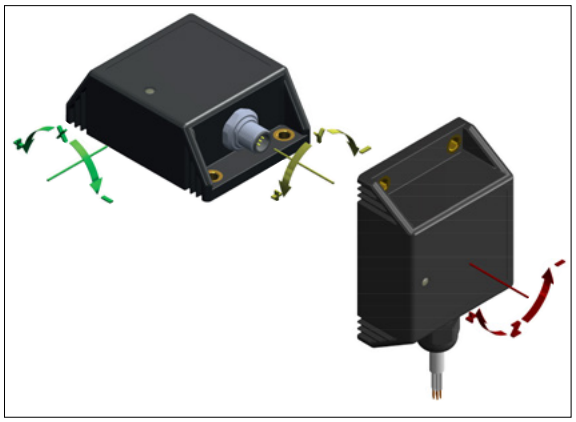
GEFRAN

GIT

TOP SINGLE/DUAL AXIS INCLINOMETER (XY/360°)



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

±10° ±15° ±20° ±30° ±45° ±60° ±85° (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)

Single axis: < ±0.15% FS
Dual axis: < ±0.15% FS in the range ≤ ±60 deg, ±0.3% FS otherwise

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 ≤ ±60 deg, ±2 deg otherwise

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

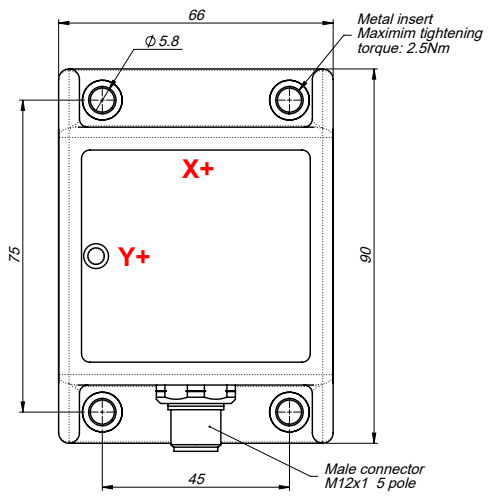
IP67 - IPX9K with female homologated connector mounted, tightening torque 0.6Nm + low strenght threadlocker (GIT-M M12 connector version) IP67 - IPX9K (GIT-F cable-PUR version)

Housing body

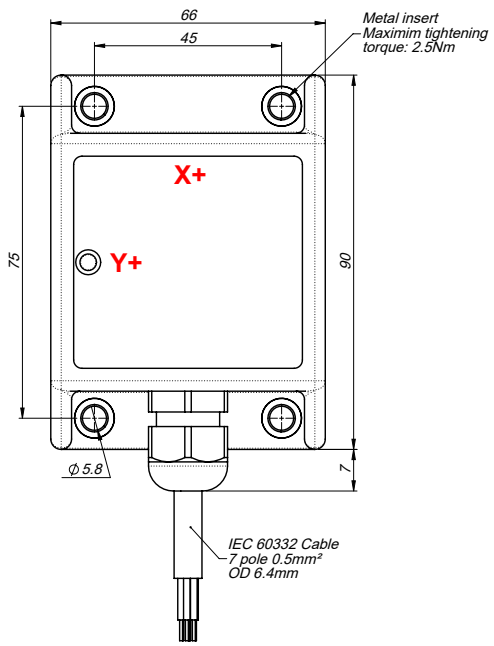
PBT

MECHANICAL DIMENSIONS

M12 VERSION , SINGLE CIRCUIT

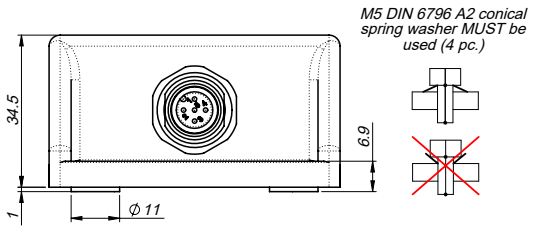


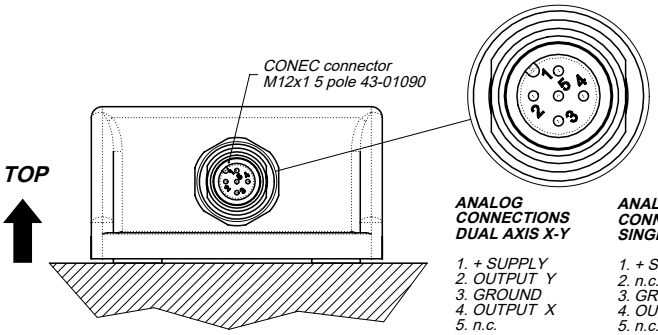
CABLE VERSION , SINGLE CIRCUIT



ELECTRICAL CONNECTIONS

M12 VERSION, SINGLE CIRCUIT





ANALOG CONNECTIONS DUAL AXIS X-Y

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

ANALOG CONNECTIONS SINGLE AXIS Z

1. + SUPPLY
2. n.c.
3. GROUND
4. OUPUT Z
5. n.c.

