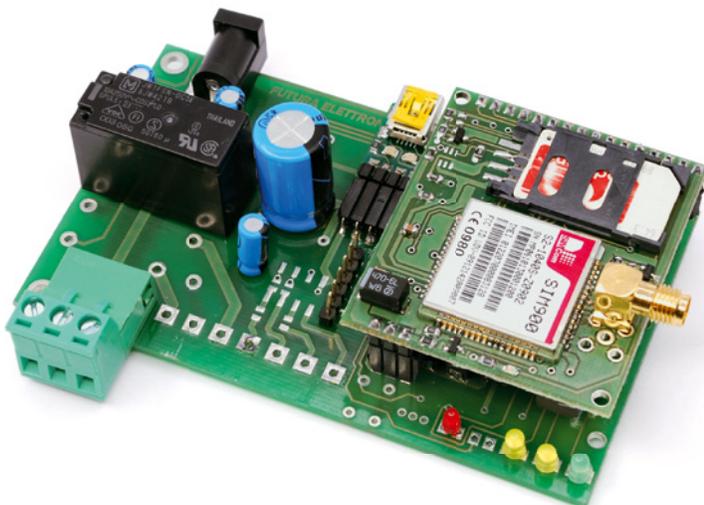


TDG134 - *GSM Gate Control*



Technical data

- GSM / GPRS Module: SIM900 Quad (850/900/1800/1900 MHz)
- GPRS multi-slot class 10/8
- GPRS mobile station class B
- Output power:
 - Class 4 (2 W @ 850-900 MHz)
 - Class 1 (1 W @ 1800-1900 MHz)
- GSM external stylus antenna
- Power supply: 9 to 32 Vdc stabilized (or with Li-Ion battery 800 ÷ 1,000 mA/h)
- Idle current: 50 mA idle, peak up to 1 A
- Relay output to control low tension loads, SELV type (< 60 Vdc)
- Max current relay contacts: 10 A
- Master users: 8
- Gate control users: 200
- Free of charge gate control call
- Dimensions: 103x67x28 (LxWxH) mm
- Weight approx.: 76 grams
- Operating temperature: -10°C ÷ +55°C (14 °F - 131 °F)
- Complies with EN 60950-1 (2006), EN 301489-7 V.1.3.1, EN 301511 V9.0.2

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1. Important information

Please, carefully read the information in this manual before attempting to operate the device in order to protect yourself and use the equipment properly. This device shall be exclusively utilized for its intended use. In no event shall the company Futura Elettronica, or its dealers, be held responsible for any damage, either extraordinary, incidental or indirect of any nature (financial, physical, etc.), arising from the possession, use or failure of this product. In case of changes to the device, tampering, or non-compliance with the instructions in this manual the warranty will be null and void.



The device contains highly integrated components that can be damaged by electrostatic discharge. Therefore, do not touch any metal part (tracks, component terminals, etc.) with your hands.

Only handle the device by the edges in order to avoid touching the components on the board.

Notice

The user who makes the module operational by adding further components or by putting it into a housing is seen as a manufacturer and is obliged to hand out all the necessary technical documentation as well as place his name and address on the device. Products made with this equipment have to be considered as industrial products from the safety perspective. The phone costs related to sending SMS generated by the device are charged on the SIM in the device.

2. Safety instructions



In accordance with the current regulations on safety, whenever using a device under tension all necessary precautions shall be taken. The device must always be installed in absence of tension.

- The device must be placed into a suitable housing before use. During the installation, the device must not be connected to the power source or to other devices.
- Before handling the device or opening the container where it has been placed, unplug the power connector and make sure the circuit is not live.
- Before working with any kind of tool on the device make sure it is disconnected from the power supply and that components that store energy (capacitors) are discharged.
- All cables connected to the device, particularly the power supply ones, have to be checked regularly for fractures or damage of the isolation shield. If cables are visibly damaged, the device has to be switched off immediately until they have been replaced.
- Strictly comply with the technical specifications of components or modules used with this device. If the information contained herein and/or the information on the components or modules used with the device are not clear enough, please contact a qualified technician.

