

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° (±180°) 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...4.5Vdc RATIOMETRIC (supply +5Vdc); 0.5...4.5Vdc; 0...10Vdc; 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)

< ±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)

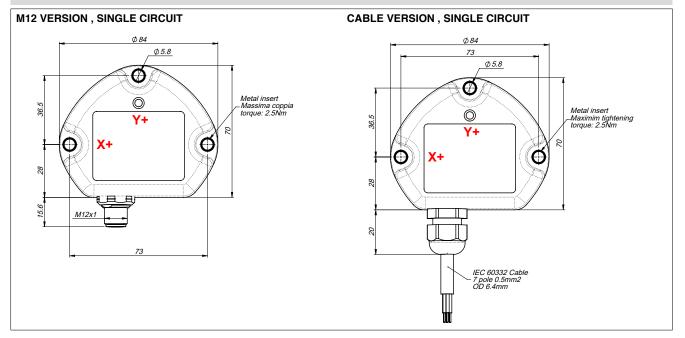
IP Protection Level

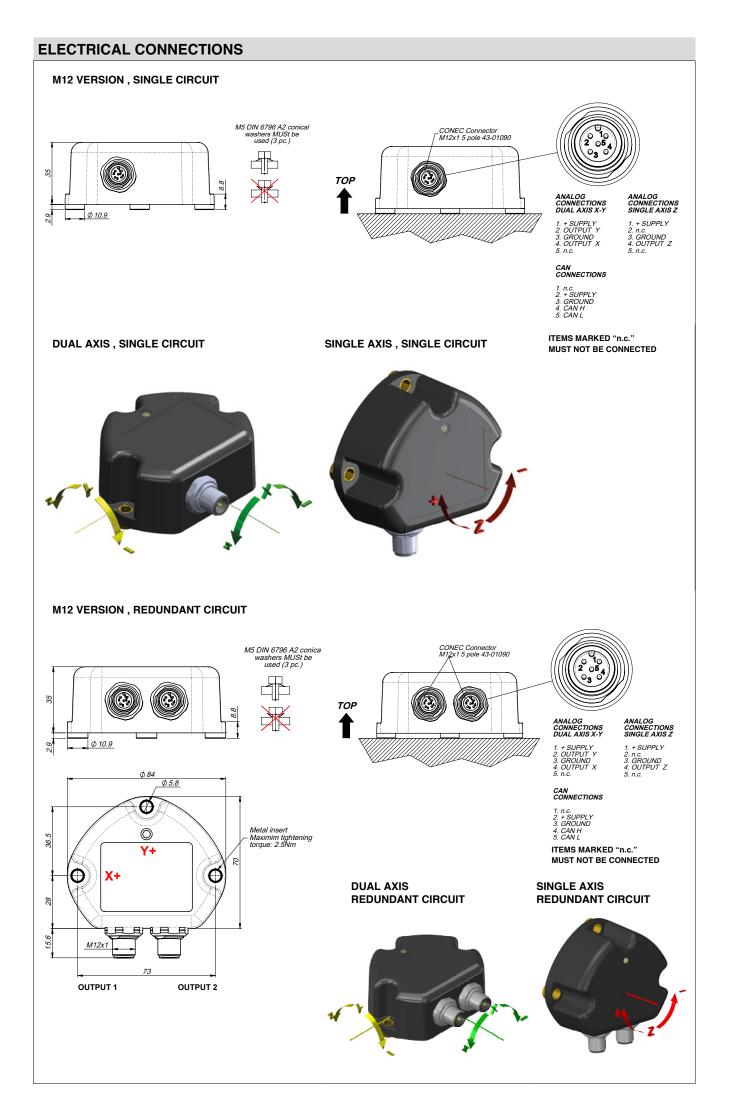
IP67 - IPX9K with female homologated connector mounted, tightening torque 0.6Nm + low strenght threadlocker (GIG-M M12 connector version) IP67 - IPX9K (GIG-F cable-PUR version)

