

SYSTEMPRO

Installation and Servicing



Control unit

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INTRODUCTION

1 Instructions guidance

1.1 Product documentation

The instructions are an integral part of the equipment and must be handed to the user on completion of the installation in order to comply with the current regulation.

- Carefully read the manual to allow for safe installation, use and servicing. No liability can be accepted in the event of damage for not complying with the guidance in this instruction manual.

1.2 Associated documents

- User instructions

1.3 Explanation of symbols



DANGER: Risk of electric shock.



ATTENTION: Risk of damage to the equipment or to its surroundings.



IMPORTANT: Important information.

2 Product description

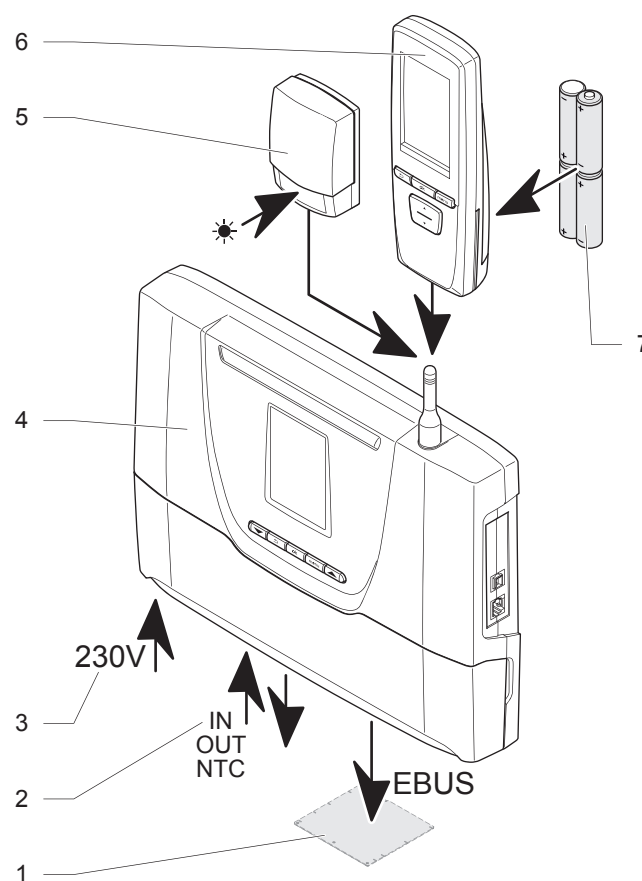
2.1 Regulation and statutory requirements

CE Mark

The CE mark indicates that the equipment described in this manual are in compliance with the following directives:

- European Directive Num. 2004-108 of the European Parliament and the Council regarding electromagnetic compatibility
- European Directive Num. 2006-95 of the European Parliament and the Council regarding low voltage
- Directive regarding telecommunications equipment (Directive R & TTE 99/5/EEC of the Council of the European Community)
- Low Voltage Directive 72/23/EEC.

2.2 Block diagram



Key

- 1 EBUS connections
- 2 Input/Output, sensors
- 3 230 V power supply
- 4 Control unit
- 5 Wireless outdoor sensor
- 6 Room thermostat
- 7 Batteries

3 Safety instructions and regulations

3.1 Safety instructions



Incorrect installation can cause electric shock or appliance damage.

All electrical work performed on the equipment must be carried out by a qualified engineer or Glow-worm Group Service engineer.

This equipment must only be installed by a qualified and engineer, to ensure that the applicable regulations and rules are adhered to.

Follow the basic safety instructions:

- Stop the control unit.
- Turn off the control unit's power supply.

- When work on the product is completed, perform an operational test and check for safety in accordance with BS EN 7671.

3.2 Regulations

During the installation and activation of the control unit, the decrees, directives, technical regulations, standards and clauses hereafter must be complied with in the versions that are currently in force.

4 Recycling



The recycling of the packaging must be carried out by the qualified professional who installed the equipment.

4.1 The equipment

Most of the equipment is made of recyclable materials.



This symbol indicates that this appliance must not be disposed of with household waste, that it should be selectively collected for energy recovery, reuse or recycling.

- Take the equipment to an appropriate collection point.



By complying with this directive, you will contribute to the preservation of natural resources and the protection of human health.

4.2 Packaging

We recommend that you recycle the packaging of the appliance in a responsible fashion.

- Sort the waste in order to separate those elements which can be recycled (cardboard, plastics ...) and those which cannot be recycled.
- Dispose of the waste in accordance with existing regulations.

INSTALLATION



All the dimensions shown of the illustrations are expressed in millimetres (mm).

5 Control unit location

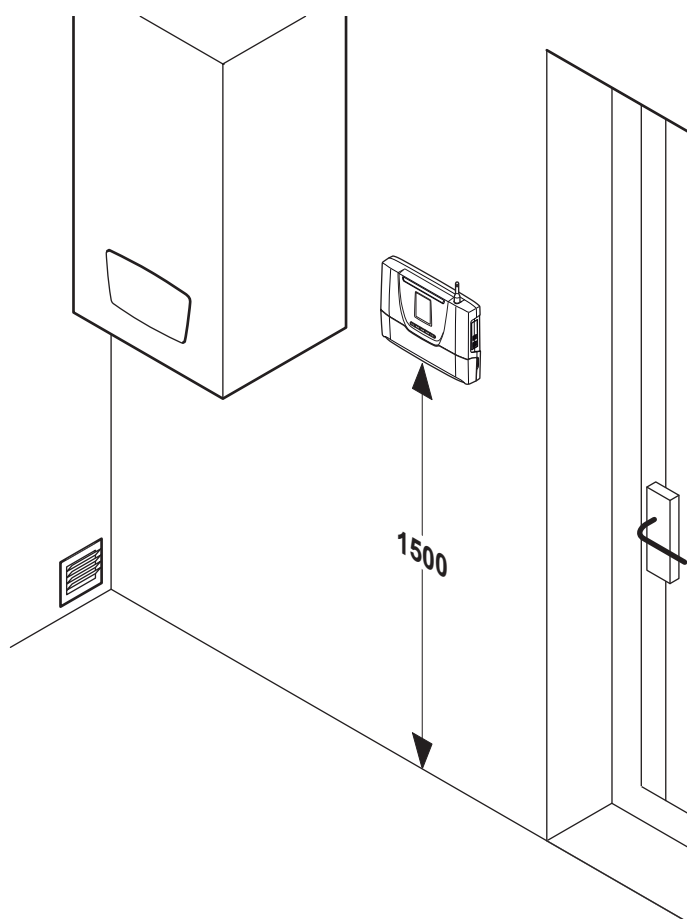
- Take all necessary precautions.

