SOUTH
Target your success

INNO7

- Smart interactive RTK receiver -

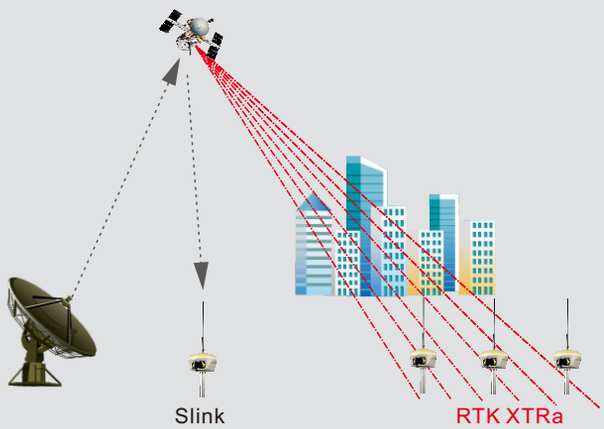
5G, brings you an outstanding future

5G
VOICE INTERACTION
TOUCH OLED
15KM UHF
IMU
64G SSD STORAGE

Slink & RTK XTRa ▸▸▸

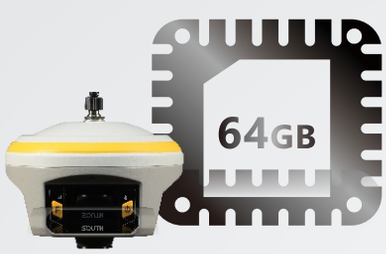
Base on the RTX global services, INNO7 is able to achieve the goal of precise single-point positioning without a reference, the positioning is no more constrained by terrain environment, such as mountain, wasteland, desert, island, fixed solution is generally available as long as the GNSS constellations are visible.

Moreover, RTK XTRa technology which is derived from RTX services, it can extend RTK positioning for several minutes while the RTK primary source of correction stream is interrupted or not available, it really makes RTK bright anywhere.



64GB SSD ▸▸▸

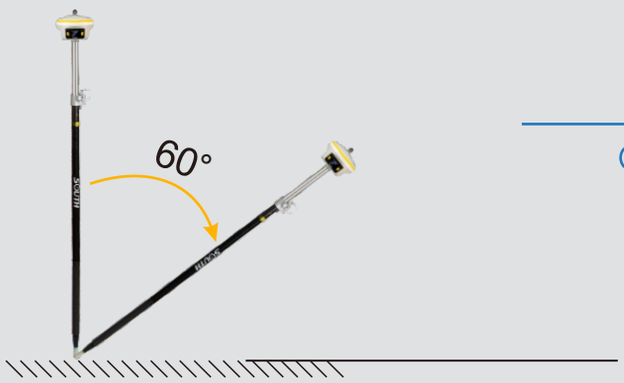
Built-in 64GB solid-state storage, which can meet most needs of measurement works. And the feature of cyclic storage helps receiver to automatically remove the previous files while there is not enough space in the memory, with this excellent performance, data storage can last almost 4 years based on 5s sampling interval. And the design of embedded memory chip can ensure the safety of measurement data.



The ‘Fast’ IMU ▸▸▸

INNO7 is integrated with a new generation IMU module that it only needs 2-5s of shaking receiver to complete the initialization, and the maximum tilt compensation angle can be 60 degree. it can ignore magnetic interference while RTK receiver works in such a magnetic environment. This professional IMU module can keep the tilt effect for about 40s if RTK receiver stays on a point without moving.

IMU is an electronic unit which records angular velocity and linear acceleration data which is fed into a central processing unit for data interpreting and logging. When the RTK receiver moves, and then it will record the data and send back to the receiver for calculating to output the corrected result of position.



15 KM

Just use the inbuilt radio only

It is not a dream to achieve 15km working distance by using the inbuilt radio.

SPECIFICATIONS

GNSS Features

Channels	336
GPS	L1C/A, L1C, L2C, L2E, L5
GLONASS	L1C/A, L1P, L2C/A, L2P, L3
BDS	B1, B2, B3
GALILEOS	E1, E5A, E5B, E5AltBOC, E6
BAS	L1C/A, L5 (Just for the satellites supporting L5)
IRNSS	L5
QZSS	L1C/A, L1 SAIF, L2C, L5, LEX
MSS L-Band	Trimble RTX[1]
Positioning output rate	1Hz~50Hz
Cold start	< 45s
Initialization time	< 10s
Initialization reliability	>99.99%

