

TOP Inclinometer MEMS technology.

Top performance, high IP rating, resistance to shock and vibrations, and high electromagnetic compatibility make this sensor suitable for mobile hydraulics applications.

Developed to guarantee a robust, high-performance solution for applications such as agricultural vehicles, earth-moving machines, and hoisting equipment.

## TECHNICAL SPECIFICATIONS

### Measurement Range

$\pm 10^\circ \pm 15^\circ \pm 20^\circ \pm 30^\circ \pm 45^\circ \pm 60^\circ \pm 85^\circ$  (dual XY axis)  
 $360^\circ (\pm 180^\circ)$  (single Z axis)

### Supply voltage

+5Vdc (only for 0.5...4.5Vdc output); +10...+36VDC (see output signal for right supply voltage)

### Output signal

0.5...4.5V RATIOMETRIC (supply +5Vdc); 0.5...4.5V; 0...10V; 4...20mA; CANopen

### Electrical connections

M12 connector output; cable output

### Resolution

Analog output:  $0.01^\circ$  (from  $\pm 10^\circ$  to  $\pm 20^\circ$ );  $0.02^\circ (\pm 30^\circ)$ ;  $0.03^\circ (\pm 45^\circ)$ ;  $0.04^\circ (\pm 60^\circ)$ ;  $0.05^\circ (\pm 85^\circ)$ ;  $0.1^\circ (\pm 180^\circ)$ .  
 CANopen output:  $0.01^\circ$

### Linearity

$< \pm 0.15\%$  FS (from  $\pm 15^\circ$  to  $\pm 60^\circ$ ;  $\pm 180^\circ$ );  $< \pm 0.3\%$  FS ( $\pm 85^\circ$ )

### Working temperature and Coefficient of temperature

$-40^\circ\text{C} \dots +85^\circ\text{C}$  thermal drift  $< 0.005^\circ/\text{C}$  in range ( $T = -10^\circ\text{C} \dots +60^\circ\text{C}$ )  
 otherwise  $< 0.008^\circ/\text{C}$

### Vibrations

20g between 10 Hz ... 2000 Hz IEC 60068-2-6

### Shock

Pulse on 3 axes; 50g 11 ms IEC 60068-2-27

### Electromagnetic compatibility

2014/30/EU Electromagnetic Compatibility (EMC)

### IP Protection Level

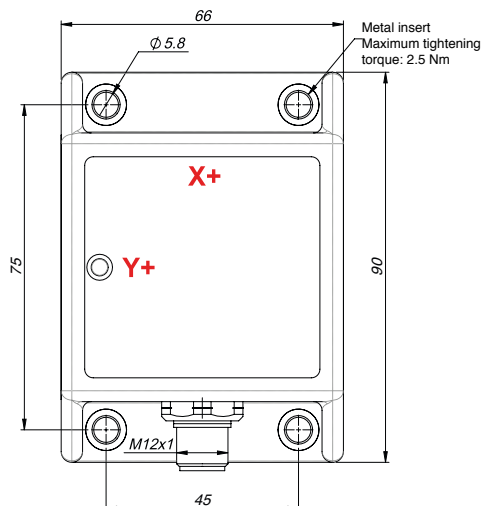
M12 connector output (IP67); cable output (IP X9K)

