

HT-MG-3

High-precision MEMS gyroscope (single, double, and three-axis optional), the bias stability : $0.02^{\circ} / h - 0.5^{\circ} / h$ (Allan variance).

Product characteristics

1. High precision, small volume, long-term stability.
2. Full temperature compensation.
3. Nonlinear correction and cross coupling correction
4. Users can re-set gyro zeros that exclude earth rotation by serial instructions.
5. Has strong ability to withstand shock vibration.
6. single, double, three axis optional.



Product description

HT-MG-3 is a small-volume, high-precision three-axis high-precision MEMS gyroscope. The full temperature compensation is carried out before the product is out of the factory to ensure its stable performance in complex temperature environment. It is widely used in antenna stability system, platform control system, intelligent handling robot (AGV), autonomous underwater vehicle (AUV), industrial equipment, measurement / map, stable platform, transportation, unmanned aerial vehicle (UAV), unmanned ground vehicle (UGV), etc.

Main technical

No	Parameter	HT-MG-3 -100	HT-MG-3 -400	HT-MG-3 -500	HT-MG-3 -2000	HT-MG-3 -4000	HT-MG-3 -8000	Unit
1	Range	100	400	500	2000	4000	8000	deg/s
2	Bias Instability	<0.02	<0.3	<0.3	<1	<2	<5	deg/hr
3	Bias Repeatability (1 σ)	<0.1	<1	<1	<3	<5	<5	deg/hr
4	AngularRandom Walk	<0.005	<0.125	<0.15	<0.3	<0.5	<0.8	°/√h
5	ScaleFactor Repeatability (1 σ)	<50	<100	<50	<10	<10	<10	ppm
6	Bandwidth (-3dB)	100	300	250	200	200	200	Hz

Interface characteristics	
Data update rate	600Hz、1200Hz、2000Hz
Start-up time	<300ms
Data interface	RS422
Baud rate	921.6Kbps

Physical characteristics	
Working temperature	-40°C-+80°C
Storage temperature	-50°C-+85°C
Size	38.6*44.8*21.5mm
Weight	65g

Output data format

RS422 Protocol: Baud=921.6K, no parity, data=8 bits, stop=1;			
Byte offset	Name	description	Size[bit]
0	header	0xC0C0	16
2	Angle rate	float (deg/s)	32
6	Angle rate	float (deg/s)	32
10	Angle rate	float (deg/s)	32
14	0x00000000		32
18	0x00000000		32
22	0x00000000		32
26	Temperature / BIT	Integer LSB 0.01	16
28	Packet counter	uint8	8
29	BIT_Status	uint8	8
30	CRC16	CRC-CCITT: Bytes 2-29	16

Definition of wiring

No.	Name	I/O	Description
1	TX-	O	Line Tx- RS422 Level
2	RX-	I	Line Rx- RS422 Level
9	Tx+	O	Line Tx- RS422 Level
10	Rx+	I	Line Rx+ RS422 Level
8	VSUP	I	Power supply
15	GND		Power ground
3,4,5,6			Factory use. No access to any level
7,11,12, 13,14			NC