

WTAL Series 4-20mA current output inclinometer

Product introduction

Woosens WTAL 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 WTAL 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 WTAL series inclinometer provides IP65 rated waterproof, It has excellent load capacity and anti-interference ability.

I Features

· High precision, high stability

· Anti vibration

· Anti-interference

· IP65 Protection

· 3D MEMS sensor

· RoHS

I Application

Angle measurement

Construction vehicle

Engineering machinery

Equipment and Instrument Status Monitoring

Product specification

Electrical Specification

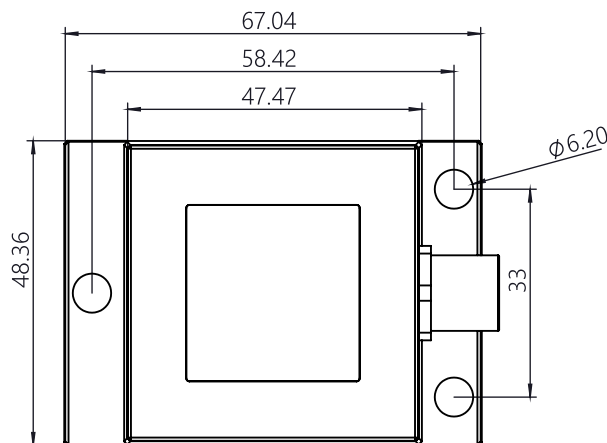
Parameter	Condition	Minimum	Typical	Maximum	Unit
Power supply	Wide voltage	9	12	35	V
Operating current		20		30	mA
Operating temperature		-40		+85	°C
Store temperature		-40		+100	°C

Performance Specification

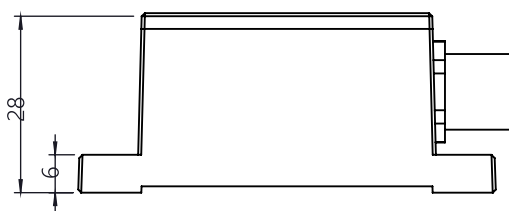
Parameter	Condition	Specification
Measuring axis		X-Y(360°Measuring range is uniaxial only)
Measuring range		±15°/±30°/±45°/±90°/0-360°
Output current @ 0°		12mA
Output current range		4~20mA
Frequency response		10Hz
Sensitivity	±15°Range	0.53mA/°
	±30°Range	0.27mA/°
	±45°Range	0.17mA/°
	±90°Range	0.089mA/°
	0-360°Range	0.045mA/°

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

Mechanical Characteristic



Unit: mm

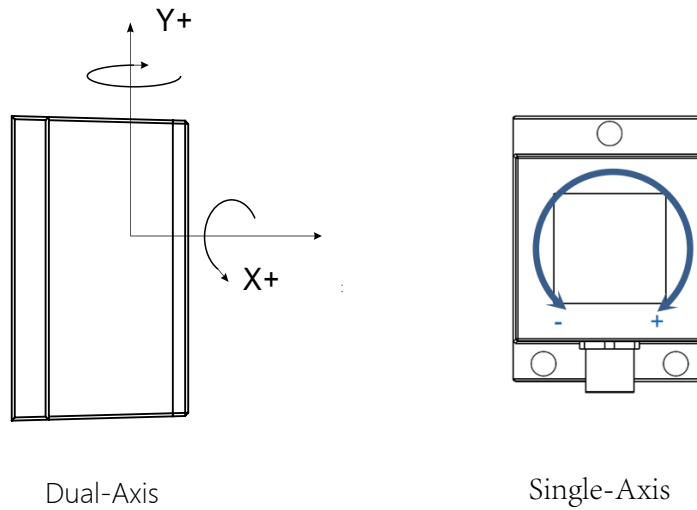


Interface Definition

Interface	Red	Yellow	Green	Black
Function	VIN	X-OUT	Y-OUT	GND
Interface	Grey	White	Brown	
Function	TXD	RXD	Reference GND	

Note: RXD and TXD are the interfaces used for factory calibration, and users do not need to use them.

Installation direction



Formula: Transform Current Into Angle

$$\text{Angle}(\text{°}) = (\text{Iout}(\text{@Angle}) - \text{Iout}(\text{@0°})) / \text{sensitivity}$$

Example:

Measuring range is ±90°, Sensitivity is 0.089mA/°, the actual measurement X axis output current is 16mA, the actual measurement Output current @ 0° is 12mA, so X axis Angle(°) = (16-12)/0.089 = 45°

Ordering information

Measuring range	Measuring axis	Part number
±15°	Single-Axis/Dual-Axis	WTAL114-N15LM/WTAL124-N15LM
±30°	Single-Axis/Dual-Axis	WTAL114-N30LM/WTAL124-N30LM
±45°	Single-Axis/Dual-Axis	WTAL114-N45LM/WTAL124-N45LM
±90°	Single-Axis/Dual-Axis	WTAL114-N90LM/WTAL124-N90LM
0~360°	Single-Axis	WTAL114-N36LM

Note: All Specifications are subjected to change without notice.