

OKITMGSM00

**KIT FOR BOILER CONTROL THROUGH
GSM FOR
ITACA - FORMENTERA**



**INSTALLATION
USE AND MAINTENANCE**

Dear Sirs,

thank you for choosing and buying our GSM kit. Please read these instructions carefully in order to properly install, operate and maintain the kit.

Be also informed that boiler installation and maintenance operations must be carried out only by skilled personnel.

General notes for installers, maintenance technicians, and users

This INSTRUCTION MANUAL, which is an integral and indispensable part of the product, must be handed over to the user by the installer and must be kept in a safe place for future reference. The manual must accompany the kit should it be sold or its possession transferred.

This kit must be used for the purposes for which it has been intended. Any other use shall be considered incorrect and therefore dangerous.

Kit must be installed according to the manufacturer's instructions given in this manual. Incorrect installation may cause injury to persons and/or animals and damage to property. The manufacturer shall not be held liable for any such injury and/or damage.

Damage and/or injury caused by incorrect installation or use and/or damage and/or injury due to non-observance of the manufacturer's instructions shall release FONDITAL from any and all contractual and extra-contractual liability.

Check that the kit is intact and it has not been damaged during transport. Do not install kits which are clearly damaged and/or faulty.

In case of kit damages and/or operation faults, disable boiler and do not carry out any repairing or direct action on it: contact skilled personnel.

Failure to comply with what specified above can compromise the kit safety and endanger people, animals, and things.

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Kit composition

The zone kit shown in the figure below consists of:

- GSM modem (0MODEMGS00 fig. 1);
- GSM modem power supply unit (0ALIMEM00 fig. 2);
- GSM modem antenna (0ANTENNA00 fig. 3);
- straight modem RS232 cable or serial extension (0CAVOSER01 fig. 4);
- converter board (0CONVERT00 fig. 5);
- converter with RS485-RS232 cable (0CABCONV00 fig. 6);
- converter-terminal box wiring (0CABESTO22 fig. 7);
- two screws (cod.414560 fig. 8);
- instruction manual (0LIBKIT31, this one);
- packing cardboard box (0SCATRIC32).



Fig. 1



Fig. 2



Fig. 3

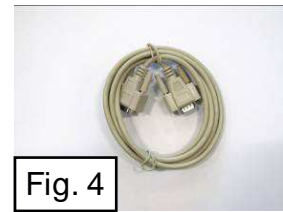


Fig. 4

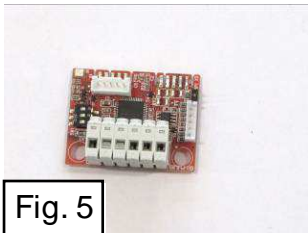


Fig. 5



Fig. 6

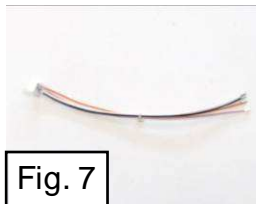


Fig. 7

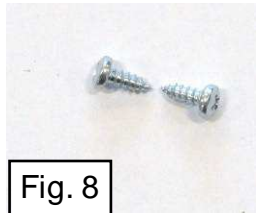


Fig. 8

The SIM card to be inserted inside GSM must be of the DATA or VOICE type and, being a personal object, must be provided for by boiler owner. It can be of any mobile carrier reachable from boiler GSM antenna position.

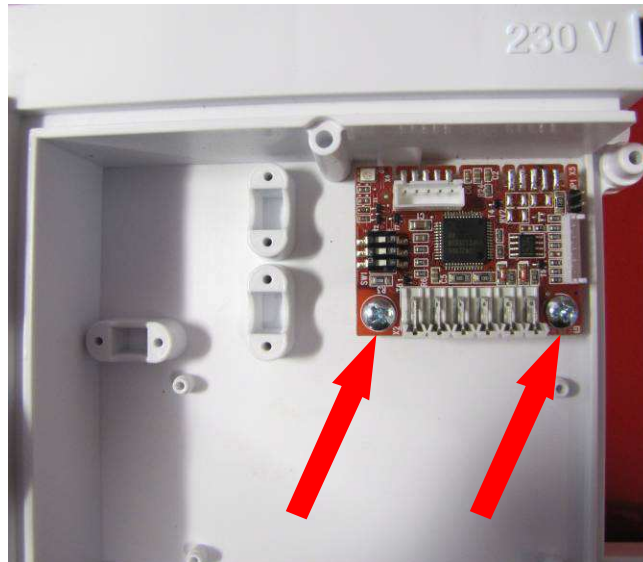
This SIM card must be active/working and shall be inserted inside modem by following the instructions set forth on modem user's manual.

