



NM1-ISU-IP-3L-24-xxx-xm

Single Axis Industrial Tilt Measuring System with RS232-Data Interface

- ▣ Supply voltage 22 ... 26 VDC
- ▣ Adjustable measuring range up to 360°
- ▣ Accuracy $\pm 0.2^\circ$
- ▣ RS232 Data Interface, optionally analogue output 4 ... 20 mA



The single axis industrial tilt measuring system is designed for precise tilt measurement in x-axis and is planned for the side wall assembly. The inclination acquirement occurs about an adjustable range, which can be determinate about an internal DIP switch. The measuring data will be issued digital about a RS232-Data interface. Moreover, in version with additional scalable analogue output, the measuring values can be issued with an analogue output of 4... 20 mA.

The tilt measuring system is built-in in a robust EMC-safe aluminium diecast enclosure (IP66), which is suited for the application in rough and industrial surroundings.

▣ Technical Data

Number of measuring axes:	1	
Supply voltage:	22 ... 26 VDC	Electronic protected against voltage reversal
Power consumption:	ca. 3 W	
Data Interface/Analogue output/ Power rating:	RS232 Data Interface, 4 ... 20 mA (Option ...-420..-)	max. 500 Ohm
Measuring frequency:	0.4 Hz	
Adjustable measuring range	Measuring range about internal DIP-Switch $\pm 10^\circ, \pm 20^\circ, \pm 30^\circ, \pm 45^\circ, \pm 60^\circ, \pm 90^\circ, \pm 120^\circ, \pm 180^\circ$ Inclination	
Accuracy:	$\pm 0.2^\circ$	
Repeatability:	$\pm 0.1^\circ$	
Hysteresis:	$\pm 0.1^\circ$	
Temperature Error:	$\pm 0.015^\circ/\text{C}$	
Electrical connection:	Standard: 3 m connecting cable (optionally are cable versions up to 10 m available) Type of cable: Unitronic FD CP plus 3 x 2 x 0.25 mm ²	
Enclosure:	EMC-safe aluminium-diecast enclosure	
Protection-class:	IP66	
Dimensions (W x H x D):	150 x 65 x 36 mm (without EMC-cable gland)	
Weight:	Approx. 630 g with 3 m connecting cable, electronic not moulded in casting compound Approx. 1150 g with 10 m connecting cable, electronic not moulded in casting compound	
Temperature, storage:	-20 °C ... +60 °C	
Temperature, operating:	-20 °C ... +60 °C	

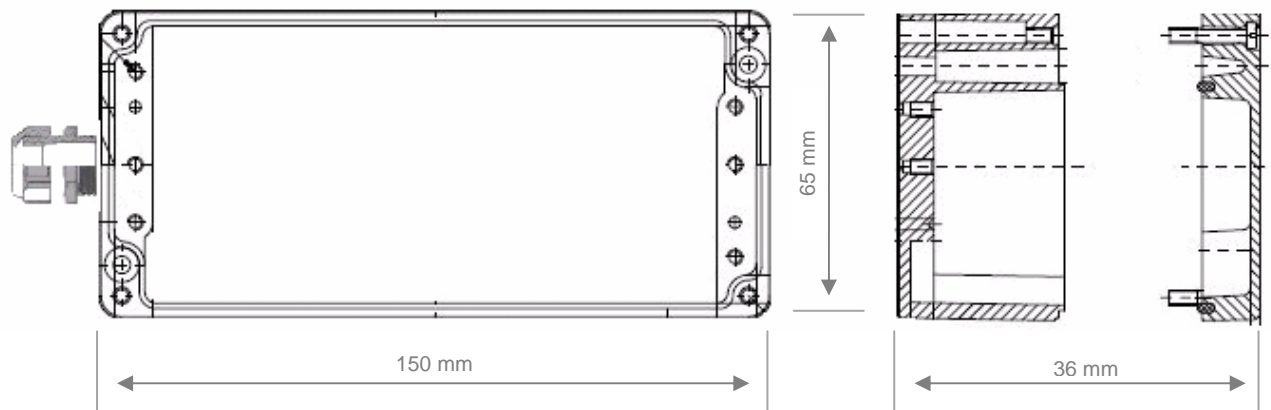


Order description:

NM1-ISU-IP-3L-24...	Single axis industrial tilt measurement system, 3-Wire-Technologie, Supply voltage 22 ... 26 VDC
...RS232-...	Measuring value issue about Data-Interface RS232
...420-...	Measuring value issue about Data-Interface RS232, with additional scalable analogue output 4...20 mA
...x-...	Cable length in m
...V	Electronic moulded in casting compound against humidity and vibrations

Notice: With order, the desired cable length (in meters) of the tilt-measurement system is to be given as the example shows below.
Example: Cable length 3m → Order description ...-3m

Enclosure dimensions



Terminal Pin Assignment

The connection of the measuring system occurs about a connecting cable (Unitronic-FD CP plus, 3x2x0.25mm², core insulation PUR-Mixture). The length of the cable varies according to type and version of the inclination measurement system. The cable shield is connected with the enclosure.

Terminal	Description	Cable colour
1	Supply voltage	White
2	GND Supply voltage (GND Data Interface RS232)	Brown
3	Data Interface RS232 (9600 Baud, 8N1)	Pink
4	Connection for external control signal for zero point signal	Grey
5	GND analogue output	Green
6	Analogue output 4...20 mA	Yellow
	Screen	Cable Screen/blank

Notice: The cable screen is connected about the EMC-cable gland. The cable screen is to be connected with earth ground

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.