

# 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
- Wide voltage supply range
- 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           | 8     | 24  | 70   | V     |
| Power Consumption        |       | 0.2 | 0.25 | 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

  
[www.lauritzen.biz](http://www.lauritzen.biz)

Lauritzen Inc.  
 1725 Pilgrim Ave. Mountain View, Ca 94040  
LAURITZEN INC. RESERVES THE RIGHT TO MAKE CHANGES AT ANY TIME WITHOUT ANY NOTICE