# STONEX S5
# GNSS Receiver
# **User Manual**

# Contents

# A brief introduction to STONEX S5 GNSS

First of all we, the STONEX Team, would like to congratulate you on choosing a STONEX product.

With STONEX S5 you have purchased the smallest, the most rugged and advanced SMART Mobile Triple Constellation + SBAS GNSS receiver for GIS, Mobile & Agricolture applications and Cadastral Survey.

From now on you will improve the positioning capabilities of already existent devices, as Smartphones, Android and Windows Tablet, Notebook, Windows Mobile as STONEX S4, just adding your new STONEX S5 SMART Mobile GNSS receiver.

The friendly Web User Interface makes STONEX S5 an 'active device', giving you a complete control of the unit, regardless of the application software used on the external device.

STONEX S5 supports multiple constellations – GPS, GLONASS, Beidou, Galileo (ready) – and SBAS accuracy augmentation systems, to make safe working sessions using several available and visible satellites.

Thanks to the integrated GPRS modem, S5 can take advantage from existing GPS Networks, directly receiving differential corrections from the Network and supplying amazing centimetric accuracies in RTK fix mode.

High accuracy Agricolture, Mapping, GIS data collection, environmental agencies, Forestry are just a short list of the fields where Stonex S5 will give a decisive impulse to the productivity and to the quality of the positioning data, with the additional advantage using the already existent devices, as Smartphones and Tablet with Android, Ios, Windows operating system.

To know 'how to' see the following notes:

- How to store NMEA and/or Observation data (i.e. for a postprocessing elaboration): 6.5 Customizing NMEA + 6.6 Other for Observation storage
- How to improve the position accuracy of any Android device: install the GNSSPositionServer-APK (download the APK from the Stonex WEB site)

- How to establish a Bluetooth connection with a Bluetooth device: launch the BT search from the device, after some second the S/N of S5 will appear in the available BT devices, pair it with the device.
- How to connect S5 with an existent GPS Network: see from 6.2.1 Internal Differences
- How to download the stored NMEA and Observation data files: see 5.4 and 5.5 Observation and NMEA.
- How to convert the coordinates with a 7 or 4 parameters conversion: see at 6.3.

See from page 27 the complete list of STONEX S5 technical features.

The STONEX S5 package includes the following items:

- STONEX S5 instrument unit
- 2 pin adapter 5.35V/2A
- Mixed pins for different plug systems
- USB Cable
- Soft bag (black)

Please check the items before to start using the GPS!

☞ The GPS must be completely charged before to use it for the first time; the recharge can be done both with the adapter (fast charge) or connecting the S5 to a computer with USB port (slow charge).

☞ The level of the battery charge can be checked in the WEB UI (5.1 Device – Informations)

# 1. LEDs, button and plugs description



**From left to right:**

| Button&Led | Function |
|---|---|
| **Bluetooth led** | The Blue led turns on when connected to a BT device |
| **Datalink led** | Flashing when receiving differential corrections data |
| **On/Off button** | Press to switch on, long press to switch off |
| **Satellite led** | Flashing according to the number of received satellites |
| **Power led** | Red when under charging, green in working mode |

## 1.1 External antenna port

Stonex S5 is equipped with an high efficiency integrated spiral GNSS Antenna, capable of receiving GPS signals in every position of the GPS (horizontal, vertical, inclined…).
S5 can be used into the soft pouch, in your pocket, hanged to the pants belt.
When S5 is used for more accurate measurements, mounted in fixed position or on a digger, a tractor and similar machines, an external antenna can be connected.
The suggested antenna + cable are the following STONEX p/n:

- 30-350121 (GPS + GLONASS antenna);
- 30-350161 (triple frequency GPS/GLONASS/Beidou antenna)
- 30-350130 5m coaxial cable SMB-TNC
- 30-350129 2m coaxial cable SMB-TNC


**Left:** The external antenna port and the antenna cable plug;
**Right:** the micro SIM card slot
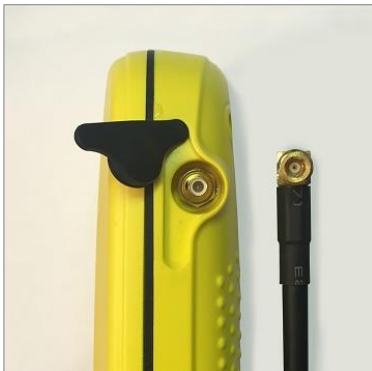


## 1.2 USB & SIM plug
On the bottom side of S5 are situated the mini USB port, for battery charging and stored data download, and the micro SIM card slot, for 3.75G connections to GPS Network servers.

