

## DPL/DPN-Series Inclinometer Module

**Measurement Specialties, Inc.** (NASDAQ: MEAS) designs and manufactures sensors and sensor-based systems. MEAS has developed and commercialized inclinometer which works on the conductive fluid measurement principle. This principle offers in combination with a modern electronic technology a high zero point stability and an absolute long-term stability.



The **dual axis DPL/N-series** inclinometer module provides with a curve linearization and active temperature compensation a high accuracy output signal via analogue voltage interface in combination with a digital interface via RS 232.

This fully calibrated dual axis inclinometer module is available in five versions with measurement ranges of  $\pm 2^\circ$ ,  $\pm 5^\circ$ ,  $\pm 10^\circ$ ,  $\pm 15^\circ$  and  $\pm 30^\circ$ . The unit is adaptable and immediately ready for use. The boreholes on the FR4 board allows fast mounting and individual customizations.

The microprocessor and the RS 232 interface on the inclinometer module allowed programming and adjusting according to the user's needs. For example zero point adjustment or the individual setting of data transfer can be set by the users. Further they have the possibility to programmable a digital filter to reduce shock- and vibration influences during the measurement to get a stable output signal.

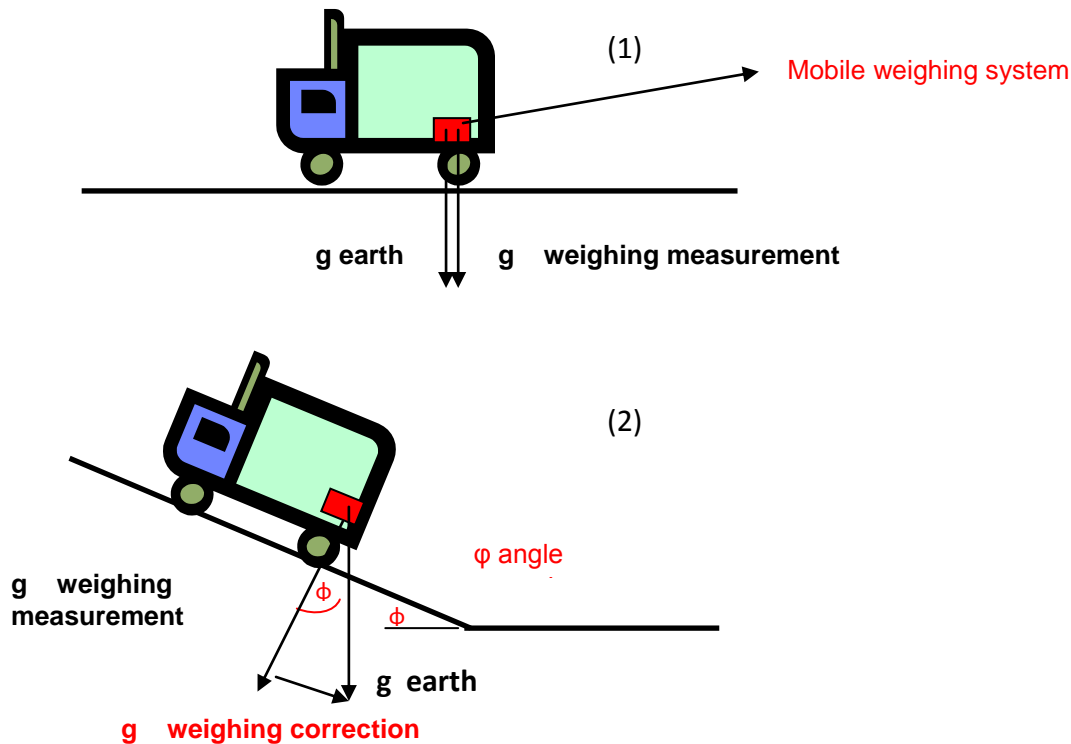
Due to the robust structure and large range of operation temperature of  $-40^\circ\text{C}$  up to  $+85^\circ\text{C}$  of the inclinometer module, it can be easily implemented in applications which have high requirements to the product. Interested applications will be e.g. mobile and stationary weighing systems, hydraulic levelling/stabilization systems, wheel alignment systems or laser levelling systems.

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### Application example – Weighing systems:

An application which becomes more and more important in – especially - Europe is trash/garbage weighing. An inclinometer measures the angle-difference between the correct position of the mobile weighing system and the chassis related to the ground.

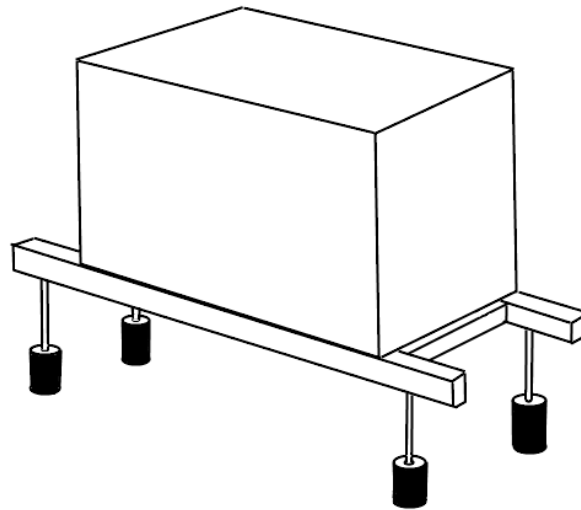
- (1) The inclinometer measures the angle related to the ground.
- (2) If the mobile weighing system (fixed on a truck) is standing on a hill, an automatic error correction is necessary. This functionality calculates the measured weight in hillside situation combines this result with the measured angle to the ground and determined the correct absolute weight.



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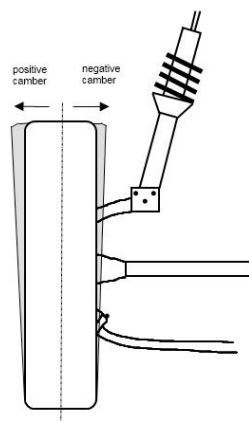
### Application example – Hydraulic levelling control:

The basis for a safe hydraulic leveling control is an inclinometer. The inclinometer measures the inclination in relation to the ground and sends this data to the control system. The control system adjusts the hydraulic system in real-time in a safe position.



### Application example – Wheel alignment system:

Wheel Alignment consists of adjusting the angles of the wheels, so that they are perpendicular to the ground and parallel to each other.

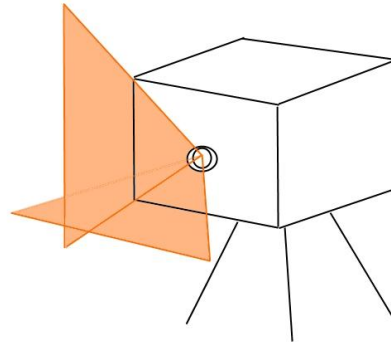


## Application Note

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#### Application example – Laser levelling system:

This inclinometer module is suitable for e.g. rotation laser levelling systems, for 3D-laser scanner and also for similar applications. These applications need absolute zero point stability with high resolution and high accuracy measurement range. The measuring-unit will be used as a reference to the ground.



#### ORDERING INFORMATION

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