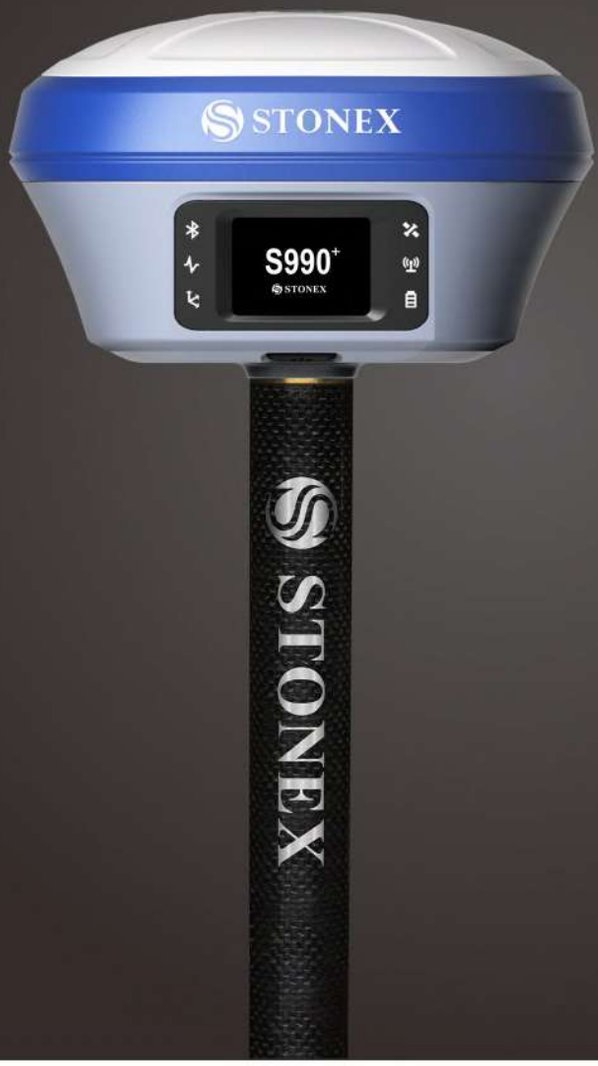
STONEX

S990+ GNSS Receiver

High Performance with IMU



suite cube

S990+ High Performance with IMU

The Stonex S990+ is a 1408-channel GNSS receiver that features characteristics that improve survey performance in the field. The S990+ receiver is equipped with all major connectivity features, including Bluetooth, Wi-Fi, UHF radio, and a 4G modem.

The internal 10,200mAh battery allows for up to 12 hours of operation and can be recharged via a USB Type-C connector. The IMU system supports tilted measurement (TILT) with quick initialization, enabling the operator to obtain fast and accurate surveys.

The color touch display and Web UI provide a quick and easy way to get complete control of the receiver. The 1PPS port is an additional advantage available on this GNSS receiver because it can be applied to scenarios that require precise timing to ensure that multiple facilities work together or to scenarios that use the same parameters for the integration of systems based on precise timing.

MULTIPLE CONSTELLATIONS

The Stonex S990+ is a 1408-channel GNSS receiver that provides an excellent on-board real-time navigation solution with high accuracy. All GNSS signals, including GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS, are included at no additional cost.

IMU TECHNOLOGY

The Stonex S990+ is equipped with IMU technology that allows for fast initialization and accurate measurements with an inclination up to 60°.

DOUBLE FREQUENCY RADIO (Optional)

The Stonex S990+ is equipped with an integrated UHF double frequency radio that supports 410-470MHz and 902.4-928MHz, meeting the needs of each country.

