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# NAVISTEM B2000

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## CONTROL PANEL FOR CLASSIC BOILERS



Document No. OTA0Z0110-C / 01.02.2018

FR

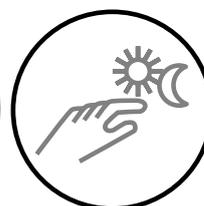
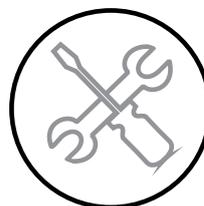
EN

DE

ES

IT

NL



**Instructions  
for installation,  
use and  
maintenance**



**MANUFACTURER:**  
**GROUPE  
ATLANTIC**  
**SITE DE CAUROI**

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# 1. WARNINGS AND COMPLIANCE

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## Unpacking and reservations

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With the carrier present, carefully check the general appearance of the packaging and of the control panel. If in doubt, do not use the appliance.

In the case of any dispute, state any appropriate reservations to the carrier in writing within 48 hours and send a copy of this letter to the After-Sales service.

## Storage

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The control panel:

- must be arranged horizontally in a place where the temperature is between 0°C and +50 °C
- must be protected from humidity.

## Symbols used in this document

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**INFORMATION:** This symbol draws attention to comments.



**WARNING:** Failure to comply with these instructions may cause damage to the installation or to other objects.



**DANGER:** Failure to comply with these instructions may cause injury and serious material damage.



**DANGER:** Failure to comply with these instructions may cause electrocution.

## Compliance with European Directives

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### Low voltage (2006/95/CE)

- This appliance complies with all requirements of low voltage directive EN60730-1 + EN60730-2-9.
- This appliance is not intended for use by persons (including children) whose physical, sensory or mental abilities are reduced, or persons without experience or knowledge, unless they have been able to benefit, through someone responsible for their safety, from supervision or prior instruction concerning the use of the appliance.
- Children must be supervised to ensure they do not play with the appliance.

**Electromagnetic compatibility (2004/108/CEE)**

- This appliance conforms with all requirements of the electromagnetic compatibility directive EN61000 - 6 - 1, EN61000 - 6 - 3.
- This is a class A appliance. In a residential environment, this appliance may cause radio-electric interference. In this case, the user may be asked to take appropriate measures.

**Environmental compatibility**

- This appliance contains electrical and electronic elements which must not be thrown away with household waste.
- Local legislation must be complied with.

## Installation and maintenance rules

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The control panel must be installed and maintained by an approved professional in accordance with the prevailing regulations and code of practice, in particular:

- Comply with rules in force and with specific instructions and norms applicable in the country of installation.

**WARNING:**

The control panel is classified as an appliance which is not accessible to the public (closed electrical operating zone).

**WARNING:**

The control panel must only be used for the purpose for which it was designed; any other use must be considered inappropriate and therefore dangerous.

**WARNING:**

The appliance must be sheltered from rain, snow and frost.

**DANGER:**

The control panel and the heat regulators inside it cannot be exposed to temperatures higher than 45°C when in operation.

**INFORMATION:**

This product must be assembled, used and maintained in compliance with the information provided in these technical instructions.

**DANGER:**

Always turn the control panel off before carrying out any work on it.

**DANGER:**

Always turn the control panel off before carrying out any work on the burner, boiler or other heating elements (pumps, valves, etc.) controlled by the control panel.

## 2. TECHNICAL SPECIFICATIONS

### 2.1. General

The NAVISTEM B2000 control commands the boiler's burner and heating circuits depending on the installation. All elements of the installation can thus be handled and commanded easily from one place.

The control panel's capacities can be increased by adding accessories:

- Additional heating regulator RVS46 (+ display AVS37)

### 2.2. Dimensions

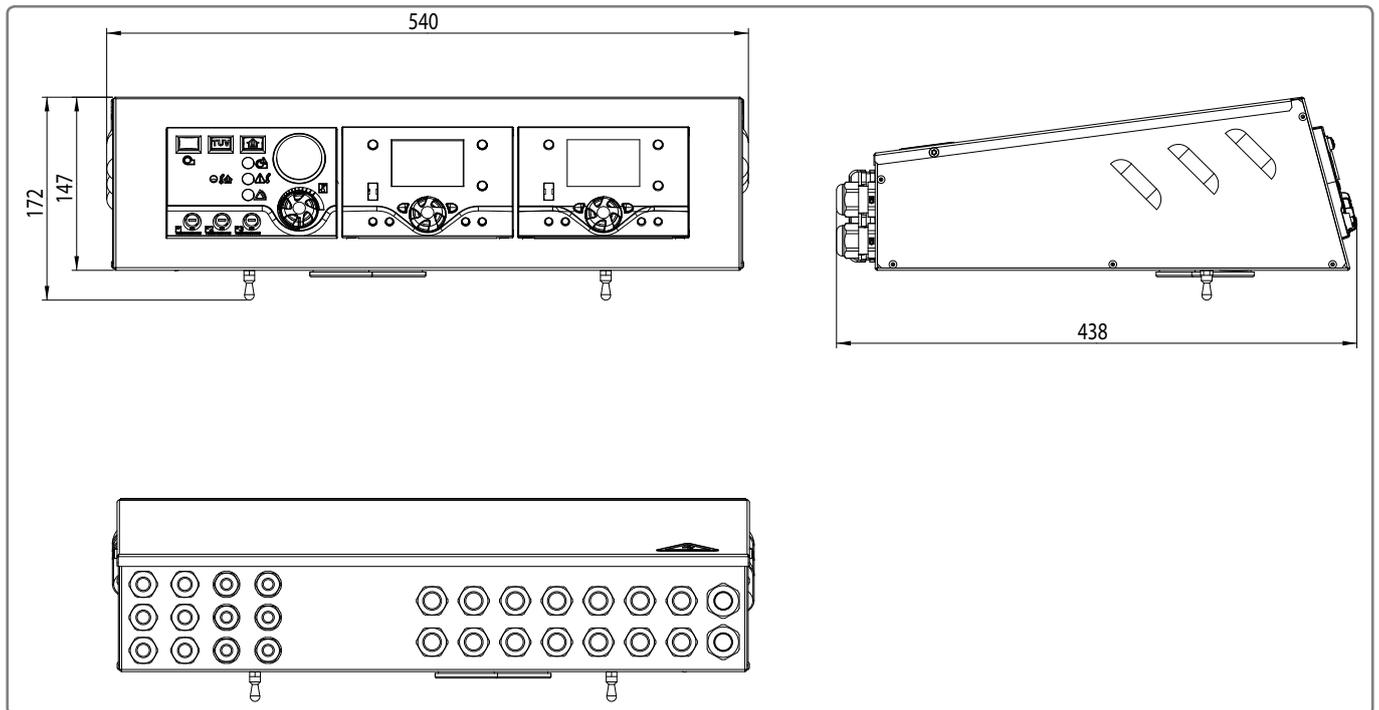


figure 1 - Dimensions (in mm)

### 2.3. Delivered unit

- Sheet metal casing
- Thermostat module
- Heating regulator RVS63
- Boiler sensor
- Instructions for servicing, installation and technical guidelines
- Electrical diagram
- Instructions for regulator RVS63
- Assembly kit (screws)

## 2.4. Technical data

<b>Name of manufacturer</b>	YGNIS INDUSTRIE
<b>Unique reference</b>	NAVISTEM B2000
<b>Single-phase power supply</b>	230 VAC 50Hz
<b>Rated current</b>	16 A
<b>Casing protection index</b>	IP20
<b>Reference operating temperature</b>	T45
<b>Degree of pollution</b>	Degree of pollution II
<b>Protection index</b>	Class I (surge voltage = 800 V)
<b>Safety thermostat</b>	110°C Maximum Temperature (+0/-9°C)
<b>Burner thermostat setting at speed 1</b>	35...95°C (+/3°C). To set to the maximum value of 95°C
<b>Burner thermostat setting at speed 2</b>	Inactive for a NAVISTEM B2000 control panel
<b>Electrical consumption</b>	Depends on appliances plugged in (burners, pumps, mixing valves)
<b>Maximum installation altitude</b>	2,000 m
<b>Relative humidity</b>	5 to 95%
<b>Terminal output power</b>	Voltage: 230V AC (+10%/-15%) Amperage: 5 mA to 2 A.
<b>GWFI plastic interface</b>	550 °C
<b>Type of printed circuit board(s) coating</b>	EPOXY FR4 FT glass
<b>Other technical data</b>	See instructions for regulator RVS63


**WARNING:**

The control thermostat must be set to its maximum setting to avoid interference with the electronic regulator RVS63.

## 2.5. Thermostat module

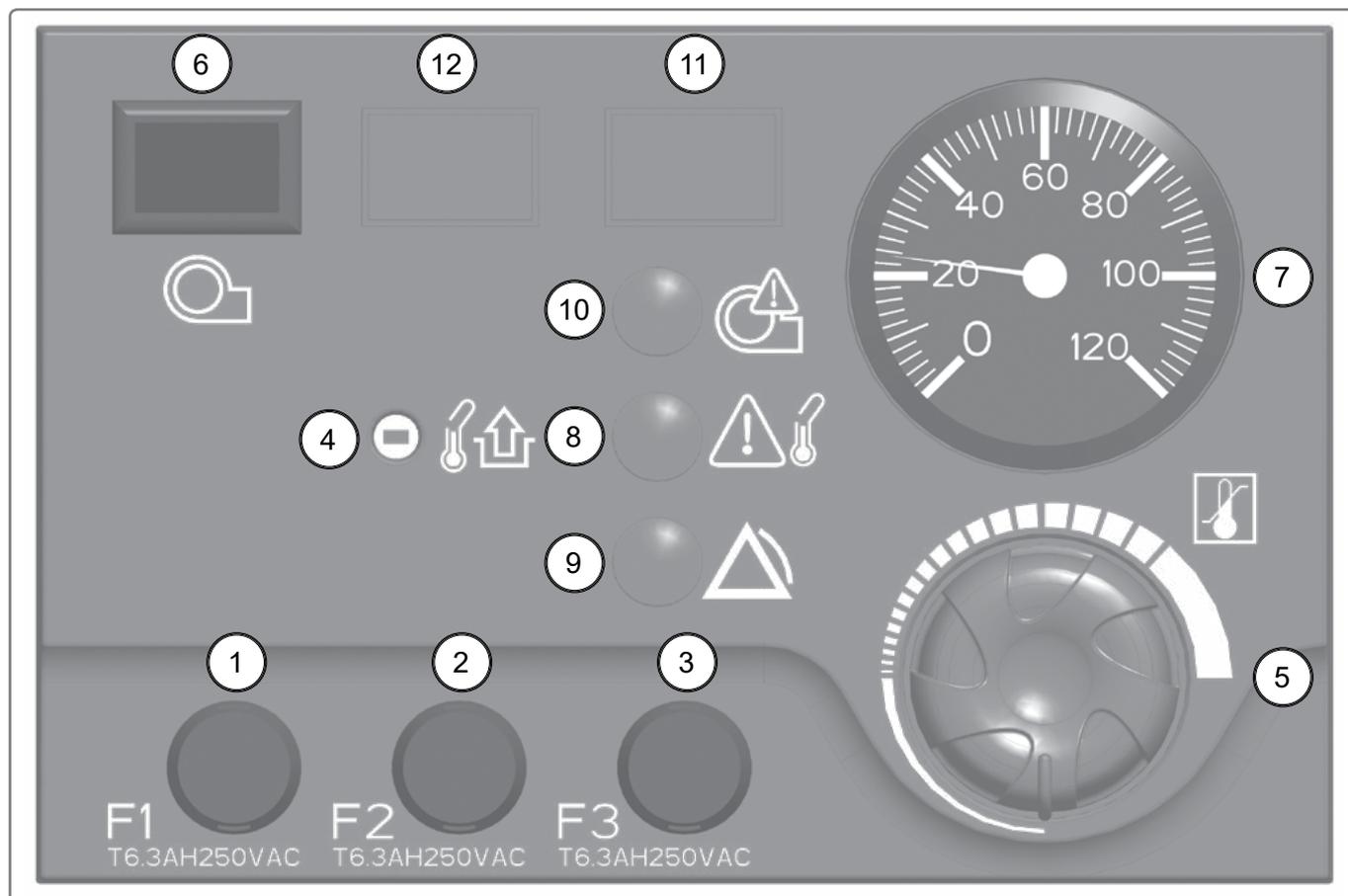
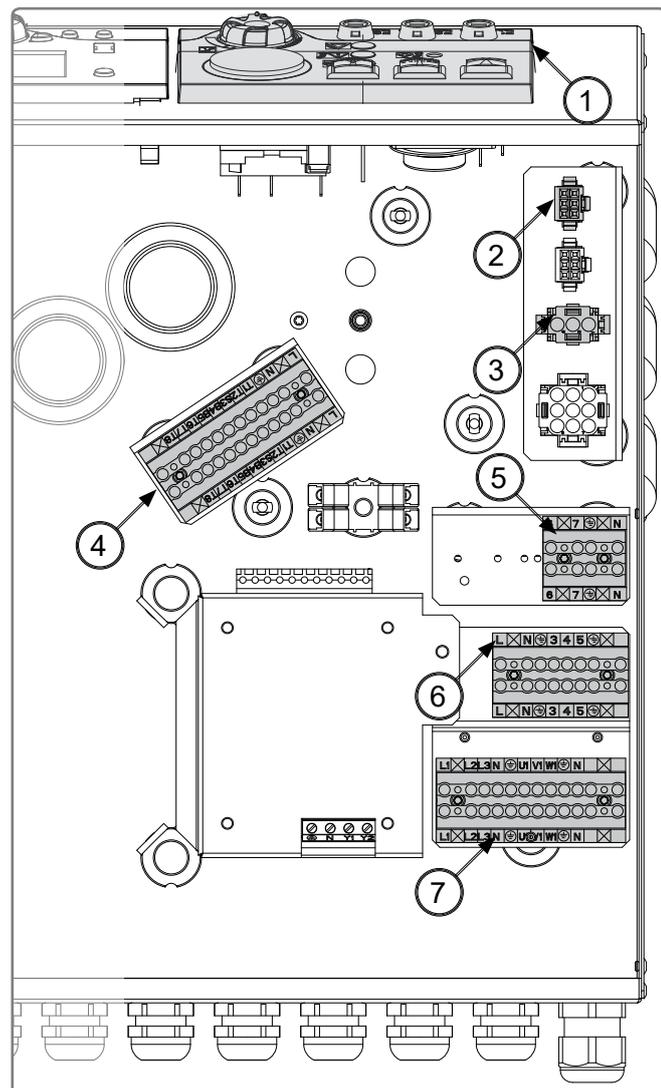


