

## NTI-210DL-I2-L35 2-axis Current Type Tilt Sensor



### General description:

NTI-210DL-I2 is researched and produced by ZC Tech, it is a high accuracy and high stability current type two-axis inclinometer. The measuring range is  $\pm 10$  degree, output standard 4~20mA analog current. It has anti-jamming characteristic, adapt to long distance signal transmission.

### Features:

Standard three wire 4-20mA current output  
High accuracy;  
High performance-price ratio  
Protection grade:IP66  
Robust aluminum cast housing  
Standard M12 connector

### □. Application:

Construction machinery  
Angle measuring, level adjust, zero adjust  
Security control, monitoring, alarm  
Machine arm, dam, construction bridge angle measuring  
Aim control, bending control  
Original position control, tilt gesture recorder

### Technical Parameters:

	Parameter	Test condition	Min.	Typ.	Max.	Unit
Operating Specification	Power supply			12~24		V
	Static current	No load			30	mA
	Operating temperature		-40		85	C
	Storage temperature		-45		125	C
	Max load resistance			600		$\Omega$
Performance Specification	Measuring range	2-axis		$\pm 10^\circ$		$^\circ$
	Resolution			0.005		$^\circ$
	Accuracy			$\pm 0.1$		$^\circ$
	Sensitivity			0.8		mA/ $^\circ$
	Zero output current			12		mA
	Zero temperature drift			0.5	0.86	$^\circ$
Others	Size			72*72*45		mm

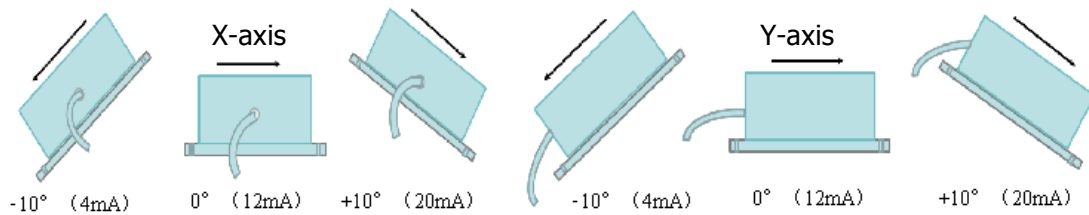
Remark 1: when the sensor is in the normal work state, please make sure it is in the allowable supply voltage range 24Vdc is introduced.

Remark 2: the smallest angular increment at which a detectable change in output can be measure.

□. **Corresponding relationship between tilt angle and output current:**

Angle	Output current	Angle	Output current	Angle	Output current
10	20.000	2	13.600	-6	7.200
8	18.400	0	12.000	-8	5.600
6	16.800	-2	10.400	-10	4.000
4	15.200	-4	8.800		

□. **Schematic Diagram:**



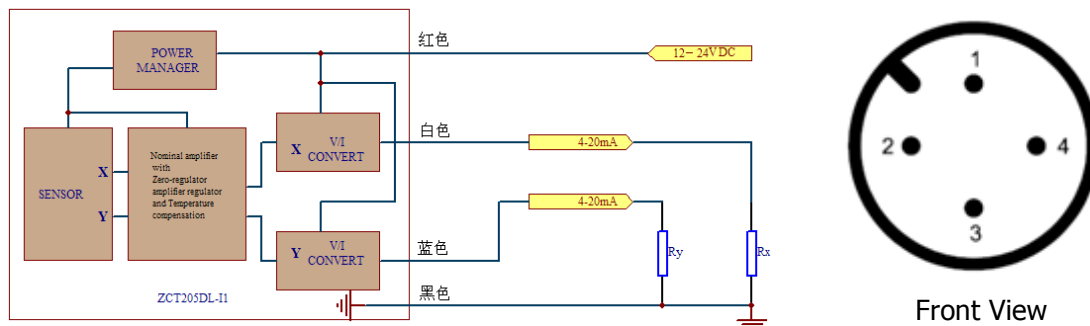
**Wire Connection:**

PIN1—brown: power supply

PIN3--blue: current output of Y-axis

PIN2—white: current output of X-axis

PIN4--black: GND



□. **Note:**

1. Load resistance and supply voltage need to meet the following formula:

Load resistance ≤ (supply voltage – 6V – voltage drop of output wire) / max output current

Eg: supply voltage 12V, output cable is 100m, the voltage drop of 2\*0.14mm<sup>2</sup> is 0.6V, the max

