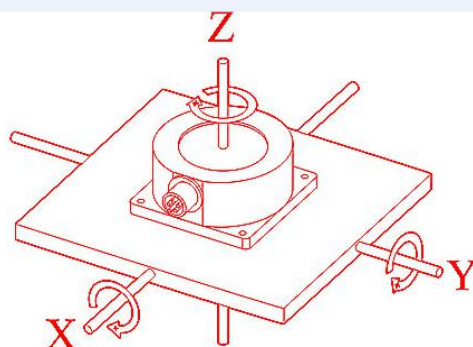
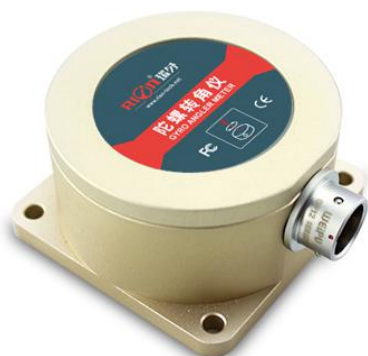




► GENERAL DESCRIPTION

TL618D is a gyroscope (angle rate sensor) based on the micro mechanical principle, a miniature inertial devices for mainly measuring the angular velocity of a moving object. Product internal with the silicon ultrafine precision ring sensing technology so that it has a high-performance, waterproof, anti-vibration, light weight, anti-electromagnetic interference characteristics and etc. Uninterrupted the machine with self-test technology, the filtering algorithm and the first time in the country by eliminating resonance technology to solve the influence on data because of the surrounding noise or vibration interference source to the ordinary gyroscope. TL618D add another international temperature sensor ompensation technology to solve the temperature drift impact problems, with over-temperature stability and long life characteristics etc. to realize the domestic similar products technology-leading technology.

Products with high cost-effective, small volume ,more advantages than the FOG in application fields, is now widely used in the automotive, military, marine, moving objects, position control & attitude control, and other applications that require precise angle measurement occasions !

► KEY FEATURES

- | | | |
|------------------------------------|--------------------------|---|
| ★ High performance drift stability | ★ Low noise | ★ Light weight |
| ★ Long life, strong stability | ★ Cost-effective | ★ Excellent vibration performance |
| ★ All solid state | ★ Compact & light design | ★ 4-20mA Current output |
| ★ Wide temperature range | ★ DC+9~36V power supply | ★ Temperature drift < $\pm 0.1^{\circ}/\text{sec}/^{\circ}\text{C}$ |

► APPLICATION

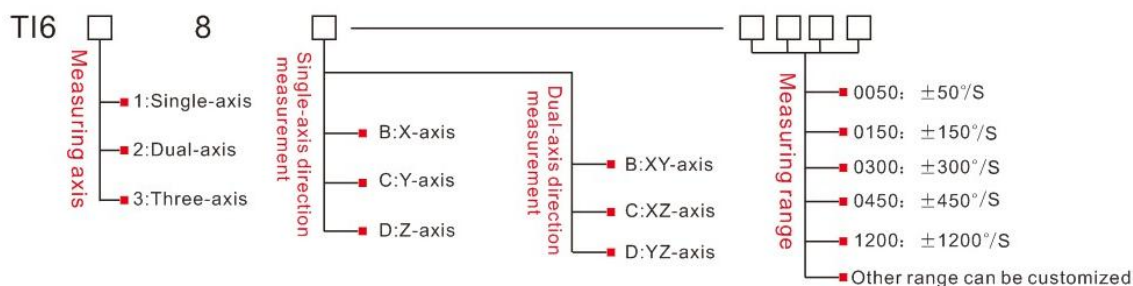
- | | | |
|---|--|------------------------------|
| ★ Navigation | ★ Car navigation | ★ 3D virtual reality |
| ★ Platform stability | ★ Auto safety system | ★ Remote control helicopters |
| ★ Turck-mounted satellite antenna equipment | | ★ Industrial control |
| ★ Equipments | ★ GPS combination | ★ Camera stability |
| ★ Robot | ★ Ships electronic needle error compensation on inclined(angle rate) induction equipment | |



► TECHNICAL DATA

TL618D	PARAMETERS		
Measurie range	±50°/s	±150°/s	±300°/s
Measure axis	X、Y、Z (optional)	X、Y、Z (optional)	X、Y、Z (optional)
Bandwidth	>2000Hz	>2000Hz	>2000Hz
Resolution	0.1°/s	0.1°/s	0.1°/s
Nonlinear	0.1% of FS	0.1% of FS	0.1% of FS
Temperature drift	< ±0.1°/sec,/°C	< ±0.1°/sec,/°C	< ±0.1°/sec,/°C
Start time	5ms	5ms	5ms
Input voltage	+9~36V	+9~36V	+9~36V
Output current	4-20mA	4-20mA	4-20mA
Current	6mA	6mA	6mA
Working temperature	-40℃ ~+85℃	-40℃ ~+85℃	-40℃ ~+85℃
Store temperature	-40℃ ~+85℃	-40℃ ~+85℃	-40℃ ~+85℃
Capacitive load	1000Pf	1000Pf	1000Pf
Shock	5g~10g	5g~10g	5g~10g
Impact	200g pk, 2ms, ½sine		
Time Drift	20°/h		
Working life	11 years		
Electromagnetic compatibility	According to EN61000 and GBT17626		
MTBF	≥50000hours/times		
Insulation resistance	≥100M		
Shockproof	100g@11ms、3 Axial Direction (Half Sinusoid)		
Anti-vibration	10grms、10~1000Hz		
Protection class	IP67		
Connector	5 pins air-plug, matched with 1M cable		
Weight	110g(Without cable)		

