

IXYZ

3-Dimensional Inclinometer

The IXYZ inclinometer is designed specifically for the solar industry, but could also be used in other applications. The IXYZ is a 3-dimensional inclinometer which is based on MEMS (Micro Electro Mechanical System) technology. It features a robust data protocol, voltage supply, and daisy chain feature when operating multiple inclinometers. It is capable of withstanding a wide temperature and voltage supply range.

Features

- RS232 interface, daisy chain capable – or
- Analog out for XY plane
- Low latency protocol when daisy chained
- Data compression, and error reporting with CRC16 data check
- Automatic axis resolution, reported as pitch and roll
- Integrated voltage polarity protection
- IP65 rated enclosure, outdoor rating
- Wide operating temperature range
- Accurate to within +/- 0.1 degree, angle reported in resolution of 0.01 degree.



Description

One Platform, Multiple Applications – The IXYZ inclinometer is a, high precision inclinometer, designed to operate as a singular inclinometer, or as part of a series of inclinometers.

Communication – Using a 9600 baud RS232 interface, the inclinometer may be connected singularly to a control system, or be part of a daisy chained multi-inclinometer system. When daisy chained, the RS232 input data is relayed to the output data and the local inclinometer data is appended to the data stream. Applying a shunt to a programmable header, the IXYZ can be modified to operate in analog mode using one of two voltage ranges [0 to 5] or [-5 to 5].

MEMS technology – The IXYZ is based on a smart low-power, three-axis, capacitive micro machined Accelerometer. The device is factory calibrated for sensitivity and Zero-g offset for each axis. In normal use, further calibration in the end application is not necessary.

Electrical Ratings

Parameter	Min	Typ	Max	Units
Voltage Supply	20	24	28	V
Power Consumption		0.7	0.8	W
Analog Output (0 to +5V)	0.05		5.05	V
Analog Output (-5 to +5)	-5.05		5.05	V

Communication

Parameter	Value	Units
Baudrate	9600	baud
Data check	CRC16	

Thermal/Mechanical Characteristics

Parameter	Min	Typical	Max	Units
Storage Temperature	-40	40	120	°C
Operating Temperature	-40	40	85	°C
Dimensions (including flanges)		60 x 94		mm
Weight		0.10		kg

Enclosure

IP65, UV Stabilized Polycarbonate


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