Install the system:

- in a room protected from frost,
- in a convenient location, accessible for wiring and servicing allowing for visibility of the screen.

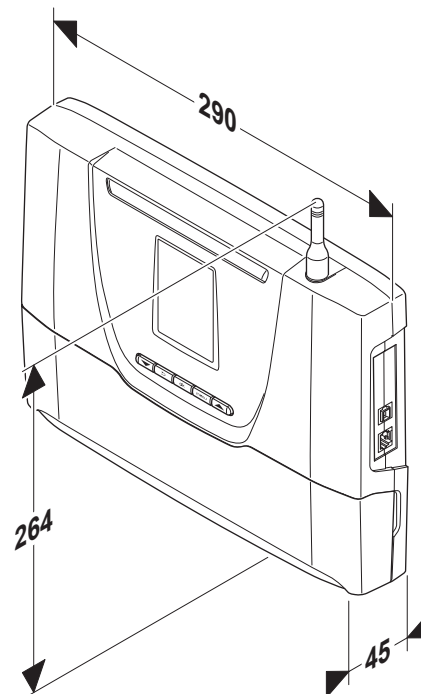
Do not install the control unit:

- close to heat sources such as radiators, chimney walls, televisions, sun rays,
- above a cooking device capable of generating steam and grease,
- in a room with a lot of dust or with a corrosive atmosphere.

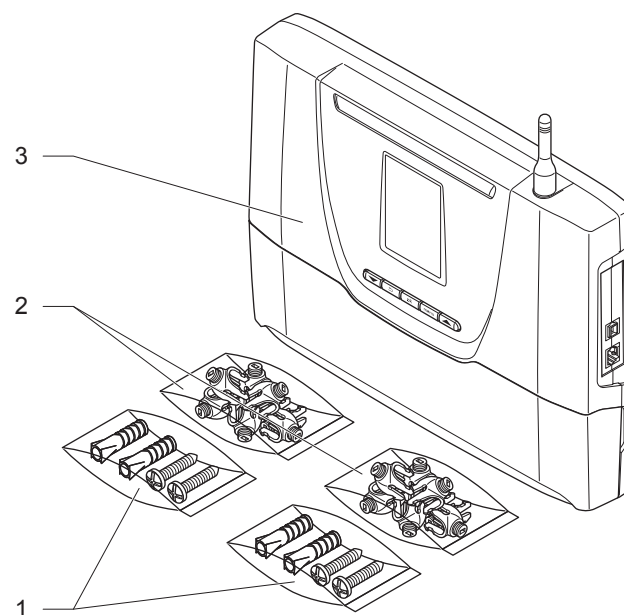


6 Installation

6.1 Dimensions



6.2 Scope of delivery

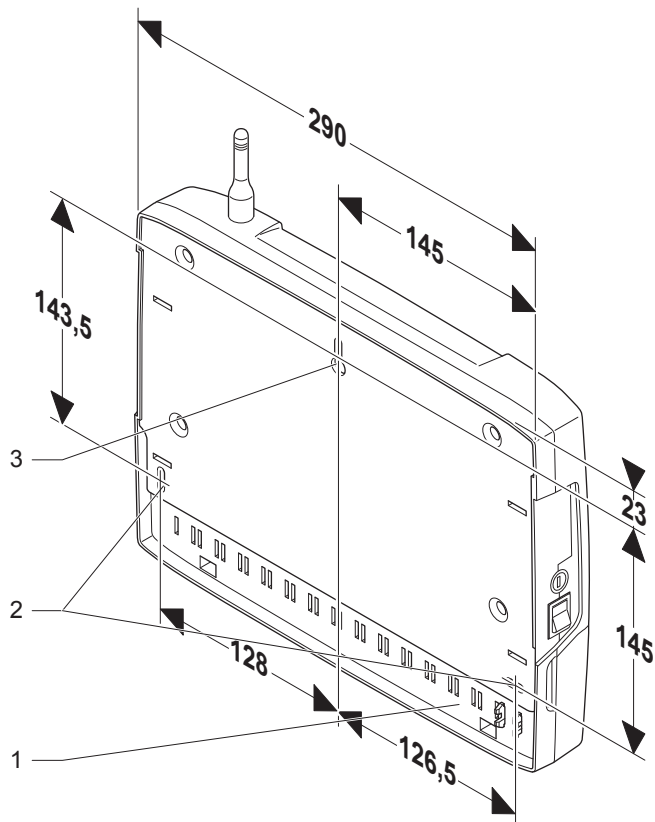


Key

- 1 2 packs with 2 screws with Ø 6 mm plugs
- 2 2 packs containing 7 anti-tamper connectors (one anti-tamper connector installed)
- 3 Control unit

