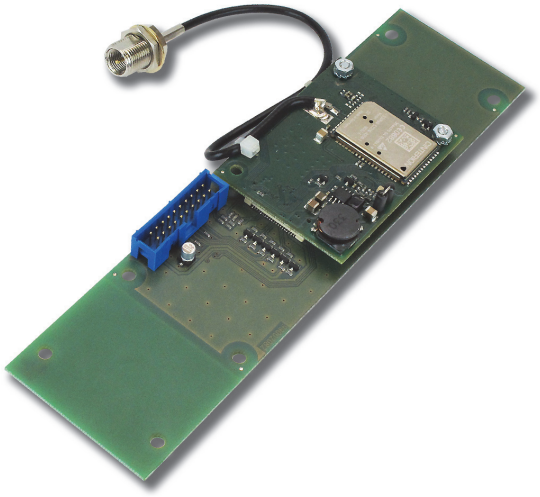
TECHNICAL MANUAL



ETRGSM

GSM module for ETR series, TITANIA series and compatible control units

090000427

IT08020000001624

CE 0051

EL.MO. SPA

FOREWORD

FOR INSTALLERS

Please follow carefully the specifications about electric and security systems realization further to the manufacturer's prescriptions indicated in the manual provided.
Provide the user the necessary indication for use and system's limitations, specifying that there exist precise specifications and different safety performance levels that should be proportioned to the user needs. Have the user read carefully the instructions provided in this document.

FOR USERS

Carefully check the system functionality at regular intervals making sure all enabling and disabling operations were made correctly.
Have skilled personnel make the periodic system's maintenance. Contact the installer to verify correct system operation in case its conditions have changed (e.g.: variations in the areas to protect due to extension, change of the access modes, etc.)

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This device has been designed, assembled and tested with the maximum care, adopting control procedures in accordance with the laws in force. The full correspondence to the functional characteristics is given exclusively when it is used for the purpose it was projected for, which is as follows:

GSM module for ETR series, TITANIA series and compatible control units

Any use other than the one mentioned above has not been forecast and therefore it is not possible to guarantee the correct functioning of the device. Similarly, any other use of this technical manual other than the one it has been compiled for - that is: to illustrate the devices technical features and operating mode - is expressly prohibited.
The manufacturing process is carefully controlled in order to prevent defaults and bad functioning. Nevertheless, an extremely low percentage of the components used is subjected to faults just as any other electronic or mechanic product. As this item is meant to protect both property and people, we invite the user to proportion the level of protection that the system offers to the actual risk (also taking into account the possibility that the system was operated in a degraded manner because of faults and the like), as well reminding that there are precise laws for the design and assemblage of the systems destined to these kind of applications.

The system's operator is hereby advised to see regularly to the periodic maintenance of the system, at least in accordance with the provisions of current legislation, as well as to carry out checks on the correct running of said system on as regular a basis as the risk involved requires, with particular reference to the control unit, sensors, sounders, dialler(s) and any other device connected. The user must let the installer know how well the system seems to be operating, based on the results of periodic checks, without delay.

Design, installation and servicing of systems which include this product, should be made by skilled staff with the necessary knowledge to operate in safe conditions in order to prevent accidents. These systems' installation must be made in accordance with the laws in force. Some equipment's inner parts are connected to electric main and therefore electrocution may occur if servicing was made before switching off the main and emergency power. Some products incorporate rechargeable or non rechargeable batteries as emergency power supply. Their wrong connection may damage the product, properties and the operator's safety (burst and fire).

EU DECLARATION OF CONFORMITY

Hereby, EL.MO. S.p.A. declares that the radio equipment ETRGSM is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following Internet address: elmospa.com – registration is quick and easy.

DISPOSAL INSTRUCTIONS - USER INFORMATIONS

According to Directive 2012/19/EU on the Waste of Electric and Electronic Equipment (WEEE), it is here specified that this Electrical-Electromechanical Device started to be commercialized after 13th August 2005, and it shall be disposed of separately from ordinary waste products.