## 2. Quick start

Lightly press the middle round key to start the receiver, S5 default WIFI hot opening, use a mobile phone or laptop to search for S5 WiFi hot and connect with it (The hotspot shows by serial number, no password). The connection display is as follows:
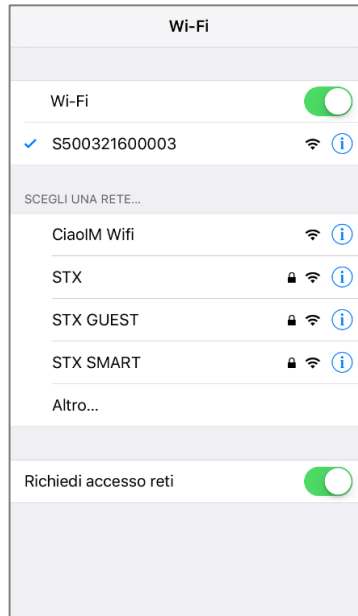


Then visit the S5 WEB UI by the **IP address 192.168.10.1**.

The starting page is as follows, the complete set of WEB UI menù and sub menu are shown:

- Satellites + submenu Position, Skyplot, Sate List
- Device + submenu Information, Self Checking, Upgrade, Observations, NMEA;
- SET + submenu APN, Datalink, Coordinate convert, GNSS, Customizing NMEA, Other.

# 3. Web UI Starting page and available Menus

# 4. Satellites

## 4.1 Position

This page shows the current positioning status of the device, the solution state, the precision estimation and other general data.
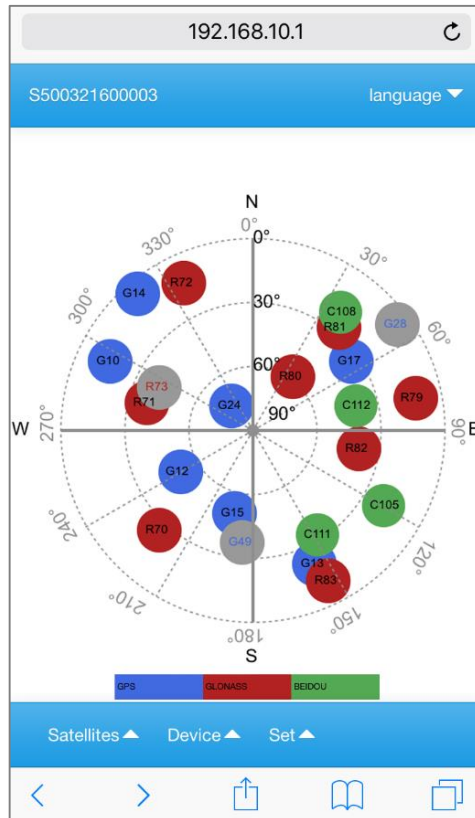
## 4.2. Skyplot

The used and the tracked satellites map is visible in the Skyplot page.

## 4.3 Sate-List

This page shows the received satellites informations, including constellation (GPS, GLONASS, Beidou), satellite number, Elevation, Azimuth, signal/noise ratio (L1 column)

| Number | Elevate | Azimuth | L1 |
|--------|---------|---------|-----|
| G17 | 34 | 56 | 50 |
| G24 | 74 | 319 | 42 |
| G28 | 7 | 54 | 36 |
| G49 | 37 | 185 | 35 |
| R70 | 27 | 224 | 38 |
| R71 | 39 | 286 | 43 |
| R72 | 13 | 336 | 35 |
| R73 | 41 | 294 | 44 |
| R79 | 12 | 78 | 44 |
| R80 | 59 | 35 | 43 |
| R81 | 27 | 41 | 46 |
| R82 | 39 | 102 | 46 |
| R83 | 10 | 154 | 39 |
| C105 | 19 | 120 | 43 |
| C108 | 21 | 37 | 40 |
| C111 | 31 | 149 | 44 |
| C112 | 40 | 78 | 47 |

192.168.10.1

S500321600003　　　　　　　language ▼

Satellites ▲　　Device ▲　　Set ▲

# 5. Device

## 5.1 Information

The Information page of DEVICE shows the receiver firmware version, GNSS hardware and firmware version, GNSS serial, CORS connection, memory and datalink status.

## 5.2 Self-Checking

The Self checking procedure, activated by pressing the Start Checking button, is used to check the complete set of internal devices of S5; the check takes some second.
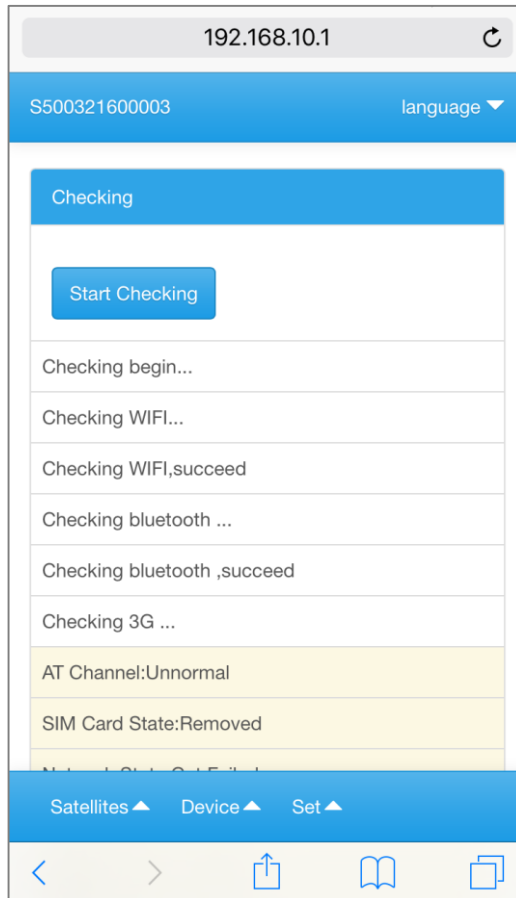
## 5.3 Upgrade