6.3 Installation

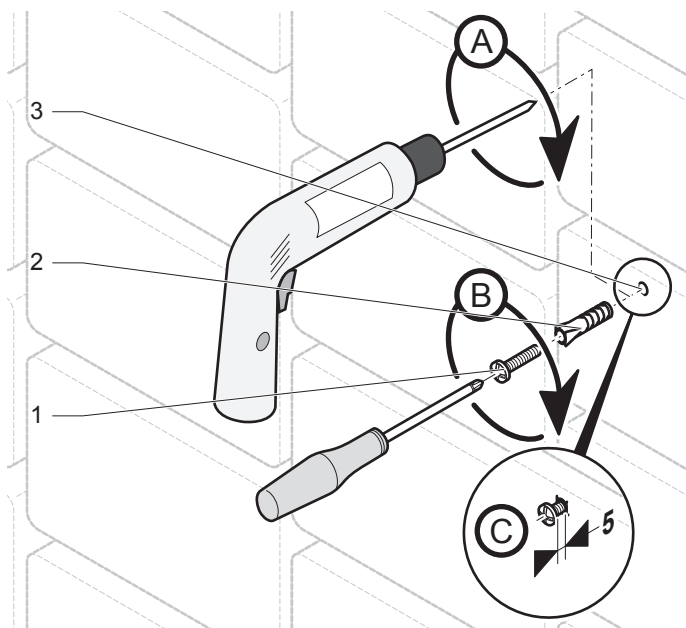
- Ensure that the materials used for installation are compatible with those of the control unit.
- Determine the location of the installation. See the "Placement selection" chapter.



- Key**
- 1 Control unit
 - 2 Lower attachment holes
 - 3 Upper attachment holes

Step 1

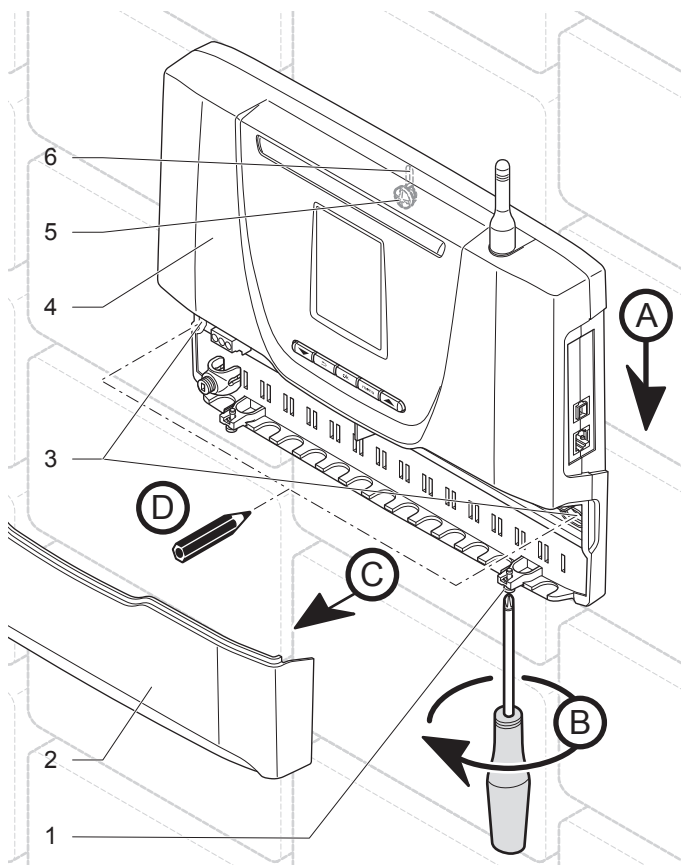
- Mark the upper wall attachment point.



- Key**
- 1 Upper screw
 - 2 Plug
 - 3 Holes

- Drill a Ø 6 mm hole (3) for the upper attachment point.
- Insert the plug (2) in the hole (3).
- Tighten the upper attachment point screw (1), leaving a 5 mm gap between the screw head and the wall.

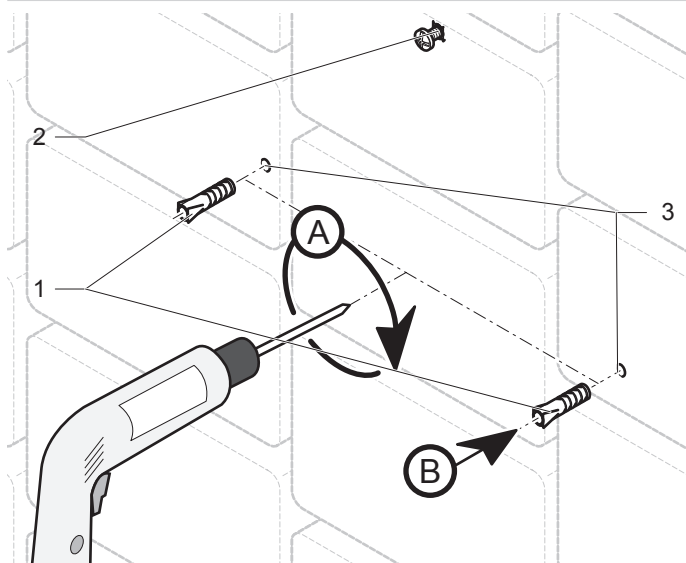
Step 2



- Key**
- 1 Hatch screw
 - 2 Control unit hatch
 - 3 Lower attachment holes
 - 4 Control unit
 - 5 Upper screw
 - 6 Upper attachment holes

- Position the control unit (4) by aligning the screw (5) and the upper attachment hole (6).
- Slide the control unit (4) down.
- Unscrew the 2 screws securing the hatch (1)
- Remove the control unit hatch (2).
- Level the control unit (4).
- Mark the 2 lower wall attachment points (3), in line with the mounting holes.
- Remove the control unit (4) by sliding along the wall.