figure 2 - Thermostat module

### Legend

- 1: F1: 6.3 AH 250 V AC Burner / Boiler fuse
- 2: F2: 6.3 AH 250 VAC Heating regulator fuse (RVS63)
- 3: F3: 6.3 AH 250 V AC additional heating regulator fuse(sold as an accessory)
- 4: Safety thermostat (reset button)
- 5: First speed and second speed control thermostat (inactive on a NAVISTEM B2000 control panel).
- 6: ON / OFF switch for burner power supply
- 7: Thermometer: indication of the boiler's temperature
- 8: LED indicating a problem with the safety thermostat (boiler temperature too high)
- 9: LED indicating an external problem
- 10: LED indicating a problem with the burner
- 11: Position for the burner's remote reset button (optional)
- 12: Position for TUV switch (optional)

## 2.6. Basic control panel equipment



- 1: Thermostat module
- 2: Connector for alarm relay board
- 3: Additional power supply connector RVS46
- 4: Burner connection terminal
- 5: Connection terminal to release the burner's operation
- 6: Power supply and connection terminal of safety devices specific to the installation
- 7: Accessory terminal for three-phase burner power supply (not included with control panel. To be ordered as an accessory).

figure 3 - Basic control panel equipment

## 2.7. Regulation/Regulator

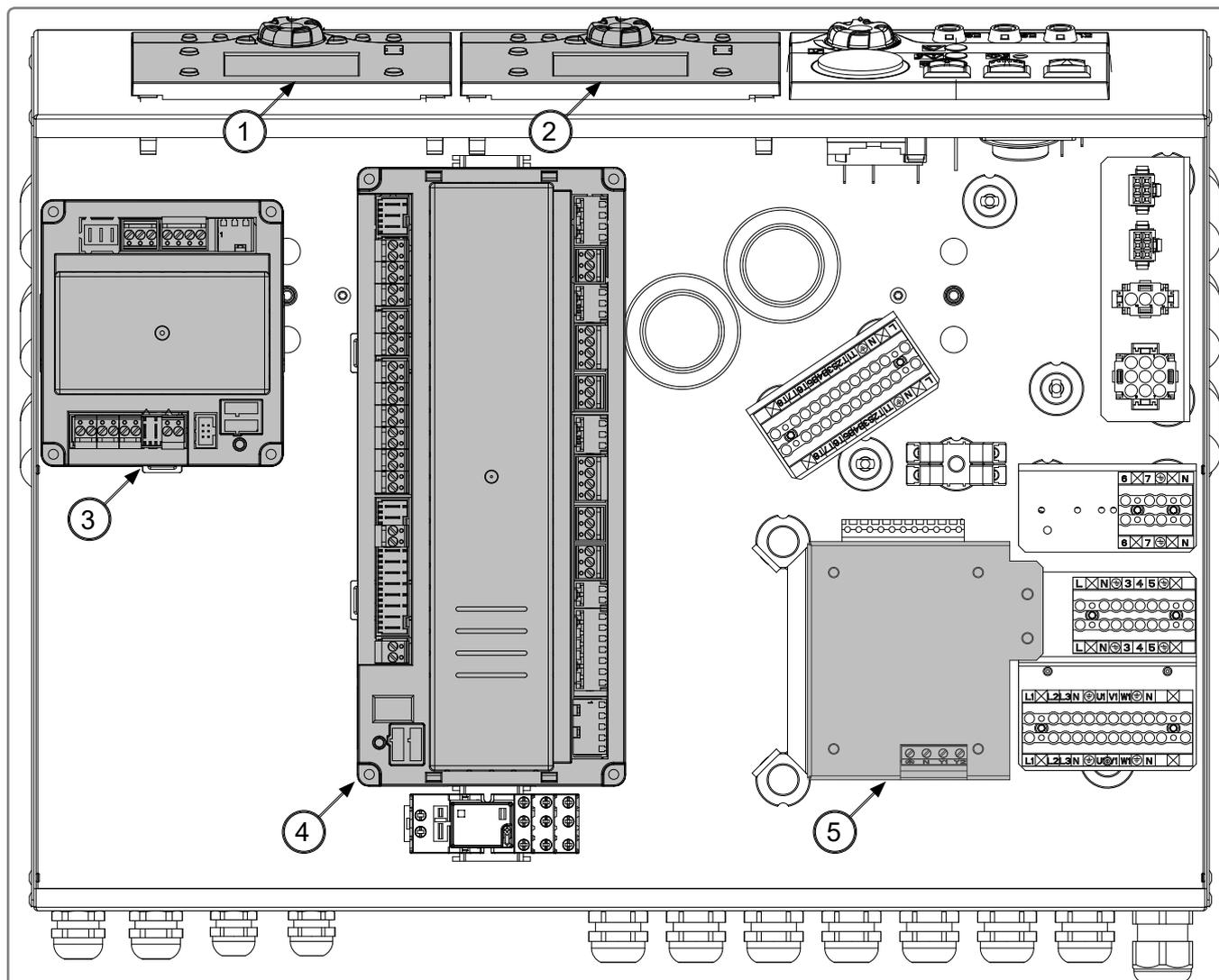


figure 4 - Regulation/Regulator

- 1: Display AVS37 (supplied with accessory RVS46)
- 2: Display AVS37 (basic NAVISTEM B2000 control panel equipment)
- 3: Additional regulator sold as accessory RVS46 (with display)
- 4: Regulator RVS63 (basic NAVISTEM B2000 control panel equipment)
- 5: Regulation electronic board (basic NAVISTEM B2000 control panel equipment)

### 2.7.1. Heating regulator RVS63 + display AVS37

The regulator allows the following:

- Command of a one-speed, two-speed or modulating burner
- Command of a direct heating circuit
- Command of two heating circuits or one heating circuit and one mixing valve protecting the heat exchanger return temperature
- Command of domestic hot water preparation
- Cascade with one or more other boilers fitted with a SIEMENS regulator (LPB communication bus).

**WARNING:**

The RVS 63 regulator is protected with a 6.3 A fuse. The total load of the consuming elements (pumps, mixing valves, isolation valves, etc.) connected to this regulator must not be more than 6.3 A.

**WARNING:**

The maximum amperage on each of the commanded outputs must not be more than 2 A. The heating regulator relays cannot accept a higher load.

**DANGER:**

Users of the NAVISTEM B2000 control panel must follow the precautions of use indicated in the instructions of the RVS63 regulator included with this additional accessory.

**INFORMATION:**

The electrical connection diagrams (pumps, valves, temperature sensors, etc.) are provided in accordance with the installation's hydraulic configuration, see « Hydraulic diagrams and configurations ».

### 2.7.2. NAVISTEM B2000 regulation board

This board allows the following:

- connection of an isolation valve or boiler pump
- sending of a summary of errors to the RVS63 regulator

**WARNING:**

The maximum amperage on each of the commanded outputs must not be more than 2 A. The regulation board relays cannot accept a higher load.

### 2.7.3. Additional heating regulator RVS46 (+ display AVS37)

Regulator not included in the basic control panel (sold as an additional accessory)

- Slave heating regulatory enabling a heating circuit with mixing valve to be commanded.
- A mixing valve protecting the return temperature: protection against condensation in the stainless steel heat exchanger when the RVS63 outputs are already being used to manage two heating circuits.

**WARNING:**

The RVS 46 regulator is protected with a 6.3 A fuse. The total load of the consuming elements (pumps, mixing valves, isolation valves, etc.) connected to this regulator must not be more than 6.3 A.

**WARNING:**

The maximum amperage on each of the commanded outputs must not be more than 2 A. The heating regulator relays cannot accept a higher load.

**DANGER:**

Users of the NAVISTEM B2000 control panel must follow the precautions of use indicated in the instructions of the RVS63 regulator included with this additional accessory.

**INFORMATION:**

The electrical connection diagrams (pumps, valves, temperature sensors, etc.) are provided in accordance with the installation's hydraulic configuration, see « Hydraulic diagrams and configurations ».

## 3. INSTALLATION

### 3.1. Installation of the control panel



**WARNING:**

The control panel must be fitted and installed in the position intended for this on the boiler.

#### 3.1.1. Opening the control panel

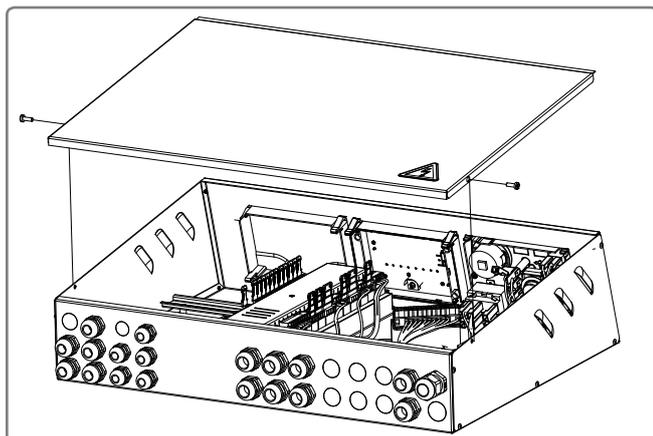


figure 5 - Opening the control panel

Remove the screws on the cover.



**DANGER:**

Keep the screws from the control panel's cover. They are specific and ensure grounding continuity.

#### 3.1.2. Fitting above the boiler

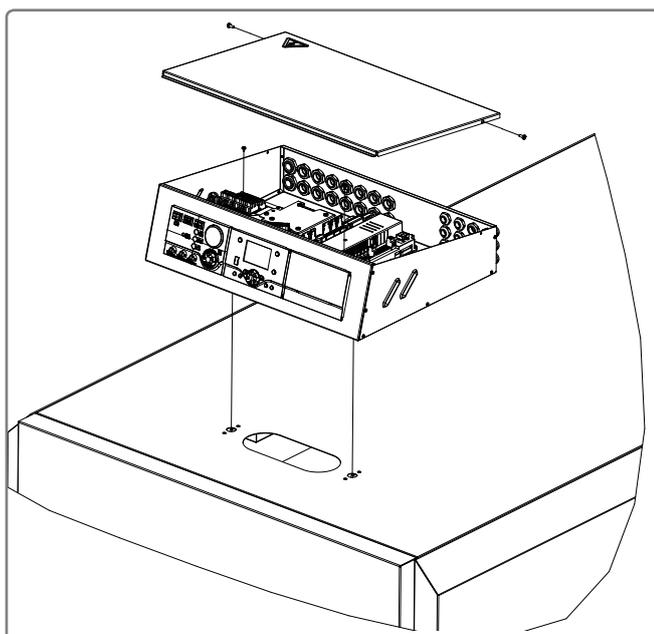


figure 6 - Fitting the control panel

- Pass the three capillaries (thermometer, control thermostat, safety thermostat) through the oblong hole on the boiler's upper jacket.
- Pass the boiler flow sensor through the same oblong hole.
- After installing the capillaries, clip the control panel to the boiler's upper jacket using studs.
- Fit the control panel to the boiler's upper jacket using the sheet metal screws included.

### 3.1.3. Fitting to the side of the boiler

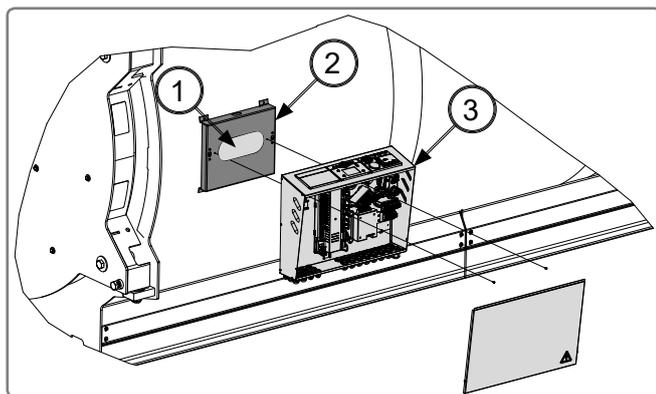


figure 7 - Fitting the control panel

- Pass the three capillaries (thermometer, control thermostat, safety thermostat) through the oblong hole 1 on support 2.
- Fit the control panel 3 with the studs to support 2 fitted on the boiler's side jacket.
- Fit the control panel to the support on the boiler's side jacket using the sheet metal screws included.

