#### **SPECIFICATIONS**

GNSS Features	1598
	L1, L1C, L2C, L2P, L5
	L1C/A,L1P,L2C/A,L2P,L3
BDS	BDS-2: B1I, B2I, B3I
GALILEOS	BDS-3: B1I, B3I, B1C, B2a, B2b* E1, E5A, E5B, E6C, AltBOC*
SBAS(WAAS/MSAS/EGNOS/GAGAN	l)L1*
	L5*
QZSSMSS L-Band (Reserve)	L1, L2C, L5*
Positioning output rate	1Hz~20Hz
Initialization time	<10s
Initialization reliability	>99.99%
Positioning Precision	He forestell 0.05 as a 4 arms BMO
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
	Horizontal: 8 mm + 1 ppm RMS
(Baseline<30km) SBAS positioning	Vertical: 15 mm + 1 ppm RMSTypically < 5m 3DRMS
RTK initialization time	2~8s
	Additional horizontal pole tip uncertainty
typically less	than 10mm + 0.7 mm/° tilt down to 30° 
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Hardware Performance	
	135mm(W) ×135mm(L) × 83mm(H)
Weight	907g (battery included)
Material	Magnesium aluminum alloy shell
Operating temperature	25°C ~ +65°C -40°C ~ +80°C
Humidity	100% Non-condensing
Waterproof/Dustproof	IP67 standard, protected from long
	time immersion to depth of 1m
	IP67 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 Inbuilt 7.2V 6800mAh rechargeable,
	Li-ion battery
Battery life <sup>1</sup>	15h (Rover Bluetooth mode)
Communications	
	PIN LEMO external power port + RS232
	Type-C interface (charge, OTG, data
	transfer to PC or phone, Ethernet)  1 UHF antenna interface
Internal UHF	2W radio, receive and transmit,
	radio router and radio repeater
Frequency range	410 - 470MHz
Communication protocol	Farlink, Trimtalk450s, SOUTH, HUACE, Hi-target, Satel
Communication range	Typically 8km with Farlink protocol
BluetoothBluetooth	3.0/4.1 standard, Bluetooth 2.1 + EDR
NFC CommunicationRe	ealizing 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......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
......Plug and play mode of USB data transmission
Supports FTP/HTTP data download
..Static data format: STH, Rinex2.01, Rinex3.02 and etc. Data transmission.. Data format. 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	
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
	and dajaoung and rooding tomporataro

User Interaction
Operating systemLinux
ButtonsSingle button
Indicators4 LED 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
and supports Chinese/English/
Korean/Spanish/Portuguese/Russian/Turkish
Secondary developmentProvides secondary development
package, and opens the OpenSIC observation
data format and interaction interface definition
Cloud serviceThe 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

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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**G70** 

— New miniaturized RTK receiver —





# **Extraordinary GNSS....**

The GNSS unit of G7Q 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, G7Q 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.



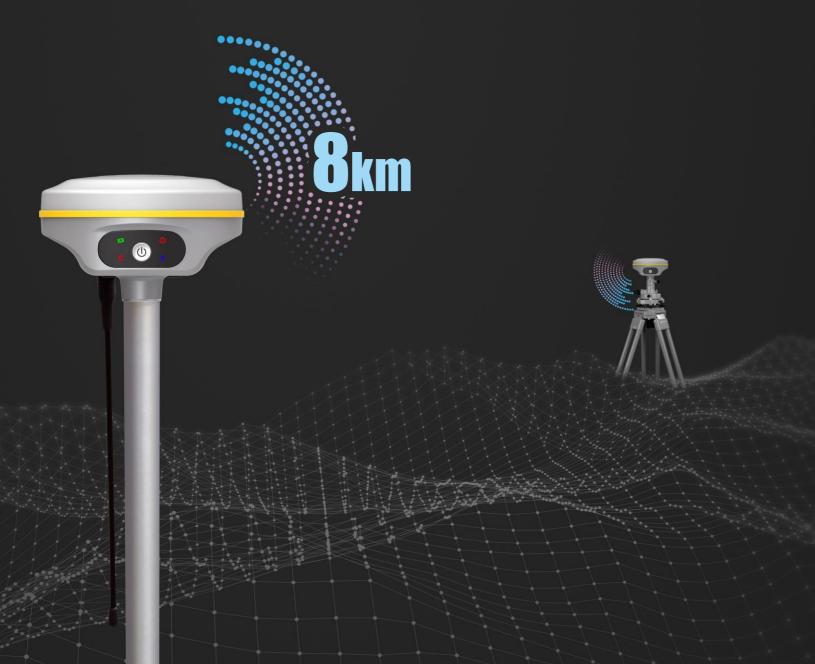


#### **Smart unit of tilt measurement**

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 G7Q 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, G7Q 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.