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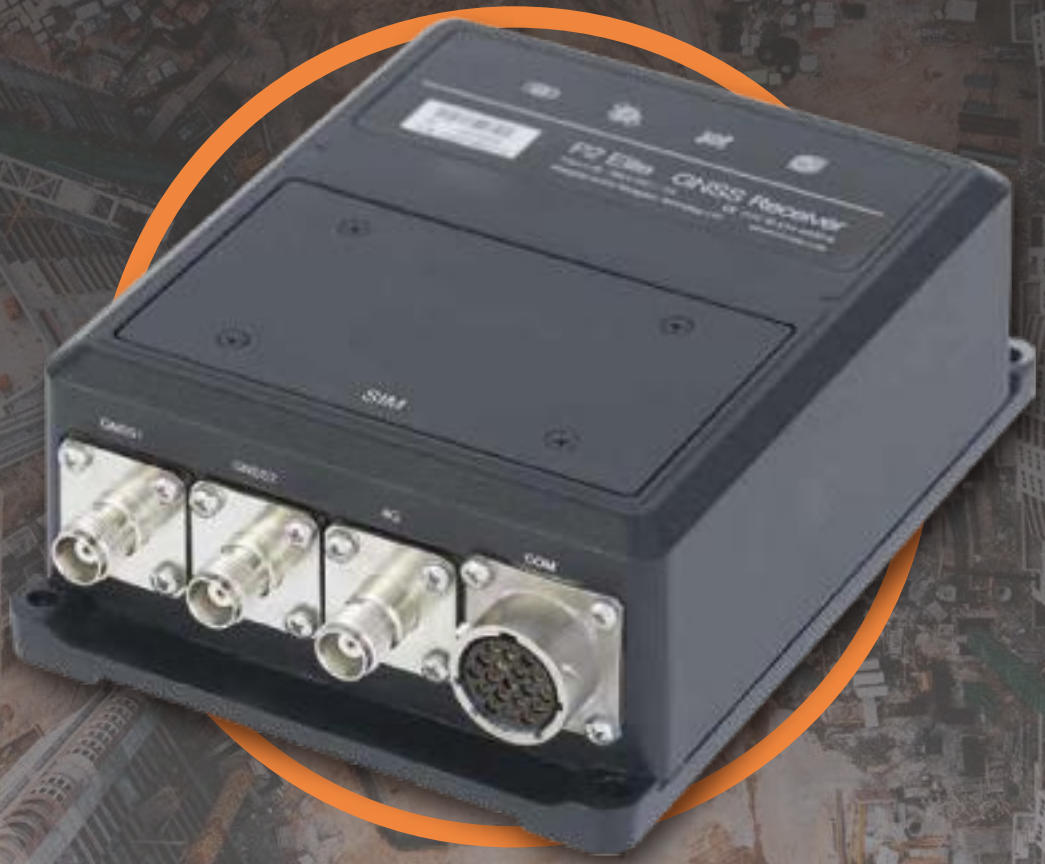
P2 ELITE

GNSS POSITIONING AND HEADING



SURVEYING & ENGINEERING

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HIGH-PERFORMANCE GNSS POSITIONING AND HEADING SENSOR

The P2Elite GNSS sensor is a dual-antenna high-precision receiver designed to provide reliable and precise heading and positioning solutions to demanding applications.

Integrating the latest GNSS technology in an extremely rugged IP67 and lightweight enclosure, the P2 Elite GNSS sensor is built to match the toughest protection standards and ensure uninterrupted performances. It outputs up to 50 Hz precise positioning and heading data (0.15° accuracy with 1 m antenna baseline).

The P2Elite is a highly integrated, all-in-one GNSS sensor for demanding positioning and navigation applications such as marine, industrial automation, robotics, machine control, harbor automation…

HIGH PERFORMANCE POSITIONING AND HEADING

336-channel GPS, GLONASS, Galileo and BeiDou GNSS engine.
Advanced and field-proven dual antenna positioning and heading technology supports all current and upcoming GNSS signals. The P2Elite GNSS sensor also supports Trimble RTX and OmniSTAR corrections services.

EXTENDED AND RUGGED CONNECTIVITY

Rich hardware interfaces make the integration seamless in all applications.
With serial ports, optional CAN Bus protocol, RJ45 ethernet connectivity and low latency PPS output, the P2Elite GNSS Sensor offers unmatched compatibility with industrial and machine applications.

