

X91+

Survey & Engineering

- 220 channels multi-constellation receiver
- Compact and rugged design for demanding field
- Outstanding RTK initialization and centimeter level position accuracy
- Built-in network and UHF modem
- Optional TRx UHF



X91+ GNSS is a compact GNSS receiver designed for high accuracy and productivity even in harsh environments.

Easy-to-use, efficient and intuitive work flow, designed for advanced network RTK survey, compact and rugged, X91+ is the perfect choice for demanding survey applications.

X91+ is fully integrated by GNSS engine, antenna, Bluetooth communication, UHF and network modem in one single unit makes your daily work simple.

By combining decades of positioning and surveying, X91+ GNSS is one of the most powerful GNSS RTK solutions, with no compromise with quality but at an affordable price for every surveyor.



■ Technical Specifications

GNSS Characteristics

- 220 channels with all in view simultaneously tracked satellite signals
 - GPS: L1C/A, L2C, L2E, L5
 - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
 - SBAS: WAAS, EGNOS, MSAS
 - Galileo: E1, E5A, E5B
 - BDS: B1, B2
- Advanced multipath mitigation technology
- Low noise carrier phase measurement

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 + 0.1 ppm RMS
 - Vertical: 5 mm + 0.4 ppm RMS
 - Baseline Length: ≤ 300 km

Communications

- Serial: 1 x 10-pin LEMO port (external power, USB data download, USB update, RS-232)
- Integrated 3G network modem
- Bluetooth®: V2.0
- CHC UHF Modem Internal Rx: 450 MHz to 470 MHz
- Optional UHF modem⁽²⁾:
 - Internal Rx/Tx: 403 MHz to 473 MHz, up to 1 W
 - Internal Rx/Tx: 865 MHz to 867 MHz, up to 1 W, India license free
 - External Tx DL6: 5 W to 28 W adjustable
- Protocols:
 - RTCM2.x, RTCM3.x, CMR, CMR+, SCMRX input and output
 - NMEA 0183 output
 - HCN outputs for GNSS raw data (convertible to RINEX static format)
- Data Storage:
 - 4 GB internal memory
 - GPS device mounts as a USB external hard drive

Physical

- Size (H x D): 85 mm x 180 mm (3.3 in x 7.1 in)
- Weight: 1.35 kg (47.6 oz) with battery
- Environment:
 - Operating: -40°C to +65°C (-40°F to +149°F)
 - Storage: -40°C to +75°C (-40°F to +167°F)
- Humidity: 100% condensation
- Dust and Water Proof: IP67
- Shock and Vibration: 2 m (6.6 ft) fall onto concrete

Electrical

- Power Consumption: 2.6 W (depending on user settings)
- Li-ion Battery Capacity: 3400 mAh
- Operating Time⁽³⁾: Up to 6 h in RTK mode
- External Power: 9 V DC to 18 V DC

Software (optional)

- CHC LandStar 7 Android field data collection software
- CHC LandStar 6 Windows Mobile field data collection software
- MicroSurvey Field Genius field data collection software
- Carlson SurvCE field data collection software

(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 general GPS practices. (2) UHF type approvals are country specific. (3) Operating time varies based on temperature.

Specifications are subject to change without notice.

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