

GENERAL Inclinometer MEMS technology.

High performance, high IP rating, resistance to shock and vibrations, and high electromagnetic compatibility make this sensor suitable for mobile hydraulic 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

12 bit (analog output); 0.01 deg (CANopen output)

Accuracy (Factory verification @ 25 °C)

< $\pm 0.5\%$ FS

Working temperature

-40... +85°C

Temperature coefficient at 0-deg inclination

Typical < ± 0.006 deg/°C

Long term repeatability

Single axis: Typical < ± 0.5 deg in the range ± 180 deg
 Dual axis: Typical < ± 0.5 deg in the range $\leq \pm 60$ deg, ± 2 deg otherwise

Vibrations

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

Shock

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

Electromagnetic compatibility

2014/30/EU Electromagnetic Compatibility (EMC)

IP Protection Level

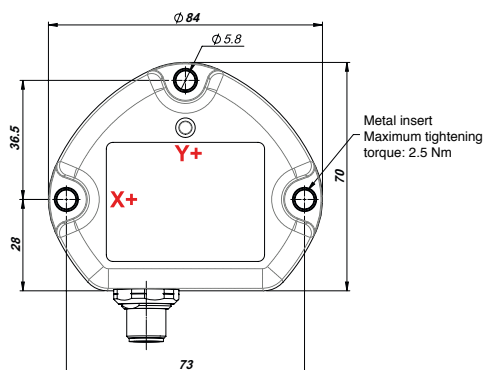
IP67 - IPX9K with female homologated connector mounted, tightening torque 1.7Nm (GIG-M M12 connector version) IP67 - IPX9K (GIG-F cable-PUR version)

Housing body

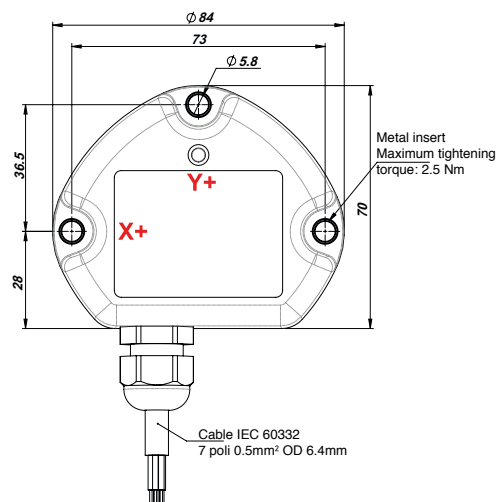
PBT

MECHANICAL DIMENSIONS

M12 VERSION

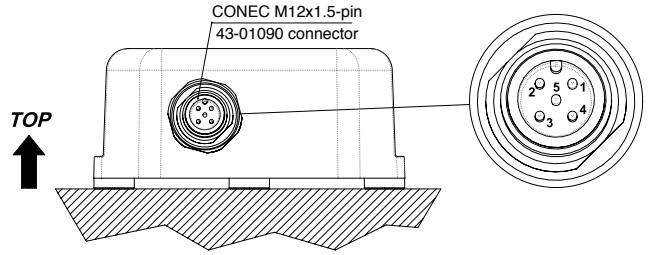
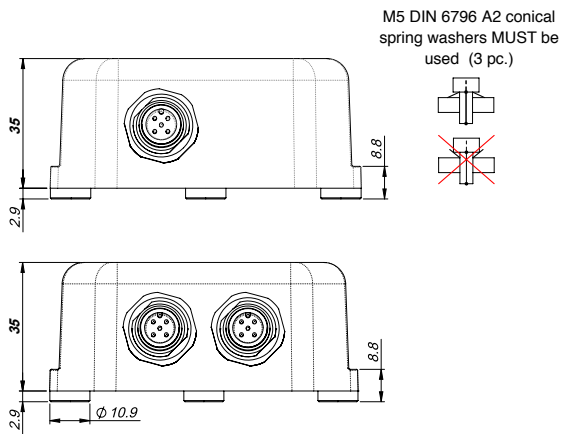


CABLE VERSION



ELECTRICAL CONNECTIONS

M12 VERSION



CONNECTIONS

1. + SUPPLY
2. OUTPUT Y
3. GROUND
4. OUTPUT X
5. n.c.

