SPECIFICATIONS

GNSS Performance

Channels.....336, 1598(optional)
BDS.....B1, B2, B3
GPS.....L1C/A, L2C, L2E, L5
GLONASS..... L1C/A, L1P, L2C/A, L2P, L3
GALILEO.....E1, E5A, E5B, E5AltBOC, E6
SBAS..... L1C/A, L5
IRNSS.....L5
QZSS.....L1 C/A, L1 SAIF, L2C, L5, LEX
SBAS.....L1 C/A, L5
L-Band.....Trimble RTX[1]
Positioning output rate..... 1Hz~50Hz
Initialization time..... <10s
Initialization reliability.....>99.99%

Positioning precision

Code differential GNSS positioning
Horizontal.....0.25m+1ppm RMS
Vertical.....0.50m+1ppm RMS
Static GNSS surveying
Horizontal.....2.5mm+0.5ppm RMS
Vertical.....5mm+0.5ppm RMS
Real-time kinematic surveying
Horizontal.....8mm+1ppm RMS
Vertical.....15mm+1ppm RMS
RTX[3]
Horizontal.....4-10cm
Vertical.....8-20cm
xFill[2]
Horizontal RTK.....5+10mm/min RMS
Vertical RTK.....5+20mm/min RMS

SBAS positioning.....Typically<5m 3DRMS

IMU tilt angle ..... 0° ~ 60°

Operating system/User interface

Operating system.....Linux
Buttons.....2 buttons and visual operation interface
LCD.....0.96 inch HD OLED screen, 128 x 64 resolution
Indicators.....4 LED indicators

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 configuration freely

Voice guidance
iVoice intelligent voice technology provides status and operation voice guidance, supports Chinese, English, Korean, Russian, Portuguese, Spanish, Turkish, and allows to user defined local voice.

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, update firmware, online register and etc.

WiFi

Standard.....IEEE 802.11 b/g
WiFi hotspot.....Receiver broadcasts its hotspot for web UI accessing with any mobile terminals
WiFi datalink.....The receiver can transmit and receive correction via WiFi datalink

Hardware performance

Dimension.....152mm(Φ)× 137mm(H)
Weight.....1.44kg (including battery)
Material.....Magnesium alloy shell
Operating temperature..... -45°C ~ +60°C
Storage temperature.....-55°C ~ +85°C
Humidity.....100% Non-condensing

Waterproof/Dustproof.....IP67 standard, protected from long time immersion to depth of 1m

Shock/vibration.....MIL-STD-810G standard vibration test certified
Electrical.....9-25V wide voltage DC design, with overvoltage protection

Battery.....7.4V, 6800mAh removable battery with the indicator displaying the power usage

Battery life.....>30 hrs in static mode, >15 hrs in RTK mode, optional battery solution of 7*24 hrs

Communications

I/O port.....5-PIN LEMO port, 7-PIN USB port (OTG), 1 GSM(4G) antenna port, 1 UHF antenna port, 1 SIM card slot
Internal UHF.....1W/2W/3W radio receiver and transmitter
UHF frequency.....403-473MHz
UHF protocol.....Trimtalk450S, SOUTH, SOUTH+, SOUTHx, huace, ZHD, Satel
External UHF..... ..... 5W/25W radio transmitter
Cellular mobile network.....TDD-LTE, FDD-LTE 4G network modem, downward compatible with 3G network and 2G network
Bluetooth.....BLEBluetooth 4.0 standard, Bluetooth 2.1+EDR

Data storage/ transmission

Data storage.....8GB internal storage, external USB storage supported, changeable sampling intervalup to 50Hz

Data transmission.....USB data transmission, FTP download, HTTP download
Differential data format.....CMR+, SCMRx, RTCM 2.x, RTCM 3.x

GPS output data format.....NMEA 0183, PJK plane coordinates, binary code, Trimble GSOF
Network model support.....VRS, FKP, MAC, supporting NTRIP protocol

Inertial sensing system

Tilt survey.....Built-in IMU module, calibration-free and immue to magnetic interference, correcting coordinates automatically according to tilt direction and angle

Electronic bubble.....Built-in E-Bubble sensor, controller software displays e-bubble, checking leveling status of the carbon pole real-time

Thermometer.....Built-in thermometer sensors, adopting intelligent temperature control tech nology, monitoring and adjusting the receiver temp.

[1] It requires a subscription to data service.
[2] xFill also requires a subscription to the data service, and precision is dependent on GNSS satellite availability. xFill 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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SOUTH
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GALAXY G6

-Innovative IMU-RTK Receiver-

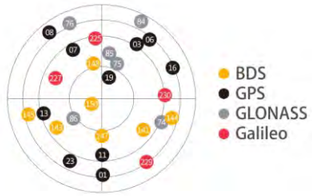
GALAXY G6

During the Multiple constellation age, SOUTH keep developing and optimizing the innovative products for customers, SOUTH Galaxy G6 RTK system adopts intelligent cloud platform as its new engine, to lead the development or smart RTK system.

Key Features

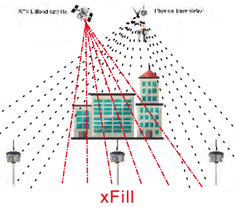
Full satellite constellations support

Equipped with most advanced GNSS boards, SOUTH Galaxy G6 system can track most signals from all kinds of running satellite constellations, especially supports the signals from Beidou3, also is able to get position result only with Beidou signal.



Supports PPP services

Galaxy G6 is able to access the RTX services with tracking L-Band signals, really achieves 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.



Unlocked feature--xFill

Integrated with high-performance GNSS board, Galaxy G6 supports the new service that extends RTK positioning for several minutes when the RTK correction stream is not available.

IMU auxiliary tilt measurement

The inbuilt professional IMU sensor is able to greatly improve the productivity of RTK measurement because of its excellent performances, fast initialization, calibration-free, not affected by magnetic environment. Rapidly measures points without leveling instrument, as long as pole tip reaches the target.

Shake tilt measurement

It's a tilt measurement technology based on the patented core algorithm. No magnetic sensor use, calibration-free, anti-jitter, unlimited tilt angle.

Web UI management platform

Embedded Linux operation system+SOUTH intelligent cloud platform.

The receiver is no longer an independent hardware device, it's a complete intelligent operation system with web page cloud platform.

Accessing to the internal Web UI of galaxy G6 supports WIFI or USB connection. Users can monitor the receiver status and configure it via the internal Web UI management platform.

Intelligent data communication

Built-in network module
Equipped with standard 4G module which supports TDD-LTE/FDD-LTE 4G network, and downward compatible with WCDMA/CDMA2000 3G and GPRS/EDGE 2G network. Smart PPP dialing technology can auto dial which makes the Galaxy G6 keeping online continuously during the survey.

Built-in functional digital radio
SOUTH self-developed digital radio which can fully support the communications with the mainstream radio protocols: Trimtalk450s, SOUTH, SOUTH+, SOUTHx, huace, ZHD, Satel. Realize the random switching of the radio range 403MHz-473MHz and the power level as well.

Radio repeater: The rover can broadcast the corrections via internal radio to other rovers after receiving the radio differential signal from Base station.

Internet repeater: The rover can broadcast the corrections via internal radio to other rovers after received the network differential signal from CORS station.

Intelligent storage technology

- Internal 8G storage supporting external U disk storage
- Supporting STH, Rinex format, sample frequency can reach to 50Hz
- Automatic circular storage, delete the primary data once the disk is full automatically
- On-key intelligent copy, supporting direct data copy by external U disk

50Hz

HD LCD

0.96 inch HD OLED colorful LCD supporting multiple language display and it is suitable to field work with high brightness and low power consumption.

Intelligent temperature control technology

Built-in several thermometer sensors, intelligent temperature control technology, monitor and adjust the receiver temperature real time and guarantee the best work status.

Intelligent power supply technology (Optional)

- Long endurance removable lithium battery which can display the remaining power real time
- Equipped with large capacity portable power source which supply the power continuously
- Adopting intelligent power saving mode, rising the endurance time 20% under the normal work mode