IT08020000001624

1. GENERALS

The ETRGSM module is an accessory for ETR series, TITANIA series and compatible control units that enables the adoption of the dual band GSM mobile technology within the security field.
ETRGSM employs all the transmission features of this transmission standard for a correct and effective management of the security system. A list of the main features is provided below:

- **Equipped with a GSM device for using it with the ETR series control units including G2 versions and other compatible models**
- **Remote control and interrogation via SMS system;**
- **SMS message forwarding (up to 16.000);**
- **Voice remote interrogation;**
- **Remote assistance at 9600 Bps;**
- **Back-up service in GSM data mode for postal implementations**
- **Back-up service in class 10 GSM data mode for postal implementations if backed up by special firmware and software**
- **Digital data transmission to surveillance companies;**
- **Voice messages transmission;**
- **Alternate operating mode GSM / PSTN, to be set on the control unit;**
- **Fully compatible with 3V and 1.8V SIM cards, both pre-paid and contract (VODAFONE, TIM, WIND);**
- **Advanced control of rechargeable SIM cards credit balance, with programmable interval and SMS message forwarding.**
- **Use of the GSMEXA2 and GSMEXA15 kits for antenna remotization. Both include an outdoor antenna, a fixing bracket and a cable 2 or 15 meters long respectively.**

To guarantee the maximum installation versatility, the module **does not include any antenna**; the installer shall purchase an accessory antenna chosen according to the used control unit. The available antennas are:

- **GSMAC - dual band antenna for vertical mounting, 50 Ω impedance, for ETR48, ETR100/128/256/512, Titania 16, 32 and Plus control units.**
- **GSMAC90 - dual band antenna for 90° mounting, 50 Ω impedance, for ETR48M, ETR100M and Titania 64 control units.**
- **GSMACQ - dual band antenna for ETR48Q, ETR100Q and ETR100Q G2 with the Quadro plastic casing.**

2. TECHNICAL SPECIFICATIONS

Model:	**ETRGSM**
Power supply:	12 V ⎓ provided by the control unit through the connector. 9÷14 V operating range.
DC 12 V power consumption:	12 mA on average, 110 mA during voice transmission, 220 mA during GPRS transmission.
Installation:	inside the unit housing, using the supplied Nylon clips. For special implementations, use the supplied screws.
Wireless transmitter:	GSM/GPRS Multislot Class 10 module.
SIM card holder:	placed on the PBC of the module and suitable for 3 V and 1.8 V SIM cards.
Dimensions and weight:	**W** 50 x **D** 185 x **H** 16 mm, 71g (module only).
Temperatura di funz.:	-10 / +40 certificato dal costruttore, 93% U.R
Parts supplied:	flat cable with connectors, 5 Nylon clips, 4 3MA×5 screws, technical manual, label to be placed on the right side of the housing of the control unit.

The ETRGSM module is intended as an accessory for ETR series, TITANIA series and compatible CE-labelled control units. All components have been selected according to the purpose they are to be employed for, they are therefore suitable for operating as per general and technical features of manufacturer's documentation when unit environment conditions comply with 3K5 (EN 60721-3-3:1995).
The ETRGSM module comes with the CE Declaration of Performance and with the EXPERT OPINION IMQ(0051) document dated 11-07-2005, both downloadable from www.elmospa.com

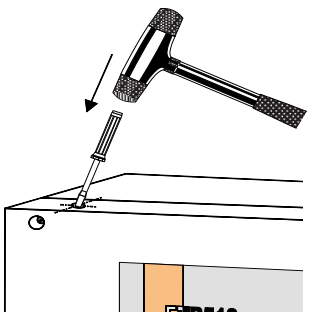
3. INSTALLATION

WARNING: the following instructions assume that the engineer already knows about the problems that might arise while working with electronic boards and that he took all possible precautions to avoid the effects of electrostatic charges. All operations shall be performed after powering off the control unit.
Connecting an external GSMEXA15/GSMEXA2 kit might help transmitting environmental discharges: the dialler has to be treated like a wireless device with external antenna, needing a more cautious installation.