### Housing body

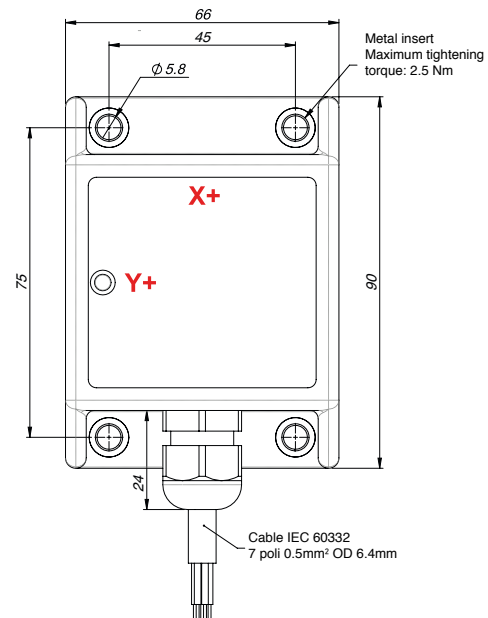
PBT

## MECHANICAL DIMENSIONS

### M12 VERSION



### CABLE VERSION



江门市利德电子有限公司

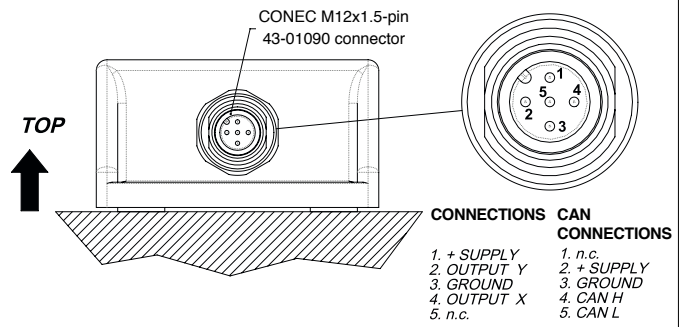
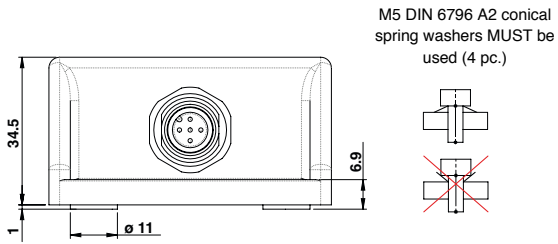
广东省江门市五邑碧桂园翠山聆水二街68号 邮编: (zip)529000

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# ELECTRICAL CONNECTIONS

## M12 VERSION



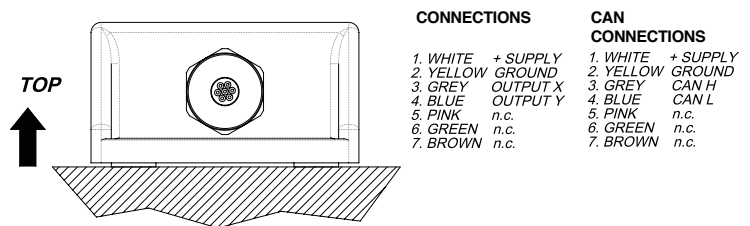
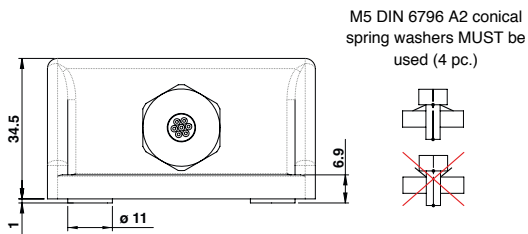
## DUAL AXIS



## SINGLE AXIS



## CABLE VERSION



## DUAL AXIS



## SINGLE AXIS



ITEMS MARKED "n.c." SHOULD NOT BE CONNECTED

## AUTOZERO FUNCTION (additional function)

Available for analog versions in GIT-XY configuration (dual axis)




To activate **the Autozero function** make sure that:

- sensor is powered
- fixing surface is free of dust or grease
- sensor is fixed on the horizontal plane with suitable screws



### ATTENTION!

The Autozero function can be defined **within a maximum range of +/- 4.5°** from the original zero position (factory set).

Hold the **magnetic pen** ① (accessory to order-PKIT312) to the **ZERO POINT**  indicated on the product label ②.

Hold the position for **at least 3-5 seconds** so that the operation is successful.

①

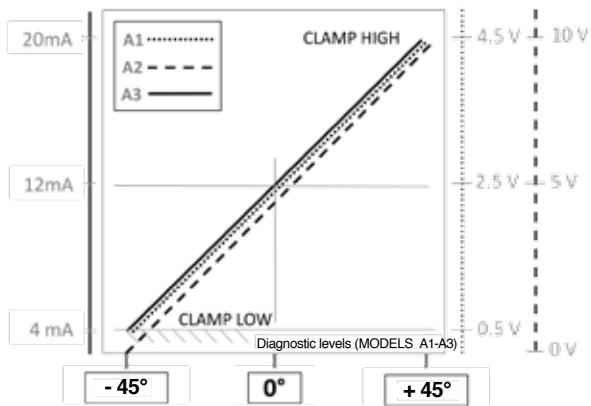


②

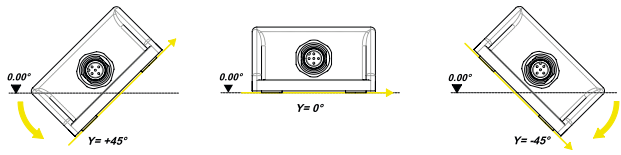
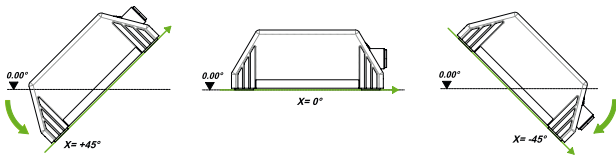
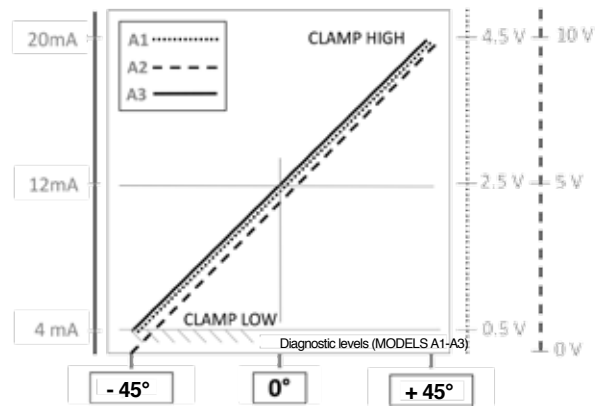


# OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS

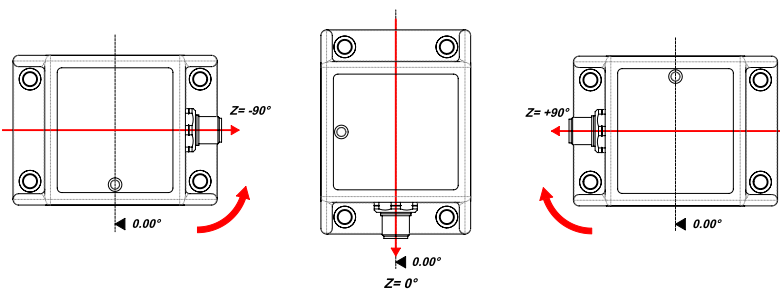
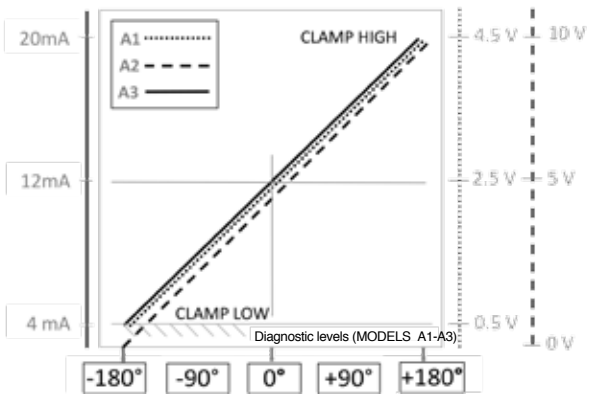
DUAL AXIS INCLINOMETER (XY) – X AXIS



DUAL AXIS INCLINOMETER (XY) – Y AXIS



SINGLE AXIS INCLINOMETER ( $\pm 180^\circ$ ) – Z AXIS



## LOAD CONDITIONS

- +0.5Vdc...+4.5 Vdc output with power +10...36Vdc and +0..10Vdc output with power +11..36Vdc: apply a load resistance > 100Kohm
- +0.5VDC...+4.5VDC output (powered at +5VDC): apply a load resistance > 10Kohm
- 4..20mA output (powered at < + 15..36Vdc): maximum allowed load resistance is 200 ohm
- 4..20mA output (powered at >+ 15..36Vdc): maximum allowed load resistance is 500 ohm

# ORDERING CODE

ELECTRICAL CONNECTIONS	
M12 connector output	<b>M</b>
Cable output (specify cable length)	<b>F</b>

AXIS TYPE	
Dual axis (XY axis)	<b>O</b>
Single axis 360° (Z axis)	<b>V</b>

CIRCUIT TYPE	
Single	<b>S</b>
Redundant	<b>R</b>

OUTPUT 1 MEASURING RANGE (output for single circuit)	
measuring range (indicate) single axis always 360° dual axis ±10° ±15° ±20° ±30° ±45° ±60°±85°	<b>XXX</b>

OUTPUT 2 MEASURING RANGE (only for redundant version)	
measuring range (indicate) single axis always 360° dual axis ±10° ±15° ±20° ±30° ±45° ±60°±85°	<b>XXX</b>

SUPPLY VOLTAGE	
+5Vdc (only for A1 output)	<b>L</b>
+10...+36VDC (see output signal for right supply voltage)	<b>H</b>

OUTPUT TYPE	
+0.5...4.5Vdc (available with supply L = ratiometric output and with supply H = 0.5...4.5V output)	<b>A1</b>
0...+10VDC (powered at +11...36VDC)	<b>A2</b>
4...20mA output (powered at +10...36VDC)	<b>A3</b>
CANopen output (powered at +10...36VDC)	<b>C1</b>

CABLE	
Cable without connector (always "0" in case of GIT-M version)	<b>0</b>

CERTIFICATES	
<b>0</b>	No certificate enclosed
<b>L</b>	Linearity curve enclosed

ACCESSORIES	
<b>X</b>	No accessory
<b>Y</b>	Magnetic pen <b>(PKIT312)</b>

CABLE LENGTH	
<b>01</b>	100 mm cable
<b>02</b>	200 mm cable
<b>05</b>	500 mm cable
<b>10</b>	1m cable
<b>20</b>	2m cable
<b>.....</b>	other lengths on request

## EXAMPLE OF DESCRIPTION: GITFOS030000HA30 0000X01

