



- 144 universal channels for reliable, “all in view”, L1/L2/L5 multi-constellation tracking
- In-Band Interference Rejection (IBIR) adds up to 30 dB of “anti-jamming” interference suppression
- On-board high speed data logging to a CF card with 100 Hz measurement and position output
- Comprehensive Ethernet feature set including TCP/IP, NTRIP, FTP support and HTML web interface for remote configuration
- USB Host and Device support for easy data transfer to external mass storage devices and other peripherals

Tracking	
144 channels	Fast acquisition and fast re-acquisition (Reacquisition < 1 sec)
GPS: L1, L2, L2C, L5	
GLONASS: L1, L2	
Galileo* and SBAS	
Cinderella full option	Cold start < 60 sec; Warm start < 35 sec
Low signal tracking (down to 30 dB*Hz)	Advanced Multipath Mitigation
Up to 30 dB of “anti-jamming” interference suppression	
Accuracy	
Static, Fast Static for L1+L2	Kinematic, RTK or L1+L2
H: 1 mm + 0.5 ppm (x baseline length);	H: 10 mm + 1.0 ppm (x baseline length);
V: 2 mm + 1 ppm (x baseline length)	V: 15 mm + 1.0 ppm (x baseline length)
Standalone: H: 1.2 m, V: 1.8 m	DGPS/RTCM based: H: 0.3 m, V: 0.5 m
RTK Initialization Time <10 sec	Velocity 0.02 m/sec
RTK Initialization Reliability > 99%	Time 30 ns
Communication Interfaces	
4x RS232 serial ports (up to 460.8 Kbps)	4x General purpose 3.3 V CMOS inputs
1x Full-speed USB host port (12 Mbps)	4x General purpose 3.3 V CMOS outputs
1x Full-speed USB device port (12 Mbps)	External frequency input/output
Full-duplex 10BASE-T Ethernet port with TCP Server/Client, FTP Server/Client, UDP Server, DNS server, Ntrip Server/Client, Web Interface	Two 1PPS outputs (LVTTTL) synchronized to GPS, GLONASS, UTC(USNO), UTC (SU) reference time (user selectable)
CAN ports (w/o transceivers), LVTTTL, NMEA2000 compliant	MINTER interface: Two external LED drivers; ON/OFF control input
2x Event Marker inputs	
Data Features	
Up to 100 Hz update rate for real time position and raw data (code and carrier)	TPS, RTCM SC104 v2.x and 3.x, CMR, CMR+, BINEX, RINEX
NMEA 0183 versions 2.1, 2.2, 2.3, 3.0, and 3.01	DATUMs support
Geoid and Magnetic Variation models	RAIM
Multiple Base RTCM	Output of grid coordinates
Data Storage	
Up to 2 GB of on-board data storage (removable Compact Flash card)	
Connectors	
Main Interface: DIN41612, 2 row x 32 pin, right angle, Male, MOLEX P/N 53294-0641	
RF Connectors (2x): MMCX right angle PCB Jack, Through Hole/Amphenol/908-24100	
Power	
Input Supply Voltage	4.75 V to 28 V
Power Consumption	5.0 W typical; 6.0 W max
Antenna Output Voltage	4.75 VDC to 5.10 VDC at 0-60 mA
On-board back-up battery for timekeeping and almanac data storage: 10 years minimum operation at typical consumption and ambient temperature of 25°C	
Physical and Environmental	
Dimensions	112 x 100 x 14.7 mm
Temperature	Operating: -40°C to 75°C Storage: -40°C to 75°C
Vibration	4g Sine Vibe (SAEJ1211) 7.7g Random Vibe (MIL-STD 810F)
Shock	30 g (IEC 68-2-27)

* Positioning solutions with these signals will be integrated and made available when the constellation has matured and is ready for commercial use