

A500: DIGITAL OUTPUT HIGH PERFORMANCE MEMS AHRS ATTITUDE SENSOR

■ PRODUCT DESCRIPTION

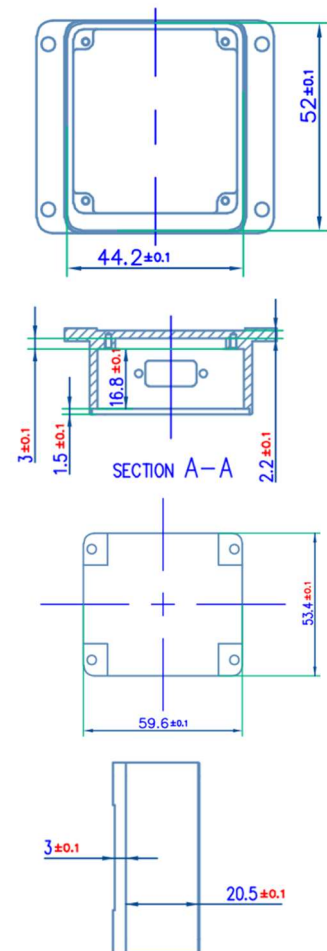


The A500 sensor, launched by MXMW HIGH-TECH Company, is a high-precision strapdown Attitude Heading Reference System (AHRS), with built-in high-precision accelerometers, gyroscopes, and magnetometers. Through multi-sensor fusion algorithms, it provides reliable heading angle, roll angle, pitch angle, angular velocity, acceleration, and other information for the motion carrier. The attitude data deviation is estimated through a 6-state Kalman filter with appropriate gain, which is suitable for navigation, positioning, and dynamic attitude measurement of unmanned vehicles.

■ PRODUCT MAIN SPECIFICATION

Main parameter	Indication	Unit
Attitude angles		
Heading angle	0.3	° RMS
Pitch/Roll angle	0,3	° RMS
Attitude ranges		
Pitch	±180	° RMS
Roll	±90	° RMS
Gyroscope		
Measurement range (can be customized)	±100	°/s
Angle random walk	0.12	°/√h
Linear scale factor	0.10	%FS
Zero bias stability (In-Run)	5	°/h (Allan)
Zero bias repeatability (In-Run)	5	°/h(Allan)
Accelerometer		
Measurement range (can be customized)	±10/±20/±40	g
Angle random walk	0.10	(m/s)/√h
Linear scale factor	0.15	%FS
Zero bias stability (In-Run)	0.08	mg
Zero bias repeatability (In-Run)	0.12	mg
Magnetometer		
Measurement range (can be customized)	±8	Gauss
Electrical indicators		
Data output interface	RS422	
Data update frequency	100	Hz
Voltage	DC 5±0.3	V
Power consumption	<0.6	W
Environment		
Operating temperature	-20~+85	°C
Storage temperature	-40~+85	°C
Anti-vibration	10	g
Impact resistance	150	g@15ms
Mechanical properties		
Waterproof level	IP67	
Dimension	59.6*59*23.5mm	
Weight	120g (excluding packaging box)	

■ PRODUCT DIMENSION



SIZE: L59.6*W59*H23.5MM

■ PRODUCT APPLICATION

- Autonomous mining or coal vehicles or machines
- Industry automation
- Robotics
- Autonomous agriculture vehicle or machines
- Communication in moving system
- Automated guided vehicle (AGV)
- Unmanned aerial vehicles (UAV)
- Unmanned surface vehicle (USV)
- Engineering dump trucks