

# i50

## Cost Effective

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.



# An affordable Receiver GNSS solution

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.

## 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.

## 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 modes are easy to select or switch directly on the i50 GNSS receiver. Your favorite GNSS RTK 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.

\*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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## 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.

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
SS Accuracies <sup>(2)</sup>	
Realtime 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	V 4.1
Ports	1 x 7-pin LEMO port (external power and RS- 232) 1 x Mini- US B (data download, firmware update) 1 x UHF antenna port (TNC female)
UHF radio	Internal Rx/Tx: 410 - 470 MHz Transmit Power: 0.5 W to 2W Protocol:CHC,Transparent,TT450 Link rate: 9600 bps to 19200 bps Range:Typical 3km to 5km
Data formats	RTCM 2.x, RTCM 3.x, CMR input/output HCN, HRC, RINEX 2.11, 3.02 NMEA 0183 output NTRIPClient, NTRIPCaster
Data storage	Data storage
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 Cellular receive only: up to 10 h Static: up to 12 h
External power input	9 V DC to 36 V DC