

# QG series

QG40N-KDXYh-090-AI-CM

## Inclination sensor 2 axis horizontal mounting

Output  
4 - 20 mA

Supply voltage  
10 - 30V dc

Measuring range  
 $\pm 90^\circ$



### QG40N-KDXYh-090-AI-CM

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 (2 $\sigma$ )
Offset error
Non linearity
Sensitivity error
Resolution
Temperature coefficient
Max mechanical shock
Output
Output load
Short circuit protection
Output refresh rate

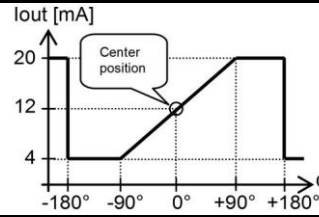
### General specifications v20151012

Plastic injection molded housing (Quadro40, PBTP black)
40x40x25 mm
2x M3x25 mm zinc plated steel pozidrive screws included
IP67
0 - 100%
ca 45 gr
10 - 30V dc
Yes
$\leq 15$ mA ( excluding output signal )
-25 .. +85°C
-40 .. +85°C
$\pm 90^\circ$
Yes (12 mA = 0°), range: $\pm 5^\circ$
10 Hz
overall 0,4° typ.
$< \pm 0,2^\circ$ ( after centering )
$< \pm 0,4^\circ$
not applicable
0,09°
$\pm 0,04^\circ/\text{K}$ typ.
10.000g
4 - 20 mA
Rload $\leq (50^\circ\text{Vs}-300)$ [ $\Omega$ ] (Eg: Vs = 24 V: Rload $\leq 900 \Omega$ )
Yes (max 10 s)
20 ms

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$$I_{out} = 12 + 8(\alpha/90) \text{ [mA]}$$

## Transfer characteristic



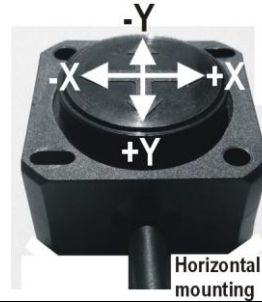
## QG40N-KDXYh-090-AI-CM

Default 0°: horizontal, no acceleration applied.

Cross tilt sensitivity error:  
 $< (0,12 * \text{cross tilt angle})^2 \% \text{ typ.}$

Note:  
 one axis  $< 10^\circ$  tilt for max. accuracy  
 Note:  
 only one axis may exceed  $45^\circ$  tilt

## Measurement orientation



## QG40N-KDXYh-090-AI-CM

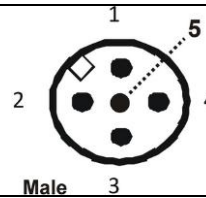
### Connection

Wire / pin coding

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

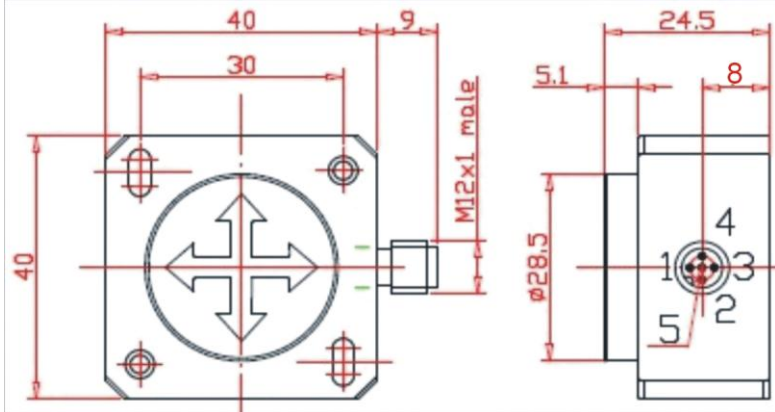
M12 5p male connector

- Pin 1: + Supply Voltage
- Pin 2: output Y
- Pin 3: Gnd
- Pin 4: output X
- Pin 5: Centering



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## Mechanical dimensions (indicative only)



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## Center function

Centering can be done to eliminate mechanical offsets.  
 To execute centering connect center input to ground ( $>0,5\text{sec}$ ) within 1 min. after power up.  
 After centering you have 1 min. left for another centering.  
 Normally the center input should be left unconnected.