STONEX

S700A GNSS Receiver

Modular
GNSS system

suite cube

S700A Modular GNSS system

Stonex S700A is a compact, high-performance GNSS receiver features a multiconstellation 700 channels GNSS board.

S700A supports GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS. S700A supports also L-Band correction. The unique internal antenna combines GNSS, Bluetooth and Wi-Fi integrated modules to optimize space and increase performance. This technology provides stronger and cleaner signal monitoring, which means unprecedented results. Designed for all day use in surveying applications, S700A includes several features: Linux Operating System, WEB UI, 4G Modem, high battery capacity, Type-C connector and IP67 certification.

Stonex S700A GNSS receiver, thanks to aRTK function and Atlas® correction service is an ideal solution for any surveying field work and in particular difficult areas. Atlas® delivers worldwide centimeter level correction data through L-band satellite communication.

MULTI CONSTELLATION

Stonex S700A with its 700 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.

WEB UI CONTROL

To initialize, manage, monitor the settings of the receiver and to download data using laptops or PCs, smartphones or tablets with Wi-Fi capability.

NEW BATTERY AND TYPE-C

Stonex S700A is delivered with a large capacity lithium battery that gives you up to 9 hours working. It is also equipped with Type-C connector.

4G MODEM

S700A has an internal 4G modem that operates with all world signals.

RUGGED

With IP67 Certification Stonex S700A will ensure operations in various kinds of extremely tough environments.

STONEX

STONEX SURVEYING SYSTEMS

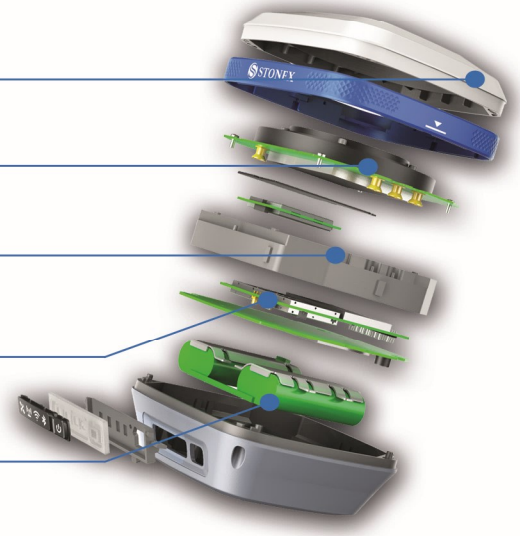
STRONG DESIGN | IP67

BLUETOOTH | WI-FI | GNSS ANTENNA

4G MODEM

LINUX OS | GNSS BOARD

NEW BATTERY | TYPE-C CONN.



S700A

Atlas® Correction Service & aRTK atlas

S700A 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. PPP (Precise Point Positioning) is a positioning technique that removes or models GNSS system errors to provide a high level of position accuracy from a single receiver.
A PPP solution depends on GNSS satellite clock and orbit corrections, generated from a network of global reference stations. Once the corrections are calculated, they are delivered to the end user via satellite through L-Band signal.

Atlas® is a subscription for S700A aimed to achieve 3 different levels of accuracy depending on the precision type that you need:
- BASIC, 50cm 95% (30cm RMS)
- H30, 30cm 95% (15cm RMS)
- H10, 8cm 95% (4cm RMS)

Atlas® provides a precise centimeter-level positioning around the world, perfect when working in difficult areas.
aRTK is an innovative feature available in Stonex S700A GNSS Receiver that continues generating precise positions up to 20 minutes in case the receiver loses the land based RTK correction source.

S700A 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, L6
	IRNSS: L5
	SBAS: L1, L5
L-Band	Atlas H10 / H30 / Basic (optional)[4]
Bridging of RTK outages	aRTK - Works up to 20 minutes
Channels	700
Position Rate	5 Hz (optional 20Hz)[4]
Signal Reacquisition	< 1 s
RTK Signal Initialization	Typically < 10 s
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	8 GB

POSITIONING[1]

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 1 ppm RMS
Vertical	5.0 mm + 1 ppm RMS
CODE DIFFERENTIAL POSITIONING	
Horizontal	<0.5 m RMS
Vertical	<1.0 m RMS
SBAS POSITIONING	
Horizontal	<0.6 m RMS[2]
Vertical	<1.2 m RMS[2]
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 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 pins Lemo, connect the external power supply and external radio Type-C, for receiver power supply and data transfer
Bluetooth	V2.1 + EDR /4.0 LE
Wi-Fi	802.11 b/g
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+, ROX
Navigation outputs	NMEA 0183

POWER SUPPLY

Battery	Internal rechargeable 7.2 V – 6.900 mAh
Voltage	9 to 28 V DC external power input with over-voltage protection (5 pins Lemo)
Working Time	Up to 9 hours
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	140 mm x 140 mm x 71 mm
Weight	1.10 Kg
Operating 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
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 (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. Optional, it can be activated via activation code.

CENTERLINE MAPPING

STONEX AUTHORIZED DEALER

STONEX®
Part of **UniStrong**

Viale dell'Industria 53 - 20037 Paderno Dugnano (MI) - Italy
Phone +39 02 78619201
www.stonex.it | info@stonex.it

UNI EN ISO 9001:2015 - S700A - FEBRUARY 2020 - VER05 - REV-01