IST 03 C 000 - 00

CONTROL CABINET
for cascade boiler systems

EN

INSTALLATION
USE AND MAINTENANCE

CE

fondital

Dear Customer,
Thank you for choosing and buying a piece of our equipment. Please read these instructions carefully. They will enable you to install, operate, and service the appliance properly.

General information for fitters, maintenance technicians and users

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

This control cabinet is designed for connection to a hot water system for domestic heating.
Any other use is considered incorrect and therefore dangerous for people, animals and/or property.

The control cabinet must be installed in compliance with the applicable laws and standards and according to the manufacturer's instructions given in this manual. Incorrect installation may cause injury to people or animals and damage to property. The manufacturer cannot be held liable for any such injury or damage.

Damage or injury caused by incorrect installation or use, or by failure to follow the manufacturer's instructions, will relieve the manufacturer of any and all contractual and extra-contractual liability.

Before installing the boiler, check that the technical data correspond to the requirements for its correct use in the system.

Check that the boiler is intact and has not been damaged during transport and handling. Do not install equipment which is damaged or faulty.

The control cabinets can be installed outdoors or in a suitable room.

Only manufacturer-approved accessories must be installed.

All the packaging materials can be recycled and must be disposed of correctly. They must be sent to a specific waste management site.

Keep the packaging out of the reach of children as it may represent a hazard.

In the event of failure or faulty operation, switch off the control cabinet. Do not attempt to make any repairs and contact a qualified technician.
Manufacturer-approved parts must be used for all repairs to the boiler.

Failure to comply with the above requirements may affect the safety of the boiler and endanger people, animals and property.

Routine maintenance should be performed according to the schedule in the relevant section of this manual.
Appropriate maintenance ensures efficient operation, preservation of the environment, and safety for people, animals and property.
Incorrect and irregular maintenance can be a source of danger for people, animals and property.

The manufacturer recommends that customers contact an Authorized Service Centre for maintenance and repairs.

If the control cabinet is to remain inactive for a long time, disconnect it from the power mains and close the gas tap.
Warning! If the boiler is disconnected from the mains, the electronic anti-freeze function will not operate.

Should there be a risk of freezing, add anti-freeze to the heating system. It is not advisable to empty the system as this may result in damage. Use specific anti-freeze products suitable for multi-metal heating systems.

If you smell gas:
- **do not touch any electrical switches and do not turn on electrical appliances;**
- **do not ignite flames and extinguish any cigarettes;**
- **close the main gas tap;**
- **open doors and windows;**
- **contact a Service Centre, a qualified fitter or the gas supply company.**

Never use a flame to detect a gas leak.

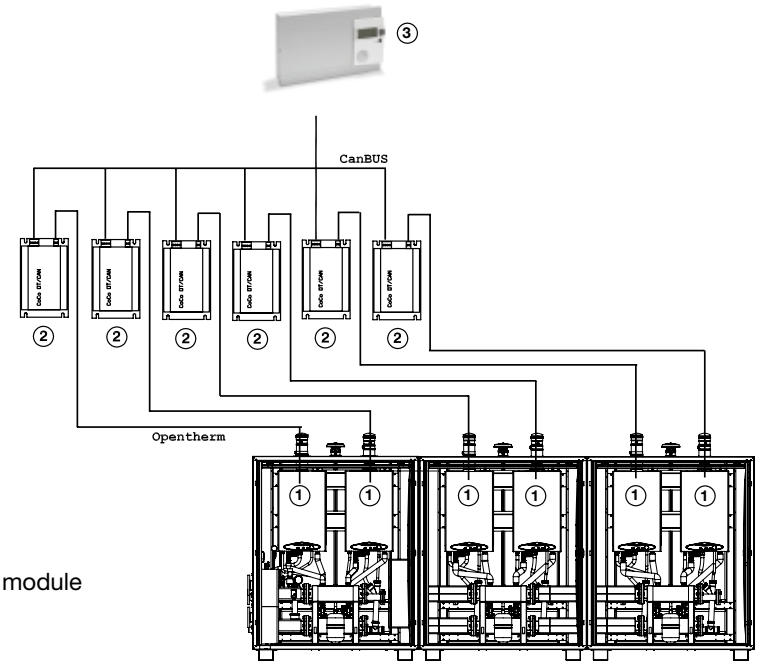
This control cabinet has been built for installation in the country indicated on packaging and the rating plate.
Installation in a country other than the specified one may be a source of danger for people, animals and property.

The manufacturer cannot be held contractually or extra-contractually liable in the event of failure to comply with the above.

1. User instructions

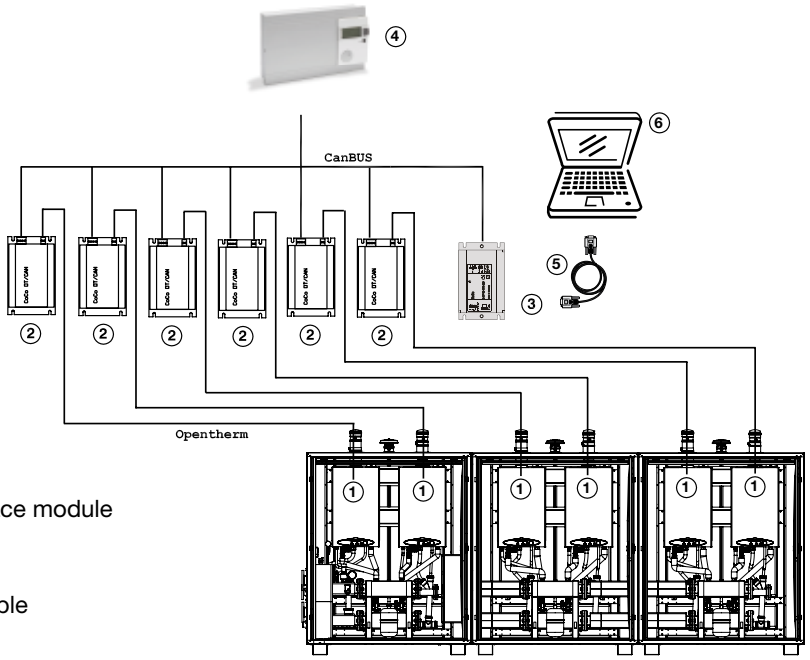
There are three types of control cabinet:

1. Standard control cabinet: for controlling the system from the control unit, with no external communication



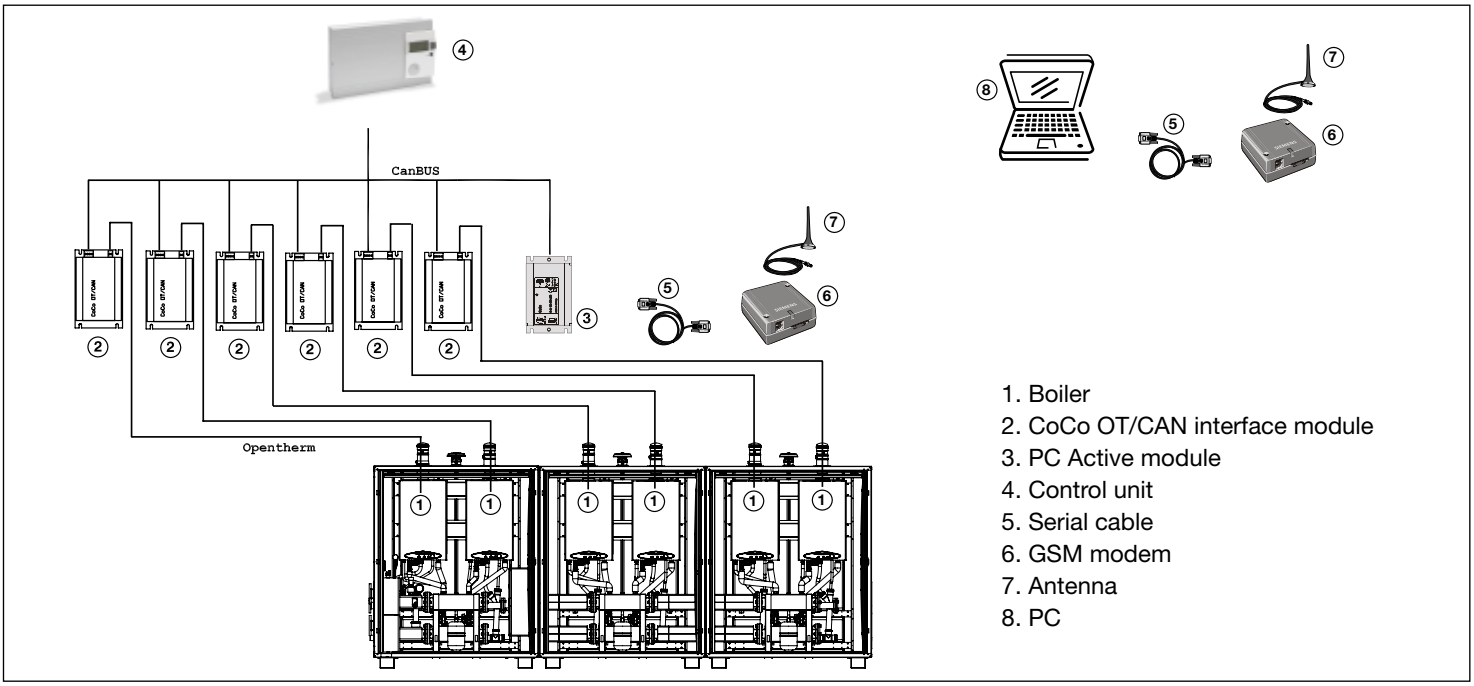
1. Boiler
2. CoCo OT/CAN interface module
3. Control unit

