ALERT GEOMATICS

A division of Xeos Technologies Inc.

Resolute

All-in-one GNSS monitoring receiver.

The Resolute GNSS Receiver is designed to meet the telemetry, power and data logging needs of everyday and far away field deployments. With the additional ability to log external sensors & automatically push the data for server retrieval, the Resolute simplifies the equipment needed.

STATE OF THE ART GNSS

Partnering with Septentrio, we designed the Resolute with a highly accurate, low power, feature-rich GNSS receiver with 448 channels, availability of all GNSS signals, and up to 100 Hz sample rate. The Resolute can produce the data for your monitoring needs.

EMBEDDED COMPUTING

Leveraging an on board ARM processor, the Resolute can run embedded algorithms to process your data, so only the most critical data is transmitted, reducing equipment and data costs.

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TECHNICAL SPECIFICATIONS

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Resolute
GNSS Receiver

GNSS Technology

GNSS Signals	GPS: L1C, L1P(Y), L2C, L2P(Y) L5 • GLONASS: L1, L2, L3 • Galileo: E1, E5a, E5b, AltBoc • BeiDou: B1, B2 1 • SBAS: EGNOS, WAAS, GAGAN, MSAS, SDCM (L1, L5) • IRNSS: L51 • QZSS: L1, L2, L5 (Some signals optional)
Number of Channels	448 hardware channels
Sample Rate	Up to 20 Hz (100Hz Option)
Time to first fix	< 20 s warm; < 45 s cold; <1 s Re-acquisition
C/No Threshold	Tracking: 20 dB-Hz ; Acquisition: 33 db-Hz
RTK accuracy	Horizontal: 0.6cm + 0.5 ppm ; Vertical:1 cm + 1 ppm (optional)
Smoothed & Filtered Positions	Horizontal: < 1mm, Vertical: 1 mm
Velocity accuracy	3 cm/s
Latency	<10ms
Feature Rich GNSS	Lock + for robust tracking during high vibrations, APME+ multipath mitigation, Iono+ advanced ionospheric disturbance protection

Electrical and Mechanical

Power Supply	11-28V DC
Power Consumption	1.2 W Typical (12V)
Operating Temperature	-40 °C to +60 °C (-55°C optional)
Dimensions and Weight	6"x6"x3", 2.8lbs
Drop	1 m onto a hard surface
Ingress Protection	IP67 (optional)

Connectors

Power, Ethernet	Souriau Circular MIL Spec 12E 10P Female
GNSS Antenna	Type N female
Serial 232, 485, SDI 12	Souriau Circular MIL Spec 12E 14P Female
USB	USB Mini B
900 MHz Radio	TNC female (optional)
Iridium	TNC female (optional)
Cellular	TNC female (optional)
Grounding	Grounding Stud (2 BA Thread)

General

Interface	Button, Status LEDs, Programmatic Commands, Web Interface, XeosOnline™
Data Logging	Dual 4 GB Removable SD Card. 4 Parallel Logging Sessions (GNSS) SBF (Convertible to NMEA 0183, v2.3, v3.01, v4.0; RINEX v2.x, 3.x), External Digital Sensors (independent sessions)
Data Streaming	RS 232, 485, 900Mhz Radio, Iridium RUDICS, Iridium SBD, Cellular LTE, Cellular SMS (some optional)

Feature	Resolute (Basic)	Resolute-Pin	Resolute-Polar
Standard Update Rate	Up to 20Hz	Up to 20Hz	Up to 20Hz
On-Board Storage	2x 4 GB Micro SD	2x 4 GB Micro SD	2x 4 GB Micro SD
Operating Temperature	-40 °C to +60 °C	-40 °C to +60 °C	-55 °C to +60 °C
GPS L1, L2; Glonass L1, L2	✔	✔	✔
All Signals	O	O	O
NMEA 0183, v2.3,v3.01, v4.0	✔	✔	✔
RINEX v2.x, 3.x	✔	✔	✔
SBF	✔	✔	✔
RTK (RTCM v2.x, 3.x CMRv2.0 and CMR +)	O	✔	O
Position Monitoring	✔	✔	✔
900 MHz Radio	O	✔	✖
Cellular LTE Modem	O	O	✖
Iridium SBD (9523)	O	O	✔
Iridium RUDICS (9523)	O	O	✔
External Sensor Logging	O	O	O
192 KB RAM	✔	✔	✔
2 MB External RAM	O	O	O
2MB Flash Memory	O	O	✔
IP67	O	O	✔

✔ = Included O = Optional ✖ = Not Included