

GT- IRDM-9603

Product description

Rev. 2 –17/06/2014



1. Overview

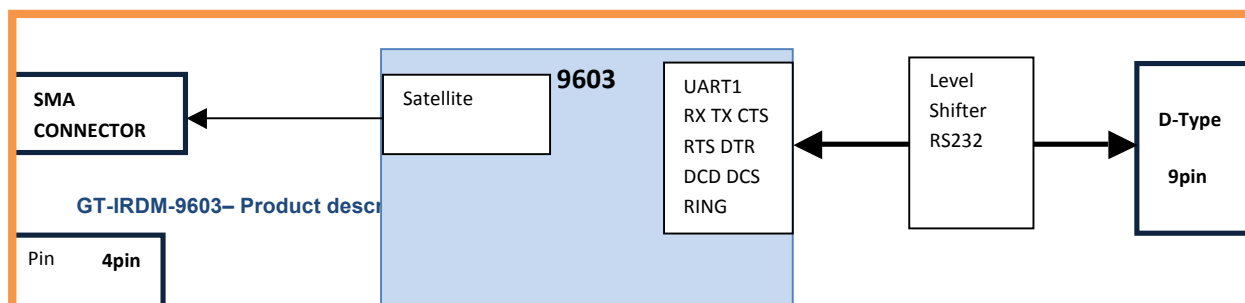
The GT-IRDM-9603 is a complete Satellite Terminal solution for Satellite applications.
Based on IRIDIUM 9603 module.

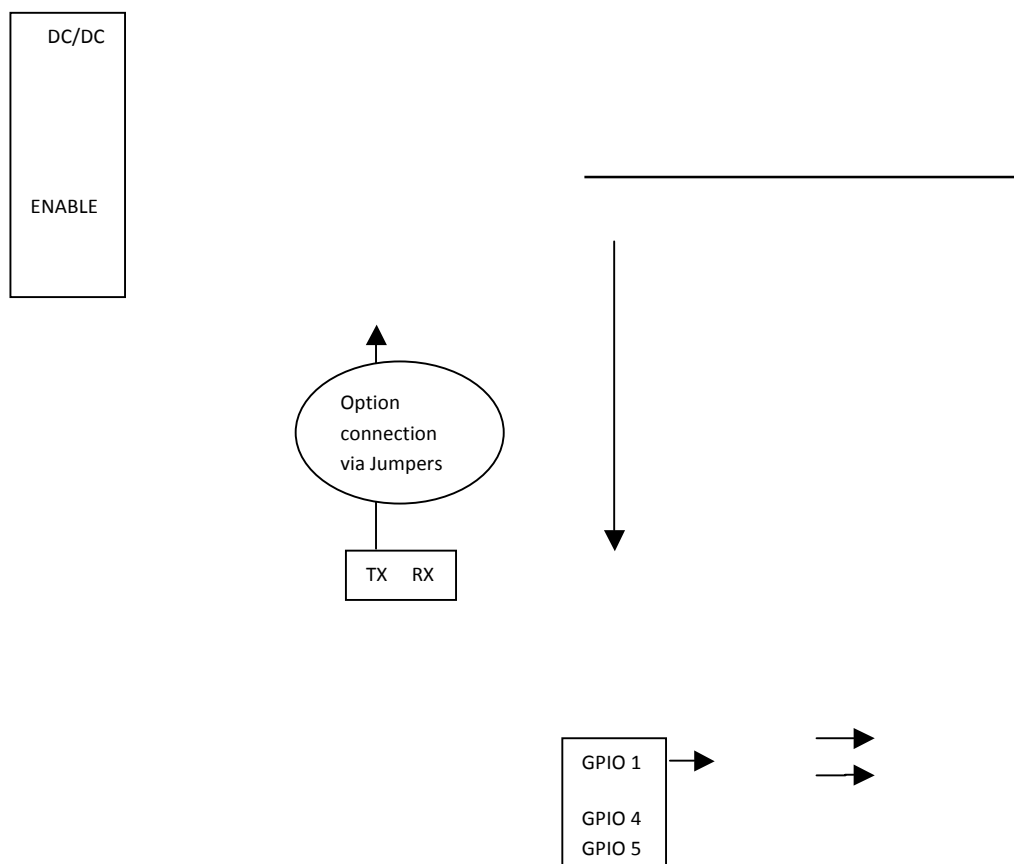
2. Hardware Interface Description

Main features of the GT- IRDM-9603

Feature	Implementation
Incorporates IRIDIUM 9603 module	The Telit module handles all Satellite communication
Frequency bands	1616 Mhz to 1626.5 Mhz
Power supply	Single supply voltage 6V to 55V Connector 4 pin micro-fit 3mm
Communication	Modem RS232, connector D-Type 9pin
Antenna	Satellite via SMA connector