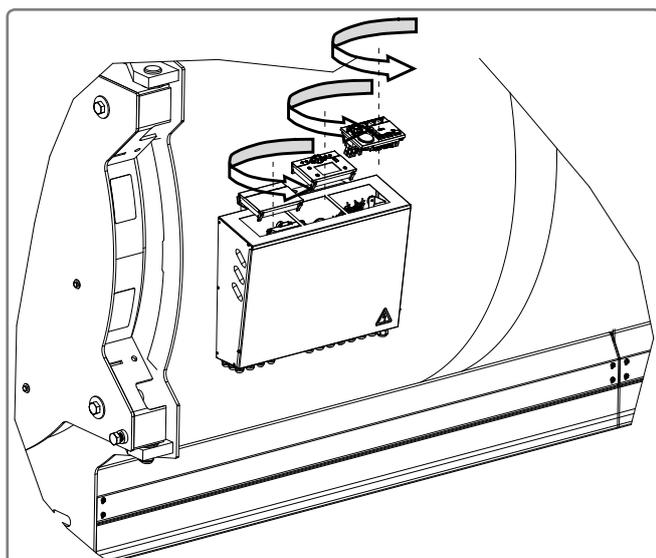


figure 8 - Rotation of the interfaces

- Rotation of the interfaces so that they can be read by the user



**WARNING:**

Follow the direction of rotation indicated on the diagram above (anti-clockwise)

## 3.2. Fitting sensors (bulbs or flow sensors)

### 3.2.1. Tri-lobal thimble

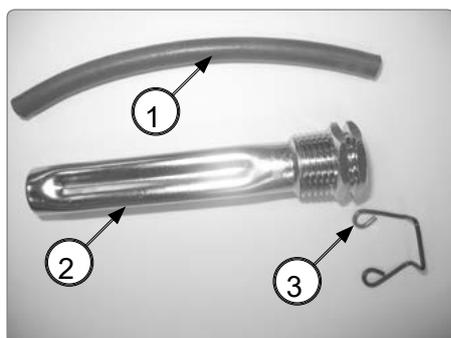


figure 9 - Tri-lobal thimble

- 1 Foam seal Ø 8
- 2 Tri-lobal thimble
- 3 Staple

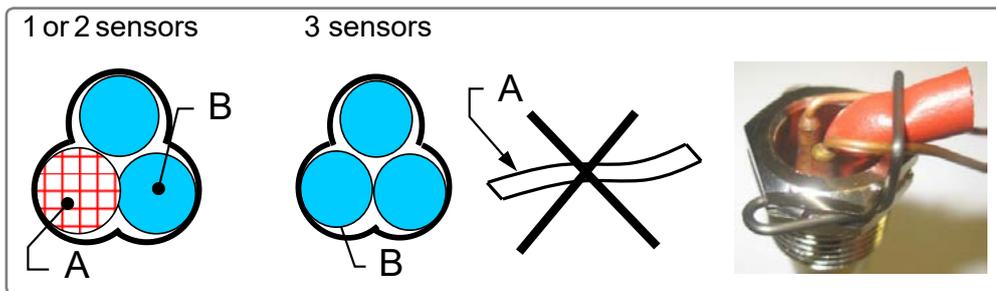


figure 10 - Installation of sensors

A: Foam seal Ø 8 mm

B: Sensor

- To get a correct temperature reading, insert the sensors with the Ø 8 mm foam seal.
- The minimum curve radius of the capillaries is 5 mm.
- After installing, block the sensors with the staple included in the thimble unit.



**DANGER:**

Do not fill the protective tubes with oil. Do not use heat conducting paste or similar products.



**WARNING:**

Do not damage or deteriorate the capillaries when fitting.

### 3.2.2. LRP NT plus - LRP

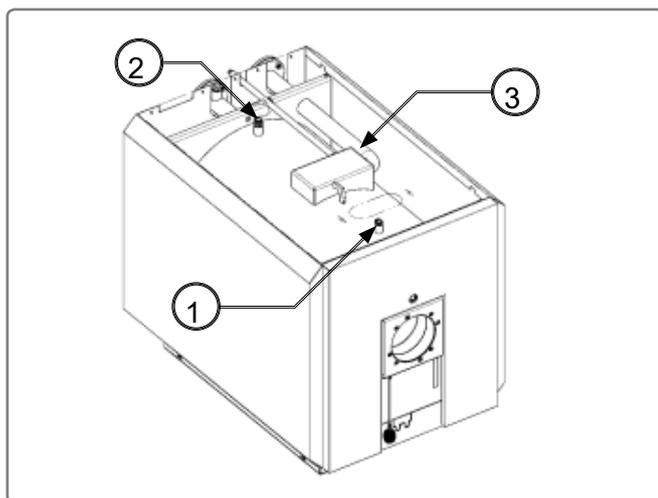


figure 11 - LRPNT Plus

#### Position of sensors

- 1 F4: Safety thermostat
- 2 F5: Control thermostat  
B2: Boiler sensor (QAZ36)  
Thermometer
- 3 B7: Return sensor (immersion sensor, QAD36). Not supplied with the control panel

**Position of sensors**

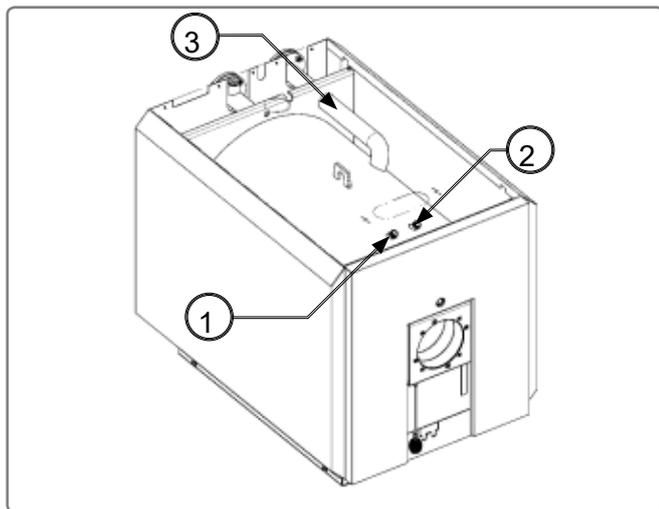


figure 12 - LRP

- 1 F4: Safety thermostat
- 2 F5: Control thermostat  
B2: Boiler sensor (QAZ36)  
Thermometer
- 3 B7: Return sensor (contact sensor, QAD36).  
Not supplied with the control panel

**3.2.3. LRR**

**Position of sensors**

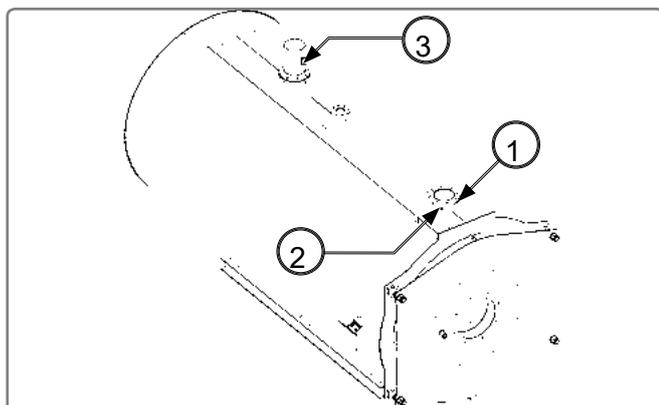


figure 13 - LRR

- 1 F4: Safety thermostat
- 2 F5: Control thermostat  
B2: Boiler sensor (QAZ36)  
Thermometer
- 3 B7: Return sensor (immersion sensor, QAZ36) to be ordered as an accessory.  
Not supplied with the control panel

**3.2.4. LR**

**Position of sensors**

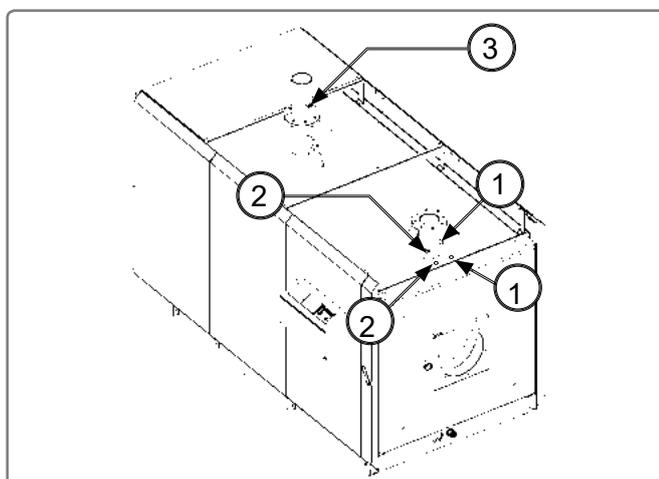


figure 14 - LR

- 1 F4: Safety thermostat
- 2 F5: Control thermostat  
B2: Boiler sensor (QAZ36)  
Thermometer
- 3 B7 Return sensor (immersion sensor, QAZ36) to be ordered as an accessory.  
Not supplied with the control panel

### 3.2.5. LRK

#### Position of sensors

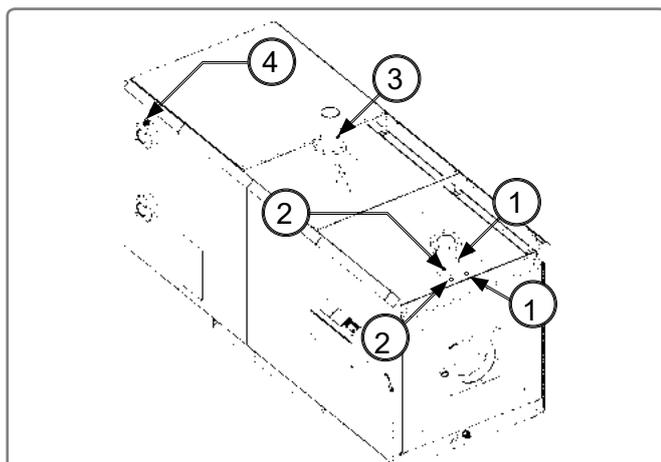


figure 15 - LRK

- 1 F4: Safety thermostat
- 2 F5: Control thermostat  
B2: Boiler sensor (QAZ36) Thermometer
- 3 B7: Return sensor (immersion sensor, QAZ36) to be ordered as an accessory. Not supplied with the control panel
- 4 S11: RT Recuperator thermostat (not included with the control panel).

### 3.3. Electrical connection



**INFORMATION:** The electrical diagram is attached to the control panel. It is stuck under the cover.



**WARNING:** Do not pull the electrical cables and remove them from heat sources.



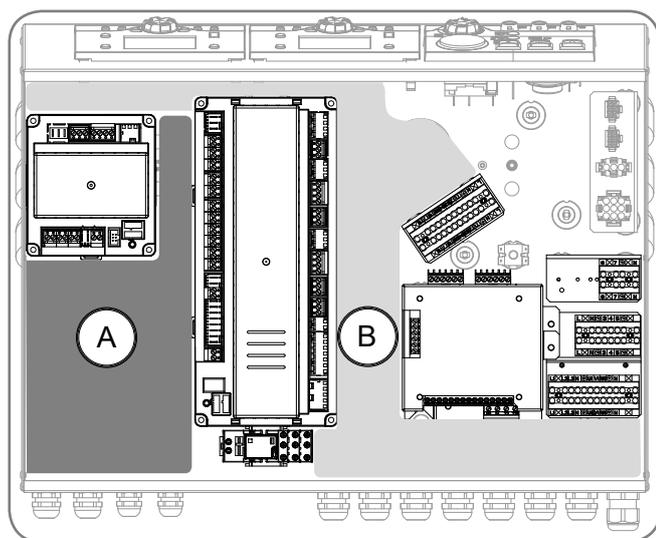
**WARNING:** Only carry out electrical connections, in particular connection to the main supply, when all other fitting and installation work is completed.



**WARNING:** Installations carried out by the customer (cable runs, gas or fuel pipes, etc.) must not be fitted to the boiler's jacket!



**WARNING:** The control panel must be fitted and installed in the position intended for this on the boiler.



**figure 16 - Cabling**

- A** Area for signal cables (VLV: voltage less than 20V DC).
- B** Area for low voltage cables (LV: between 50V AC and 400V AC).



**DANGER:**

Comply with the cabling areas and separation of LV and VLV cables.