Step 3

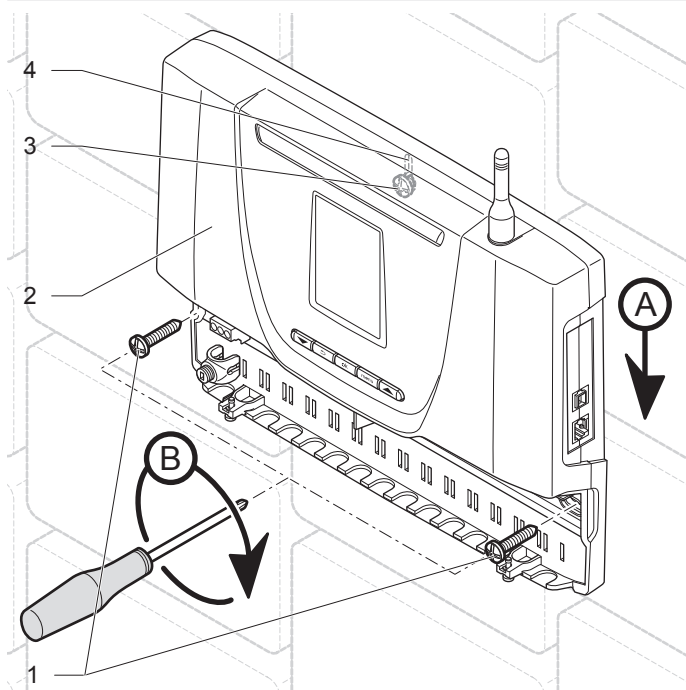


Key

- 1 Plugs
- 2 Upper attachment screws
- 3 Holes

- Drill Ø 6 mm holes (3) for the lower attachment points.
- Insert the plugs (1) in the holes (3).

Step 4



Key

- 1 Lower screws
- 2 Control unit
- 3 Upper screw
- 4 Upper attachment holes

- Reinstall the control unit on the wall (see step 2).
- Screw the 2 lower attachment screws (1) to attach the control unit to the wall.

7 Electrical connections



Incorrect installation can cause electric shock or damage to the equipment. The electrical connection must be made only by a qualified engineer.

- Ensure system is electrically isolated.
- Protect the electrical installation by following the guidance indicated in the "Technical data" chapter.



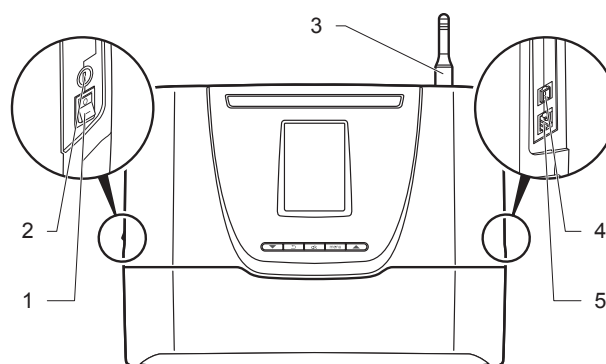
Warning! The length of the power supply cable must not exceed 10 metres.

- The electrical installation in the dwelling must permit the power supply to the equipment to be isolated by a double pole isolation switch and be fused. The double pole isolation switch must incorporate a gap of 3mm between the contacts.
- Use a power cable suitable for the mains connection, minimum 0.75 mm. If the cable is damaged, it must be replaced by a qualified engineer.

The external wiring must be earthed. The polarity must be correct and consistent with current standards.

The manufacturer declines any responsibility for damages to persons or others caused by the incorrect installation of the appliance earthing. This includes failure to comply with current standards.

7.1 External connection



Key

- 1 Switch On (I) / Off (O)
- 2 Fuse 1AT 20mm
- 3 Antenna
- 4 RJ9 EBUS socket
- 5 RJ11 EBUS socket

The switch (1) is employed to cut the power supply before making any changes to the electrical connection.

The electrical circuit of the equipment is protected internally by a fuse (2).

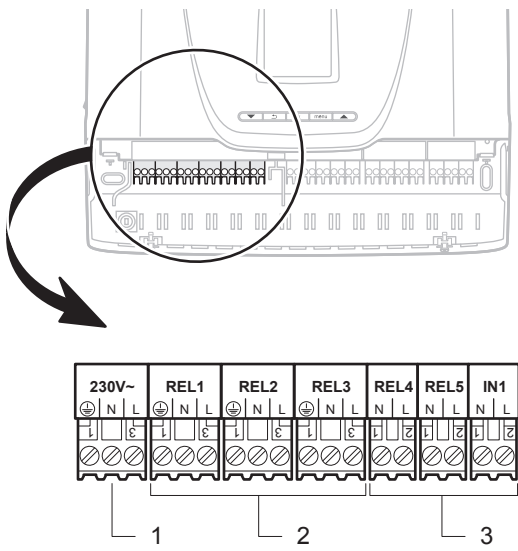
The antenna is used for wireless connection with the Climapro₂ RF and the outdoor sensor.

The RJ9 EBUS (4) socket is used for diagnosing the appliance.

The RJ11 EBUS (5) socket is used for connecting the EBUS extension board.

