

S900^{New} GNSS Receiver

Powerful Precision
Performance



S900^{New}

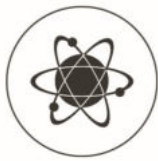
Powerful Precision Performance

S900 is the result of the continuous evolution of the Stonex GNSS integrated receivers. Featuring a high accuracy multi constellation antenna, a powerful UHF dual frequency transmitter and a GSM 4G modem, for a fully integrated multi-communication choice; all combined with a light and modern design.

Stonex S900 integrated GNSS receiver tracks all the present constellations and satellite signals GPS, GLONASS, BEIDOU, GALILEO, QZSS, IRNSS and through the upgradable firmware offers the opportunity to be day by day updated with the latest available features.

On S900 it is possible to insert 2 smart hot swappable batteries at the same time, ensuring a maximum of 12 hours of operation without stopping. To initialize, manage, monitor the settings of the receiver and to download data is available a user friendly Web UI.

S900 is also equipped with E-Bubble functionality and the optional IMU technology. Fast initialization, up to 60° inclination and the correct coordinates of a point with a simple click.



MULTI CONSTELLATION

Stonex S900 with its 555 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.



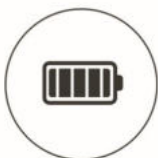
DOUBLE FREQUENCY RADIO

S900 has an integrated UHF double frequency radio, 410-470MHz and 902.4-928MHz. The needs of each country are supported.



E-BUBBLE + IMU

S900 thanks to the E-Bubble can display directly on the software if the pole is vertical and the point will be recorded automatically when the pole is levelled. The IMU technology is also available as optional, only a fast initialization is requested.



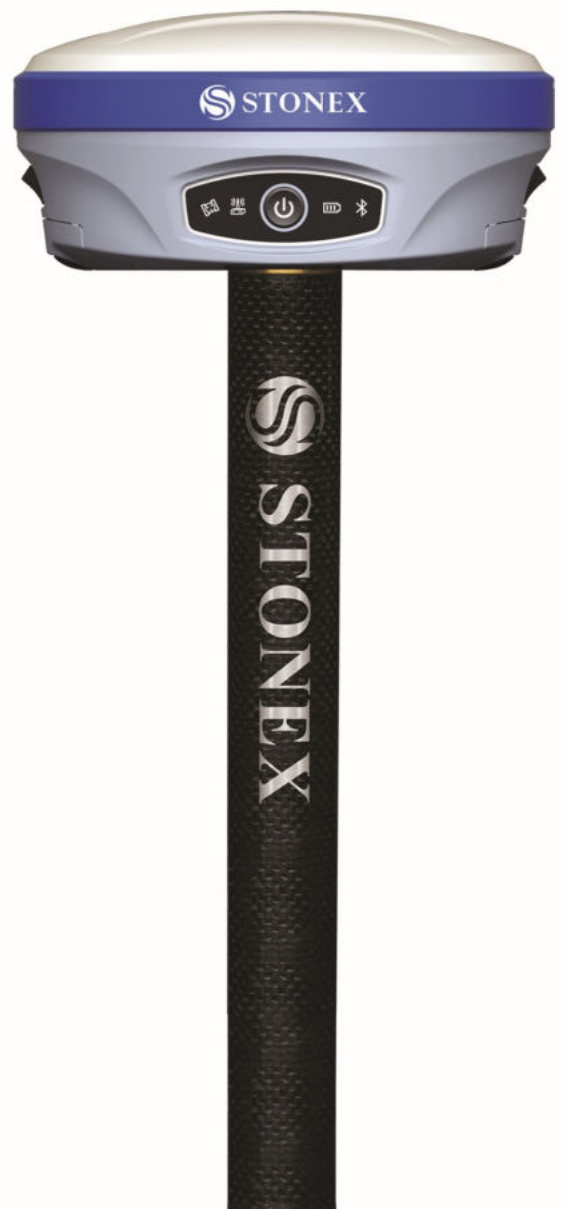
INTELLIGENT BATTERIES

The dual slot for two Smart hot swappable batteries gives you up to 12 hours of battery life. The power level can be checked and seen on the controller or directly on a led bar on the battery.



4G MODEM

S900 has an internal 4G modem that operates with all world signals, a fast internet connection is guaranteed.