### 3.3.1. Control panel cabling diagram

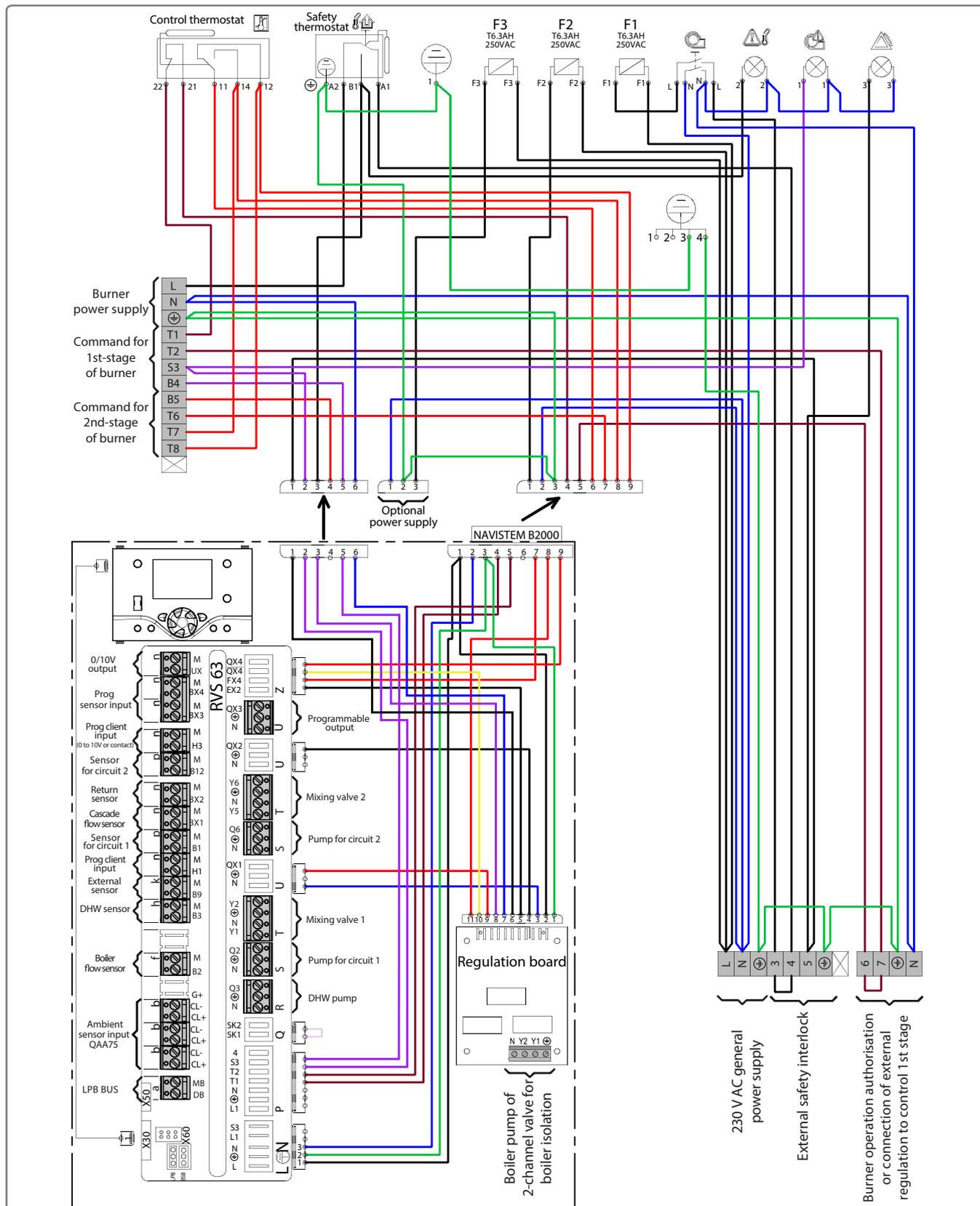


figure 17 - Control panel cabling diagram

### 3.3.2. Burner cables and flow sensor

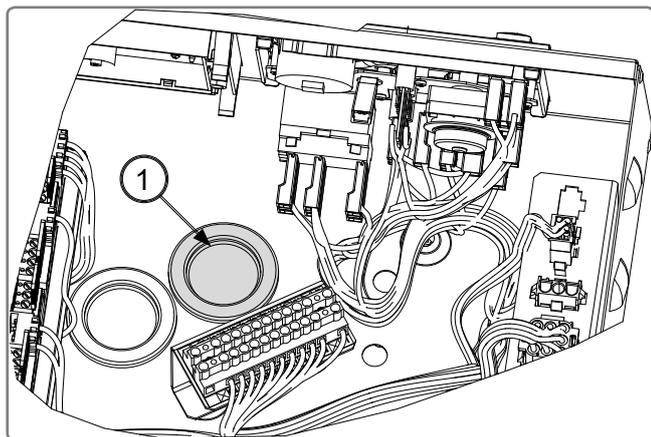


figure 18 - Burner cables and flow sensor

- Pass the burner connection and the boiler flow sensor cables through the rubber membrane 1 and position them between the insulation and the boiler's jacket.



#### WARNING:

Do not remove or alter the boiler's insulation. Ensure there is no direct contact between the cables and the heat exchanger.

### 3.3.3. Other cables

The other cables of the different elements (pump, mixing valves, circuit temperature sensors, error relay, power supply cables, etc.) can be directly positioned at the back of the control panel via the cable glands.

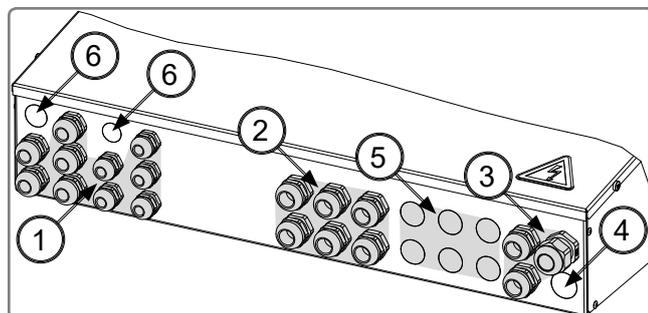
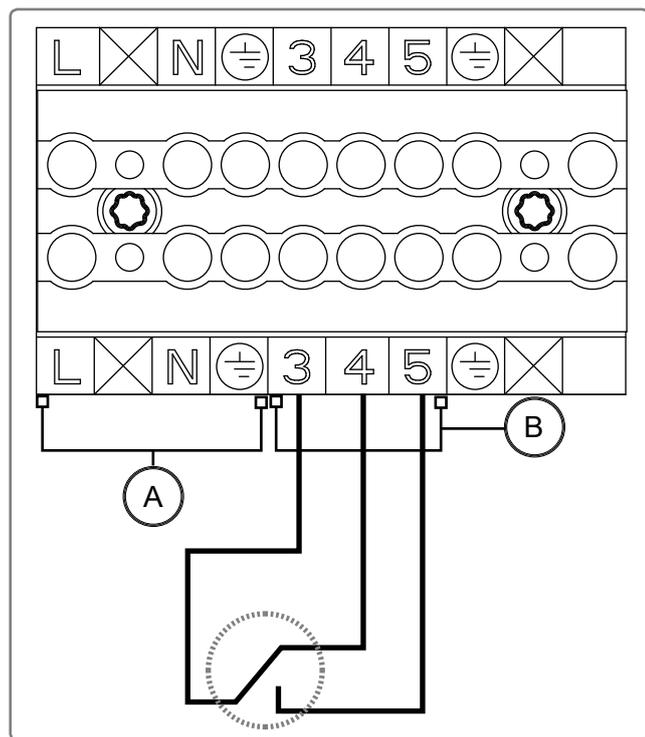


figure 19 - Other cables

- 1: Cable gland for sensors and signals
- 2: Cable gland for pump and mixing valve cables
- 3: Cable glands for power cables
- 4: Position for the three-phase burner supply cable gland
- 5: Position for the alarm relay board cable gland
- 6: Position for gland for optional regulator

### 3.3.4. Connection of the control panel's electrical power supply and external safety connections



- A Control panel's electrical power supply: 230 V AC 50 Hz  
Maximum intensity: 16 A  
Type of cable: 3 G 2.5 mm<sup>2</sup>
- B External safety connections: 230 V AC 50 Hz  
**Remove the shunt between 3 and 4 to connect the external safety elements**  
Maximum intensity: 16 A  
Type of cable: 2.5 mm<sup>2</sup>

figure 20 - Connection of the control panel's electrical power supply and external safety connections



**WARNING:** Do not reverse phase and neutral.



**WARNING:** Never use a socket for the power supply.



**WARNING:** The control panel must be powered by special protected lines leaving the boiler room's electric panel via all-pole circuit breakers.



**WARNING:** The protective earth conductor must be longer than the phase and neutral conductors.

### 3.3.5. Burner connection

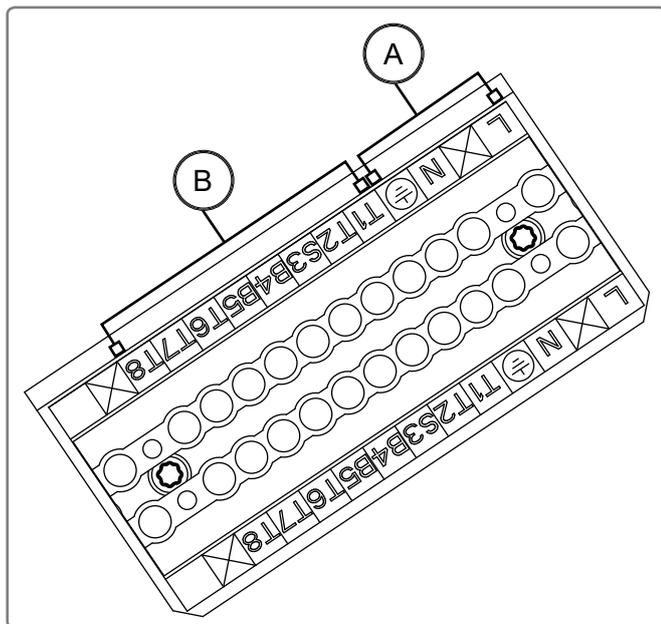


figure 21 - Burner connection

- A** Burner's electrical power supply:  
 230 V AC 50Hz  
 Maximum intensity: 6.3A  
 Type of cable: 3 G 1.5 mm<sup>2</sup>
- B** Burner's electrical commands:  
 230V AC 50Hz  
 Maximum intensity: 6.3A  
 Type of cable: 3 G 1.5 mm<sup>2</sup>

For connection details see " Selection diagram " page <?>



**WARNING:**

The protective earth conductor must be longer than the phase and neutral conductors.

### 3.3.6. Connection of the cable to ensure the burner's operation

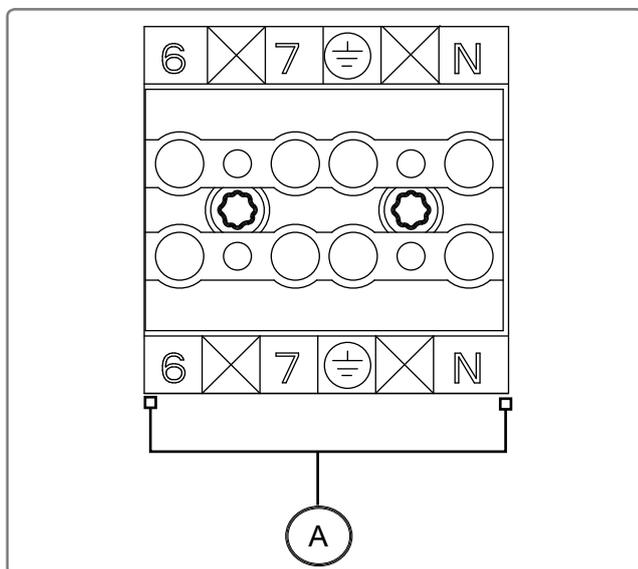


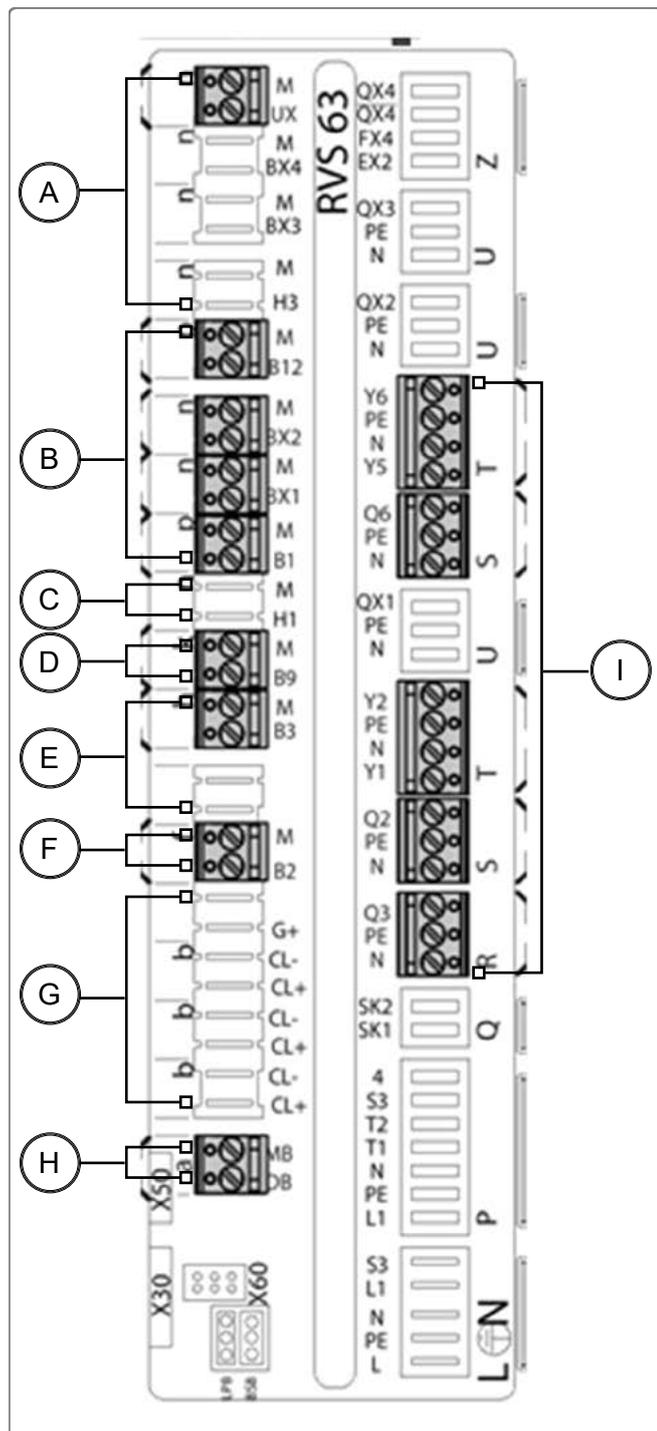
figure 22 - Connection of the cable to ensure the burner's operation

