



## AXISENSE-1 SERIES VOLTAGE TILT SENSOR

### SPECIFICATIONS

- **Single axis tilt sensor**
- **Measurement ranges  $\pm 180^\circ$**
- **Voltage output**

### FEATURES

- 8 to 30 VDC supply voltage
- Up to  $\pm 90$  degree tolerance on 2nd axis
- Digital signal processing includes
  - filter (e.g. vibration damping)
  - temperature compensation
- 12-bit resolution
- 100 Hz refresh rate
- $-40^\circ\text{C}$  to  $85^\circ\text{C}$  temperature range
- Accuracy typically
  - $0.6^\circ$  |  $-40^\circ\text{C}$  to  $85^\circ\text{C}$
  - $0.2^\circ$  |  $25^\circ\text{C}$

### APPLICATIONS

- Mobile and stationary cranes
- Lift platforms
- Building control
- Weighing systems
- Truck chassis levelling
- Vehicle applications
- Road construction machines

The **AXISENSE-1 Series tilt sensor** is mainly developed with focus on platform leveling, dynamic engine management, tip-over protection and tilt alarm.

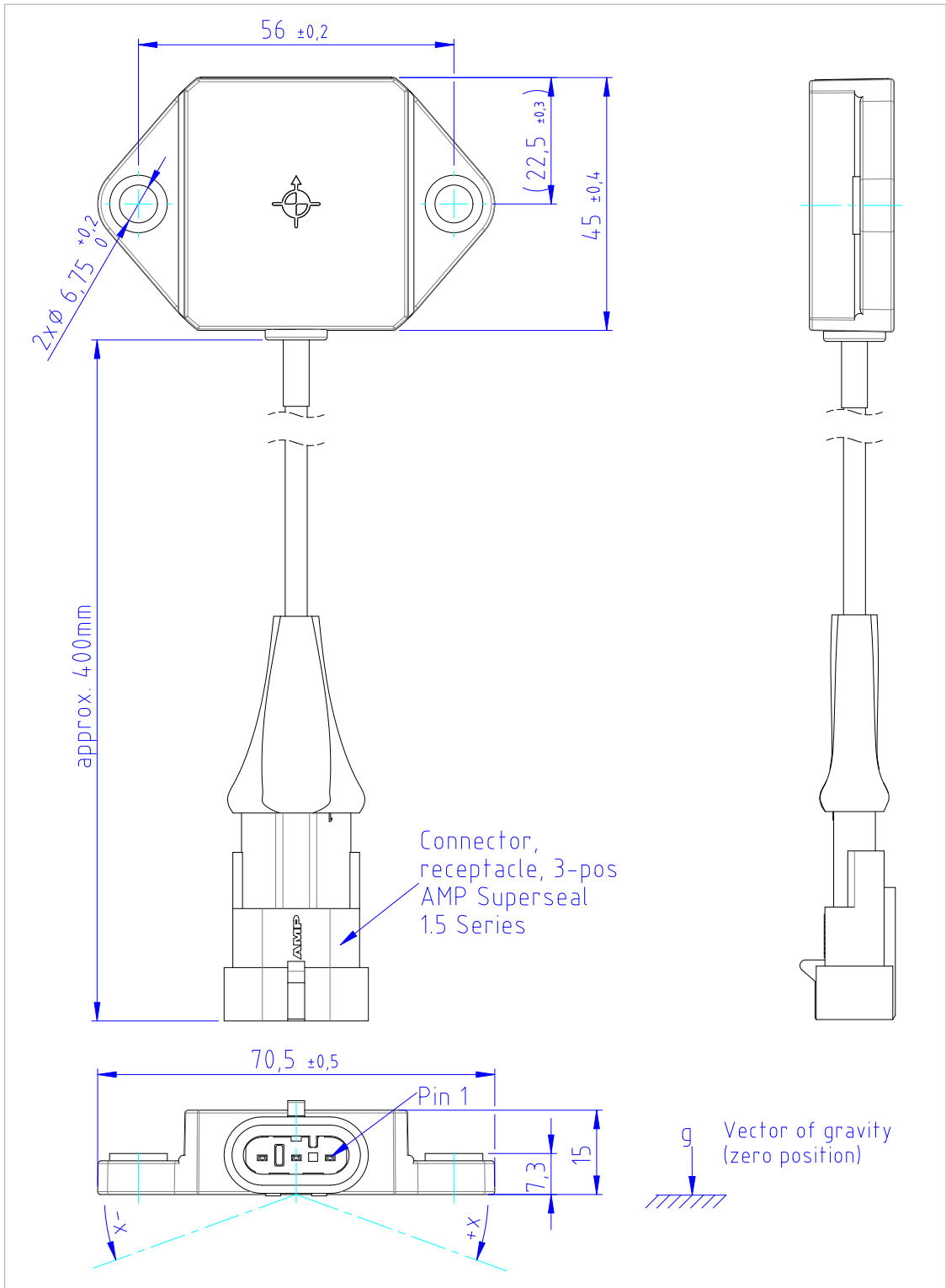
A fast response time and good accuracy makes this device the ideal choice for mobile leveling applications. It features digital signal processing including temperature compensation.

The integrated filter improves performance and allows using the sensor in many noisy environments (e.g. vibrations).

The tilt sensor includes a powerful digital signal processing that offers various filter algorithms and allows customer specific OEM solutions. It is possible to adjust the sensor to different environments yielding 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. It is compatible with oil, grease and fuel also. Therefore it is frequently used for engine and vehicle applications.

**Dimensions [mm]**



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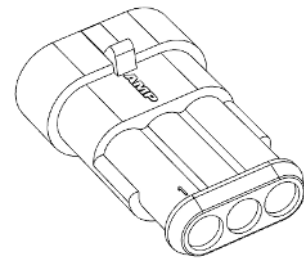
### PARAMETERS

Parameter	Value	Comment
Range	±180°	Single axis sensor; other axis has to be kept in a ±90° range
Accuracy, typ.	0.6°	T= -40 °C to +85 °C
Accuracy, typ.	0.2°	T= 25 °C
Resolution	12 bit	
Refresh rate	100 Hz	
Startup time	<1 s	Valid output signal
Supply/excitation voltage	8 to 30 V	Direct current (DC) stabilized
Supply current, typ.	15 mA	No load
Output	0.5 to 4.5 V	-180° to 180°, x-direction only
Connector	AMP Superseal 1.5-Series, 3-pos. cap housing TE Connectivity part-no. 282105-1	Requires 3-pos. plug housing AMP Superseal 1.5-Series at connecting harness, TE Connectivity part-no. 282087-1
Cable	3 wire 0.25 mm <sup>2</sup> , outer diameter Ø3.9mm	PUR, length incl. connector 400 mm, full temperature range, flexible
Operation temperature range	-40 °C to +85 °C	
Storage temperature range	-40 °C to +85 °C	
Weight, typ.	60 g	
Dimensions	70.5 mm x 45 mm x 15 mm	W x D x H

Applicable **Mounting Recommendations for Sensor Modules of AXISENSE-Series** can be downloaded from [te.com](http://te.com) Resources section as Document Number 114-160013.

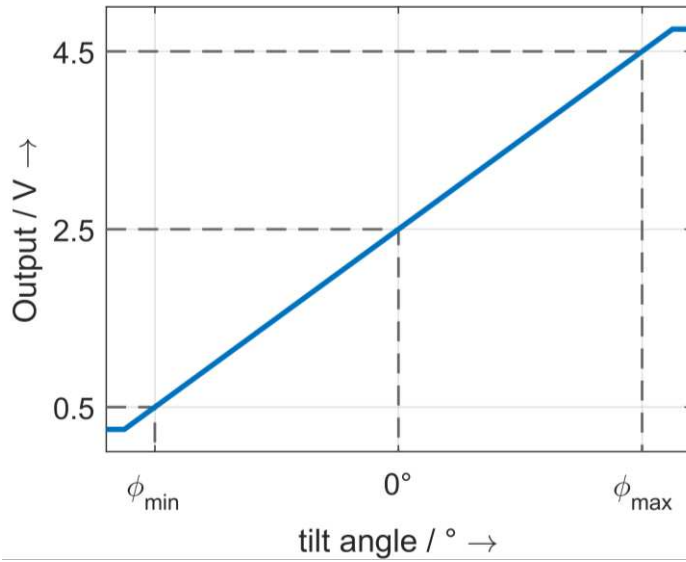
### CONNECTOR PINNING

Pin	Function	Description
1	V <sub>CC</sub>	8 to 30 V supply input (+)
2	GND	GND
3	Output	0.5 to 4.5 V, X axis output



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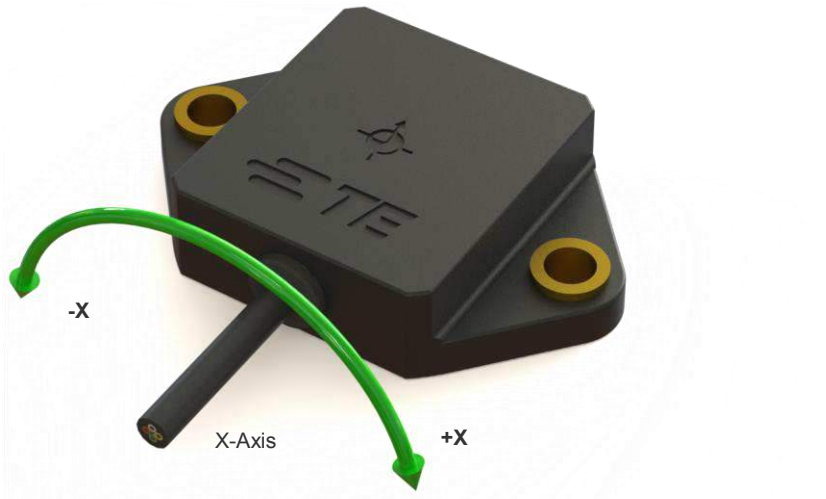
### TRANSFER CHARACTERISTIC



Part-No.	$\phi_{\min}$	$\phi_{\max}$
AXISENSE-1-006	-180°	180°

Linear transfer characteristic between  $\phi_{\min}$  and  $\phi_{\max}$

### FUNCTION VIEW



This AXISENSE-1 series voltage tilt sensor is designed for floor mount application.

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## ORDERING INFORMATION

PART NUMBER	SHORT DESCRIPTION
AXISENSE-1-006 (TCPN G-NSDOG1-006)	Single axis tilt sensor, floor mount, <b>angular range <math>\pm 180^\circ</math></b> , supply 8 to 30 VDC, output voltage 0.5 to 4.5 V

For other orientations, measurement ranges or supply voltages please contact TE Connectivity sales representatives.

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