

MEMS Inertial Sensors

- ◇ Based on MEMS Process
- ◇ Internal vibration isolation mechanism, consistent performance
- ◇ Fully Calibrated for the parameters of each axis of sensors
- ◇ 500 Hz with synchronous sampling rate at 128kSPS of each sensor
- ◇ Output Data rate up to 250Hz, RS232 digital interface
- ◇ Low power , typical 0.25A (12V)



MNS 620
Inertial Measurement Unit

	Terms	Values	Remark
Heading	Range	±180°	
	Accuracy	< 1°	With compass or GNSS aiding
	Resolution	0.01°	
Attitude	Range: Roll,Pitch	±180°, ±90°	
	Accuracy	<0.3°	
	Resolution	0.01°	
Angular Rate	Range:Roll,Pitch,Yaw	±100, ±300°/sec	Standard configuration
		±500°/sec	High range configuration
	Bias absolute error	< 0.1°/sec	Over working temperature, without Kalman filter
		<0.01°/sec	Kalman filter stable
	Zero instability	1°/hr	Typical Allan Variance
	Resolution	0.005°/sec	
Acceleration	ARW	<0.15°/√hr	
	Range:X,Y,Z	±15g	
	Bias Stability in run	≤1mg	Over working temperature
Bandwidth	Resolution	0.1(mg)	
	Sensor Bandwidth	80Hz	With internal filtering
Environments	Shock survival in run	2000g@1ms	
	Shock survival power off	10000g@0.1ms	
	Vibration Operational	6g rms	20Hz~20kHz, random
	Operating Temperature	-40°C ~85°C	-55°C ~ 125°C
	Ingress Protection	IP66	
Power Consumption	Input Voltage	11-13DC V	Surge clamping above >15.0 V
	Size	70mm×54mm×39mm	
	Weight	230g	
	Interface Connector	Micro-DB15	

All values are typical at +25°C, +12Vdc excitation unless otherwise statement.

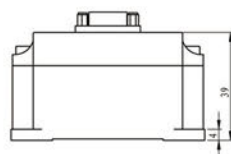
◇ Applications

Unmanned helicopters and light helicopters, UAV and AGV, Platform stabilization, Vessel applications, Inertial navigation systems, Satcom on the move, Robotic control and machine state monitoring.

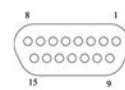
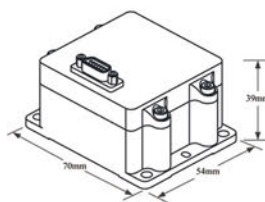
◇ Structure (unit:mm)



Side view



Top view



Electrical connections

Pin Number	Function
1	RS422,T+
2	RS422,T-
3	RS422,R-
4	RS422,R+
5	Ground power supply
6	Positive power supply
7-14	None
15	Mechanical ground