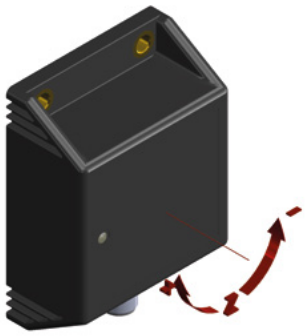
CAN CONNECTIONS

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

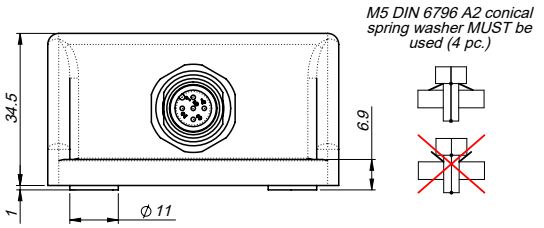
ITEMS MARKED "n.c." MUST NOT BE CONNECTED

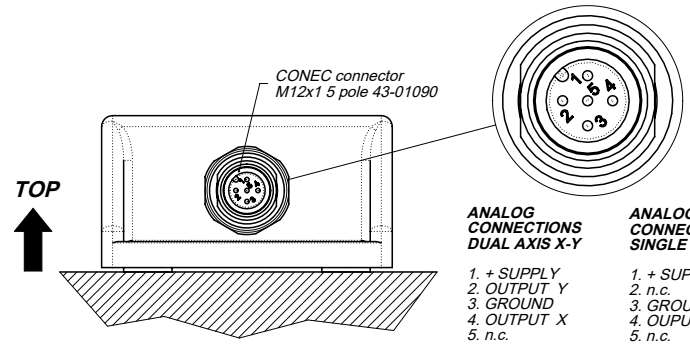
DUAL AXIS , SINGLE CIRCUIT

SINGLE AXIS , SINGLE CIRCUIT



M12 VERSION , REDUNDANT CIRCUIT





ANALOG CONNECTIONS DUAL AXIS X-Y

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

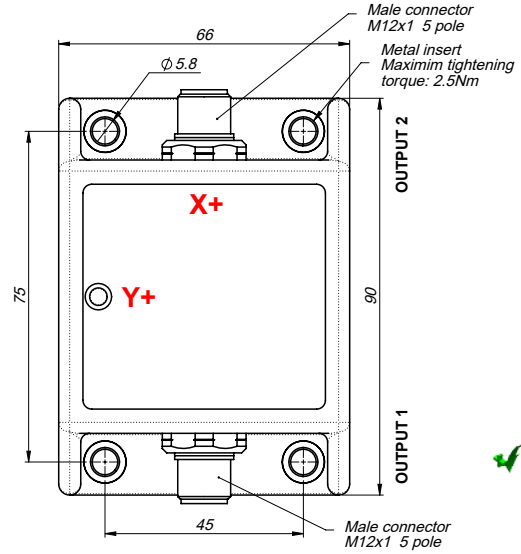
ANALOG CONNECTIONS SINGLE AXIS Z

1. + SUPPLY
2. n.c.
3. GROUND
4. OUPUT Z
5. n.c.

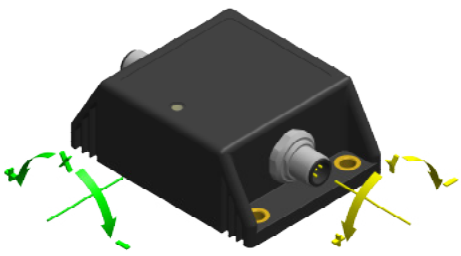
CAN CONNECTIONS

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

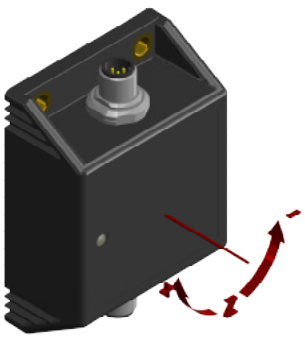
ITEMS MARKED "n.c." MUST NOT BE CONNECTED