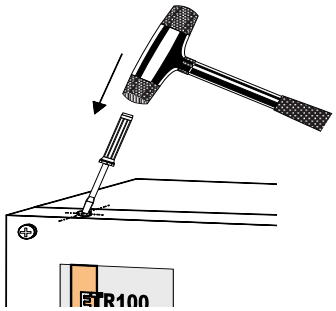
3.1 Set the housing ready for installation

The ETR unit housings are pre-set for the easy installation of an ETRGSM module. The top left part of the front cover features a pre-cut hole for the installation of the antenna connector. The hole can easily be opened by using a screwdriver placed sideways and by slightly pressing the precut area, as shown in the following image.
ETR48M and ETR100M control units have a hole protected by a plastic cap on the front panel instead.

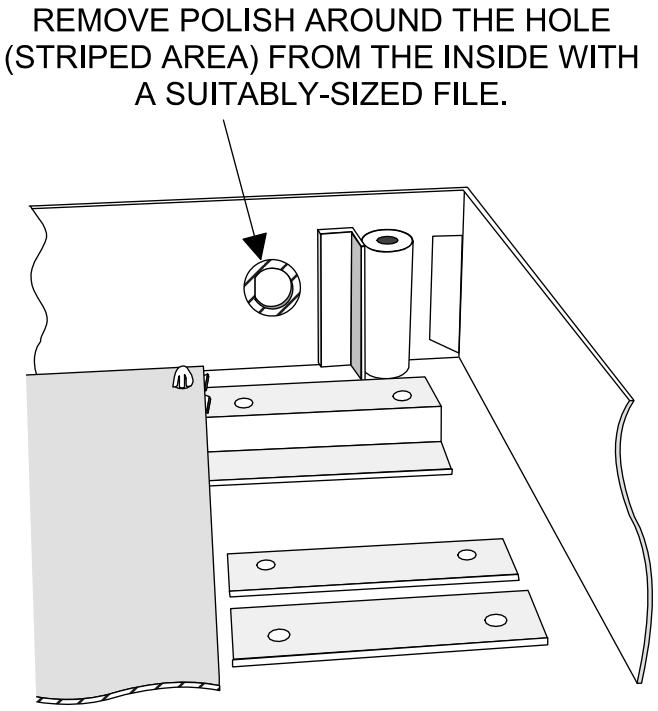
ETR128, ETR256, ETR512, Titania 16, 32 e Plus



ETR48, ETR100

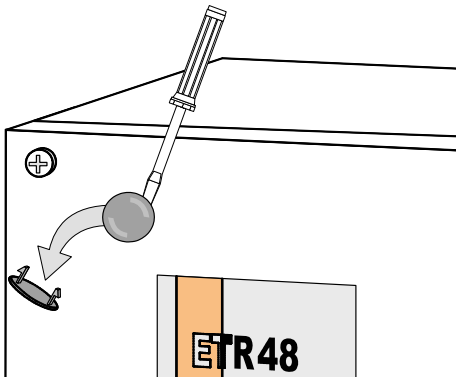


Remove the metal debris and follow the instructions below.



3.2 Exception for ETR48M, ETR100M and Titania 64 control units

As touched upon above, the housings of ETR48M, ETR100M and Titania 64 control units have a hole on their front, protected with a protection plastic cap.
The cap can be easily removed.



3.3 Installation of the ETRGSM electronic module

WARNING
Handle the ETRGSM module considering all precautions concerning electronic boards.
Especially, do not touch the module while you are charged with static electricity.
Torsional and/or bending stress applied to the module may damage SMD components.
Completely power off the control unit during the installation procedure, batteries included.

A. Plug one of the connectors of the supplied flat cable into the corresponding male connector on the ETRGSM module.

B. Fix the module in place using the clips like shown in the figure; ETR100, ETR100M, ETR48 ed ETR48M control units have threaded spacers, use the 3MA screws instead of the Nylon clips.
To mount the module in a Quadro housing, use the specific anchoring bracket.