7.2 Internal connection

7.2.1 230V connectors



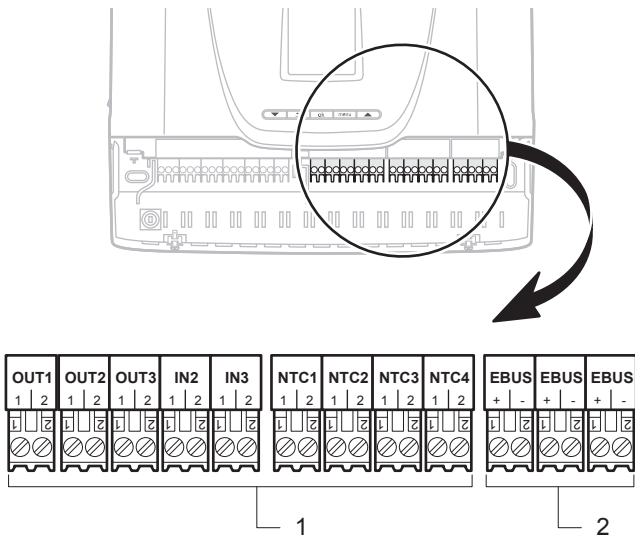
- Key
- 1 230 V connector (3-pin: earth / neutral / live)
 - 2 Connectors (3 pins: earth / neutral / live): REL1, REL2 and REL3
 - 3 Connectors (2 pins: live / neutral): REL4, REL5 and IN1



Consult the system manual for electrical connections following installation.

The connector (1) is employed to connect the electricity supply.

7.2.2 24V connectors



- Key
- 1 Connectors (2 pins) OUT1, OUT2, OUT3, IN2, IN3, NTC1, NTC2, NTC3 and NTC4
 - 2 EBUS connectors (2 pins)

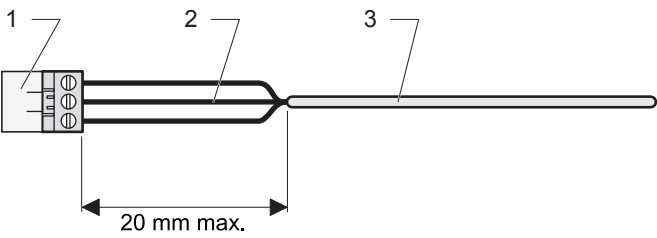


Consult the system manual for electrical connections following installation.



Ensure correct polarity of ebus connections.

7.3 Electrical connections



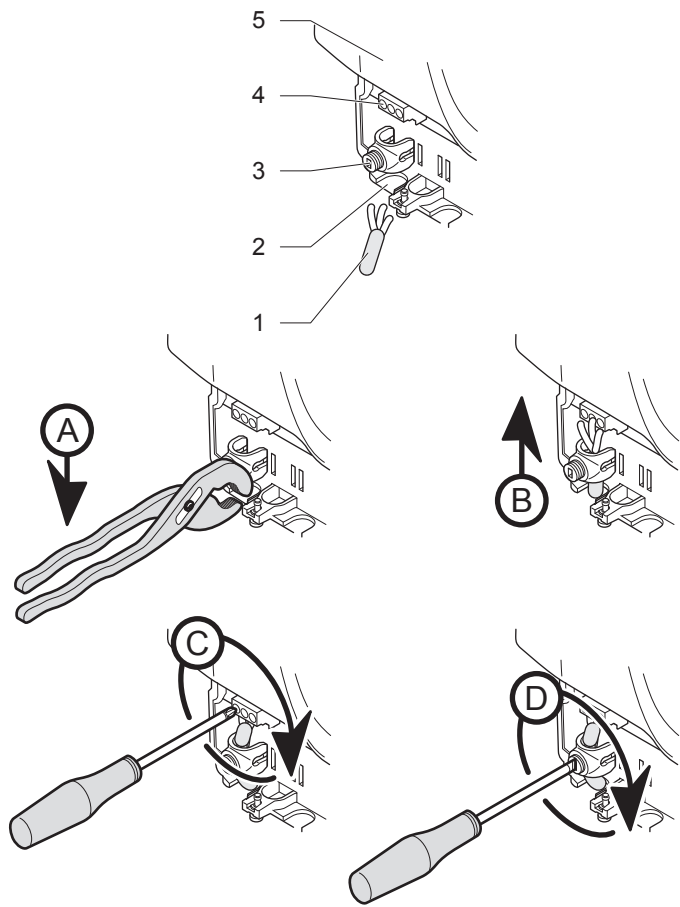
- Key
- 1 Connector
 - 2 Electrical wires
 - 3 Casing



Warning! When connecting electrical cables to a connector in the control unit:

- Maintain a maximum distance of 20 mm between the connector (1) and the outer insulation (3).

7.3.1 230V power supply



- Key
- 1 230 V power cable
 - 2 Break out tab
 - 3 Anti-tamper connection
 - 4 Power connection
 - 5 Control unit

- Gently remove the break out tab (2) from the control unit with pliers (A).
- Connect the control unit following the order (B) to (D).
- Pass the power cable (1) through the anti-tamper connector (3).
- Connect the power supply to the 230 V connector (4) following the instructions given on the connector.
- Tighten the power cable (1) in the anti-tamper connector (3).

7.3.2 Other connections following the electrical installation diagram



Warning! Risk of electric shock.
Break the grommets necessary for passing the cables.

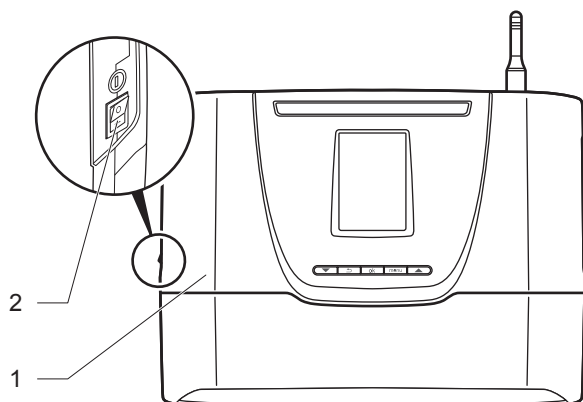
- Protect access to live parts, attach all cables to the control unit with anti-tamper connectors.



