

S980+ GNSS Receiver

GNSS Receiver  
with UHF Radio



# S980<sup>+</sup>

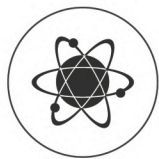
## GNSS Receiver with UHF Radio

The color touch display and the ability to connect an external antenna make the S980<sup>+</sup> an extremely effective receiver, capable of detecting GPS, GLONASS, BEIDOU, GALILEO QZSS and IRNSS constellations, making it suitable for any job. With a 4G GSM modem, a fast Internet connection is guaranteed, while Bluetooth and Wi-Fi modules always enable reliable data flow to the controller.

These features, combined with the built-in 2-5W radio, make the S980<sup>+</sup> the perfect receiver as a base station.

The S980<sup>+</sup> also features optional IMU technology with quick initialization and tilt up to 60°.

The S980<sup>+</sup> has a 1PPS port that can be used in applications requiring precise timing to ensure joint operation of multiple instruments or using the same parameters for integration of systems based on precise timing.



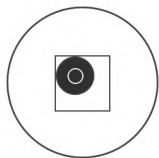
### MULTIPLE CONSTELLATIONS

Stonex S980<sup>+</sup> with its 1408 channels, provides an excellent on-board real-time navigation solution with high accuracy. All GNSS signals (GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS) are included, no additional cost.



### 2-5 W RADIO

S980<sup>+</sup> has integrated 2-5W UHF radio with 410-470MHz frequency. The receiver is equipped with an external radio antenna to work better.



### IMU (Optional)

The IMU technology is also available, only a fast initialization is requested.



### COLOR TOUCH DISPLAY

S980<sup>+</sup> comes with a convenient color touch display for easy management of the most important functions.



### EXTERNAL GNSS ANTENNA

S980<sup>+</sup>, through the appropriate connector, can be connected to an external GNSS antenna and is transformed from an RTK receiver to CORS.





EXTERNAL RADIO ANTENNA

BLUETOOTH | WI-FI | 4G

RADIO 5W

BATTERY 13.600mAh | USB TYPE-C

COLOR TOUCH DISPLAY

EXTERNAL GNSS ANTENNA | 1PPS PORT



## S980+ IMU technology

Stonex S980+ GNSS receivers have the IMU System that allows tilted measurement (TILT).

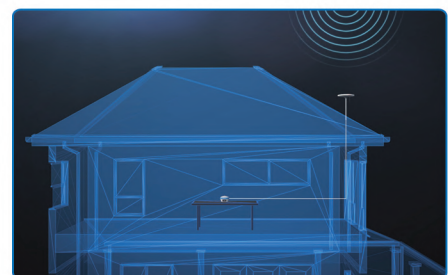
### What are the performances of the S980+ with IMU?

- Fast initialization
- Up to 60° inclination
- 2cm accuracy 30°
- 5cm accuracy 60°
- Fast and precise survey
- No problem of electromagnetic disturbances

The Stonex S980+ with IMU makes every measurement reliable, whether for surveying or staking, and makes point acquisition extremely faster, up to 40% faster than fieldwork time!

## Why to choose the S980+ ?

This model is very versatile, it manages to combine the functions of a high-quality GNSS RTK and a CORS instrument, all in one. The presence of a 5W radio enables it to cover a range of 10km making it suitable for becoming a base station; in addition, it has a 1PPS port that can be used in various applications.



# S980+ TECHNICAL FEATURES

## RECEIVER

Satellite signals tracked	GPS: L1 C/A, L1C, L2P, L2C, L5 GLONASS: L1, L2, L3 <sup>1</sup> BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b GALILEO: E1, E5a, E5b, E6 QZSS: L1, L2, L5 IRNSS: L5 <sup>1</sup> SBAS
PPP	B2b PPP <sup>1</sup> , HAS <sup>1</sup>
Channels	1408
Position Rate	Up to 20 Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	Typically < 10 s
Hot Start	Typically < 1.5 s
Initialization Reliability	> 99.9 %
Internal Memory	32 GB
OS	Linux
Display	1.45" TFT LCD, 240 x 320 pixels
Tilt Sensor	IMU and E-bubble (optional) <sup>2</sup>

## POSITIONING<sup>3</sup>

STATIC GNSS SURVEYING	
High Precision Static Horizontal	2.5 mm + 0.1 ppm RMS
High Precision Static Vertical	3.5 mm + 0.4 ppm RMS
Static and Fast Static Horizontal	3 mm + 0.5 ppm RMS
Static and Fast Static Vertical	5 mm + 0.5 ppm RMS
CODE DIFFERENTIAL POSITIONING	
Accuracy	0.40 m RMS
SBAS POSITIONING <sup>4</sup>	
Accuracy	0.60 m RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK <sup>5</sup>	
Fixed RTK Horizontal	5 mm + 1 ppm RMS
Fixed RTK Vertical	10 mm + 1 ppm RMS

## INTEGRATED GNSS ANTENNA

High accuracy multi-constellation antenna, zero phase center, with internal multipath suppression

## INTERNAL RADIO 2-5 WATT

Type	Tx - Rx
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range	5 Km in urban environment Up to 15 Km with optimal conditions <sup>6</sup>

Illustrations, descriptions and technical specifications are not binding and may change

1. Available with future firmware update.
2. Optional, enabled via activation code.
3. Accuracy and reliability are generally subject to satellite geometry (DOPs), multipath, atmospheric conditions and obstructions. In static mode they are subject even to occupation times: the longer is the Baseline, the longer must be the occupation time.
4. Depends on SBAS system performance.
5. Network RTK precision depends on the network performances and are referenced to the closest physical base station.
6. Varies with the operating environment and with electromagnetic pollution.

## INTERNAL MODEM

Band	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/ B13/B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8 Nano SIM card
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## COMMUNICATION

I/O Connectors	5-pin Lemo connects the external power supply and external radio Type-C, for receiver power supply and data transfer 1PPS port GNSS port for external antenna
Bluetooth	2.1 + EDR, V5.0
Wi-Fi	802.11 b/g/n
Web UI	To upgrade the software, manage the status and settings, data download, etc. via Smartphone, tablet or other electronic device with Wi-Fi capability
Reference Outputs	RTCM2.3, RTCM3.0, RTCM3.2 MSM, CMR, CMR+, DGPS
Navigation Outputs	NMEA 0183

## POWER SUPPLY

Battery	Internal rechargeable 7.2 V – 13600 mAh
Voltage	9 to 28 V DC external power input with over-voltage protection (5-pin Lemo)
Working Time	Up to 15 hours
Charge Time	Typically 4 hours

## PHYSICAL SPECIFICATION

Dimensions	Ø 151 mm x 92 mm
Weight	1.5 Kg
Operating Temperature	-40°C to 65°C (-40°F to 149°F)
Storage Temperature	-40°C to 80°C (-40°F to 176°F)
Waterproof/Dustproof	IP67
Shock Resistance	Designed to endure to a 2 m pole drop on hardwood floor with no damage
Vibration	Vibration resistant



STONEX AUTHORIZED DEALER

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