SMS sending/receiving costs depend on your price scheme.

Installation

Part of the installation to be carried out inside boiler:

- a) remove boiler casing;
- b) lower electric panel;
- c) remove screws and guard from "supplementary board" compartment;
- d) position board and secure it in place with the 2 screws supplied with kit;

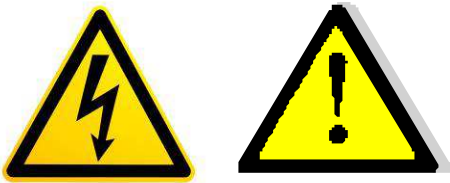


- e) before closing electric panel, make all the necessary electrical connections and check diagnostics (next sections).

Part of the installation to be carried out outside boiler:

- a) connect antenna to modem;
- b) Position antenna as close to house exterior as possible and, anyway, not inside boiler/metal housings to allow its correct operation;
- c) position the GSM modem in a safe place, duly protected against humidity, heat and direct light and, anyway, follow the prescriptions set forth in the relevant manual.

Signal and power supply electrical connections



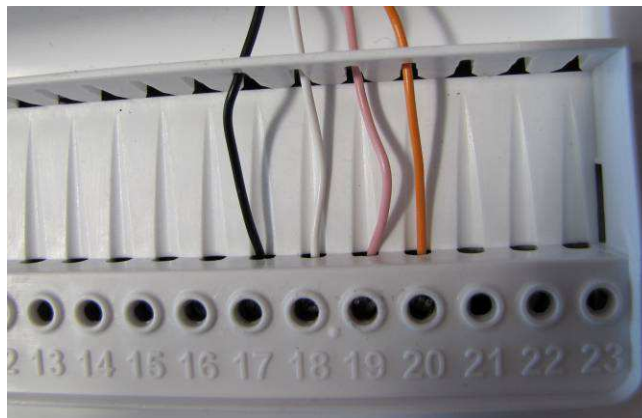
All electrical connections must be carried out with both boiler and supplementary devices duly powered off.

Electrical connections can be made by qualified staff, only, and in compliance with the prevailing standards.

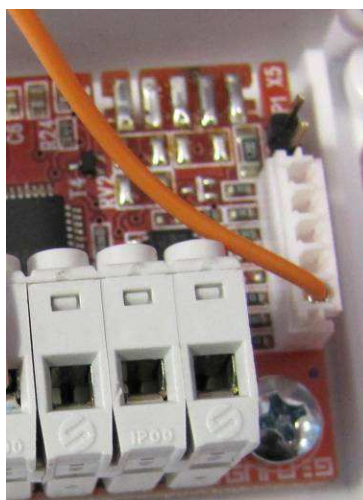
Signal cables must be clearly separated from power supply cables, or must feature a twin insulation.

Boiler board-converter board connection:

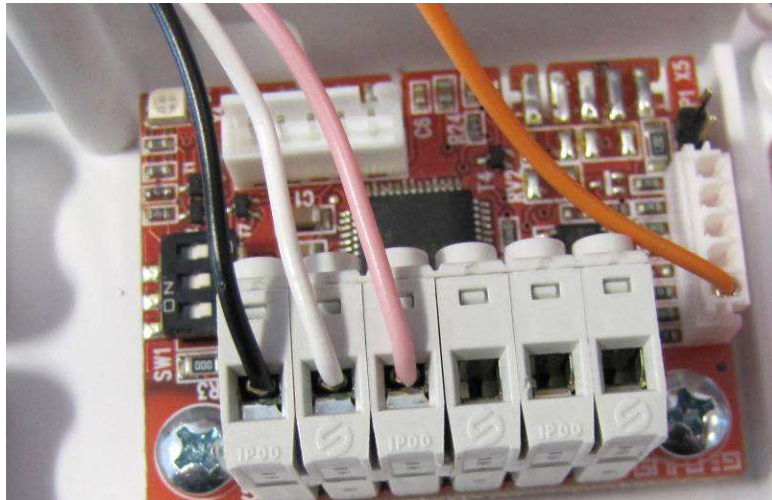
- a) Connect 0CABESTO22 wires to panel terminal box in the following order: Black-terminal No.17, White-terminal No.18, Pink-terminal No.19, Orange-terminal No.20;