Consult the system manual for electrical connections following installation.

8 Commissioning

- Turn on the power supply to the control at the isolator.



Key

- 1 Control unit
- 2 Switch On (I) / Off (O)

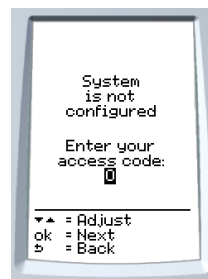
- Turn on the control unit (1) with the switch (2) in position (I).



When connected for the first time, the installation menu is displayed.



- Choose the language with the buttons .
- Press the button to confirm.



- Enter the installer access code 96 with the keys .
- Press the button to confirm.



- Follow and confirm the steps prompted by the initial installation aid.
- Press the button to confirm.



Consult the system manual in order to install and start-up the system.

Date and time

The date and time settings are configured via the Climapro₂ RF.

- Refer to the Climapro₂ RF instructions in order to adjust settings.

9 Installation menu

9.1 Description of buttons

Buttons	Description
 	Up / down buttons The buttons allow: - To browse menus. - To decrease / increase value to be adjusted. - To reset the control unit (factory setting by pressing simultaneously both buttons for 10 seconds).
	Back button The button allows: - To return to the previous menu. - To return to the previous setting.
	OK button The button allows: - Confirmation of the selection or setting.
	Menu button The button allows: - To access the installation menu. - To access the maintenance menu. - To return to the installation and maintenance menus (at any time). - To return to the main user screen by pressing for 3 seconds.

9.2 Access to the installation menu

- Press the button  for 7 seconds.
- Enter the installer access code 96.
- Press the button  to confirm.

9.3 Description of the installation menu

Menu	Browsing
	Use the keys :   Select by pressing the button :  Press the key : -  to return to the installation menu screen, -  for 3 seconds to return to the main user screen.

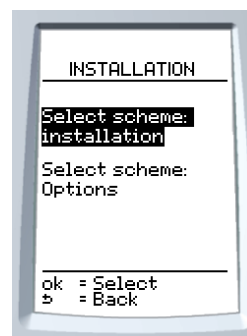


The control units installation menu allows you to carry out certain adjustments to the installation.

The control unit and the room thermostat have some common settings. Adjustments made to the control unit automatically modify those of the Climapro₂ RF room thermostat.

At the end of each configuration stage, the current stage is highlighted.

9.4 Installation



The multizone installation screen refers to the installation of zone valves in the system (Z20 & Z30 kits can be substituted for zone valves for two and three zones (same temperature) respectively). A mixer module can also be used in place of the Z11 kit which mixes one high and one low temperature zone.

9.4.1 Modifying the installation

This menu allows you to change the diagram number when modifying the installation's configuration.

A diagram number is assigned to each possible installation, with various options available. The number is indicated in the system manual.

9.4.2 Modifying options

This menu allows you to enable or disable the options available in the selected installation diagram.

9.5 Thermostat and sensor



Pairing (recognition) is necessary in order to use:

- the Climapro₂ RF room thermostat(s),
- the wireless outdoor sensor.

A room thermostat is assigned to an area in the building. If the property has more than one zone, carry out the adjustments for each zone.

The system may include 1 to 6 room thermostats and a wireless outdoor temperature sensor.

9.5.1 Pairing with the Climapro₂ RF room thermostat(s)

Adjustments must be made simultaneously to the control unit and the room thermostat.

Via the control unit:

- From the installation menu in the control unit > select on the screen > **thermostat/sensor** > **room stat(s)** press ok button on the control unit.
- Select the area covered by the room thermostat by pressing the buttons  . Confirm by pressing the button .

Via the room thermostat:

- Press the button  for 7 seconds.
- Enter the installer access code 96.
- Via the installer room thermostat menu > select on the screen > **RF** > **pairing**
- Press the room thermostat button .

The control unit and the room thermostat will immediately indicate recognition on their respective "connection in progress" screens.

If the message "Connection error" appears, press  and repeat the operation.

9.5.2 Pairing with wireless outdoor sensor

- Consult the outdoor sensor's installation manual in order to carry out the operation.



The wireless outdoor sensor must be paired with the Systempro control before installing the outdoor sensor.

9.5.3 Outside temperature adjustment

This feature allows you to adjust the temperature measured by the outdoor sensor (+ / - 5 ° C, with intervals of 1 ° C - factory setting: 0).

- From the installation menu> select on the screen > **2-rmstat / sensor** > **outdoor sensor** > **external T ° correction**
- Increase or decrease by pressing   to display the desired adjustment and press the button  to confirm.

9.6 Automatic test



The automatic test allows you to check:

- EBUS inputs,
- NTC inputs,
- the RF connection with the Climapro₂ room thermostat,
- the outdoor sensor radio connection.



The other connections are not tested and should be visually inspected during installation or configuration modifications.

- From the installation menu> select on the screen > **automatic test**
- Switch on all the installation's components.
- Confirm the launching of the test by pressing .

The result is displayed in seconds, indicating the status of each appliance.

- If the status of a component is not correct, check the wiring or relaunch the pairing.



Isolate the electrical supply to the equipment prior to verifying or changing a connection.

- Carry out the necessary wiring work.

Once the power has been reconnected, the control unit returns to the current control function.

- Repeat the test.

9.7 Parameters



This menu allows you to adjust different functions in accordance with the connected appliances and to reset all the parameters.

9.7.1 Maximum flow heating temperature

This menu allows you to adjust the maximum flow heating temperature (the value is adjustable between 30 ° C and 80 ° C - factory setting: 73°C).