- Before starting the device, carefully check whether it is suitable for the intended field of application. In case of doubt, please contact a qualified technician or the Manufacturer / Dealer.
- The Manufacturer / Dealer cannot be held responsible for improper handling or wrong connections, therefore it cannot be held responsible for any damage that may result.
- Devices that operate with <35 Volts must be connected by a qualified technician.
- Before starting the device check there is no current leakage in the housing.
- If measurements are to be made with an open housing, an isolating-transformer has to be integrated for safety reasons. Alternatively, tension can be supplied by a power supply that complies with all safety regulations (limitations in current and tension). All wiring work has to be done in a tension free state.

3. General information

For EU residents

Environmental information related to this product



This symbol on the device or package indicates it is forbidden to dispose of the product in the environment at the end of its lifecycle as it could be harmful for the environment itself. Do not dispose of the product (or batteries, if used) as unsorted waste.

For more information about the recycling of this product, please contact the city hall, your local waste disposal service, or the shop where it was purchased.

4. Operating conditions

Warning: before making connections to the device, carefully verify that the supply tension and the tension applied to the relay contacts correspond to those described in this manual!

Important information:

- The device must be installed in compliance with the current safety standards.
- Supply the remote TDG134 only with stabilized DC tension between 9 and 32 V, to be applied to the power plug PWR (see Picture 1) keeping in mind the polarity (center positive). Use a safety current-limited power supply providing current of at least 500 mA, able to cope with absorption peaks of 1 A. The power cable must not exceed 3 meters.

- The relay outputs in the device can only be used to control low tension loads SELV type (<60 Vdc).
 - The tension applied to the contacts of each relay must not exceed 60 Vdc.
 - The switching current on the relays must not exceed 10 A (*).
 - The device can work in any position.
 - Check that the section of the cables used is enough.
 - The operating temperature of the device ranges between -10°C and +55°C (14 °F - 131 °F).
 - The container used to house the device must have adequate ventilation holes!
 - If moisture condensation occurs, wait for at least 2 hours before starting the equipment.
 - Keep the device away from flower vases, sinks, water pipes, etc.
 - Protect the device from moisture, spray water and heat.
 - The device is meant for operation in clean and dry rooms.
 - Do not expose the device to heavy vibrations.
 - Do not use the device in presence of flammable gases, vapors or dust.
 - The device can only be repaired by a qualified technician.
 - When repairing the unit, original parts must be used. The use of differing spare parts can cause serious material loss or personal injury.
- *the tracks connecting the relay contacts to the terminal are sized considering a load activation which absorbs 10 A **for short periods of time**.

5. Proper use

This device is designed for the remote activation, via the GSM network, of electric gates (together with the gate electric system) or any other electric unit. A different use is not allowed.

6. Introduction

The **TDG134** is a GSM control system easy to install and simple to use. With this device a relay can be managed remotely (in bistable or monostable mode) through a call made to the phone number of the SIM Card in the device or by means of special SMS (with a password), sent from any mobile. It is possible to store up to 8 telephone numbers enabled to change the settings of the system the device sends reply SMS to. In order to quickly set the module, it is also possible to use a computer (with the special “TDG Configurator” software) connected via USB FT782M (optional) installed on the card. The device, that can be controlled by up to 200 enabled phone numbers, needs an active SIM Card from any GSM network provider using GSM 900/1800 MHz networks. When using a prepaid SIM Card always check the available credit so that the device can send the reply message to any possible command (if the function has been enabled). Typical fields of application include gate opening, control of power loads, switching on and off alarm systems, etc.

7. Connectors and LEDs

As shown in figure 1, the TDG134 remote control has a 3-pin terminal to connect contacts NC, NO and C of its relay. Connect the supply tension (between 9 and 32Vdc) of the device to the outlet marked PWR (center positive). Via USB (optional) directly installed on the card you can connect a computer; with the special “TDG Configurator” software it is possible to make all programming and function setting or change the list of authorized users.