The Upgrade menu is used to load and activate the Stonex S5 firmware on line.
Select the firmware file (it is a .bin file), and import it: S5 will automatically restart to install and activate the upgraded firmware.

## 5.4 Observation

In the Observation page are listed the observation files potentially stored during the Survey sessions.
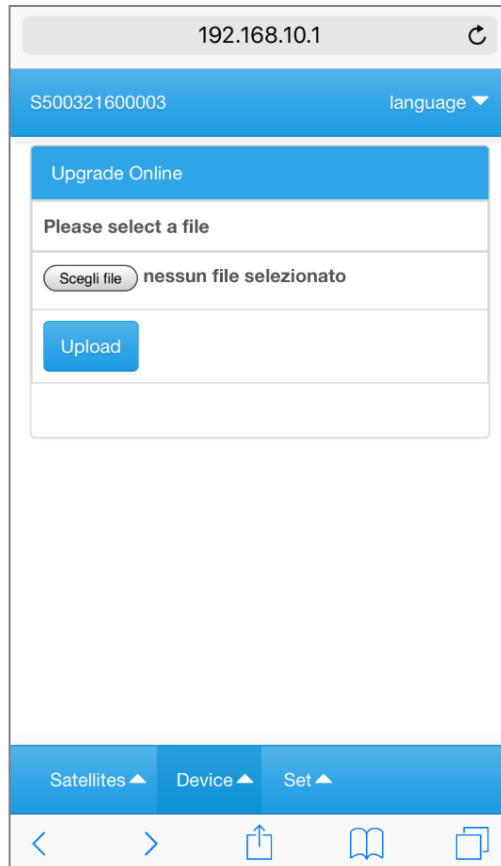
The files can be downloaded through the USB port and/or deleted from the S5 memory.

The files are standard RAW files (namefile.DAT) that can be used as they are or converted into RINEX format.

The storage of the observation files is not mandatory, the User will choose if to store or not the Obs. data enabling the option Observation Setting (Enable/Disable) in the OTHER Menù (☞ 6.6)

## 5.5 NMEA

In the NMEA page are listed the NMEA files potentially stored during the Survey sessions.

The files can be downloaded through the USB port and/or deleted from the S5 memory.

The files are customizable through the page 6.5 (Customizing NMEA), where the User will define the types and the frequencies of all the available NMEA string will be transmitted to the external device and optionally stored.
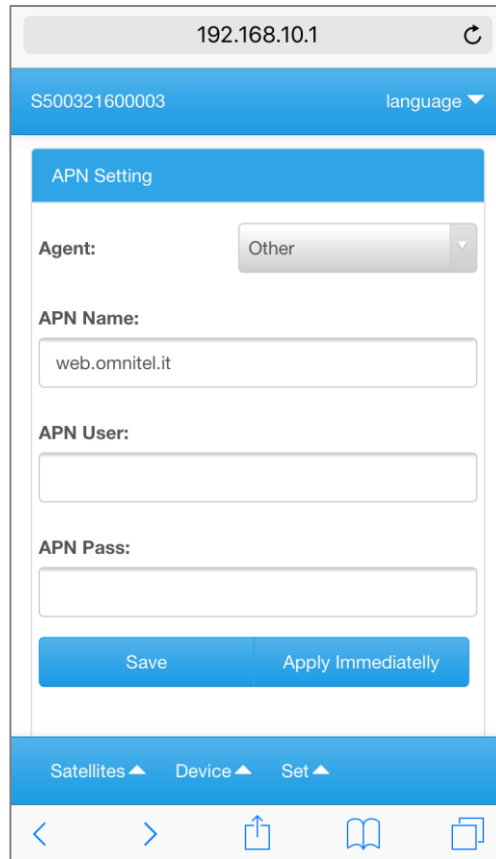
To start the NMEA file storage see par. 6.4.1 Output Precision

| Filename | Size | Download | Delete |
|---|---|---|---|
| 2016042201.nmea | 112 K | Download | Delete |
| 2016042202.nmea | 87 K | Download | Delete |
| 2016042702.nmea | 198 K | Download | Delete |
| 2016042602.nmea | 239 K | Download | Delete |
| 2016042603.nmea | 292 K | Download | Delete |
| 2016042701.nmea | 1.01 M | Download | Delete |

192.168.10.1

S500321600003     language ▼

Satellites ▲    Device ▲    Set ▲

# 6. Set

## 6.1 APN

The first page of the SET options is used to input the access point name (APN), the User access credentials (User name & password) for the following connections.