DUAL AXIS, REDUNDANT CIRCUIT

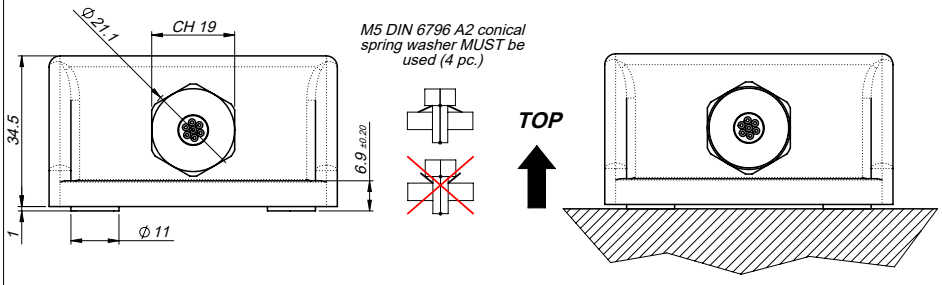


SINGLE AXIS, REDUNDANT CIRCUIT



ELECTRICAL CONNECTIONS

CABLE VERSION, SINGLE CIRCUIT



ANALOG CONNECTIONS DUAL AXIS X-Y

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.

ANALOG CONNECTIONS SINGLE AXIS Z

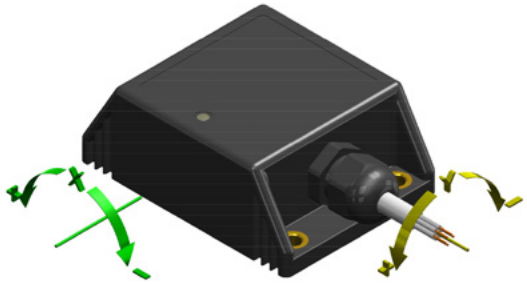
1. WHITE	+ SUPPLY
2. YELLOW	GROUND
3. GREY	OUTPUT Z
4. BLUE	n.c.
5. PINK	n.c.
6. GREEN	n.c.
7. BROWN	n.c.

CAN CONNECTIONS

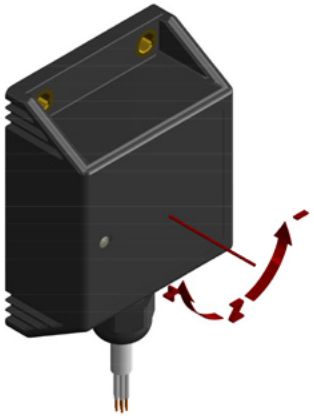
1. WHITE	+ SUPPLY
2. YELLOW	GROUND
3. GREY	CAN H
4. BLUE	CAN L
5. PINK	n.c.
6. GREEN	n.c.
7. BROWN	n.c.

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

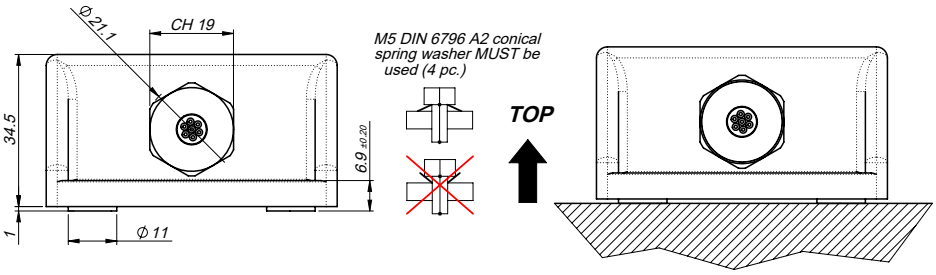
DUAL AXIS, SINGLE CIRCUIT



SINGLE AXIS, SINGLE CIRCUIT



CABLE VERSION , REDUNDANT CIRCUIT



ANALOG CONNECTIONS DUAL AXIS X-Y

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.

