

# Preliminary

## Streamline Nano Rev9

### GPS/GPRS/SMS Module



The StreamLine GPRS/GPS range of modules enable you to remotely track & trace a variety of objects, e.g. cars, trucks, containers, (motor)cycles. StreamLine Nano is the latest addition, targeted for personal use and any other application that need a minimum size while maintaining the exact same options and server connection the full-size units have.

## Key Features

- Extremely small and lightweight, housing 56 x 37 x 16 mm.
- Weight 39 grams, including housing, antennas and battery.
- Also available as OEM unit without housing. Hardware measures only 46.7 x 27.6 x 12.3 mm, including 550 mAh battery and full size GPS patch.
- Wide operating temperature range
- Quad-band for worldwide coverage
- Ultra low power consumption
- Excellent GPS accuracy including full-size GPS antenna
- Multiple watchdog levels for maximum stability
- Dual charge protection for voltages and temperature range.
- SOS-Button, user configurable
- Remote configurable to fit any job
- Configuration can be both Server and Event driven, 300+ different events, over 4000 geozones.
- Runs local user scripts via .src files.
- Field upgradeable firmware via GPRS

- Supports backup server configuration
- User definable SMS commands
- Charge via any standard USB connection
- Optional Audio with onboard Nanophone.

## Support

- <http://www.yourstreamline.com>

## Applications

- Personal tracking with SOS
- Object protection and tracking
- Logistics
- M2M
- Security and surveillance
- Remote control and diagnostics
- Vehicle immobilisation

## Product Summary

Equipped with a state-of-the-art GPS receiver, the StreamLine Module provides reliable and accurate navigational data. All communication is handled rapidly and effectively by a GPRS/GSM modem (QUAD band version) through GPRS or SMS. In areas without network coverage, position-data and events are stored in memory (up to 55,000 positions). As soon as communication is restored, all information can be transmitted.

A unique feature is the user-configuration menu, which controls all actions like sending position-information, depending on all possible events. If you do not want to host data and maps yourself, you can use the hosting services of one of our many partner companies.

# Specifications StreamLine Nano

## Data communication

GPRS/GSM Modem	Telit GE865 QUAD band	
Frequency	850 / 900 / 1800 /1900 MHz	
RF Power	Class 4 (2W) @ 850 / 900 MHz Class 1 (1W) @ 1800 /1900 MHz	
Sensitivity	850/900 MHz	-107 dBm (typical)
	1800/1900 MHz	-106 dBm (typical)
Data	GPRS	Class 10
	Coding schemes	CS1 to CS4
SMS	Point-to-Point mobile originated & mobile terminated	
	Cell Broadcast	

## Navigation

GPS Receiver	65 channel Venus638LPx	
Frequency	L1 1574.42 MHz	
Acquisition Time (TTFF)	Hot start	< 1 sec
	Cold start	29 sec
Position Accuracy	2.5 meter (CEP) 2 meter (CEP with WAAS, EGNOS)	
Sensitivity	Cold start	-148 dBm
	Reacquisition	-155 dBm
	Tracking	-165 dBm
Antenna	Passive patch antenna 20x20 mm	

## Electrical

Charging Voltage	Maximum range: +4.3...+10 VDC Preferred power supply for charging: 5V+-10%, 500mA or up.
Charging Current	Max 450mA. Higher charging currents (for batteries with higher capacity) on request.
Power Consumption	35µW standby (typical): GPS off, hot start possible. GSM off. Processor monitors timer + pushbuttons + vibration sensor + I/O, watchdog on, brownout detection on. 8µW standby (typical): idem, but with GPS coldstart.  Power per fix: < 1.3 mAh, including cold start of GPS, GSM power-up and transmission via GPRS or SMS.  120 mW tracking: GPS always on, GPRS active, GPRS session open.  Power consumption depends on amount of GPRS traffic and navigation parameters



## External connections StreamLine (NANO-USB)

Pin	Signal	Type	Description
1	USB VCC	VCC	+4.5...+10VDC Charge input
2	Serial IN	I	Serial input or digital input (2..31V for active high), ~ 50K pulldown
3	Serial OUT	O	Serial or digital output, open collector (max 31V / 10 mA / 100mW)
4	Analog In	I	Analog Input 0..35V
5	GND	GND	GND for charge and I/O

# Comparison table StreamLine

	<b>StreamLine Nano Rev8</b>	<b>StreamLine Nano Rev9</b>
Introduction date	May-2010	Apr-2011
Outside Dimensions	68 x 32 x 17 mm ABS housing	56 x 37 x 16 mm ABS housing
<b>GPRS / SMS</b>		
QUADBAND 850/900/ 1800/1900 Mhz	•	•
Antenna connection	Nano-coax	Nano-coax
GPRS internal antenna	•	•
<b>GPS</b>		
Tracking sensitivity / channels	-161 dBm / 65 ch	-165 dBm / 65 ch
Antenna sensing circuitry	-	-
Antenna connection	Onboard patch	Onboard patch
GPS antenna included	•	•
<b>POWER</b>		
Internal battery	Li-Polymer 550mAh	Li-Polymer 700mAh (optional: Lithium Saft® LSH14/LSH20)
Average tracking power (GPS full power, GPRS connected)	175 mW	120 mW
Minimum power consumption	<0.5 mW	<8 µW
Power cable + fuse included	-	-
<b>IN / OUT</b>		
Connector	Nano-usb	Nano-usb
Digital / Analog Inputs	1 (digital)	1 digital + 1 analog
Digital outputs (max. 31 Volt)	1	1
Camera interface	-	-
RS-232 connections	-	-
3V serial connections	1 RXD+TXD	1 RXD+TXD
1-Wire / iButton interface	-	-
Optional Handsfree audio	Microphone + 8 Ohm speaker amplifier	Microphone + 16 Ohm speaker
<b>MISCELLANEOUS</b>		
Internal 3 axis acceleration / G-force sensor	optional	Optional
Internal Vibration sensor	•	•
Maximum items in log	6,000 / 55,000 (optional)	6,000 / 55,000 (optional)