- A** Connection of the cable to ensure the burner's operation: 230 V AC 50Hz  
**Remove the shunt between 6 and 7 to connect the external control**  
 Maximum intensity: 6.3 A  
 Type of cable: 1.5 mm<sup>2</sup>

### 3.3.7. Connection to heating regulator RVS63



**INFORMATION:** For more information, refer to the instructions for the RVS63 regulator.



- A Connection of other sensors and signals:  
Maximum 20 V DC  
Maximum intensity: see instructions for RVS63  
Type of cable: 0.5 mm<sup>2</sup>
- B Connection of contact sensors QAD36 (2 sensors for the heating circuits, 1 cascade flow sensor, 1 return sensor). Not supplied with the control panel
- C Connection of external sensor QAC34. Not supplied with the control panel
- D Connection of boiler flow sensor QAZ36
- E Connection of communication bus LPB  
Type of cable: 1.5 mm<sup>2</sup> for maximum length of 250m.
- F Connection of pumps, mixing valves and error relay: 230 V AC 50Hz  
Maximum intensity per output: 2 A  
Total intensity: 6.3 A  
Type of cable: 1.5 mm<sup>2</sup>

figure 23 - Connection to heating regulator RVS63



**INFORMATION:** For connecting cables to sensors QAD36 and QAD34, refer to the elements in question.

**INFORMATION:**

For details for connecting to regulator RVS63, see " Selection diagram " page <?>.

### 3.3.8. *Closing the control panel*

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When all connections have been made, close the control panel.

**WARNING:**

To close the control panel, use the screws you previously removed.

**WARNING:**

Ensure each cable gland is tight so that no connection inside the control panel can be attempted.

## 4. ADDITIONAL ACCESSORIES

Each additional accessory is delivered with its own instructions (fitting, electrical connections and use).

### 4.1. Temperature sensors

#### 4.1.1. Sensors included with the control panel

- 1 immersion sensor (boiler sensor) QAZ36: (CTN 10 kΩ; 25°C)  
**Ref. 059261**

Fitting: inside the boiler's thimble (flow). QAZ36: L=6m	
Protection: IP43	Measuring range: 0..95°C

#### 4.1.2. Sensors not included with the control panel (to be ordered separately as accessories)

- 1 external temperature sensor QAC34: (CTN 1000 kΩ; 25°C)  
**Ref. 059260**

Install the sensor 2/3 up the north or north-west side. Do not install above a window or under the eaves.	
Connection: 2-pin terminal	
Protection: IP54	Measuring range: -50..70°C

- 4 contact sensors QAD36 (1 cascade flow sensor / 1 return sensor / 2 heating circuit flow sensors): (CTN 10 kΩ; 25°C)  
**Ref. 059592**

Install the sensor directly onto the heating circuit's flow pipe or onto the return circuit or onto the cascade's joint flow pipe. Fix the contact sensor QAD36 with the fixing collar onto the bare pipe, without any conducting paste.	
Connection: 2-pin terminal	
Protection: IP42	Measuring range: -30..125°C

- Immersion sensor QAZ36 (heating circuit flow sensor or boiler return sensor on certain models): (CTN 10 kΩ; 25°C)  
**Ref. 059816**

Install the thimble directly onto the heating circuit's flow pipe or inside the cascade's joint flow pipe or inside the return pipe. Install temperature sensor QAZ36 into the thimble with the sensor. Also insert the Ø 8 mm foam seal into the thimble. The thimble must be installed onto the pipe using a sleeve and must be immersed into the heating water circulating inside the tubing.	
Connection: cable length 6m	Thimble: length 97mm, connection 1/2 NPT
Protection: IP42	Measuring range: 0..95°C

- Sensor with immersion cable (DHW sensor) QAZ36: (CTN 10 kΩ; 25°C)  
**Ref. 059261**

Fitting: inside the thimble on the DHW tank, minimum depth 51mm.	
QAZ36: L= 6 m	
Protection: IP42	Measuring range: 0..95°C

- Sensor with immersion cable (burnt gas sensor): (PT 1000 Ω; 0°C)  
**Ref. 059815**

To measure the temperature of burnt gases.	
Fitting: with a thimble, minimum depth 51 mm.	
Connection cable length 3 m.	
Protection: IP54	Measuring range: -30..240°C

## 4.2. Remote control QAA75

- Remote control QAA75: (CTN 10 kΩ; 25°C)  
**Ref. 040954**

Fitting: on the wall according to RVS63 instructions. Provides remote access to the heating circuit settings and allows the ambient temperature to be measured.	
Connection: 2-pin terminal.	
Protection: IP20	Measuring range: 15..25°C

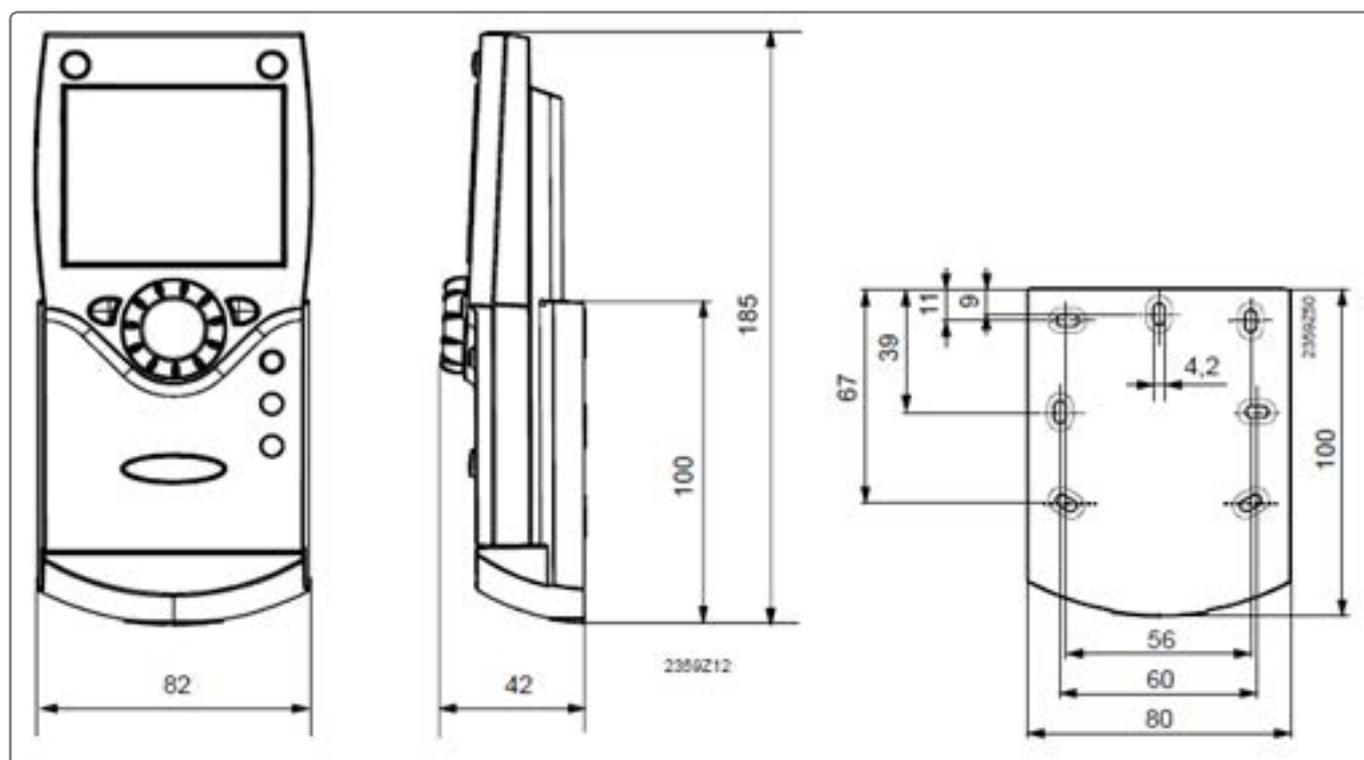


figure 24 - Ambient sensor, remote control of ambience

### 4.3. Other accessories

**Alarm relay board without potential (A123).....Ref. 059808**

- Relay of the following information in the form of contacts without potential:
  - Burner speed 1
  - Burner speed 2
  - Burner problem signal
  - Safety thermostat problem signal
  - External errors signal (safety elements specific to the installation)

**Alarm relay board without potential (A123) + Burner remote resetting module.. Ref. 059809**

- Relay of the following information in the form of contacts without potential:
  - Burner speed 1
  - Burner speed 2
  - Burner problem signal
  - Safety thermostat problem signal
  - External errors signal (safety elements specific to the installation)
  - Burner remote resetting module (button to reset the burner following an error)

**TÜV switch (option used in Germany) .....Ref. 059810**

- Button to test the boiler's safety thermostat This button allows the control thermostat to be shunted to force the burner to operate until it is cut off by the safety thermostat.

**Three-phase power supply .....Ref. 408503**

- Terminal recommended when using a three-phase current and/or a three-phase pump.
- Supplied with the three-phase burner power cable (3.5 m long)

**Relay option .....Ref. 059813**

- Relay (maximum intensity 6 A) to command the contact authorising the burner to function (T1-T2). The relay must be used if the load on terminal T2 is more than 2 A.

**Burner cables**

- Possibility to supply different sets of cables fitted with 4 or 7-terminal pin plug connectors and available in different lengths.

Designation	Reference
Single-phase set of burner cables, 3.5 m with extension	059811
Single-phase set of burner cables, 3.5 m without extension	408385
Gas safety valve cable	059814



**INFORMATION:**

Ready-to-install cable sets which ensure rapid and easy installation are delivered with combinations of burners and LRP-UNIT boiler and with distributors.

## 5. USING THE CONTROL PANEL

### 5.1. Start-up (Commissioning)

#### 5.1.1. Setting the regulation thermostat to its maximum value

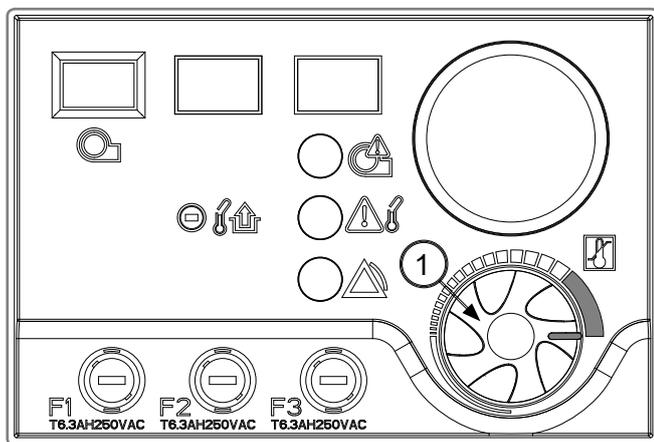


figure 25 - Thumbwheel in maximum position

- Put the thumbwheel 1 in the maximum position to position the thermostat's axis;
- Remove the thumbwheel;

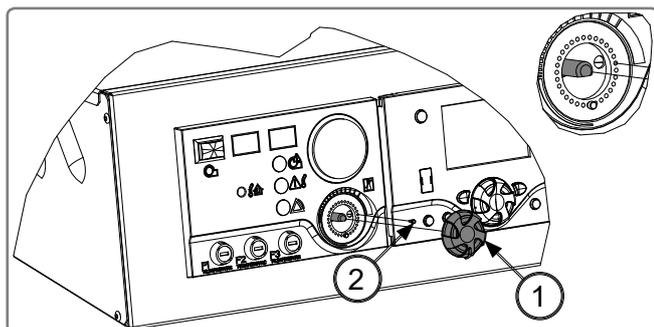


figure 26 - Positioning the thumbwheel's stopping pin

- Put the stopping pin 2 in the maximum position.
- Refit the thumbwheel 1 on the thermostat's axis.



