SPECIFICATIONS

GNSS Features

Channels.....1698
GPS..... L1, L1C, L2C, L2P, L5
GLONASS..... G1,G2,G3
BDS..... B1I,B2I,B3L,B1C,B2A,B2B*
GALILEO.....E1,E5A,E5B,E6C*
SBAS.....L1C,L1A*
NavIC/ IRNSS..... L5*
QZSS.....L1,L2C,L5*
MSSL - Band(Reserve)
Positioning output rate..... 1Hz~20Hz
Initialization time.....< 10s
Initialization reliability..... >99.99%

Positioning Precision

Code differential GNSS..... Horizontal: 0.25 m + 1 ppm RMS
Vertical: 0.50 m + 1 ppm RMS
Static(long observations).....Horizontal: 2.5 mm + 0.1 ppm RMS
Vertical: 3 mm + 0.4 ppm RMS
Static.....Horizontal: 2.5 mm + 0.5 ppm RMS
Vertical: 3.5 mm + 0.5 ppm RMS
Rapid static..... Horizontal: 2.5 mm + 0.5 ppm RMS
Vertical: 5 mm + 0.5 ppm RMS
PPK.....Horizontal: 3 mm + 1 ppm RMS
Vertical: 5 mm + 1 ppm RMS
RTK(UHF).....Horizontal: 8 mm + 1 ppm RMS
Vertical: 15 mm + 1 ppm RMS
RTK(NTRIP)..... Horizontal: 8 mm + 0.5 ppm RMS
Vertical: 15 mm + 0.5 ppm RMS
RTK initialization time.....2 ~ 8s
SBAS positioning..... Typically < 5m 3DRMS
BANDA-L..... Horizontal: 5-10cm (5-30min)
Vertical: 10-30cm (5-30min)
IMU.....Less than 10mm + 0.7 mm/° tilt to 30°
IMU tilt angle.....0° ~ 60°

Hardware Performance

Dimension.....135mm(W)×135mm(L)×84.75mm(H)
Weight..... 890g(battery included)
Material..... Magnesium aluminum alloy shell
Operating temperature..... -25℃~+65℃
Storage temperature.....-35℃~+80℃
Humidity..... 100% Non-condensing
Waterproof/Dustproof..... IP68

Shock/Vibration.....MIL-STD-810G(withstand 2meters pole drop onto the cement ground naturally)
Power supply.....6-28V DC, over voltage protection
Battery.....Inbuilt 7.4V 6800mAh rechargeable Li-ion battery
Battery life.....Typically 20h(static), 7h (Base+UHF)
19h (Rover+UHF), 20h (Rover+Bluetooth)

Communications

I/O Port.....5-PIN LEMO external power port + RS232
Type-C(charge+USB+OTG+Ethernet)
1 UHF antenna interface
Internal UHF.....2W Radio receiver and transmitter
Frequency range..... 410-470MHz
Communication protocol..... Farlink, Trimtalk, SOUTH, HUACE,Hi-target,Satel
Communication range..... Typically 5km with Farlink protocol, up to 12km
Bluetooth..... Bluetooth3.0/4.1standard,Bluetooth2.1+EDR
NFC Communication.....Realizing close range (shorter than 10cm) automatic pair between receiver and controller(controller requires NFC wireless communication module else)
Cellular..... 4G

WIFI

Modem..... 802.11 b/g standard
WIFI hot spot.....Receiver broadcasts its hot spot 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..... 4GB SSD internal storage standard, extendable up to 128GB
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
Data format.... Static data format:STH,Rinex2.01,Rinex3.02,etc.
Differential data format:CMR,RTCM2.1, RTCM2.3,RTCM3.0,RTCM3.1,RTCM3.2
GPS out put data format:NMEA0183,PJK plane coordinate,Binary code
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.....Single button
Indicators.....4LED 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 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

*Reserve for future upgrade.

