



## DOG1 MEMS SERIES USB INCLINOMETER

### SPECIFICATIONS

- ✦ Single axis inclinometer
- ✦ Measurement range  $\pm 180^\circ$
- ✦ High resolution
- ✦ Good accuracy
- ✦ Fast response time
- ✦ Easy to use software

### FEATURES

- ✦ USB powered
- ✦ User defined main and 2<sup>nd</sup> axis
- ✦  $\pm 90^\circ$  tolerance on 2<sup>nd</sup> axis
- ✦ Digital signal processing includes
  - filter
  - temperature compensation
- ✦ 14 bit resolution
- ✦ 100 Hz refresh rate
- ✦ -40 °C to 85 °C temperature range
- ✦ Accuracy typically
  - 0.6° | -40 °C to 85 °C
  - 0.2° | 25 °C

### APPLICATIONS

- ✦ Platform leveling
- ✦ Tilt monitoring
- ✦ Tilt alarm

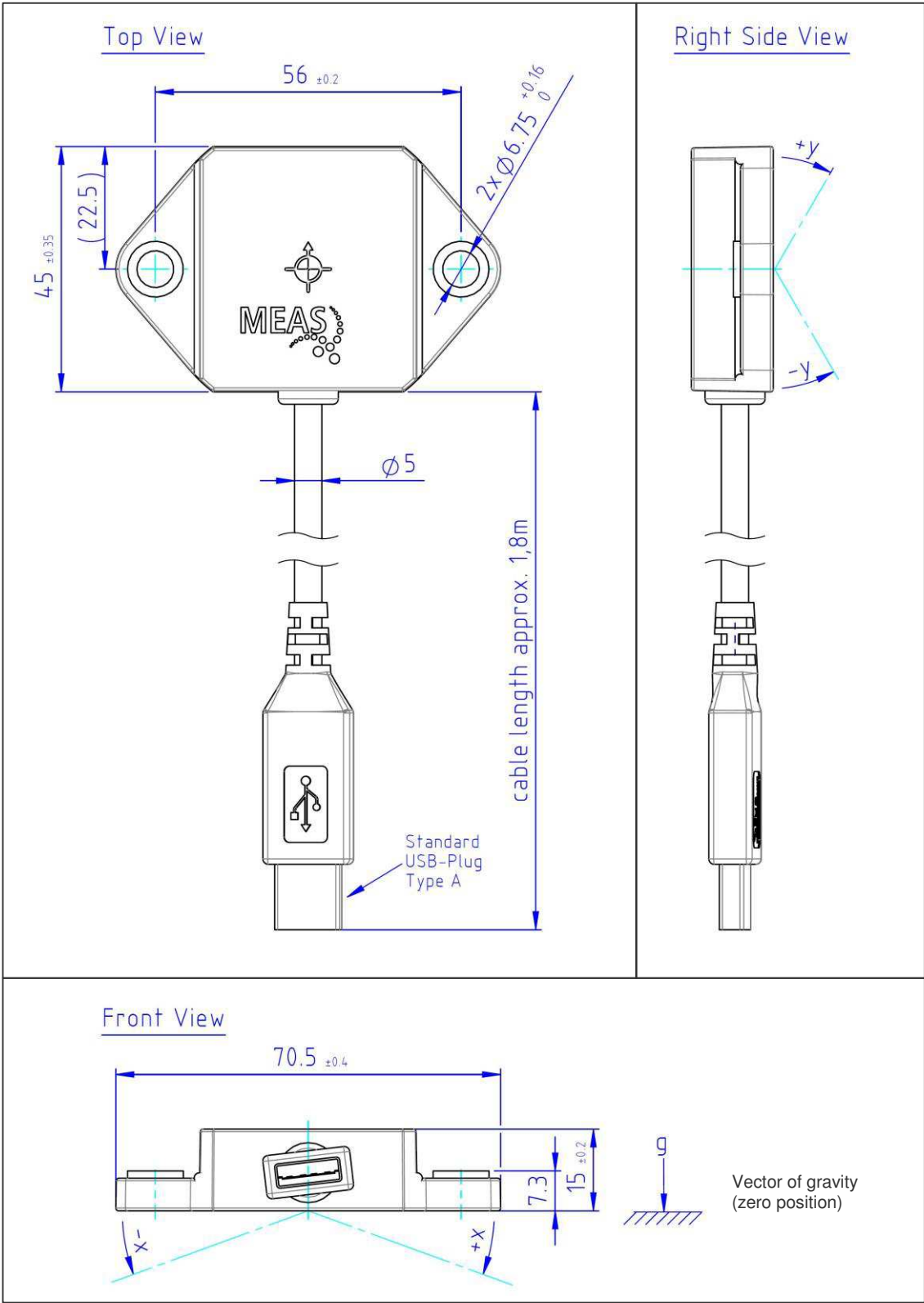
The **DOG1 MEMS-Series USB inclinometer** single axis is well suited for test and measurement purposes.

A fast response time, good accuracy and high resolution are its key features. It uses a digital signal processing including temperature compensation to optimize performance.

The user configurable filter allows to find a good compromise between response time and a stable output in noisy environments, e.g. if vibrations are an issue.

Easy to use software for Microsoft Windows is included. Also the sensor can be accessed using a virtual COM port for easy integration.

Dimensions [mm]



## PARAMETERS

Parameter	Value	Comment
Range	$\pm 180^\circ$	main axis configurable, X- or Y-axis are possible
Accuracy, typ.	$0.6^\circ$	$T = -40^\circ\text{C}$ to $85^\circ\text{C}$
Accuracy, typ.	$0.2^\circ$	$T = 25^\circ\text{C}$
Resolution	14 bit	
Refresh rate	100 Hz	Internal processing
Startup time	<1 s	Valid output signal
Supply/excitation voltage	5 V	Powered via USB
Output	X- or Y-angles	Via USB virtual COM port on Host PC
Connector	Standard USB Plug Type A	
Cable	Length of cable approx. 1.8 m outer diameter $\varnothing 5$ mm	
Operation temperature range	$-40^\circ\text{C}$ to $85^\circ\text{C}$	
Storage temperature range	$-40^\circ\text{C}$ to $85^\circ\text{C}$	
Weight, typ.	115 g	Including cable & connector
Dimensions	70.5 mm x 45 mm x 15 mm	W x D x H

## COMMENTS

A software for an easy use of the sensor is supplied with the hardware. It includes a setup wizard for quick and simple sensor configuration (PC with OS Microsoft Windows XP® or later is required).

This software is also provided via web download, please visit our company website to check for updates.

## FUNCTION VIEW



This DOG1 MEMS series USB inclinometer is designed for floor mount application.

A special feature of the USB version is, that it has a full dual axis output.

The user can define on his own, which of the two sensor axes to use as main and which axis to use as secondary axis.

The main axis gives unique output over  $\pm 180^\circ$  ( $0..360^\circ$ ) while the other axis has to be kept in a  $\pm 90^\circ$  range.

### ORDERING INFORMATION

PART NUMBER	NAME	DESCRIPTION
G-NSDOG1-022	180DOG1 MEMS SERIES USB	Single axis inclinometer, floor mount, range $\pm 180^\circ$ , USB device incl. Software

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