STONEX

S880 GNSS Receiver

Visual
Stakeout

cube suite

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.
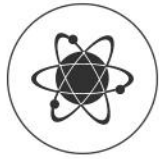
MULTIPLE CONSTELLATIONS

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.

S880 TECHNICAL FEATURES

RECEIVER

Satellite signals tracked	GPS: L1 C/A, L1C, L2P, L2C, L5
	GLONASS: L1, L2, L3
	BEIDOU: B1I, B2I, B3I, 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 < 15 s
Initialization Reliability	> 99.9 %
Internal Memory	8 GB
Tilt Sensor	IMU

POSITIONING[1]

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[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 (optional)[4]

Type	Tx - Rx 0.5W / 2W
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range[5]	4 Km in urban environment
	Up to 12 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

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.

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