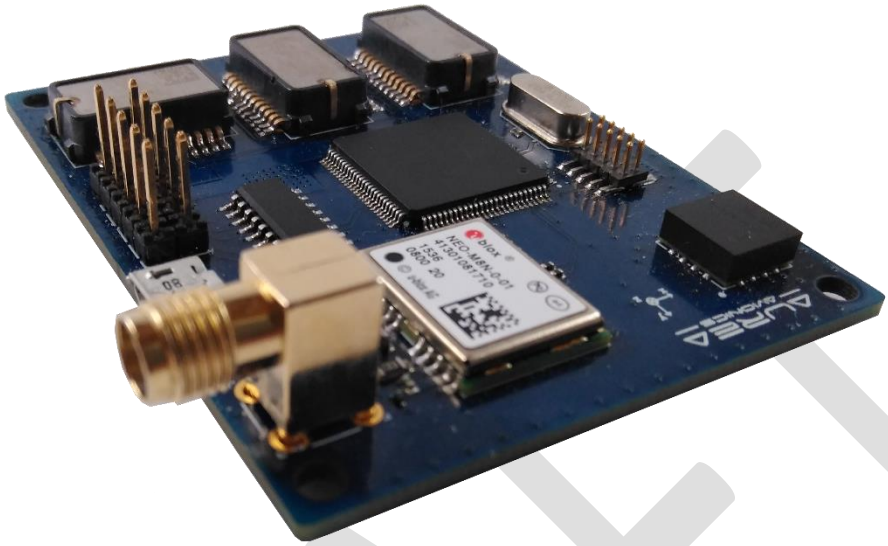
COBALT AHRS

DIIGITAL ATTITUDE INDICATOR + GNSS RECEIVER



HIGHLIGHTS

- Cost-effective alternative to INS
- Near tactical-grade MEMS sensors with outstanding performance
- Small footprint and low power consumption
- Designed and manufactured in the EU

APPLICATIONS

- Autonomous Vehicle Navigation
- Aerial, Marine and Ground Navigation
- Autopilots/UAVs
- Robotics
- Movement Capture & Monitoring
- Camera/platform/payload stabilization & pointing

Cobalt AHRS is a MEMS-based hybrid **Attitude and Heading Reference System** that works as a Digital Attitude Indicator, providing accurate orientation estimates. It features a high-performance magneto-resistive sensor and near-tactical grade MEMS with outstanding vibration rejecting characteristics.

Proprietary fusion and navigation algorithms ensure smooth and robust performance with a full angle range – 360º – output. It makes Cobalt the ideal choice for **SWaP-C applications** in which operational safety is unavoidable.

Cobalt AHRS also integrates a **GNSS receiver** that delivers position and velocity measurements, being a cost-effective alternative to classic INS devices. Especially suited for Drones and Robots navigation, it has been designed and tested to fit autonomous vehicles constraining requirements.

SPECIFICATIONS

SENSORS	Gyroscopes XY	Gyroscope Z	Accelerometers	Magnetometers
Range	±125 º/s	±125 º/s	±6 g	±6 G
Resolution	0.02 º/s	0.02 º/s	0.5 mg	1 mG
Bias Stability	1 º/h	2 º/h	-	-
Noise Density	0.005 º/s/√Hz	0.008 º/s/√Hz	0.27 mg/√Hz	0.27 mG/√Hz
Sampling Rate	1250 Hz	1250 Hz	1250 Hz	7000 Hz
Bandwidth -3dB (selectable)	10-60 Hz	10-60 Hz	10-60 Hz	1000 Hz

ORIENTATION	Cobalt AHRS
Static Roll/Pitch Accuracy	TBD
Static Yaw Accuracy	TBD
Dynamic Roll/Pitch Accuracy	TBD
Dynamic Yaw Accuracy	TBD
Latency	TBD

INTERFACE	OEM	Enclosed
Input Voltage	4.0 V to 5.5 V	4.0 V to 5.5 V
Current Draw	Typ. 180mA @ 5.0V	Typ. 180mA @ 5.0V
Power Consumption	900 mW	900 mW
Weight	25 gr	70 gr
Size	62x56x15 mm	83x59x28 mm
Enclosure	-	Polyamide and aluminium

POSITION & VELOCITY	
Receiver	72-Channel GPS/QZSS L1 C/A + GLONASS L1OF + BeiDou B1 + Galileo E1B/C + SBAS L1 C/A
Antenna	Active 3.3V Antenna, 15 to 30 dB
Position Accuracy	2.0m CEP
Velocity Accuracy	0.05 m/s
Update Rate	5 Hz
Time-To-First-Fix	< 30s
Limits	4 g (acceleration) 50,000 m (altitude) 500 m/s (speed)

COMMUNICATION	
Interface	RS232
Baud rate	115200 bps
Protocol	APP* binary
Output Data Rate	100 Hz
Data	Euler Angles (ZYX) Quaternion (Body to NED) DCM (Body to NED) Raw & Calibrated Sensor Measurements Position WGS84 (Latitude & Longitude) Height (WGS84 & above MSL) Velocity (NED, respect to Earth surface)

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