CLIMA CONTROL

ROOM THERMOSTAT WITH GSM MODULE GSM-THERMO CX36

Manual of use and installation

Index

www.evre.it

1. Information

This manual contains important information for using and installing the thermostat GSM CX36; read the manual before using the device. The warranty does not comply with the instructions provided in this manual. We can not be held responsible for property damage or injury due to non-application of the safety instructions.

1.1 Notice

During operation, the device can automatically generate SMS message which costs attributable only to the user.

1.2 Introduction

The thermostat GSM CX36 provides of a GSM modem, an ambient temperature sensor and a relay output (button electro commanded).

It allows you to turn on or off a boiler, a pump, a burner or to open and close a valve in function of the measured temperature and the set temperature. In particular, in Comfort ON, the relay closes its contact and actuates the boiler when the temperature of the environment is lower than the set value; vice versa, he opens the contact and stops the boiler when the room temperature has reached the desired value.
It is connected in parallel to the existing thermostat: when you are in the home you continue to use the original thermostat; however remotely set the desired temperature via SMS or telephone device.

It can also be combined to pellet stoves and boilers with remote control (in order first the checks listed in the chapter Electrical Connections).

There are two modes of operation:
OFF state of comfort is disabled, the device will not operate the boiler
ON The device turns on / off the boiler as a function of temperature Comfort set

The temperature and the state can be controlled remotely:
- By sending an SMS containing the password and the command or with COFF
- Calling from a mobile device enabled

The initial programming is done by issuing commands in the form of SMS. All programming parameters of the device, the phone numbers of users and the state of Comfort are stored in non-volatile memory device (stored either unplug power that changing the SIM).
When power network status Comfort (ON or OFF) is restored to the condition it was in before the power failure.

To function requires a SIM of mobile telephony and a stabilized supply voltage to 12Vdc.

1.3 Rules for sending SMS

Programming the device and the demand for specific operations done by sending to the thermostat (the telephone number of the SIM card) SMS messages.
- The device has a four-digit password (initially "0000" [four zeros]); the password must be present at the beginning of every SMS message, change the password only after becoming acquainted with the device. If you send a text message with invalid password, the remote control does not send a reply SMS but flashes the green LED RUN 3 times.
- All SMS must be typed in capital letters.
- The mobile phone and sends text messages must also send your ID: the setting "Hide number" must not be active.
- The reply SMS is sent to the phone that sent the command.

1.4 Preparation of the SIM

Obtain an active voice SIM (no data SIM) from any supplier of GSM mobile phone except 3 (3G UMTS).
Insert the SIM in any mobile phone and disable the PIN request of the SIM. Verify that the command has been executed: switch your phone off and on again, to verify that the phone now engage the GSM network without the need to type any SIM unlock code. Delete any SMS messages to SIM. Clear any numbers from the SIM phonebook.
Verify that the setting "Hide number" is not active.
Remove the SIM card from the phone and install the thermostat GSM respecting its notch.
Warning: Disconnect the power supply before inserting or removing the SIM. Removing or inserting the SIM card with the powered device will destroy the same.

2. Installation

Set the thermostat GSM side of the original thermostat. It 'important that the place of installation there is a good GSM signal. The device provides an internal antenna that is suitable for most applications. Otherwise you can connect an external antenna with cable stylus supplied. With a screwdriver press the tabs and remove the back of the container.
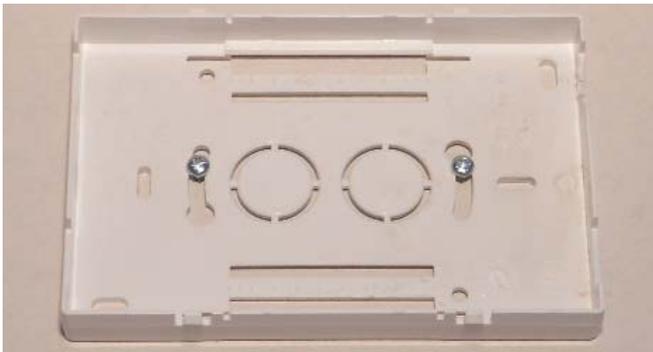
Secure the back of the container to the wall with dowels.
Use flat-head screws.
Apply the tape to the metal heads of the screws to prevent accidental cause short circuits on the base address.

