

S9i Technical Features

RECEIVER

Satellite Tracked	GPS: L1 C/A, L2E, L2C, L5
	GLONASS: L1 C/A, L1P, L2 C/A, L2P
	BEIDOU: B1, B2
	GALILEO: E1, E5 AltBOC, E5a, E5b
	QZSS: L1 C/A, L1C, L2C, L5
	SBAS: L1, L5
Channels	220
Position Rate	20 Hz
Signal Reacquisition	< 1 sec
RTK Signal Initialization	Typically < 10 sec
Hot Start	Typically < 15 sec
Initialization Reliability	> 99.9 %
Internal Memory	4 GB
Micro SD Card	Expansion slot up to 32 GB

POSITIONING¹

HIGH PRECISION STATIC SURVEYING	
Horizontal	2.5 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	0.50 m RMS
Vertical	0.85 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

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

INTERNAL MODEM

Band	GSM/GPRS/EDGE: 850/900/1800/1900 MHz WCDMA/HSDPA: 800/850/900/1900/2100 MHz
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COMMUNICATION

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

POWER SUPPLY

Battery	2 rechargeable and replaceable 10.8 V - 3400 mAh Intelligent lithium batteries
Voltage	9 to 22 V DC external power input with over-voltage protection (5 pins Lemo)
Working Time	Up to 12 hours (2 batteries hot swap)
Charge Time	Typically 4 hours

PHYSICAL SPECIFICATION

Dimensions	φ 159 mm x 89 mm
Weight	1.15 Kg (with one battery) 1.25 Kg (with two batteries)
Operating Temperature	-30°C to 65°C (-22°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

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.