HIGHLY INTEGRATED COMMUNICATION DESIGN

Embedded 4G NTRIP/TCP and UHF modems.
The P2Elite GNSS sensor provides high connectivity integration to achieve accurate positioning and heading from any RTK corrections sources. Connect to RTK networks NTRIP/TCP corrections via its 4G modem or to UHF GNSS stations corrections available on sites via its internal radio modem.

TRULY MULTI-APPLICATIONS

Marine, industrial automation, robotics, machine control, harbor automation…
The P2 Elite is one of the most powerful and versatile GNSS receiver available to precisely match any application requirements.

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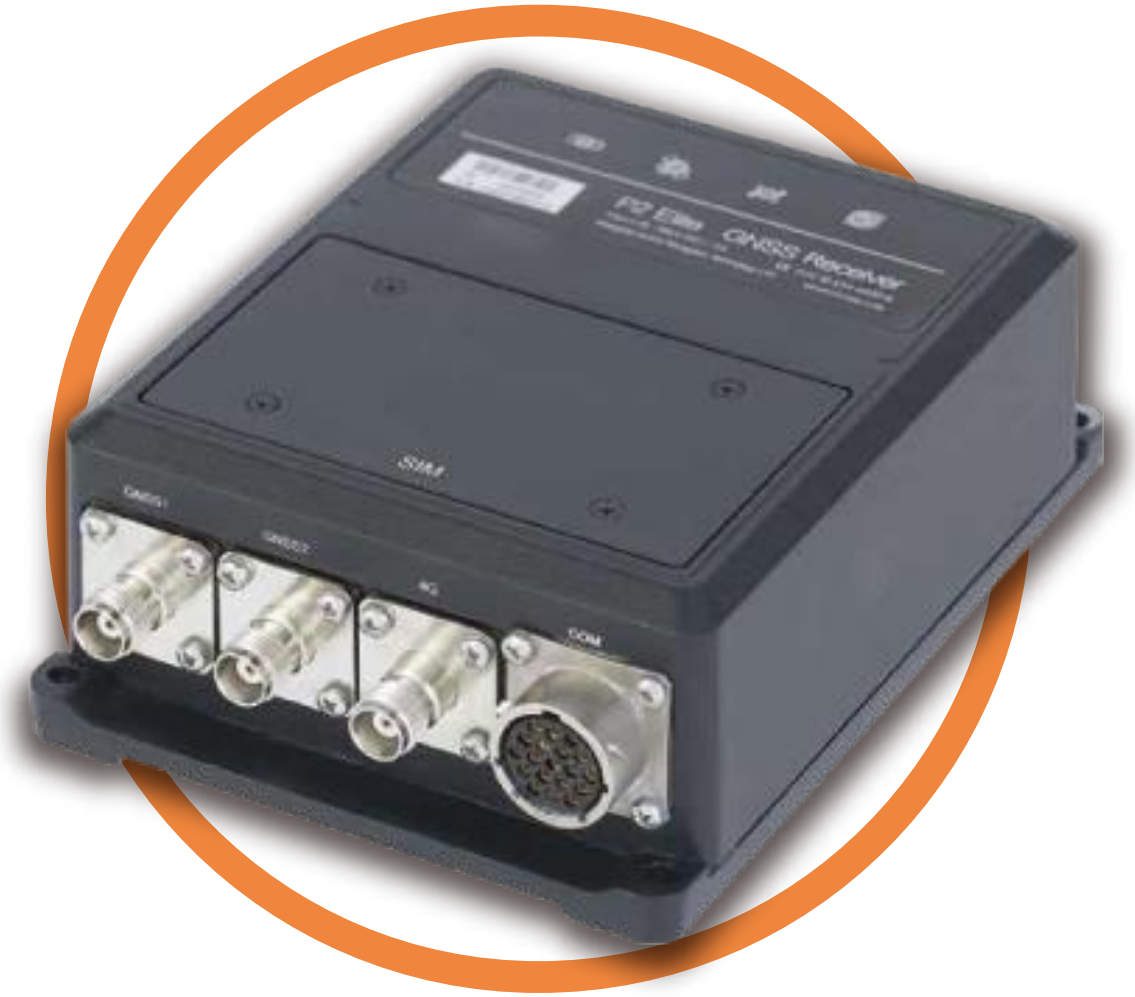
ALL-IN-ONE GNSS SENSOR