2. Control cabinet with a Co/Co PC Active module: for controlling the system via a local PC



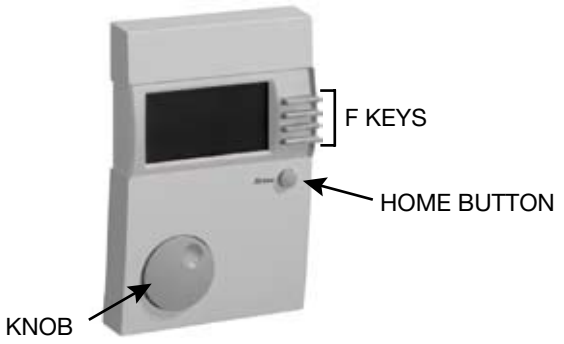
1. Boiler
2. CoCo OT/CAN interface module
3. PC Active module
4. Control unit
5. Null-modem serial cable
6. PC

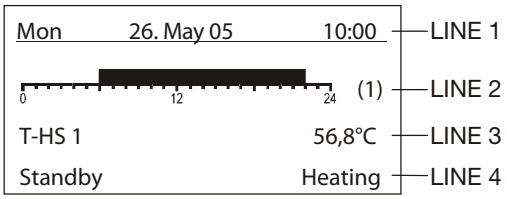
3. Control cabinet with a GSM modem: for controlling the system via a remote PC



1.2. Control unit

The control unit is located inside the control cabinet.





pic. 1

Control elements

KNOB: used to enter a setting or parameter;
HOME BUTTON: gives access to the main menu;
F KEYS: to select the setting/parameter shown on a particular display line.

Display

LINE 1: day, date and time;
LINE 2: heating based on the time programme;
LINE 3: boiler 1 temperature;
LINE 4: operating mode on the left, current situation on the right.

1.2.1. Operating modes

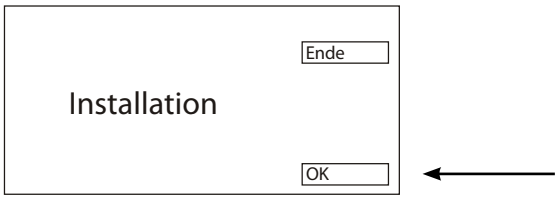
When the control cabinet has been installed by a qualified fitter, the boiler has been started up for the first time and the control cabinet is ready for correct operation, the operating mode must be set on the control unit:

1. Standby: the heating and hot water function is disabled; only anti-freeze function is active;
2. Automatic 1: heating is enabled according to time programme 1; hot water is enabled according to the DHW programme;
3. Automatic 2: heating is enabled according to time programme 2; the DHW programme is enabled;
4. Summer: the system only operates to produce hot water according to the DHW programme if connected to an external hot water system;
5. Heat: the boiler is set to heat for 24 hours at temperature 1; the DHW programme is enabled;
6. Reduce: the boiler is set to heat for 24 hours at reduced temperature; the DHW programme is enabled;
7. Assist: (for fitter only) for controlling the cascade manually.

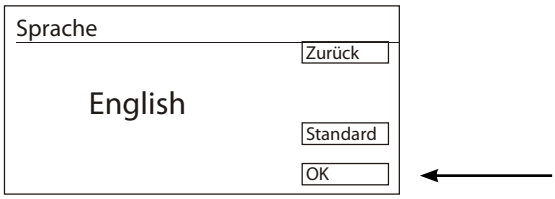
To set an operating mode, press the bottom F key (corresponding to line 4) and select the desired function on the knob.

Switching on the control unit for the first time

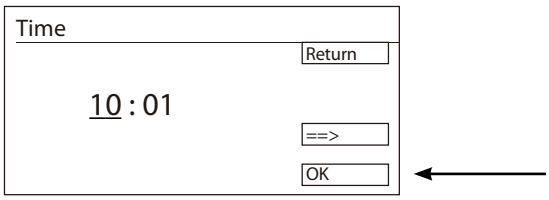
The following is displayed when the control unit is switched on for the first time. Press the F key corresponding to the OK line.



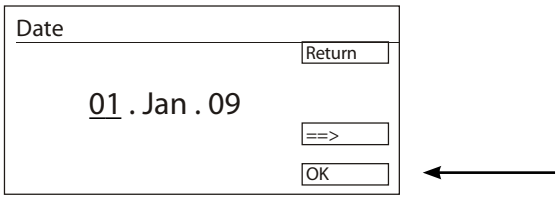
Turn the knob to enter the desired language, then press the bottom F key to confirm.



Now enter the time by turning the knob. To set the hour, press the F key corresponding to ==>; then turn the knob until you reach the desired value. Then press the bottom F key (OK) to confirm. Do the same to set the minutes.



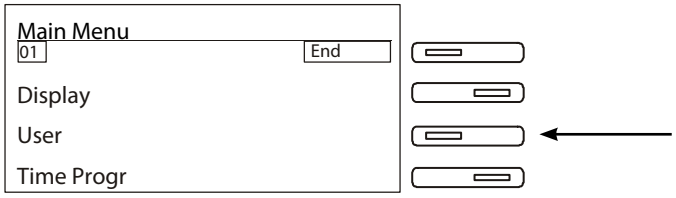
Now enter the date by turning the knob. To set the day, month and year, press the F key corresponding to ==>, then turn the knob until you reach the desired value. Then press the bottom F key (OK) to confirm.



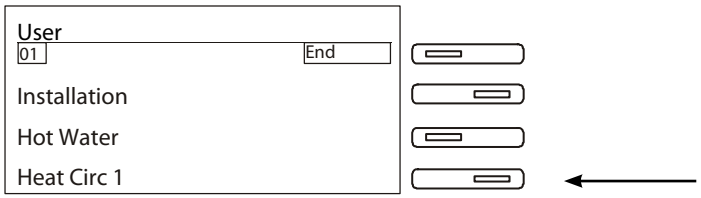
When you have entered all the parameters, press the HOME button.

Setting the ambient temperature

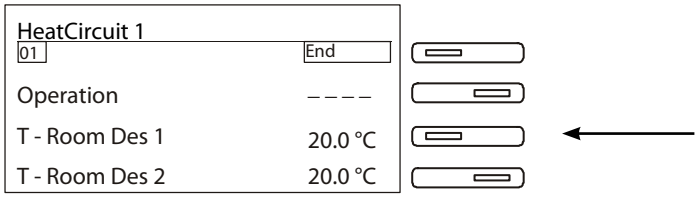
To set the ambient temperature, press the HOME button to call up the main menu. Use the knob to scroll through the menu. Press the F key corresponding to USER.



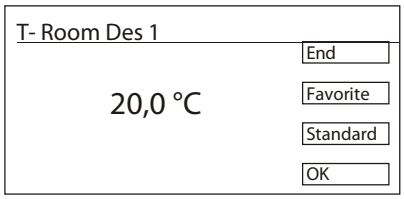
After entering the User submenu, press the F key corresponding to HEAT CIRCUIT 1.



In the HEAT CIRCUIT 1 submenu, you can enter 3 different temperatures. Press the F key corresponding to T-Room Des 1.

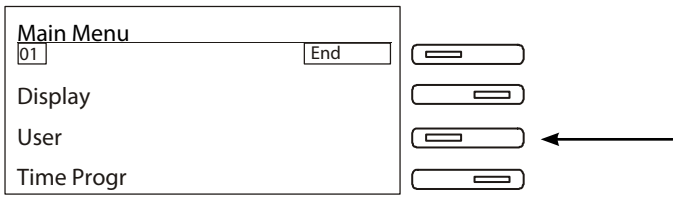


Turn the knob clockwise or anticlockwise to set the temperature, then press the F key corresponding to OK.

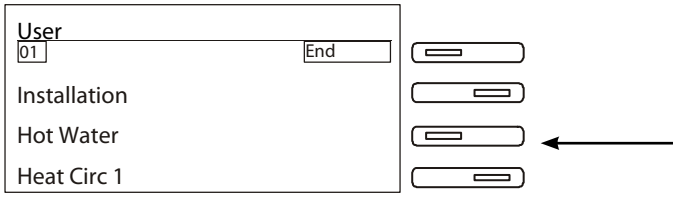


Setting the hot water temperature

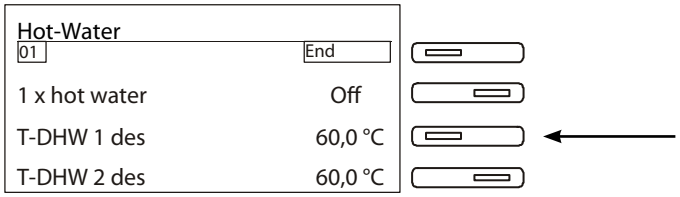
To set the hot water temperature, press the HOME button to call up the main menu. Use the knob to scroll through the menu. Press the F key corresponding to USER.