Functions of the LEDs:

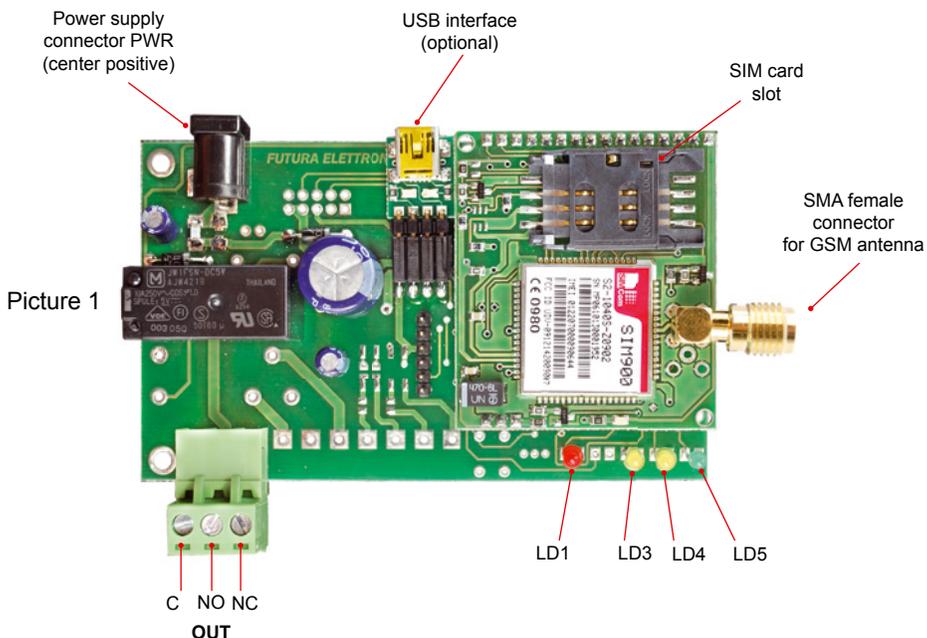
LD1 = on - relay excited; off - relay unexcited

LD3 = in stand alone mode: flashing - SMS reception. Computer mode: continuously on - computer mode; flashing- indicates the passage of the “Monostable Activation” time.

LD4 = flashing call reception

LD5 = on - call reception; flashing at 1 Hz frequency - network research; brief flashing every 2 seconds – hooked in the network.

“LD3” and “LD4” also report a CONFIGURATION CALL on hold (both LEDs turn on alternatively) after start-up and without phone numbers stored in the list.



8. Installing the USB

A special USB interface (code FT782M), available separately, must be installed on the remote control card as shown in the picture alongside, the mini USB connector must be upwards.



9. Start-up

You must first obtain a valid SIM Card from a GSM network provider. Use a common mobile phone to disable the SIM Card PIN. To do so check the manual of the mobile. **If the SIM Card PIN is not disabled, the device cannot work as it cannot connect to the GSM network.**

Before feeding the TDG134, please insert the SIM Card into the SIM Card holder (mind the orientation) making sure it is correctly blocked, then connect the antenna cable to the connector. Now connect the power supply.

10. Configuration

The device can be set as follows:

- EASY SETUP (Configuration through call)
- PROFESSIONAL SETUP (Configuration through SMS)
- Computer SETUP (Configuration through PC connection: it needs a USB interface, code FT782M available separately)

1) EASY SETUP (Configuration through call made on start-up)

When the device is supplied with power, “LD5” will immediately flash at 1Hz frequency. The TDG134 will try to connect to the GSM network; when connected, “LD5” will briefly flash every 2 seconds or so. After the system initialization (which may take several seconds), the device alternately illuminates the yellow LEDs “LD3” and “LD4” to indicate the “configuration call” on hold, which should take place within 3 minutes. If during this time the unit receives a call, it stores the caller’s number (to which reply SMS will be sent) in the first memory location, it turns the two LEDs off and becomes operative; otherwise, at the end of the interval, it switches off the yellow LEDs and waits for the configuration SMS (“PROFESSIONAL SETUP” mode). With the same phone used to make the first setup call, it is also possible to switch the relay status. This mode allows for simple commands without sending SMS or using a computer.

2) PROFESSIONAL SETUP (Configuration through SMS executable at any time)

This mode takes full advantage of the device with operations as output switch, output status query, inclusion of additional phone numbers to activate the relay, inclusion of numbers for door opening function, reception of reply messages, change of output signals timing and, in general, set the TDG134 with all parameters via simple SMS. A full reset to restore the default settings can also be made via SMS. The syntax for all available commands can be found in **Section 11 (Configuration SMS)**.

3) Computer SETUP (Configuration through PC connection)

This mode easily allows you to setup the TDG134 -with no additional cost- through a computer (with a special software) connected via USB code FT782M (optional). Chapter 13 provides all the necessary information to make the best use of this configuration mode.

