CHCNAV

i70

Survey & Engineering

Make your work more efficient

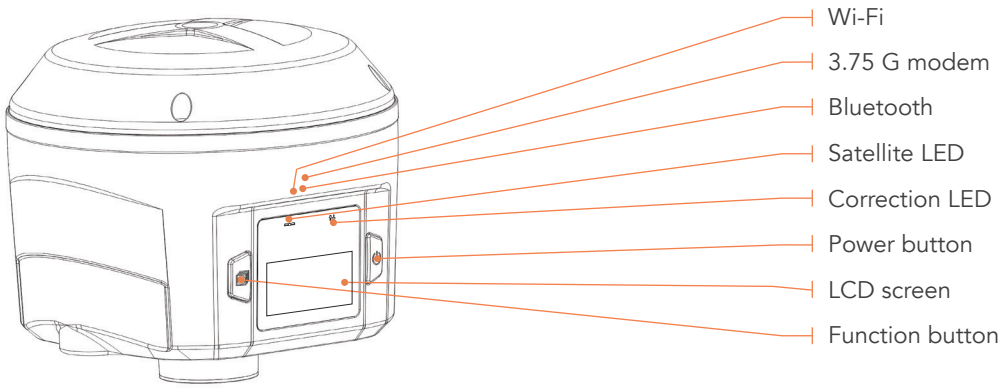
Hardware Description

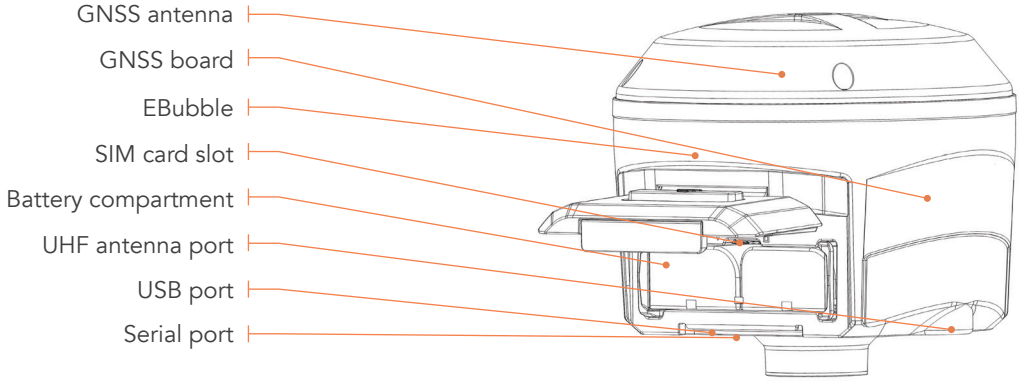
i70
GNSS RTK Receiver

Leveraging the latest GNSS technologies, the i70 is a smart receiver of the next generation. The proven and outstanding performance and reliability make it the preferred choice of surveyors and construction professionals.

The i70 benefits from a compact ergonomic and rugged design with integrated sensors (3.75G network modem, UHF Radio, Wi-Fi, Bluetooth and e-bubble).

Supporting a high-resolution LCD, the operating status of the receiver is available at a glance.

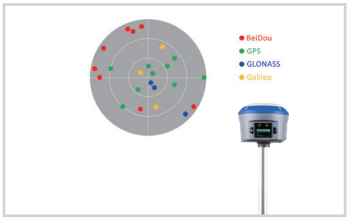




Core Technology

220 channels - Full GNSS

High-precision tracking of GPS, GLONASS, Galileo, BeiDou and SBAS.

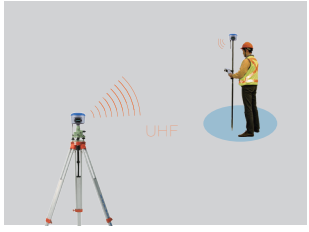


128 × 64 dpi sunlight readable LCD panel

128 x 64 dpi sunlight readable with function/ power buttons.This liquid crystal display enables user to view the basic information and current configuration settings of the receiver.