Keep tabs opening down.

SMA

POWER 12Vdc + -

SIM

BOILER

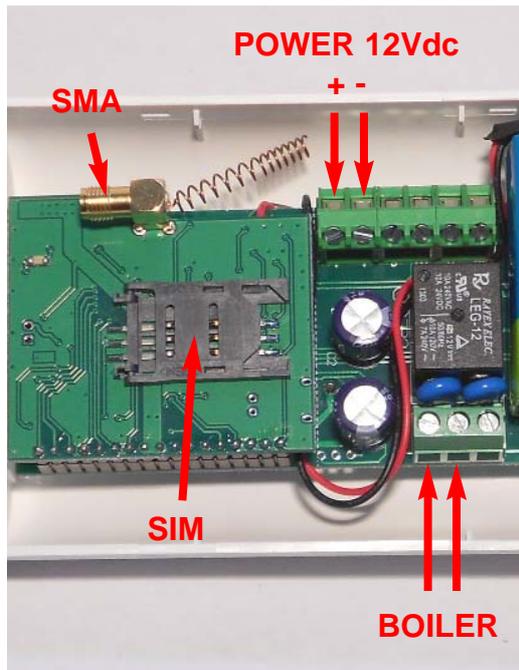Insert the SIM in its connector: push the connector to the left, lift the cover, insert the SIM with the contacts facing down, lower the tongue and move it to the right until it clicks.

Apply to the terminal V + (positive) and -V (ground) and a DC voltage of 12Vdc STABILIZED observing polarity.

With a wire cutter to cut laterally the container so as to allow the exit of the cables.
Accompany cables horizontally toward the notch output, possibly secure them to the container with tape.
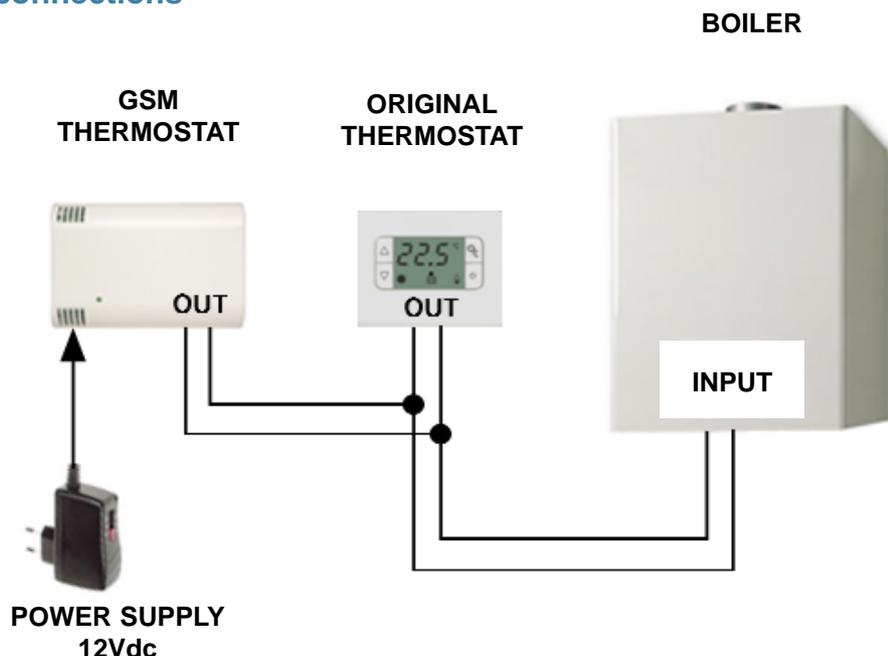Protect the cables overlap the PCB.

TEMPERATURE PROBE

Press the cover on the base until it clicks. Place the device with the temperature probe facing downward.

After installation check the quality of GSM signal via the command N.
It important that the device receives a good signal, more than 20 perfect 30.

2.1 Electrical connections

Original thermostat with relay output

In case of boiler, boiler or motorized valve controlled by a thermostat (or programmable thermostat) with relay output, just connect the two relay contacts thermostat GSM in parallel to the two relay contacts output of original thermostat. Locally will continue to use the existing thermostat to set the desired temperature, we can remotely change the room temperature via SMS or calls.