## 6.2 Datalink
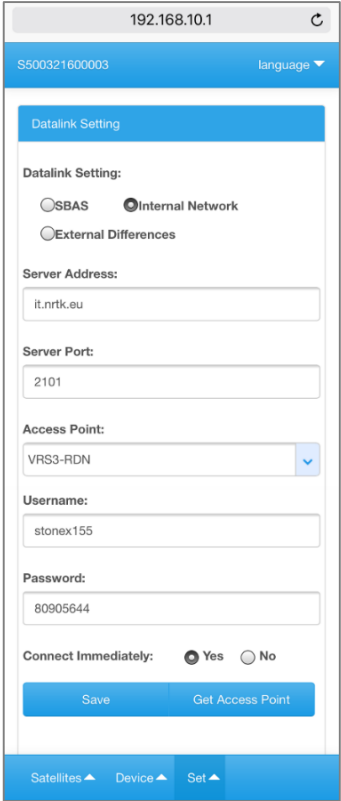
This part is to set up the way of S5 obtaining the correct information and the corresponding parameters, S5 supports three kinds of differential correction: SBAS difference, internal network (conventional CORS connection), external difference (transmit the differential correction information via Bluetooth or WIFI hot).

## 6.2.1 Internal Network (CORS Connection)

Select Internal Network when S5 must be connected to a GPS Network.

The setting of the internal data link requests APN settings, CORS settings, the access point name, Username and password
To start the connection select Connect immediately – YES.

☞ Remember to insert a valid micro SIM card in the relevant slot on the bottom of S5

## 6.2.2 SBAS

When a GPS Network is not available or less accuracy is requested, the SBAS corrections give an augmented accuracy to the measurements.

In Datalink settings select the SBAS option and click save.

After some time the SBAS corrections appear in the Information pages, and the augmented accuracy will take effect.

## 6.2.3. External Differences

Choose External difference when the transmission of the differential to the host equipment is preferred via Bluetooth or WIFI hot.

The External differences display in the next page.

## 6.3 Coordinate Convert

The efficient WEB UI of STONEX S5 includes the Coordinate conversion setting, so useful when using basic software, not equipped with the conversion procedures, and in order to get 'ready to use' coordinates in the field.

S5 gives 2 ways to calcultate the Coordinate Conversion, a 4 Parameters and the most used 7 Parameters conversion.

Of course, the request for the DATUM parameters are included in the Conversion procedure.



**Destination Datum**



**Four Parameter**

**(Coordinate Convert – continue)**



Projection Parameter
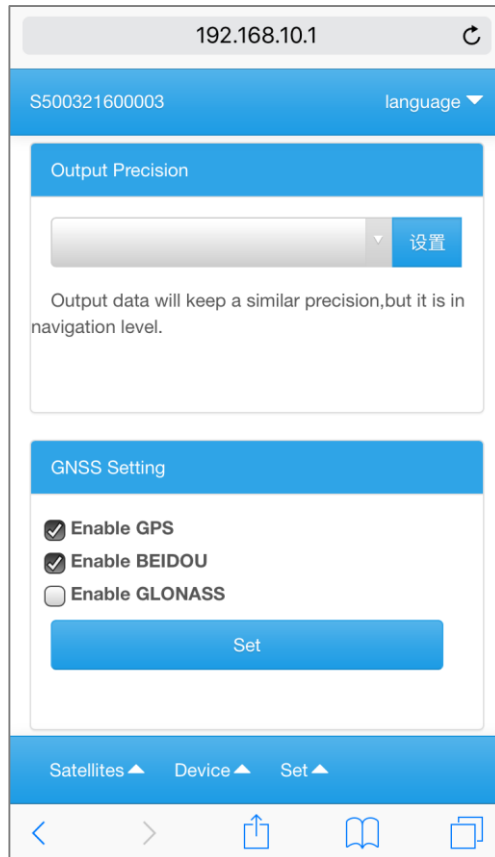


Seven Parameter

## 6.4 GNSS

The GNSS page has two main purposes: to define the Output Precision and which Satellites constellations must be used.

- Output Precision (AUTO – MEASUREMENT – NAVIGATION) Choose between only navigation data, only Observation (measurement) data, or both (AUTO).

Then choose the desired Satellites constellations.

## 6.4.1 Output Precision modes

STONEX S5 offers 2 + 1 precision modes: Navigation, Measurements and AUTO.

Choosing AUTO mode, S5 will use measurement mode (high-precision) or navigation mode (low-precision) automatically.

Navigation is used when low accuracy with no differential correction is requested, the error may reach several meters.