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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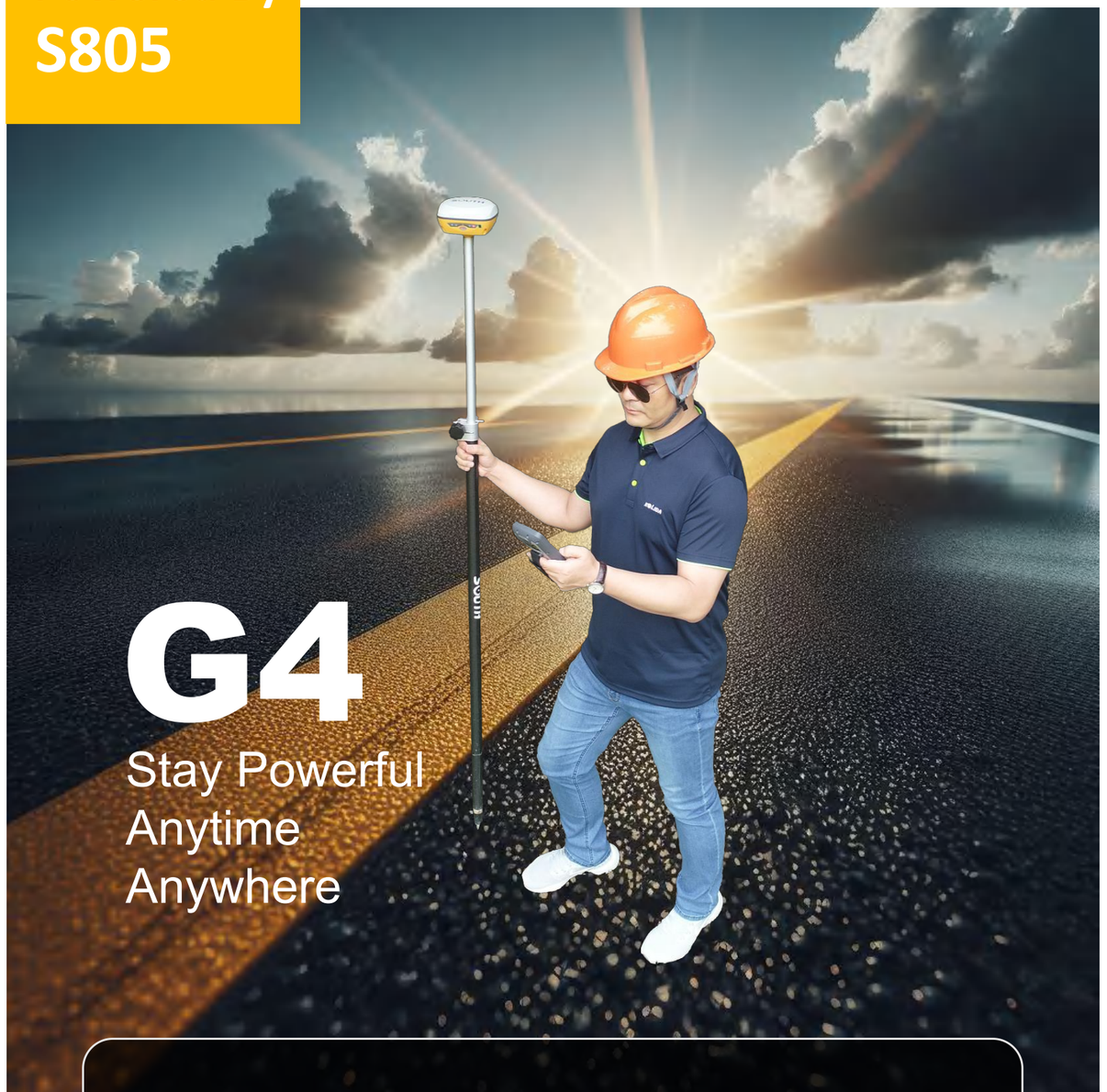
Powered By S805