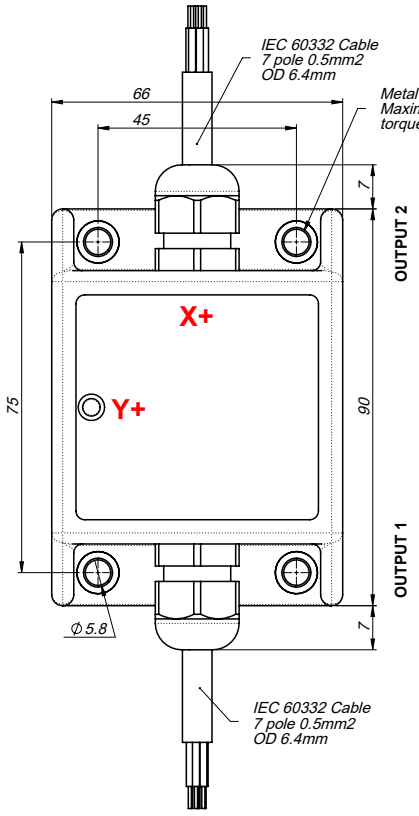
ANALOG CONNECTIONS SINGLE AXIS Z

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

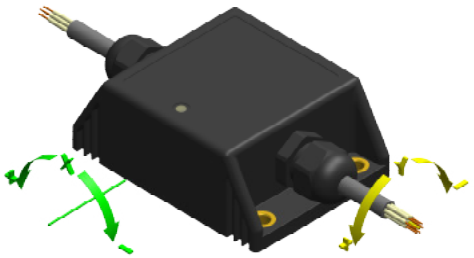
CAN CONNECTIONS

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.

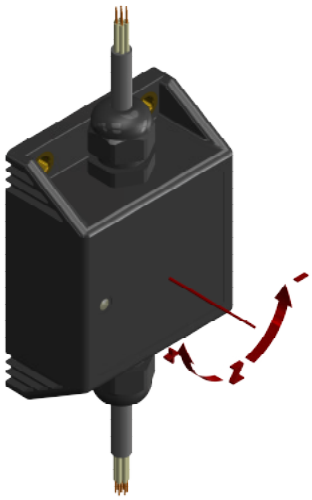
ITEMS MARKED "n.c." MUST NOT BE CONNECTED



DUAL AXIS, REDUNDANT CIRCUIT

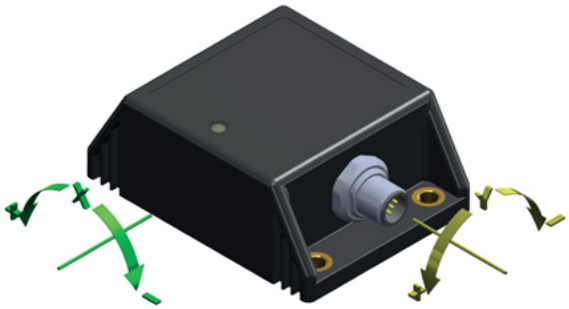


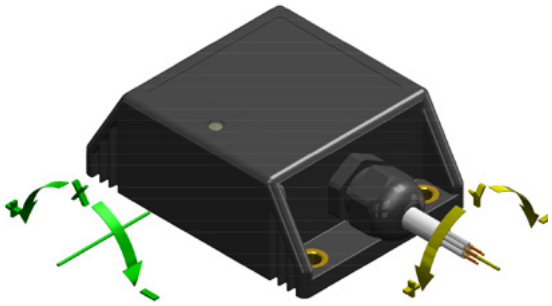
SINGLE AXIS, REDUNDANT CIRCUIT



AUTOZERO FUNCTION (additional function)

Available for analog single circuit 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).

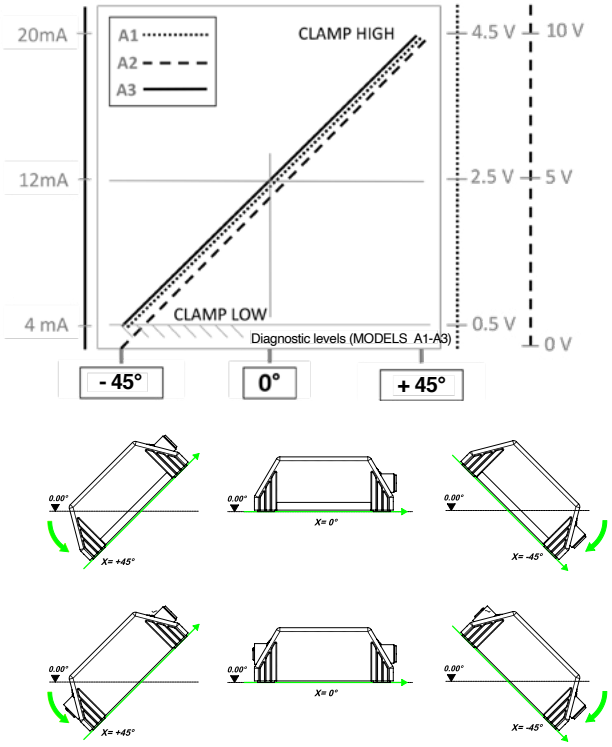
Hold the **magnetic pen** ① (accessory to order-PKIT312) to the **ZERO POINT** ◎ ZERO indicated on the product label ②.
Hold the position for **at least 3-5 seconds** so that the operation is successful.