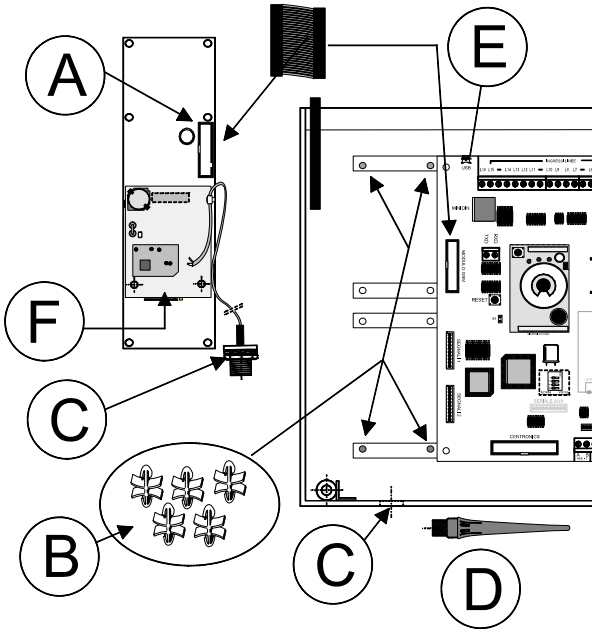
C. Mount the antenna connector as explained in the following paragraphs.

D. Mount the type of antenna that is appropriate to the housing type.

E. Plug the free connector of the flat cable in the corresponding male connector on the control unit board.
The flat cable carries the power, the commands and the data that are essential to the functioning of the module.

F. Ready a SIM card and place it into the ETRGSM module.

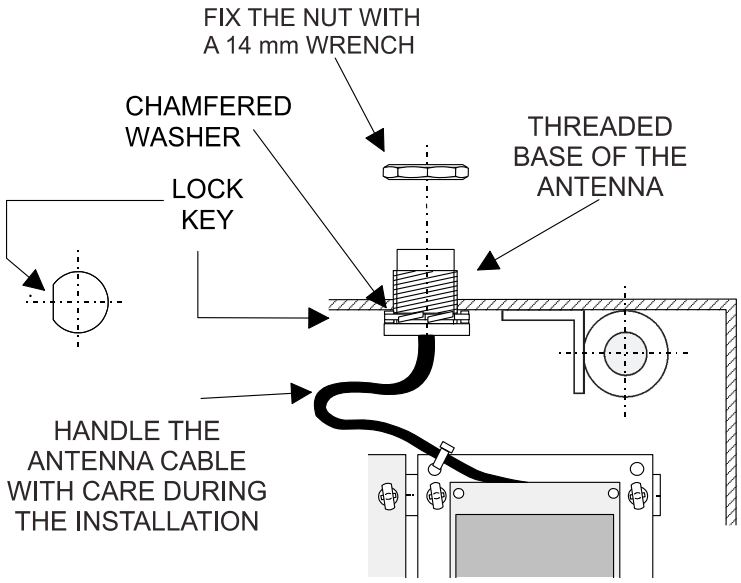
G. Power the control unit on and proceed with the programming and testing in order to achieve the desired functioning.