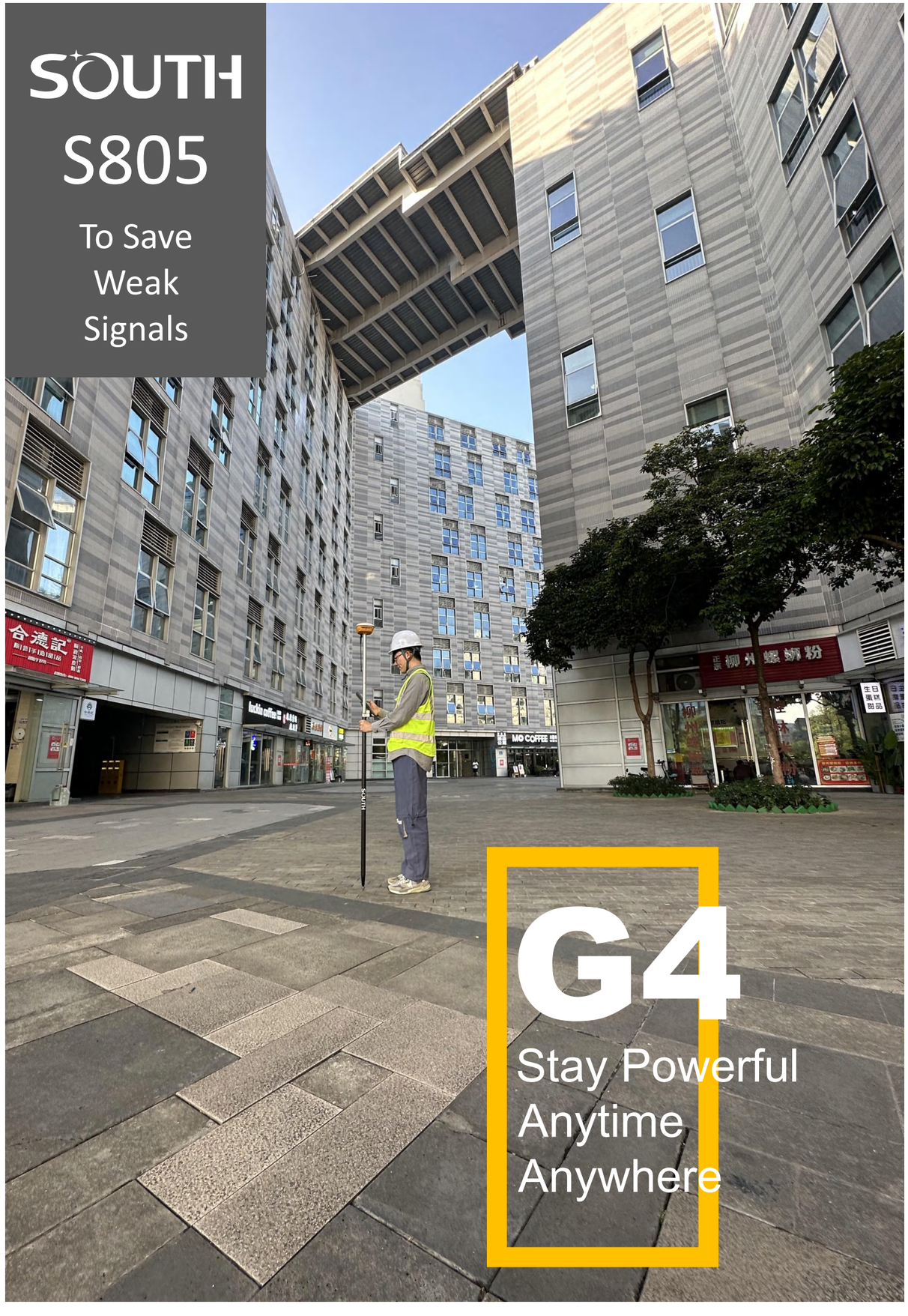


- ✓ S805 1698 channels
- ✓ Farlink 2.0
- ✓ 4th generation IMU

SOUTH

S805

To Save
Weak
Signals



G4

Stay Powerful
Anytime
Anywhere

S805, the New Pop Star

Save Weak Signal

SOUTH always spares no efforts to invest in innovations. Through unremitting research and improvement of the multi-satellite positioning algorithm, we have developed—the S805 GNSS engine.