Connect contacts (OUT1 NO) (OUT1 C) in parallel with the relay contact of the original thermostat.

Caution: Do not remove or disconnect the thermostat preinstalled as will the frost protection or the maintenance of a minimum temperature antifreeze.

Original thermostat via bus

Some boilers do not provide a control input but have a remote control that also performs the function of the thermostat; in this case in the home we have a device that communicates through a bus to two or four wires to the boiler. This information is shown in the manual of the boiler, and almost always the device is marked with the same name of the manufacturer of the boiler.
Connect the two relay contacts thermostat GSM to the control input (eg. TEL) of the original thermostat; set in the thermostat GSM Comfort a very high temperature (eg. 40 ° C) so as to always activate the relay in the ON Comfort.

Check the manual of the original thermostat which is present a control input.

Pellet boiler

Connect the two relay contacts thermostat GSM to the control input of the pellet stove; set in the thermostat GSM Comfort a very high temperature (eg. 40 ° C) so as to always activate the relay in the ON Comfort.

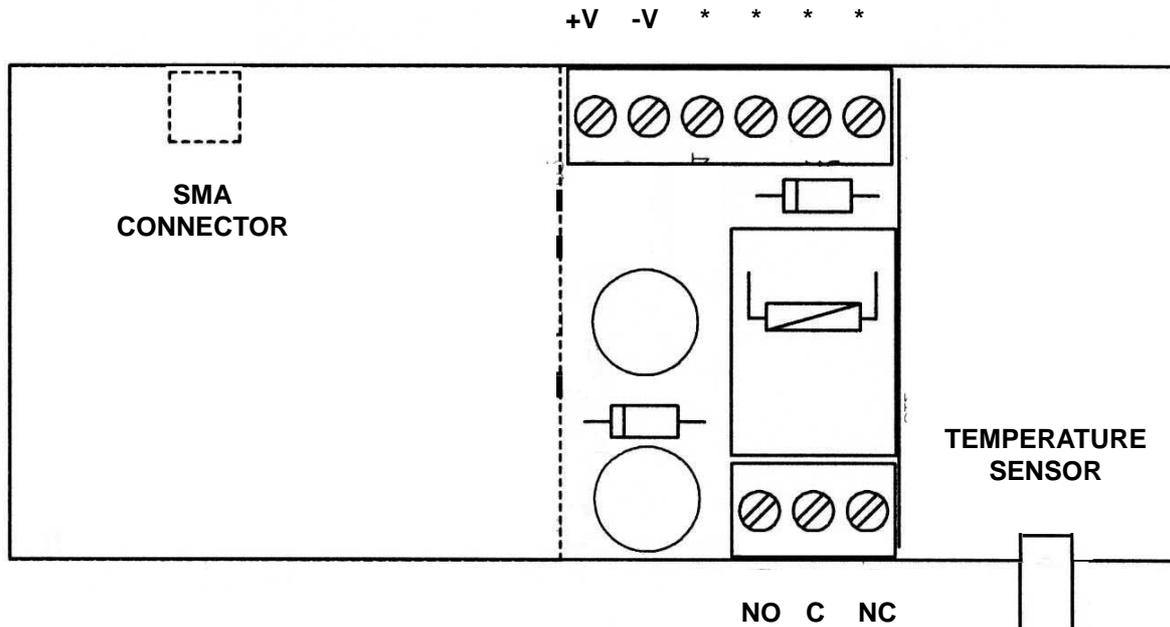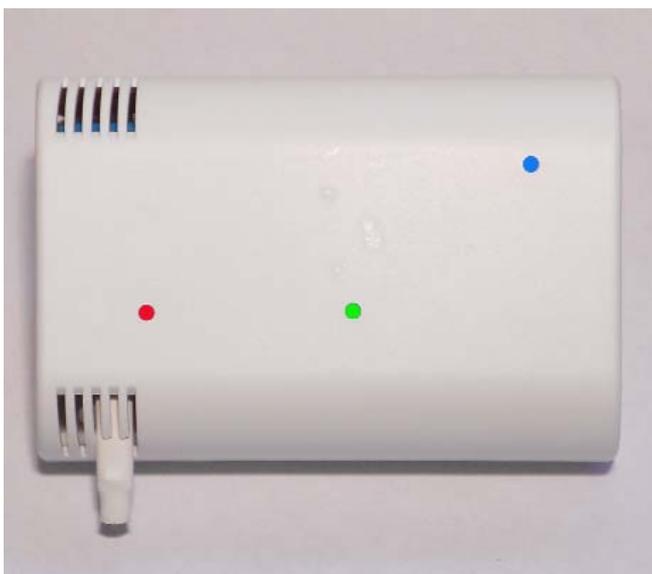**Check the manual of the pellet stove which is present a remote control input, or two legs which between them closed (short circuit), cause the ignition of the stove.**

