S900A GNSS Receiver

Powerful Precision with Atlas® Capability
S900A Powerful Precision with Atlas® Capability

Stonex S900A is equipped with an high performance GNSS board 394 channels and capable of supporting multiple satellite constellations: GPS, GLONASS, BEIDOU and GALILEO, 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 radiomodem 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. It is possible to measure points with an inclination of the pole up to 30° even in harsh environments and in the presence of magnetic fields.

Thanks to measurement routine integrated into the field software, the management of tilt function is simple and intuitive.

### MULTI CONSTELLATION
Stonex S900A with its 394 channels, provides an excellent on board real time navigation solution with high accuracy. All GNSS signals (GPS, GLONASS, BEIDOU and GALILEO) are included, no additional cost.

### WEB UI CONTROL
To initialize, manage, monitor the settings of the receiver and to download data using portable or PC, smartphone or tablet with Wi-Fi capability.

### ELECTRONIC BUBBLE
On S900A through E-Bubble it can be displayed directly on software if the pole is vertical and the point will be recorded automatically when the pole is in bubble. This makes the acquisition of points extremely fast.

### INTELLIGENT BATTERIES
The dual slot for two Smart hot swappable batteries gives you up to 12 hours using the integrated UHF radiomodem. The power level can be checked and seen on the controller or directly on a led bar on the battery.

### RUGGED RTK
With IP67 Certification Stonex S900A will ensure operations in various kinds of extremely tough environments.
**S900A**

**aRTK & Atlas® correction Service**

S900A is new Stonex GNSS Receiver able to automatically select the best combination of GNSS signals with the possibility to receive Atlas® real time corrections when the connection signals are interrupted or not available.

aRTK is an innovative feature available in Stonex S900A GNSS Receiver that greatly mitigates the impact of land-based communication instability.

- aRTK delivered via satellite for uninterrupted centimetre positioning in areas where local RTK communication links are unstable.
- aRTK provides an additional layer of communication redundancy to RTK users, ensuring that productivity is not impacted by intermittent data connectivity.

Thanks to aRTK the receiver is able to continue generating RTK positions in case the land based RTK correction source becomes unavailable for few minutes. Atlas® is a subscription for S900A aimed to achieve 3 different levels of accuracy depending on subscription type that you need. Atlas® gives the precise positioning centimeters around the world, perfect when working in difficult areas.

**Main features**

- No RTK base station or RTK network required
- Correction data is continuously transmitted by satellite L-Band or Internet, delivering global coverage
- Bridging RTK outages for uninterrupted accurate positioning
- Autonomous remote position within centimeter accuracy
- Retain position accuracy during RTK data stream losses
- Keep position accuracy as long as needed

**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.
### S900A TECHNICAL FEATURES

#### RECEIVER
- **GPS**: L1 C/A, L1C, L1P, L2C, L2P, L5
- **GLONASS**: L1 C/A, L1P, L2C, L2P
- **BEIDOU**: B1, B2, B3
- **GALILEO**: E1, E5a, E5b
- **QZSS**: L1 C/A, L1C, L2C, L5
- **SBAS**: L1, L5
- **L-Band**: Atlas H10 / H30 / H100
- **Channels**: 394
- **Position Rate**: 5 Hz, optional 20Hz
- **Signal Acquisition**: < 1 sec
- **RTK Signal Initialization**: Typically < 10 sec
- **Hot Start**: Typically < 15 sec
- **Initialization Reliability**: > 99.9%
- **Internal Memory**: 8 GB
- **Micro SD Card**: Expansion slot up to 32 GB

#### POSITONING
1. **HIGH PRECISION STATIC SURVEYING**
   - **Horizontal**: 2.5 mm + 0.1 ppm RMS
   - **Vertical**: 3.5 mm + 0.4 ppm RMS
2. **CODE DIFFERENTIAL POSITIONING**
   - **Horizontal**: 0.25 m RMS
   - **Vertical**: 0.45 m RMS
3. **SBAS POSITIONING**
   - **Horizontal**: 0.30 m RMS
   - **Vertical**: 0.60 m RMS
4. **REAL TIME KINEMATIC (< 30 km) - NETWORK SURVEYING**
   - **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
- **Type**: Tx - Rx
- **Frequency Range**: 410 - 470 MHz
- **Channel Spacing**: 12.5 kHz / 25 kHz
- **Range**: 3-4 Km in urban environment, Up to 10 Km with optimal conditions

#### INTERNAL MODEM
- **Band**: GSM/GPRS/EDGE
- **LTE/UMTS/WCDMA

#### COMMUNICATION
- **I/O Connectors**: 7-pins Lemo and 5-pins Lemo interfaces, Multifunction cable with USB interface for PC connection
- **Bluetooth**: 2.1 + EDR, V4.0
- **Wi-Fi**: 802.11 b/g/n
- **Web UI**: To upgrade the software, manage the status and settings, data download, etc. via smart phone, tablet or other Internet enabled electronic device
- **Reference outputs**: RTCM 2.3, 3.2, CMR, CMR+ ROX
- **Navigation outputs**: GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL

#### POWER SUPPLY
- **Battery**: 2 rechargeable and replaceable 7.2 V ~ 3400 mAh Intelligent lithium batteries
- **Voltage**: 9 to 22 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**: Ø 157 mm x 76 mm
- **Weight**: 1.19 Kg [with one battery]
- **Temperature**: -30°C to 65°C (-22°F to 149°F)
- **Storage Temperature**: -40°C to 80°C (-40°F to 176°F)
- **Waterproof/Dustproof**: IP67 / IP68
- **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.

| 1. Accuracy and reliability are generally subject to satellite geometry (DOAs), multipath, atmospheric conditions and obstructions. In static mode they are subject even to occupation times: the longer 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. PIR Models.

---

**STONEX**

Part of UniStrong

www.dronesimaging.com

STONEX AUTHORIZED DEALER

Via Cimabue 39 - 20851 Lissone (MB) Italy
Phone +39 039 2783008 | Fax +39 039 2789576
www.stonex.it | info@stonex.it