RUGGED GNSS WITH INTEGRATED MODEMS

SPECIFICATIONS

GNSS Characteristics (1)

Position Antenna	
Channels	336
GPS	L1 C/A, L2E, L2C, L5
GLONASS	L1 C/A, L2 C/A, L3 CDMA
Galileo	E1, E5A, E5B, E5AltBOC,E6
BeiDou	B1I, B1C, B2I, B2C, B3I
SBAS	L1 C/A, L5
QZSS	L1 C/A, L1 SAIF, L2C, L5, LEX
IRNSS	L5
MSS L-Band	OmniSTAR®, Trimble RTX™
Vector Antenna	
Channels	336
GPS	L1 C/A, L2E, L2C, L5
GLONASS	L1 C/A, L2 C/A, L3 CDMA
Galileo	E1, E5A, E5B, E5AltBOC,E6
BeiDou	B1, B2, B3
L5 IRNSS	L5
QZSS	L1 C/A, L1 SAIF, L2C, L5, LEX
GNSS Accuracies (2)	
Real time kinematic(RTK)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialisation time: typically < 8 s Initialisation reliability: > 99.9%
Autonomous	Horizontal: 1.0 m RMS Vertical: 1.5 m RMS
SBAS	Horizontal: 0.50 m RMS Vertical: 0.85 m RMS
Code differential	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS
Time to first fix (3)	Cold start: < 45 s Warm start: < 30 s Signal re-acquisition: < 2 s
Heading accuracy	0.5 m baseline 0.30°/1.0 m baseline 0.15° 3.0 m baseline 0.05°/>5 m baseline 0.02°
Hardware	
Size (L x W x H)	162 mm x 120 mm x 53 mm (6.4 in x 4.7 in x 2.1 in)
Weight	≤ 1.2 kg (42.3 oz)
Environment	Operating: -40 °C to +75 °C (-40 °F to +167 °F) Storage: -55 °C to +85 °C (-67 °F to +185 °F)
Humidity	100%
Ingress protection	IP67 waterproof and dustproof
Shock	Survive a 1.2m drop in hard ground
External power input	9 V DC to 36 V DC
Power consumption	6.5 W (depending on user settings)

Communications

1 x Ethernet port	Network Protocols supported > HTTP/HTTPs (WebUI) > NTPServer > NMEA,GSOF,CMR,…over TCP/IP or UDP > NTripCaster, NTripServer, NTripClient
2 x RS232 ports	Up to 460,800 bps
1 x 1PPS	3.3V TTL level positive slope pulse 8ms pulse wide and 20ns latency
Control software	HTML web browser, Internet Explorer, Firefox, Safari, Opera, Google Chrome
Web user interface	Allows remote configuration, data retrieval and firmware updates, setup of multiple
Wi-Fi	802.11 b/g/n(HT20), access point mode
Bluetooth®	V4.1
UHF modem	Standard internal Rx/Tx: 403 - 473 MHz Transmit power: 0.01, 0.1, 0.2, 0.5, 1W programmable Protocol: Satel, Trimble, Pacific Crest Range: 5 km optional conditions
Network modem (Internal 4G modem)	4G: E-UTRA FDD LTE Band 1/3/7/8/20 3G: WCDMA900/2100 2G: GPRS900/1800, EGPRS900/1800
Data storage	32 GB high-speed memory
Data Formats	
Reference outputs/inputs	CMR,CMR+,sCMRx, RTCM2.x, RTCM3.x
Navigation outputs	ASCII:NMEA-0183 Binary: Trimble GSOF
Observation output	RT17, RT27
Maximum position/attitude update rate	20 Hz standard (50 Hz optional)
Certifications	
CE;MIL-STD-810G,Method 514.7	

*All specifications are subject to change without notice.
(1) Subject to availability of BDS ICD and Galileo commercial service definition. B1C will be supported by V5.37 or higher firmware and B2A is optional. GLONASS L3 and Galileo E6 will be provided through future firmware upgrade. (2) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices. (3) Typical observed values.