SOUTH
Target your success

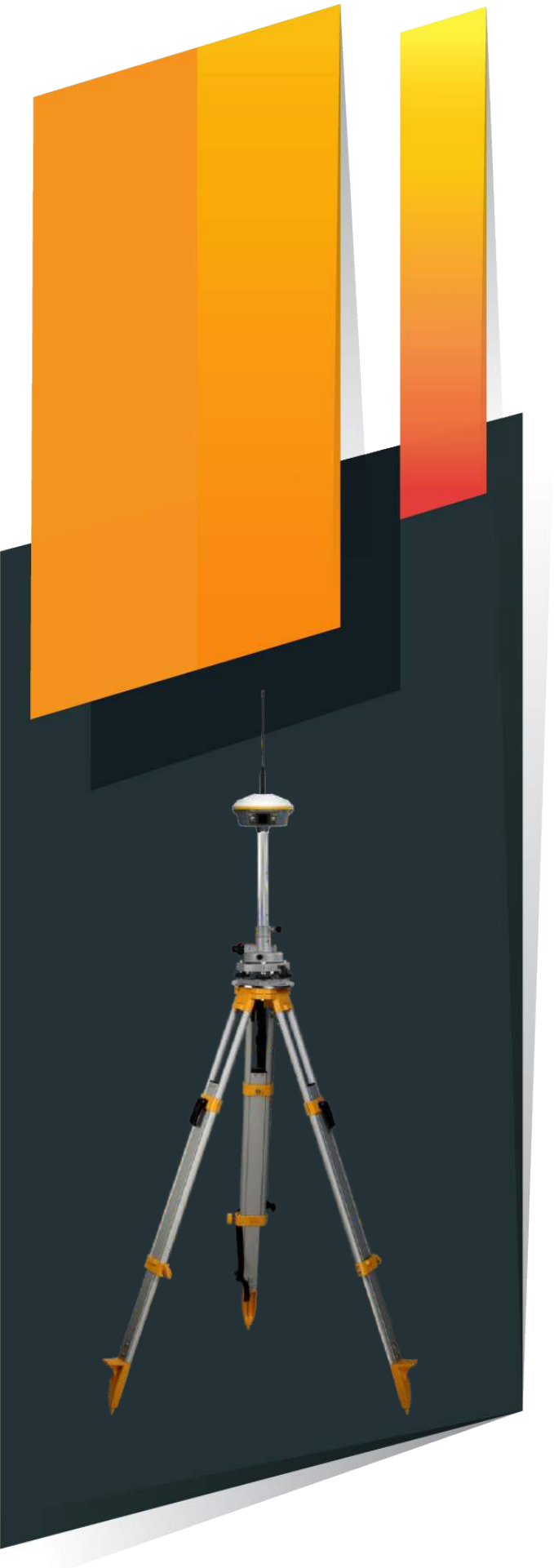
Galaxy G5

Improving Never Stops

Galaxy G5 is designed to enhance your performance in the field survey and to provide the most reliable positioning result.

It integrates a 1760 channels world leading GNSS positioning engine, a high precision IMU, a long range UHF radio, and a new interact operating system.

More features are to be discovered by you...



More channels and all constellations tracking

With 1760 GNSS channels solution, Galaxy G5 can support multi-constellation and multi-frequency tracking with the help of high-performance GNSS antenna.

Color touch screen, makes workflow simpler

HD 1.3-inch color LCD touch screen with high brightness and low power consumption, which is convenient and efficient to complete touch settings, information browsing, function settings.

More powerful inbuilt radio

Coupling a high-performance UHF module with Farlink communication technology, which increases signal sensitivity and transmission efficiency, Galaxy G5 really achieves the goal of a 10~15km ultra-long-distance working range. And the power consumption of this carrying new generation module is 60% lower than additional UHF, making the Base working time is much longer.

Superior Endurance, Up to 25 hours working

Galaxy G5 uses a built-in 10000mAh ultra-large capacity Li-ion battery, which can last 25 hours of continuous work (Static) benefits from low power consumption circuit design. The Type-C interface is used on G5 that it can support fast charging through a charger with PD protocol, and it can be full charged in 4 hours.

Double data backup

The measured data can be simultaneously stored into both internal memory of receiver and controller, realizing the measured data double backup, which effectively avoid data loss.

Outstanding IMU measurement

Built-in 4th-generation IMU automatic compensator corrects the coordinates to the pole tip, assisting surveyors to quickly and accurately measure or stake out point at will without strictly leveling the receiver, the tilt angle range can achieve up to 60°.