Ensure that the maximum heating flow temperature setting is compatible with the installation.

- From the installation menu> select on the screen > **4-settings > heating > maximum flow temperature > maximum flow temperature**
- Increase or decrease by pressing   to display the desired value and press the button  to confirm.

9.7.2 Selecting the heat curve

This function allows you to select the heating curve (value adjustable between 0.2 and 4 - factory setting: 1.2 for the high temperature zone and 0.6 for the low temperature zone).



Ensure that the heat curve is correctly matched to the design of the heating system.

- From the installation menu> select on the screen > **4-settings > heating > htg curve setting > htg curve setting**
- Consult the outdoor sensor's installation manual to determine the curve adjustment value.
- Increase or decrease by pressing   to display the desired values and press the button  to confirm.

9.7.3 Hot water, cooling and energy management

The settings available vary in accordance with the installation diagram and the options selected.



Consult the system manual in order to install and start-up the system.

9.7.4 Resetting parameters

This function allows you to reset the parameters of the control unit (factory setting).



The resetting of factory settings is irreversible. Any customised configuration of the control unit will be lost.

9.8 Commissioning



This menu allows you to carry out the necessary operations on the appliances following installation.

9.9 Component information



This menu enables real-time access to:

- the status of the appliances responding to a demand (ON / OFF)
- the reading the different information available from the appliances (temperature, pressure, flow,)
- the register of last 5 faults recorded for each appliance (date, time, code and description of faults).



Refer to the "Troubleshooting> failure codes" chapter for a description of the fault code displayed on the screen.



The fault status may be "inactive" (disappeared) "active" (still affects the installation).

- resetting the fault report.

9.10 Options



This menu allows you to adjust the settings of the following options:

9.10.1 Languages

This menu allows you to change languages after installation.

- From the installation menu> **select > options > languages** on the screen

9.10.2 Screen

This menu allows you to adjust the brightness and contrast of the screen

- From the installation menu> **select > options > screen** on the screen

9.10.3 About

This function displays the system's software versions.

- From the installation menu> **select > parameters > about** on the screen

10 Specific adjustment

10.1 Resetting the control unit

This function allows you to reset the control unit (factory setting).



***The resetting of factory settings is irreversible.
Any customised configuration of the control unit
will be lost.***

- Simultaneously press the buttons   for 10 seconds.
- Confirm by pressing  .

11 Re-check and restart

- Once the control unit is installed, check the operation.
- Switch the control unit on to ensure that any adjustments operate correctly and check that the appliance operates safely.

12 User information

At the end of the installation:

- explain the operation of the equipment and its safety devices to the user, if necessary provide a demonstration and answer any questions;
- give the user all the required documentation,
- fill in the documents where necessary;
- advise the user of the precautions necessary to prevent damage to the system, appliance and the building;
- remind the user to service the appliance annually.

MAINTENANCE

13 Trouble-shooting

13.1 Fault diagnosis

The following checks should be performed before proceeding onto specific diagnostics:

- Ensure that it has not been disconnected from the electricity network and that the control unit is connected correctly.
- Ensure that all installation's appliances are available.
- Check the functioning of external regulatory devices (room thermostat, remote sensor,).

13.2 Maintenance menu



The maintenance menu includes the installation menu function, plus 2 additional functions:

- "Test Menu", within the maintenance menu,
- "After sales service Info", in the options.

13.2.1 Access to the maintenance menu

- Press the "menu" button for 7 seconds.
- Enter the installer maintenance access code 35.
- Press the button to confirm.

13.2.2 Test menu

This menu allows you to test the operation of all the appliances and the system (boiler, HP, valve,) present in the installation.

Each element can be controlled centrally by activating its normal start-up function or by individual component.



By entering the test menu, the control unit display's the following message: "the system is currently stopped" No further heating control operations are effected. Control is resumed upon exiting the menus.

13.2.3 After sales service info

- From the maintenance menu> select > **options** > **After sales service info** on the screen.

This menu provides access to After sales Service information:

- date of last access to installer menus
- the name of the company which provides the after sales service, if entered during installation.
- the telephone number of the company which provides the after sales service , if entered during installation.

13.3 System failure codes



Faults described in this chapter should be carried out by a qualified engineer and if needed by the After Sales Service.

