



NM1-ATEX

Single Axis Industrial Tilt Measuring System for explosion-hazardous areas with ATEX-Inspection Document TÜV 99 ATEX 1469 / Ex ib IIB T4 Gb



- ▣ Supply voltage 18 ... 28 VDC
- ▣ Measuring range up to $\pm 45^\circ$ or 0 ... 90°
- ▣ Accuracy 0.1° (up to $\pm 10^\circ$), 0.4° (beyond $\pm 10^\circ$)
- ▣ Analogue output 4 ... 20 mA (2-wire technology)

The single axis industrial tilt measuring system exists by the combination of a non-contact working inclination sensor of the type AccuStar™ and an electronic-board, which is adapted to the sensor. The measuring system is designed for precise tilt measurement in x-axis and is suitable for explosion-hazardous area. The measurement system is planned for the side wall assembly. The inclination measuring range, that is to be acquired, can be depending on version in the area of $\pm 3^\circ$... $\pm 45^\circ$ or 0 ... 10° to 0 ... 90° . The electrical connection occurs in 2-wire technology, which includes the standard analogue output signal, 4 ... 20 mA.

The measurement system is built-in in a robust EMC-safe aluminum diecast enclosure (test condition IP68 1 hrs, 1 m water depth) with outside fixture holes.

▣ Technical Data

Number of measuring axis:	1	
Supply voltage:	18 ... 28 VDC	Electronic protected against voltage reversal
Power consumption:	Approx. 3 W	
Analogue output:	4 ... 20 mA	Max. burden depending on supply voltage
Frequency range (-3dB):	0.5 Hz	
Preferred measuring range:	$\pm 3^\circ$, $\pm 5^\circ$, $\pm 10^\circ$, $\pm 15^\circ$, $\pm 20^\circ$, $\pm 30^\circ$, $\pm 45^\circ$ 0 ... 30° , 0 ... 45° , 0 ... 60° , 0 ... 90° Other ranges on request	
Accuracy at 23 °C:	Up to $\pm 10^\circ$ inclination $\pm 10^\circ$ up to $\pm 45^\circ$ inclination Inclination $>45^\circ$	$\pm 0.1^\circ$ $\pm 0.4^\circ$ on request
Electrical connection:	FD CP plus 2x0.25 mm ² (Length varies depending on type and version of the inclination measurement system, nevertheless max. 50 m)	
Enclosure:	EMC-safe aluminum diecast enclosure	
Protection class:	IP68 to DIN EN 60529 (VDE 0470) (DIN=German Institute for Standardization), Test condition: 1 hrs, 1 m water depth, an additional mechanical protection by hose-water is recommended	
Dimensions (B x H x D):	115 x 64 x 35 mm (without Cable gland and grounding)	
Weight:	Approx. 200 g (without connecting cable)	
Temperature, storage:	-20 °C ... +60 °C	
Temperature, operating:	-20 °C ... +60 °C	
Notice: Further specifications see datasheet Accustar™		

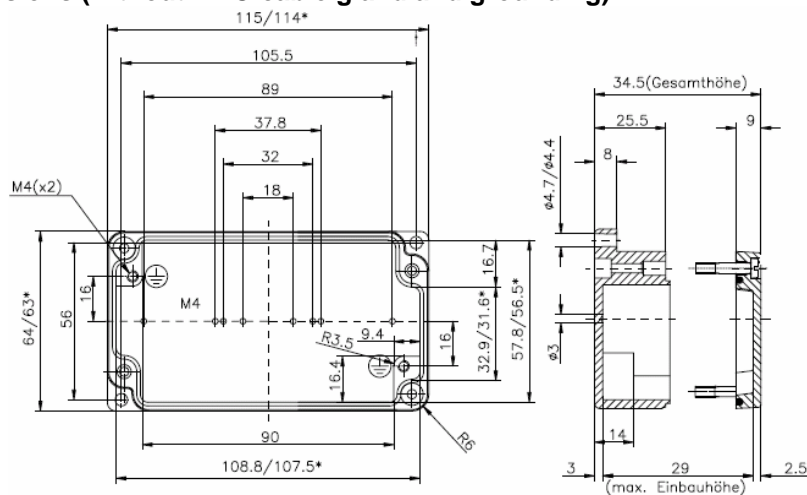
Notice: Supply- and signal-circuit, type of protection: Intrinsic safety EEx ib IIB only for connection to certified intrinsically safe circuits with the following maximum values:

