SPECIFICATIONS

GNSS Features Channels	1509
GPS	11 110 120 120 15
GLONASS	1.1C/A 1.1DI 2C/A 1.2DI 2
BDS	
BD3	BDS-3: B1I, B3I, B1C, B2a, B2b*
GALILEOS	E1 E5A E5D E6C AHDOC*
SBAS(WAAS/MSAS/EGNOS/GAGAN)	E1, E3A, E3B, E6C, AIIBOC
IRNSS)Ll
QZSSMSS L-Band (Reserve)	L1, L2C, L5
Positioning output rate	411- 2011-
Initialization time	IIIZ~ZUIIZ
Initialization time	
irilialization reliability	
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) SBAS positioning	Vertical: 15 mm + 1 ppm RMS
SBAS positioning	Typically < 5m 3DRMS
RTK initialization time	2 ~ 8s
IMU tilt compensation A	
typically less	than 10mm + 0.7 mm/° tilt down to 30°
IMU tilt angle	0° ~ 60°
Hardware Performance	405 440 405 411 00 411
Dimension	135mm(W) ×135mm(L) × 83mm(H)
Weight	90/g (battery included)
Material	Magnesium aluminum alloy shell
Operating temperature	25°C ~ +65°C
Storage temperature	40°C ~ +80°C
Humidity	100% Non-condensing
Waterproof/Dustproof	
	time immersion to depth of 1m
	IP67 standard, fully protected against
01 1 1 1 1 1	blowing dust
Shock/Vibration	Withstand 2 meters pole drop onto
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Power supply	Withstand 2 meters pole drop onto the cement ground naturally 6-28V DC, overvoltage protection
	Withstand 2 meters pole drop onto the cement ground naturally 6-28V DC, overvoltage protection Inbuilt 7.2V 6800mAh rechargeable,
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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	4GB 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 transmissionPlug and play mode of USB data transmission
Supports FTP/HTTP data download
Data formatStatic data format: STH, Rinex2.01, Rinex3.02 and etc.
Differential data format: 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
Network model support: VRS, FKP, MAC,
fully support NTRIP protocol

Sensors

0013013	
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 intelligen
	temperature control technology, monitoring
	and adjusting the receiver temperature

User Interaction

Operating system	Linux
	Single button
	D indicators(satellite, Datalink, Bluetooth, Power)
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	
	services like remote manage, firmware update,
	online register and etc.

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

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

1.Actual battery life can vary depending on usage patterns and other factors. The listed parameter was obtained under controlled testing conditions.

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G8

— New miniaturized RTK receiver —





Extraordinary GNSS....

The GNSS unit of G8 is integrated with an advanced **SoC** which is a chip comes with the advantage of high integration and low power consumption, efficiently suppress the interference signals, and obtain higher quality observation data from satellite constellations.

Combines with powerful GNSS RTK engine with **1598** channels, and the new generation high sensitivity antenna, G8 achieves centimeter precision in seconds while fully tracking GPS, GLONASS, BEIDOU, GALILEO and QZSS signals.



Brilliant design

Single button boot design, one button evokes all RTK operations.

The body screen adopts a translucent high-strength panel, which has a stronger visual sense of technology. Plus four color indicator lights, common information is clear at a glance.





Smart unit of tilt measurement

An inbuilt high performance **IMU** automatic compensator which corrects the coordinates to the pole tip, that assists users quickly and accurately measure or stake out points at will without strict leveling the receiver, it helps surveyors boost productivity by 30 percent. Furthermore, the compensation is still available even though the fixed solution is lost at a short time, surveyors are able to continue the job after fixed solution recovers without initializing again for the IMU module. And the tilt angle range can achieve to 60°.

Unmatched connectivity

Built-in SOUTH self-developed digital radio, with an advanced protocol "Farlink", makes G8 achieve the typical working range as 8km. The transmission bandwidth of "Farlink" becomes large, and it increases the sensitivity of radio signal capture, which perfectly solves the problem of large data volume of multiple constellations transmission. And the power consumption can reduce about 60% in the same amount of data transmission compare to the traditional RTK.





Unlimited productivity

The new generation of SoC platform gives RTK more stable performance and lower power consumption. The built-in 6800mAh high-performance battery can support more than **15 hours** of continuous operation. Featuring with a universal type-C interface, G8 allows to charge the built-in batteries with a PD rapid charger, and support power supply from a power bank to ensure a full-day work.

Both internal memory and web interface are accessed by this type-C interface simultaneously without switching working mode for this port.