SPECIFICATIONS

GNSS Features

Channels 1598
GPS L1, L1C, L2C, L2P, L5
GLONASS L1C/A,L1P,L2C/A,L2P,L3*
BDS BDS-2: B1I, B2I, B3I
BDS-3: B1I, B3I, B1C, B2a, B2b*
GALILEOS ..... E1, E5A, E5B, E6C, AltBOC*
SBAS L1*

IRNSS L5*
QZSS L1, L2C, L5*
MSS L-Band ..... BDS-PPP
Positioning output rate ..... 1Hz~20Hz
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
GNSS static ..... Horizontal: 2.5 mm + 0.5 ppm RMS
Vertical: 5 mm + 0.5 ppm RMS
Real-time kinematic ..... Horizontal: 8 mm + 1 ppm RMS

(Baseline<30km) Vertical: 15 mm + 1 ppm RMS

SBAS positioning ..... Typically < 5m 3DRMS
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 ..... 130mm(W) ×130mm(L) × 80mm(H)
Weight ..... 790g (battery included)
Material ..... Magnesium aluminum alloy shell
Operating temperature ..... -45℃ ~ +75℃
Storage temperature ..... -55℃ ~ +85℃
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 7.4V 6800mAh rechargeable, Li-ion battery
Battery life ..... 15h(Rover Bluetooth mode)

Communications

I/O Port ..... 5-PIN LEMO external power port + RS232
Type-C(charge, OTG to USB disk, data transfer with PC or phone, Ethernet)
1 UHF antenna TNC interface
Internal UHF ..... Receive and transmit, 2W
Frequency range ..... 410 - 470MHz
Communication protocol ..... Farlink, Trimtalk450s, SOUTH, HUACE, Hi-target, Satel
Communication range ..... Typically 8km with Farlink protocol
Bluetooth ..... Bluetooth 3.0/4.1 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 ..... AP mode, Receiver broadcasts its hotspot form web UI accessing with any mobile terminals
WIFI datalink ..... Client mode, Receiver can transmit and receive correction data stream via WiFi datalink

Data Storage/Transmission

Storage ..... 4GB SSD
Automatic cycle storage (The earliest data files will be removed automatically while the memory is not enough)
Support external USB storage
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 and etc.
Differential format: RTCM 2.3, RTCM 3.0, RTCM 3.1, RTCM 3.2
GPS output data format: NMEA 0183, PJK plane coordinate, SOUTH 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 ..... One button
Indicators ..... 5 LED indicators(Satellite, Charging, Power, Datalink, Bluetooth)
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 kit, 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.

*Items marked with * will be upgraded along with the update of assigned firmware version*

The data comes from the SOUTH GNSS Product Laboratory, and the specific

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