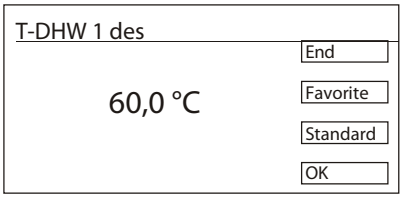
After entering the User submenu, press the F key corresponding to HOT WATER;



In the Hot Water submenu, you can enter 3 different temperatures. Press the F key corresponding to T - DHW 1 des.

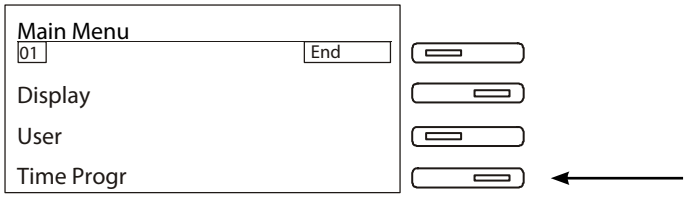


Turn the knob clockwise or anticlockwise to set the temperature, then press the F key corresponding to OK.

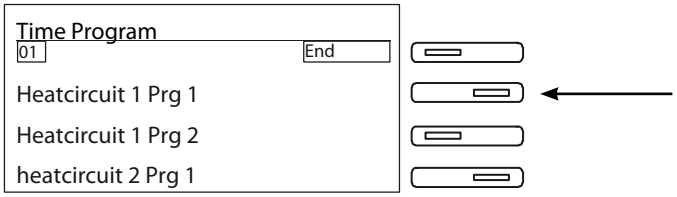


Setting the heating programme (time programme 1)

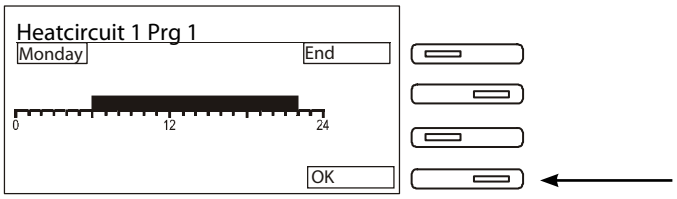
To set the heating programme, press the HOME button to call up the main menu. Use the knob to scroll through the menu. Press the F key corresponding to TIME PROGR.



After entering the Time Progr submenu, press the F key corresponding to HEATCIRCUIT 1 PRG 1.



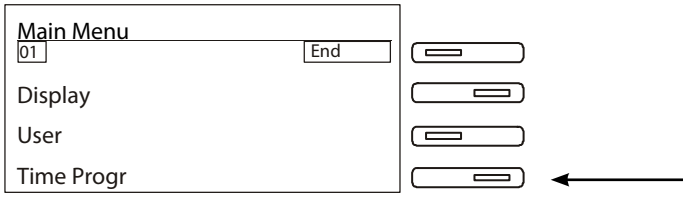
Turn the knob in the Heat Circuit 1 Prg 1 submenu to display the set operating ranges for each day of the week. If you wish to change the operating range for a particular day, press the OK button on the screen for that day.



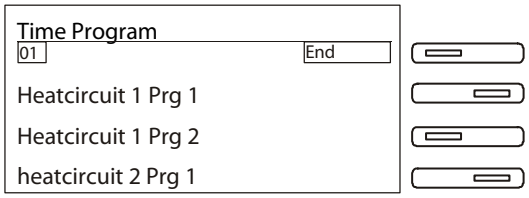
There are 3 operating ranges for each day of the week. When you have selected one of the programmes, press the F key corresponding to OK to confirm.

Setting the water heater programme (DHW programme)

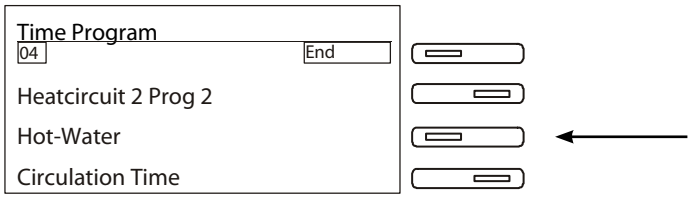
To set the water heater programme, press the HOME button to call up the main menu. Use the knob to scroll through the menu. Press the F key corresponding to TIME PROGR.



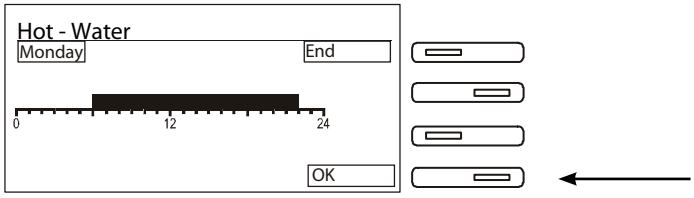
In the Time Progr submenu, turn the knob to display HOT WATER.



Press the F key corresponding to Hot Water.



Turn the knob in the Hot Water submenu to display the set operating ranges for each day of the week. If you wish to change the operating range for a particular day, press the F key corresponding to the OK button on the screen for that day.



There are 3 operating ranges for each day of the week. When you have selected one of the programmes, press the F key corresponding to OK to confirm.

1.3. ANTI-FREEZE function

The system comes with an anti-freeze protection system.
When the external probe reads a temperature below 0°C (default value, possible adjustable range -15°C to 5°C), the system witches on and runs until the nominal temperature is reached. The nominal temperature varies with the value read by the external probe, the nominal fictitious ambient temperature (default value 5°C) and the selected heating curve.
When the manifold probe reads a temperature below 5°C (default value), the system activates and runs until a temperature of 20°C is reached.
When the heating water temperature sensor reads a temperature of 5°C, the boiler switches on at minimum heat output until the water heating temperature rises to 30°C or 15 minutes have elapsed.
If the boiler shuts down, the pump continues to operate.

The heating system can also be protected effectively from frost by using specific anti-freeze products suitable for multi-metal systems.
Periodically check the effectiveness of the additive.
Do not use vehicle anti-freeze products.

If the system is connected to an (optional) external water heater with an NT C probe (5 kΩ – refer to the water heater specifications), when the probe reads a temperature of 7°C in the water heater, the system activates and runs until a temperature of 9°C is reached.

If the system is connected to an (optional) external water heater with a temperature thermostat, the anti-freeze function has no effect on the water heater.
If the boiler shuts down, the water heater will not be protected against freezing.

1.4. PUMP ANTI-SHUTDOWN function

If
- the boiler remains inactive;
- the control unit is not on standby;
- the system is NOT electrically disconnected from the mains;

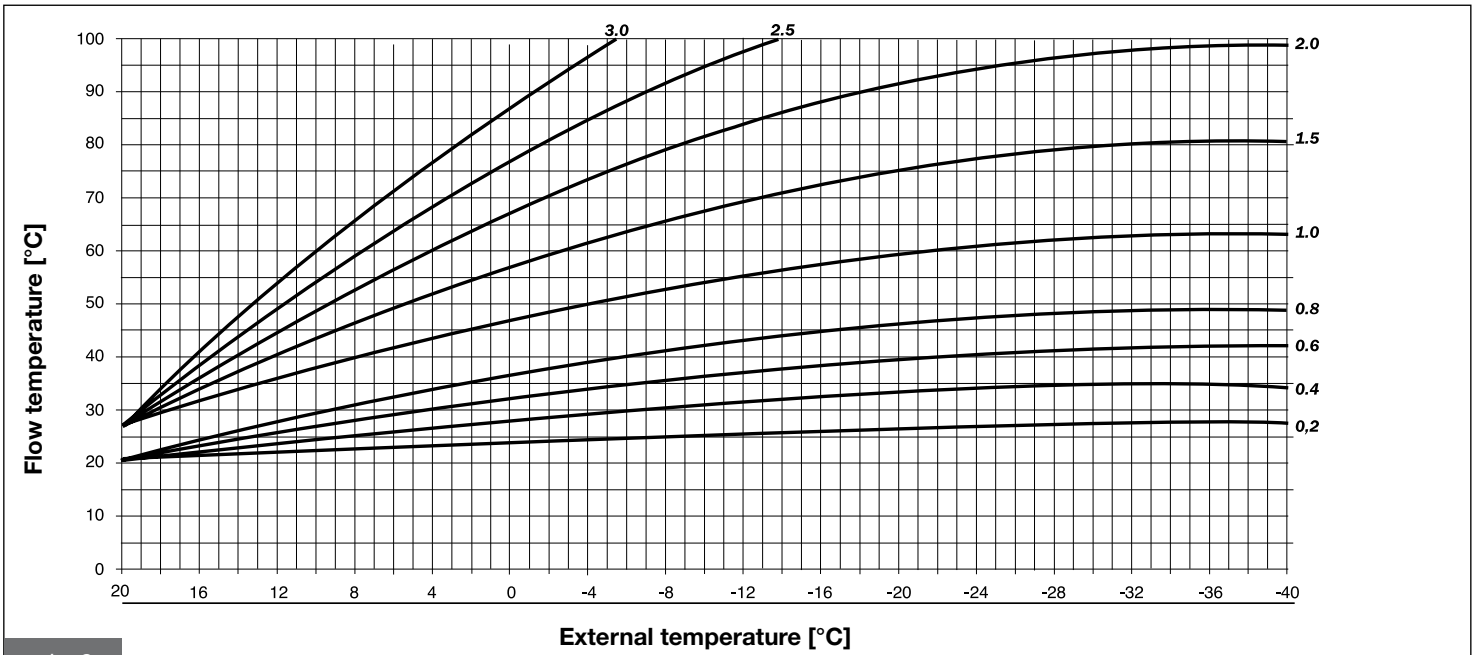
the boiler circulation pumps are activated for a short period every 24 hours to prevent them from shutting down.

