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> GSM NETWORK CALL DEVICE

GSM Transceiver GSMT-03 / GSMT-03-RB MADE IN ITALY

# **INSTRUCTION MANUAL**

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# 1. **DESCRIPTION**

The **GSM Transceiver GSMT-03/GSMT-03-RB** device is a PSTN line simulator able to perform calls and send messages through a GSM network (Figure 1).



Figure 1 GSM Transceiver GSMT-03

# 2. TECHNICAL FEATURES

The **GSM Transceiver GSMT-03** main features are as follows:

- Quad Band GSM/GPRS (class 12/10) module;
- External antenna;
- External antenna, 3 m cable (optional 5m GSM 2dBi cable).
- L48ine interface for up to 2 call devices;
- Integrated self-test for the GSM module and for the phone interface;
- Field strength intensity, status and error code indicator;
- Support for Digital protocol systems. (ADEMCO, SCANTRONICS or any others);
- Wide range DC voltage supply
- Low power consumption;
- Messages and data memorization (option).
- 6V/12V/24V digital input (option).
- Serial link RS485 (option).
- Device software update through serial link RS485 and bootloader
- Rechargeable battery: NiMh 6V 800 mAh (GSMT-03-RB model)

# 3. TYPICAL APPLICATIONS

### • GSM Gateway for security devices:

The **GSM Transceiver GSMT-03** is suited for all automatic dial devices which design to work with PSTN or PBX network, connecting to a remote call centre. The **GSM Transceiver GSMT-03** assures the best reliability to exchange voice and digital tones between call devices and remote centre.

### • Remote control for Industrial equipment or for lift's central unit:

Exploiting the I/O capability of the **GSM Transceiver GSMT-03** is possible to send an SMS alarm message when the input goes active.

Exploiting the serial link and the wide software capability, it is possible to customize the functions of the **GSM Transceiver GSMT-03.** For example it could be programmed as a plat supervisor. Eventual new features have to be arranged with the lift's central unit producers or with industrial equipment user/producer.

# 4. TECHNICAL DATA

### 4.1. GENERAL FEATURES

• • • • • • • •	Size and Weight Operating Temperature Storage Temperature Operating Humidity SIM Led Standard connectors Optional connectors	<ul> <li>155 x 95 x 32 mm - 280g/340g (GSMT-03-RB model)</li> <li>-20 ÷ + 70 °C</li> <li>-40 ÷ + 85 °C</li> <li>0 ÷ 90 %</li> <li>1.8 / 3V SIM Capability</li> <li>5 led for field strength indication / Status / Error code</li> <li>RJ 11 for local phone</li> <li>5 positions terminal blocks, wires \$ 0.5 up to 1.5 sqmm:</li> <li>Supply (position 1, 2)</li> <li>Phone line (position 4, 5);</li> <li>Alarm Input (position 3)</li> <li>Power supply - DC (power connector JP1)</li> <li>RS485 with terminations on board (inputs on RJ11)</li> </ul>				
4.2.	ELECTRICAL FEATURES					
•	DC Voltage Supply	6V÷24V DC suited for backup external battery with 1.500mAh capability				
•	Stand-by consumption Operating consumption	55 mA @ 12V or 40 mA @ 24V (average) ; 1.0 W 125 mA @ 12V or 95 mA @ 24V (average in operating mode)				
•	Peak consumption	1375 mA @ 12V or 1375 mA @ 24V (when in operating mode)				
• • •	Standby battery life: Battery life with call in progre RF Power INPUT (optional) RS485 (optional)	About 7 h (GSMT-03-RB model) ess: About 3 h (GSMT-03-RB model) Band 850/900MHz Transmit Power Class 4 (2W) Band 1800/1900MHz Transmit Power Class 1 (1W) 6/12/24 DC voltage input 2 wires serial link				
4.3.	TELEPHONE / PBX TRUNK INTERFACE					
•	Line Voltage high impedanc Ringing Voltage	e 50V 48V (RMS)				

Line impedance

Loop DC current capability

complex impedance, compliance with TBR21

up to 2 simultaneous (activated) call devices

### 4.4. ACCESSORIES

- Battery charger 12Vdc; 600mA; 7.2VA (for GSMT-03-RB, not included)
- Backup module 12V 1600mA: with NiMh batteries; integrated charger; 230V AC supply;

# 5. INSTALLATION

### 5.1. PRELIMINARY NOTES

Pay attention and follow the recommendations below before installing the device **GSM Transceiver GSMT-03** 

- Use the device only for foreseen applications.
- The device is provided with a GSM external antenna. Locate the antenna far from other electronic equipment that could disturb the GSM communication.
- Check the field signal level before fix the device to the wall. Wide metallic surface could eventually interfere with the signal. Don't fix the antenna on a wide metallic surface.
- Don't fix the **GSM Transceiver GSMT-03** on the top of the lift's car, or close it to the automatic dial device, because it is not possible to assure a good reception in any conditions.
- Insert into the **GSM Transceiver GSMT-03** a SIM card with PIN CODE disabled only.
- Connect all the wires of the **GSM Transceiver GSMT-03**, figures 3 and 7, before the power supply.
- If the GSM is not connected to the VODAECO 15L battery, or the backup battery is used also to supply another device, you must calculate if the battery capacity is enough. Moreover the voltage has to be stable enough to assure low fluctuation, less than 10% of the average value, when the connected device needs different current value during the operating phases. If it's not possible, it's mandatory to replace the battery with a higher capacity one.
- **CAUTION**: to avoid damaging the device, screw the antenna to the GSMT-03 transceiver connector **before** powering it up.