CAN CONNECTIONS

1. n.c.
2. + SUPPLY
3. GROUND
4. CAN H
5. CAN L

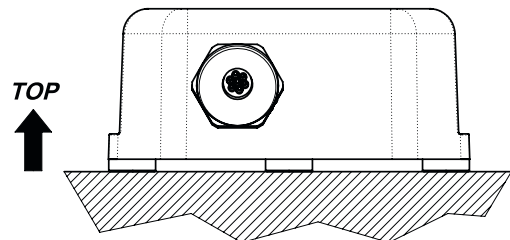
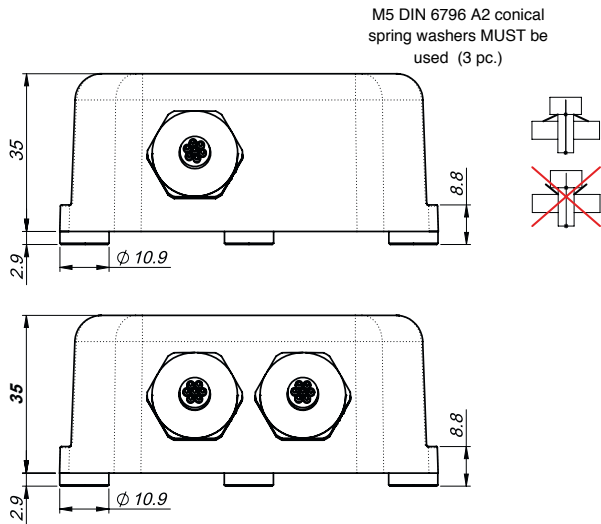
DUAL AXIS



SINGLE AXIS



CABLE VERSION



CONNECTIONS

- | | |
|-----------|----------|
| 1. WHITE | +SUPPLY |
| 2. YELLOW | GROUND |
| 3. GREY | OUTPUT X |
| 4. BLUE | OUTPUT Y |
| 5. PINK | n.c. |
| 6. GREEN | n.c. |
| 7. BROWN | n.c. |

CAN CONNECTIONS

- | | |
|-----------|---------|
| 1. WHITE | +SUPPLY |
| 2. YELLOW | GROUND |
| 3. GREY | CAN H |
| 4. BLUE | CAN L |
| 5. PINK | n.c. |
| 6. GREEN | n.c. |
| 7. BROWN | n.c. |

DUAL AXIS



SINGLE AXIS



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

AUTOZERO FUNCTION (additional function)

available for analog single circuit versions in GIG-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).

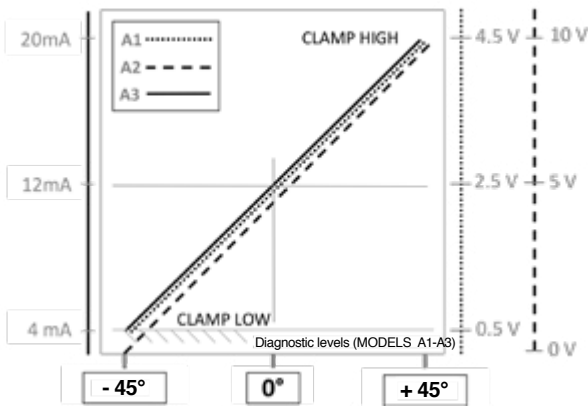
Hold the **magnetic pen** (accessory to order-PKIT312) to the **ZERO POINT**  indicated on the product label .

