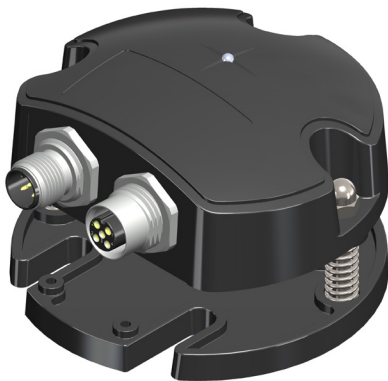




STATIC INCLINOMETRIC SENSOR, TILT SWITCH, WITH DOUBLE HORIZONTAL AXES OR SINGLE VERTICAL

Programmable device for the tilt control on two axes X / Y vs. the horizontal plane or the angle on a single axis Z vs. the vertical plane. Standard ON/OFF output. Available two additional output for the axes. MEMS technology based, contactless, with the possibility for an upside-down mounting. Excellent non linearity stable for the full temperature range, high reliability in heavy environment applications with high shocks and vibrations.



- Triaxial MEMS technology
- High reliability
- High shocks and vibrations resistant
- Compact dimensions
- Configurable measuring range
- Gyroscopic compensation
- Relay output
- NPN / PNP outputs
- Dual channel version

Main features

- Measuring range: +/- 1° to + / - 80° for 2 axes X / Y version (horizontal), 0-360° single axis Z version (vertical)
- Programmable thresholds and intervention time
- Operating temperature: - 40 + 85DegC
- Resolution up to 0.01°
- Redundant output version (option)
- SIL2 – PLd, EN 61508, EN 13849-1 (pending)
- PBT housing – high resistance to mechanical shocks and high temperatures
- Standard integrated M12 connectors / Cable outlet. Special connectors (Deutsch / AMP ...) on request.

Application fields

- Agriculture machines and equipments
- Construction machinery and equipment (Excavators, loaders, paving machines etc.)
- Handling machines (stationary cranes, truck mounted cranes, forklift, aerial platform etc.)
- Forestry equipments (harvesting heads, mobile saw etc.)
- Equipments and trucks for garbage recycling

INCLINOMETRIC SENSOR, TILT SWITCH, **7T** SERIES

Electrical specifications

Power supply: 9-36 Vdc

Typical consumption: 30 mA (only for electronic)

Dielectric strength: 500 Vdc (machine ground to power supply ground) $R > 10M \text{ Ohm} - 60 \text{ sec.}$

Overvoltage protection: yes

Polarity protection: yes

Output: Relay (3A max.), PNP-NPN (2A max.)

Linearity: 0.5% full scale

Resolution: 0,01°

Environmental and mechanical specification

Operating temperature: -40 +85 °C

HR%: up to 90% (no condensation (EN 60068-2-30)

MTTFd: (EN13849) > 100 years

Temperature drift: 0.01° / DegC

Shock: IEC 60068-2-27 – 100g (11ms) single shock, 50g (11 ms) 1000 shocks per axis

Vibrations: IEC 60028-2-6 - 20 g (r.m.s) (10...2.000Hz) resonance points excluded

Electrical connection: Integrated M12 connectors / Cable / cable + connector

EMC – Features:

EMC: EU Directive 2014/30/EU CE marking

Generic standards: EN 61000-6-2

Agriculture and Forestry machinery: EN 14982

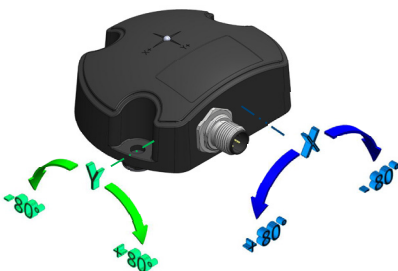
Construction machinery: EN 13309

Transient pulses: ISO 7637-2 pulse 5b - voltage 56Vdc

DIRECTIONAL AXES

DOUBLE HORIZONTAL AXES

Tilt angle X/Y

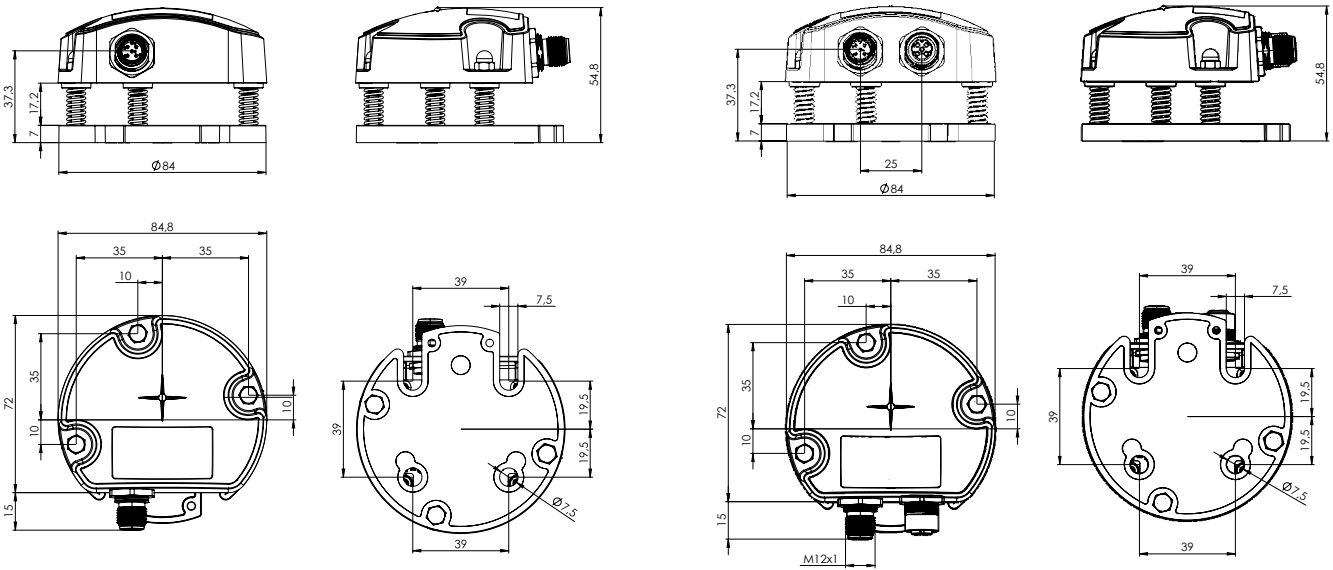


SINGLE VERTICAL AXIS

Tilt angle Z



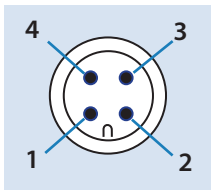
Drawing 1



WIRING DIAGRAMS

A = single connector M12 – (M) – 4 pin

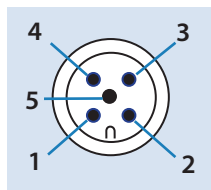
L = double connector 2*M12 – (M+F) – 4 pin



PIN	PINOUT 7	PINOUT 8
1	Vdc	Vdc
2	Gnd	Gnd
3	NPN/PNP 1	Relay 1 com
4	NPN/PNP 2	Relay 1 n.o. / n.c.

B = single connector M12 – (M) – 5 pin

M = double connector 2*M12 – (M+F) – 5 pin



PIN	PINOUT 8	PINOUT 9
1	Vdc	Vdc
2	Gnd	Gnd
3	NPN/PNP 1	Relay 1 com
4	NPN/PNP 2	Relay 1 n.o. / n.c.
5	n.c.	n.c.

W: PUR Cable output



Cable	NPN/PNP output PINOUT 5	Relay output PINOUT 6
Blue	Vdc	Vdc
White	Gnd	Gnd
Green	NPN/PNP 1	Relay 1 com
Red	NPN/PNP 2	Relay 1 n.o. / n.c.