In general, the AUTO or measurement mode are the suggested modes.



**AUTO**
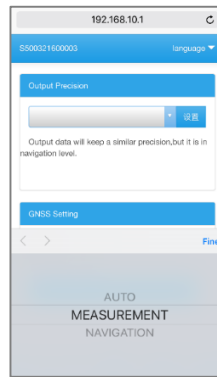


**MEASUREMENT**
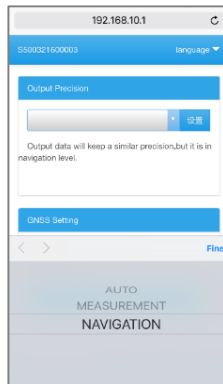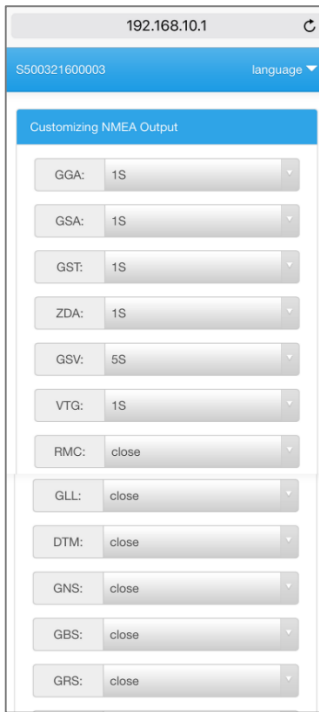


**NAVIGATION**
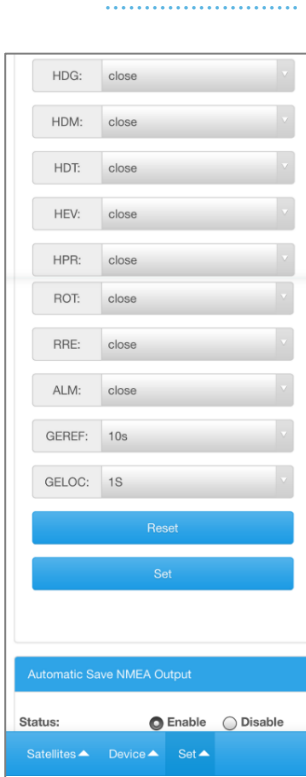
## 6.5 Customizing NMEA

The NMEA data format is completely customizable. The User can choose between all the available NMEA sentences, also defining the output frequencies.

Once the choice is done, by pressing SET the custom NMEA cuìongfiguration is stored and available when S5 is switched on once again.

The STATUS option gives the opportunity to output and store (ENABLE) or not the related sentences.

## 6.6 Other
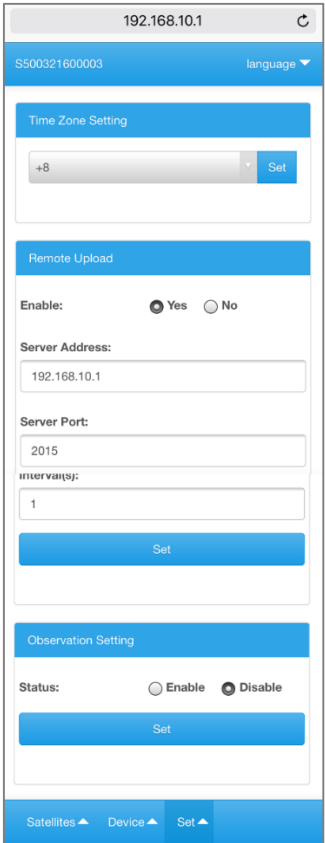
This page is used to set up the access information of the mobile phone card to obtain the differential correction informations; this page is effective only using the Internal Network Datalink.

The Remote Upload option gives the opportunity to upload the observed data to a remote server with a given interval.

To get NMEA data via WiFi, set the following parameters:

- ENABLE: YES
- Server address: 192.168.10.1
- Server port: 8080
- Press SET to confirm the configuration.

When Observation Setting is enabled and Set, the Obs. data storage will start; see the related file in 5.4 – Device – Observation.

## 6.6.1 Time Zone Setting

# Appendix 1: Technical Specifications

### RECEIVER

| | |
|---|---|
| Channels | 372, parallel tracking |
| GNSS module | Internal GNSS antenna: GPS L1/GLONASS L1/BEIDOU B1 |
| | Galileo and QZSS ready |
| | SBAS 3 channels parallel tracking |
| | Ublox 6 m for assisted navigation |
| | Customizable NMEA protocols through WEB UI |
| | RTK correction protocols: CMR, CMR+, RTCM 2.x, 3.0, 3.1, 3.2 |

### POSITIONING ACCURACY

| | |
|---|---|
| Range | Sub meter - decimeter |
| Post-differential Positioning | < 0.5 m+1 ppm |
| Point Positioning (Autonomous) | 1.2 m (RMS) |
| DGPS Positioning | 0.5 m (CEP) |
| SBAS Positioning | 0.6 m (RMS) |
| RTK (GPS Network/CORS connected) | 0.3 m – 0.6 m1 |