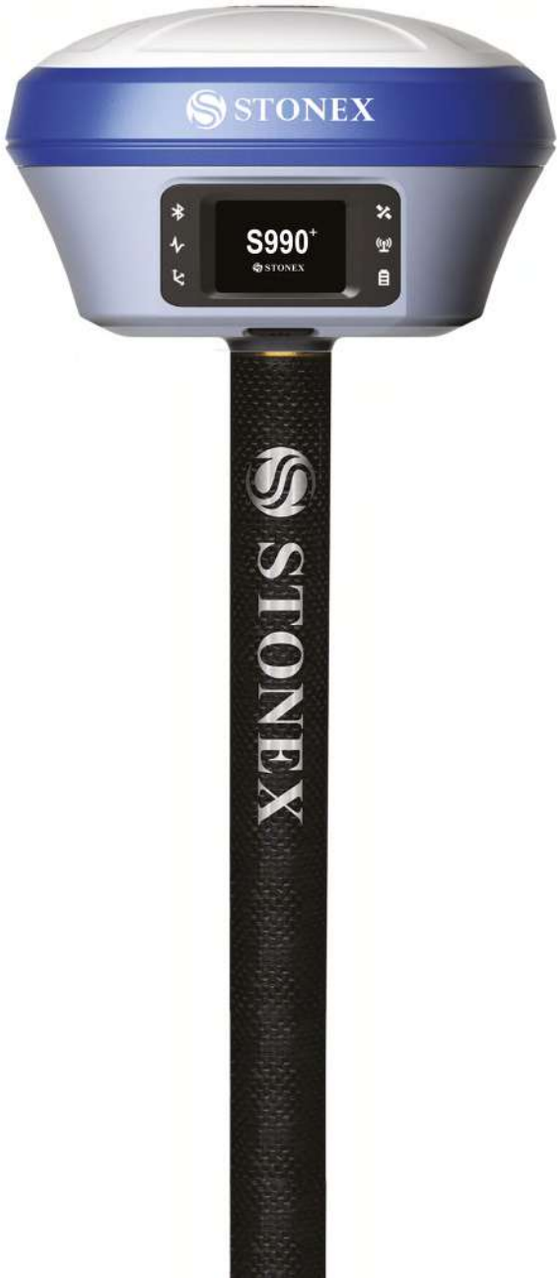
4G MODEM

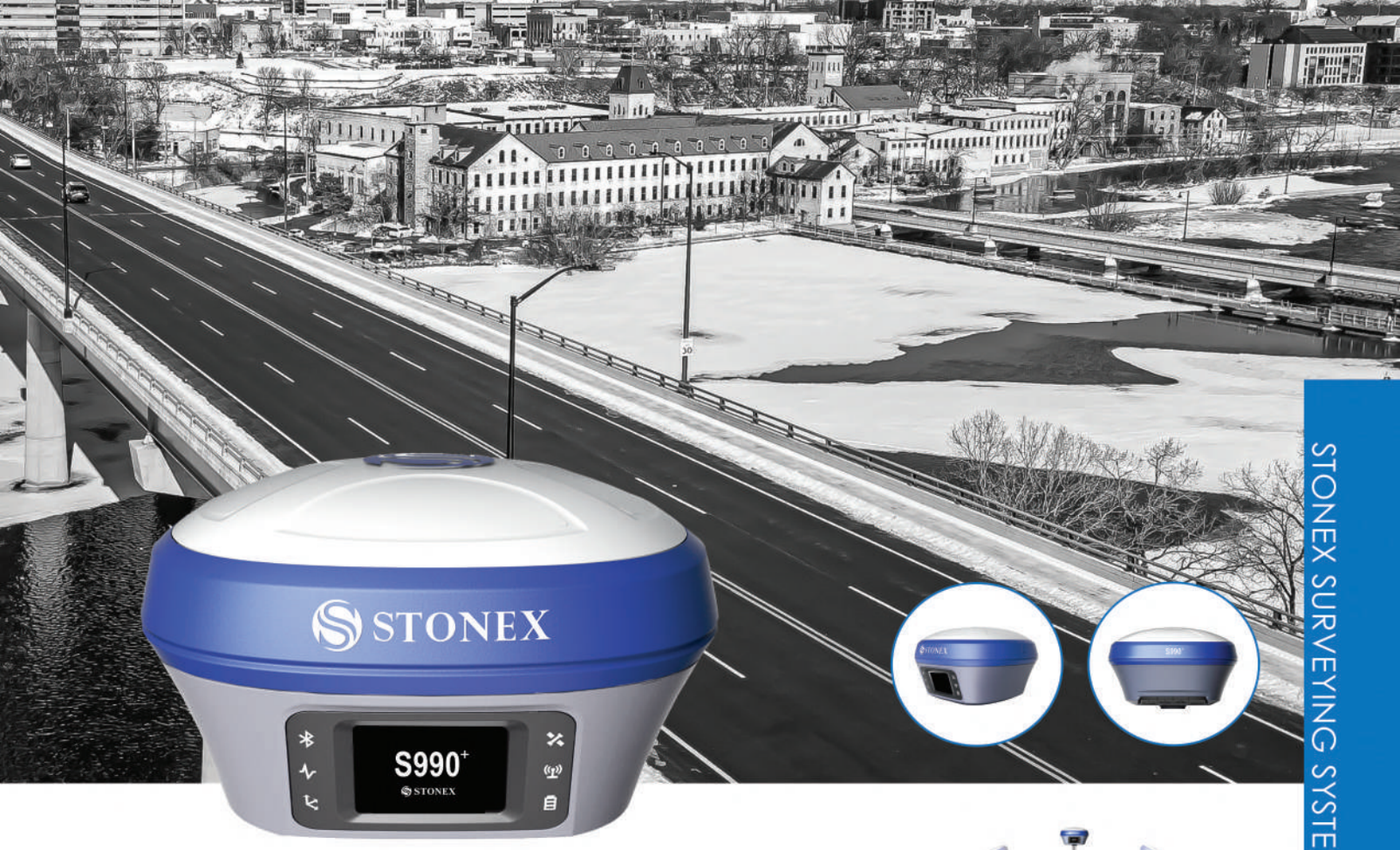
The Stonex S990+ is equipped with an internal 4G modem that operates with all world signals, ensuring a fast internet connection.

