

# QG series

QG65-KD-030H-AI-CM

## Inclination sensor 2 axis horizontal mounting

Output  
4 - 20 mA

Supply voltage  
10 - 30V dc

Measuring range  
 $\pm 30^\circ$



### QG65-KD-030H-AI-CM

Housing
Dimensions
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
Offset error
Non linearity
Sensitivity error
Resolution
Temperature coefficient
Max mechanical shock
Output
Output load
Short circuit protection
Output refresh rate

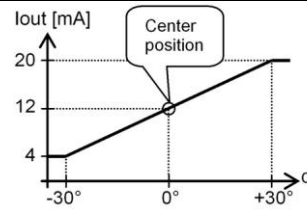
### General specifications 11444, v20140610

Plastic injection molded housing (Faradex DS, black, EMI shielded by stainless steel fiber in PC)
60x50x27 mm
4x M5x25 mm stainless steel pozidrive screws (optional: 2x Ø4mm positioning pins)
IP67
0 - 95% non condensing
ca 110 gr
10 - 30V dc
Yes
$\leq 25$ mA ( excluding output signal )
-40 .. +85°C
-40 .. +85°C
$\pm 30^\circ$
Yes (12 mA = 0°), range: $\pm 5^\circ$
10 Hz
overall 0,05° typ.
$< \pm 0,03^\circ$ typ. ( $< \pm 0,08^\circ$ max.) after centering
$< \pm 0,04^\circ$ typ. ( $< \pm 0,09^\circ$ max.)
$< \pm 0,03\%$ typ. ( $< \pm 0,08\%$ max.)
0,01°
$\pm 0,005^\circ/K$ typ.
20.000g
4 - 20 mA
Rload $\leq (50 \cdot V_s - 300)$ [Ω] (Eg: $V_s = 24$ V: Rload $\leq 900$ Ω)
Yes (max 10 s)
20 ms

## QG65-KD-030H-AI-CM

$I_{out} = 12 + 8 \cdot (\alpha/30)$  [mA]  
clipping outside measuring range

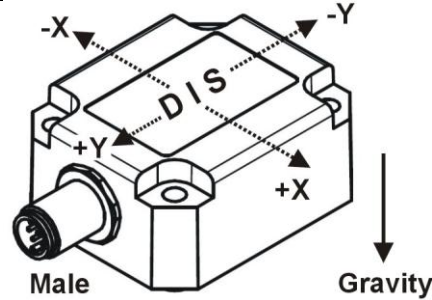
## Transfer characteristic



## QG65-KD-030H-AI-CM

Default 0°: horizontal, no acceleration applied.  
Cross tilt sensitivity error:  
 $< (0,12 \cdot \text{cross tilt angle})^2$  % typ.  
Note:  
one axis  $< 10^\circ$  tilt for max. accuracy

## Measurement orientation



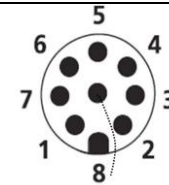
## QG65-KD-030H-AI-CM

### Connection

Wire / pin coding

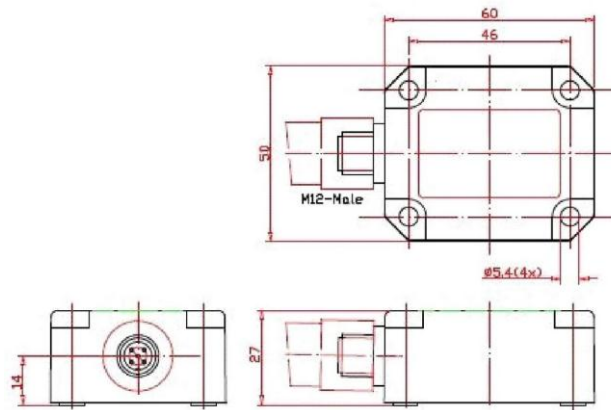
### M12 male 8p connector

- |        |                                |
|--------|--------------------------------|
| Pin 1: | Output Y                       |
| Pin 2: | Supply voltage                 |
| Pin 3: | Programming interface RS232 Rx |
| Pin 4: | Programming interface RS232 Tx |
| Pin 5: | Gnd                            |
| Pin 6: | Centering input                |
| Pin 7: | Output X                       |
| Pin 8: | Shield                         |



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## Mechanical dimensions



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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.