1.5. Operation with an external probe

The boiler can be connected to an external temperature probe.
When the external temperature has been measured, the boiler automatically regulates the heating water temperature, increasing it when the external temperature drops and decreasing it when it rises, which improves comfort and saves fuel (this is referred to as sliding temperature operation).

The heating water temperature varies according to a program in the electronic control unit microprocessor.

Picture 2 shows the curves for a fictitious ambient temperature of 20°C.
When this value is increased or decreased on the control unit, the curves move up or downby the same amount, respectively.



pic. 2

With this setting, for example, if you select the curve corresponding to parameter 1 and the external temperature is -4°C, the flow temperature will be 50°C.

Only original external probes supplied by the manufacturer must be used.
If non-original external probes are used, correct operation of the external probe and the boiler cannot be guaranteed.

1.6. Boiler shutdown

The boiler shuts down automatically if a malfunction occurs.
Refer to Tables 1 and 2 to identify the boiler operating mode.
Refer to the table entitled Technical Inconveniences in section 6 to identify possible causes of the shutdown. The troubleshooting section is at the end of this manual.
Below is a list of kinds of shutdown and the procedure to follow in each case.

1.6.1. Burner shutdown

In caso di blocco del bruciatore per mancanza fiamma sul display LCD della caldaia compare il simbolo di blocco del bruciatore e il codice E01 lampeggiante. Questo codice compare anche sul display della centralina dell'impianto.

If this happens, proceed as follows:
- check that the gas cock is open and light a gas ring for example to check the gas supply;
- turn selector **2** on the boiler to the shutdown position for a few seconds and then to WINTER : mode to reset the burner. If the burner still fails to ignite after three attempts, contact an Authorised Service Centre or a qualified service engineer. In this case operation of the cascade system is guaranteed, bypassing the boiler that has shut down. When the problem has been solved, the boiler rejoins the cascade system.

If the burner shuts down frequently, it means there is a recurring malfunction, so contact an Authorised Service Centre or a qualified service engineer.

1.6.2. Shutdown due to overheating

If the water temperature is too high, the boiler will shut down. The burner shutdown symbol is displayed and code E02 flashes. This code also appears on the control unit display. Contact an Authorised Service Centre or a qualified service engineer.

1.6.3. Shutdown due to poor draught (flue gas shutdown)

If the air/flue gas system malfunctions, the boiler will shut down. The burner shutdown symbol is displayed and code E03 flashes (flue gas thermostat intervention). This code also appears on the control unit display
Contact an Authorised Service Centre or a qualified service engineer.

1.6.4. Shutdown due to insufficient water pressure

If the water pressure or circulation in the heating system is incorrect, the boilers will shut down.
The boiler shutdown symbol ⚠ is displayed and code E10 or E26 flashes, depending on the type of malfunction found.

If code E10 flashes, there are two possible causes:
a) **the pressure gauge shows a pressure below 1 bar**
Proceed as follows to fill the system:
- turn on the filling tap to allow water to enter the system;
- keep the tap open until the pressure gauge reads 1.5 bar;
- turn the tap clockwise to close it;
- wait until the error symbol disappears.

If the boilers shut down again, contact an Authorised Service Centre or a qualified service engineer.

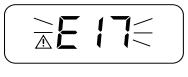
Make sure you close the tap carefully after filling, If otherwise the safety valve may activate when the pressure increases and discharge water.

b) **The pressure gauge (5 in Fig. 1) shows a pressure of 1.5 bar**
Contact an Authorised Service Centre or a qualified service engineer.

In the second case (code E26 flashing), contact an Authorised Service Centre or a qualified service engineer.

1.6.5. Shutdown due to boiler fan malfunction

Fan operation is monitored constantly. If there is a malfunction, the burner switches off, the boiler shutdown symbol ⚠ is displayed and code E17 flashes.
This status is maintained until efficient fan operation is restored.



If the boiler does not restart, contact an Authorised Service Centre or a qualified service engineer.

1.6.6. Alarm due to temperature probe malfunction

If the burner shuts down due to a malfunction of the temperature probe, the following flashing code is displayed on the boiler and control unit displays:
- E05 for the heating probe.
In this case the boiler will not work.

1.6.7. Alarm due to water heater external probe malfunction

If the water heater probe malfunctions, code E76 appears on the control unit display. In this case the system operates in heating mode only.
If the system is connected to an external water heater with a temperature thermostat, any failure to the thermostat is not detected by the boiler electronics.

Contact an Authorised Service Centre or a qualified service engineer.

1.6.8. Alarm due to control unit connection error

The control unit recognizes whether or not there are any boilers.
If the boiler does not receive any information from the control unit, the boiler shutdown symbol is displayed on the boiler ⚠ and code E22 flashes.

Contact an Authorised Service Centre or a qualified service engineer.

1.6.9. Alarm due to manifold probe malfunction

If the manifold probe malfunctions, code E78 is displayed on the control unit.
Contact an Authorised Service Centre or a qualified service engineer.

1.6.10. Alarm due to external probe malfunction

If the external temperature probe malfunctions, code E75 is displayed on the control unit. The system will continue to operate but the sliding temperature function will be disabled.

Contact an Authorised Service Centre or a qualified service engineer.

1.7. Maintenance

The system must be serviced periodically as indicated in the relevant section of this manual.
Correct maintenance of the system will allow it to work efficiently, safeguarding the environment, and in complete safety for persons, animals and property.

Maintenance and repairs must be performed by qualified personnel.

The user is strongly advised to have the system serviced and repaired by one of the manufacturer's fully qualified and authorised Service Centres.

Refer to Section 5 – Maintenance for detailed instructions.

The user may only clean the external casing of the boiler, using ordinary furniture cleaning products.
Do not use water.

1.8. Notes for the user

The user may only access parts of the boiler that can reached without using special equipment or tools. The user is not authorised to remove the boiler casing or to operate on any internal parts.
No one, including qualified personnel, is authorised to modify the boiler or the control cabinet.

The manufacturer cannot be held liable for damage or injury due to tampering with or improper intervention on the boiler or control cabinet. If the boilers remain inactive and the power supply is switched off for a long time, it may be necessary to reset the pumps.
This involves removing the case and accessing internal parts, so it must only be done by suitably qualified personnel.
Pump failure can be avoided by adding to the water filming additives suitable for multi-metal systems.

2. Anti-freeze protection

The boiler comes standard with an anti-freeze function that activates the pump and burner if any of the following situations occur:

- if the external probe measures a temperature of less than 0°C (default value, adjustable range from -15°C to +5°C), in which case the system switches on and runs until the nominal temperature is reached. The nominal temperature varies with the value measured by the external probe, the fictitious nominal ambient temperature (default value 5°C) and the selected heating curve;
- if the manifold probe reads a temperature of less than 5°C (default), in which case the system switches on and runs until a manifold temperature of 20°C is reached;
- if the flow probes of the single boilers measure a temperature of less than 5°C, in which case the system switches on and runs until a temperature of 30°C is reached or for 15 minutes.

The anti-freeze function can only be guaranteed if:

- the boiler is connected to the gas and electricity supplies;
- the boiler is supplied constantly;
- the boiler has not shut down due to ignition failure.

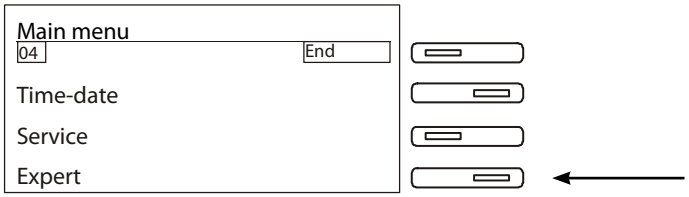
If the gas supply is interrupted or the boiler shuts down due to ignition failure, the system may freeze. To prevent this risk, the heating system needs to be protected by anti-freeze fluid, in accordance with the manufacturer's instructions.

3. Control unit setting

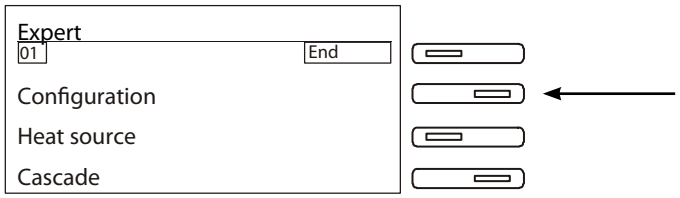
When starting up the system for the first time, it is advisable to set the control unit according to the following instructions.

System configuration

1. Press the HOME button to access the main menu of the control unit. Scroll through the main menu by turning the knob. Press the F key corresponding to the EXPERT line.



