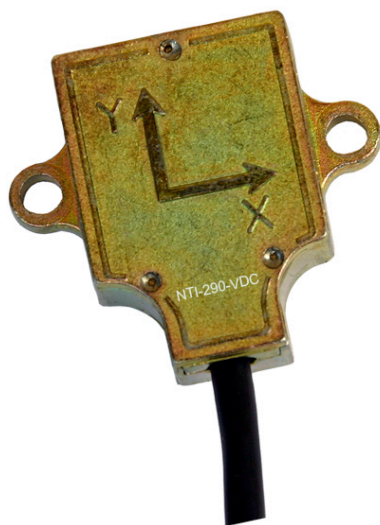


NTI-290L-LNT two axis inclinometer



General description

NTI-290L-LNT two axis inclinometer has two axis structure, horizontal mount, measuring X and Y axis. The measuring range is ± 90 degree. It outputs analog voltage. Entirely industrial parts of device, stable and credible performance.

Features

Silicon 3D MEMS sensor
Shock resistance >20000g
Resolution < 0.001 °

Applications

Platform tilt measurement
Equipment and instrument condition monitoring
Rotational orientation measurement

Electrical characteristics

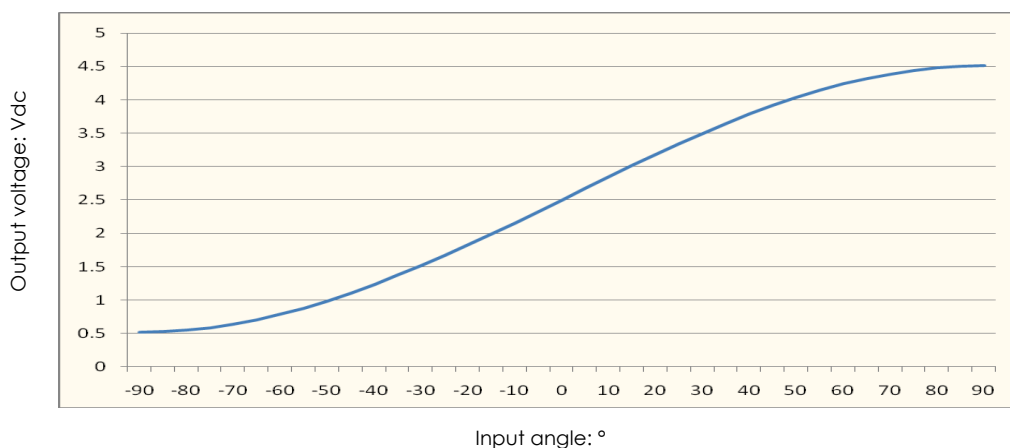
| Parameter | Condition | Min | Type | Max | Units |
|-----------------------|--------------|-----|------|-----|-------|
| Supply voltage | | 8 | | 36 | VDC |
| Operating current | Without load | | 10 | 18 | mA |
| Output load | resistive | 10 | | | Kohm |
| | capacitive | | | 20 | nF |
| Operating temperature | | -40 | | +85 | °C |

Performance characteristics

| Parameter | Condition | Min | Type | Max | Units |
|---------------------|-------------------|------|----------|------|-------|
| Measuring range | X axis, Y axis | | ± 90 | | ° |
| Zero output voltage | | 2.47 | 2.5 | 2.53 | V |

| | | | | | |
|-------------------------------|--------------|----|------------|------|------|
| Offset zero point error | | | | 1 | ° |
| Offset temperature error | 0 - +70°C | | ±0.2 | ±0.3 | ° |
| | -25-+85°C | | ±0.4 | ±0.6 | ° |
| Sensitivity | | | 2 | | V/g |
| | Near 0degree | 32 | 35 | 38 | mV/° |
| Sensitivity temperature error | 0-+70°C | | -0.8...0.3 | | % |
| | -25-+85°C | | -1.5...0.5 | | % |
| Cross axis sensitivity | | | 3 | | % |

Input-output characteristics



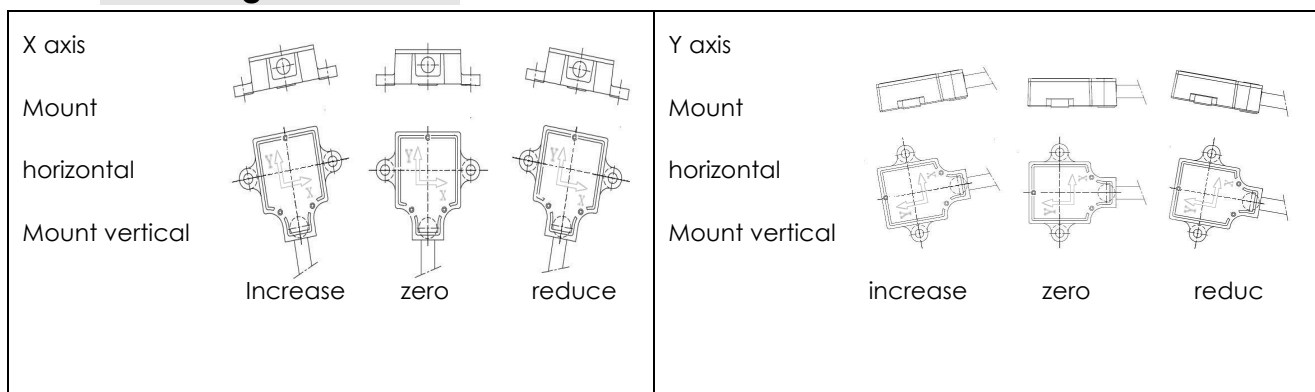
Voltage- angle conversion

$$\text{Inclination angle} = \arcsin \left(\frac{\text{Vout-offset}}{\text{Sensitivity}} \right)$$

Vout: analog output voltage

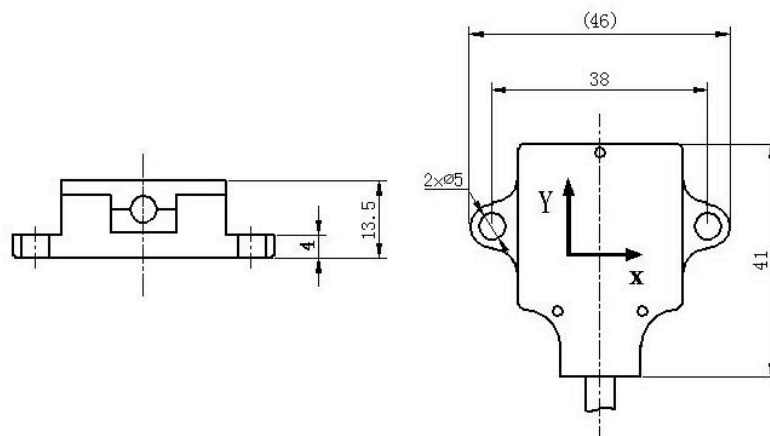
Offset: 2.5V, output voltage at zero point.

Measuring direction



Sensor dimensions

Dimensions in mm

**Electrical connection**

| Wire color | Name | Function |
|------------|-------|-------------------|
| Red | Vdc | Power supply 8-36 |
| Blue | GND | Ground |
| Yellow | Out X | X axis output |
| Green | Out Y | Y axis output |

Ordering information: NTI-290L-LNT

Specification subject to change without notice