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

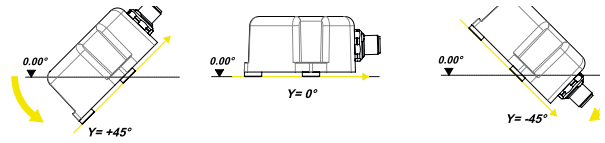
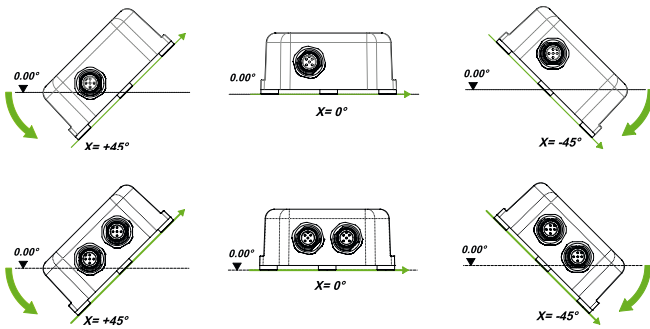
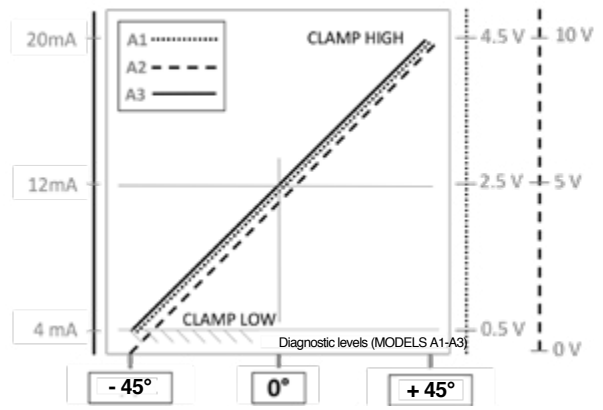


OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS

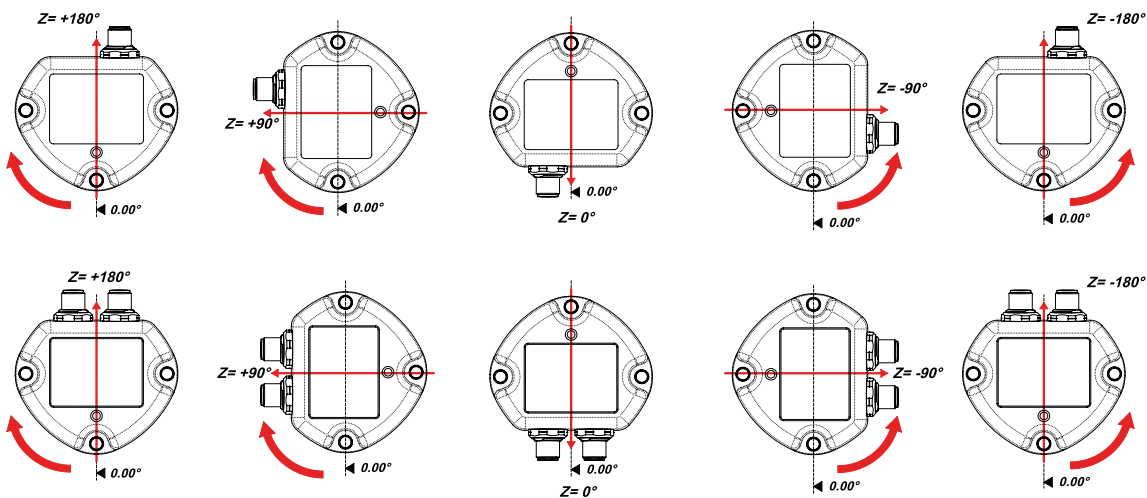
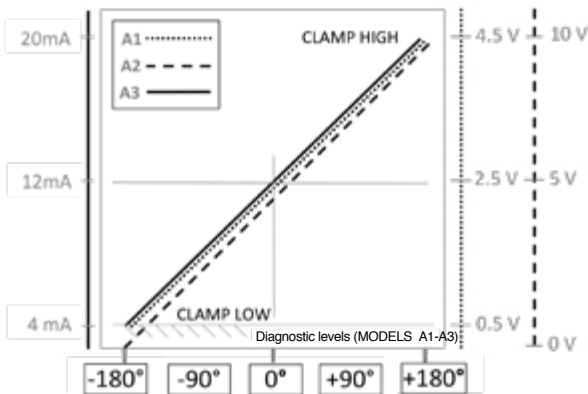
DUAL AXIS INCLINOMETER (XY) – X AXIS



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 > 100Kohm

4..20mA output (with supply < 15Vdc to 10Vdc): maximum allowed load resistance is 200 ohm

4..20mA output (with supply > 15Vdc up to 36): maximum allowed load resistance is 500 ohm