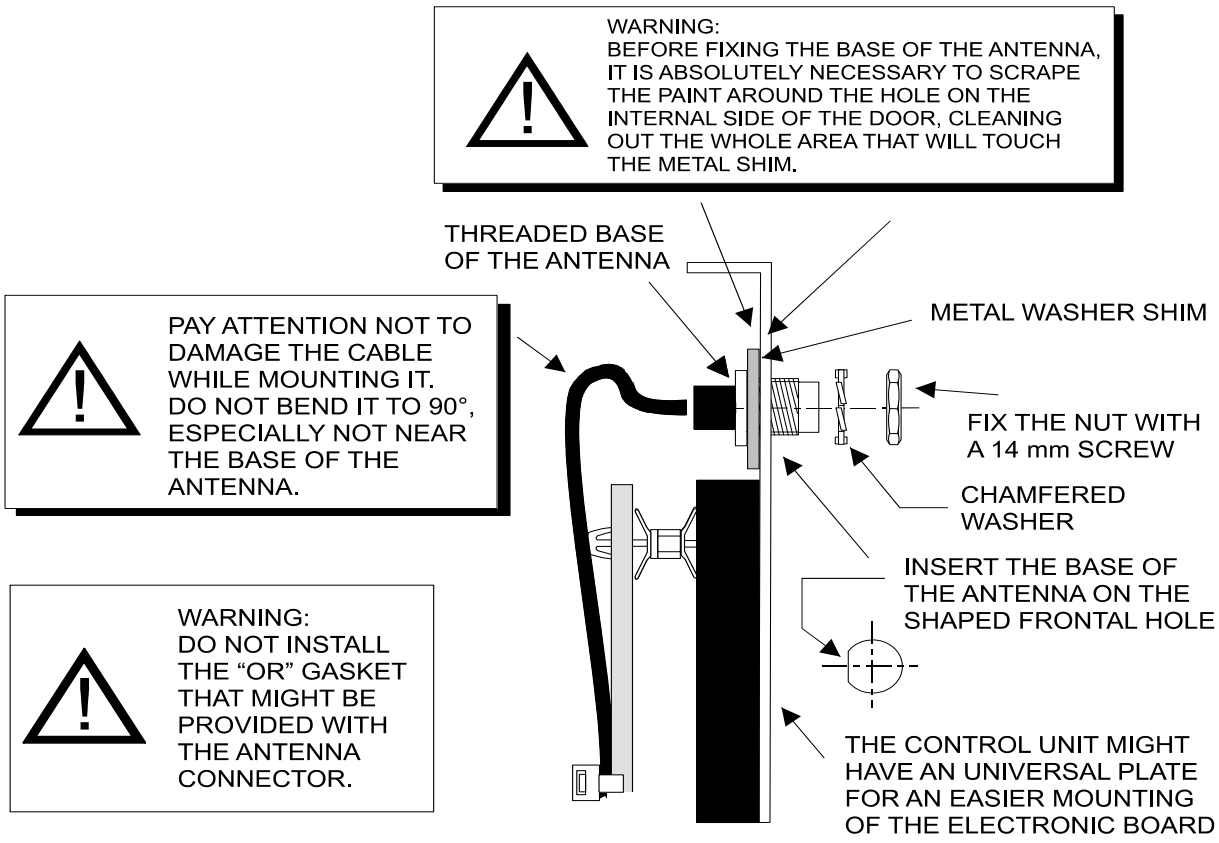
3.4 Antenna connector installation

3.4.1 Instructions for vertical mounting

Place the antenna connector in the readied hole, paying particular attention not to damage it or the cable; the figure below details the procedure.



3.4.2 Instructions for horizontal mounting



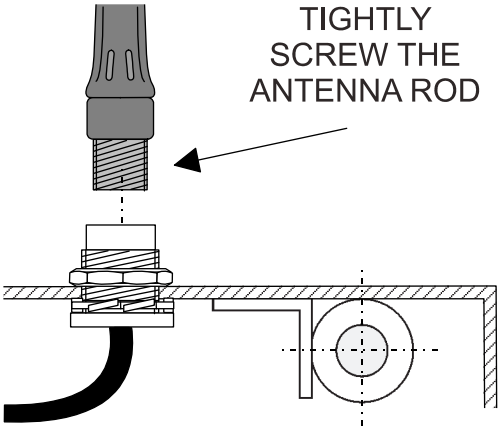
3.5 Optional antenna installation

3.5.1 Mod. GSMAC antenna

For ETR48, ETR100, ETR128, ETR256, ETR512, Titania 16, 32 and Titania Plus use the GSMAC antenna with vertical rod.

