

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

$\pm 10^\circ \pm 15^\circ \pm 20^\circ \pm 30^\circ \pm 45^\circ \pm 60^\circ \pm 85^\circ$ (single Z axis for analog output - XY dual axis)
 $360^\circ (\pm 180^\circ)$ only for 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° (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°

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

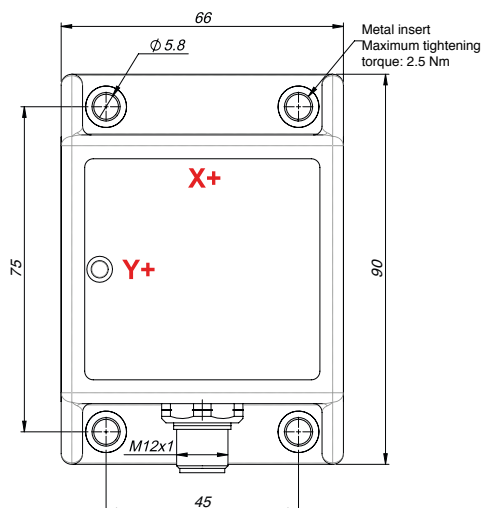
M12 connector output (IP67); cable output (IP X9K)

Housing body

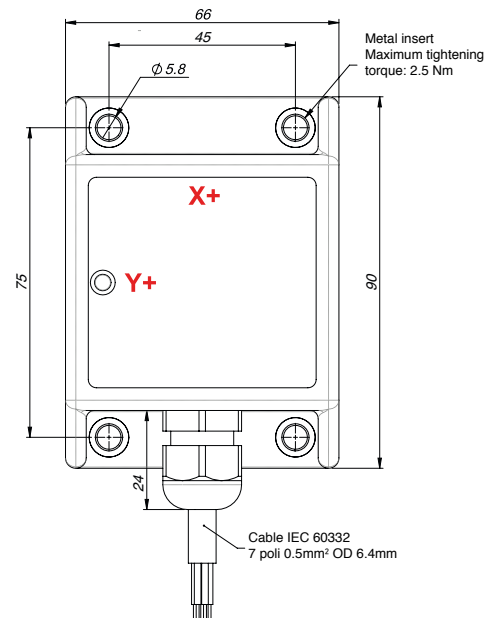
PBT

MECHANICAL DIMENSIONS

M12 VERSION

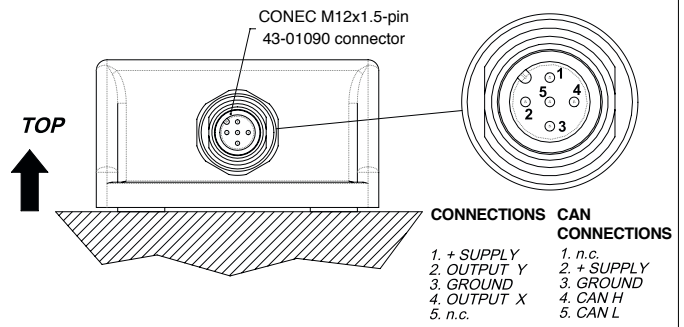
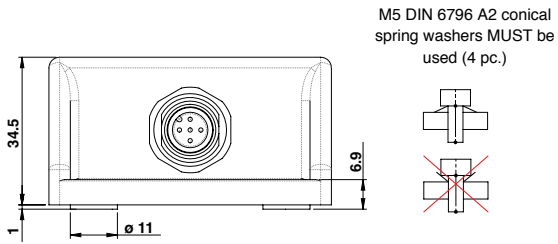


CABLE VERSION

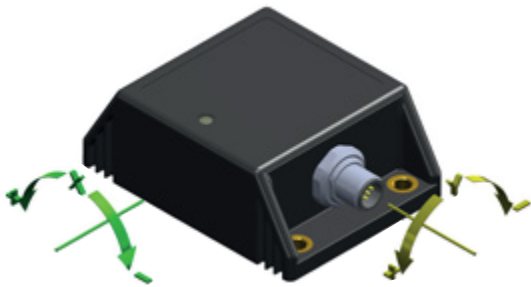


ELECTRICAL CONNECTIONS

M12 VERSION



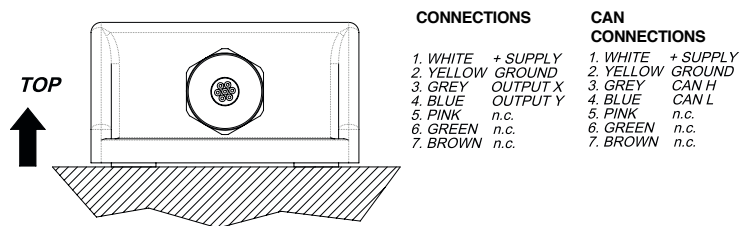
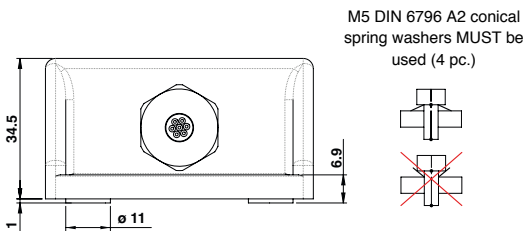
DUAL AXIS