- b) Connect connector on converter board;

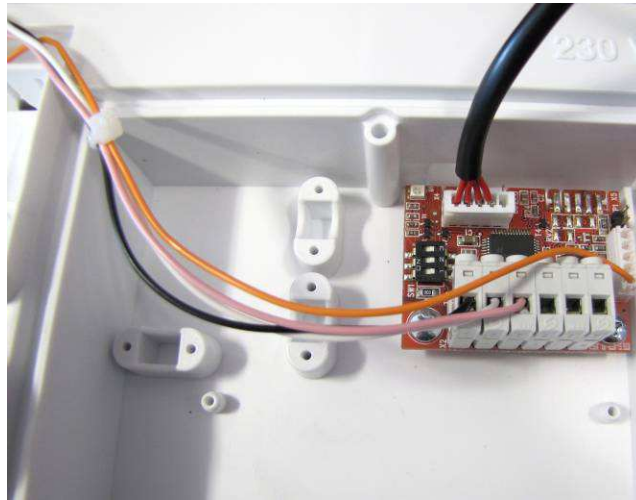


- c) Connect wires to converter board terminal box in the following order: Black - 1st terminal from the left, White - 2nd terminal from the left, Pink - 3rd terminal from the left.



Converter board-modem connection:

- a) Take wiring 0CABCONV00 and connect connector to converter board;



- b) Connect the supplied serial 0CAVOSER01 extension.



Modem connection:

- a) If you have not done it yet, connect antenna by following the instructions written on modem manual;
- b) Connect power supply by following the instructions written on modem manual;



- c) Connect serial extension to modem;



- d) Make sure that the SIM card is present.

Dip switch set-up

Make sure that all dip switches (1-2-3) are OFF (they should be supplied already OFF).



Power supply and communication check

This procedure is used to make sure that all cables have been correctly connected.

- a) Power modem: a green light on it shall come on flashing;
- b) Power boiler: it must start correctly and boiler must correctly fulfil user's requests (ex. DHW request);
- c) The green LED must be flashing on the supplementary board.

If point "a)" does not work as described, check modem power supply (230V before and 15V after the power supply unit).

If point "b)" does not work as described (ex. 5 dashes "-" appearing on the display), check electrical connections between boiler terminal box and supplementary board terminal box.

If point "c)" does not work check, in this case too, the electrical connections between boiler terminal box and supplementary board terminal box.

Correct communication between modem and board can be checked only by sending messages (next section).

Controls to be sent to GSM to check device and GSM answers

Communication is possible only by sending/receiving SMS. Controls must follow a specific technical standard that cannot be edited (Example "*" and "capital letters").

If connections are correct, all the messages sent to boiler GSM will be answered. If no answer is received after 5 minutes, check electrical connections, make sure that devices are powered and that the SIM card has a credit higher than 0 Euro.

When boiler is processing some requests received from the GSM, the GSM wording will be displayed. To stop the GSM requests, simply press "Reset" (this action will be confirmed by the disappearance of the "GSM" wording from the display).

The GSM carrier can be considered as a boiler control remoting system.

1. Initial set-up

NR Telephone number registration

This control is used to enable the telephone number of the person sending messages. Up to three telephone numbers can be enabled. Only the numbers registered with this control can send/receive messages to/from the device. All registered numbers receive the messages sent from boiler GSM. If an unregistered number attempts to send a control (even if correct), this latter will not be accepted.

Example of sent SMS: ***1234*NR*+390001111111***

Where:

1234 is GSM board default password

NR is "number registration" control

+390001111111 is an example of a telephone number you want to register

Example of received SMS (in English):

+390001111111 Registered – Request by +390001111111

ND Telephone number deletion

This control is used to disable the telephone number of the person sending messages.

Example of sent SMS: ***1234*ND*+390001111111***

Where:

1234 is GSM board default password

ND is "number deletion" control

+390001111111 is an example of a telephone number you want to delete

Example of received SMS (in English):

+390001111111 Deleted – Requested by +390001111111

NL Request of registered telephone numbers

This control is used to know all registered numbers.

