

StreamLine

StreamLine Compact Industrial GPS / GPRS / SMS / RFID 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, lawnmowers, boats, people etc.

StreamLine Compact Industrial is the latest addition, targeted for industrial use and any other application that need a minimum size, an extremely long battery life while maintaining the exact same options and server connection the full-size units have.

The Compact products are designed to comply with all approvals for the North American market, and can be used in all countries of the world.

Key Features

- Quad-band GSM for worldwide coverage.
- Ultra low power consumption.
- 5 to 31VDC power supply.
- Serial, analog and digital interfaces.
- Excellent GPS accuracy including full-size GPS antenna.
- 2.45 GHz short range radio (+-50 mtrs) for special functions and peripherals.
- All 3 RF antenna's are on the PCB itself.
- Optional additional on-board sensors like 3D magnetic compass, highly sensitive altimeter, 3D gravity/acceleration sensor.
- Small, PCB is only 91 x 40 x 9 mm.
- Lightweight: 22 grams for the PCB, 14 grams for a 670mAh battery if needed. Larger batteries on request.
- Wide operating temperature range.
- Multiple watchdog levels for maximum stability .
- Dual charge protection for voltages and temperature range.

- Remote configurable to fit any job (both firmware and configuration files can be updated over the air)
- 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 multi server configuration
- User definable SMS commands
- Optional audio with onboard microphone and speaker
- Designed to be used in industrial objects

Applications

- Vehicle and boat tracking and protection
- Object protection and tracking
- Inside buildings / warehouses
- Logistics
- M2M
- Security and surveillance
- Remote control and diagnostics
- Vehicle immobilization
- Anti theft
- Asset monitoring

Product Summary

Equipped with a state-of-the-art GPS receiver, the StreamLine module provide 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.

New

A new feature that makes the StreamLine Compact series even more unique is the 2.4 GHz short range radio. It enables **localization inside buildings** and special power saving features for applications like Alzheimer's disease or security people and security applications.

Another useful feature is the user-configuration menu, which controls all actions like sending position

StreamLine

Specifications StreamLine Compact Industrial

Data communication

GPRS 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 GPRS	-107 dBm (typical)
	1800/1900 MHz GPRS	-106 dBm (typical)
Data	GPRS	Class 10
	Coding schemes	CS1 to CS4
SMS	Point-to-Point mobile originated & mobile terminated	
	Cell Broadcast	

RF Communication

Radio chip	Nordic nRF24L01+	
Frequency	Worldwide 2.4GHz ISM band, 126 channels	
RF Tx Power	0,-6,-12,-18 dBm	
RF Rx Sensitivity	2Mbps	-82dBm (typical)
	1Mbps	-85dBm (typical)
	250Kbps	-94dBm (typical)
Data rates	250Kbps, 1Mbps, 2Mbps	
Modulation	GFSK	
Ultra low power	13uA average current use at 1 RX/TX per second	

Navigation

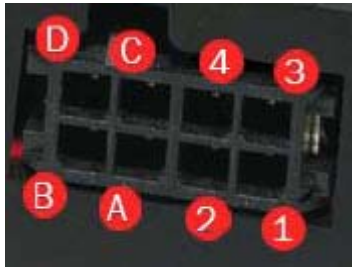
GPS Receiver	65 channel Venus638LPx	
Frequency	L1 1574.42 MHz	
Acquisition Time (TTFF)	Hot start	< 1 sec
	Cold start	29 sec
Position Accuracy	2.5 meter (CEP)	
	2 meter (CEP with WAAS, EGNOS)	
Sensitivity	Cold start	-148 dBm
	Reacquisition	-155 dBm
	Tracking	-165 dBm
Antenna	Passive patch antenna 20x20mm	

Electrical and Operation

Temperature Range	Optional Li-Ion during discharge: -20°C ... +60°C Optional Li-Ion charging: 0°C ... +45°C All other parts: -25°C ... +85°C	
Power supply	Maximum range: +5...+31 VDC	
Charging Current	Max 450mA. Higher charging currents (for batteries with higher capacity) on request.	
Power Consumption	0.5mW standby (typical): GPS off, hot start possible. GSM off. Processor monitors timer + I/O, watchdog on, brownout detection on.	
	Power per fix: < 1.3 mAh, including cold start of GPS, GSM power-up and transmission via GPRS or SMS.	
	150 mW tracking: GPS always on, GPRS active, GPRS session open.	
	Power consumption depends on GPRS traffic and navigation settings.	

StreamLine

External Connections



Pin	Signal	Type	Description
1	GND	GND	Ground for VCC and IO
2	VCC	VCC	+5 to +31VDC charge input and power supply
3	GND	GND	Ground for VCC and IO
4	Analog In 5	I	Digital / Analog Input #5 0..35V
A	Serial In/Out	I/O	3V serial Tx/D1/RxD1 or analog input 0..35V
B	Analog in 1	I	Digital / Analog Input #1 0..35V
C	Board Voltage	O	Optional board voltage: 5V, max 1 Amp
D	Digital in 2	I/O	Digital input #2 0..35V, open collector output 2 (20 mA), Tx/D2 open collector.

StreamLine

Comparison table StreamLine

	StreamLine Basic	StreamLine Compact
--	------------------	--------------------

GPRS/SMS

QUADBAND 850/900 1800/1900 Mhz	•	•
Antenna connection	SMA	Onboard
GPRS antenna	External	Onboard PIFA

GPS

Tracking sensitivity / channels	-161 dBm / 65 ch	-165 dBm / 65 ch
Antenna sensing circuitry	•	not applicable
Antenna connection	SMA	Onboard patch
GPS antenna included	•	•

Power

Internal battery	Li-Polymer 650mAh	Li-Polymer 650mAh
Average tracking power (GPS full power, GPRS connected)	175 mW	165 mW
Fully operational (except GPRS module) with depleted battery	-	•
Minimum power consumption	<0.5 mW (internal battery)	<0.5 mW (internal battery)
Power cable + fuse included	•	•

In/Out

Connector	8 way	8 way
Digital / Analog Inputs	1 Digital + 2 Analog	2 Digital + 1 Analog
Digital outputs (open collector, max. 31 Volt)	2 (150 mA max)	1 (20 mA max)
Camera interface	-	-
1-Wire / iButton interface (except temperature sensors)	•	•
3V serial connections	1 RXD+TXD	1 RXD+TXD

Miscellaneous

Internal 3 axis Acceleration / G-force sensor	optional	Optional
Internal 3D magnetic compass	-	Optional
Internal Barometer for altitude	-	Optional
Internal 2.45 Ghz RF	-	Optional
Internal Vibration sensor	•	-
Maximum items in log	6,000 / 55,000 (optional)	6,000 / >500,000 (optional)

StreamLine

Final notes, Certification and Disclaimer

We certify that StreamLine does not make any hardware or IMEI modifications to the Telit GE865 devices as used in the StreamLine track&trace device. All software modifications are restricted to official firmware upgrades as provided by Telit Communications PLC.

WARNING:

- The device should be turned off in vicinity of petrol pumps, chemical, flammable or hazardous environments where ignition of flammable atmospheres is possible.
- The GSM unit and antenna shall be operated at a distance greater than 20 cm from the human body.
- The device is to be operated in accordance with the user instructions or manufactured recommendations.

THE MATERIALS ARE PROVIDED "AS IS" WITHOUT ANY EXPRESS OR IMPLIED WARRANTY OF ANY KIND INCLUDING WARRANTIES OF MERCHANTABILITY, NONINFRINGEMENT OF INTELLECTUAL PROPERTY, OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT SHALL StreamLine BV OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION, LOSS OF INFORMATION) ARISING OUT OF THE USE OF OR INABILITY TO USE THE MATERIALS, EVEN IF StreamLine BV HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME JURISDICTIONS PROHIBIT THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

StreamLine BV and its suppliers further do not warrant the accuracy or completeness of the information, text, graphics, links or other items contained within the Materials. StreamLine BV may make changes to the Materials, or to the products described in those Materials, at any time without notice. StreamLine BV makes no commitment to update the Materials.