



GE864T-GPS

Hardware User Guide

Rev01 - 10.06.2013





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1 Description

GE864T-GPS GSM/GPRS/GPS terminal is the new generation based on the Quad-Band and RoHS compliant GE864 core engine incorporating additional and new features.

The GE864T-GPS featuring the embedded Python™ script interpreter provides the possibility for running customer programs inside the modem, thus making the terminal a complete self-contained application platform for customer solutions. Programmable I/O port, RS232 port and Serial Second GPS Port can be used for monitoring external signals, connecting sensors, and switching external devices. The GE864T-GPS offers jamming detection functionality allowing the unit to sense attempts to disrupt the GSM communication by interference with the GSM signal.

GE864T-GPS offers extended operating temperature, integrated TCP/IP stack, direct control by standard serial RS-232 interface and with a broad supply voltage range (5-32 VDC - Min1.2A), the GE864T-GPS terminal is a complete stand alone solution for m2m applications.

GE864T-GPS Terminal is integrating full 48-channels A-GPS functionality. It combines the high performance from Telit's proven GSM/GPRS core technology with the latest SiRFstarIV™ high sensitivity single-chip A-GPS receiver.

GE864T-GPS, supports Over-the-Air firmware update by means Premium FOTA Management. By embedding RedBend's vCurrent® agent, a proven and battle-tested technology powering hundreds of millions of cellular handsets world-wide is able to update its products by transmitting only a delta file, which represents the difference between one firmware version and another.



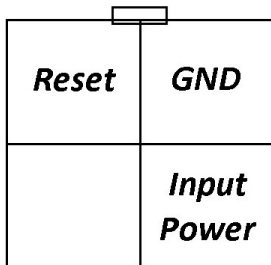
2 General Features

- * Quad-band EGSM 850/ 900 / 1800 /1900 MHz,
- * Embedded Python Version 1.5.2 ,
- * Serial Debug GPS Port (Also 5.0V Fixed Voltage Output),
- * RS232 interface (DB9-Female),
- * Analog Audio Support (2.5mm jack, Mono-Mic & Mono-Ear),
- * 2 Digital Inputs, 2 Digital Outputs and 2 ADC Connections on GPIO socket,
- * Dimensions: 85 x 70 x 33 mm,
- * Weight: 140 grams,
- * SMA female, 50 Ohm GSM RF connector,
- * SMA female, 50 Ohm GPS RF connector,
- * Power Socket (PWR, GND, RST),
- * On board SIM card holder(Push-Push Type),
- * Optional WatchDog Timer with MCU(PIC12F675) controller.



3 Power

Front View



Power Connector

Pin Descriptions:

- * GND: Ground Reference
- * Input Power: 7-35V @ 1.2A min.
- * Reset: Active when Pulls Down to GND

4 Serial Port



Pin out (refers to DTE side):

- Pin 1 = DCD Output
- Pin 2 = RX Output
- Pin 3 = TX Input
- Pin 4 = DTR Input
- Pin 5 = Ground
- Pin 6 = DSR Output
- Pin 7 = RTS Input
- Pin 8 = CTS Output
- Pin 9 = RI Output

The RS-232 port is available through D-TYPE 9 pin connector

The main characteristics are:

- * Baud rate from 300 to 115,200 bits/s
- * Autobauding (300 to 38,400 bits/s)
- * Short circuit (to Ground) protection on all outputs.
- * Input voltage range : -12V to +12V

To connect to a PC a pin to pin, 9 pin cable needed with D type connectors (male & female) on both sides.

5 Digital I/O & ADC

Front View

ADC2	ADC1	Out2_P	Out1_P	Input2_P	Input1_P
	AGND	Out2_N	Out1_N	Input2_N	Input1_N

I/O Connector

Input1—>GPIO8 Output1—>GPIO6
Input2 —>GPIO9 Output2—>GPIO3

The I/O port is available through 2x6 pin connector

The Main Characteristics are:

- * 2 Digital Inputs (0-220VDC),
- * 2 Digital Open-Collector Outputs,
- * 2 ADC Inputs (0-2V)

6 Antenna

GSM ANTENNA REQUIREMENTS	
Frequency range	Standard Dual Band GSM/DCS frequency range or Standard Quad Band GSM/DCS/PCS frequency range if used for all four bands
Bandwidth	70 MHz in GSM850, 80 MHz in GSM & 170 MHz in DCS & 140 MHz PCS band
Gain	Gain < 3dBi
Impedance	50 ohm
Input power	> 2 W peak power
VSWR absolute max	<= 10:1
VSWR recommended	<= 2:1

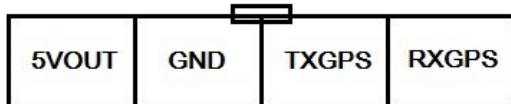
Note:

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.



7 Debug Port

Front View



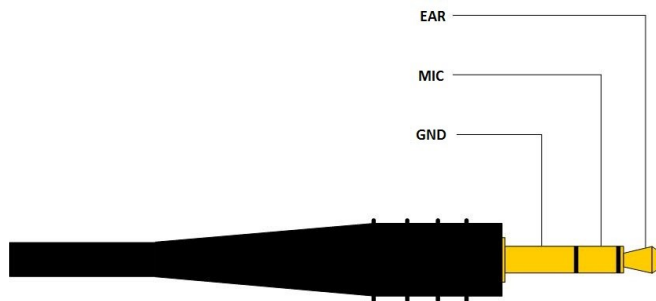
NMEA GPS Serial Port Connector

The Debug port is available through 1x4 pin connector

The Main Characteristics are:

- * 5V Fixed Output,
- * 5V Level Second Serial Port (GPS_TX_AUX & GPS_RX_AUX)

8 Analog Audio



2.5mm Audio Connector

The Main Characteristics are:

- * Headset Connection including MIC and EAR,
- * Compatible with 2.5mm 3 channel receptacle headset jack



Document Change Log

Revision	Date	Changes
Rev02	07.07.2014	GPS Serial Debug NMEA port added
Rev03	02.09.2015	GPIO Description added