### COMMUNICATION

| | |
|---|---|
| Connector I/O | SMB external antenna port |
| | Mini USB (for stored NMEA files download and charging) |
| | Buzzing |
| | SIM Slot |
| BluetoothTM | Long range (50m) BluetoothTM 2.1 |

| | |
|---|---|
| Wi-Fi | IEEE 802.11 a/b |
| Network Module | Support WCDMA/HSDPA+/GPRS |
| WebUI | Yes |

| Supported Platforms | ANDROID, Windows MobileTM, WinCE, Windows Systems |
|---|---|

**POWER SUPPLY**

| Battery | Li-Ion 3.7 V/6800 mAH, 8 hours life |
|---|---|

**PHYSICAL SPECIFICATION**

| Size & Weight | 11,9 x 8,6 x 3,2 cm; 290 g |
|---|---|
| Operating temperature | -30°C  to 65°C |

| Storage temperature | -40°C to 80°C |
|---|---|
| Waterproof/Dustproof | IP67<br>Drops: 1.2m four sides @normal temperature , -20°C |
| OS | Linux |
| Platform | AM335X |
| Keypad and Display | Four LEDs with specific functions: power, satellite, network, data (raw data or differential data) |
| Memory | 512 MB |
| Storage | Internal 4 GB |

**IN THE BOX**

| STONEX S5 instrument unit, 2 pin adapter 5.35 V/2A, USB cable, soft bag for S5 (color: black) |
|---|

**Specifications are subject to change without notice.**

[1] The accuracy of any measurement is subject to possible anomalies due to satellites geometry, atmospheric conditions, electromagnetic disturbances, obstructions. Follow the S5 User Guide to get the best possible performances.

# Appendix 2: Safety Recommendations

**Warnings and Cautions**

An absence of specific alerts does not mean that there are no safety risks involved in the use of this equipment.

Always follow the instructions that accompany a Warning or Caution, reported in this.

This information are intended to minimize the risk of personal injury and/or damage to propriety. In particular, observe safety instructions that are presented in the following form:

> **WARNING -** A Warning alerts about risk for health and/or damage to the propriety. A warning identifies the nature of the risk and the extent the possible injury and/or damage. It also describes how to protect yourself and/or the equipment from this risk.
>
> **CAUTION -** A Caution alerts about a possible risk of damage to the equipment and/or loss of data, but no risk for human safety.

**Wireless Module Approval**

The receivers uses internal wireless modules or could be connected to an external data communications UHF radio. Regulations regarding the use of the radio-modems vary greatly from country to country. In some countries, the unit can be used without obtaining an approval license. Other countries require specific approval or auto certification by the set maker.

Before using this instrument, check if authorization to operate the receiver is required in your country. It is the responsibility of the importer to verify if it is necessary a certification or license for the equipment in the country of use.

**Instrument Approval**

Covers technical features of the equipment relatives to electromagnetic emissions that can cause interference and disturbances to other instruments (note like emc compatibility) or generate not correct functionalities of the instrument itself. Approval is granted by the manufacturer of the equipment. Some countries have unique technical requirements for operation in particular

frequency bands. To comply with those requirements, Stonex srl may modify the equipment to be subjected to grant.

Unauthorized modification of the units voids already got approvals, the warranty time and the operational licenses of the instrument.


### GPRS/GSM/UMTS modem

Be sure the use of this product is allowed in the country and in the environment required. The use of this product may be dangerous and has to be avoided in the following areas:

- Where it can interfere with other electronic devices in environments such as hospitals, airports, aircrafts, etc.
- Where there is risk of explosion such as gasoline stations, oil refineries, etc.

It is responsibility of the user to enforce the country regulation and the specific environment regulation.

Do not disassemble the product; any mark of tampering will compromise the warranty validity.

Cautions have to be taken for the SIM card, checking carefully the instruction for its use. Do not insert or remove the SIM card when the product is in switched on.

**For Europe**

The European Community provides some Directives for the electronic equipments introduced on the market.

All the relevant information's are available on the European Community website:

http://ec.europa.eu/enterprise/sectors/rtte/documents/

The text of the Directive 99/05 regarding telecommunication equipments is available, while the applicable Directives (Low Voltage and EMC) are available at:

http://ec.europa.eu/enterprise/sectors/electrical

**FOR USA**

For your own safety, and in terms of the RF Exposure requirements of the FCC always observe the precautions listed here.

- Maintain a minimum separation distance of 20 cm (7.8 inches) between yourself and the radiating antenna.
- Do not collocate (place within 20 cm) the radio antenna with any other transmitting device.

**Bluetooth/WiFi radio Module**

The radiated output power of the internal Bluetooth module of this equipment is far below the FCC and EU radio frequency exposure limits The Bluetooth module match the guidelines found in radio frequency "safety standards and recommendations "published by Scientific organizations.

