

# S880 TECHNICAL FEATURES

## RECEIVER

	GPS: L1 C/A, L1C, L2P, L2C, L5
	GLONASS: L1, L2, L3
Satellite signals tracked	BEIDOU: B1, B2, B3, B1C, B2a, B2b
	GALILEO: E1, E5a, E5b, E6
	QZSS: L1, L2, L5
	IRNSS: L5
	SBAS
PPP	B2b PPP, HAS
Channels	1408
Position Rate	Up to 20Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	< 5 s
Hot Start	Typically < 1.5 s
Initialization Reliability	> 99.9 %
Internal Memory	8 GB
Tilt Sensor	IMU

## POSITIONING<sup>1</sup>

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 mm + 0.5 ppm RMS
Vertical	5 mm + 0.4 ppm RMS
REAL TIME KINEMATIC (< 30 Km) – NETWORK RTK <sup>2</sup>	
Fixed RTK Horizontal	8 mm + 1 ppm RMS
Fixed RTK Vertical	15 mm + 1 ppm RMS
PPP Accuracy	< 20 cm RMS
SBAS Accuracy <sup>3</sup>	< 60 cm RMS

## INTEGRATED GNSS ANTENNA

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

## INTERNAL RADIO (optional)<sup>4</sup>

Type	Tx - Rx 0.5W / 2W
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range <sup>5</sup>	4 Km in urban environment Up to 12 Km with optimal conditions

## INTERNAL MODEM

	LTE FDD:
	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/ B19/B20/B25/B26/B28
Band	LTE TDD: B38/B39/B40/B41
	UMTS: B1/B2/B4/B5/B6/B8/B19
	GSM: B2/B3/B5/B8
	Nano SIM card

## INTERNAL CAMERA FOR STAKE OUT

Resolution	2 MP
Image frame	30 frame/s
Field of view	72°

## COMMUNICATION

I/O Connectors	Type-C for charging and data transfer
Bluetooth	2.1 + EDR, V5.0
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	Internal battery not removable, 3.6V, 12Ah
Power	Type-C PD 12V
Working Time	Up to 10 hours
Charge Time	Typically 4 hours

## PHYSICAL SPECIFICATION

Dimensions	Ø 138 mm x 55 mm
Weight	730 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	IP68
Shock Resistance	Designed to endure to a 1.5 m free drop with no damage
Humidity	100% non-condensing

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

1. Accuracy and reliability are generally subject to satellite geometry (PDOP), 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.
2. Network RTK precision depends on the network's performance and is referenced to the closest physical base station.
3. It depends on the SBAS system's performance.
4. Optional, can be activated via an activation code.
5. Varies with the operating environment and with electromagnetic pollution.



**STONEX®**

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



STONEX AUTHORIZED DEALER



# S880 GNSS Receiver



MK.1.1 - REV.02 - S880 - JULY 2024 - VER.01



# S880

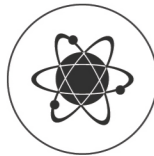
## Visual Stakeout

The S880 is a versatile and advanced GNSS receiver that caters to the needs of various applications, including surveying, mapping, and navigation. One of its key features is the integration of a bottom stakeout camera, which provides the operator with real-time visual assistance to identify the point to be staked out.

The S880 incorporates cutting-edge technology to deliver exceptional performance. It boasts a 2W radio transceiver, a positioning speed of 20Hz, and an integrated IMU, ensuring precise position updates. The device's 8GB memory capacity resolves any storage issues, while the 4G modem ensures reliable connectivity.

The S880 is designed to withstand challenging environments. It can function perfectly in temperatures ranging from -40°C to +65°C and has an IP68 rating for water and dust resistance. Additionally, the device is drop-resistant up to 1.5 meters, ensuring reliability even in difficult conditions.

Despite its robust capabilities, the S880 maintains a lightweight design of approximately 730g, making it highly portable without compromising resistance. The long-lasting battery guarantees uninterrupted operation for at least 10 hours, further enhancing the device's versatility and convenience.



### MULTIPLE CONSTELLATIONS

S880 can track and utilize signals from multiple satellite constellations, such as GPS, Galileo, GLONASS, BeiDou, QZSS and IRNSS.



### IMU TECHNOLOGY

The integrated IMU allows the receiver to automatically compensate for pole tilt up to 60 degrees, boosting surveying speed and efficiency.