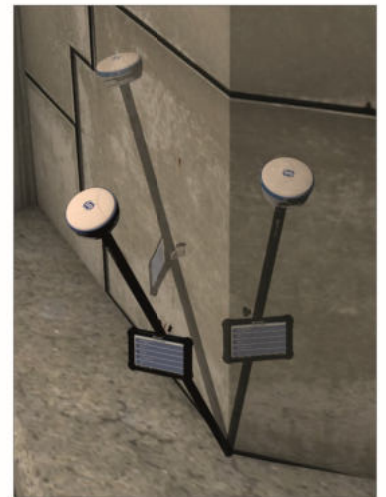


S900^{New}

E-Bubble functionality

Stonex S900 integrates an E-Bubble that allows the measurement of difficult points with the pole not levelled. You can calculate the correct coordinate of a point by measuring from 3 different positions. It is possible to measure points with an inclination of the pole up to 60°, even in harsh environments and in the presence of magnetic fields.

In addition, you can view the instrument bubble directly within the survey software without worrying about checking the bubble of the pole. Thanks to measurement routine integrated into the field software, the management of tilt function is simple and intuitive.



IMU Technology

S900 GNSS receivers have as optional feature the new IMU System that allows tilted measurement (TILT). Thanks to the new IMU technology, the edges of the buildings, the difficult and inaccessible points 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.

What do Inertial Sensors Measure?

- Gyroscope measures angular velocity
- Accelerometer measures linear acceleration
- Magnetometer measures magnetic field strength

What are the performances of the S900 with IMU?

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



Stonex S900 with IMU System makes reliable every measurement, for both surveys and the stake-out jobs, and makes extremely fast the acquisition of points: up to 40% of the field work time can be saved!

S900^{New} TECHNICAL FEATURES

RECEIVER

| | |
|----------------------------|---|
| Signal Tracking | GPS: L1 C/A, L1C, L2C, L2P, L5 |
| | GLONASS: L1 C/A, L2C, L2P, L3, L5 |
| | BEIDOU: B1, B2, B3 |
| | GALILEO: E1, E5A, E5B, ALTBOC, E6 |
| | QZSS: L1 C/A, L1C, L2C, L5, L6 |
| | IRNSS: L5 |
| | SBAS: L1, L5 |
| Channels | 555 |
| Position Rate | 5 Hz |
| Signal Reacquisition | < 1 s |
| RTK Signal Initialization | Typically < 10 s |
| Hot Start | Typically < 15 s |
| Initialization Reliability | > 99.9 % |
| Internal Memory | 8 GB |
| Micro SD Card | Expansion slot up to 32 GB |
| Tilt sensor | E-Bubble IMU (optional) ⁵ |

POSITIONING¹

| | |
|--|----------------------|
| HIGH PRECISION STATIC SURVEYING | |
| Horizontal | 3 mm + 0.1 ppm RMS |
| Vertical | 3.5 mm + 0.4 ppm RMS |
| CODE DIFFERENTIAL POSITIONING | |
| Horizontal | 0.25 m RMS |
| Vertical | 0.45 m RMS |
| SBAS POSITIONING ² | |
| Horizontal | 0.30 m RMS |
| Vertical | 0.60 m RMS |
| REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK ³ | |
| Fixed RTK Horizontal | 8 mm + 1 ppm RMS |
| Fixed RTK Vertical | 15 mm + 1 ppm RMS |

INTEGRATED GNSS ANTENNA

High accuracy four constellation micro-strip antenna, zero phase center, with internal multipath suppressive board

INTERNAL RADIO (optional)⁵

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

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 | 7-pins Lemo and 5-pins Lemo interfaces. Multifunction cable with USB interface for PC connection |
| Bluetooth | 2.1 + EDR, V4.1 |
| 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 | RTCM 2.3, 3.2 CMR, CMR+, RTCA |
| Navigation outputs | NMEA 0183 |

POWER SUPPLY

| | |
|--------------|--|
| Battery | 2 rechargeable and replaceable 7.2 V – 3.400 mAh Intelligent lithium batteries |
| Voltage | 9 to 28 V DC external power input with over-voltage protection (5 pins Lemo) |
| Working Time | Up to 12 hours (2 batteries hot swap) |
| Charge Time | Typically 4 hours |

PHYSICAL SPECIFICATION

| | |
|-----------------------|--|
| Dimensions | φ 157 mm x 76 mm |
| Weight | 1.19 Kg (with one battery) 1.30 Kg (with two batteries) |
| 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 |
| MIL- STD | MIL-STD-810F |
| Shock Resistance | Designed to endure to a 2 m pole drop on concrete floor with no damage |
| Vibration | Vibration resistant |

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

- 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.
- Depends on SBAS system performance.
- Network RTK precision depends on the network performances and are referenced to the closest physical base station.
- Varies with the operating environment and with electromagnetic pollution.
- Optional, it can be activated via activation code.



If you are looking for a "Made in Italy" instrument with a 3 years warranty, you can purchase the Italian version of our S900 GNSS Receiver.



STONEX AUTHORIZED DEALER

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