Internal 3.75G network modem

Embedded 3.75G modem for stable network RTK connections. The i70 can also be set as Wi-Fi hotspot for the controller to access the Internet.



Integrated UHF modem

i70 integrated UHF modem can be set at frequencies between 410 MHz - 470 MHz with up to 5 km working range.

Rugged design

The rugged and durable design meets the IP67 environmental standard for water and dust. The i70 can survive a 2 m drop onto concrete.

Applications

Specifications

GNSS Characteristics	
Channels	220
GPS	L1 C/A, L2C, L2E, L5
GLONASS	L1 C/A, L1P, L2 C/A (GLONASS M Only), L2P
Galileo	L1 BOC, E5A, E5B, E5AltBOC
BeiDou	B1, B2
NavIC(IRNSS)	L1 C/A, L5 (QZSS, WAAS, EGNOS, GAGAN)

GNSS Accuracies[1]	
Real time kinematics (RTK)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS Initialization Time: < 5 s Initialization Reliability: > 99.9%
High-precision Static	Horizontal: 3.0 mm + 0.1 ppm RMS Vertical: 3.0 mm + 0.4 ppm RMS
Code differential	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.5 m + 1 ppm RMS
SBAS	Horizontal: 0.5 m RMS Vertical: 0.85 m RMS

Hardware	
Size (H × W)	135 mm × 116 mm (5.3 in x 4.6 in)
Weight	1.1 kg (2.4 lb)
Environment	Operating: -40°C to +65 °C (-40°F to +149°F) Storage: -40°C to +85°C (-40°F to +185°F)
Humidity	100% condensation
Ingress protection	IP67 waterproof and dustproof, protected from temporary immersion to depth of 1 m
Shock	Survive a 2-meter pole drop
LCD	128 x 64 dpi sunlight readable with function/power buttons
Tilt sensor	EBubble leveling

Certifications and Calibrations
CE Mark; FCC Part 15 (class B Device), FCC Part 22, 24, 90; C-Tick; Bluetooth EPL; IGS & NGS Antenna Calibration; MIL-STD-810G, Method 514.7

Communications and Data Recording	
Network modem	Integrated 3.75G modem HSPA+ 21 Mbps (download), 5.76 Mbps (upload) WCDMA 850/900/1700/1900/2100 EDGE/GPRS/GSM 850/900/1800/1900
Wi-Fi	802.11 b/g/n, access point mode
Bluetooth®	V4.1
Ports	1 x 7-pin LEMO port (external power, RS-232) 1 x USB 2.0 port (data download, firmware update) 1 x UHF antenna port (TNC female)
UHF radio[2]	Standard Internal Rx/Tx: 410 MHz to 470 MHz Transmit Power: 0.5 W to 2 W Protocol: CHC, Transparent, TT450 Range: 5 km optimal conditions FCC Certified Internal Rx/Tx: 403 MHz to 473 MHz Transmit power: 0.1 W to 1 W Protocols Trimble, Satel, Pacific Crest Range: 5 km optimal conditions
Data formats	CMR, CMR+, SCMRX input and output RTCM 2.3, RTCM 3.0, RTCM 3.2 input and output NMEA 0183 output HCN, HRC and RINEX static formats NTRIP Client, NTRIP Caster
Data storage	32 GB high-speed memory
Data output	Internal data logging and position output frequency up to 20 Hz, 50 Hz optional

Electrical	
Power comsuption	3.8 W (depending on receiver configuration)
Liion battery capacity	2 × 3400 mAh, 7.4 V
Operating time on internal battery[3]	UHF receive/transmit (0.5 W): Up to 6 h Cellular receive only: Up to 9 h Static: Up to 10 h
External power	9 V DC to 36 V DC

*Specifications are subject to change without notice.

(1) Accuracy and reliability are determined under clear unobstructed conditions, multipath, satellite geometry and atmospheric conditions. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices.

(2) UHF is an option and UHF type approvals are country specific.

(3) Battery life is subject to operating temperature.

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