COLOR TOUCH DISPLAY

RGB

The Stonex S990+ is equipped with a color touch display that makes it easy to manage the most important functions.





S990+
IMU Technology

The S990+ GNSS receiver has an IMU system that allows tilted measurement (TILT). Thanks to the IMU technology, difficult and inaccessible points, such as the edges of houses, are no longer a problem.

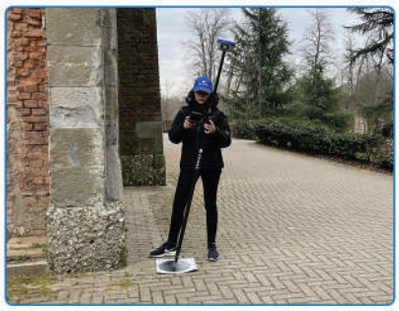
What is an Inertial Measurement Unit (IMU)?
An Inertial Measurement Unit (IMU) is a self-contained system that measures linear and angular motion usually with a triad of gyroscopes and accelerometers.

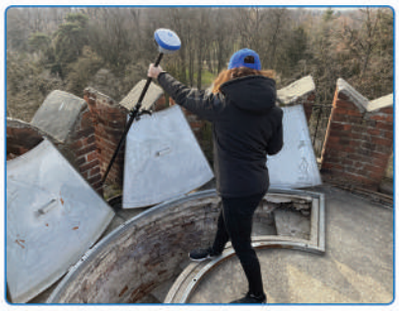
Stonex S990+ with IMU system makes every measurement reliable, in both survey and stakeout jobs, and makes the acquisition of points extremely faster, up to 40% of the field work time can be saved!

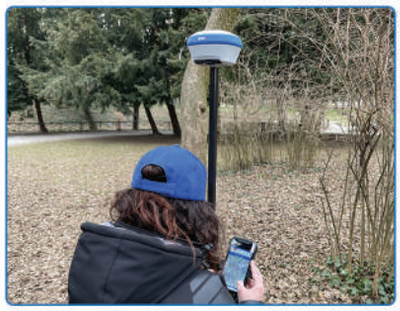
What are the performances of the S990+ with IMU?
- No problem of electromagnetic disturbances
- Fast initialization
- Up to 60° inclination
- 2cm accuracy 30°
- 5cm accuracy 60°
- Fast and precise survey

Why to choose S990+ ?

This GNSS device is chosen for its precision and accuracy, thanks to its built-in antenna with high gain. This feature makes the results obtained in the field the best among similar-range products. The instrument's capabilities are mainly observed in the performance measurement of RTK accuracy values. Additionally, it 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.







S990+ TECHNICAL FEATURES

RECEIVER

Signal Tracking	GPS: L1 C/A, L1C, L2P, L2C, L5
	GLONASS: L1, L2, L3[1]
	BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b
	GALILEO: E1, E5a, E5b, E6
	QZSS: L1, L2, L5
	IRNSS: L5[1]
	SBAS
PPP	B2b PPP[1], HAS[1]
Channels	1408
Position Rate	Up to 20Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization[2]	Typically < 10 s
Hot Start	Typically < 15 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

POSITIONING[3]

STATIC 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	
Horizontal	0.25 m + 1 ppm RMS
Vertical	0.50 m + 1 ppm RMS
SBAS POSITIONING[4]	
Accuracy	0.60 m RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK[5]	
Fixed RTK Horizontal	5 mm + 0.5 ppm RMS
Fixed RTK Vertical	10 mm + 0.5 ppm RMS

INTEGRATED GNSS ANTENNA

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

INTERNAL RADIO (optional)[6]

Type	Tx – Rx
Frequency Range	410 - 470 MHz 902.4 – 928 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range	3-4 Km in urban environment Up to 10 Km with optimal conditions[2]

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

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
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

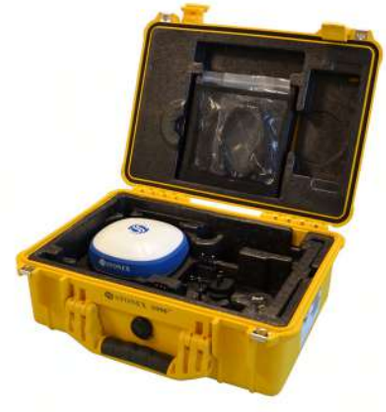
Battery	Internal rechargeable 7.2 V – 10200 mAh
Voltage	9 to 28 V DC external power input with over-voltage protection (5-pin Lemo)
Working Time	Up to 12 hours
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	Ø 151 mm x 94.5 mm
Weight	1.3 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

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

1. Available with future firmware update.
2. Varies with the operating environment and with electromagnetic pollution.
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. Optional, activated via activation code.



STONEX AUTHORIZED DEALER

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