Stonex srl therefore believes the internal wireless radio is safe for use by end users. The level of energy emitted is far less than the electromagnetic energy emitted by wireless devices such as UMTS phones. However, the use of Bluetooth/WiFi may be restricted in some special situations or place , like aircraft , hospital ,etc. If you are unsure of existence of restrictions, you should ask for authorization before switching on the Bluetooth radio.

**Raccomandation for installing antennas for internal radios**
**(Omitted – N/A on Stonex S5 GNSS)**

**Rechargeable Lithium-ion batteries**

These receivers use a rechargeable Lithium-ion battery.

**Lithium-ion batteries**

These receivers use a rechargeable Lithium-ion battery.

Warning notes are in the next page.

**WARNING**

**-** Do not creates damage at the rechargeable Lithium-ion battery.
A damaged battery can cause an explosion, with risk or fire, and can result in personal injury and/or property damage.
To prevent injury or damage:
– Do not use or charge the battery  if it appears to be damaged. Signs of damage are discoloration, warping, leaks of  liquids.
– Do not expose the battery  to fire, high temperature, or direct strong sunlight.
– Do not introduce  the battery  in water or liquid substance , in general.
– Do not use or store the battery  in very  hot ambient.
– Do not drop or puncture  the battery.
  – Do not open the battery  and do not  put in  short-circuit its  electrical contacts.

**WARNING**

- Avoid direct contact with the rechargeable Lithium-ion battery if it appears damage.  Battery liquids are corrosive and, and contact with it can result in personal injury or damage to proprieties.
To prevent injury or damage:
– If the battery leaks, avoid contact with the battery fluid.
– If battery fluid gets into your eyes, immediately rinse your eyes with clean water and seek medical attention. Do not rub your eyes!
– If battery fluid gets onto your skin or clothing, immediately use clean water to wash off the battery fluid.

# Appendix 3: Copyrights, warranty and environmental recycling

**Copyrights and trademarks**

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STONEX®, the STONEX® logo, and S5 GNSS receiver are trademarks of STONEX® Limited.

STONEX® Assistant, STONEX® GPS Processor and STONEX® SurvCe are trademarks of STONEX® Limited.

Bluetooth is a trademark owned by Bluetooth SIG, Inc. and licensed to STONEX®. All other trademarks are the property of their respective owners.

**Copyrights, warranty and environmental recycling**

**Version 2016**

The terms and conditions of this Limited Warranty constitute the complete and exclusive warranty agreement between The Customer or Dealer and STONEX® for the Product and supersede any prior agreement or representation made in any STONEX® sales document or advice that may be provided to Customer by any STONEX® representative in connection with Customer's purchase of the Product. No change to the conditions of this Limited Warranty is valid unless it is made in written form and signed by an authorized STONEX® supervisor.

STONEX ® warrants that its products:
- (1) Be free from defects in materials or workmanship for generally 2 years.
    - a) Accessories or specific parts for which different limited warranty period shall apply.
- (2) Have been tested/calibrated in proper working status prior to shipment.

The warranty period starts from date of first sale of the instruments.
At its sole discretion, under the warranty period, STONEX® will repair the product or send parts for replacement at its expense.

STONEX® agrees to repair or replace the defected instrument within thirty (30) days only if STONEX® recognizes that the defects of the instrument are not caused by human factors or no obvious damage to its surface is visible. STONEX® warrants any new replaced parts or products are warranted to be free from defects in materials and workmanship for thirty (30) days or for the remainder of the Limited Warranty Period of the Product in which they are installed, whichever is longer. Faulty Parts or Products replaced under this Limited Warranty shall become property of STONEX®.

All products that have to be repaired have to be returned to our technical representative office location via any delivery company the customer prefers, nevertheless STONEX® is not accountable for the unlikely event that the Products gets lost in transit.

Any damage inflicted by the customer or by third party after the products has been delivered to the customer is excluded from the limited warranty as well any damage arising from an improper use, from any action or use not provided for in the enclosed user guides and/or manuals.

**Shipping policy**

The Customer or the dealer is required to pay for the charges for shipping of fault part or instruments to STONEX® representative office and STONEX® is providing the shipping for return. Dealers need to follow STONEX® repair/service procedure (see appendix 6) to achieve a better and prompt service result.

**Return policy Dead On Arrival instruments**

All returned products have to be shipped to STONEX® representative office.
The original Purchaser has a period of seven (7) days starting from date of purchasing to signal the existence of a defect in the instrument for a full refund (less shipping and handling), provided the merchandise is in new, resalable condition and returned in the original, undamaged packaging. Customer has to pay for both the return and the original freight fees, regardless of the original freight paid by the Company.

All warranty books, instruction manuals, parts and accessories must be included as well as the original box in which the item was shipped. We recommend to place the original carton inside another box, to avoid any additional damage to the carton itself. In some cases, returns of special items will require a re-stock fee. Acceptance of returned merchandise is final only after inspection by STONEX®.