It has 1698 channels to track more satellites and weak signals.

The more important improvement is about the success rate and speed of obtaining a fixed solution. Previously, under the dense forest and surrounded by buildings, it was impossible to get a fixed solution. Now with G4, you don't have to wait a long time to get fixed. It used to take minutes, but now it takes tens of seconds.

Farlink 2.0

Less Limitation
Better Performance

Here comes the Farlink 2.0. After years of hardware and firmware updates, Farlink 2.0 can undertake larger data and provide more stable transmission.

In addition, Farlink 2.0 can receive data from one specific base. Even though there are several bases transmitting with the same frequency, your rover will receive data from the correct base.

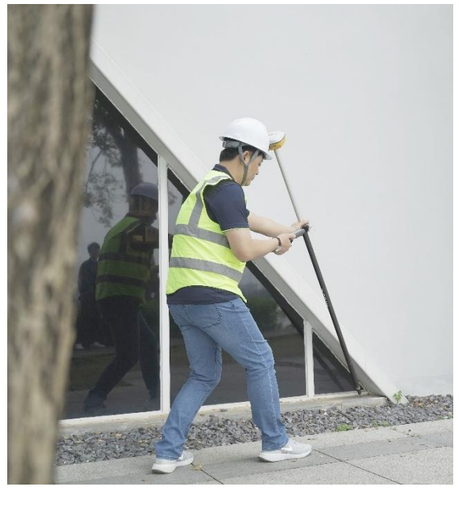
Each radio had extreme temperature-changing testing from-20℃ to 60℃.

The 4th Generation IMU

Almost All-time Usable

In 2023, two major updates were launched: Calibrate-free Initialization & Stability Improvement.
For 2024, we have a new update again: when you rotate the pole, IMU sensor remains usable.

In the past, surveyors would rotate the pole when changing the direction of travel or adjusting the attitude of the receiver, sometimes it disables IMU. Now the new update eliminates the loss of Inertial-Measurement-Usable Status in most scenarios to improve the availability and productivity of IMU.



Material

More Robustness & Durability

The body of the G4 is made of AZ91D magnesium alloy, which has high strength and excellent heat dissipation. The surface is sprayed with metallic paint, which makes the G4's body resistant to scratches, impacts, and rust.

The top cover of the G4 is made of polycarbonate by one-piece molding. It has good fire resistance and anti-deformation properties. GNSS signal will be received evenly from all directions.

Appearance

By Surveyors, For Surveyors

Based on the opinions and suggestions of old users, we redesigned the color and indicator light of the receiver.

The yellow bodywork makes surveyors and the instrument more conspicuous. On the construction site, in the dense forest, others will easily notice the users of G4 and protect their safety.

Now surveyors can check the receiver's working status more clearly in complicated environments such as forests or at night. At the same time, it can be better seen from a long distance.

Complete Set of Modules

Prepare for All Conditions

G4 is equipped with every basic module like network, 2W radio, WiFi, IMU and extendable SSD (up to 128GB).

With all these modules installed, G4 is a utility player in the field. No matter what environments it encounters, neither for now nor in the future, G4 can always start to work with appropriate modules.

Complete Set of Modules

Unique SOUTH Algorithm, Reliable Working Power

SOUTH research team has a number of core technologies and unique algorithms, such as the SOUTH algorithm. It can correct data from harsh environments to obtain better accuracy.
Fixed-keep allows continuing to measure for a few minutes after losing the fixed solution.
Beidou PPP and Galileo HAS help you achieve precise point positioning through satellite broadcasted signals, so you can even work in areas without CORS corrections. Your success is our target.