2.2 Pinout

+V   -V   *   *   *   *

SMA
CONNECTOR

TEMPERATURE
SENSOR

NO   C   NC

CODE	DESCRIPTION	CONNECTION
+V	Power input 12Vdc (POSITIVE)	*Connect to a power supply with*
-V	Power input 12Vdc (GND)	*stabilized output 12Vdc min. 500mA*
OUT1 NO	Normally open contact Relay Output 1	*At existing thermostat*
OUT1 NC	Normally closed contact Relay Output 1	
OUT1 C	Common contact Relay Output 1	

* Reserved

2.3 Panel Description

Blue LED GSM	Indicates the status of the GSM - Illuminated fixed, signal excellent - 2 flashes, average signal - 1 flash, low signal (connect external antenna or move the device) - Off, GSM is not connected
Green LED RUN	Indicates the operating status: - 1 flash, comfort OFF - 2 flashes, comfort ON - Fixed search Network
Red LED BOILER	Indicates the status of the relay: - Illuminated, relay activated, - Off, off relay.

Note. The green LED inside is not significant, is used in the programming phase.

3. SMS of Use

3.1 Command C (Comfort Function) - Activation / deactivation temperature Comfort

The request to bring and keep the room temperature to the value of the Comfort temperature can be performed remotely by calling a telephone enabled the number of SIM in CX36 or by sending an SMS with the command C. This function allows you to heat the home without the user is present. When, at a later time, the user will reach the home this will already be at the optimum temperature.

Example: **0000CON** or **0000COFF**

Text	SMS Description
0000	Password of the device
C	ID command
ON	Turns Comfort temperature, the device will manage the boiler so that the environment is achieved and maintained the temperature Comfort
OFF	Off Comfort temperature, the device will have no effect on the boiler It will be managed by the existing thermostat or boiler thermostat.

If the command is received correctly, the device responds with an SMS containing the status of the Comfort and the current room temperature:
Comfort: ON - Tint: 7.5 dgC
or
Comfort: OFF - Tint: 20.5 dgC

Alternatively, you can tell the device to confirm the execution of the command with a reply SMS but through a simple ring. Activating the "answer with ringing" the CX36 after receiving a valid command C and running it, make a voice call, to the phone that sent the message, lasting some ring to which of course the user does not respond. In this way, the user gets at no cost (one ring) information of the execution of the command. The function response with ringing is disabled by default. To enable or disable this feature to send an SMS with the command W followed by the number 1 or 0.

Example: **0000W1**

Text	SMS Description
0000	Password of the device
W	ID command
1	**1** = active ringback; **0** = off ringback

If the command is received correctly, the device replies with the following SMS:
Setup answer with ringing ON

If the function is disabled, the device will respond with the following SMS:
Setup answer with ringing OFF

Notes:
- The state of Comfort is maintained even in the absence of power. When the power supply status of Comfort (ON or OFF) is restored to the condition it was in before the power failure.
- Both with ON and OFF Comfort, the CX36 will manage in any case the temperature alarm by sending SMS and calls if the temperature drops below the alarm threshold set, but did not operate the boiler.

Warning: therefore essential to install in any case a frost protection thermostat in the home or in the boiler.

3.2 R command (Read) - Temperature reading

It is possible at any time to read remotely the internal temperature measured by the device CX36, the Comfort temperature set and the operating condition.

Example: **0000R**

Text	SMS Description
0000	Password of the device
R	ID command

If the command is received correctly, the device replies with the following SMS:

Example: **Tint: +18.0 dgC - Tcomf: +20 dgC - Comfort: ON**

Where:
Tint = internal temperature measured in degrees Celsius
Tcomf = set comfort temperature in degrees Celsius
Comfort = ON if comfort active; OFF if comfort disabled

4. Programming SMS

4.1 T command (Set Temperature) - Temperature setting Comfort

By default the Comfort temperature is set to + 20 °C. To change this parameter to send an SMS with the command T followed by the new value. The set temperature is written in a non-volatile memory and is retained even after a shutdown and a restart of the device.