Above terms and policies shall apply as for hardware. Dealers need to follow STONEX® repair/service procedure (see appendix 4) to achieve a better and prompt service result.

**Firmware/Software warranty**

Stonex® doesn't warrant that operation of Firmware/Software on any instruments will be uninterrupted or error-free, or that functions contained in Firmware/Software will operate to meet your requirements.
Stonex® will forward the Software/Firmware Fix to the dealer or customer. Firmware/software Fix means an error correction or other update created to fix a previous firmware version that substantially doesn't conform to the instruments specification.

**Over Warranty repair(s) policy**

Customer shall pay the standard repair fees for any service (whether part replacement or repairs) and performed by STONEX® under request and explicit authorization of the customer itself. In this case the customer is charged for return shipment's fees as well.

**Disclaimer and Limitation of Remedy**

All other express and implied warranties for this product, including the implied warranties of merchantability and fitness for a particular purpose and/or noninfringement of any third party's rights, are hereby disclaimed. Stonex® expressly disclaims all warranties not stated in this limited warranty. Any implied warranties that may be imposed by law are limited in duration to the term of this limited warranty. Some jurisdictions do not allow the exclusion of implied warranties or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to customer.
Customer must read and follow all set-up and usage instructions in the applicable user guides and/or manuals enclosed. If customer fails to do so, this product may not function properly and may be damaged.
Customer may lose data or sustain personal injuries. Stonex®, its affiliates and suppliers do not warrant that operation of this product will be uninterrupted or error free; as do all electronics at times. If this product fails to work as warranted above, customer's sole and exclusive remedy shall be repair or

replacement. In no event will Stonex®, its affiliates or suppliers be liable to customer or any third party for any damage in excess of the purchase price of the product.

This limitation applies to damages of any kind whatsoever including (1) damage to, or loss or corruption of, customer's records, programs, data or removable storage media, or (2) any direct or indirect damages, lost profits, lost savings or other special, incidental, exemplary or consequential damages, whether for breach of warranty, contract, tort or otherwise, or whether arising out of the use of or inability to use the product and/or the enclosed user guides and/or manuals, even if Stonex®, or an authorized Stonex® representative, authorized service provider or reseller has been advised of the possibility of such damages or of any claim by any other party. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages for some products, so the exclusions or limitations may not apply to customer. This limited warranty gives customer specific legal rights, and customer may also have other rights which vary from country/state/jurisdiction to country/state.

**Instruments**

Two (2) years on STONEX® Products:

| S5 GPS Receiver |
| --- |

**Accessories**

**Accessories & Specific Parts Warranty**

For Accessories provided by Stonex® with the instruments S10 GNSS the following general warranty time is for reference:

| | |
|---|---|
| **Batteries** | 7 months |
| **Battery chargers** | 7 months |
| **Adapters for battery chargers, Cables, Tribrach, Pole, Antennas** | 2 years |

**Service Procedure**

**Repair/Service procedure for dealers:**
(1) S/N of the instrument and a detailed description of the defect (sometimes pictures or video) will be required to indicate the cause and problem.
(2) If dealer wants to repair an instrument under warranty period on their site:
1) If dealers don't have the part in stock they have to send an official order to STONEX® and pay for it and so STONEX® will send the new part to them so they can repair the instrument.
2) When the repair is over, the dealer has to fill the "Spare Part Refund" module and send it to the dedicated mail address.
3) Wait for STONEX®'s authorization SPR no;
4)When dealer receive the SPR authorization no they can send back to STONEX® appointed office the broken part with attached the SPR module;
5) When STONEX® receives the broken part STONEX® shall verify it and if everything is ok the cost of the part shall be refund ( refund will be done only after check of the failure part and final approval of STONEX®).
(3) If the instrument needs to be sent back to STONEX® for repair/replacement, dealer/customer has to send to STONEX® a "Returned Merchandise Authorization (RMA)" before they send back the fault instrument. STONEX® shall, at its sole discretion, decide on the place of performance for work under warranty.

**Environmental recycling**

The cardboard box, the plastic in the package and the various parts of this product have to be recycled and disposed of in accordance with the current

legislation of your Country.

**For Countries in the European Union (EU)**

The disposal of electric and electronic device as solid urban waste is strictly prohibited: they must be collected separately.
Contact Local Authorities to obtain practical information about correct handling of the waste, location and times of waste collection centres. When you buy a new device of ours, you can give back to our dealer a used similar device.
The dumping of these devices at unequipped or unauthorized places may have hazardous effects on health and environment.
The crossed dustbin symbol means that the device must be taken to authorized collection centers and must be handled separately from solid urban waste.



**For Countries outside European Union (EU)**

The treatment, recycling, collection and disposal of electric and electronic devices may vary in accordance with the laws in force in the Country in question.
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

STONEX