Example of sent SMS: ***1234*NL***

Where:

1234 is GSM board default password

NL is the "registered numbers request" control

Example of received SMS (in English):

Numbers in memory: +390001111111 +390002222222 Requested by +390001111111

PW New password set-up

This control has to be used if you want to edit the "1234" default password. The new password will have to be a 4-digit numerical code.

WARNING! Do not forget your password! If password is forgotten/lost, no control will be possible, converter board will no longer be usable and it will have to be replaced by a new one (it cannot be reset).

Example of sent SMS: ***1234*PW*7878***

Where:

1234 is the old password

PW is the control to be used to edit password

7878 is the new password

Example of received SMS (in English):

New password set – Request by +39000111111

LN Language set-up

This control is used to set the language of the messages received by boiler GSM. The only available languages are: Italian (default) and English

Example of sent SMS: ***1234*LN*ITA***

Where:

1234 is GSM board default password

LN is the "sms language" control

ITA / *ENG* are the only possible options (ITA=Italian ENG=English)

Example of received sms (in Italian):

Lingua attiva: Italiano – Richiesto da +39000111111

FE ECHO function

This control is used to re-send to all registered numbers all the messages received from boiler GSM device that are not acknowledged as real controls (they have no access password). This control can prove useful whenever GSM carrier sends a "running out credit" message.

Example of sent SMS: ***1234*FE*ON***

Where:

1234 is GSM board default password

FE is the "echo" control

ON / *OFF* are the only two available options (enable/disable)

Example of received SMS (in English):

ECHO function ON – Request by +39000111111

2. Management controls

MF "Operating mode" control

This control is used to force the device to shift to "OFF" or "ON" or "RIS". If a request is present (ex. TA or clock or DHW or ...) and boiler switches from "OFF" to "ON", the current request will be carried out.

Example of sent SMS: ***1234*MF*ON***

Where:

1234 is GSM board default password

MF is the "operating mode" control

ON / ***OFF*** / ***RIS*** / ***BOLL*** are the available options (enable DHW + CH / disable / enable CH only / enable water heater DHW only if boiler features a DHW water heater).

Example of received SMS (in English):

New mode: ON – Request by +39000111111

TIP FOR THE USER:

Leave the zones to be heated and/or the DHW water heater (if any) in "heat request" mode, then set boiler to "OFF".

Send the ***1234*MF*ON*** control only when you want to enable CH and/or water heater filling.

You can thus remotely enable boiler and make the procedure described in next paragraph easier.

3. Zone and boiler set-point transmission

If some "heating" requests from the different zones are present inside boiler or if a "water heater filling" request is present, when the "MF" control is sent followed by an option, boiler will start processing a heating or water heater filling request by following the stored set-points.

If, on the contrary, no requests are present, but you want to force boiler turning on, follow the instructions below.

WARNING! Heating and water heater filling requests are parallel with the requests of the different ambient thermostats / water heater thermostats, so boiler will stop supplying heat only as soon as the set-point values are reached or until the "off" controls are received or as soon as the interface "Reset" button is pressed. In any case, for safety reasons, boiler will automatically shut off as soon as max. temperature values are reached.

S1 Zone 1 set-point setting

This control imposes the zone 1 set-point editing on boiler. If the external probe is present, this value can range from 5 to 35. If no external probe is present, this value can range from 20 to 45 or from 20 to 78 (for condensing boilers) and from 35 to 45 and from 35 to 78 (for atmospheric boilers).

The transmission of control ***1234*S1*0*** disables zone 1 heating request.

Example of sent SMS: ***1234*S1*35***

Where:

1234 is GSM board default password

S1 is the control used for "zone 1 set-point editing"

35 is the desired set-point value for zone 1

Example of received SMS (in English):

Set-point updated – Request by +390001111111

S2 Zone 2 (if any) set-point setting

This control imposes the zone 2 set-point editing on boiler. If the external probe is present, this value can range from 5 to 35. If no external probe is present, this value can range from 20 to 45 or from 20 to 78 (for condensing boilers) and from 35 to 45 and from 35 to 78 (for atmospheric boilers).

The transmission of control ***1234*S2*0*** disables zone 2 heating request.