Configuration through call

Turn on the device, wait till the yellow LEDs “LD3” and “LD4” start to flash alternately; then, with the mobile used to control the TDG134 call the phone number corresponding to the SIM Card in the remote control. The device will reject the call and store the caller number in the first memory location. “LD3” and “LD4” will flash rapidly to indicate the operation.

Check that the mobile used for the configuration has an active ID, i.e. the “hidden call” or “private call” has not been enabled. To return to the standard configuration with active ID, please refer to the mobile instruction’s manual. To check your own mobile configuration simply call another mobile: The caller ID is active if it displays the number

or name of the calling mobile.

NOTE: Yellow LEDs “LD3” and “LD4” lighten up alternately until the TDG133 is set up with a call within the first three minutes of start-up. If time is up and no configuration has been made, the TDG133 turns off the two LEDs and waits for the configuration SMS. The EASY SETUP mode can be restored by disconnecting and reconnecting the power supply: you will have three minutes to set up the device.

11. Configuration SMS

Commands and settings can be sent from any mobile via SMS as long as the message includes the password.

To speed up certain commands, it is possible for the device to store 8 numbers enabled to send commands without the password in the device. The numbers in this list are the same to which (if enabled) a few rings or alarm messages will be sent. However, there is a series of “sensitive” functions, that no matter who sends the SMS, require a password: in particular, functions that add or remove other numbers from the list, that change the current password, or request the list of approved numbers. As a result of a command or query, the device replies via an execution confirmation SMS or a SMS with information about the settings.

Please note that all commands that do not require a password are effective only if they come from a recognized phone, that is a phone which number is in the list of those stored in the remote; an outsider needs a password.

The remote accepts multiple SMS, that is SMS with more than one command regarding one or more phone numbers; commands must be separated by a comma.

Here we present and describe all commands that can be sent to the device via SMS.

Note: Every command must be written without spaces.

- Command **PWDxxxxx;pwd** changes the password; **xxxxx** is the new password (numeric, five digits); **pwd** is the current password (the default password is 12345).

Example: 54321 as the new password and 12345 as the current password

PWD54321;12345

Note: The password is required.

- Command **NUMx+39nnnnnnnnnn;pwd** stores a phone number (up to 8 numbers, 19 digits each) in the device; **x** is its position in the list; **nnnnnnnnnn** is the phone number with country code (+39 for Italy); **pwd** is the current password.

Example: How to enter number 3498911512 in the 8th position

NUM8+393498911512;12345

Note: The password is required.

- Command **NUMx;pwd** removes a phone number from the list; **x** is its position in the list; **pwd** is the current password.

Example: How to remove from the stored list the 4th telephone number

NUM4;12345

Note: The password is required.

- Command **NUM?;pwd** requests the list of phone numbers currently stored in the device; **pwd** is the current password .

Example:

NUM?;12345

Note: The password is required.

- Command **RES;pwd** resets the initial settings (default) of the system (stored phone numbers are not deleted); **pwd** is the current password.

Example:

RES;12345

Note: The password is required.

The operation mode, the timing, and the status requests of the output relay can be managed by SMS:

- Command **OUT:ON** activates the output relay in bistable mode;

Example: How to activate output relay

OUT:ON

- Command **OUT:OFF** disables the output relay in bistable mode.

Example: How to disable output relay

OUT:OFF

- Command **OUT:ss** inverts the condition of the output relay for the desired time; **ss** is a period of time between 1 and 59 seconds.

Example: How to disable output relay (if already active) or how to activate it (if not active) for 10 seconds

OUT:10

- Command **OUT?** requests the output relays status of the remote.

Example:

OUT?

- In case of black-out, command **RIPx** stores the relay status and restores it when power is back on; **x** has a value of 1 to enable restoring, 0 to disable it. The default value is 1.

Example: How to enable the relay status recovery on start-up

RIP1

Example: How to disable the relay status recovery on start-up

RIP0

- Command **RIP?** requests the current setting for relay status recovery.

Example:

RIP?

The following describes the commands of the functions for the door control mode:

- Command **MAC+39xxxxxxxxxx;pwd** stores the phone numbers that control the gate opener function only; **xxxxxxxxxx** is the phone number you want to store in the list (200 numbers max.) with international code (+39 for Italy); **pwd** is the current password.

Note: The password is required.