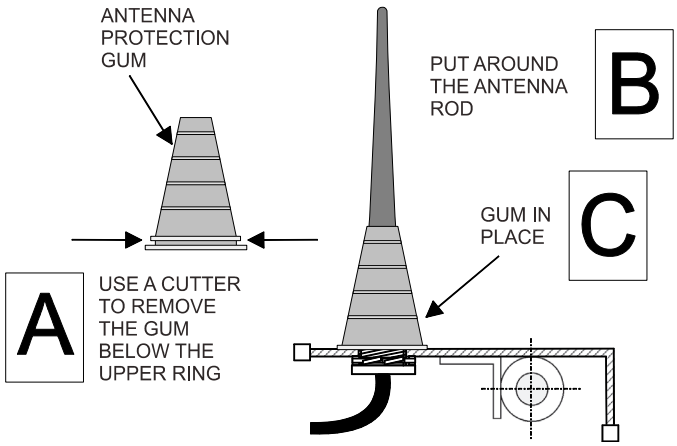
ATTENTION: the GSMAC item is not supplied with ETRGSM and it shall be ordered separately.

Carefully screw the GSMAC antenna rod tight to the connector, as shown below:



3.5.2 Installation of the protection rubber gum for GSMAC

Protect the vertical antenna with the aesthetic gum; install it as shown below:



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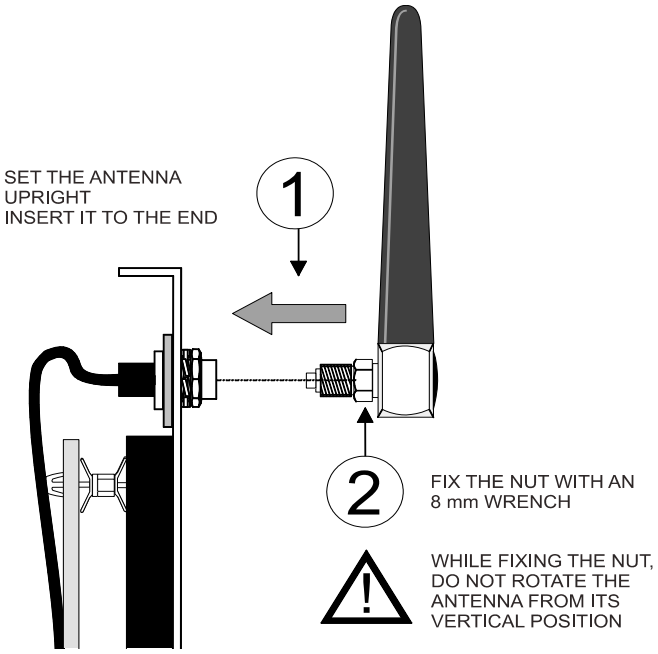
3.5.3 Mod. GSMAC90 antenna

For ETR48M, ETR100M and Titania 64 control units, use the GSMAC90 antenna with 90° rod.

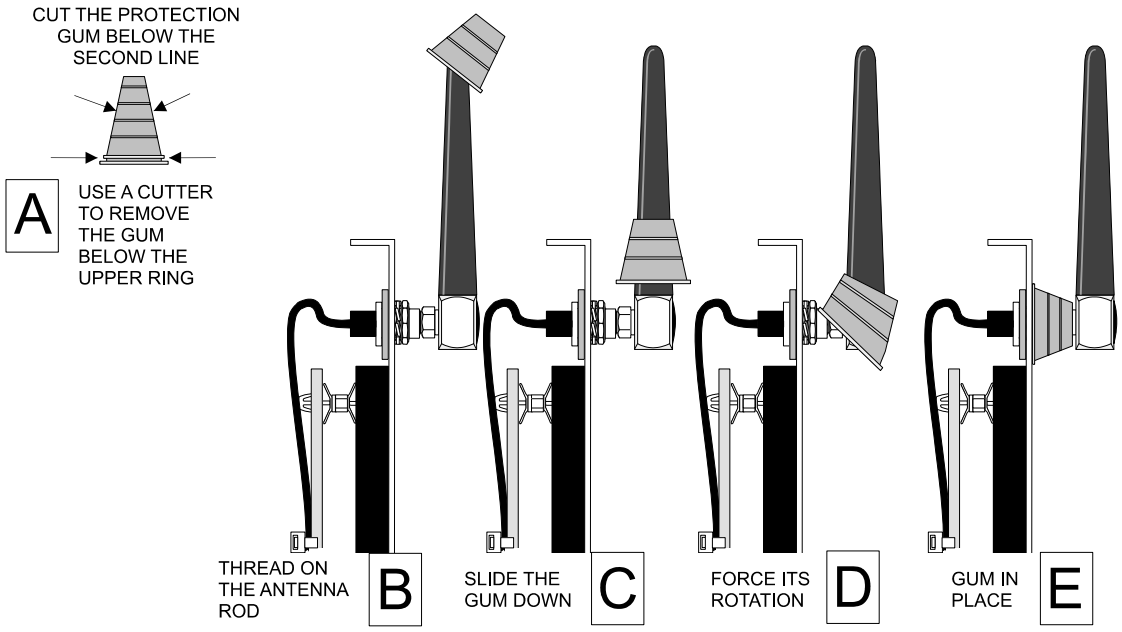
ATTENTION: the GSMAC90 item is not supplied with ETRGSM and it shall be ordered separately.

