

P3E

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## GNSS Infrastructure

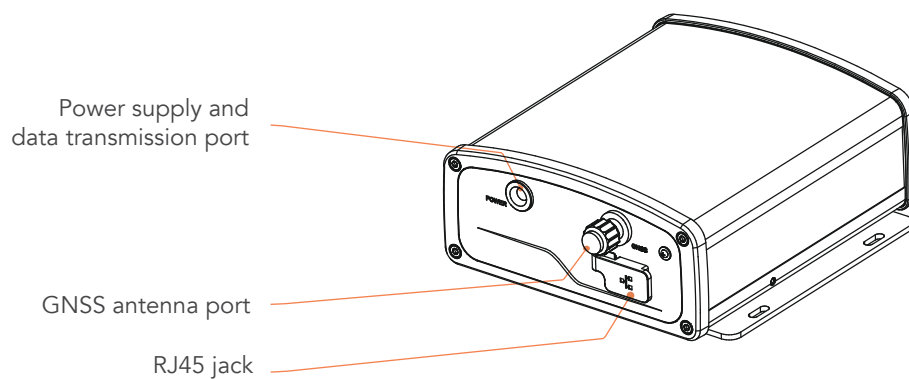
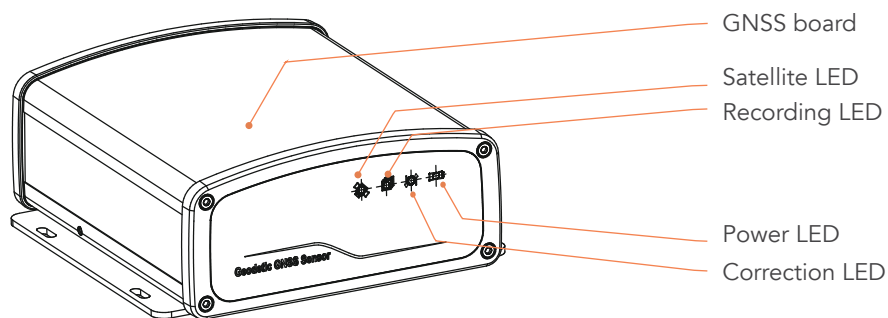


# Hardware Description

## P3E GNSS Reference Receiver

The P3E GNSS sensor provides a cost-effective versatile solution to demanding applications where high performance and reliability are required, such as network RTK reference stations and machine guidance system integration.

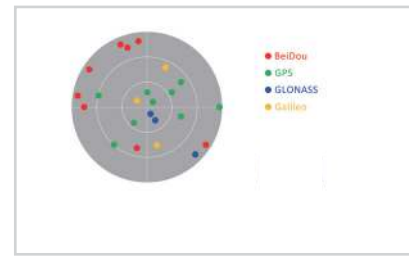
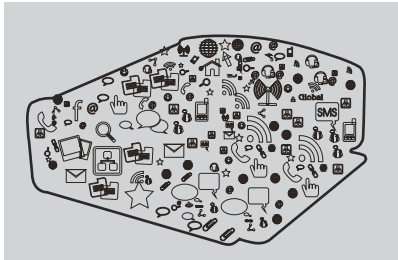
The P3E offers outstanding performances with proven GNSS functionality. It provides extremely robust GNSS tracking for GPS, GLONASS, Galileo and BeiDou, which makes P3E a powerful GNSS sensor for streaming NMEA navigation messages and GNSS raw data.



# Core Technology

## 220 channels Multi-constellation

Fully supports the tracking of GPS, GLONASS, Galileo, BeiDou and SBAS satellite signals.



## Smart and Reliable

Email alarm and automatic reconnection can be activated by self-diagnose and receiver status monitoring. Multiple user rights, web interface restrictions and HTTPs encryption are applied to prevent unauthorized accesses. The integrated firewall, port and MAC filtering provide additional security layers.

## Extensive Connectivity

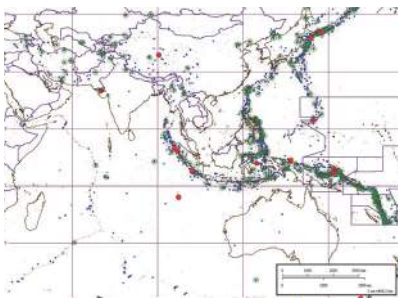
The P3E provides easy-connectivity to 3rd party software and hardware via Ethernet, RS232 serial port and USB to access the internal storage memory.



## Rugged design

The P3E's IP65 rating environmental standard makes the sensor an ideal fit for onboard applications (marine survey, machine control, remote reference stations).

## Applications



# Specifications

## GNSS Characteristics

<b>Channels</b>	220
<b>GPS</b>	L1 C/A, L2E, L2C, L5
<b>GLONASS</b>	L1 C/A, L1 P, L2 C/A, L2 P, L3
<b>Galileo</b>	L1 BOC, E5A, E5B, E5 AltBOC
<b>BeiDou</b>	B1, B2
<b>SBAS</b>	L1 C/A, L5
<b>QZSS</b>	L1 C/A, L1 SAIF, L2C, L5

## GNSS Accuracies<sup>(1)</sup>

<b>Real time kinematic (RTK)</b>	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialisation time: < 10 s Initialisation reliability: > 99.9%
<b>Post-processing Static</b>	Horizontal: 3 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS Baseline length: ≤ 300 km
<b>SBAS</b>	0.5 m RMS
<b>Code differential</b>	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS
<b>Time to first fix<sup>(2)</sup></b>	Cold start: < 45 s Hot start: < 10 s Signal re-acquisition: < 2 s

## Hardware

<b>Size (L x W x H)</b>	176 mm x 156 mm x 64 mm (6.9 in x 6.1 in x 2.5 in)
<b>Weight</b>	≤ 2 kg (70.5 oz)
<b>Environment</b>	Operating: -25 °C to +65 °C (-13 °F to +149 °F) Storage: -40 °C to +80 °C (-40 °F to +176 °F)
<b>Humidity</b>	100%
<b>Ingress protection</b>	IP65 waterproof and dustproof
<b>Shock</b>	Survive a 1-meter pole drop

## Antenna Option

A220GR GNSS Geodetic Antenna

C220GR2 GNSS

## Communications and Data Storage

<b>Ports</b>	1 x 10-pin LEMO port (external power, data download, firmware update, RS-232) 1x LAN port: -1 port with 1 RJ45 connector -HTTP, HTTPS, TCP/IP, UDP, NTRIP Caster, -NTRIP Server, NTRIP Client -Proxy server -Routing table -NTP Server, NTP Client -UPnP and Zeroconf -Email alerts and position monitoring -1 x GNSS antenna port
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<b>Ports</b>	2 x 7-pin LEMO port (external power, data download, firmware update, RS-232) 1 x UHF antenna port (TNC female)
<b>Data formats</b>	RTCM 2.x, RTCM 3.x, CMR, CMR+, SCMRX input and output HCN, HRC, RINEX 2.11, 3.02 RT17, RT27, RTCM 3.x NMEA 0183 v2.30 and v4.0, GSOF output Proxy server Up to 50 Hz output standard

<b>Data storage</b>	4 GB high-speed memory
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## Electrical

<b>Power consumption</b>	4.2 W (depending on user settings)
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<b>External power input</b>	9 V DC to 36 V DC
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<b>Web user interface</b>	Secure Allows remote configuration, data retrieval and firmware updates Setup of multiple streaming/monitoring ports
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\*Specifications are subject to change without notice.

(1) 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.  
(2) Typical observed values.



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