

RECEIVER

Satellite signals tracked	GPS: L1CA/L1P/L1C/L2P/L2C/L5 GLONASS: L1, L2, L3 BEIDOU: B1, B2, B3, ACEBOC GALILEO: E1, ALTB0C, E5a, E5b, E6 QZSS: L1 C/A, L1C, L2C, L5, LEX IRNSS: L5 ¹ SBAS
Channels	1100
L-Band	Atlas H10 / H30 / Basic (optional)
Bridging of RTK outages	aRTK - Works up to 20 minutes
Position Rate	10 Hz (optional 20Hz)
Signal Reacquisition	< 1 sec
Cold Start	Typically 60 sec
Hot Start	Typically 10 sec
Internal Memory	8 GB Multi storage sessions
External Memory	Up to 32 GB
Interference Mitigation Technology	Yes

POSITIONING²

HIGH PRECISION STATIC SURVEYING	
Horizontal	3 mm + 0.1ppm RMS
Vertical	5 mm + 0.4 ppm RMS
CODE DIFFERENTIAL POSITIONING	
Horizontal	0.25 m RMS
Vertical	0.45 m RMS
SBAS POSITIONING ³	
Horizontal	0.50 m RMS
Vertical	0.85 m RMS
REAL TIME KINEMATIC (< 30 Km) - NETWORK SURVEYING ⁴	
Fixed RTK Horizontal	8 mm + 1 ppm RMS
Fixed RTK Vertical	15 mm + 1 ppm RMS
Speed Accuracy	<0.03m/s RMS
Heading Accuracy	1m baseline: 0.08 degrees
	2m baseline: 0.04 degrees
	5m baseline: 0.02 degrees

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
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INTERNAL RADIO

Type	Tx - Rx
Frequency Range	410 - 470 MHz 902.4 - 928 MHz
Channel Spacing	12.5 KHz / 25 KHz
Maximum Range	3-4 Km in urban environment Up to 10 Km with optimal conditions ⁵

1. If it is possible to trace the IRNSS signal with Firmware update.

2. 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.

3. Depends on SBAS system performance.

4. Network RTK precision depends on the network performances and are referenced to the closest physical base station.

5. Varies with the operating environment and with electromagnetic pollution.

USER INTERFACE

LEDs	Power, Bluetooth, Wi-Fi, GSM, Radio, Satellites
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SYSTEM CONFIGURATION

Operating System	Linux
Processor	AM335 Sitara Cortex - A8

COMMUNICATION

I/O Connectors	Power port, Lemo connector DB26 interfaces: <ul style="list-style-type: none">> 2 RS485 serial port> RS232 serial port> USB 2.0 interface> Ethernet port 100 Mbit> 1PPS output interface> Event interface 2 GNSS antenna, TNC female Radio UHF antenna, SMA female LTE antenna, SMA female
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	Raw data, RTCM 2.x, 3.x CMR, CMR+
Navigation outputs	NMEA 0183

NETWORKING SERVICES

NTRIP	Caster/Server/Client
Remote Management	By Stonex Software
FTP server	For data download
Email alerts	For low storage and other warning messages
NTP server	Support
Others	DDNS, VPN, SNMPD, Firewall

POWER SUPPLY

Voltage	12 to 28 V DC external power input
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PHYSICAL SPECIFICATION

Dimensions	150 mm x 105 mm x 34 mm
Weight	550g
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 1.5 m drop on concrete floor with no damage
Vibration	Vibration resistant