Example: How to store number 3339999999, being 12345 the password

MAC+393339999999;12345

Note 1: For the gate control function there is no specific storage position. Each number is saved in the first available position; it follows that, in order to delete a number it is necessary to type the number itself in the relevant command, not its position.

- Command **DAC+39xxxxxxxxxxxxxx;pwd** deletes a phone number from the gate control list; **xxxxxxxxxxxxxx** is the phone number you want to delete with its international code (+39 for Italy); **pwd** is the current password.

Note: The password is required.

Example: How to delete number 3339999999 being 12345 the password

DAC+393339999999;12345

- Command **DAC;pwd** deletes all numbers in the gate control list; **pwd** is the current password.

Note: The password is required.

- Command **TAC:ss** defines how the relay should be activated when there is an incoming call from one of the 200 numbers or one of the 8 numbers in the list; **ss** is the time (in seconds) during which the relay should remain excited. The default value is 5 seconds.

Example: How to set a gate control activation time of 25 seconds

TAC:25

Example: Gate control activation bistable mode setting

TAC:00

Note: The time value can be set between 00 and 59 seconds. Bistable activation is obtained by setting "00". The relay clicks and remains excited until the arrival of a new call from the same number in the list that has caused the activation, or from another number enabled for the gate control.

As already mentioned at the beginning of **Chapter 11**, the system accepts messages with multiple commands separated by a comma helping the user save time and mon-

ey. There follows that the system replies to certain commands with more than one SMS. This can be avoided by means of a command placed at the beginning of the SMS sent to the **TDG134**.

- Command **RISP** at the beginning of a multiple message disables all reply messages. Example: How to disable the answer message related to the sent commands **RISP,OUT:ON,RIP1**

12. Table of command and configuration SMS

FUNCTION	SMS COMMAND	DEFAULT VALUE	PWD REQUIRED
PASSWORD REPLACEMENT	PWDxxxx; pwd	12345	YES
STORE NUMBERS (max. 8 numbers per number);	NUMx + 393355760937; pwd	-	YES
DELETE A NUMBER	NUMx; pwd	-	YES
CHECK STORED NUMBERS	NUM?; pwd	-	YES
FULL RESET OF ALL PARAMETERS	RES; pwd	-	YES
RELAY ACTIVATION IN BISTABLE MODE	OUT:ON	-	-
RELAY DEACTIVATION IN BISTABLE MODE	OUT:OFF	-	-
CHANGE OF MONOSTABLE RELAY STATE (01-59 seconds)	OUT:ss	-	-
RELAY STATUS REQUEST	OUT?	-	-
RELAY RESET, x IS 1 TO OBTAIN RESET, 0 TO HAVE THE RELAYS DISABLED	RIPx	1	-
RESET QUERY	RIP?	1	-
STORE NUMBER FOR GATE CONTROL FUNCTION (max 200)	MAC + 39xxxxxx; pwd	-	YES
DELETE NUMBER FOR GATE CONTROL STORAGE	DAC + 39xxxxxx; pwd	-	YES
TOTAL DELETION OF GATE CONTROL LIST (except for the first 8 numbers)	DAC; pwd	-	YES
GATE CONTROL DEACTIVATION TIME ss 00 (bistable) + 59	TAC:ss	5	-
DISABLE ANSWER FOR THAT MULTIPLE MESSAGE	RISP,	-	-

13. Managing the device through a computer

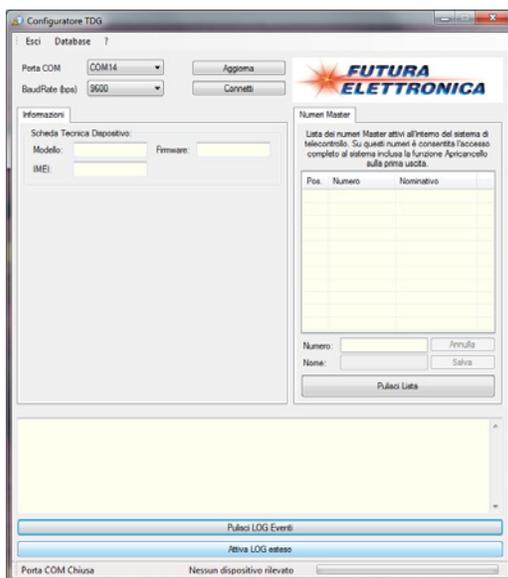
By means of a computer with a specific software and USB interface code FT82M (optional) installed directly on the board, it is possible to manage all programming and function settings as well as change the list of enabled users. This speeds up the initial settings and saves on the cost of SMS. After starting the software, verify that a communication speed of 9600 Baud (8,N,1) is set.