► ORDERING INFORMATION



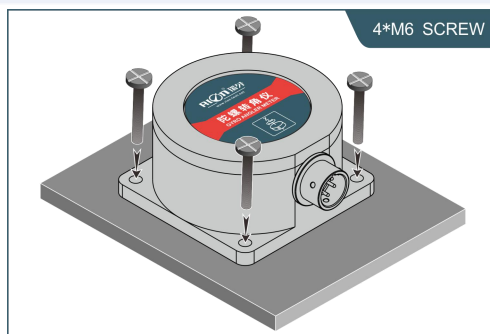
E.g: TL618D-0050: Single-axis、Z axis direction measurement、±50°/s Selection

TL628B-0050: Dual-axis、XY Axis direction measurement、±50°/s Selection

TL638B-0050: Three-axis、XYZ Axis direction measurement、±50°/s Selection

► MECHANICAL PARAMETERS

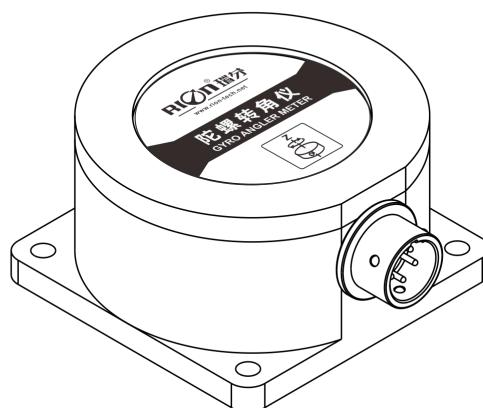
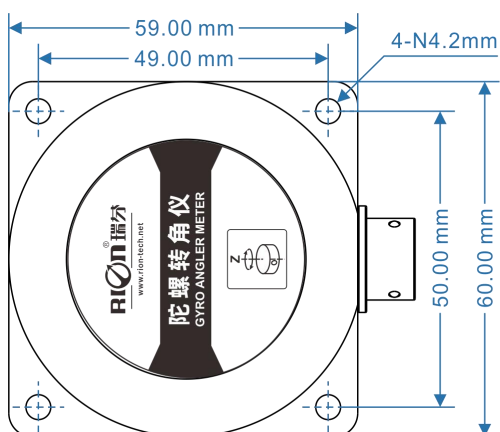
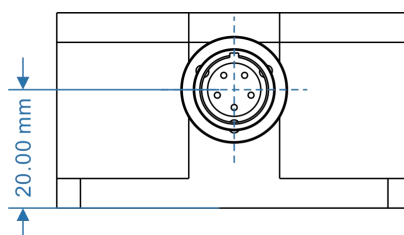
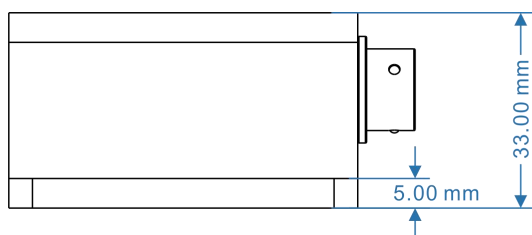
- ★ Connector: Waterproof air-plug
- ★ Protection class: IP67
- ★ Enclosure material: Aluminum Ox
- ★ Installation: 4 M4 screws



► ELECTRICAL CONNECTION

3cables socket pin	5cables socket pin	Cable color	Single-axis Gyro	Dual-axis Gyro	Three-axis Gyro
1	1	Red	Power positive	Power positive	Power positive
2	2	White	X Axis current signal	X Axis current signal	X Axis current signal
\		Yellow	NC	NC	
\	3	Green	NC	Y Axis current signal	Y Axis current signal
3	4	Black	Power GND	Power GND	Power GND
\	5	Blue	NC	NC	Z Axis current signal