①

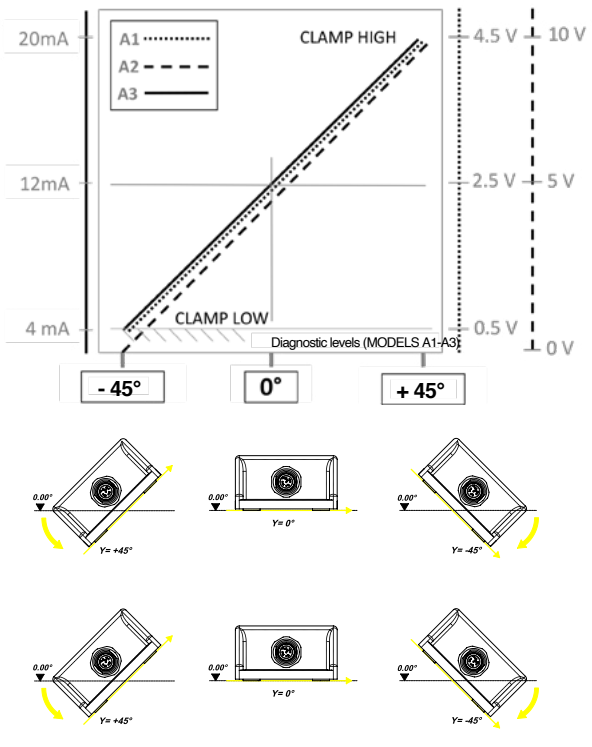
②

OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS

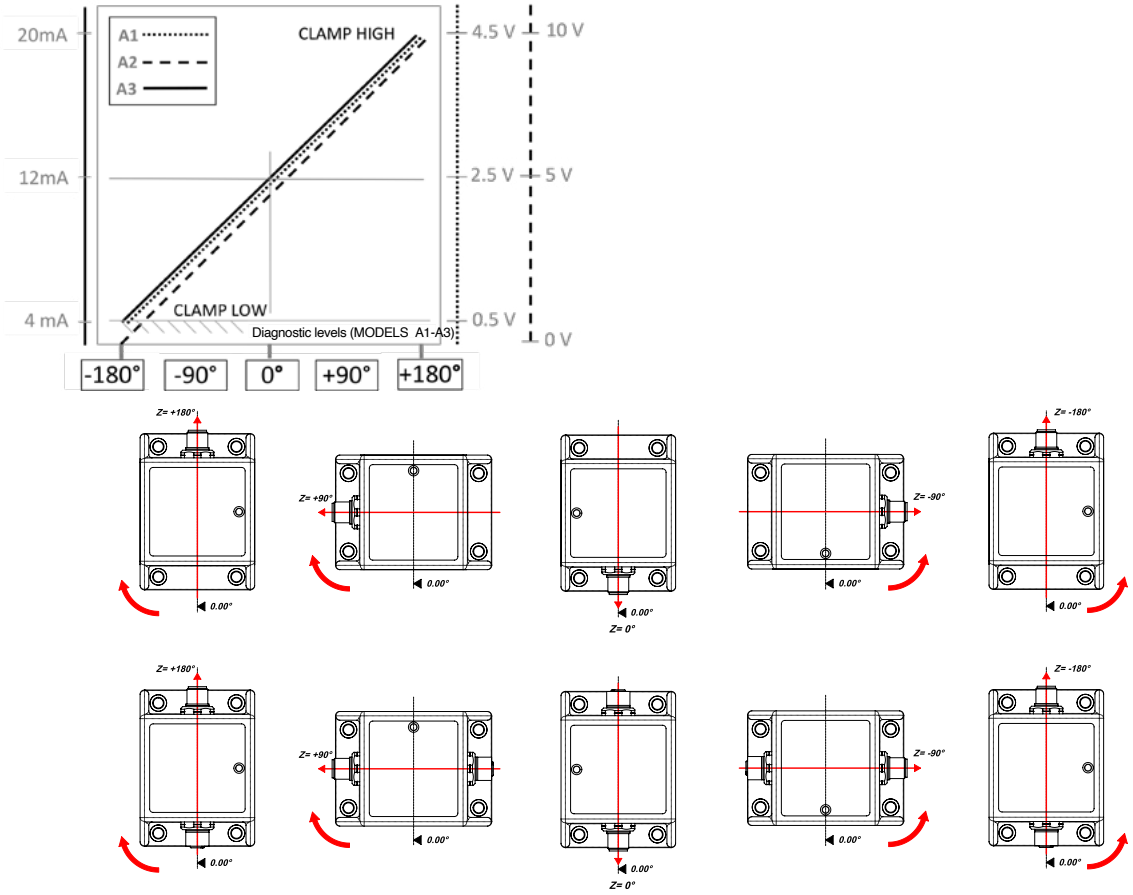
DUAL AXIS INCLINOMETER (XY) – X AXIS



DUAL AXIS INCLINOMETER (XY) – Y AXIS



SINGLE AXIS INCLINOMETER (±180°) – 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 (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	**M**
Cable output (specify cable length)	**F**

AXIS TYPE	
Dual axis (XY axis)	**O**
Single axis 360° (Z axis)	**V**

CIRCUIT TYPE	
Single	**S**
Redundant	**R**

OUTPUT 1 MEASURING RANGE (output for single circuit)	
measuring range (indicate) ±10° ±15° ±20° ±30° ±45° ±60° ±85° (single Z axis for analog output-XY dual axis); 360° (±180°) only for single Z axis	**XXX**

OUTPUT 2 MEASURING RANGE (only for redundant version)	
