

**CHCN*A*V**

**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, Powered by CHCNAV iStar GNSS tracking technology
GPS	L1, L2, L2C, L5
GLONASS	L1, L2
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 Vertical: 15 mm + 1 ppm RMS Initialization time : < 10 s Initialization reliability: > 99.9%
Post-processing kinematics (PPK)	Horizontal: 3 mm + 1 ppm RMS Vertical: 5 mm + 1 ppm RMS
Post-processing static	Horizontal: 3 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
Code differential	Horizontal: 0.4 m RMS Vertical: 0.8 m RMS
Autonomous	Horizontal: 1.5 m RMS Vertical: 3.0 m RMS
Positioning rate	Up to 10 Hz
Time to first fix <sup>(3)</sup>	Cold start: < 45 s Hot start: < 10 s Signal re-acquisition: < 1 s

Hardware	
Size (L x W x H)	140 mm x 130 mm x 106 mm (5.5 in x 5.1 in x 4.2 in)
Weight	1.29 kg (2.8 lb)
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
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 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

Ports	1 x 7-pin LEMO port (external power and RS-232) 1 x Mini-USB (data download, firmware update) 1 x UHF antenna port (TNC female)
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UHF radio	Internal Rx/Tx: 410 - 470 MHz Transmit Power: 0.5 W to 2 W Protocol: CHC, Transparent, TT450 Link rate: 9600 bps to 19200 bps Range: Typical 3km to 5 km
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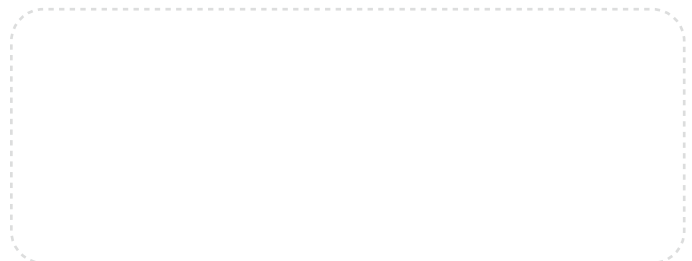
Data formats	RTCM2.x, RTCM3.x, CMR input/output HCN, HRC, RINEX 2.11, 3.02 NMEA0183 output NTRIP Client, NTRIP Caster
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Data storage	8 GB internal memory
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Electrical	
Power consumption	4.2 W (depending on user settings)
Li-ion battery capacity	2 x 3400 mAh, 7.4 V
Operating time on internal battery <sup>(4)</sup>	UHF receive/transmit (0.5 W): 5 h to 7 h Cellular receive only: up to 10 h Static: 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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