

S800 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, E5 AltBOC, E5a, E5b, E6
	QZSS: L1 C/A, L1C, L2C, L5, L6
	SBAS: L1, L5
	IRNSS: L5
Channels	555
Position Rate	5 Hz, optional up to 20 Hz
Signal Reacquisition	< 1 sec
RTK Signal Initialization	Typically < 10 sec
Hot Start	Typically < 15 sec
Initialization Reliability	> 99.9 %
Internal Memory	8 GB

POSITIONING¹

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 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

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

COMMUNICATION

I/O Connectors	7-pins Lemo and 5-pins Lemo interfaces. Multifunction cable with USB interface for PC connection
Bluetooth	V2.0 Class2/V4.1LE
Wi-Fi	802.11 b/g
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 2.1, 2.3, 3.0, 3.1, 3.2 CMR, CMR+, RTCA
Navigation outputs	GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL

POWER SUPPLY

Battery	Rechargeable 7.2 V – 6800 mAh Rechargeable 7.2 V – 5200 mAh ⁵
Voltage	9 to 18 V DC external power input with over-voltage protection (5 pins Lemo)
Working Time	Up to 10 hours Up to 8 hours ⁵
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	146 mm x 146 mm x 76 mm
Weight	1.2 Kg
Operating Temperature	-30°C to 65°C (-22°F to 149°F) -40°C to 65°C (-40°F to 149°F) ⁵
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

Specifications are subject to change without notice.

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. S800 Polar Version.