Housing body

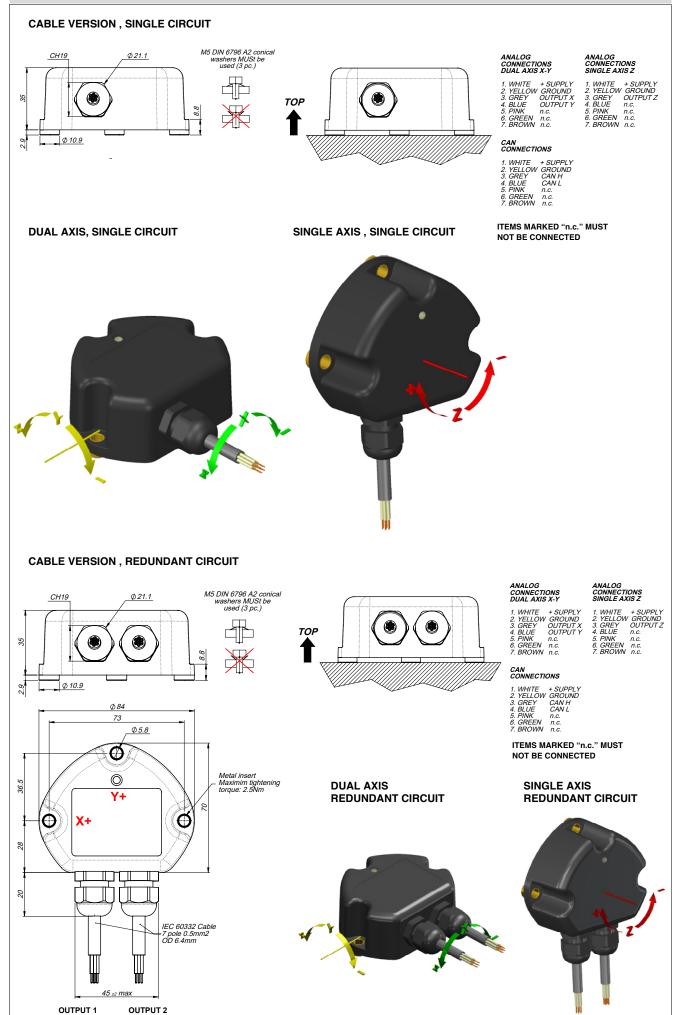
PBT

MECHANICAL DIMENSIONS





ELECTRICAL CONNECTIONS



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).

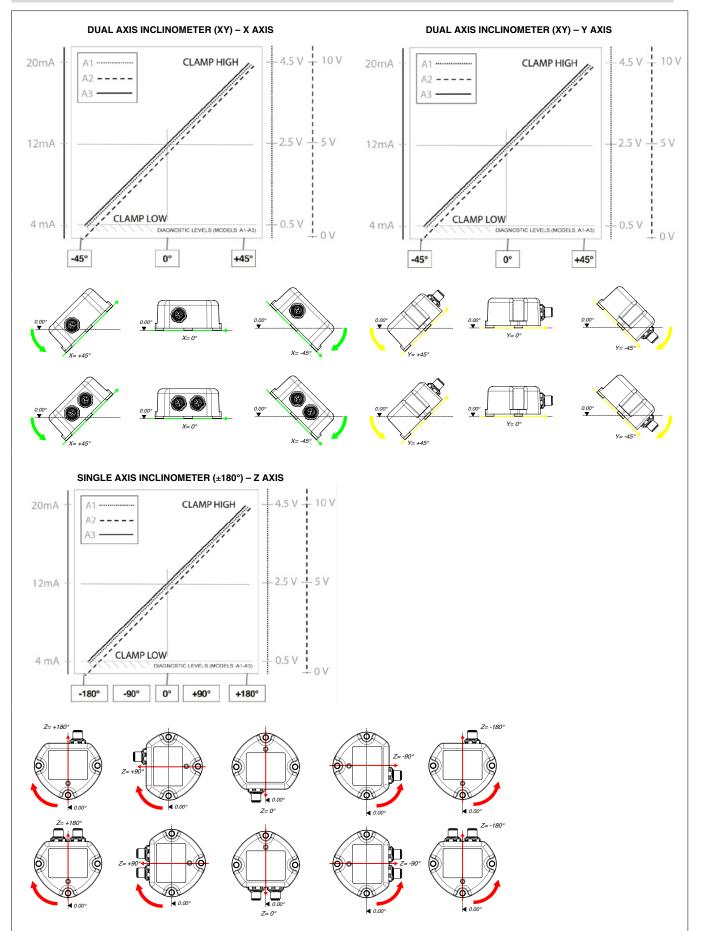
Hold the **magnetic pen** (1) (accessory to order-PKIT312) to the **ZERO POINT OZERO** indicated on the product label (2).

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





OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS



LOAD CONDITIONS

+0.5Vdc...+4.5 Vdc output with supply +10...36Vdc and +0..10Vdc output with supply +11..36Vdc: apply a load resistance > 100kohm and the supplementation of the superscript superscript superscript superscript supplementation of the superscript s

+0.5Vdc...+4.5Vdc output (with supply +5Vdc): apply a load resistance > 100kohm

- 4..20mA output (with supply < 15 Vdc to 10 Vdc): maximum allowed load resistance is 200 ohm
- 4..20mA output (with supply > 15 Vdc to 36 Vdc): maximum allowed load resistance is 500 ohm

ORDERING CODE

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Dual axis (XY axis)							X No accessory				
Single axis 360° (Z axis)				,			Y	Magnetic pen - for single cire	(PKIT312) cuit type onl	У	
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OUTPUT 1 MEASURING RAN					=		02	200 mm cable			
(output for single cir						_	05	500 mm cable	9		
measuring range (indicate)						-	10	1m cable			
±10° ±15° ±20° ±30° ±45° ±60° ±85°					ĸ	-	20	2m cable other lengths	on request		
(single Z axis for analog output-XY dual axis); 360° (±180°) only for single Z axis						L			onrequest		
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±10° ±15° ±20° ±30° ±45° ±60° ±85° (single Z axis for analog output-XY dual axis);					ĸ						
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(only for A1 output) +10+36Vdc				/do	_						
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(available with supply L = ratiometric output A											
			4.5Vdc outp								
	0+10Vd	lc (powered	l at +1136V	dc) A2	2						
	•		l at +1036V	,							
CAN	lopen output	(powered	at +1036V	dc) C1							
				CABL	E						
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cable	axis XY							attache	ea		

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice.



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