### SMALL & LIGHTWEIGHT

The small and lightweight design of the S880 makes it highly portable and easy to integrate into a variety of surveying, mapping, and navigation applications.



### 2W RADIO

The S880 GNSS receiver features a high-powered 2W radio that ensures reliable data transmission over long distances, making it an ideal choice for remote or rugged applications requiring robust wireless connectivity.



### RUGGED RTK GNSS WITH IP68

S880 is a durable and waterproof high-precision positioning solution designed for challenging outdoor environments.



## S880 AR Stakeout camera in Cube-a

The S880 is equipped with a camera that captures the real-world scene. This camera can be used for user-activatable AR stakeout, when needed. The camera provides real-scene navigation, displaying the distance to the target point.

Cube-a's interface uses visual tools to guide the surveyor to the exact stake position. There is a graphic element that indicates the direction of the point and the distance. The graphic elements vary depending on the distance that the operator has from the point to be staked out.



## S980+ GNSS Receiver

GNSS Receiver  
with UHF Radio



# S980+

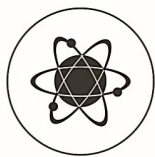
## GNSS Receiver with UHF Radio

The color touch display and the ability to connect an external antenna make the S980+ an extremely effective receiver, capable of detecting GPS, GLONASS, BEIDOU, GALILEO and QZSS constellations, making it suitable for any job. With a 4G GSM modem, a fast Internet connection is guaranteed, while Bluetooth and Wi-Fi modules always enable reliable data flow to the controller.

These features, combined with the built-in 2-5W radio, make the S980+ the perfect receiver as a base station.

The S980+ also features optional IMU technology with quick initialization and tilt up to 60°.

The S980+ has a 1PPS port that can be used in applications requiring precise timing to ensure joint operation of multiple instruments or using the same parameters for integration of systems based on precise timing.



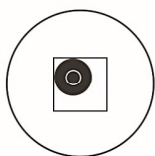
### MULTIPLE CONSTELLATIONS

Stonex S980+ with its 1408 channels, provides an excellent on-board real-time navigation solution with high accuracy. All GNSS signals (GPS, GLONASS, BEIDOU, GALILEO and QZSS) are included, no additional cost.



### 2-5 W RADIO

S980+ has integrated 2-5W UHF radio with 410-470MHz frequency. The receiver is equipped with an external radio antenna to work better.



### IMU (Optional)

The IMU technology is also available, only a fast initialization is requested.



### COLOR TOUCH DISPLAY

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

RADIO 5W

BATTERY 13.600mAh | USB TYPE-C

COLOR TOUCH DISPLAY

EXTERNAL GNSS ANTENNA | 1PPS PORT



## S980+ IMU technology

Stonex S980+ GNSS receivers have the IMU System that allows tilted measurement (TILT).

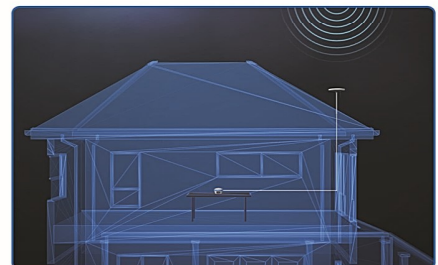
### What are the performances of the S980+ with IMU?

- Fast initialization
- Up to 60° inclination
- 2cm accuracy 30°
- 5cm accuracy 60°
- Fast and precise survey
- No problem of electromagnetic disturbances

The Stonex S980+ with IMU makes every measurement reliable, whether for surveying or staking, and makes point acquisition extremely faster, up to 40% faster than fieldwork time!

## Why to choose the S980+ ?

This model is very versatile, it manages to combine the functions of a high-quality GNSS RTK and a CORS instrument, all in one. The presence of a 5W radio enables it to cover a range of 10km making it suitable for becoming a base station; in addition, it has a 1PPS port that can be used in various applications.