Example: **0000T22**

Text	SMS Description
0000	Password of the device
T	ID command
22	Comfort temperature in Centigrade (number 10 to 40)

If the command is received correctly, the device replies with the following SMS:
Setup Temperature OK Comfort T = 22 dgC

Note:
- To know the comfort temperature set to send the command T ?: 0000T?

4.2 Command U (Users) - Programming telephone numbers Users

You can program the device up to 5 phone numbers of mobile users; you must program at least the number of cell phones User 1. They will have a dual function:

Activate / Deactivate Temperature Comfort
The programmed numbers will be able to activate / deactivate the maintenance of room temperature to the set temperature as Comfort. The CX36 reads the caller ID (without going to the line) and if present in memory "switch" function comfort (the active if it was off and vice versa).
If activated (Comfort ON), the device makes a call lasting some ring towards the user (who will not respond) to communicate the execution of the command. All this at no cost by both the mobile user that the SIM card in CX36.
When disabled (Comfort OFF) the device does not send ringback user. It is assumed that this step is performed locally to exclude the thermostat GSM and pass control to the original thermostat or before leaving the house. Feedback is entrusted to the green LED RUN.

Receiving SMS
Users will receive SMS messages stored sent voluntarily by the CX36. In particular, the User will receive 1 SMS credit and residual maturity SIM if the Echo function is enabled; Users 1 through 5 will receive an SMS alert if the temperature drops below the alarm threshold.

Example: **0000U1+393939002525***

Text	SMS Description
0000	Password of the device
U	ID command
1	of the ID number to be programmed (number from 1 to 5)
+393939002525	Mobile number to program full of international identification
*****	Symbol End of message

If the program is successful, the device replies with the following SMS:
Setup command OK User 1 programmed: +393939002525

Otherwise, the device will respond with the following text message:
Programming User Failed

Notes:
- You can program from 1 to 5 mobile numbers.
- You must program at least one cell phone number user.
- To delete, for example, the mobile phone number in the third position, send the following SMS: 0000U3 *
- To know the numbers stored as Members send the command U?: **0000U?**
- The maximum length of each number is 16 digits.
- Always insert the country code before the number, **+39** for Italy.
- Carefully read the SMS response verifying that it is the memory location that the mobile phone number are correct.

5. Utility SMS

5.1 Command TA (Alarm Temperature) - Temperature setting alarm

The CX36 spontaneously generates alarm SMS and voice calls to mobile users stored if the temperature falls below a certain value (Temperature alarm); in this case the CX36 send a single SMS message to each mobile phone number User. The reactivation of the frost alarm management is done automatically when the ambient temperature exceeds the threshold temperature alarm over 5 °C. By default, the temperature alarm is set to + 7 °C. To change this parameter to send an SMS with the command TA followed by the new value. The set temperature is written in a nonvolatile memory and remains stored even following a power off and a power on of the device.

Example: **0000TA4**

Text	SMS Description
0000	Password of the device
TA	ID of the command
4	Alarm Temperature in degrees Centigrade (number from 1 to 9)

If the command is received correctly, the device replies with the following SMS:
Temperature Alarm Setup OK T = 4 dgC

Notes:
- To know the temperature set to send the command T?: 0000T?
- To disable the sending of SMS alarm Frost set the temperature alarm to zero: **0000TA0**

To draw attention to these messages, you can tell the CX36 to make, after sending the SMS, also a voice call lasting some ring (to which of course the recipient will not respond) to highlight the user ' arrival of the message. The ringing function is enabled by default.