2. From the technical submenu, press the F key corresponding to the CONFIGURATION line.

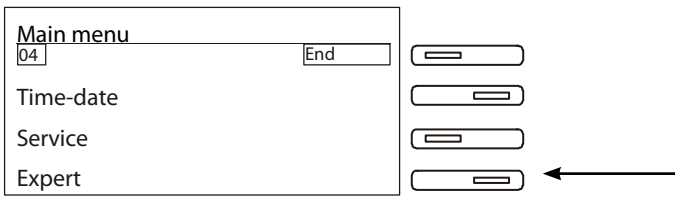


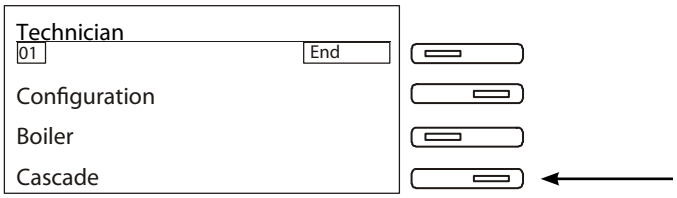
Enter the following recommended values in the configuration submenu:

Description	Set value	Mandatory value	
Change code	0000	0000	
BUS ID 1	01	01	
BUS ID 2	02	02	
BUS Termination	ON	Off	←
eBUS supply	ON	Off	←
Time master	Off	Off	
Plant select	----	----	
HS1 Type	03	06 (modulating boiler)	←
HS 1 BUS	00	01	←
HS2 Type	00	00	
Storage HS2	00	00	
Buffer	00	00	
Cool Operation	Off	Off	
F15 Function	00	00	
Sensor	Sens. 5k	Sens. 5k	

Cascade control values

1. Press the HOME button to access the control unit main menu. Turn the knob to scroll through the main menu.
Press the F key corresponding to TECHNICIAN.

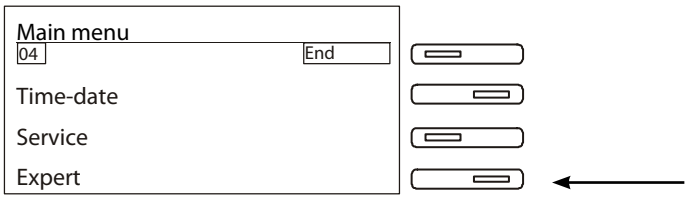




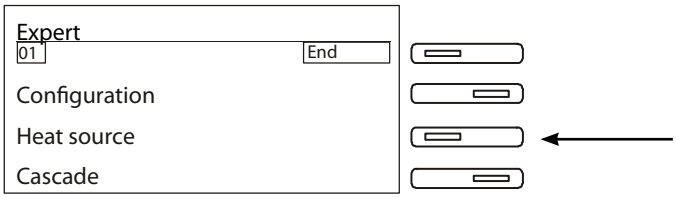
Description	Set value	Mandatory value
detected HSS		
Capacity/Stage	00 kW	Enter thermal output for each boiler
BUS scan	Off	Off
min Mod Cascade	00	00
DHW HS	00	00
Control Deviation		
Desired Output		
Switch value		
Block Time		
Max T-Module	90 °C	90 °C
Dyn Upward	100 K	100 K
Dyn Downward	100 K	100 K
Reset time	50	50
Modulation max	80 %	15 %
Modulation min	30 %	15 %
Min Mod HS	30 %	15 %
Modulat DHW	80 %	80 %
Sequence 1	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Sequence 2	8 7 6 5 4 3 2 1	8 7 6 5 4 3 2 1
Sequ change	01	01
Time Seq-Mod	0 ore	0 ore
Block time	00 min	00 min

Manifold temperature configuration

1. Press the HOME key to call up the main menu. Use the knob to schroll through the menu. Press the F key corresponding to TECHNICIAN.



2. In the Technician submenu, press the F key corresponding to BOILER



Enter the following recommended values in the Boiler submenu:

Description	Set value	Mandatory value
Max T-HS 1	85 °C	85 °C
Min T-HS 1	40 °C	40 °C
Min T-HS 2	40 °C	40 °C
Max T-Header	30 °C - 110°C	85 °C
Min T-Header	10 °C - 80°C	40 °C
Warm Up Temp	10 °C - 85°C	35 °C
Min Delimi	00, 01, 02	00
Hyst HS	2.0 k - 20.0 k	5.0 k
Hystheresis time	00 min - 30 min	00 min
Time Seq-Mod	00 - 800 ore	00 ore
Block-time	00 min - 30 min	00 min
Hyst burner 2	2 k - 20 k	2 degrees
Gradient	On/Off	Off
Max reduce	1 - 20 k	10 K
Dyn cutoff	0,5 K/min -10 K/min	2 K/min
HS Cool-fct	Off/On	Off
T-HS Cool	30 °C - 120 °C	90 °C

3.1. Connecting the control cabinet to the power mains

The control cabinet comes with three-pole power cable, one end of which must be connected to the 0CIRCSTA16 interconnection board, as shown in pic. 3, and secured by a clamping system.

It must be connected to a 230V-50Hz power supply.
Make sure the live and neutral wires are connected correctly.

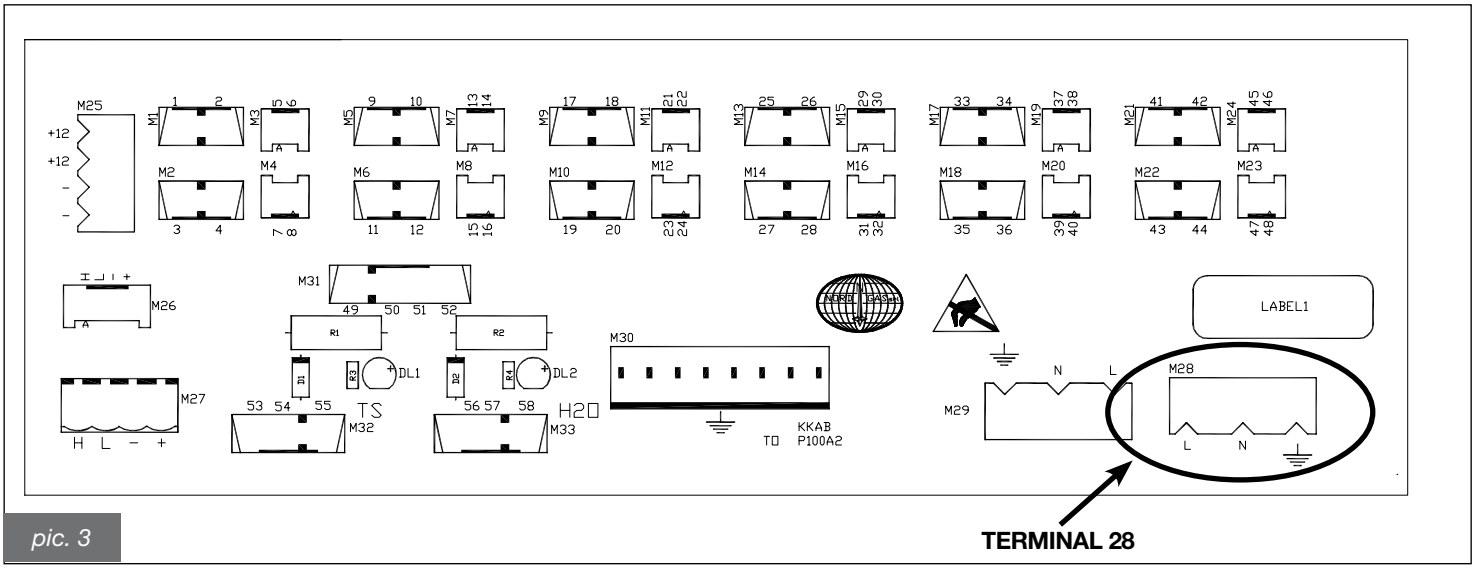
Follow the instructions for installation in the country of use, which are considered as an integral part of this handbook.

An easy-to-access two-pin switch with at least 3mm between the contacts must be installed before the control cabinet to cut off the power supply before performing maintenance operations.

The system's power line must be protected by a differential magneto-thermal switch of suitable breaking capacity.

The power supply must be safely earthed. This vital safety requirement must be verified. If you are in any doubt, have the electrics checked carefully by a fully qualified electrician.

The manufacturer declines all liability for damage or injury caused by failure to earth the system properly.
Gas, water and central heating pipes must not be used for earthing purposes.



pic. 3

3.2. Connecting the control cabinet to the boilers

The control cabinet comes with corrugated cables for connection to the boiler. Each cable is marked by a number. The boiler to which cable 1 is connected is recognised by the control unit by boiler 1. Connecting a cable to a boiler involves accessing the inside of the electrical box. To do this, proceed as follows:
- unscrew two of the four screws securing the case, either the two on the right and two on the left;
- open the case;
- remove the mask from the control panel by pressing on the hooks on the right and left and pulling outwards;
- unscrew the three screws securing the box to the base of the boiler.

Connect terminal M3 and the earth wire to the boiler board, and terminal M6 to the 0SCHEREM00 board, as shown in pic.4.

Proceed as follows when replacing the electronic board of any boiler.
Connect the 0CREMOTO05 Remote Control (not supplied with the boiler) to terminal M6 of the 0SCHEREM00 board.
Press the key to switch the Remote Control to OFF.

Press Set and hold them down until TSP is displayed.

Press to confirm. The display reads TSP0. Turn knob to select TSP1.

Press to modify the value: the value associated with this parameter starts to flash.

