

**CHCNAV**

**i50**

**COST EFFECTIVE  
GNSS RTK**



**SURVEY &  
ENGINEERING**

# AN AFFORDABLE ALL-IN-ONE GNSS SOLUTION

The i50 GNSS receiver brings speed and accuracy in one easy-to-use GNSS solution to complete your surveying and construction projects efficiently. Combined with our LandStar7 field software and HCE320 Android controller, the i50 GNSS is the perfect surveying solution for topographic and construction positioning tasks.

The i50 GNSS receiver integrates positioning and communication technologies in a rugged unit that is designed to provide work flexibility. When RTK corrections networks are unavailable at your job sites, just easily set up one i50 GNSS UHF base and use your i50 GNSS UHF rover to conduct your surveying tasks effectively.

## FULL-GNSS RTK RECEIVER

**Tracking GPS, GLONASS, Galileo, BeiDou and QZSS signals.**

The embedded 624-channel GNSS technology enhances reliability and performance to ensure accurate measurements. It allows for fast signals tracking and quick RTK fixed solution to improve productivity and reduce survey time in the field.

## VERSATILE WORK MODES FOR BETTER FLEXIBILITY

**Integrated NTRIP client, internal Rx/Tx UHF and external controller modes.**

May your project conditions change during your project, the preset survey modes are easy to select or switch directly on the i50 GNSS receiver. Your favorite GNSS RTK survey mode is always saved and starts automatically when the receiver is powered on to save unnecessary set up time. The internal UHF radio modem allows long- distance field surveying up to 5 km.

## RUGGED AND COMPACT

**IP67 dust and waterproof. The i50 GNSS survives to 2 m accidental drop.**

The i50 GNSS rugged industrial design guarantees its RTK performances in harsh environment and adverse weather conditions. Downtime or environmental limitations virtually no longer exist.

## UNINTERRUPTED OPERATION

**3,400 mAh dual hot-swappable batteries.**

Dual hot-swappable batteries allow extended full day fieldwork when connected to RTK network services. You can concentrate on your mission without caring about power drop.

 **COST EFFECTIVE  
FULL-GNSS  
RECEIVER**



**BRING SPEED & ACCURACY TO  
YOUR SURVEYING  
& CONSTRUCTION SITES.**

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# SPECIFICATIONS

| GNSS Characteristics <sup>(1)</sup> |   |
|-------------------------------------|---|
| Channels                            | 624 channels,<br>Powered by CHCNAV iStar GNSS tracking technology |
| GPS                                 | L1C/A, L1C, L2, L2C, L2E, L5                                      |
| GLONASS                             | L1C/A, L1P, L2C/A, L2P  |
| Galileo                             | E1, E5a, E5b  |
| BeiDou                              | B1, B2, B3  |
| SBAS                                | L1  |
| QZSS                                | L1, L2, L5  |

| GNSS Accuracies <sup>(2)</sup>   |  |
|----------------------------------|--|
| Real time kinematics (RTK)       | Horizontal: 8 mm + 1 ppm RMS<br>Vertical: 15 mm + 1 ppm RMS<br>Initialization time : < 10 s<br>Initialization reliability: > 99.9% |
| Post-processing kinematics (PPK) | Horizontal: 3 mm + 1 ppm RMS<br>Vertical: 5 mm + 1 ppm RMS   |
| Post-processing static           | Horizontal: 3 mm + 0.4 ppm RMS<br>Vertical: 3,5 mm + 0.4 ppm RMS   |
| Post-processing fast static      | Horizontal: 3 mm + 0.5 ppm RMS<br>Vertical: 5 mm + 0.5 ppm RMS   |
| Code differential                | Horizontal: 0.4 m RMS<br>Vertical: 0.8 m RMS   |
| Autonomous                       | Horizontal: 1.5 m RMS<br>Vertical: 3.0 m RMS   |
| Positioning rate                 | Up to 10 Hz<br>Cold start: < 45 s<br>Hot start: < 10 s<br>Signal re-acquisition: < 1 s   |
| Time to first fix <sup>(3)</sup> |  |

| Hardware           |  |
|--------------------|--|
| Size (L x W x H)   | 140 mm x 130 mm x 106 mm<br>(5.5 in x 5.1 in x 4.2 in)   |
| Weight             | 1.45 kg (with battery)   |
| Environment        | Operating: -40°C to +65°C<br>(-40°F to +149°F)<br>Storage: -40°C to +75°C<br>(-40°F to +167°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  |
| Tilt sensor        | E-Bubble leveling  |
| Front panel        | 6 status LED   |

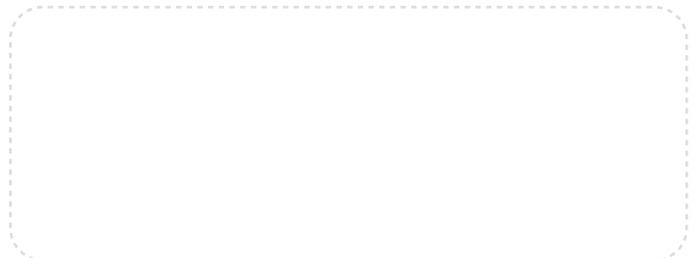
| Certifications                  |  |
|---------------------------------|--|
| CE Mark, MIL-STD-810G Vibration |  |

| Communications And Data Storage |  |
|---------------------------------|--|
| Network modem                   | Integrated 4G modem<br>LTE (FDD): B1, B2, B3, B4, B5, B7, B8, B20   DC-HSPA+/HSPA+/HSPA/UMTS: B1, B2, B5, B8   EDGE/GPRS/GSM 850/900/1800/1900 MHz                   |
| Wi-Fi                           | 802.11 b/g/n, access point mode  |
| Bluetooth <sup>®</sup>          | V 4.1<br>1 x 7-pin LEMO port (external power and RS-232)   |
| Ports                           | 1 x Mini-USB (data download, firmware update)<br>1 x UHF antenna port (TNC female)   |
| UHF radio                       | Internal Rx/Tx: 410 - 470 MHz<br>Transmit Power: 0.5 W to 2 W<br>Protocol: CHC, Transparent, TT450<br>Link rate: 9600 bps to 19200 bps<br>Range: Typical 3km to 5 km |
| Data formats                    | RTCM2.x, RTCM3.x, CMR input/output<br>HCN, HRC, RINEX 2.11, 3.02<br>NMEA0183 output<br>NTRIP Client, NTRIP Caster  |
| Data storage                    | 8 GB internal memory   |

| Electrical  |                                    |
|---|------------------------------------|
| Power consumption                                 | 4.2 W (depending on user settings) |
| Li-ion battery capacity                           | 2 x 3400 mAh, 7.4 V                |
| Operating time on internal battery <sup>(4)</sup> | Up to 12 h                         |
| External power input                              | 9 V DC to 36 V DC                  |



\*All specifications are subject to change without notice.  
(1) Compliant, but subject to availability of BDS ICD and Galileo commercial service definition. GLONASS L3, BDS B3 and Galileo E6 will be provided through future firmware upgrade. (2) 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. (3) Typical observed values. (4) Battery life is subject to operating temperature.



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