**WARNING:**

The control thermostat must be set to its maximum setting to avoid interference with the electronic regulator RVS63.

#### 5.1.2. Switching on the control panel

Switch the all-polar circuit breaker to ON.



**DANGER:**

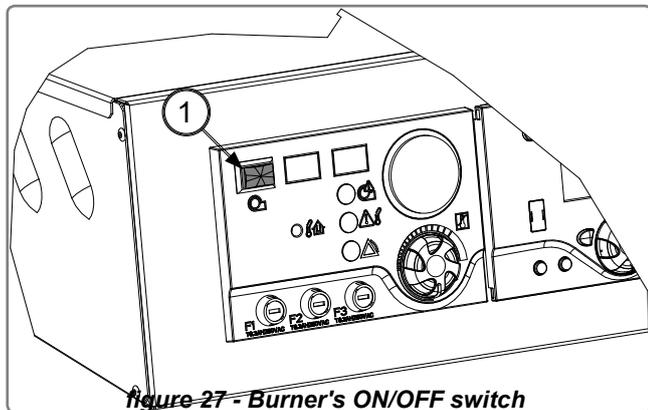
As soon as the circuit breaker is switched on again, some parts of the control panel are on.

### 5.1.3. Configuration of regulator RVS63



**INFORMATION:** See paragraph 6 and the instructions for regulator RVS63 included in the control panel to configure the heating regulator.

### 5.1.4. Switching the burner on



- ON/OFF switch 1 for the burner's power supply.



**INFORMATION:** The switch is lit up when the burner is on.

## 5.2. Breakdown maintenance



**DANGER:** Before working on the control panel, cut off the control panel's general power supply via the circuit breaker in the boiler room's electrical cabinet.



**DANGER:** The thermostat module switch only cuts off the burner's power supply. Some parts of the control panel, in particular the regulators, remain on when this switch is OFF.

### 5.2.1. Error on the AVS37 display of regulator RVS63



**INFORMATION:** See the RVS63 instructions included in the control panel to identify the cause of the error and to solve the problem.

### 5.2.2. Overheating LED lit up

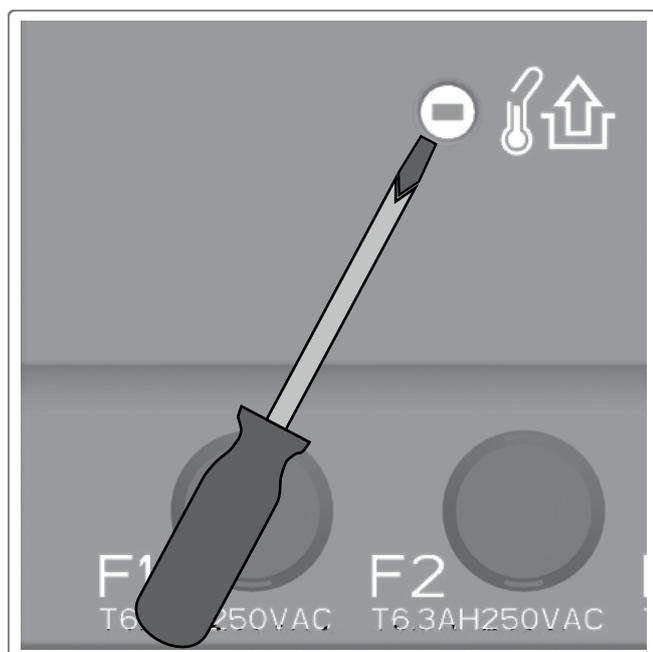


If the overheating LED is lit up, find the cause of overheating and repair if necessary. Once the problem has been solved, it is necessary to manually switch back on the safety thermostat.



#### WARNING:

The safety thermostat can only be reset if the temperature has decreased by 20°C in relation to the overheating temperature of 110°C.



- Use a screwdriver to reset the safety thermostat

### 5.2.3. External error LED lit up



If the external error LED is lit up, refer to the external appliance which is connected to terminals 3, 4 and 5 of the control panel to identify the error, find the cause and eliminate it. It is not necessary to reset the control panel. The display indicating a problem disappears as soon as the error has been removed.

### 5.2.4. Burner error LED lit up



If the burner error LED is lit up, refer to the burner documentation to identify the error, find the cause and eliminate it. It is not necessary to reset the control panel.



#### INFORMATION:

The display indicating the problem disappears as soon as the error has been removed and the burner reset.

### 5.2.5. Replacing fuses



figure 29 - Position of fuses

- Fuse F1 protects the burner line
- Fuse F2 protects the regulation of the NAVISTEM B2000 control panel.
- Fuse F3 protects the additional regulation sold as an accessory.



**INFORMATION:** All fuses used on the control panel have the following characteristics: Fuse 5x20 T6.3 AH 250 V AC.



**WARNING:** Use the correct fuse rating. Never replace a fuse with a higher rating.

## 6. HYDRAULIC DIAGRAMS AND CONFIGURATIONS

### 6.1. Symbols used in the diagrams

Symbol	Function
	Isolation valve open
	2-channel powered valve
	Pump
	Temperature sensor

Symbol	Function
	Balancing valve
	Motor-controlled 3-way valve
	External sensor

### 6.2. List of diagrams

<b>BURNER</b> .....	<b>2</b>
1 speed.....	2
2 speeds.....	4
modulating 3-position .....	6
modulating 0...10 Volts.....	8
<b>SINGLE BOILER</b> .....	<b>10</b>
LRPK / LRP NT+, management of flow protection with action on consumers .....	10
LRP / LRK / LR / LRR, management of protection of returns with action on consuming elements.....	13
LRP / LRK / LR / LRR, management of protection of returns without compulsory command of consuming elements.....	16
<b>HOMOGENEOUS CASCADE</b> .....	<b>19</b>
LRPK / LRP NT+, management of flow protection with action on secondary networks .....	19
LR / LRR / LRP / LRK, management of protection of returns on boiler pump action and management of secondary networks .....	23
LR / LRR / LRP / LRK, management of protection of returns via 3-channel valve without obligation to act on the consuming elements .....	27
<b>MIXED CASCADE</b> .....	<b>31</b>
LRP NT+ with LRP / LR, protection of returns via 3-channel valve.....	31
<b>HEAT REQUEST</b> .....	<b>37</b>
Management of secondary networks .....	37

**A. HYDRAULIC DIAGRAM**

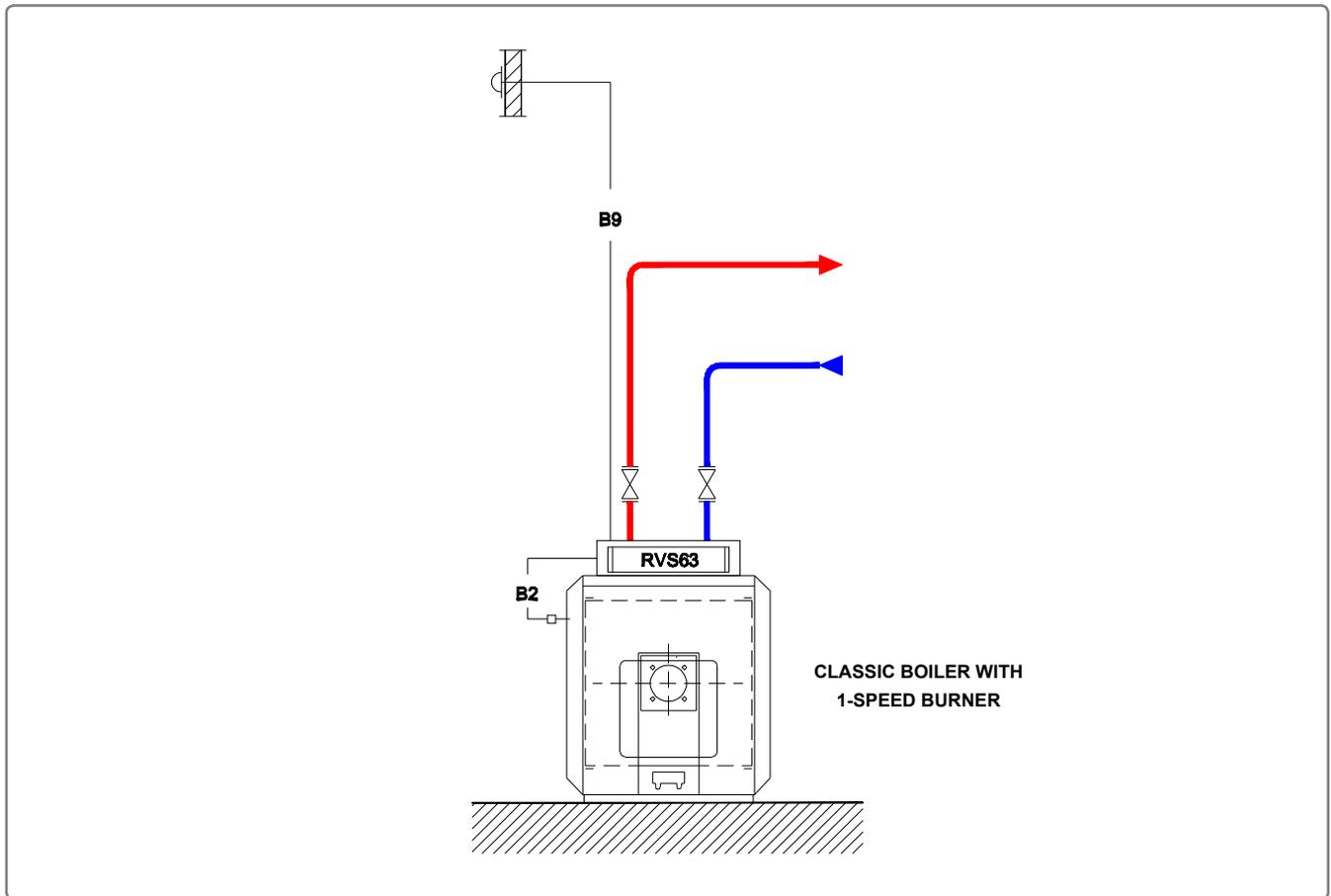


figure 30 - Diagram for 1-speed burner

**B. ELECTRICAL CONNECTION**

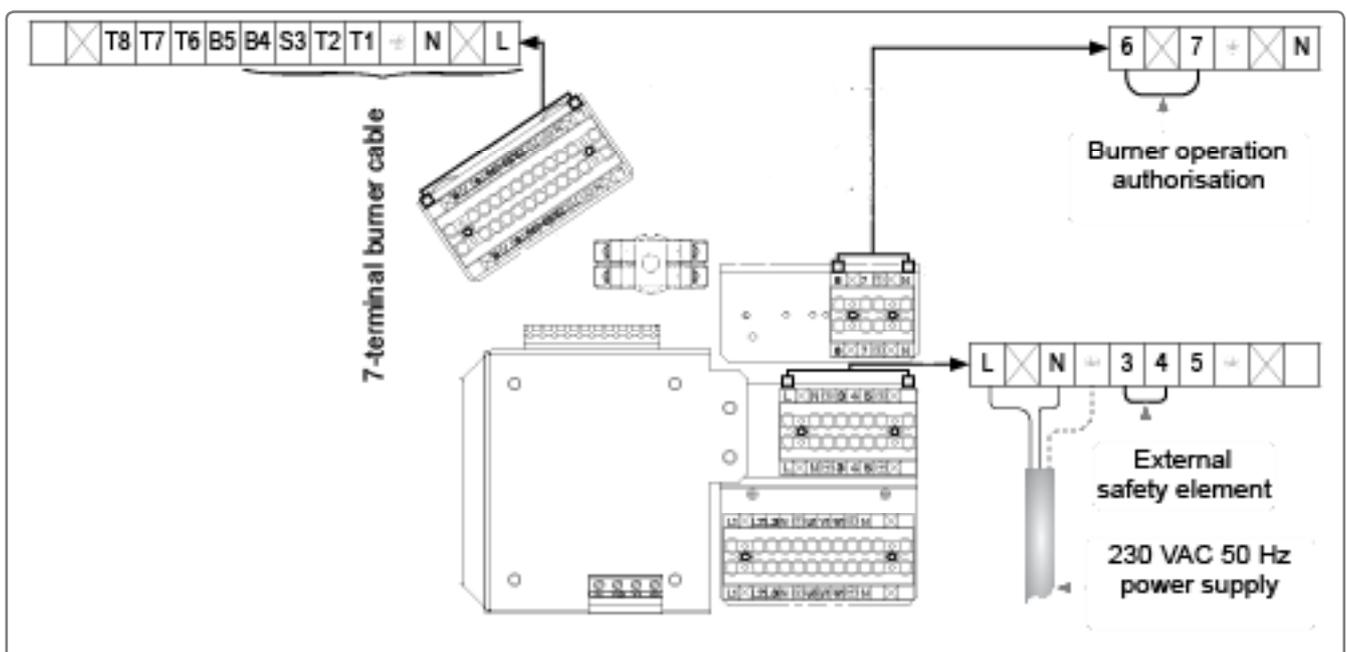


figure 31 - Electrical connection

## C. CONFIGURATION

☞ Make the burner's electrical connection.