Use an 8 mm wrench to tighten the GSMAC90 antenna to the connector as shown below.



3.5.4 Installation of the protection rubber gasket for GSMAC90

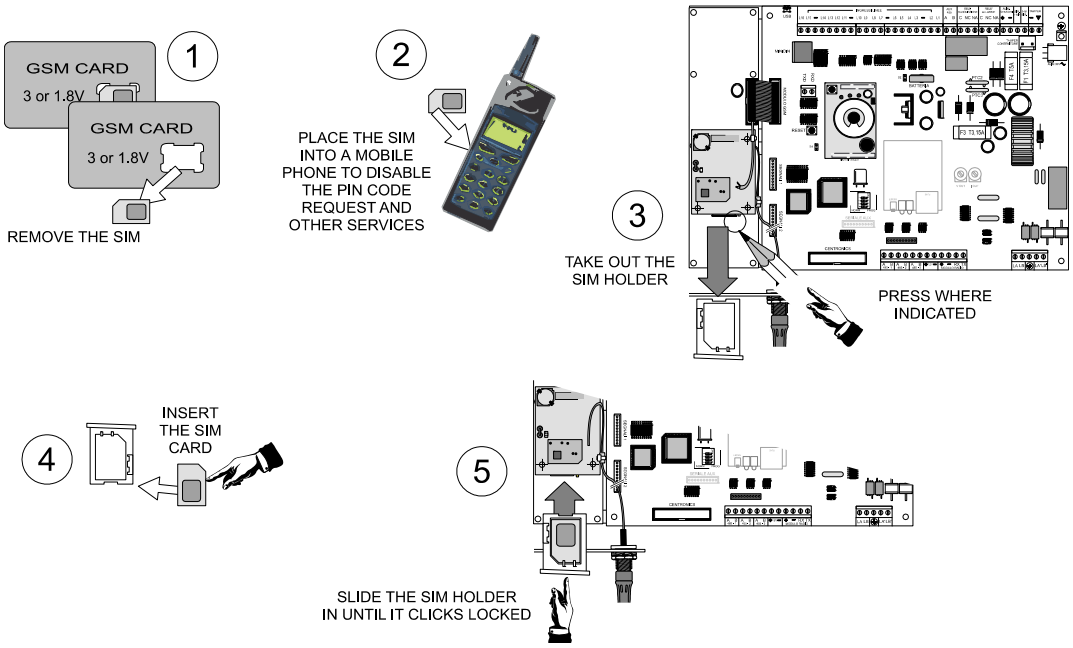
Protect the 90° antenna with the aesthetic gasket; install it as shown below:



3.6 SIM card installation

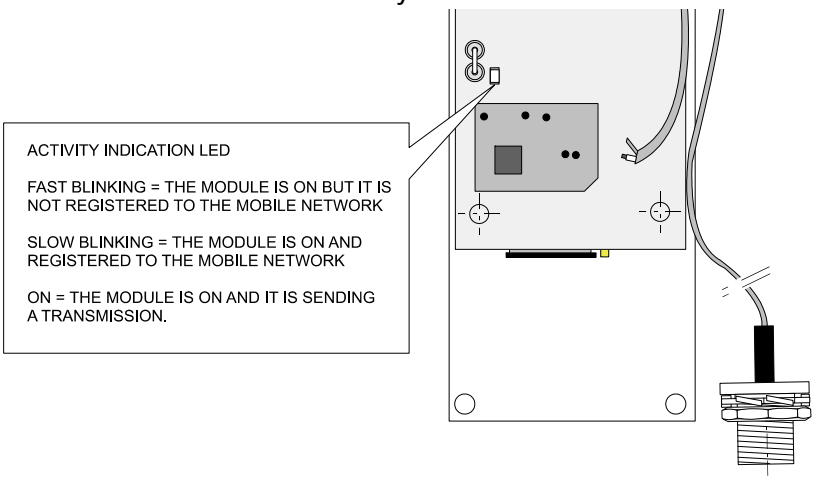
The ETRGSM module enables phone calls using a GSM service registration supplied by network providers.
For the correct management of the ETRGSM module, carefully consider the following points:

- If the ETRGSM module is installed in a security system, do avoid, if possible, the use of pre-paid SIM cards supplied by WIND, TIM, and VODAFONE providers.
- If not, the ETRGSM module can be programmed for credit balance control and to send SMS messages.
- The use of a contract SIM card ensures a regular service at a low monthly fixed expense. It can be subscribed both by privates and by companies.
- Before sliding in the SIM card, **disable the PIN code and other additional functions** as illustrated below:



3.7 Indications from the ETR-GSM module

Once the installation of ETRGSM is over, check that the installation steps have been followed and power the unit on. The operating status of the module is indicated by the module LEDs and on the control unit keypad displays.



On NIRVA keypads, both the installer and any user enabled for small maintenance can display this menu:

MAINTENANCE GSM

Press Ok to visualize this message

vodafone UK [######]

The upper row hosts the name of the provider and the country where the provider supplies its service.
ETRGSM operates over dual band with the main network providers. For instance, TIM, Vodafone and WIND for the Italian market.
The lower row shows a bar made of # symbols that represents the strength of the mobile signal.
Press ↑ to access the following screen:

CREDIT BALANCE Euro: to Def

The lower row shows the text shown above (Euro: to Def) if a contract SIM is being used.
If a pre-paid card is being used, the lower row shows the SIM card remaining credit balance instead, updated at the last access to this menu. Press STOP twice to exit the command mode.

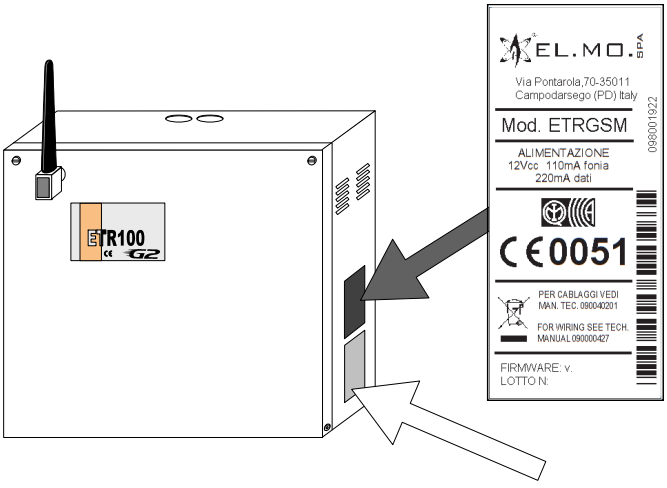
Note: use the control unit browser to configure the operating mode for the module.

4. GPRS COMMUNICATION ACTIVITY

The functioning of the compatible control unit has to be supported by specific firmware and software.

5. PLATE DATA LABEL PLACEMENT

The module comes with a label that contains its plate data. Stick the label to the side of the control unit, side to side or above the existing label (that contains the plate data for the control unit itself).



CE LABEL WITH CONTROL UNIT PLATE DATA

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Le informazioni e le caratteristiche di prodotto non sono impegnative e potranno essere modificate senza preavviso.

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