### 5.2. INSTALLATION STEPS

- 1. Unscrew the cover's screw and lift the upper extremity (figure 2 part A) and slide the cover down (figure 2 part B)
- 2. Connect the antenna to the device by screwing it to the proper connector (see Figure 3)
- 3. Put the SIM into the SIM HOLDER (figure 3) with contacts face down;
- 4. Connect the battery pack, located under the cover, to the Jp7 connector (GSMT-03-RB model only). (Figure 4b)
- 5. Connect the trunk phone line, terminals 4 and 5, to all devices. The connection must be a parallel one and not a serial. The polarity isn't important (figure 4)
- 6. Connect the power cables to terminals 1 and 2 or to the JP1 jack (Figure 4 and Figure 5)
- 7. Close the cover inserting the detent into the proper slot (the bottom of the box figure 6) and slide the cover up to the lock position. Screw the screw.
- 8. Apply the AC power.
- 9. Connect a fixed phone to the trunk line (using RJ11 connector) and check the field strength after the end of the start-up sequence (see figure 7)
- 10. Fix the device to the wall and fix the antenna using the relevant clip. Fix the clip to the wall using the double-sided tape or the fischer (figure 8)



Figure 2 Open the cover. Pay attention to the detent on the bottom





Figure 3 Connect the antenna to the device

### GSMT-03 model





Figure 5 DC power connector JP1 (optional)

Ø inner 1.4mm Ø outer 3.5mm

### GSMT-03-RB model



Figure 4b





Ø inner 1.4mm Ø outer 3.5mm



Figure 6 insert the detent and close the cover



Figure 7 check the field strength after the end of the start up sequence and then try to make a telephone call to a specific mobile or fixed number



Figure 8 Fix the device to the wall

# 6. USER INTERFACE

Five light indicators (1 green LED and 4 yellow) form the user interface of the **GSM Transceiver GSMT-03**.

At start-up the LED are all lit for 3 seconds and after the self test sequence starts. The led are lit cyclically one by one. At the end they show the field strength intensity that has been found. The elapsed time from the start-up depends on the networks available and the network registration.

- The green blinking shows the stand-by status (a green flash every 3 seconds).
- The fixed lighting of the green LED more some yellow LED shows the GSM Field strength intensity detected by the module when the module is active (unhooked handset or during a call).
- The fixed lighting of some yellow LED, and the blinking status of the green LED shows: the GSM Field strength intensity (yellow led) and the ring signal during an incoming call (green led).
- The other meanings of the LED indication are explained in the table below.

Status	Description	Blinking time	Pattern GYYYY
Start up	Self Test in progress (line-module-network)	one at a time	•••• <b>\$</b> 5
Input Voltage Error	Input Voltage out of range 5.5÷29V	0.3" on/off	$\mathbf{Q} \bullet \bullet \bullet \bullet$
Trunk Voltage fail	Voltage failure of Trunk line interface	0.5" on/off	$\mathbf{Q} \bullet \bullet \bullet \bullet$
Impedance Error	Trunk in off-hook at start-up	0.5" on/off	$\mathbf{O} \bullet \bullet \mathbf{O} \mathbf{O}$
Module Error	GSM module Failure	0.5" on/off	$\bigcirc \bullet \bullet \bullet \bigcirc \bigcirc$
SIM Error	SIM failure or not present	0.5" on/off	$\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$
SIM locked	SIM protected by PIN CODE	0.5" on/off	0000
Stand-by	Stand-by status and found network	0.2"on/ 2.8"off	
Line in off-Hook	Field strength intensity MAX	on fixed	••••
Line in off-Hook	Field strength intensity MIN	on fixed	
Line in off-Hook	Field strength intensity FAILURE	0.3" on/off	•••••
Incoming Call	The green LED shows the ring signal	1" on	••••

### Table 1

# 7. ACOUSTIC TONES FOR GSM FIELD INTENSITY

During a voice call it is possible to enable/disable the measure of GSM field intensity. Dial <\*6363\*> to enable or disable the function.

The user will hear a number of notes equal to the number of the led lit on the cover.

The tones can be heard in the lift and to the remote phone and they will be repeated every 15 seconds.

If the GSMT-03 is used in combination with the VODAECO 15L, it suggests to activate the audio test, option 80#, before using the acoustic tones function.

# 8. USE WITH VODAECO

Connect the GSMT-03 to the 12V output of the Vodaeco-15 L (terminals 1 and 2 of GSM to 12 and 11, respectively, of the VODAECO 15L )or to the 12/24Vdc battery of the main board.

Effect the remote programming of the Vodaeco using a mobile phone (GSM). This is the best condition that assures the transmission of the programming tones.

If the programming is executed from a fixed line it is necessary to have an analogical phone, that assures the generation of DTMF tones.

In this case the transmission of the programming tones could present some problems.











# 9. CERTIFICATION

# CEX

# 10. USELESS DEVICE DISPOSAL

The used package may be disposed through regular disposal treatment centres. It is made only of non polluting materials, recyclable as secondary prime materials. The device, accessories and batteries included, does not belong to the domestic disposals category, due it's made of valued materials which could be recycled and reused. The European Directory 2002/96/CE about electric and electronic devices disposal (RAEE) prescribes the separate collection of the electric and electronic devices respect to the mixed urban disposals for their further recovery, reuse and recycle. Don't dispose the electric and electronic devices together with domestic disposals or through the regular disposals collection services. The EU countries require the use of separate collection services. Be informed about your local separate collection services for electric and electronic devices disposal showing this symbol:

