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Advanced

NavTrac LT Ruggedized Wi-Fi Enabled GPS Module

Description

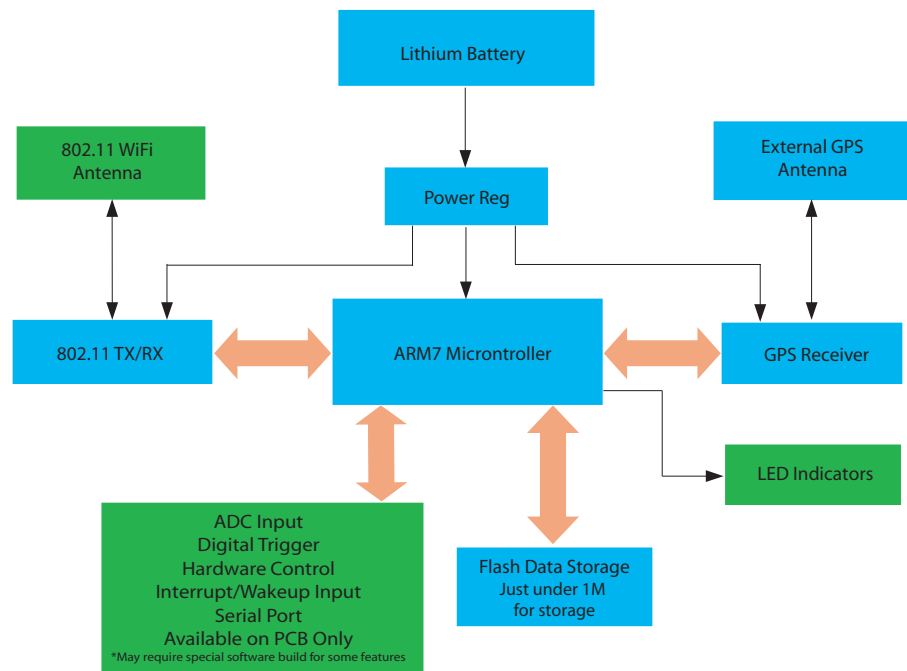
The new rugged NavTrac NT-220LT combines state-of-the-art 16 channel GPS receiver technology with 802.11 Wi-Fi transport protocol. Incorporating NavSync's own ultra-sensitive navigational GPS receiver, the NavTrac provides Wi-Fi transportation of standard, user-configurable NMEA information(longitude, latitude, and UTC time). The 802.11 b/g compliant Wi-Fi supports WPA2 encryption and is fully configurable to virtually any Wi-Fi network.

Features

- Sensitive GPS Receiver with Tracking as Low as -150dBm
- 802.11b/g Compliant
- WPA2 Encryption
- Integrated Primary Cell Battery
- User Programmable Update Rates
- Internal Flash Memory for Saving GPS Data
- Indicators for GPS Fix Status, and Network Status Operation
- The NS220-LT is designed for longer battery life than the NT-110 versions of the NavTrac
- Dimensions: 4.27" x 3.36" x 1.77" (108.46mm x 85.34mm x 44.96mm)



Block Diagram



Operation

The NavTrac NT-220LT is designed to communicate GPS (NMEA) data via TCP or UDP transmission. Users are able to configure appropriate NMEA messages and message rate, along with other features.

The NavTrac LT series offers continuous operation with exceptional tracking accuracy. The NavTrac power management capability allows the unit to enter an ultra-low power standby mode, enabling long term operation with periodic reporting.

The NT-220LT features additional on-board flash memory to enable capture and storage of GPS location information when a Wi-Fi network is not available. The saved data is stored until another Wi-Fi network is detected and the information can be transmitted.

Bulletin	NS35-PB
Revision	A00
Date	08 June 2010

NT-220LT NavTrac Wi-Fi ENABLED GPS SPECIFICATIONS

GPS Performance		Notes
GPS Channels	16	
Frequency	1575.42 MHz – L1 C/A Code	
TTFF Cold Start @ -135 dBm	46 seconds	1, 4
Re-acquisition Time @ -147 dBm	<3 seconds	2
Tracking Sensitivity (dBm)	-150 dBm	3
Static Accuracy 50% Confidence (CEP)	2 m	4
95% Confidence	4 m	
Maximum Horizontal Speed	515 m/s	5
Maximum Vertical Speed	15 m/s	6
Maximum Altitude	18 Km	7
Maximum Acceleration (g)	2 g	
Sensors		
Standard IC Temperature Sensor	-55°C to 130°C (± 2.5°C)	
Shock / Vibration Sensor	<1g	8
Wi-Fi Performance		
Maximum RF Transmit Power	15 dBm	
Transmission Speed	1Mbps	
Wireless Transmission Period	Default is once per second, configurable via SNMP	
General Specifications		
Power (Avg.) When Transmitting:	~1.1W	
Power When Not Transmitting	<0.5W	
Standby Mode	<50 uA	
Operating Temperature Range	-15°C to 60°C	
Physical		
Module Dimensions	4.27" x 3.36" x 1.77" (108.46mm x 85.34mm x 44.96mm)	
GPS Fix Rate Maximum	Once per second	
Battery Information		
Internal Lithium Battery	14 AH	
Battery Life **	(1 fix per 3 minutes) (1 fix per day)	30 days > 2 years
** Preliminary Numbers for the Primary Cell Battery. Estimates based on calculations with testing still underway. Based on D-Cell Capacity		9
	Fix frequency Every 3 minutes Every hour Every day	Estimated Battery Lifetime 30 days Over 1 year over 2 years
Antenna Requirements		
802.11 Antenna	N-type, 6.0 dBi maximum	
GPS Antenna	External antenna provided	

Notes:

1. These are RMS values
2. Maximum Sensitivity -147 dBm
3. Simulator Test, continuous fix with all signals at specified power level.
4. Open sky, 24 hr field test. No sky-view obstructions.
Accuracy relative to ACTUAL surveyed position, not self-relative survey.
5. Limited by International Traffic in Arms Regulation (ITAR)
6. Defined by navigation integrity check
7. Limited by International Traffic in Arms Regulation (ITAR)
8. Minimum sensitivity – acceleration aligned with sensor axis.
9. Estimates are under specific operating conditions. Small variations in operating conditions can make substantial contributions to power consumption when data reflects weeks/months of operating time. Temperature can also make an impact.

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