Upward and hidden UHF antenna design

Upward UHF antenna design, achieving all-direction UHF signal receiving and transmitting. And the antenna interface is hidden into top cover that effectively avoid accident breaking, protect from water and dust.

Intelligent base signal locking technology

Using one-to-one signal tracking and locking technology, and the independent frequency under Farlink protocol, the G5 rover can continuously lock and capture the target base station signal to reduce cross-frequency interference even though other base stations are working nearby with the same channel.

Smart system management-ROS

Galaxy G5 is integrated with the ROS system, which comes with intelligent deployment of multi-mode hardware components, strong computing power and an intelligent scheduling mechanism, and coupling with an ultra-fine memory management mechanism, making the fluency and running speed of the receiver comprehensively improved.

SPECIFICATIONS

GNSS Features

Channels	1760
GPS	L1C/A, L1C, L2C, L2P, L5
GLONASS	L1C/A, L2C/A, L2P, L3CDMA
BDS	B1I, B1C, B2I, B2a, B3
GALILEO	E1, E5A, E5B, E5AltBOC, E6
SBAS	EGNOS, WAAS, GAGAN, MSAS, SDCM(L1,L5)
QZSS	L1C/A, L1C, L2C, L5, L6
Navic	L5
On module L-Band (Reserve)	
Positioning output rate	1Hz~50Hz
Initialization time	< 10s
Initialization reliability	> 99.9%

Positioning Precision*

Real-time kinematic (Baseline<40km)	Horizontal: 6 mm + 0.5 ppm RMS Vertical: 10 mm + 1 ppm RMS
GNSS static	Horizontal: 2.5 mm + 0.5 ppm RMS Vertical: 5 mm + 0.5 ppm RMS

Standalone	Horizontal: 1.2m	Vertical: 1.9m RMS
DGNSS	Horizontal: 0.4m	Vertical: 0.7m RMS
SBAS positioning	Horizontal: 0.6m	Vertical: 0.8m RMS

RTK initialization time	2 ~ 8s
IMU tilt compensation	Additional horizontal pole tip uncertainty typically less than 10mm + 0.7 mm/° tilt down to 30°
IMU tilt angle	0° ~ 60°

Hardware Performance

Dimension	165mm(φ) × 108mm(H)
Weight	1.35kg (battery included)
Material	Magnesium aluminum alloy shell
Operating temperature	-30℃ ~ +70℃
Storage temperature	-40℃ ~ +80℃
Humidity	100% Non-condensing
Waterproof/Dustproof	IP68 standard, protected from long time immersion to depth of 1m IP68 standard, fully protected against blowing dust
Shock/Vibration	Withstand 2 meters pole drop onto the cement ground naturally
Power supply	6-28V DC, overvoltage protection
Battery	Inbuilt 10000mAh rechargeable, unremovable Li-ion battery
Battery life	Static: 20~25hrs Base: 10~12hrs Rover: 16~20hrs

Communications

I/O Port	5-PIN LEMO external power port + RS232 Type-C interface (charge + OTG + Ethernet) 1 UHF antenna interface 1 PPS ouput interface SIM card slot (Micro SIM)
Internal UHF	3W receiver and transmitter
Frequency range	410 - 470MHz
Communication protocol	Farlink, Trimtalk450s, SOUTH, HUACE, Hi-target, Satel
Communication range	Typically 15km with Farlink protocol
Cellular mobile network	4G cellular module standard
Bluetooth	Bluetooth 4.2 standard, Bluetooth 2.1 + EDR
NFC Communication	Realizing close range (shorter than 10cm) automatic pair between receiver and controller (controller requires NFC wireless communication module else)

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	16GB SSD internal storage standard, extendable up to 64GB 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 20Hz
Data transmission	Plug and play mode of USB data transmission Supports FTP/HTTP data download
Static data format	STH, Rinex2.x, Rinex3.x
Differential data format	CMR, RTCM 2.x, RTCM 3.x(MSM included)
Position output data format	NMEA 0183, PJK plane coordinate, SBF
Network model supports	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	Dual-button
Indicators	3 LED indicators
Display	1.3-inch color touch screen
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	It provides status and operation voice guidance, and 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.

**The data comes from the SOUTH GNSS Product Laboratory, and the specific situation is subject to local actual usage.*

CE FC MIL-STD 810G

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