Positioning Precision

Code differential GNSS positioning	Horizontal: 0.25 m + 1 ppm RMS Vertical: 0.50 m + 1 ppm RMS
High precision static	Horizontal: 3mm+0.1ppm Vertical: 3.5mm+0.4ppm
GNSS static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS
Real-time kinematic (Baseline<30km)	Horizontal: 8 mm + 1 ppm RMS Vertical: 15 mm + 1 ppm RMS
Network RTK	Horizontal:8mm+1ppm Vertical:15mm+1ppm
PPK	Horizontal:8mm+1ppm Vertical:15mm+1ppm
SLink (RTX)[2]	Horizontal: 2-5cm Vertical: 5-15cm
RTK XTRa (xFill)[3]	Horizontal: 2-5cm Vertical: 5-15cm
SBAS positioning	Typically<5m 3DRMS
RTK initialization time	2~8s
IMU tilt angle	0°~60°

Hardware Performance

Dimension	15.3cm(φ)×10.6cm(H)
Weight	1.2kg (battery included)
Material	Magnesium aluminum alloy shell
Operating temperature	-40℃~-65℃
Storage temperature	-40℃~-75℃
Humidity	100% Non-condensing
Waterproof/Dustproof	IP67 standard, protected from long time immersion to depth of 1m IP67standard, fully protected against blowing dust
Shock/Vibration	Withstand 2 meters pole drop onto the cement ground naturally
Power consumption	2W
Power supply	6-28V DC, overvoltage protection
Battery	7.4 V 3400mAh rechargeable, removable Lithium-ion battery
Battery life	Single battery: 16h (static mode) 10h (internal UHF base mode) 12h (rover mode)

Communications

I/O Port	5PIN LEMO external power port + Rs232 7PIN LEMO +external USB(OTG)+Ethernet 1 UHF antenna interface 1 GPRS antenna interface (internal and external antenna switchable) SIM card slot (standard)
Internal UHF	Radio receiver and transmitter, 1W/2W/3W switchable
Frequency range	410-470MHz
Communication protocol	Farlink, Trimtalk450s, SOUTH, SOUTH+,SOUTHx, HUACE, Hi-target, Satel
Communication range	Typically 6-8km/Optimal:12-15km
Cellular mobile network	Advanced 5G network communication module, downward compatible with 4G/3G
Bluetooth	BLEBluetooth 4.0 standard, Bluetooth 2.1+EDR
NFC Communication	Realizing close range (shorter than 10cm)

WIFI

Modem	802.11 b/g standard
WIFI hotspot	Receiver broadcasts its hotspot form web UI accessing with any mobile terminals
WIFI datalink	Receiver can transmit and receive correction data stream via WiFi datalink

Data Storage/Transmission

Storage	64GB SSD internal storage Automatic cycle storage (The earliest data files will be removed automatically while the memory is not enough) Support external USB storage The customizable sample interval is up to 50Hz
Data Transmission	Plug and play mode of USB data transmission Supports FTP/HTTP data download
Data Format	Differential data format: CMR+, CMRx, RTCM 2.1, RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2 GPS output data format: NMEA 0183, PJK plane coordinate, Binary code, Trimble GSOF Network model support: VRS, FKP, MAC, fully support NTRIP protocol

Sensors

Electronic Bubble	Controller software can display electronic bubble, checking leveling status of the carbon pole in real-time
IMU	Built-in IMU module, calibration-free and immue to magnetic interference
Thermometer	Built-in thermometer sensor, adopting intelligent temperature control technology, monitoring and adjusting the receiver temperature

User Interaction

Operating system	Linux
Buttons	2-button and visual operation interface
Indicators	2 LED indicators, data interaction indicator and Bluetooth indicator
LCD	1.54-inch HD color LCD touch screen with resolution 240*240
Web interaction	With the access of the internal web interface management via WiFi or USB connection, users are able to monitor the receiver status and change the configurations freely
Voice guidance	The intelligent voice technology provides status and operation voice guidance, supports Chinese/English/Korean/Spanish /Portuguese/Russian/Turkish
Secondary development	Provides secondary development package, and opens the OpenSIC observation data format and interaction interface definition
Cloud service	The powerful cloud platform provides online services like remote manage, firmware update, online register and etc

[1] It requires a subscription to data service.
[2] RTK XTRa also requires a subscription to the data service, and precision is dependent on GNSS satellite availability. RTK XTRa positioning ends after 5 minutes of radio downtime.
[3] The RTX accuracies depend on correction service chosen. And 95% of the time with initializations are around 5-30 minutes.

Remarks: Measurement accuracy and operation range might vary due to atmospheric conditions, signal multipath, obstructions, observation time, temperature, signal geometry and number of tracked satellites. Specifications subject to change without prior notice

CE FC MIL-STD 810G

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