► SIZE

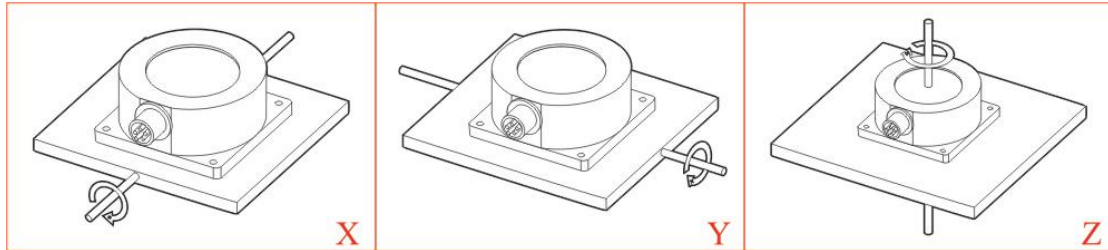


Shell size: L60×W659×H33mm

Installation size: L50*W49*H5mm

ounting screws: 4 M4 screws

► PRODUCTS MEASURING DIRECTIONS



► TYPICAL PERFORMANCE CHART

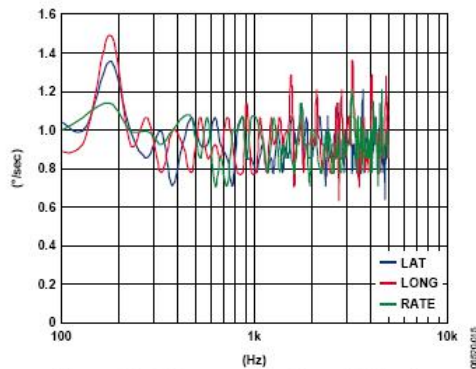


Figure 16. Typical Response to 10 g Sinusoidal Vibration (Sensor Bandwidth = 2 kHz)

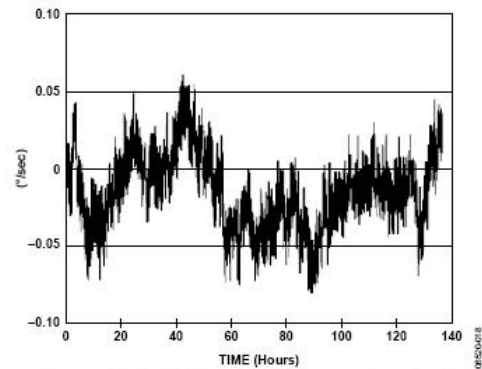


Figure 19. Typical Shift in 90 sec Null Averages Accumulated over 140 Hours

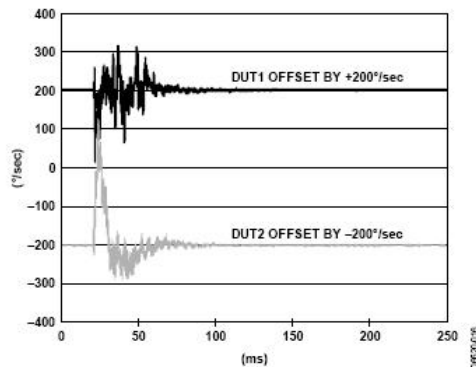


Figure 17. Typical High g (2500 g) Shock Response (Sensor Bandwidth = 40 Hz)

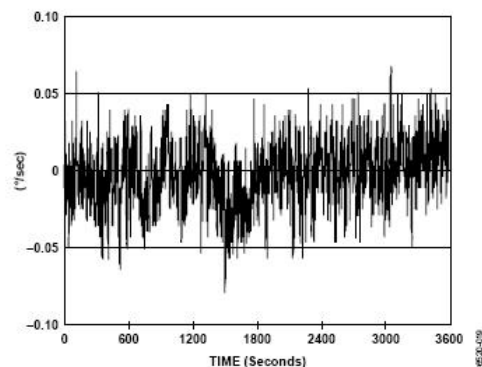


Figure 20. Typical Shift in Short Term Null (Bandwidth = 1 Hz)

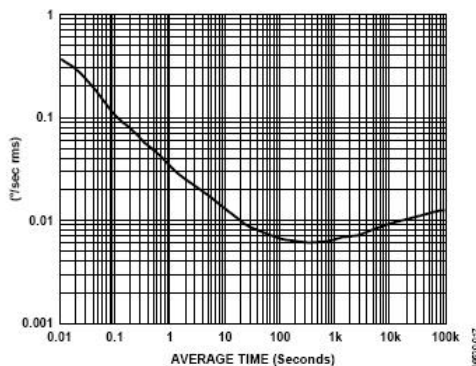


Figure 18. Typical Root Allan Deviation at 25°C vs. Averaging Time

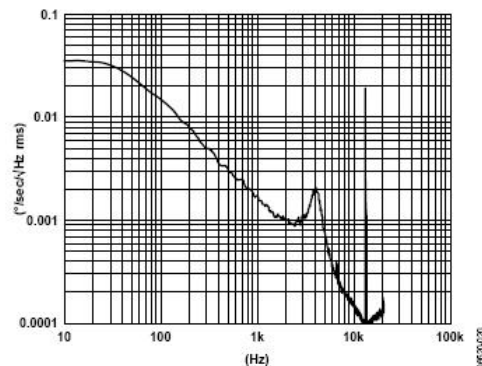


Figure 21. Typical Noise Spectral Density (Bandwidth = 40 Hz)