3. IRDM Terminal Hardware block diagram





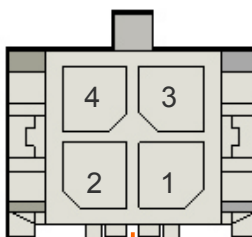
4. Power Supply

The power supply of the GT-IRDM-9603 Terminal has to be a single voltage source of POWER 6V-55V capable of providing a peak during an active transmission. The GT-IRDM-9603 Terminal is protected from supply voltage reversal. An internal fuse 1.1A 60V ensures an electrical safety according to EN60950-1. This fuse is not removable. A fast acting fuse 0.8A with melting is necessary to use with the GT-IRDM-9603 at a 24V power supply system for vehicles. The power supply must be compliant with the EN60950 guidelines.

Pin	Signal name	Use
1	POWER	Input Power supply range 6-55V
2	Power Enable	Control pin to turn ON/OFF Terminal power When putting this pin on GROUND the unit will be turn OFF When putting this pin OPEN or High the unit will be turn ON
3	GND	Ground
4	---	---

Pin assignment of the plug for power supply and Power Enable

Male 4-pole plug for power supply
To use with MOLEX MICRO FIT 3mm
PART NUMBER 43025-0400



Pin assignment

- 1 – Power
- 2 – Power Enable
- 3 – GND
- 4 – NC



Supply voltage requirements

The DC power supply must be connected to the POWER input:

- Input voltage range 6 - 55V DC
- Nominal Voltage 12V DC
- Power Supply current rating: max. 2A @12V
- Power Supply ripple: max. 50mV
- Input current in idle mode: 50mA @ 12V
- Input average current in communication mode: 300mA @ 12V

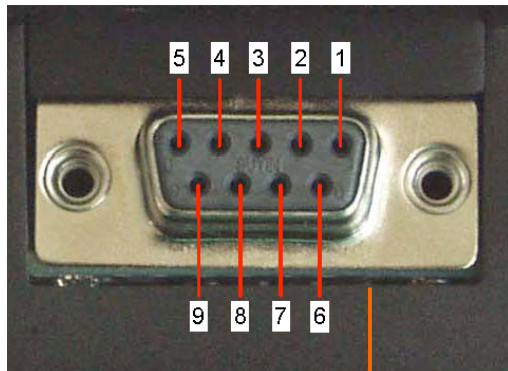
5. SMA CONNECTOR

The GT-IRDM-9603 Terminal uses SMA CONNECTOR for ANTENNA.

6. RS-232 Interface

The serial interface of the GT-IRDM-9603 is intended for the communication between the 9603 module and the host application. This RS-232 interface is a data and control interface

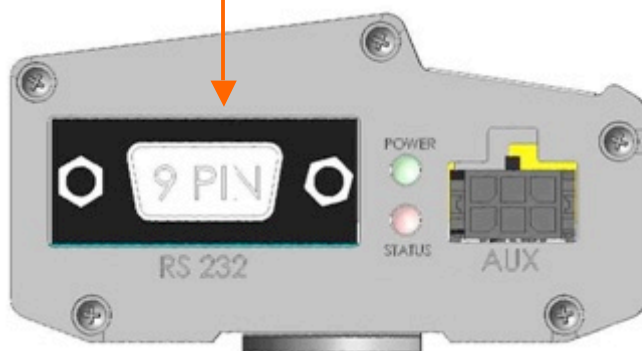
for transmitting data, AT commands and providing multiplexed channels. EMC immunity complies with the vehicular environment requirements according to EN 301 489-7. The user interface of the GT-IRDM-9603 is accessible from a Data Terminal Equipment DTE connected to the RS232 interface and it is managed by AT commands according to the 0603 specification and the supported commands are listed in the AT Commands Reference Guide.



Pin assignment RS-232

Pin no.	Signal name	I/O	Function of application
1	DCD	O	Data Carrier Detected
2	RXD	O	Receive Data
3	TXD	I	Transmit Data
4	DTR	I	Data Terminal Ready
5	GND	-	Ground
6	DSR	O	Data Set Ready
7	RTS	I	Request To Send
8	CTS	O	Clear To Send
9	RING	O	Ring Indication

D-Type 9 pin female RS232



Connector type on the terminal is:

- RS-232 through D-Type 9-pin female
- Baud The default rate is 19200 bps
- Short circuit (to Ground) protection on all outputs.
- Input voltage range: -12V to +12V

7. AUX Interface

The AUX interface provides via Male 6-pole plug connector the following options:

- 2 digital inputs optocouplers, input form 0-55vdc
- 2 outputs optocouplers, drive up to 100ma, external diode needed when drive relay.
- 1 ADC (10 bit) input 0-55v
- 1 Ground pin

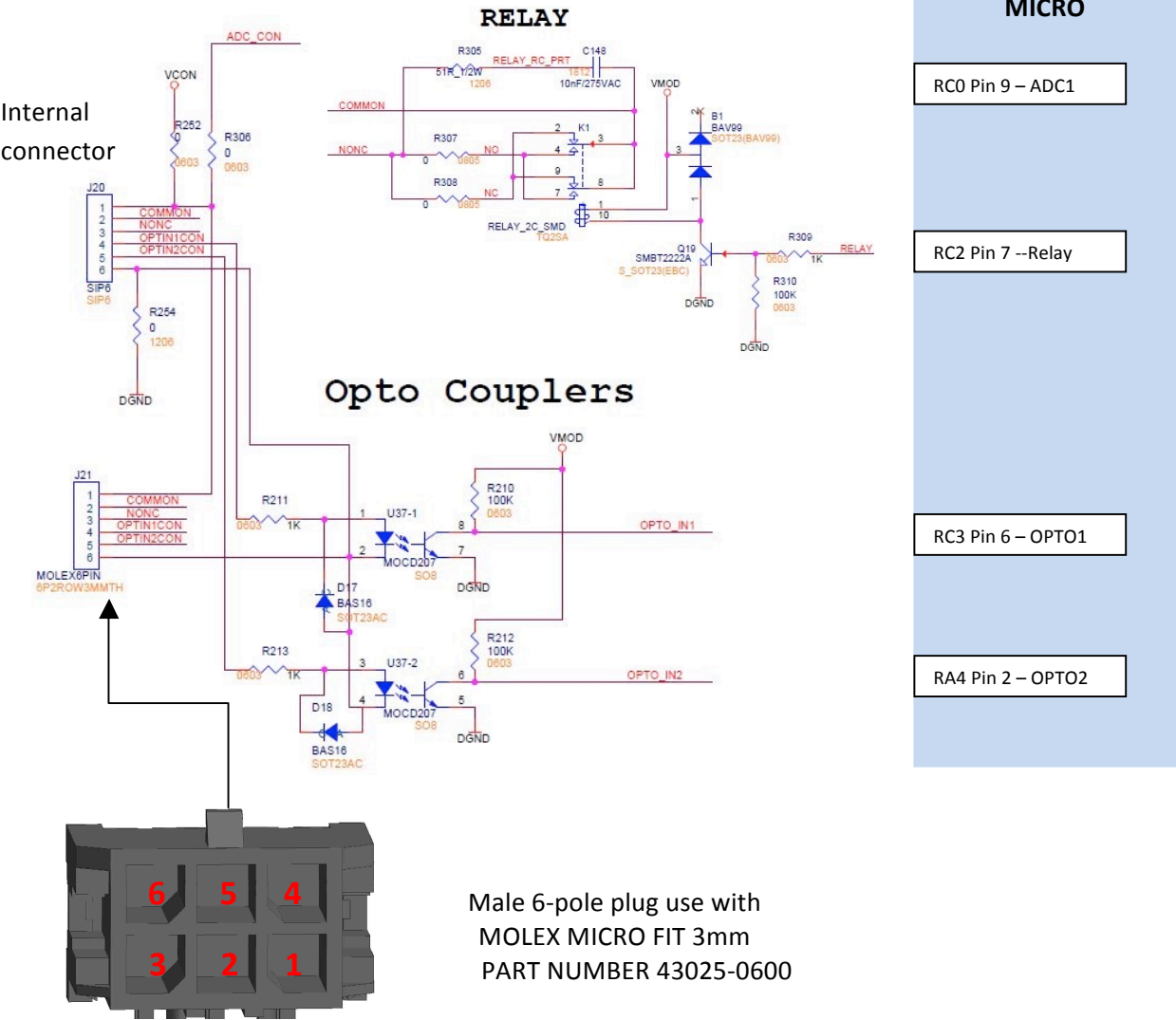
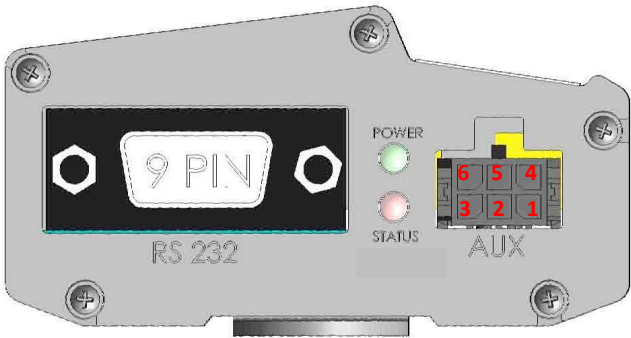
Pin assignment

1 – ADC

GT-IRDM-9603– Product description Rev.2 – 17/06/2014

2 – GPIO 2 --OUTPUT

3 – GPIO 3 --OUTPUT



8. Status LED

Red LED displays the Satellite network status of the GT-IRDM-9603

Red LED status	Device Status
Permanently on	Active network available

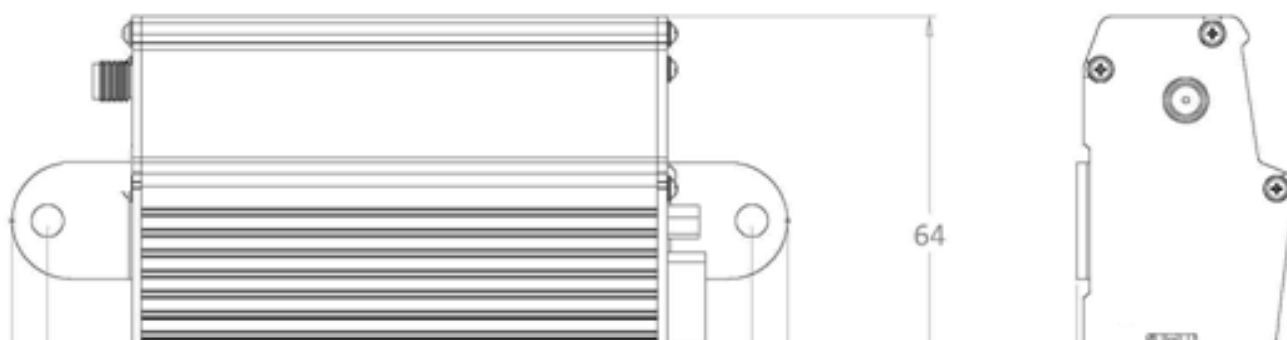
Permanently off	Device not register to satellite
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Green LED displays the operating status of GT-IRDM-9603

Green LED status	Device Power
Permanently ON	Device active
Permanently OFF	Device off
Blinking each 10sec	Watchdog working

9. Mechanical Characteristics

Weight	250g
Dimensions (max) L x W x H	83mm x 64mm x 34mm
Temperature range	-30°C to +70°C ambient temperature
Air humidity	5% - 85%
Casing material	Aluminum



10. Power Supply

This chapter provides specifications for the power supply, which serves the Terminal. The power supply recommended to be any safety approved power supply certified IEC 60950-1 or EN 60950-1 or UL 60950-1 with limited output current up to 2A and specification as per page 4. The type of the receptacle assembled on the GT-IRDM-9603 Terminal is 4 pin Micro Mate-N-LOK 3mm from MOLEX part number: 43025-0400

11. SAFETY RECOMMENDATIONS

READ CAREFULLY

- 1. The unit does not provide protection from lightning and surge. For outdoor installation use outdoor plastic case safety approve according UL 50. Additional provide protection from lightning and over voltage according National code.**
- 2. Be sure the use of this product is allowed in the country and in the environment required. The use of this product may be dangerous and has to be avoided in the following areas: Where it can interfere with other electronic devices in environments such as hospitals, airports, aircrafts, etc. Where there is risk of explosion such as gasoline stations, oil refineries, etc It is responsibility of the user to enforce the country regulation and the specific environment regulation. Do not disassemble the product; any mark of tampering will compromise the warranty validity. We recommend following the instructions of the hardware user guides for a correct wiring of the product. The product has to be supplied with a stabilized voltage source and the wiring has to be conforming to the security and fire prevention regulations. The product has to be handled with care, avoiding any contact with the pins because electrostatic discharges may damage the product itself. The system integrator is responsible of the functioning of the final product; therefore, care has to be taken to the external components of the unit, as well as of any project or installation issue, because the risk of disturbing the Satellite network or external devices or having**

impact on the security. Should there be any doubt, please refer to the technical documentation and the regulations in force. Every unit has to be equipped with a proper antenna with specific characteristics. The antenna has to be installed with care in order to avoid any interference with other electronic devices and has to guarantee a minimum distance from the body (20 cm). In case of this requirement cannot be satisfied, the system integrator has to assess the final product against the SAR regulation. The European Community provides some Directives for the electronic equipments introduced on the market. All the relevant information's are available on the European Community website: <http://europa.eu.int/comm/enterprise/rtte/dir99-5.htm> The text of the Directive 99/05 regarding telecommunication equipments is available, while the applicable Directives (Low Voltage and EMC) are available at:

http://europa.eu.int/comm/enterprise/electr_equipment/index_en.htm

11.1 Two Years Limited Warranty

GateTel warrants, to the original purchaser, that this equipment shall be free of defects in materials and workmanship for a period of two (2) years.

This warranty does not apply if the product has been misused or has been damaged by accident, abuse, misuse, or misapplication or if it has been modified without permission.