



- ▶ Range $\pm 90^\circ$
- ▶ Good accuracy
- ▶ High resolution
- ▶ Supply voltage 8-30V
- ▶ Choice of CANopen or CAN J1939 interface

Available with a choice of SAE CAN 1939 or CANopen interface, this dual axis inclinometer is mainly developed with focus on platform leveling, dynamic engine management, tip-over protection and tilt alarm. Its fast response time and good accuracy makes this device the ideal choice for mobile leveling applications. It features digital signal processing including temperature compensation.

The integrated filter improves performance and allows a use of the sensor in many noisy environments (e.g. with vibrations).

Features

- Smart housing, small footprint
- Digital signal processing included
- Filter (e. g. vibration damping)
- Temperature compensation
- Linearization
- Good accuracy

Applications

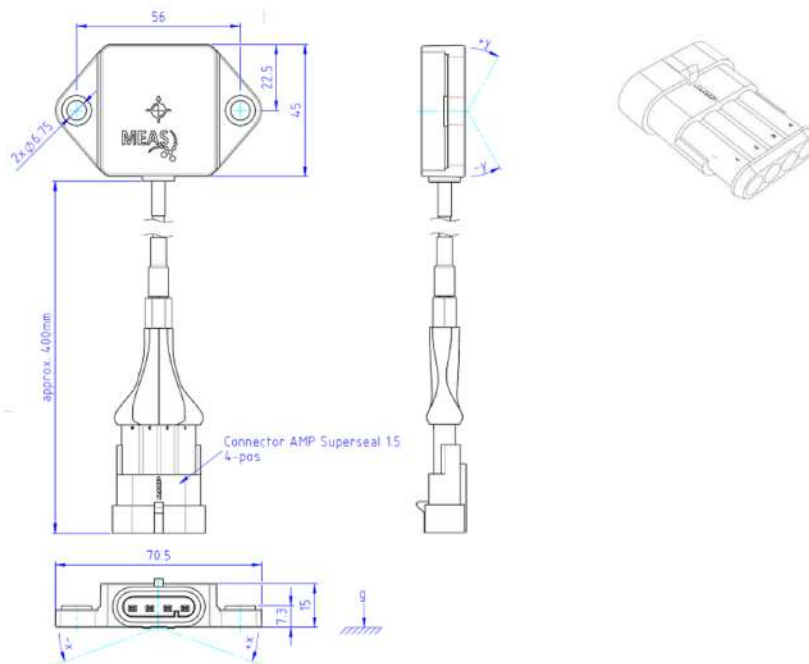
- Truck and off-road vehicle leveling (e.g. cabin or tool)
- Platform leveling
- Tilt alarm (e. g. digger tip over warning)
- Antenna leveling
- Inclination dependent engine control
- Solar panel elevation
- Crane boom leveling

Specifications

Range		$\pm 90^\circ$	Pitch and roll angle, neutral position: sensor parallel to ground
Accuracy, typ.		0.15°	T=25 °C ambient temperature
Accuracy, typ.		0.5°	T= -40 °C ~ 85°C ambient temperature
Resolution	CAN J1939	0.01deg	Limited by CAN protocol
	CANopen	12 bit	
Refresh rate		100 Hz	
Startup time		<1s	After power cycle
Supply/excitation voltage		8 ... 30 V	
Supply current		<30 mA	Typ. 20mA, peak 30mA during transmit
Output		Pitch and roll angle	Linearized and temperature compensated angles in degree, reference is plane perpendicular to vector of gravity = earth surface
Interface	CAN J1939	SAE J1939 CAN2.0B	250kbps
	CANopen	CAN 2.0A, CANopen	50 kbps and 125 kbps data rate are supported
Temperature range		-40 ~ 85 °C	Operation and storage
Weight	CAN J1939	<50 g	
	CANopen	Typ. 60 g	
Dimensions		70.5 x 45 x 15 mm	W x D x H
Connector		AMP Superseal 1.5-Series, 4-pos cap housing Tyco Art.-Nr. 282106-1	Requires 4-pos plug housing from AMP Superseal 1.5-Series at connecting harness, Tyco Art.-Nr. 282088-1
Cable		4 wire 0.25mm ² , outer diameter 6.5mm	Length incl. connector - CAN J1939 400mm / CANopen 450mm, full temperature range, flexible



Dimensions



Wiring

Pin	Function	Description	Direction
1	Supply voltage	+8 ~ 30V supply input	In
2	Ground/Earth	GND	In
3	CAN H	CAN High Line	In/Out
4	CAN L	CAN Low Line	In/Out

Function

The inclinometer includes a powerful digital signal processing that offers various filter algorithms and allows customer specific adaptations. It is possible to adjust the sensor to different environments to yield an optimized performance. Customization can also be made in terms of angular range and connectivity, i.e. cable and connector.

The PA6.6 housing is very compact in size and has compression limiter bushings for safe installation of the sensor. In contrast to uncoated (casted) aluminum, PA6.6 is resistant to atmospheric attack. It is compatible with oil, grease and fuel also. Therefore it is frequently used for engine and vehicle applications.

Ordering information

Part Number	Description
G-NSDOG2-200	Dual axis tilt sensor, range +/-90deg, Vcc 8~30VDC, J1939 CAN Interface
G-NSDOG2-201	Dual axis tilt sensor, range +/-90deg, Vcc 8~30VDC, CANopen Interface