

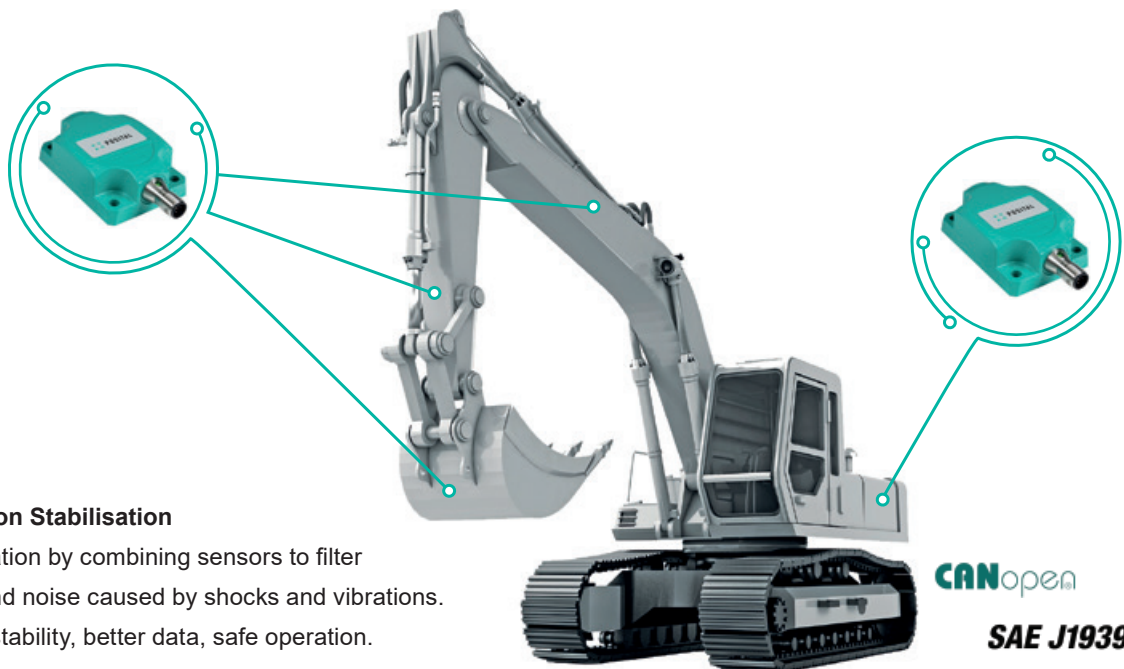
## TILTIX DYNAMIC INCLINOMETER



### Inclinometers with Dynamic Acceleration Compensation

POSITAL has introduced new versions of its TILTIX inclinometers that can provide reliable tilt measurement for moving equipment. These new devices use a combination of electro-mechanical accelerometers and gyroscopes to provide accurate measurements, even if the instruments are subject to strong accelerations.

- > Compensation of External Accelerations
- > Clean Measurement During Dynamic Movements
- > Well Protected up to IP69K
- > Compact and Robust Die-cast Housing with Integrated T-Coupler
- > Wide Temperature Range from -40 to +75°C



### Dynamic Inclination Stabilisation



Compensation by combining sensors to filter spikes and noise caused by shocks and vibrations. Greater stability, better data, safe operation.

**CANopen**

**SAE J1939**

## TILTIX DYNAMIC INCLINOMETER



### Innovative Algorithm for Reliable Results

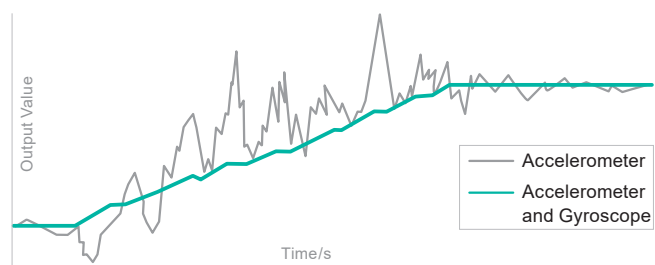
POSITAL's TILTIX inclinometers are based on MEMS accelerometers that rely on monitoring the effect of gravity on a tiny mass suspended in an elastic support structure. Unfortunately, accelerations (e.g. due to rapid motion of the equipment to which the instrument is attached) will introduce errors in the tilt measurements. This problem is eliminated by adding a set of electromechanical gyroscopes to the inclinometers. Signals from these gyroscopes are used to compensate for the effects of acceleration, with the result that the new dynamic TILTIX inclinometers can be used reliably on mobile equipment such as construction machinery, mining equipment, cranes, agriculture machinery and anywhere else where sudden movements, shocks and vibrations are likely to be encountered.

The compensation of these external acceleration forces is critical for every machine where clean measurements during dynamic movements are needed. The new dynamic TILTIX inclinometers have a measurement range of  $\pm 180^\circ$  in two axes that covers the full range of motions. The CANopen and SAE J1939 communications interface is currently supported.

### Specifications

- > Resolution  $0.01^\circ$
- > Accuracy  $\pm 0.3^\circ$  & Accuracy  $0.5^\circ$  During Dynamic Movements
- > Programmable, Allow to Customize Output Characteristic
- > Internal Cycle Time 5 ms
- > Max. Measurement Range  $\pm 180^\circ$
- > 2 Axes or 1 Axis Measurement
- > Horizontal or Vertical Mounting Possible
- > Supply Voltage 10 to 30 V
- > Temperature Range  $-40$  to  $+75^\circ\text{C}$
- > Shock Resistance: Up to 100 g
- > Interface CANopen and SEA J1939

### Tilt Measurement on a Moving Excavator



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