Turn knob to modify the value and enter 196 for 55kW boilers and 202 for 85kW boilers.

Press to record the value. Turn knob to select TSP2.

Press to modify the value: the value associated with this parameter starts to flash.

Turn knob to modify the value and enter 61 for 55kW boilers and 59 for 85kW boilers.

Press to record the value. Turn knob to select TSP3.

Press to modify the value: the value associated with this parameter starts to flash.

Turn knob to modify the value and enter 90 for 55kW boilers and 105 for 85kW boilers.

Press to record the value. Turn knob to select TSP4.

Press to modify the value: the value associated with this parameter starts to flash.

Turn knob to modify the value and enter 100.

Press to record the value. Turn knob to select TSP7.

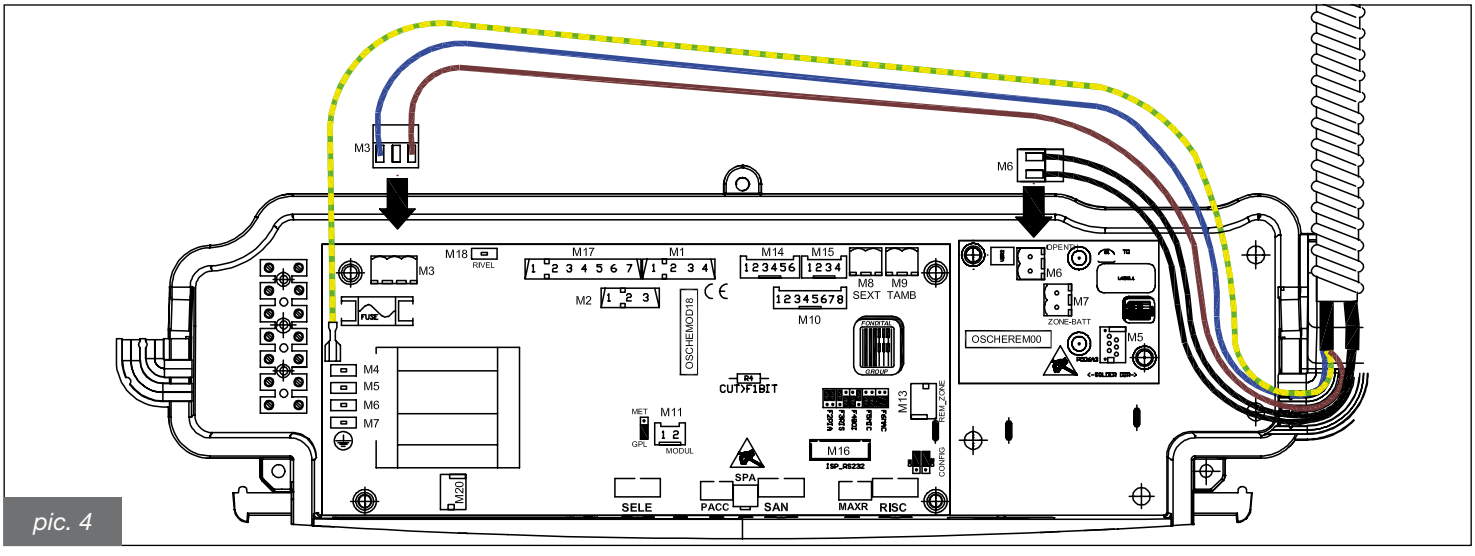
Press to modify the value: the value associated with this parameter starts to flash.

Turn knob to set the value to 0.

Press to record the value.

Press Reset to exit the configuration mode.

When you have done, disconnect the Remote Control. Then connect the wire from the control unit to terminal M6, as shown in pic. 4.
These instructions refer to a single boiler, so the whole procedure must repeated for each of the boiler in the system.



pic. 4

3.3. Connecting to the external probe and sliding temperature operation

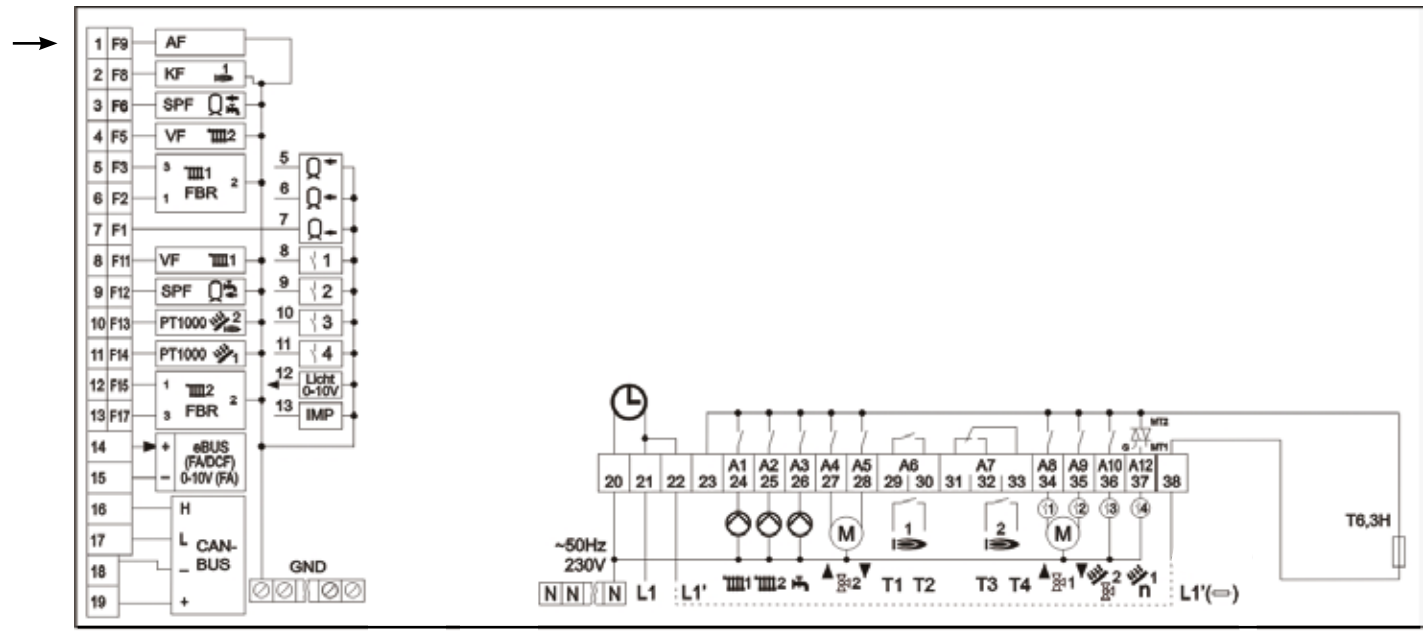
The control unit can be connected to a external temperature probe for sliding temperature operation.

Only original probes supplied by the manufacturer must be used.
Correct operation of the probe and boiler cannot be guaranteed when using non-original probes.

The external temperature probe must be connected using a cable with dual insulation with a minimum cross-section of 0.35mm^2.
The external probe must be connected to terminals 1 **F9** and **GND** on the control unit (pic.5).
The cables of the probe must NOT be sheathed together with the power supply cables.

The external probe must be installed on a wall facing NORTH or NORTH-EAST in a position protected from atmospheric agents.
Do not install it in a window opening or near ventilation openings or sources of heat.

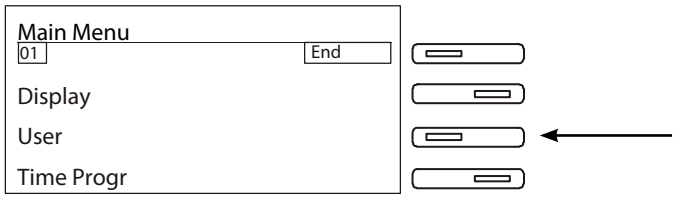
The external temperature probe automatically adjusts the central heating flow temperature based on the following:
- the measured external temperature;
- the selected thermoregulation curve;
- the set fictitious ambient temperature.



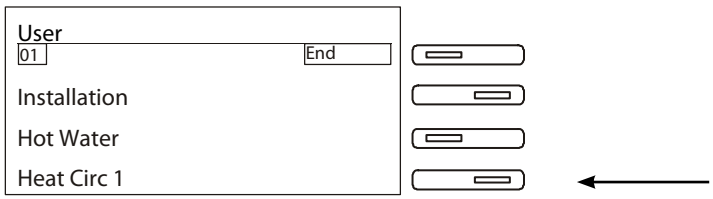
pic. 5

The thermoregulation curve is selected on the control unit.

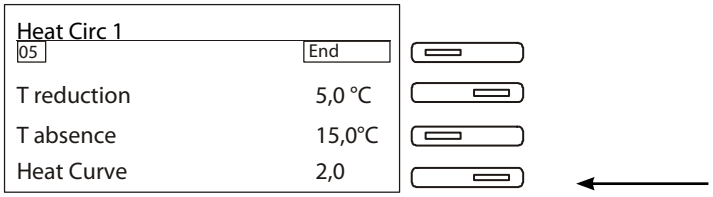
To set the heating curve, press the HOME button to call up the main menu. Use the knob to scroll through the menu. Press the F key corresponding to USER.



