P3E

GNSS Infrastructure

- High performance, low cost receiver
- 220 channels mulit-constellation receiver
- Ethernet, serial and USB support
- Convenient HTTP interface and configuration
- Ultrarugged case with multiple mounting options

P3E GNSS sensor provides a cost-effective answer to demanding applications where high performances and reliability are required, including: geodetic reference stations, academic centimeter accuracy GNSS sensors for marine surveying, dredging, and GPS/GNSS machine guidance.

P3E offers outstanding performances with proven and innovative GNSS functionality. P3E supports tracking GPS/GLONASS/BDS/GALILEO/SBAS. The low noise GNSS carrier phase measurement and low level elevation tracking technology make P3E a powerful reference station solution.

P3E has 220 channels and supports several Internet protocols, such as NTRIP client, NTRIP server and TCP. Support numerous data output in differential formats, like SCMRX, RTCM3.x and so on. Numerous data formats and output messages can be easily configured to fit into existing GNSS equipment pool.

Technical Specifications

GNSS Characteristics

- 220 channels with all in view simultaneously tracked satellite signals
  - GPS: L1 C/A, L2E, L2C, L5
  - GLONASS: L1 C/A, L1 P, L2 C/A, L2 P, L3
  - BDS: B1, B2
  - SBAS: WAAS, EGNOS, MSAS
  - Galileo: L1 BOC, E5A, E5B, E5 AltBOC
  - QZSS: L1 C/A, L1 SAIF, L2C, L5
- Advanced multipath mitigation technology
- Low noise carrier phase measurement with <1 mm precision in a 1 Hz bandwidth

GNSS Accuracies (1)

- Real Time Kinematics (RTK):
  - Horizontal: 8 mm + 1 ppm RMS
  - Vertical: 15 mm + 1 ppm RMS
  - Initialization Time: Typically < 10 s
  - Initialization Reliability: Typically > 99.9%
- Post-processing Static:
  - Horizontal: 3 mm + 0.5 ppm RMS
  - Vertical: 5 mm + 0.5 ppm RMS
  - Baseline Length: ≤ 300 km

Physical

- Size (L x W x H): 175.5 mm x 156 mm x 63.8 mm (6.9 in x 6.1 in x 2.5 in)
- Weight ≤ 2 kg (70.5 oz)
- Environment:
  - Operating: -25°C to +65 °C (-13°F to +149°F)
  - Storage: -40°C to +80°C (-40°F to +176°F)
- Humidity: 100% condensation
- Dust and Water Proof: IP65
- Shock and Vibration: 1 m (3.3 ft) fall onto concrete, IEC68-2-27
- PC control utility via serial

Communications

- Serial: 1 x 10-pin LEMO port (external power, USB data download, USB update, RS-232)
- 1x LAN port:
  - 1 port with 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
- Protocols:
  - Correction Formats; RTCM2.x, RTCM3.x, CMR+, CMR, SCMRX
  - Position/Status I/O: NMEA 0183 v2.30 and v4.0, GSOF
  - Proxy server
  - Observables: RT17, RT27, RTCM 3.x
  - Up to 50 Hz output standard
- Internal Data Logging Storage Capacity: 4 GB

Electrical

- Power Consumption: 4.2 W (depending on user settings)
- External Power: 9 V DC to 36 V DC
- Web User Interface
  - Secure
  - Allows remote configuration, data retrieval and firmware updates
  - Setup of multiple streaming / monitoring ports

Antenna Option

- A220GR GNSS Geodetic Antenna
- C220GR GNSS Choke Ring Antenna

(1) Accuracy and reliability specifications may be affected by multipath, satellite geometry and atmospheric conditions. Performances assume minimum of 5 satellites, follow up of recommended geneal GPS practices.

Specifications are subject to change without notice.

CHC - Shanghai Huace Navigation Technology Ltd.
599 Gaojing Road, Building C
201702, Shanghai, China
Tel : +86 21 542 60 273