Example of sent SMS: ***1234*S2*35***

Where:

1234 is GSM board default password

S2 is the control used for "zone 2 set-point editing"

35 is the desired set-point value for zone 2

Example of received SMS (in English):

Set-point updated – Request by +390001111111

S3 Zone 3 (if any) set-point setting

This control imposes the zone 3 set-point editing on boiler. If the external probe is present, this value can range from 5 to 35. If no external probe is present, this value can range from 20 to 45 or from 20 to 78 (for condensing boilers) and from 35 to 45 and from 35 to 78 (for atmospheric boilers).

The transmission of control ***1234*S3*0*** disables zone 3 heating request.

Example of sent SMS: ***1234*S3*35***

Where:

1234 is GSM board default password

S3 is the control used for "zone 3 set-point editing"

35 is the desired set-point value for zone 3

Example of received SMS (in English):

Set-point updated – Request by +390001111111

S4 Zone 4 (if any) set-point setting

This control imposes the zone 3 set-point editing on boiler. If the external probe is present, this value can range from 5 to 35. If no external probe is present, this value can range from 20 to 45 or from 20 to 78 (for condensing boilers) and from 35 to 45 and from 35 to 78 (for atmospheric boilers).

The transmission of control ***1234*S4*0*** disables zone 3 heating request.

Example of sent SMS: ***1234*S4*35***

Where:

1234 is GSM board default password

S4 is the control used for "zone 4 set-point editing"

35 is the desired set-point value for zone 4

Example of received SMS (in English):

Set-point updated – Request by +390001111111

SB Setting of DHW water heater set-point on boilers with storage tank (if any)

This control imposes the water heater set-point editing on boiler. Its value must range between 35 and 65. The transmission of control ***1234*SB*0*** disables "water heater filling" request.

Example of sent SMS: ***1234*SB*50***

Where:

1234 is GSM board default password

SB is the control used for "zone 4 set-point editing"

50 is the desired domestic hot water set-point value inside water heater.

Example of received SMS (in English):

Set-point updated – Request by +390001111111

S? Current set-point inside boiler request

This control is used to request the current set-point values present inside boiler. The GSM module will answer by reporting zone 1 set-point (if any), zone 2 set-point (if any), zone 3 set-point (if any), zone 4 set-point (if any) and water heater set-point (if any)

Example of sent SMS: ***1234*S?***

Where:

1234 is GSM board default password

S? is the "all set-point value request" control

Example of received sms (in English with external probe):

SP zone1: 5dgC Amb – SP zone2: 20dgC Amb – SP Zone3: 20dgC Amb – SP
Zone4: 20dgC Amb – SP storage tank: 40dgC – Requested by +390001111111

Example of received sms (in English without external probe):

SP zone1: 78dgC – SP zone2: 55dgC – SP Zone3: 65dgC – SP Zone4: 75dgC –
SP storage tank: 40dgC – Requested by +390001111111

4. Error messages

Hereinafter is a list of the error sms messages coming from boiler GSM system.

“SENDER NOT AUTHORIZED” or “Numero mittente non abilitato”

Explanation: this message is received when a control message is sent from a number not authorised to send messages to the GSM system.

Solution: register this number (see "Initial set-up" paragraph).

“Wrong password” or “Password sbagliata”

Explanation: this message is received whenever a control message is sent with the wrong password.

Solution: send message again with the correct numeric password.

“Boiler lookout” or “Caldaia in blocco”

Explanation: boiler is in a non self-resettable (or manually resettable) shut-down mode. These errors are, for example, E01, E02, E03,... This sms is sent to all registered numbers.

Solution: the only possible solution is to detect and solve the problem (error "E01", for example, can be caused by gas cock closed...) and press the "Reset" button on boiler electric panel or the "Reset" button on remote control.

To help user working far from boiler installation area identifying error, once the "boiler lookout" sms message is received, the following message must be sent to boiler:

Example of sent SMS: ***1234*BL?***

Where:

1234 is GSM board default password

BL? is the "which is the error?" control

Example of received sms:

Lookout code 1 – Requested by +390001111111 (The sms indicates that boiler is in "E01" shut-down mode)

N.B. All self-resettable errors (Ex. E04, E05, E06, ...) are not signalled by the GSM system.

Component technical specifications

Operating temperature: -10°C +80°C;

Absorption: refer to modem/power supply unit user's manual;

Protection rating IP00;

Communication: RS485-RS232 serial;

MODEM: refer to modem user's manual;

ANTENNA: refer to modem user's manual;

POWER SUPPLY UNIT: read data on power supply unit.

OLIBKIEN34

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