Example: **0000L1**

Text	SMS Description
0000	Password of the device
L	The ID of the command
1	1 = enable ringing Alert; 0 = disables ringing Alert

If the command is received correctly, the device replies with the following SMS:
Setup Ring Alert ON
If the function is disabled, the device will respond with the following SMS:
Setup Ring Alert OFF

5.2 EC command (Echo) - Enable / Disable Echo SMS

All text messages sent to the CX36 are considered valid and executed only if they start with the correct 4-digit password. The device return the invalid received SMS to the phone user number 1 (User1). This is convenient for receiving SMS messages sent by the operator relating to the lapse of the SIM and the related tax credit. The Echo function can be enabled or disabled by the following command:

0000EC1

Text	SMS Description
0000	Password of the device
EC	ID command
1	1 = enable function Echo (default); 0 = disable function Echo

For example: if we send the CX36 an SMS with the text ABCDE, User1 will receive the following SMS: SMS ECHO: ABCDE. If the Echo function is disabled, by sending an SMS with invalid password, the CX36 does not send SMS but the green LED flashes 3 times outside.

5.3 Command F (Firmware) - Read firmware version

This command allows you to read the firmware version.

0000F

Text	SMS Description
0000	Password of the device
F	ID command

If the command is received correctly, the CX36 replies with the following SMS:
GSM-CX36S R2, 357541000172165

Text	SMS Description
GSM-CX36S R2	code of the device and software version
357541000172165	IMEI Code of GSM

5.4 Command P (Password) - Programming password

Use this command to program a new password for the device. Each SMS programming and command must begin with the password.

Example: **0000P12341234**

Text	SMS Description
0000	Current password device
P	ID command
1234	New device password (4 numbers)
1234	Repeat new password

If the program is successful, the device replies with the following SMS:
**Setup command OK Password Updated**

Otherwise, the device will respond with the following text message:
Programming Password Failed

notes:
- The device's default password is **0000** (four zeros).
- The password must contain only numbers and must have a fixed length of **4 numbers**.
- **Note carefully the new device password**.

5.5 External antenna and Command N (Network) - Check Network

SMA
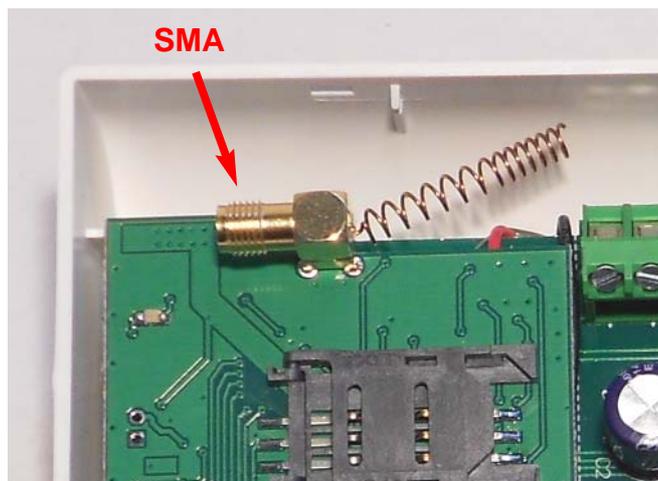
It's important that the device receives a good GSM field: then choose the SIM that offers greater coverage. The device support an internal antenna and an SMA to connect the stylus antenna (supplied); the antenna is hermetic and then can be placed also outside. Screw the antenna connector to SMA; cut the border container to allow the cable outlet.
After installation check the quality of GSM signal via the command N. It important that the device receives a good signal, more than 20 perfect 30.
If the signal is below: change the SIM, connect the external antenna, move the device.

The goodness of the GSM radio signal is expressed as a number from 0 to 31, 0 corresponds to -115 dBm (ultra-low signal) and 31 is equivalent to -52 dBm (maximum signal).

	0000N
Text	**SMS Description**
0000	Password of the device
N	ID of the command

If the command is received correctly, the CX36 replies with the following SMS: **GSM signal: 20**

6. Commands list

COMMAND	DESCRIPTION	EXAMPLE
R	Read status	**0000R** Go back an SMS with the ambient temperature, the temperature Comfort and the state of Comfort
CON	Activate Comfort	**0000CON** Taking the device in Comfort ON
COFF	Disable Comfort	**0000COFF** Taking the device in Comfort OFF
W	Response to the command C	**0000W0** Reply with SMS
U	Users program	**0000U1+393939002523*** Program the cell. +393939002525 with User 1
T	Set temperature Comfort	**0000T22** Comfort temperature set at 22 °C
TA	Set temperature alarm	**0000T4** Set alarm at 4 °C
N	Read GSM signal	**0000N** Go back an SMS with number from 1 to 30
EC	Echo SMS	**0000EC1** Enables the Echo SMS
F	Read firmware version	**0000F** Back an SMS with firmware version number
P	Program Password	**0000P12341234** Program 1234 as a new password