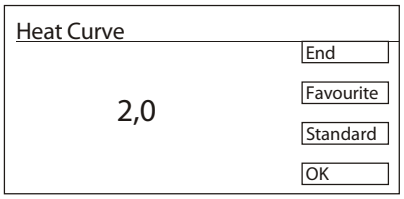
After entering the User submenu, press the F key corresponding to HEAT CIRC 1.

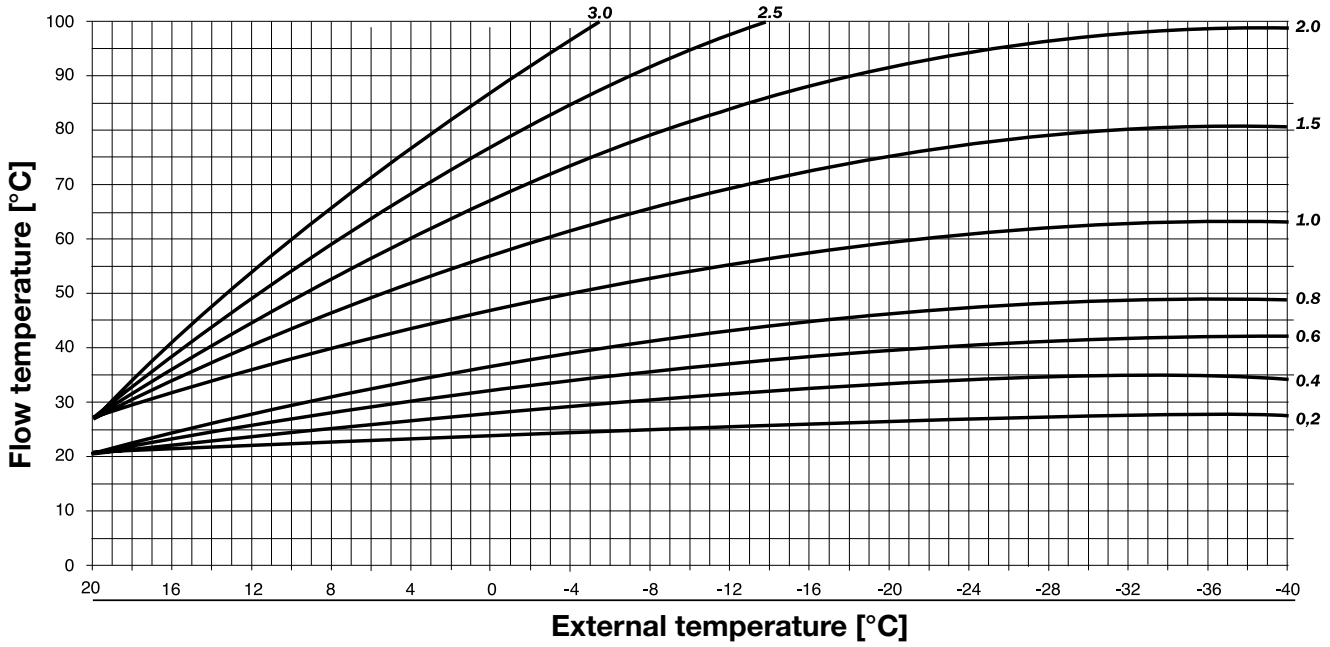


From the HEAT CIRC 1 submenu, press the F key corresponding to HEAT CURVE



Turn the knob clockwise or anticlockwise to set the temperature curve, then press the F key corresponding to OK.

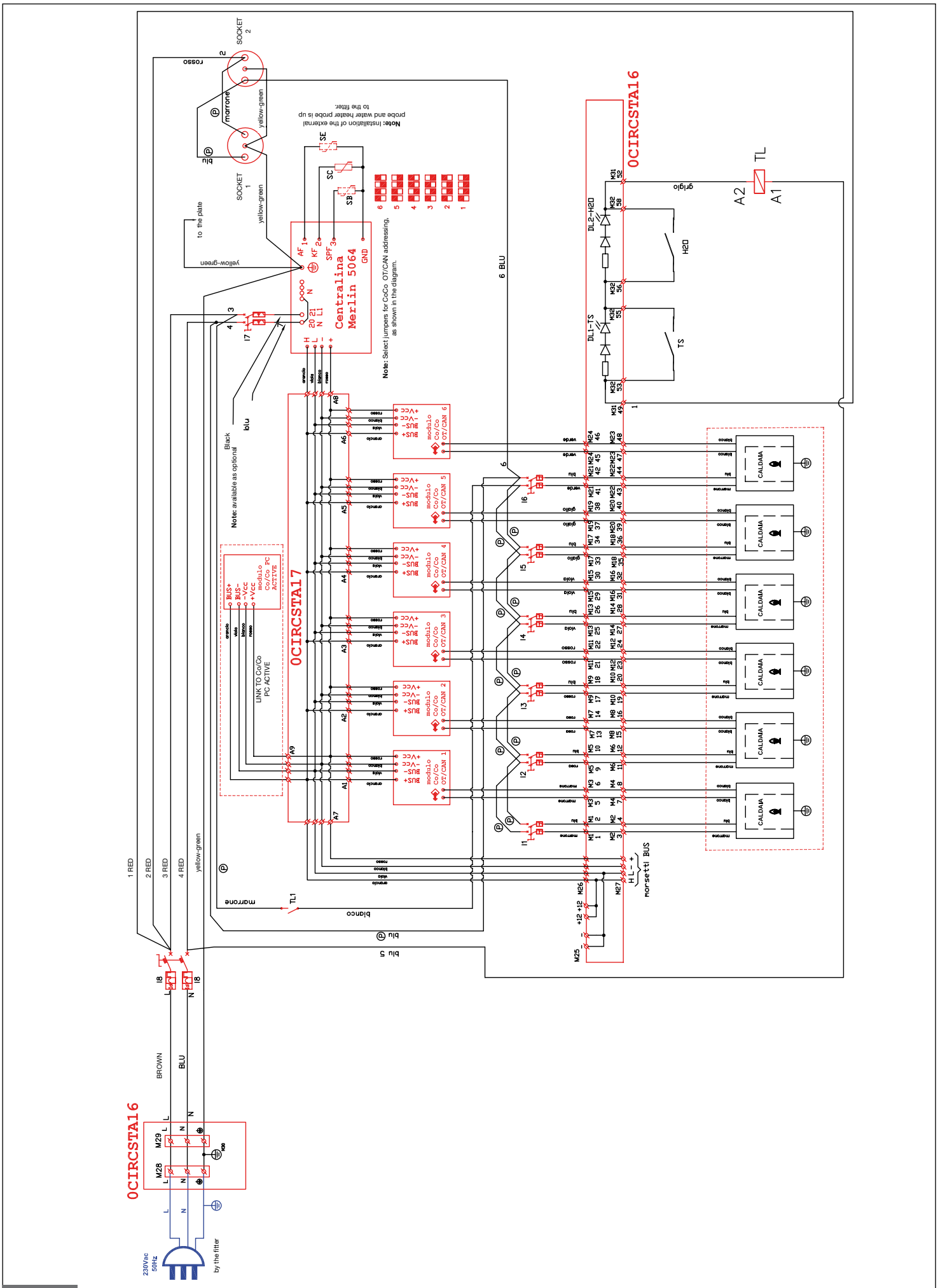




pic. 6

The above curves, which refer to an ambient temperature of 20°C, are always limited between a maximum and minimum value in the heating range.

3.4. Standard control cabinet



pic. 7

COMMUNICATION ERRORS

ERROR	DESCRIPTION
E 90	Address 0 and 1 in BUS. BUS 0 and 1 codes cannot be used simultaneously.
E 91	BUS address occupied. The set BUS code is already used by another appliance.
E 200	Boiler 1 communication error.
E 201	Boiler 2 communication error.
E 202	Boiler 3 communication error.
E 203	Boiler 4 communication error.
E 204	Boiler 5 communication error.
E 205	Boiler 6 communication error.
E 206	Boiler 7 communication error.
E 207	Boiler 8 communication error.