☞ Make the following settings:

	Line No.	Value
• <b>Configuration</b> menu		
Set the type of generator	Type of generator (5770)	1 speed
Set the defect management system	Input function EX2 (5982)	Thermostat safety error message

## D. VALIDATION

• **Inputs/outputs test** menu

Check the outputs

Relay test (7700)	1 <sup>st</sup> speed of burner T2
-------------------	------------------------------------

Reset the outputs

Relay test (7700)	No test
-------------------	---------

Optional:

Check the inputs

Burner breakdown S3 (7870)	...
----------------------------	-----

1 <sup>st</sup> speed of burner E1 (7881)	...
---	-----

### A. HYDRAULIC DIAGRAM

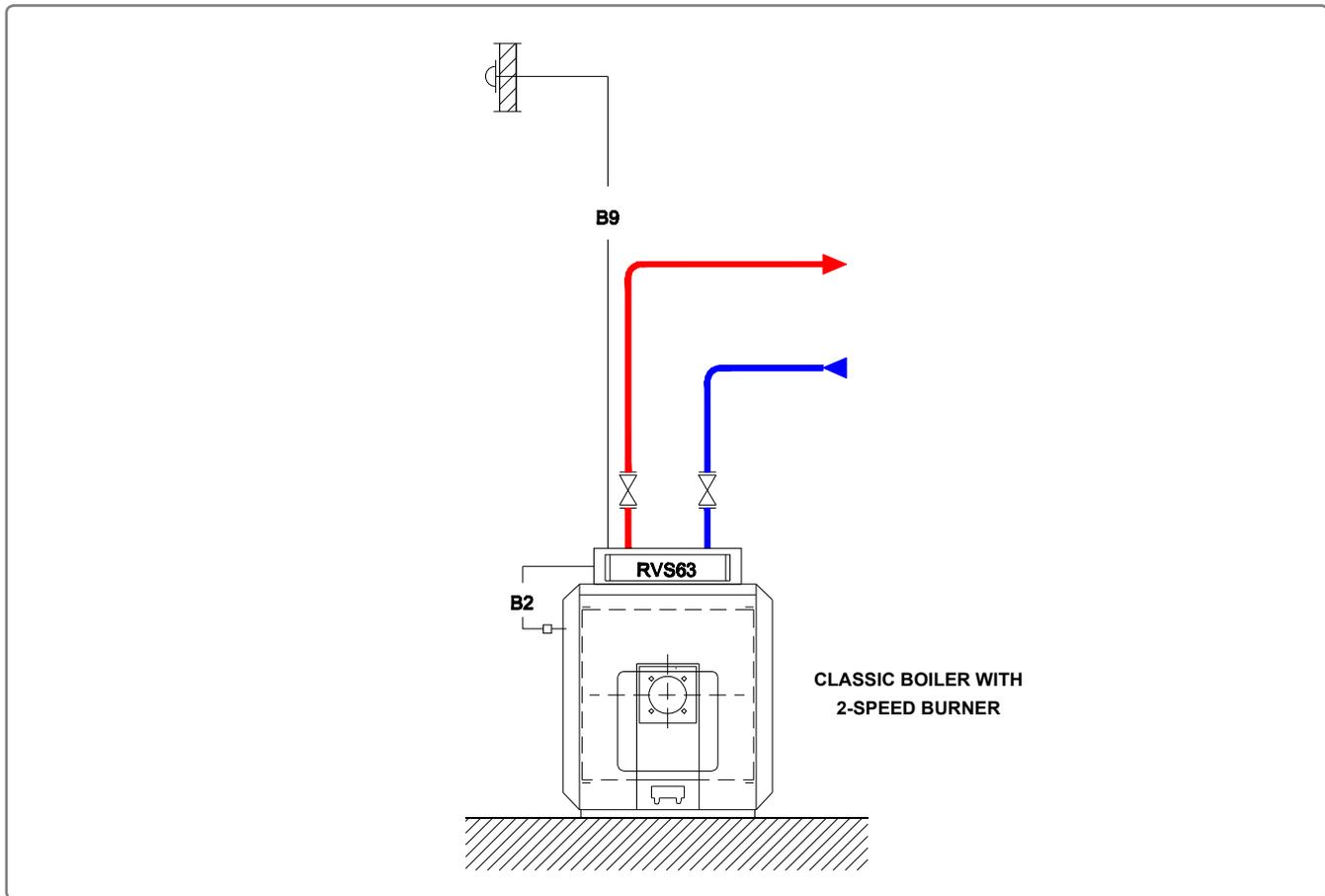


figure 32 - Diagram for 2-speed burner

### B. ELECTRICAL CONNECTION

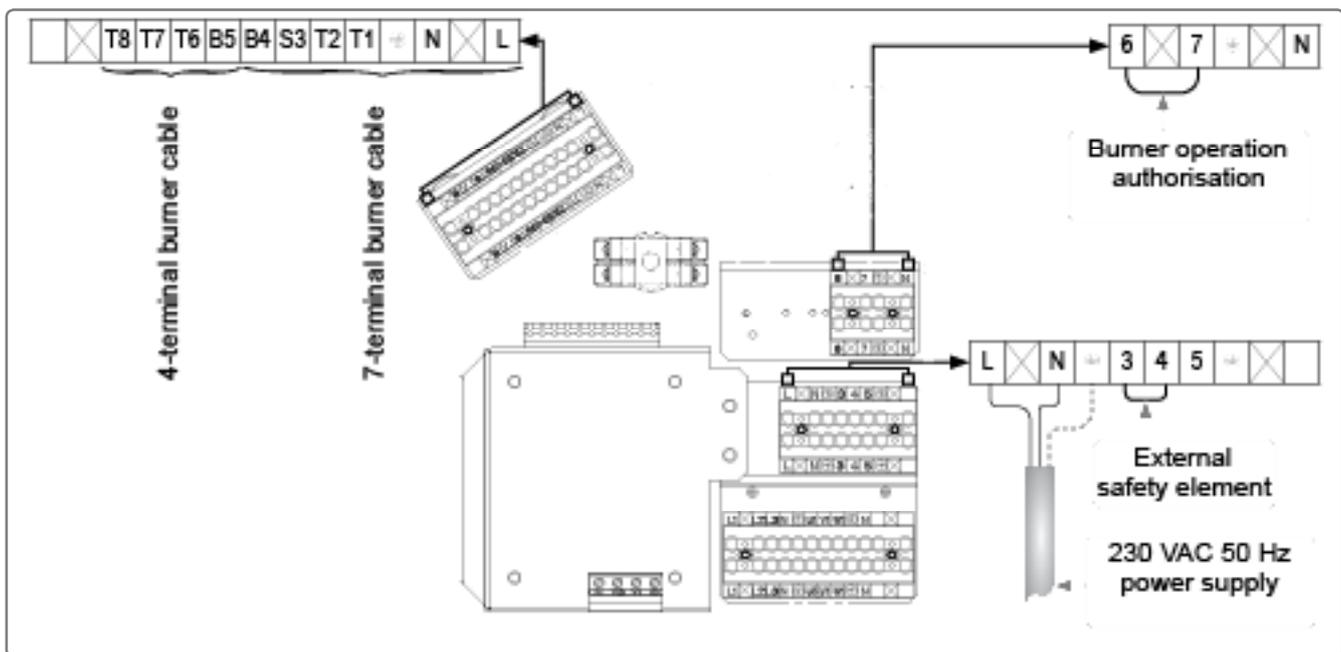


figure 33 - Electrical connection

## C. CONFIGURATION

☞ Make the burner's electrical connection.

☞ Make the following settings:

	Line No.	Value
• <b>Configuration</b> menu		
Set the type of generator	Type of generator (5770)	2 speeds
Set the defect management system	Input function EX2 (5982)	Thermostat safety error message

## D. VALIDATION

• **Inputs/outputs test** menu

Check the outputs

Relay test (7700)	1 <sup>st</sup> speed of burner T2
Relay test (7700)	1 <sup>st</sup> + 2 <sup>nd</sup> speed of burner T2 / QX4
Relay test (7700)	No test

Reset the outputs

Optional:

Check the inputs

Burner breakdown S3 (7870)	...
1 <sup>st</sup> speed of burner E1 (7881)	...
Input EX2 (7912)	...

**A. HYDRAULIC DIAGRAM**

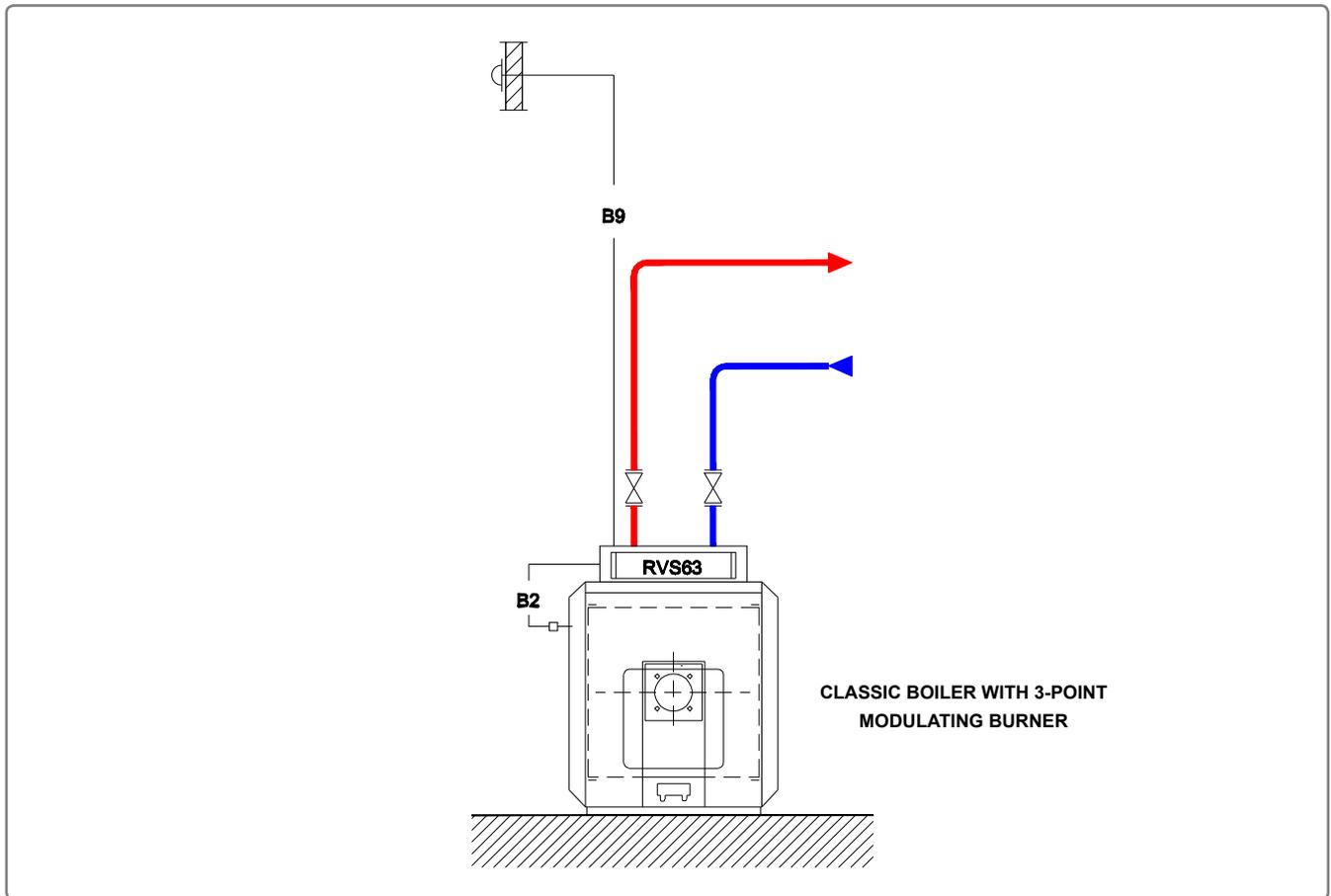


figure 34 - Diagram for modulating 3-position burner

**B. ELECTRICAL CONNECTION**

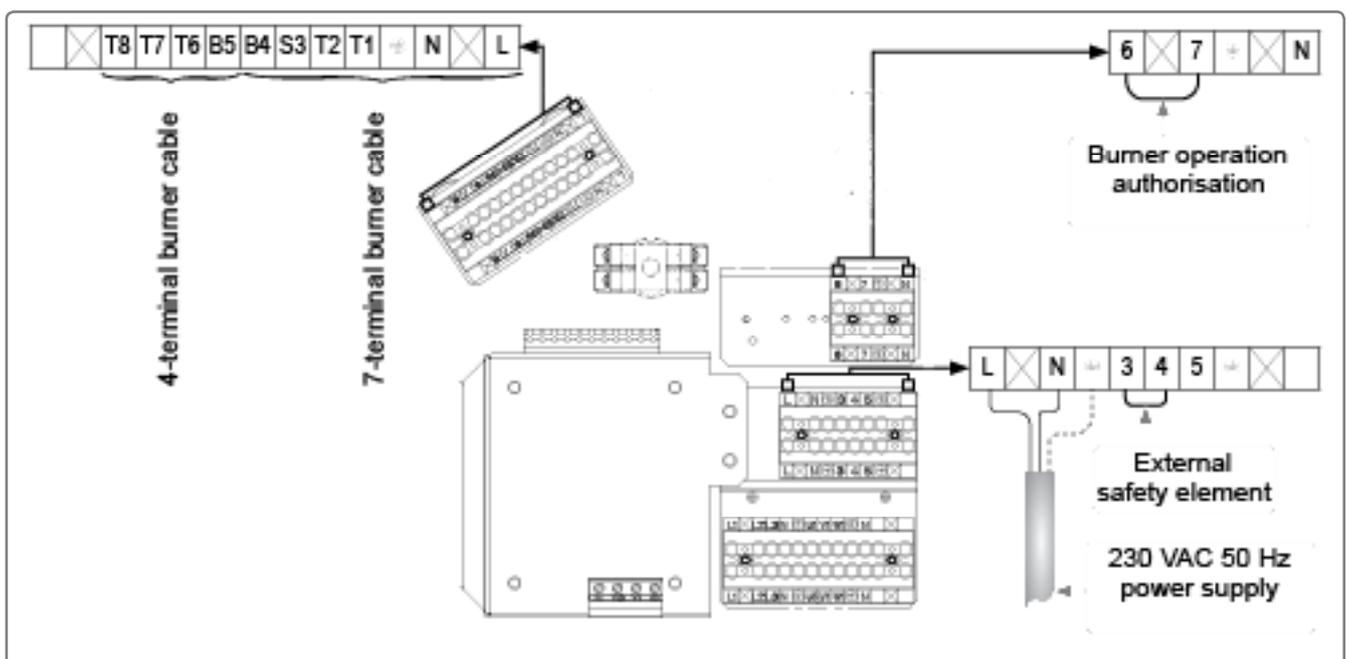


figure 35 - Electrical connection

## C. CONFIGURATION

☞ Make the burner's electrical connection.