measuring range (indicate) ±10° ±15° ±20° ±30° ±45° ±60° ±85° (single Z axis for analog output-XY dual axis); 360° (±180°) only for single Z axis	**XXX**

SUPPLY VOLTAGE	
+5Vdc (only for A1 output)	**L**
+10…36Vdc (see output signal for right supply voltage)	**H**

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

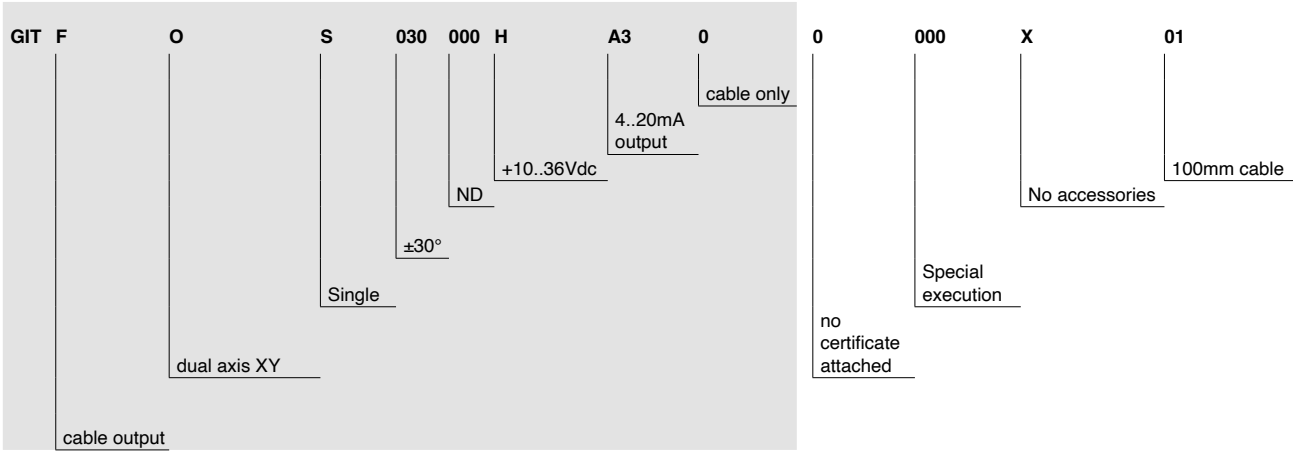
CABLE	
Cable without connector (always “0” in case of GIT-M version)	**0**

CERTIFICATES	
0	No certificate enclosed
L	Linearity curve enclosed

ACCESSORIES	
X	No accessory
Y	Magnetic pen **(PKIT312):** - For single circuit type only

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

EXAMPLE OF DESCRIPTION: GITFOS030000HA30 0000X01



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

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