



HE910-3GT

Hardware User Guide

Rev01 - 30.05.2012





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1 Description

The HE910T-3G terminal is a complete encased modem solution which combines the access to digital communication services in UMTS, HSPA, GSM, GPRS and EDGE networks.

HE910T-3G includes features like HSDPA 21.0 Mbps (Cat 14), HSUPA 5.7 Mbps (Cat 6), EGPRS Class 33, digital voice interface, circuit switched data transfer, phonebook and SMS support, embedded TCP/IP protocol stack and custom Telit AT commands.

HE910T-3G offers extended operating temperature, integrated TCP/IP stack, direct control by standard serial RS-232 interface or USB 2.0 interface, and with a broad supply voltage range (5-32 V DC), the HE910T-3G terminal is a complete stand alonesolution for m2m applications that require high speed data exchange.

HE910T-3G is provided with Windows and Linux drivers that significantly ease the integration in existing applications.

HE910T-3G, 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 updateits products by transmitting only a delta file, which represents the difference between one firmware version and another.

2 General Features

*** Supported bands**

- 4 Bands GSM / GPRS / EDGE:

850 / 900 / 1800 / 1900 MHz

- 5 Bands UMTS / HSPA:

800/850, 900, AWS1700, 1900, 2100 MHz,

*** Embedded Python Version 2.7.2 ,**

*** USB Interface (Mini-B Receptacle Connector),**

*** RS232 interface (DB9-Female),**

*** -40°C - 85°C Working Temp Range,**

*** Analog Audio Support (2.5mm jack, Mono-Mic & Mono-Ear),**

*** 2 Digital Inputs, 2 Digital Outputs and 1 ADC Connections on GPIO socket,**

*** Dimensions: 85 x 70 x 33 mm,**

*** Weight: 140 grams,**

*** GSM Antenna Connector (SMA female, 50 Ohm RF connector),**

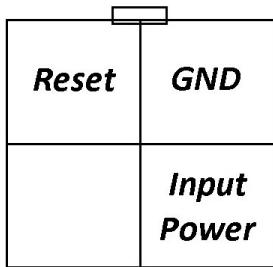
*** Optional GPS Antenna Connector (SMA female, 50 Ohm RF connector),**

*** Power Socket (PWR, GND, RST),**

*** On board SIM card holder(Push-Push Type),**

3 Power

Front View



Power Connector

Pin Descriptions:

- * GND: Ground Reference
- * Input Power: 7-32V @ 1.2A min.
- * Reset: Active when Pulls Down to GND

4 Serial Port



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

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

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—>GPIO7 Output1—>GPIO8
 Input2 —>GPIO10 Output2—>GPIO9

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 GSM Antenna

ANTENNA REQUIREMENTS	
Frequency range	Depending by frequency band(s) provided by the network operator, the customer shall use the most suitable antenna for that/those band(s)
Bandwidth (GSM/EDGE)	70 MHz in GSM850, 80 MHz in GSM900, 170 MHz in DCS & 140 MHz PCS band
Bandwidth (WCDMA)	70 MHz in WCDMA Band V 80 MHz in WCDMA Band VIII 460 MHz in WCDMA Band IV 140 MHz in WCDMA Band II 250 MHz in WCDMA Band I
Impedance	50ohm
Input power	> 33dBm(2 W) peak power in GSM > 24dBm Average power in WCDMA
VSWR absolute max	<= 5:1 (limit to avoid permanent damage)
VSWR recommended	<= 2:1 (limit to fulfill all regulatory requirements)

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.

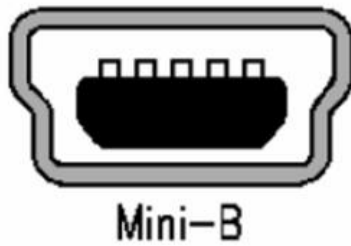
7 GPS Antenna

The active GPS antenna should fulfill the following requirements:

Frequency range	1575.42 MHz(GPS L1 band)
Bandwidth	+/- 2 MHz

The supply voltage to the active GPS antenna is provided by the

8 USB

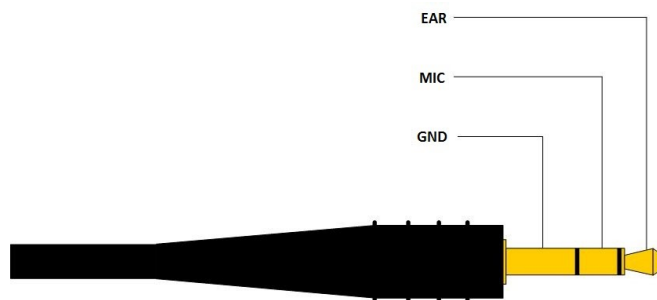


Connector type is Mini-USB type B.

This port is compliant with the USB 2.0 HS only. The USB 1.1 is not supported.

Note: Terminal can be supplied over USB socket with a USB Mini-B cable. **9**

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	02.09.2015	Gpio description added