

Attitude and Heading Reference System

**The WAHRS-03
Attitude and Heading Reference
&
The HMR2300
Digital Magnetometer**

WHIRLYBIRD AHRS : WAHRS-03

Precision and reliability you can rely on; Lower life cycle costs than conventional systems.

WAHRS-03 Attitude and Heading Reference System features MEMS gyros and accelerometers, that provides heading and attitude information to the flight deck and other on-board systems.

It is compatible with Honeywell's HMR2300 digital magnetometer.

SYSTEM PERFORMANCE

Attitude

Range: Pitch	±90°
Range: Roll	±180°
Accuracy: Static	0.1°(1σ)
Accuracy: Dynamic [#]	2°(1σ)
Range: Heading	0-360°
Accuracy: Static	0.5°(1σ)
Accuracy: Dynamic	2°(1σ)

Angular Rates

Body Rates	±300 °/s
Bias ^{\$}	100°/hr
Accuracy: Static	0.1°/s(1σ)
Accuracy: Dynamic	0.5°/s(1σ)

Acceleration

Range: Accelerations	±6g
Accuracy	4mg(1σ)

Position and velocity

Receiver type	50 ch u-blox 6
Position	2.5 m CEP
With SBAS	2.0 m CEP
Cold start	26 sec

Alignments

Body frame to sensors	0.01°
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Temperature range

Sensors are calibrated for -40°C to +85°C

The system is designed as an ideal replacement for existing mechanical equipment. Its fully strap-down construction includes no moving parts and provides up to 5,000-hour mean time before failure (MTBF) rating, helping to ensure reliability and lower cost of ownership compared with conventional mechanical attitude and heading reference systems.

For detailed datasheet and communication protocol contact our technical team.

SPECIFICATIONS

Physical characteristics

Weight	0.2 Kg
Height	35 mm
Width	70 mm
Length	70 mm

Environmental

Temperature	-40°C to +85 °C
Altitude	16,000 m

Power requirement

12-36 VDC, 3W nominal

Interface

UART (RS232 or TTL)
USB (optional)

Update rate

GPS position	2 Hz
Attitude, Angular rates and acceleration	50 Hz

Data Format

Roll, Pitch, heading, Angular rates
DCM and Quaternions

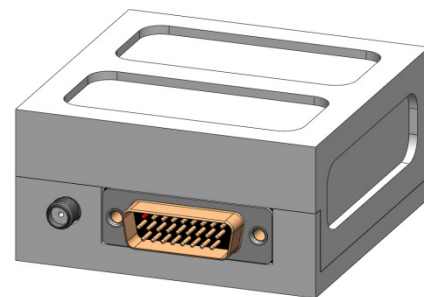
[#]Dynamic performances refer for sharp maneuvers or coordinated turns lasting over 30 sec.

^{\$} after 3 minutes of preheat

KEY FEATURES

- Solid-state sensor technology for high reliability
- Available with or without mounting flange
- Reduced weight, size and power requirements
- Automated mount leveling
- Configurable output for interface flexibility

Whirlybird delivers smart inertial navigation, controls & system integration solutions to armed forces, research and academic institutes. We stand committed to putting technology and practical innovation to work for you whenever and wherever you need us.



WAHRS-03



GPS Antenna



HMR23



Whirlybird Electronics Pvt. Ltd.
RH-5, Avon Plaza Thakur Complex
Kandivali-E, Mumbai 400101 INDIA
www.whirlybird.in, info@wbe.in