S980 TECHNICAL FEATURES

RECEIVER

Satellite Tracked	GPS: L1 C/A, L1C, L2C, L2P, L5
	GLONASS: L1 C/A, L2C, L2P, L3, L5
	BEIDOU: B1, B2, B3
	GALILEO: E1, E5a, E5b, E5 ALTBOC, E6
	QZSS: L1 C/A, L1C, L2C, L5, L6
	IRNSS: L5
	SBAS: L1, L5
Channels	555
Position Rate	5 Hz
Signal Reacquisition	< 1 sec
RTK Signal Initialization	Typically < 10 sec
Hot Start	Typically < 15 sec
Initialization Reliability	> 99.9 %
Internal Memory	32 GB
Tilt sensor	E-Bubble levelling IMU (optional)[5]

POSITIONING[1]

HIGH PRECISION STATIC SURVEYING	
Horizontal	3.0 mm + 0.1 ppm RMS
Vertical	3.5 mm + 0.4 ppm RMS
CODE DIFFERENTIAL POSITIONING	
Horizontal	0.25 m RMS
Vertical	0.45 m RMS
SBAS POSITIONING[2]	
Horizontal	0.30 m RMS
Vertical	0.60 m RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK SURVEYING[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 RADIO 5 WATT

Type	Tx - Rx
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range	5 Km in urban environment Up to 15 Km with optimal conditions[4]

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 1PPS port GNSS port for external antenna
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 smart phone, tablet or other internet enabled electronic device
Reference outputs	RTCM 2.3, 3.2 CMR, CMR+, RTCA
Navigation outputs	NMEA 0183

POWER SUPPLY

Battery	Rechargeable 7.2 V – 13.600 mAh
Voltage	9 to 28 V DC external power input with over-voltage protection (5 pins Lemo)
Working Time	Up to 10 hours
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	φ 151 mm x 92 mm
Weight	1.50 Kg
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 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. Varies with the operating environment and with electromagnetic pollution.
5. Optional, it can be activated via firmware.

STONEX AUTHORIZED DEALER

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STONEX

S980 GNSS Receiver

The perfect base GNSS receiver

cube suite

S980

The perfect base GNSS receiver

Stonex S980 integrated GNSS receiver tracks all the present constellations and satellite signals GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS.

Through the 4G GSM modem a fast internet connection is guaranteed and the Bluetooth and Wi-Fi modules allow always reliable data flow to the controller. These features combined with the integrated 5 watt radio make S980 the perfect base station receiver.

The color touch display and the possibility of connecting an external antenna make S980 an extremely effective receiver for every type of job.

S980 is also equipped with an E-Bubble and the optional IMU technology: fast initialization, up to 60° inclination.
S980 1PPS port can be used in applications that require precise synchronization time to ensure that multiple instruments work together or that use the same parameters for system integration based on precise time.

STONEX SURVEYING SYSTEMS

MULTI CONSTELLATION

Stonex S980 with its 555 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.

5W RADIO

S980 has integrated 5W UHF radio with 410-470MHz frequency. Our receiver is equipped with an external radio antenna to work better.

E-BUBBLE + IMU

On S980 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 levelled. As an optional it is also available the IMU technology, only a fast initialization is request.

COLOR TOUCH DISPLAY

RGB

S980 comes with a convenient color touch display for easy management of the most important functions.

EXTERNAL GNSS ANTENNA

S980, through the appropriate connector, can be connected to an external GNSS antenna and is transformed from an RTK receiver to CORS.

- EXTERNAL RADIO ANTENNA
- BLUETOOTH | WI-FI | 4G | GNSS ANTENNA
- RADIO 5W
- BATTERY 13.600mAh | TYPE-C
- COLOR TOUCH DISPLAY
- EXTERNAL GNSS ANTENNA | 1PPS PORT

E-Bubble functionality & IMU technology

Stonex S980 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 over 30° even in harsh environments and in the presence of magnetic fields.
In addition, you can view the instrument bubble directly within the survey software without worrying about checking the bubble of the pole. This makes the acquisition of points extremely fast. Thanks to measurement routine integrated into the field software, the management of tilt function is simple and intuitive.

S980 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 houses, the difficult and inaccessible points are no longer a problem.

What are the performances of the S980 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 S980 with IMU system makes reliable every measurement, both survey and the stake out jobs, and makes extremely faster the acquisition of points: up to 40% of the field work time can be saved!