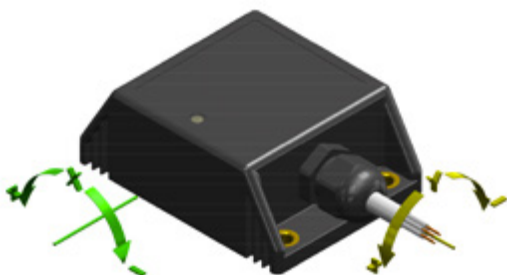
SINGLE AXIS



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

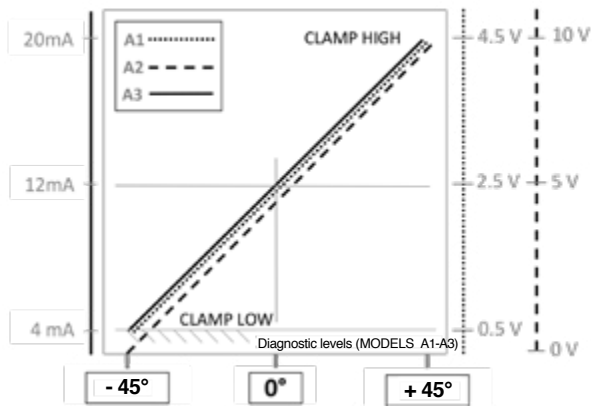


②

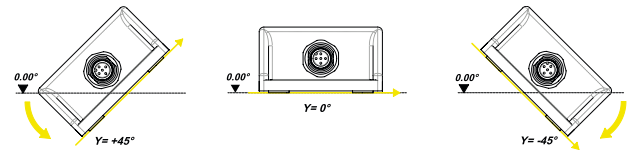
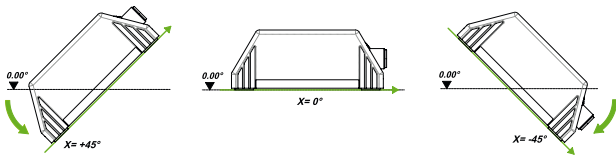
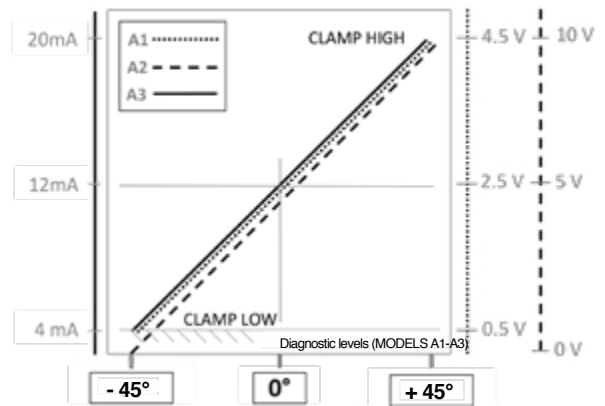


OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS

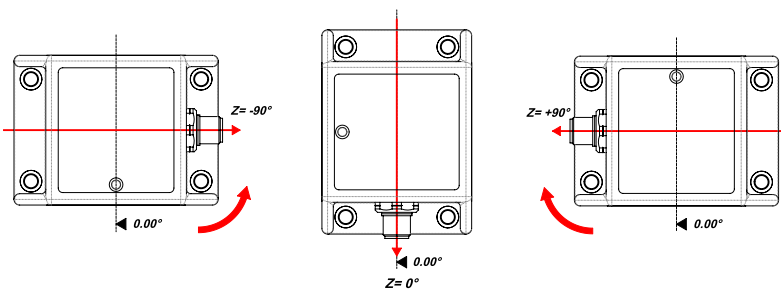
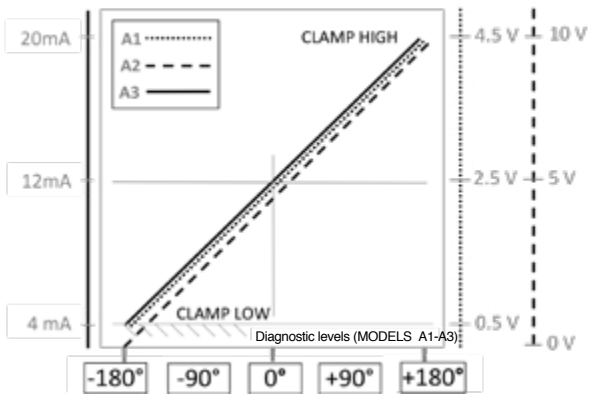
DUAL AXIS INCLINOMETER (XY) – X AXIS



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 $> 100\text{Kohm}$
- +0.5VDC...+4.5VDC output (powered at +5VDC): apply a load resistance $> 10\text{Kohm}$
- 4..20mA output (powered at $< + 15..36\text{Vdc}$): maximum allowed load resistance is 200 ohm
- 4..20mA output (powered at $> + 15..36\text{Vdc}$): maximum allowed load resistance is 500 ohm

