

### DIGITAL



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#### CANopen Certified Interface inclinometer

OIAC3 is a 1D or 2D inclination sensor based on MEMS (Micro Electro Mechanical Systems) technology. The device senses tilt angles up to  $\pm 60$  degrees in the pitch and roll axes and 360 degrees in a single-axis measure.

#### OIAC3

1 and 2 axes Inclination Sensor.

### ANALOG



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#### Rugged analog inclinometer

1D or 2D inclination sensor based on MEMS (Micro Electro Mechanical Systems) technology. The device senses tilt angles up to  $\pm 60$  degrees in the pitch and roll axes and 360 degrees in a mono-axis measure.

#### OIAC4

Output signal: 4-20mA.

#### OIAC5

Output signal: 0.5-4.5V or 0-5V.

#### OIAC10

Output signal: 0.5-9.5V or 0-10V.

### CUSTOM



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The inclinometer can be modified based on customer needs.

Tailored solutions could be requested on the following technical aspects:

- Connection system
- External enclosure (anodization, custom label)
- Redundant version
- Temperature range compensation
- Firmware

## OVERVIEW

The metal anodized enclosure makes our inclinometers robust to external shocks and vibrations, dust and harsh conditions. The MEMS signals are internally filtered by an analog second order low-pass filter with cut-off frequency of 20Hz (hardware filter) and an user programmable digital filter (moving average). The two filters produce an enhanced noise rejection, increasing the measure stability.

The OIAC3 output interface is CAN-OPEN certified, fully compliant with DS 301 DSP 410. OIAC3 is programmable via CAN frames without additional tools. OIAC3, 1 and 2-axes versions are available in high accuracy ( $\pm 0.05^\circ$ ) or with medium accuracy ( $\pm 0.2^\circ$ ). Single channel or redundant versions are available. All versions are guaranteed in the full industrial temperature range  $[-40;+85]^\circ\text{C}$ . A compensation in the temperature range is available in order to reduce the thermal drift by a factor of 4.

OIAC4, OIAC5 and OIAC10 OIAC5 analog inclinometers are available in open lead cable or M12 connector with different output signals.

## APPLICATION

- Construction equipment
- Aerial platforms
- Concentrated Solar Power plants
- Mining and well drilling equipments
- Stability control for agricultural and forestry machinery
- Stability control for construction machinery
- Mowers inclination control
- Leveling control
- Tractors safety applications

## FEATURES

- High resolution (up to 0.001 deg)
- High accuracy
- Internal software diagnostic checks
- 1D and 2D inclination measurement
- Anti-Vibration programmable filter
- High MTTF
- Robust metal case protects from shocks and vibrations
- Rugged and protected against electrical disturbs and transients
- Filling resin protects against thermal shocks, moisture and harsh environments (IP67)
- Protected against reverse bias
- Available in different angle ranges
- CANopen certified interface (DS301 DSP-410)
- Very easy programming via CAN frames without additional tools

## OPTICAL SINGLE POSITION SENSOR

Mod.	Type	Power supply (V)	Measure range (deg)	Accuracy (deg)	Axes	Output type
OIAC3	Digital	7V - 40V	0 - 360 or $\pm 180$ deg	$\pm 0,05$ $\pm 0,10$ deg	2 axes	M12 - CANopen
OIAC4	Analog	7V - 30V	$\pm 180$ deg	$\pm 0,05$ $\pm 0,10$ deg	1 - 2 axes	Cable/M12 4 - 20 mA
OIAC5	Analog	7V - 30V	$\pm 180$ deg	$\pm 0,05$ $\pm 0,10$ deg	1 - 2 axes	Cable/M12 0.5-4.5V
OIAC10	Analog	12V - 30V	$\pm 180$ deg	$\pm 0,05$ $\pm 0,10$ deg	1 - 2 axes	Cable/M12 0,5-9,5V