Fault codes	Description	Cause	Solution
001	Failure in Ebus communication between with the boiler	The boiler is not connected to the control unit. The cable polarity is reversed. The boiler is off.	Check that the boiler is connected to the control unit. Check the connection's + / - polarity. Ensure that there is no interruption to the electricity network and that the boiler is properly connected and turned on.
002	Failure in Ebus communication between with the heat pump	The heat pump is not connected to the control unit. The heat pump is off.	Make sure the heat pump is connected to the control unit. Ensure that there is no interruption to the electricity network and that the heat pump is properly connected and turned on.
003	Failure in Ebus communication between with the hydraulic module	The hydraulic module is not connected to the control unit. The hydraulic module is off.	Make sure that the hydraulic module is connected to the control unit. Ensure that there is no interruption to the electricity network and that the hydraulic module is properly connected and turned on.
010	Heating circuit outgoing temperature sensor failure (open circuit)	The sensor is defective or not properly connected to the control unit management or hydraulic module.	Check the sensor's connections. Verify that the position and the operation of the sensor are correct. Check the sensor's resistance.
011	Heating circuit outgoing temperature sensor failure (short circuit)	The sensor is shorted.	
012	Heating circuit outgoing temperature sensor failure low temperature (open circuit)	The sensor is defective or not properly connected to the control unit.	Check the sensor's connections. Verify that the position and the operation of the sensor are correct. Check the sensor's resistance.
013	Heating circuit outgoing temperature sensor failure low temperature (short circuit)	The sensor is shorted.	
014	Domestic water tank temperature sensor failure (open circuit)	The sensor is defective or not properly connected to the control unit.	Check the sensor's connections. Verify that the position and the operation of the sensor are correct. Check the sensor's resistance.
015	Domestic water tank temperature sensor failure (short circuit)	The sensor is shorted.	
020	Pressure sensor failure	The sensor is defective or not properly connected to the hydraulic module.	
021	Pressure too low <0.5 bar	There is a leak in the heating circuit. The degassing was not carried out correctly.	Check that there are no leaks. Drain the heating circuit. Remove air. Fill the installation.
030	Failure in communication with the zone 1 wireless room thermostat.	The room thermostat is too far from the control unit. There is a problem with the batteries in room thermostat.	Check the RF signal quality via the Climapro RF installer menu. Check the location of the thermostat. Check that the thermostat's batteries are installed in their compartment. Make sure the battery polarity is not reversed. Make sure the batteries are not dead. If so, replace them with new batteries
031	Failure in communication with the zone 2 wireless room thermostat.		
032	Failure in communication with the zone 3 wireless room thermostat.		
033	Failure in communication with the zone 4 wireless room thermostat.		
034	Failure in communication with the zone 5 wireless room thermostat.		
035	Failure in communication with the zone 6 wireless room thermostat.		
036	Failure in communication with the wireless outdoor sensor	The wireless outdoor sensor is too far from the control unit.	Check the location of the outdoor sensor. Check that the sensor's power supply is correctly provided by a photovoltaic cell.

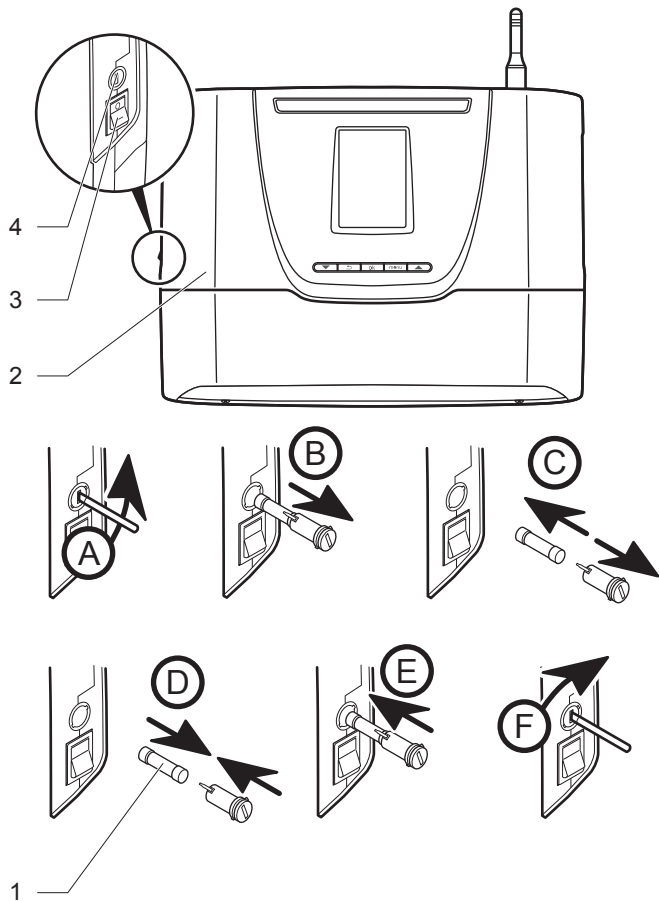
13.4 Control unit failures



Faults described in this chapter should be carried out by a qualified engineer and if needed by the After Sales Service..

Description	Cause	Solution
No display on screen	The power supply is faulty. The fuse is damaged.	Make sure that the electricity supply has not been interrupted. Check that 230V supply is turned on and present. Check the position of the control unit switch. Check the control unit's fuse.

13.5 Replacing a fuse



- Key
- 1 Fuse
 - 2 Control unit
 - 3 Switch On (I) / Off (O)
 - 4 Fuse holder

- Turn off the control unit (2) with the switch (3) in position (O).
- Turn off the power supply to the control unit (2) at the isolating switch.
- Replace the fuse following the order (A) to (F).
- Slightly turn the control unit (2) fuse holder (4) using a screwdriver.
- Remove the fuse holder (4) and the fuse (1).

- Replace the fuse (1) following the indications given in the Technical data chapter.
- Reinsert the fuse holder (3) in the control unit (2).
- Press and turn slightly with a screwdriver.
- Turn on the power supply to the control unit (2) at the isolating switch.
- Turn on the control unit (2) with the switch (3) in position (I).

TECHNICAL DATA

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Description	Unit	Control unit
Transmission / reception frequency	MHz	868
Transmission / reception frequency with outdoor sensor	min	15
Transmission / reception frequency with room thermostat	min	10
Average radio signal range in open air (*)	m	100
Average radio signal range indoors (*)	m	25
Control unit dimensions:		
Height	mm	264
Length	mm	290
Depth	mm	45
(*) Depends on the installation's conditions and the electromagnetic environment.		
Electricals		
Power-supply voltage	VAC/Hz	230/50
Power cable gauge	mm²	3 x 0.75
EBUS connection cable gauge	mm²	2 x 0.75
Current	A	0.43
Delay fuse	A	1
Electrical protection		IP20
Electrical classification		II
Surge category		II
Pollution rating		2
Contact outputs fed work	A	8
	V	230
Action auto		type 1.C





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Because of our constant endeavour for improvement, details may vary slightly from those shown in these instructions.

Glow-worm, Nottingham Road, Belper, Derbyshire. DE56 1JT