# S980+ TECHNICAL FEATURES

## RECEIVER

Satellite signals tracked	GPS: L1 C/A, L1C <sup>1</sup> , L2P, L2C, L5 GLONASS: L1, L2 BEIDOU: B1I, B2I, B3I, B1C, B2a, B2b <sup>1</sup> GALILEO: E1, E5a, E5b, E6 QZSS: L1, L2, L5 SBAS
PPP	B2b PPP <sup>1</sup> , HAS <sup>1</sup>
Channels	1408
Position Rate	20 Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	Typically < 10 s
Hot Start	Typically < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	32 GB
Tilt Sensor	IMU and E-bubble (optional) <sup>2</sup>

## POSITIONING<sup>3</sup>

STATIC GNSS SURVEYING	
High Precision Static Horizontal	2.5 mm + 0.1 ppm RMS
High Precision Static Vertical	3.5 mm + 0.4 ppm RMS
Static and Fast Static Horizontal	3 mm + 0.5 ppm RMS
Static and Fast Static Vertical	5 mm + 0.5 ppm RMS
CODE DIFFERENTIAL POSITIONING	
Accuracy	0.40 m RMS
SBAS POSITIONING <sup>4</sup>	
Accuracy	0.60 m RMS
REAL TIME KINEMATIC (< 30 Km) - NETWORK RTK <sup>5</sup>	
Fixed RTK Horizontal	5 mm + 1 ppm RMS
Fixed RTK Vertical	10 mm + 1 ppm RMS
RTK Signal Initialization	2 to 8 s

## INTEGRATED GNSS ANTENNA

High accuracy four constellation antenna, zero phase center, with internal multipath suppressive

## INTERNAL RADIO 2-5 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 <sup>6</sup>

## 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-pin Lemo connects 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, V5.0
Wi-Fi	802.11 b/g/n
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 3.x
Navigation Outputs	NMEA 0183

## POWER SUPPLY

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

## PHYSICAL SPECIFICATION

Dimensions	Ø 151 mm x 92 mm
Weight	1.5 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 hardwood floor with no damage
Vibration	Vibration resistant

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

1. Available with future firmware update.
2. Optional, enabled via activation code.
3. 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.
4. Depends on SBAS system performance.
5. Network RTK precision depends on the network performances and are referenced to the closest physical base station.
6. Varies with the operating environment and with electromagnetic pollution.



STONEX AUTHORIZED DEALER

**STONEX®**

Viale dell'Industria 53 - 20037 Paderno Dugnano (MI) - Italy  
Phone +39 02 78619201

www.stonex.it | info@stonex.it

## S55 Controller

Android Rugged  
Controller



# S55 TECHNICAL FEATURES

## SYSTEM

CPU	Qualcomm SM6115 2.0 GHz
Operating System	Android 12
RAM	4 GB
FLASH	64 GB
Keyboard	QWERTY 43 keys

## DISPLAY

Screen Size	5.5"
Resolution	1920 x 1080 px
Brightness	500 Nits
Touch Panel	Capacitive

## CAMERA

Rear	13 MP
------	-------

## DATA COMMUNICATION

GSM	GSM: 850/900/1800/1900 WCDMA: B1/B2/B4/B5/B8 LTE-TDD: B34/B38/B39/B40/B41 LTE-FDD: B1/B2/B3/B4/B5/B7/B8/ B12/B13/B17/B20/B25/B26/B28
Bluetooth	5.0
Wi-Fi	802.11a/b/g/n/ac

## SENSOR

GNSS	Qualcomm GPS, GLONASS, BDS, Galileo
Gyroscope	Yes
Compass	Yes
Accelerometer	Yes
Ambient light sensor	Yes

## INTERFACE

TF Slot	Support MicroSD
USB	Type C
GSM	Dual sim

## POWER SUPPLY

Battery	9000 mAh
Operating time	Up to 18 hours <sup>1</sup>
Charging time	4 hours <sup>1</sup>

## PHYSICAL SPECIFICATIONS

Dimensions	228 mm x 96 mm x 21 mm
Weight	420 g
Operating Temperature	-20°C to 65°C (-4°F to 149°F)
Storage Temperature	-30°C to 70°C (-22°F to 158°F)
Waterproof/Dustproof	IP67
Shock Resistance	Designed to endure to a 1.2 m on marble

## STANDARD ACCESSORIES

Charger & 4 kinds of adapter, battery, hand-strap, touch pen, screen sticker
--

## OPTIONAL ACCESSORIES

Pole bracket
--------------

1. Battery life and charging time depend on the user's scenario. Time may vary based on factors such as screen brightness, apps, software, power management, battery condition, etc.

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



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