

## S900A<sup>New</sup> GNSS Receiver

Powerful Precision  
with Atlas<sup>®</sup> capability



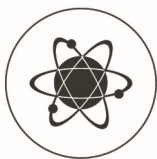
# S900A<sup>New</sup> Powerful precision with Atlas®

Stonex S900A is equipped with an high performance GNSS board 800 channels and capable of supporting multiple satellite constellations: GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS, including L-Band correction.

Through the 4G GSM modem a fast internet connection is guaranteed for the reception of correction data and the management of the maps in the background. In the amazingly compact structure the Bluetooth and Wi-Fi modules allow always reliable data flow to the controller, and the integrated TX/RX UHF radio with selectable frequencies, make S900A the perfect system for a GNSS Base + Rover.

Stonex S900A integrates E-Bubble sensor 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.

S900A is also equipped with the optional IMU technology. Fast initialization, up to 60° inclination and the correct coordinates of a point with a simple click.



## MULTI CONSTELLATION

Stonex S900A with its 800 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.



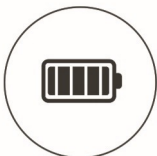
## 4G MODEM

S900A has an internal 4G modem that operates with all world signals, a fast internet connection is guaranteed.



## E-BUBBLE + IMU

S900A 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.

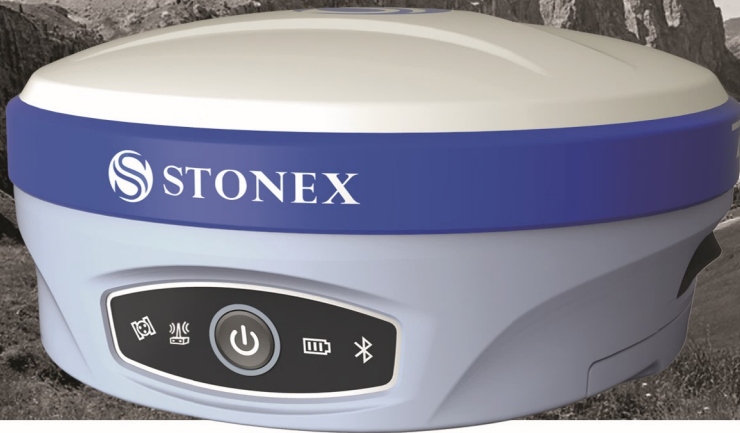


## DOUBLE FREQUENCY RADIO

S900A has integrated UHF double frequency radio, 410-470MHz and 902.4-928MHz. The needs of each country are supported.







# S900A<sup>New</sup>

## Atlas® correction service & aRTK




S900A is a Stonex GNSS Receiver capable to automatically select the best combination of GNSS signals with the possibility to receive Atlas® RTK L-band. ATLAS is an exclusive PPP technology that provides real-time, centimeter-level positions.

Atlas® is a subscription for S900A aimed to achieve 3 different levels of accuracy depending on precision type that you need.

Atlas® gives the precise centimeter-level positioning around the world, perfect when working in difficult areas.

aRTK is an innovative feature available in Stonex S900A GNSS Receiver that continue generating precise positions up to 20 minutes in case the receiver loses the land based RTK correction source.



|   |                                       |
|---|---------------------------------------|
|  | <b>BASIC</b><br>50 cm 95% (30 cm RMS) |
|  | <b>H30</b><br>30 cm 95% (15 cm RMS)   |
|  | <b>H10</b><br>8 cm 95% (4 cm RMS)     |

## SureFix Robust RTK Positioning

SureFix is the new processor that runs in combination with GNSS engine to provide high fidelity RTK quality information. The SureFix processor takes several inputs and determines the quality of the RTK solution in the form of "quality indicators". The indicators are then combined with RTK data and provide the user with high fidelity information about the quality of the RTK solution.

## IMU Technology

S900A 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 are the performances of the S900A with IMU?

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



Stonex S900A with IMU system makes reliable every measurement, for both survey and stake-out jobs, and makes extremely faster the acquisition of points: up to 40% of the field work time can be saved!

# S900A<sup>New</sup> TECHNICAL FEATURES

## RECEIVER

|  |   |
|--|---|
| Signal Tracking                        | GPS: L1 C/A, L1C, L1P, L2C, L2P, L5             |
|  | GLONASS: L1 C/A, L1P, L2 C/A, L2P, L3           |
|  | BEIDOU: B1, B2, B3, ACEBOC                      |
|  | GALILEO: E1, E5a, E5b, ALTBOC, E6               |
|  | QZSS: L1 C/A, L1C, L2C, L5, LEX                 |
|  | IRNSS: L5                                       |
|  | SBAS: L1, L5                                    |
| L-Band                                 | Atlas H10 / H30 / Basic (optional) <sup>5</sup> |
| Bridging of RTK outages                | aRTK - Works up to 20 minutes                   |
| Channels                               | 800   |
| Position Rate                          | 10 Hz (optional 20-50Hz) <sup>5</sup>           |
| Signal Reacquisition                   | < 1 s   |
| RTK Signal Initialization <sup>4</sup> | 2 to 4 seconds                                  |
| 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) <sup>5</sup>                     |

## POSITIONING<sup>1</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>2</sup>                            |                      |
| Accuracy   | 0.60 m RMS           |
| REAL TIME KINEMATIC (< 30 Km) - NETWORK RTK <sup>3</sup> |                      |
| Fixed RTK Horizontal                                     | 5 mm + 0.5 ppm RMS   |
| Fixed RTK Vertical                                       | 10 mm + 0.5 ppm RMS  |

## INTEGRATED GNSS ANTENNA

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

## INTERNAL RADIO (optional)<sup>5</sup>

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

1. 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.
2. Depends on SBAS system performance.
3. Network RTK precision depends on the network performances and are referenced to the closest physical base station.
4. Varies with the operating environment and with electromagnetic pollution.
5. Optional, it can be activated via activation code.
6. On request



If you are looking for a "Made in Italy" instrument with a 3 years warranty, you can purchase the Italian version of our S900A GNSS Receiver.

STONEX AUTHORIZED DEALER

## INTERNAL MODEM

|      |  |
|------|--|
| Band | LTE FDD:   |
|      | B1/B2/B3/B4/B5/B7/B8/B12/<br>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, 3.0, 3.2<br>CMR, CMR+, ROX   |
| Navigation outputs | NMEA 0183  |

## POWER SUPPLY

|              |  |
|--------------|--|
| Battery      | 2 rechargeable and replaceable<br>7.2 V - 3.400 mAh<br>Intelligent lithium batteries |
| Voltage      | 9 to 28 V DC external power input<br>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)<br>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 / IP68 <sup>6</sup>   |
| MIL-STD               | MIL-STD-810H   |
| 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



**STONEX®**

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