



XHPA

“Miniature AHRS with integrated GPS,,

The XHPA is an advanced low-cost MEMS-based AHRS and GPS/INS designed for a wide range of small size affordable navigation systems. The XHPA contains 9 DOF sensor block (3D Accelerometers, 3D Gyros, 3D Magnetometer) combined with miniature GPS sensor to provide body angles (AHRS mode) and compensated high rate position coordinates (GPS/INS mode). The sensor combination is realized by an Extended Kalman Filter algorithm that fuses all sensor data to bring compensated attitude, heading data and position.



FEATURES

- Miniature size
- Lightweight
- Low-cost
- AHRS mode
- GPS/INS mode
- Update rate up to 200 Hz
- GPS update rate 10 Hz
- Ultra low power < 500 mW

APPLICATIONS

- UAV and UGV
- Gimbaled Cameras
- Flight Management Systems
- Smart Ammunitions
- Antenna Tracking Systems
- Armored Vehicle Control

Specifications

	Accelerometer	Gyroscope
Full Scale Range	± 2g	± 300 deg/s
Bandwidth	from 0Hz to 40Hz	
Non Linearity	± 2%	± 1%
Resolution	< 1 mg	< 0.05 deg/s
Noise*	< 1000 µg RMS	<0.5 deg/s
G-Sensitivity	1 deg/s/g	
Misalignment	<10 mrad	
GPS		
Type	L1, C/A, 16-channels, WAAS/EGNOS	
Accuracy	< 2.5 m CEP autonomous, < 1m SBAS	
Raw Data Rate	from 1 to 10 Hz	
Sensitivity	160 dBm tracking	
Magnetometer		
Range	± 4 Gauss	
Resolution	< 7 mGauss	
Linearity	0.1% FS	
Calibration	Automatic Hard Iron	
AHRS Performance		
Heading Range	± 180 deg	
Attitude Range	Roll ±180 deg, Pitch ±90 deg	
Heading Accuracy Low dynamics	Yaw < 1.0 deg, Roll/Pitch < 0.5 deg	
Heading Accuracy High dynamics	Yaw < 2.0 deg, Roll/Pitch < 1.0 deg	

* Noise is calculated from 0Hz to 50Hz

Ordering Information

For orders, questions, specific requirements, or to learn more about HSF Aerospace products, contact us at info@hsfsolutions.com.



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