

S950 TECHNICAL FEATURES

RECEIVER

Satellite signals tracked	GPS: L1 C/A, L2P, L2C, L5 GLONASS: L1, L2, L3 BEIDOU: B11, B21, B31, B1C, B2a, B2b GALILEO: E1, E5a, E5b, E6 QZSS: L1, L2, L5, L6 IRNSS: L5 SBAS
PPP	B2b PPP, HAS
Channels	1408
Position Rate	Up to 50 Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	< 5 seconds
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	64 GB
IMU rate	200 MHz
Tilt range	IMU ±60°
RTK + IMU	5 mm + 0.3 mm/°

POSITIONING¹

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 0.5 ppm RMS
Vertical	3.5 mm + 0.5 ppm RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK ²	
Fixed RTK Horizontal	8 mm + 1 ppm RMS
Fixed RTK Vertical	15 mm + 1 ppm RMS
PPP Accuracy	< 20 cm RMS
SBAS Accuracy ³	< 60 cm RMS

INTEGRATED GNSS ANTENNA

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

INTERNAL RADIO

Type	Tx – Rx 2 W
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range ⁴	3-4 Km in urban environment Up to 10 Km with optimal conditions

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
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- Accuracy and reliability are generally subject to satellite geometry (DOPs), multipath, atmospheric conditions, and obstructions. In static mode, they are also subject to occupation times: the longer the baseline, the longer the occupation time must be.
- Network RTK precision depends on the network's performance and is referenced to the closest physical base station.
- Depends on SBAS system performance.
- Varies with the operating environment and with electromagnetic pollution.

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



BELOW CAMERA

Resolution	5 MP
Image frame rate	20 frame/s
Field of view	76°

REAR CAMERA

Resolution	2 MP
Image frame rate	20 frame/s
Field of view	52°

LASER

Color	Green
Precision	2 mm
RTK + Laser accuracy	2.5 cm -5 m / 4 cm -10 m
Range	30 m

COMMUNICATION

I/O Connectors	Type-C for charging and data transfer
Bluetooth	2.1 + EDR, V5.2
Wi-Fi	802.11 a/ac/b/g/n
Web UI	To upgrade the software, manage the status and settings, and download data. Smartphone, tablet, or other electronic device with Wi-Fi capability can be used.
Reference outputs	RTCM 3.x
Navigation outputs	NMEA 0183

POWER SUPPLY

Battery	Built-in battery, 7000 mAh
Power	12V DC
Working Time	Up to 10 hours
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	Ø 142 x 59 mm
Weight	810 g
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
Shock Resistance	Designed to endure to a 2 m pole drop on hardwood floor with no damage
Humidity	100% non-condensing



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S950 GNSS Receiver

Dual camera and
Laser distance meter



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S950

Dual camera and Laser distance meter

The S950 GNSS receiver offers superior positioning and satellite tracking with 1408 channels, ensuring precision in challenging environments. Equipped with GSM 4G connectivity, it supports real-time data transfer, while its integrated 2-watt radio ensures long-distance communication.

The built-in IMU enhances accuracy in areas with weak GNSS signals. Its advanced laser distance meter offers a range of up to 30 meters.

Dual-camera technology boosts efficiency and precision by enabling simultaneous stakeout from two perspectives. Weighing only 810g and offering over 10 hours of battery life, the S950 is portable and durable, with an IP67 rating and the ability to withstand temperatures from -40°C to +65°C.



STONEX SURVEYING SYSTEMS



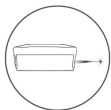
MULTIPLE CONSTELLATIONS

With 1408 channels, the S950 ensures accurate positioning and reliable satellite tracking, even in limited signal environments.



IMU TECHNOLOGY

The S950 includes an integrated Inertial Measurement Unit (IMU) that enhances positioning accuracy in environments where GNSS signals may be weak or obstructed.



ADVANCED LASER DISTANCE METER

The S950 features an integrated green laser distance meter that provides high-precision measurements. The range extends up to 30 meters, seamlessly combining distance measurements with GNSS data for real-time, georeferenced results.



DUAL-CAMERA TECHNOLOGY

With dual cameras, the S950 enables simultaneous stakeout from two different perspectives, boosting efficiency and accuracy in data capture and analysis.



2-WATT RADIO

The built-in 2-watt radio delivers strong communication capabilities over long distances, ensuring uninterrupted data transmission.



Measure where you can't go

The S950 is equipped with an integrated laser distance meter that emits a beam toward the target and calculates its distance. The measurement combined with the GNSS + IMU position allows the coordinates of the inaccessible point to be calculated. Positioned next to the rear camera, the green laser allows precise measurement of the desired point without the need for physical access, ensuring extremely accurate results in any environmental condition. The laser measurement system adapts perfectly to a variety of environments, from confined spaces to large outdoor areas, making it ideal for complex or hard-to-reach locations. Thanks to fast and accurate readings, the S950 GNSS receiver streamlines workflows, reducing field operation times without compromising precision.



AR STAKEOUT

The S950 GNSS receiver, equipped with dual cameras (rear and bottom), provides real-time visual feedback from different angles, leveraging laser collimation to enhance stakeout accuracy. This advanced feature simplifies field operations, reducing the time required to complete measurements while significantly improving result quality.

Visual stakeout is supported by the rear camera, which allows users to locate the point to stake out from a distance. As the operator approaches the area of interest, the view switches to the bottom camera for a more precise visualization of the point to measure (this feature is available in the Cube-a software).

The dual-camera system ensures full visibility, enabling high-precision and uninterrupted stakeout.