V dc

Yes

$\leq 15$  mA

-40 .. +80 °C

-40 .. +80 °C

Factory defaults:  $\pm 1,5$  g

Yes (2,5 V = 0 G), range  $\pm 5^\circ$  (horizontal axes only)

0 - 50 Hz

overall 0,06 g typ.

$\pm 30$  mg typ. ( $\pm 60$  mg  $2\sigma$ ) after zero adjustment

$\pm 0,04$  g typ.

$\pm 1\%$  typ.

2 mg

$\pm 1$  mg/K typ.

10.000g

0,5 - 4,5 V

Rload  $\geq 20k\Omega$ , Cload  $\leq 20$  nF

Yes (max 10 s)

3 ms

Factory programmable only

### 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 (overall @20°C)

Offset error

Non linearity

Sensitivity error

Resolution

Temperature coefficient

Max mechanical shock

Output

Output load

Short circuit protection

Output refresh rate

Programming options

## QG40N-KAXYZh-1,5-AV-PT

$U_{out} = 2,5 + 1.33 \cdot g$  [V]  
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.

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 to the plot at the right

Mounting horizontal position

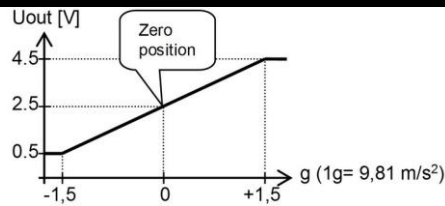
The two horizontal axes can be zero-ed within  $\pm 5^\circ$  tilt to eliminate mounting offsets.

The axis parallel to earth gravity cannot be zero-ed.

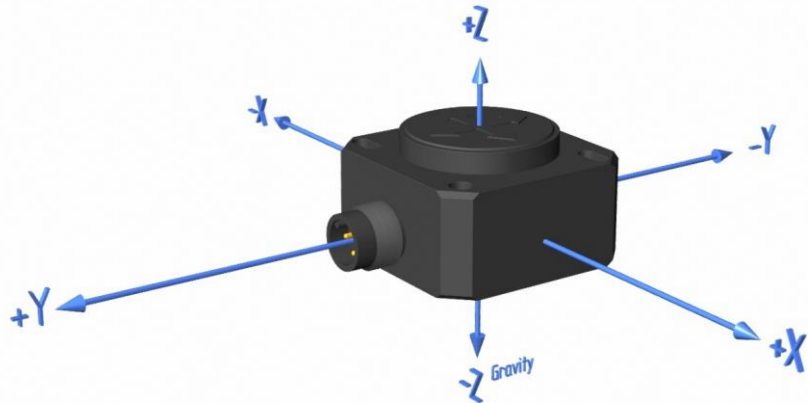
Connection

Wire / pin coding

### Transfer characteristic



### Measurement orientation

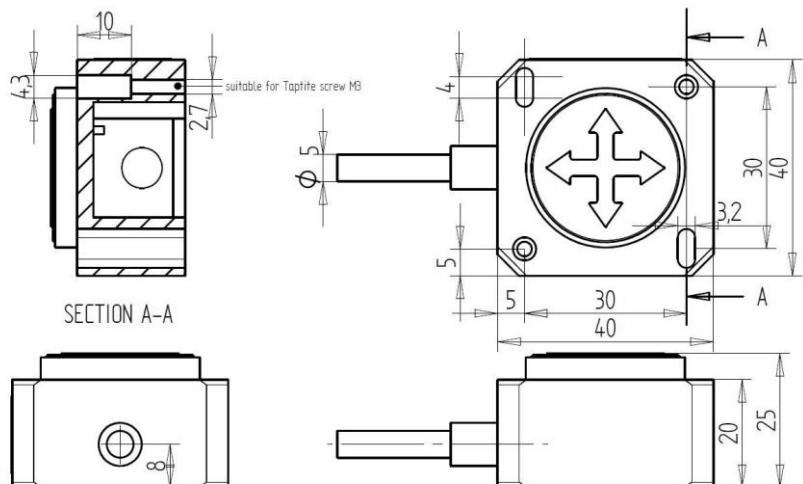


### Connectivity (cable length $\pm 10\%$ )

2 m PUR/TPE Li12y11y, black  $\varnothing$  5,2 mm, wires: 6x0,34 mm<sup>2</sup> DIN colors

|        |                  |
|--------|------------------|
| 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.