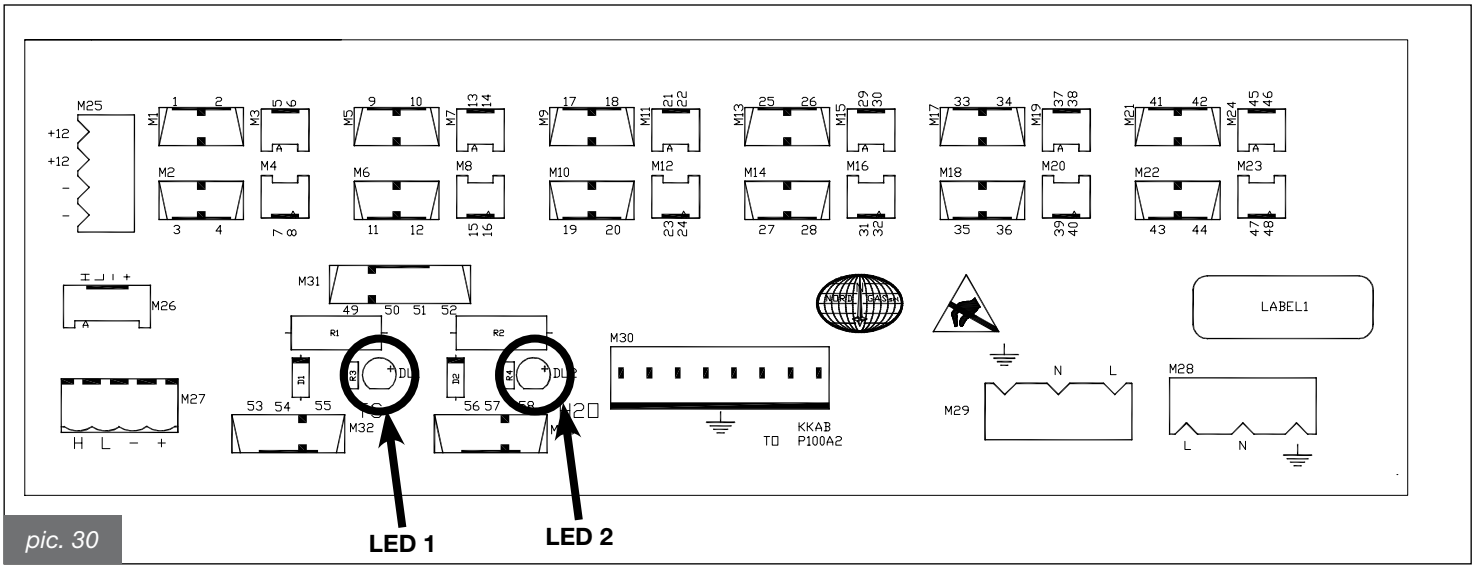
INTERNAL ERRORS

ERROR	DESCRIPTION
E 81	EEPROM error. The non-valid value has been replaced by the standard value. ⚠ Check the parameter values.

PROBE ERRORS

ERROR	DESCRIPTION
E 69	F5: boiler 2 flow probe.
E 70	F11: boiler 1 flow probe, multi-purpose probe 1
E 71	F1: buffer below probe
E 72	F3: buffer above probe
E 75	F9: external probe
E 76	F6: tank probe
E 78	F8: boiler probe / manifold probe (cascade)
E 80	boiler 1 ambient probe, F2: buffer at the centre of the probe
E 83	boiler 2 ambient probe, F15: swimming-pool probe (water heater 3)
E 135	F12: water heater probe, multi-purpose probe 2
E 136	F13 (PT1000): boiler 2, manifold 2, multi-purpose probe 3
E 137	F14 (PT1000): manifold 1, multi-purpose probe 4

The entire system may shut down if the pressure switch and/or the safety thermostat cut in. The error is displayed by two LEDs on the interconnection board (0CIRCSTA16) inside the control cabinet.

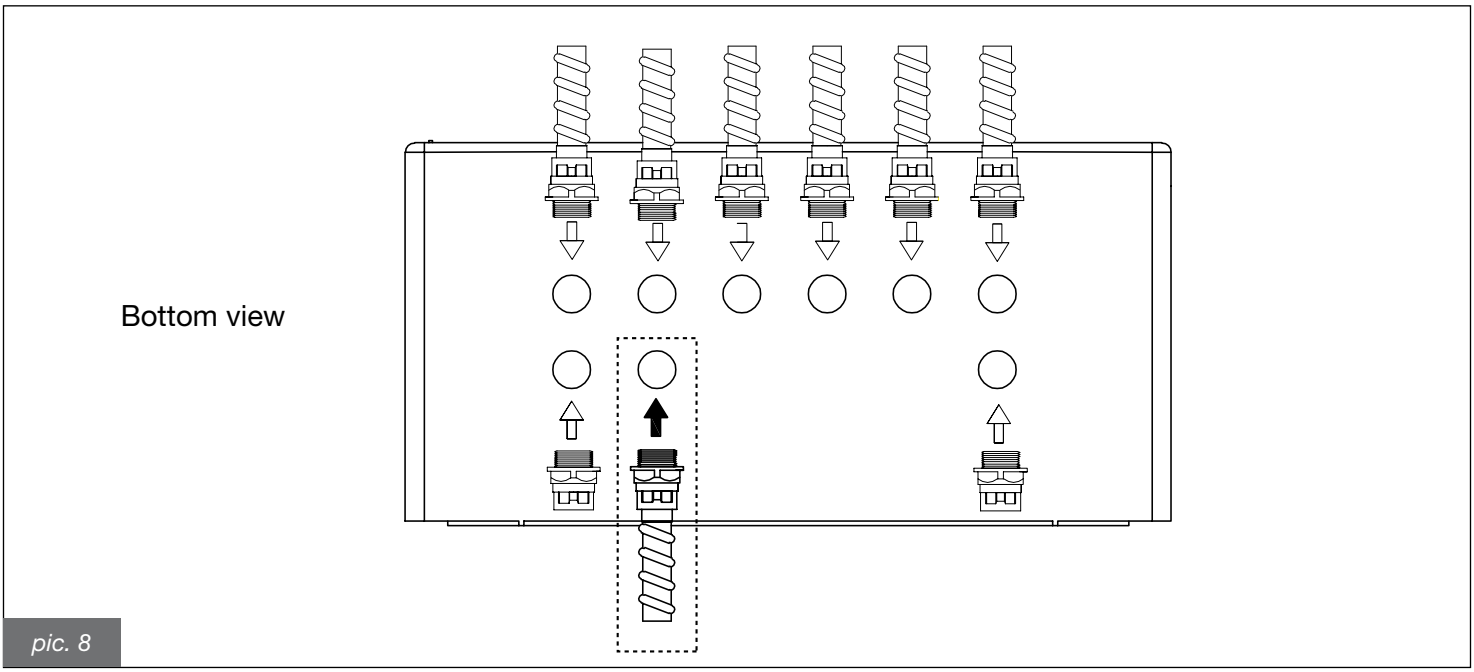


pic. 30

LED 1 corresponds to safety thermostat shutdown.
LED 2 corresponds to safety pressure switch shutdown.
Both can be reset manually.

Connecting the safety pressure switch and thermostat

The control cabinet shown in Pic. 8 contains the cables to be connected to the safety pressure switch and thermostat.

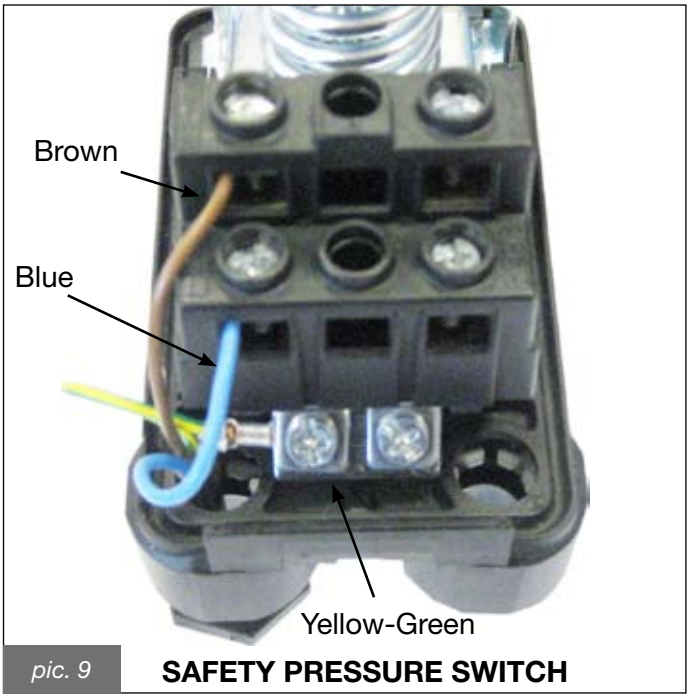


pic. 8

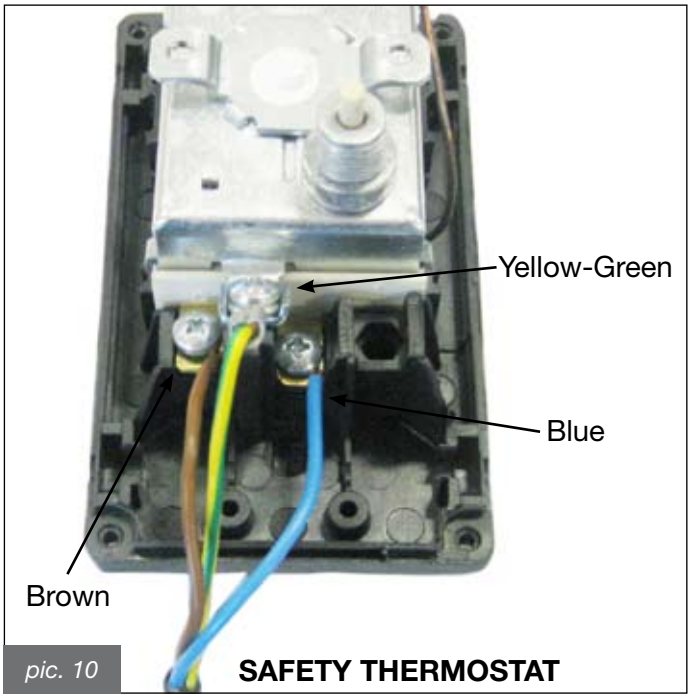
At the other end are two cables marked as follows:

TS	for connection to the safety thermostat
H_2O	for connection to the safety pressure switch

Connect the wires as shown in Pics. 9 and 10.



pic. 9 **SAFETY PRESSURE SWITCH**



pic. 10 **SAFETY THERMOSTAT**

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