Installing and using the software

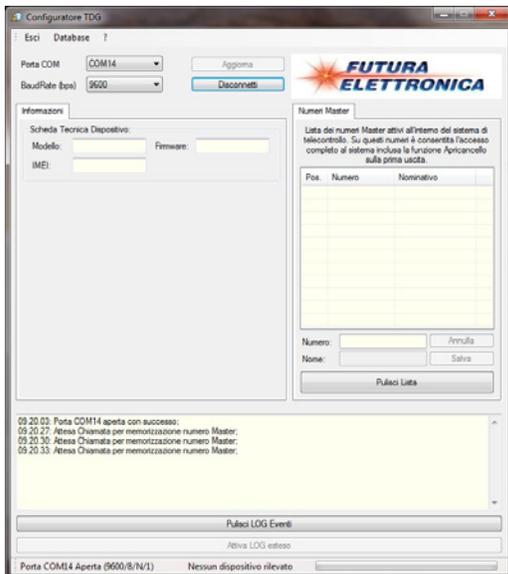
The software can be downloaded at www.futurashop.it from the page of the TDG134.

In order to use the management software it is first necessary to install it. Launch the Setup files and follow the installation instructions as they appear. Once this is done, start the program. After this, the window "TDG Configurator" appears on the screen, through this window it is possible to modify all the settings of the device, add users, change the password, etc. It is an intuitive program and the graphic interface simplifies this procedure.

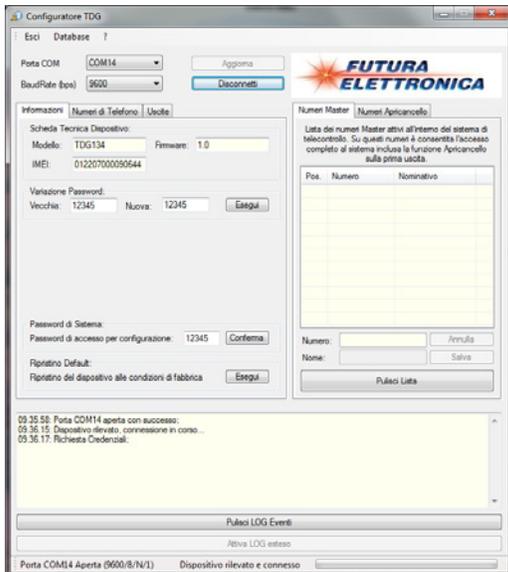
So as to use the available commands, supply and connect the TDG134 to the computer, then select the communication port "COM" (top left) created. If need be, with the "Update" button you can update the list related to the available ports in the computer. Afterwards, press "Connect" to activate the connection and wait for the screen to update with all the data on the connected module. From now on, the TDG134 can be managed from you computer (PC mode is shown by "LD3" on).



If the device was connected to the computer before the storage of the first master number, the message “Waiting for Call for Master Number Storage” will appear on the log window (down). In order to continue with the setting, make the call so as to store the number. The execution will be confirmed with a message on the log window.

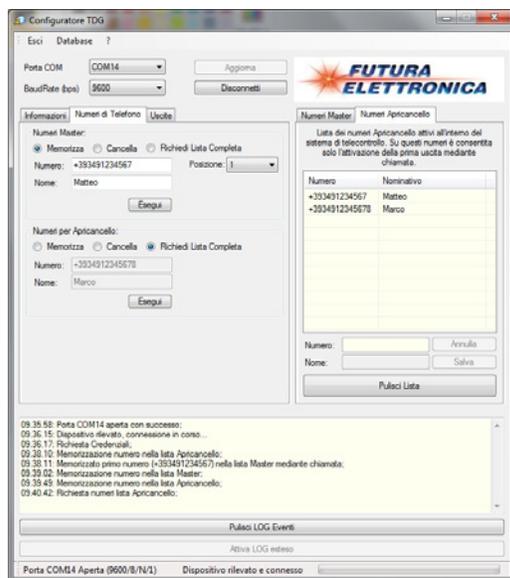
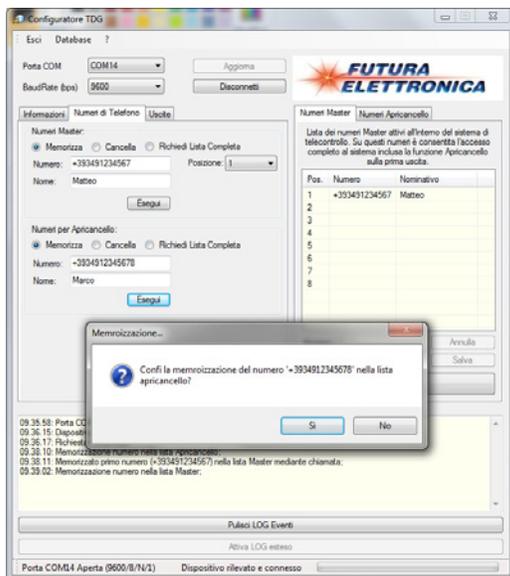


