

## NTI-290-VDC two axis inclinometer



### General description

NTI-290-VDC two axis inclinometer has two axis structure, horizontal mount, measuring X and Y axis. The measuring range is  $\pm 90$  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

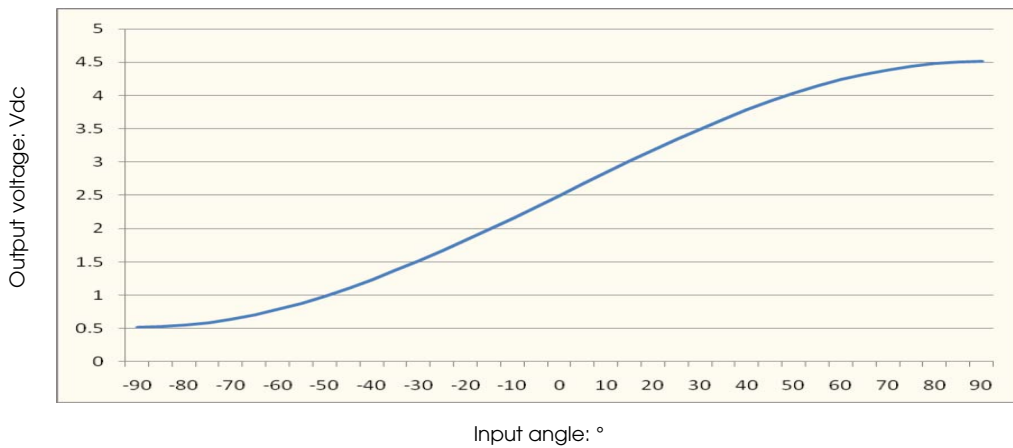
Parameter	Condition	Min	Type	Max	Units
Supply voltage		8		36	VDC
Operating current	Without load		10	18	mA
Output load	resistive	10			Kohm
	capacitive			20	nF
Operating temperature		-40		+85	°C

### Performance characteristics

Parameter	Condition	Min	Type	Max	Units
Measuring range	X axis, Y axis		$\pm 90$		°
Zero output voltage		2.47	2.5	2.53	V
Offset zero point				1	°

error					
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**



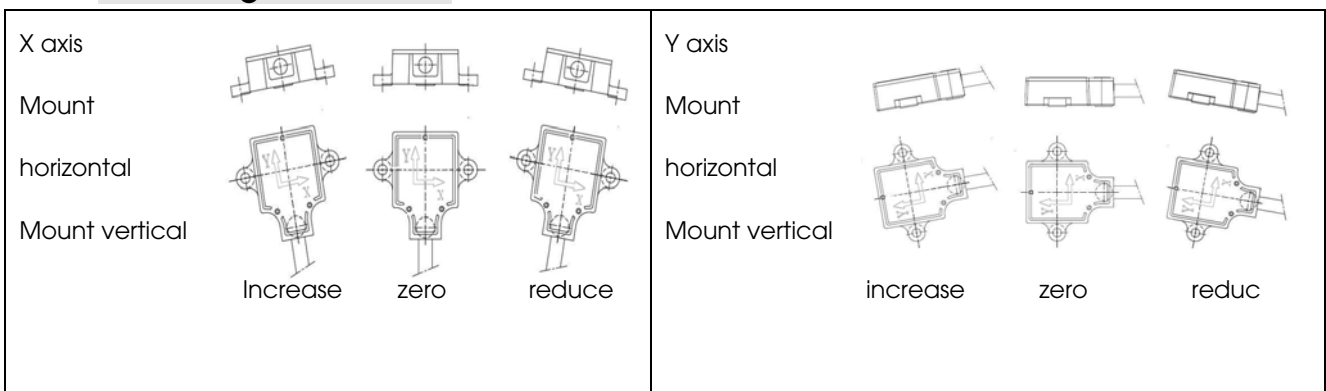
**Voltage- angle conversion**

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

Vout: analog output voltage

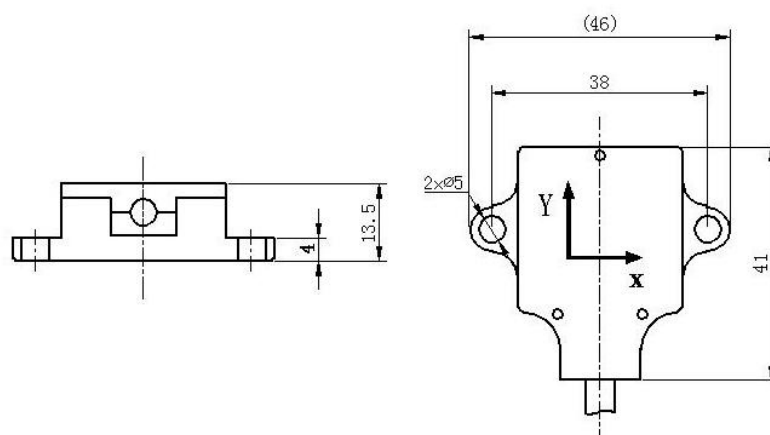
Offset: 2.5V, output voltage at zero point.

**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-290.VDC

Specification subject to change without notice