U _i	=	28 VDC	C _i	<	15 nF	Effective internal capacity
I _i	=	110 mA	L _i	<	0.5 mH	Effective internal inductivity

▣ Order Description

NM1-2L-420-ATEX-...	Single axis Industrial Tilt-Measurement System (2-Wire-Technology) for explosion-hazardous areas with ATEX-Inspection Document TÜV 99 ATEX 1469 / Ex ib IIB T4 Gb	
...-Bxx-...	bi-directional, xx = measuring range, example B45 for $\pm 45^\circ$	
...-Lxx-...	left-turning, xx = , xx = measuring range, example L30 for 0 ... 30° , left	
...-Rxx-...	right-turning, xx = measuring range	
...-y	Cable length from 3 m to 100 m, (standard length see pricelist)	

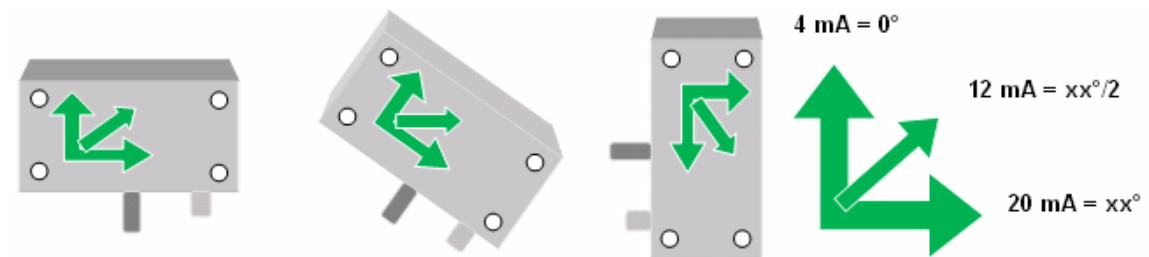
Enclosure dimensions (without EMC-cable gland and grounding)



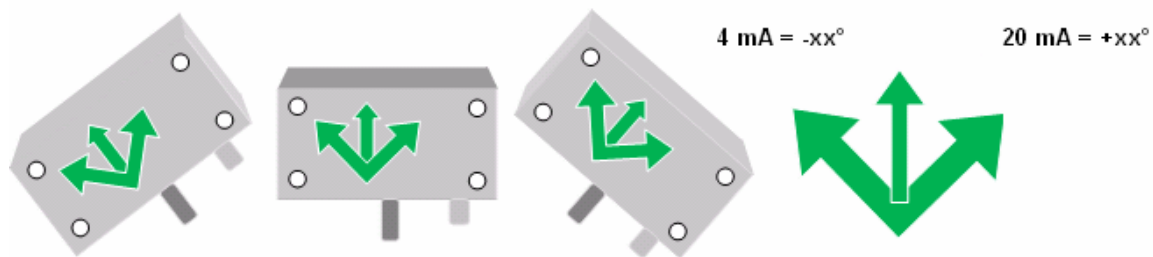
Terminal Wiring

Electrical connections are made via cable (Unitronic-FD CP plus, 2x0.25 mm², core insulation PUR-Mixture). The length of the cable varies according to type and version of the tilt measuring system, nevertheless max. 50 m. The cable shield is connected with the enclosure.

Terminal	Description	Cable colour
1	Supply voltage	White
2	Signal/Loop	brown



Version 0 ... xx° (Notice: Example shows a tilt of 0 ... 90 °)



Version 0 ... ± xx° (Notice: Example shows a tilt of 0...±45 °)

Alignment/Calibration

A calibration with a traceable factory calibration certificate is possible on request and for an extra charge.

Customized Requirement

Technical modification according Customized requirement are possible on request. Moreover, we deliver Customized special solutions for a lot of measuring tasks in the section pressure-, force-, distance - and tilt-measuring using our offered measuring transducer. Do not hesitate to contact us.

Our policy is to improve specification of our products continuously, so technical and production details can be changed without any notice.