In the “Information” tab you can find the IMEI and the firmware version of the connected device. In order to modify the access password stored on the device, type in the fields “Old” and “New” the desired password and press “Run”. To access the system and make all possible settings, please type the current password in the field “System password”, then press “Confirm”. If the device does not reply to the commands sent from the computer, make sure the password stored in the PC is the same as the one specified in the management program.

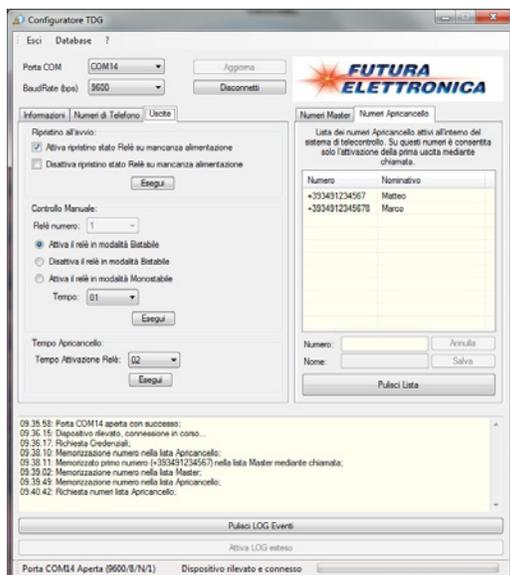


Management of phone numbers enabled for the control of the device and of those related to the gate control function is done through the folder "Telephone Numbers".

It is possible to store or delete the enabled numbers and to request the full list (visible on the right of the window) of those numbers in the device. Every selected operation ("Store", "Delete" or "Request Full List") must be confirmed by pressing "Run".



The tab “Outputs” is used to enable or disable the function “Restore Relay Status in absence of tension”, directly manage the relay, and set its activation time in gate control mode.



Pressing “Activate Extended Log” it is possible to visualize, in a specific window, all data in transit through the communication port.



The software version can be seen pressing “?” on the menu bar.



Important: Management via SMS is disabled when the TDG134 is connected to the computer.

14. Troubleshooting

The following table presents the possible solutions to some problems that may arise:

Problem	Possible reason	Solution
Green LED LD5 is off	No supply tension or inverted polarity	Controllare il cavo di alimentazione
Green LED LD5 flashes cyclically at 1 Hz frequency	No GSM network available or signal intensity not enough	Change the position of the external GSM antenna
The device does not send a reply to the configuration SMS	The answer to the message with command RISP is disabled or there is no credit on the SIM card.	Do not use the RISP command in the SMS, or recharge the SIM Card.
During the first start-up LEDs LD1 and LD3 do not lighten alternatively	The device has already been started	Completely reset the device using the RES command.
The device does not react to the call from an enabled number	The mobile used for the call has a hidden ID	Enable the ID on outgoing calls
The device cannot engage in the GSM network	The PIN on the SIM Card has not been disabled	Disable the PIN request from the SIM Card

The information in this manual is subject to change without notice.

Technical Assistance

In case of technical problems or questions concerning the TDG134, a hotline is available:
 Mon and Wed: 2 pm - 6 pm CET (Central Europe Time)
 Technical assistance +39 0331 245587

C € 0051

Complies with all applicable
european directives.

Produced and distributed by:

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Release: 29/10/2010

V.I. 1.0 - V.F. 4.0

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