

i80 GNSS



KEY FEATURES

- *Embedded Linux operating system prepare for multifunctional development in the future*
- *Integrated MEMS based tilt measurement system for automatic tilt compensation*
- *Support receiver settings using smart phone with Wi-Fi communication*
- *Easy configuration through Web page*
- *Flexible upgrade methods by serial port, USB and web page*
- *Dual battery prepare you for whole-day field work*

With all-constellation signal reception, multiple communication options and powerful positioning technology, the CHC i80 GNSS receiver offers high precision and reliability which is the principle CHC upholds, and increases the confidence of surveyors when challenged by demanding environments. Meanwhile, its compact size and sleek ergonomic design enable easily handling and help to lighten working intensity of operators.

Fully Integration

Incorporating a cutting-edge GNSS engine, satellite antenna, internal radio, optional 4G cellular modem, Bluetooth®, Wi-Fi, and dual-battery in a ruggedized and miniature unit, i80 makes your daily work more productive and effective.

Tilt Measurement Technology

When the pole tilts within 30°, the built-in MEMS based tilt measurement system precisely calculates the actual offset according to the heading angle and inclination angle, which not only meets the requirement of high precision measurement, but also relieves the users from continually checking whether the pole is plumb.

Complete Solution with Hardware and Software

LandStar6 is a CHC RTK survey software, which is featured by intuitive user interface, simplified workflow and plentiful functions, and it can be run on various operating systems, such as Android, iOS and Windows Mobile. By combining with LandStar6, i80 provides quicker and easier surveying experience while calling the corresponding surveying mode.

User-friendly LCD Panel Design

i80 features a sunlight-visible, four-row LCD panel that shows basic information of receiver and indicates current operating condition. In addition, users can directly change the working mode and save the trouble of connecting to the controller.

Technical Specifications

GNSS characteristics

- 220 channels with simultaneously tracked satellite signals
 - GPS: L1C/A, L1C, L2C, L2E, L5
 - GLONASS: L1C/A, L1P, L2C/A, L2P, L3
 - SBAS: WAAS, EGNOS, MSAS
 - Galileo: E1, E5A, E5B (test)
 - BeiDou: B1, B2

Performance specifications⁽¹⁾

- Real Time Kinematics (RTK)
 - Horizontal: 8 mm + 1 ppm RMS
 - Vertical: 15 mm + 1 ppm RMS
 - Initialization time: typically < 5 s
 - Initialization reliability: typically > 99.9%
- Network RTK
 - Horizontal: 8 mm + 0.5 ppm RMS
 - Vertical: 15 mm + 0.5 ppm RMS
- Post Processing Static
 - Horizontal: 2.5 mm + 0.5 ppm RMS
 - Vertical: 3.5 mm + 0.5 ppm RMS

Communications

- 1 X UHF antenna port
- 2 X 7-pin Lemo
- Cellular
 - 3.75 G modem (optional 4 G modem)
 - HSPA+ 21 Mbps (download), 5.76 Mbps (upload)
 - WCDMA 850/900/1700/1900/2100
 - EDGE/GPRS/GSM 850/900/1800/1900
- Multimode Bluetooth®: completely compatible with Android, Windows Mobile, IOS and Win7/Win8 operating system
- Wi-Fi: 802.11 b/g/n, access point mode
- CHC radio modem⁽²⁾
 - Internal Rx/Tx: 450 - 470 MHz
 - Transmit power: 0.1 W, 0.5 W, 1 W and 2 W
 - Range: 3 - 5 Km

- Protocols
 - CMR, CMR+, CMRx, RTCM 2.3, RTCM 3.0, RTCM 3.2 input and output
 - NMEA0183 output
 - RINEX and HCN outputs for GNSS raw data
 - NTRIP
- Data Storage
 - 32 G internal memory, up to 64 G expansion
 - GPS device mounts as a USB external hard drive

Physical

- Size (HxD): 135 x 124 mm (5.5 x 4.9 in)
- Weight: 1.02 kg (26 oz)
- Operating temperature: -45 °C to +75 °C (-49°F to 167°F)
- Storage temperature: -55 °C to +85°C (-67°F to 185°F)
- Humidity: 100% condensation
- Waterproof and dust proof: IP67 - protected from temporary immersion to depth of 1 m (3.3 ft), floats
- Shock: survives a 3 m (9.8 ft) drop on to concrete

Electrical

- Power consumption: 3.2 W
- Li-ion battery capacity: 6800 mAh, 7.4 V
- Battery life: typical 12 hours in RTK mode
- External power: 12 to 36 V DC

User Interface

- Front Panel
 - Allows for receiver setup of UHF, GPRS and data logging
- Web User Interface
 - Allows remote configuration and firmware upgrade
 - Setup of multiple data stream

(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. Specifications are subject to change without notice.

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