

WTS Series 4-20mA current output inclinometer

Product introduction

Woosens WTS series current output inclinometer module which made by high-accuracy accelerometer MEMS device and standard MCU, built-in advanced anti-vibration filtering algorithms. The product has undergone strict production calibration, factory inspection, to ensure excellent product consistency and reliability.



WOOSENS WTS series current output inclinometer module adopts 4~20mA standard interface, which can be directly connected to various industrial control hosts. Housing in a fineness aluminium alloy case, the WTS series inclinometer provides IP67 rated waterproof, It has excellent load capacity and anti-interference ability.

Features

- High precision, high stability
- Anti-vibration
- Anti-interference
- IP67 Protection
- 3D MEMS sensor
- RoHS

Application

- Angle measurement
- Construction vehicle
- Engineering machinery
- Equipment and Instrument Status Monitoring

Product specification

Electrical Specification

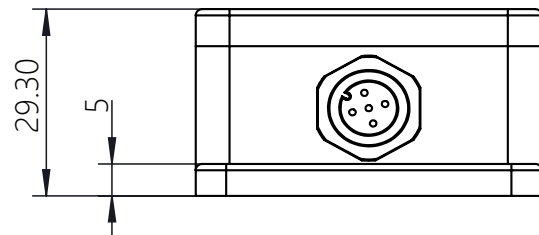
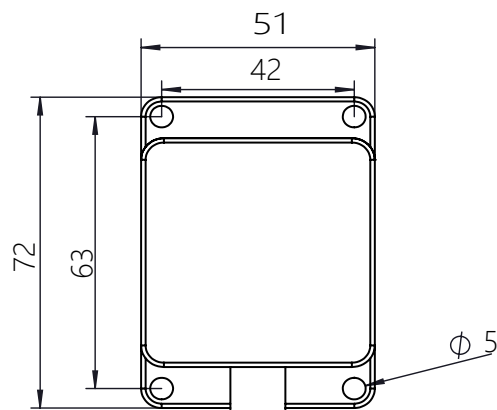
Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Wide voltage	9	12	35	V
Operating current		20		30	mA
Operating temperature		-40		+85	°C
Store temperature		-40		+100	°C

Performance Specification

Parameter	Condition	Specification
Measuring axis		X-Y
Measuring range		$\pm 15^\circ/\pm 30^\circ/\pm 90^\circ/0-360^\circ$
Output current @ 0°		12mA
Output current range		4-20mA
Frequency response		10Hz
Temperature drift	-40~85°C	0.008°/°C
Sensitivity	$\pm 15^\circ$ Range	0.53mA/°
	$\pm 30^\circ$ Range	0.27mA/°
	$\pm 90^\circ$ Range	0.089mA/°
	0-360°Range	0.045mA/°
Weight		170g

Note: All parameters are measured at room temperature 25°C.

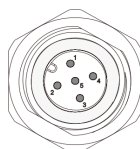
Mechanical Characteristic



Unit: mm

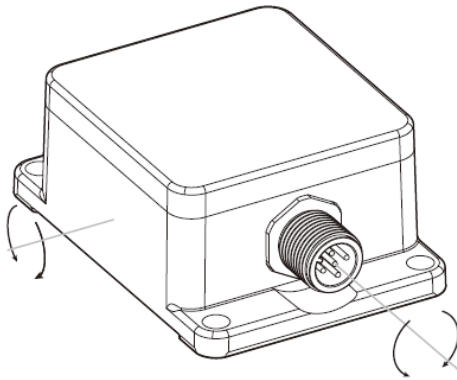
Interface Definition

PIN	PIN1	PIN2	PIN3	PIN4	PIN5
Single-Axis	VIN	X-OUT	GND	NC	NC
Dual-Axis	VIN	X-OUT	GND	Y-OUT	NC

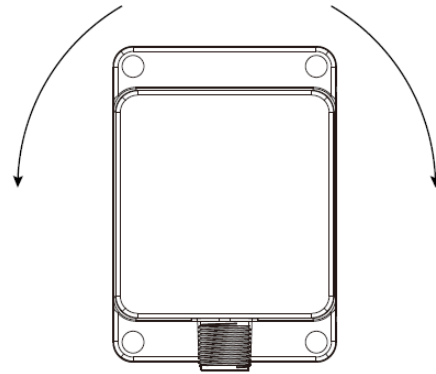


M12-5 Male Connector

Installation direction



Horizontal installation(Dual-Axis)



Vertical installation(Single-Axis)

Formula: Transform Current Into Angle

$\text{Angle}(^{\circ}) = (\text{Iout}(@\text{Angle}) - \text{Iout}(@0^{\circ})) / \text{Isensitivity}$

Example:

Measuring range is $\pm 90^{\circ}$, Sensitivity is $0.089\text{mA}/^{\circ}$, the actual measurement X axis output current is 16mA , the actual measurement Output current @ 0° is 12mA , so X axis $\text{Angle}(^{\circ}) = (16 - 12) / 0.089 = 45^{\circ}$

Ordering information

Measuring range	Measuring axis	Part number
$\pm 15^{\circ}$	Single-Axis/Dual-Axis	WTS114-L15HG / WTS124-L15HG
$\pm 30^{\circ}$	Single-Axis/Dual-Axis	WTS114-L30HG / WTS124-L30HG
$\pm 90^{\circ}$	Single-Axis/Dual-Axis	WTS114-L90HG / WTS124-L90HG
$0-360^{\circ}$	Single-Axis	WTS114-L36HG

Note: All Specifications are subjected to change without notice.