7. Safety Instructions

- This device must be connected in parallel with the original thermostat. Do not remove or disconnect the thermostat original.
- Before you approach the device or opening the container to remove the adapter from the mains or make sure the device is not powered.
- During installation, the device must not be connected to the supply voltage.
- Do not wet the product.
- Using tools on components, modules or devices, make sure they are disconnected from the power supply and that components that may have stored an electric charge is discharged.
- All cables connected to the device, the module or components have to be checked regularly for signs of damage or wear. If the cables are visibly damaged must immediately stop the operation of the device and provide for the replacement of damaged cable.
- When using components or modules comply with the technical specifications outlined in their descriptions.
- If the electrical characteristics for the end user are not clear or complete consult a specialist installer.
- Before putting the device into operation must ensure that it is suitable for the application to be played; if in doubt seek advice to an expert or the device vendor.
- The supplier can not be held responsible for any errors in usage or connection; therefore it can not be held liable for consequential damages.
- Devices which operate with a voltage greater than 35 volts must be connected by a professional electrician. Do not exceed the limits specified in the technical specifications.
- Before putting the device into operation check that there are no current leakage on the container.
- All cables added to the product to connect to other devices must be fitted with ferrites to limit electromagnetic emissions.
- The power inputs and so must be protected with fuses sized correctly.

- Information for users pursuant to art. 13 of Legislative Decree 25 July 2005, n. 151 "Implementation of Directive 2002/95 / EC, 2002/96 / EC and 2003/108 / EC on the restriction of use of hazardous substances in electrical and electronic equipment and the disposal of waste."
The crossed bin symbol on the appliance or on the packaging indicates that the product at the end of its life must be collected separately from other waste. Appropriate separate collection for the subsequent forwarding of the decommissioned product to recycling, treatment and environmentally compatible disposal helps prevent negative impact on the environment and health and promotes the reuse and / or recycling of materials making up the equipment. Illegal dumping of the product by the owner involves the application of administrative sanctions provided by law.

www.evre.it

8. Technical features

GSM section
- Modem Quad-Band GSM / GPRS
  850/900/1800/1900 MHz
- Output Power Class 4 (2W) @ 850/900 MHz
- Output Power Class 1 (1W) @ 1800/1900 MHz

General
- 1 relay for control boiler
  with contact rating 6A 250V
- 1 internal sensor for temperature measurement
- Password protection of each command
- Response to commands with SMS or ring
- 5 programmable Users

- Sending SMS alarm frost
- Echo function SMS
- Operating Temperature: 0 ° C to + 55 ° C
- Power supply: 12 Vdc
- Power input: 150 mA
- Impulsive consumption: 1 A
- Container with a base for wall mounting
- Dimensions: 80 x 120 x 33 mm h

Specifications subject to change without notice.

9. Warranty

This product is guaranteed against defects in components and assembly for a period of one year from the date of the sale. The warranty is valid only if the user has a copy of the original proof of purchase that invoice or receipt. The manufacturer's liability is limited to the repair of the defect or, if necessary, to replace or repair or refund the defective component. The costs and risks associated with the transport, removal or repositioning of the product, and any other costs directly or indirectly connected to the repair, can not be attributed to the manufacturer. The manufacturer can not be held responsible for any damage caused by a malfunction of the product.

9.1 Technical support

For technical support on the product you can contact us at the following address:
support@evr-electronics.com

The manufacturer reserves the right to change product specifications or to cease production of the products without prior notice and have to incorporate or provide new functions or the new instructions in the products already sold. The manufacturer can not be held responsible for any loss or damage, direct or indirect, that may result from use of the products. It noted that remote management is a free choice and the user himself is fully and solely responsible. We accept no liability resulting from failure of the equipment for possible causes of failure, malfunction, improper installation, or by external causes such as power failure or GSM signal. The products are not suitable for use as parts of life support systems, or systems that might create hazardous situations of any kind.

Modello: GSM-CX36
File: GSM-CX36-R7-Instruction
Data: 03 Maggio 2016

$C \in$