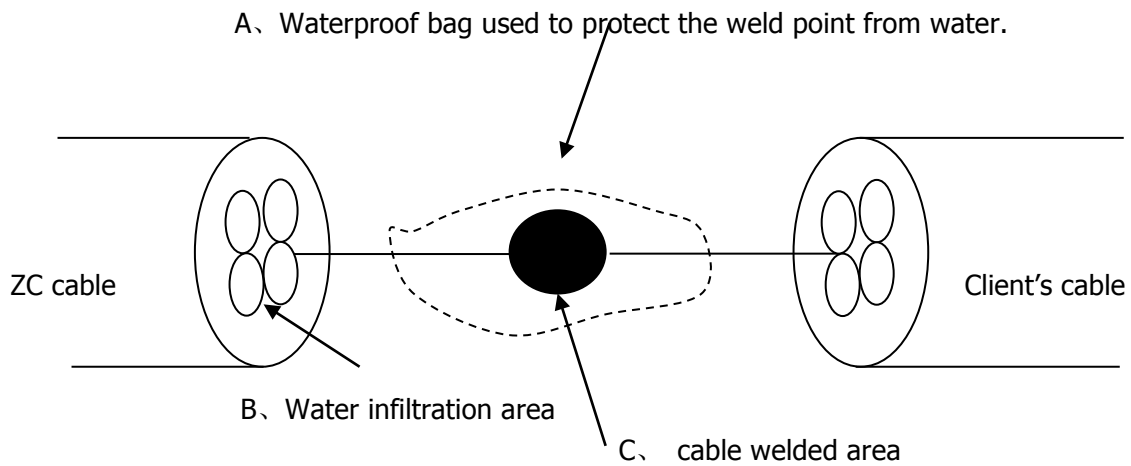
output current is 20mA. Load resistance ≤ (12 – 6 – 0.6) / 0.02

So if supply power is 12V, Load resistance ≤ (12 – 6 – 0.6) / 0.02

load resistance should be less than or equal to 270Ω.

2. Although our products have done high-level professional waterproofing treatment at all aspects, customers still need to attend the waterproofing treatment of the cable joint in use.

Incorrect Handling:

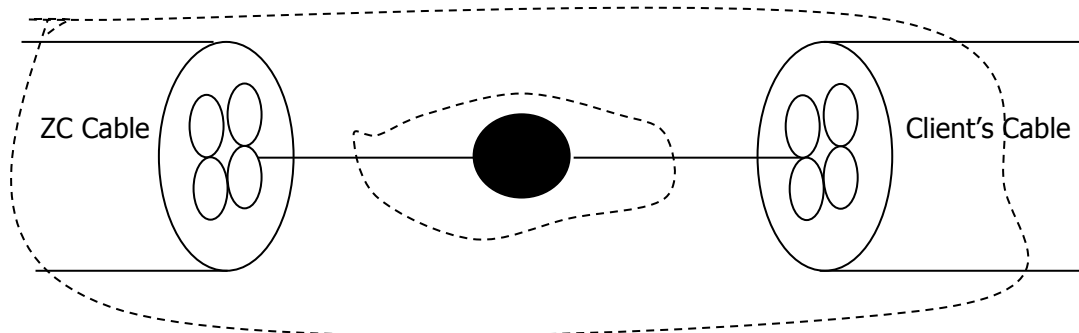


**Remarks:**

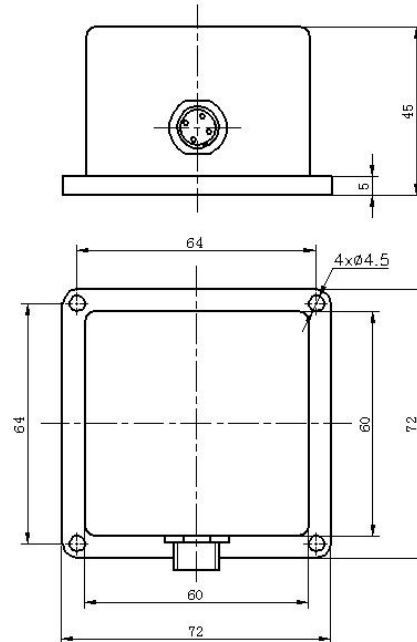
The above wrong connection is that the waterproof casing or tube ( A ) in customer's actual installation protection scope is just the cable inner core connection (welding) (C), water can infiltrate to the system between the outer ends of the cable and the inner core cable ends.

Correct Handling:

Except for keeping the former inner junction waterproof bag, add a large layer of waterproof casing outside the cables, then both sides of the cable ends will be wrapped together into this casing, Please see details as below:



Add a large layer of waterproof casing outside the cables, then both sides of the cable ends will be wrapped together into this casing

**Installation Size:**

□. Order information: Part No: **NTI-210DL-I2-L35**

**The specification subject to change without notice!**