☞ Make the following settings:

	Line No.	Value
• <b>Configuration</b> menu		
Set the type of generator	Type of generator (5770)	modulating 3-position
Set the defect management system	Input function EX2 (5982)	Thermostat safety error message
• <b>Boiler</b> menu		
Adapt the running time of the burner △ OEM access △	Running time of the actuator air shutter (2232)	...

### A. HYDRAULIC DIAGRAM

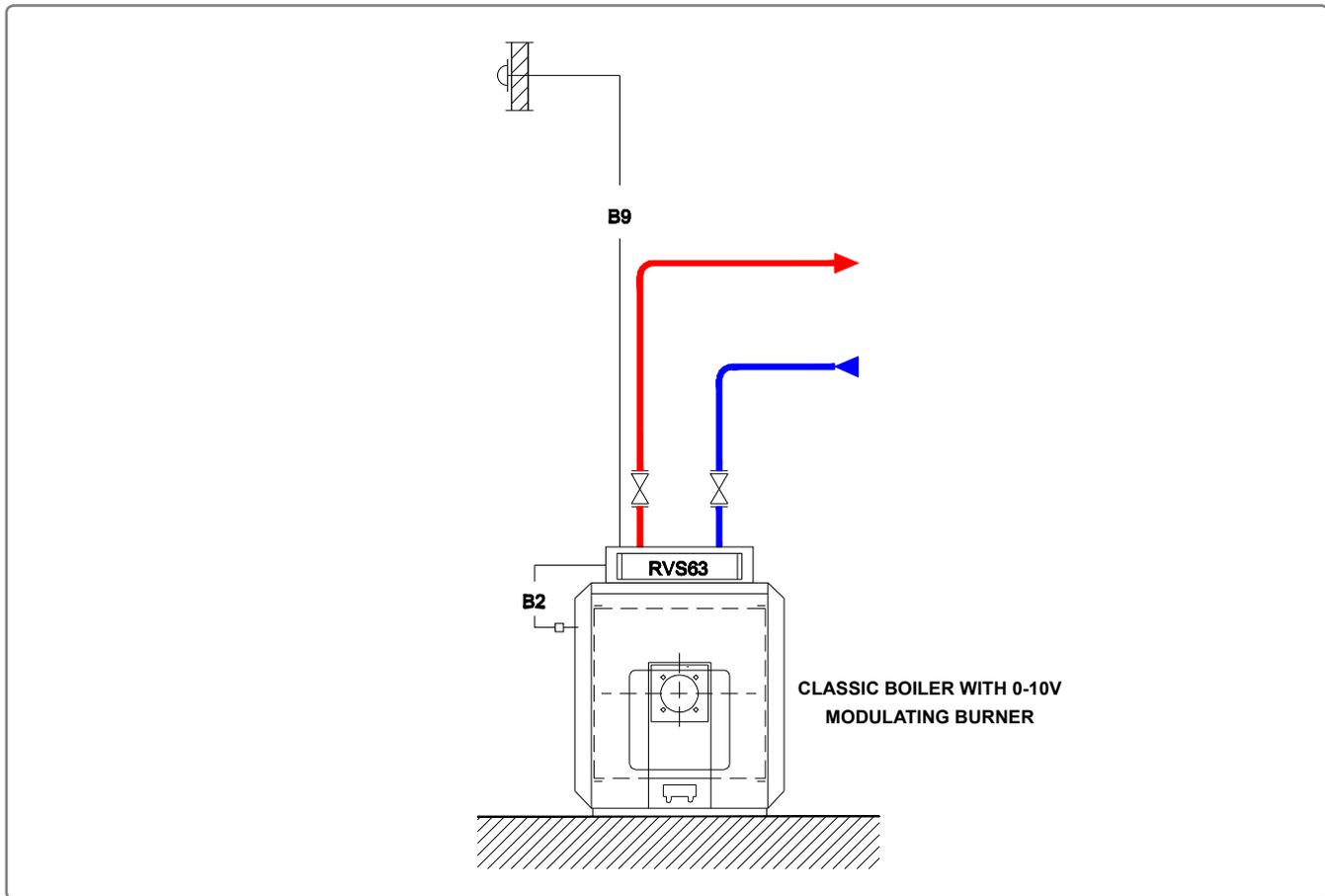


figure 36 - Diagram for modulating 0...10-volt burner

### B. ELECTRICAL CONNECTION

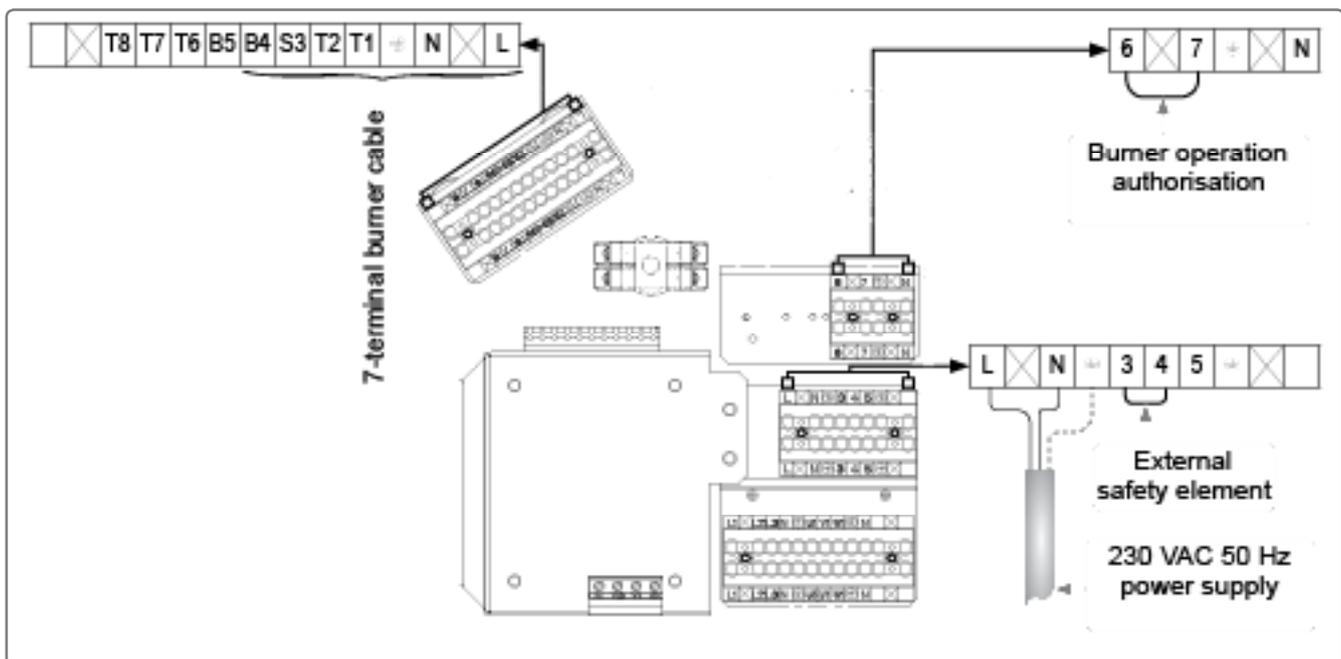


figure 37 - Electrical connection

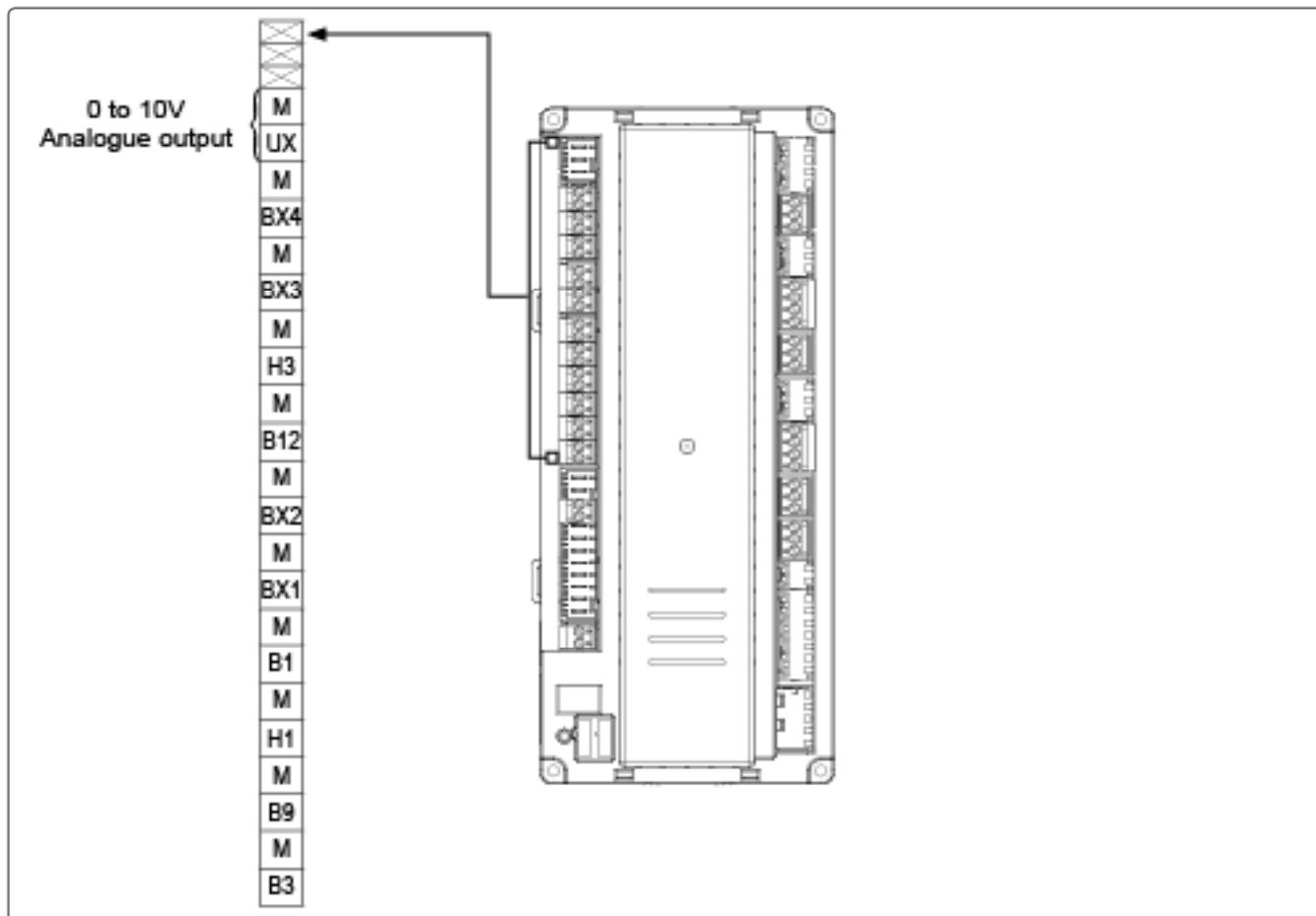


figure 38 - Regulator connection

### C. CONFIGURATION

- ☞ Make the burner's electrical connection.
- ☞ Make the following settings:

	Line No.	Value
• <b>Configuration</b> menu		
Set the type of generator	Type of generator (5770)	Modulating UX
Set the defect management system of the burner	Input function EX2 (5982)	Thermostat safety error message

### D. VALIDATION

• <b>Inputs/outputs test</b> menu		
Check the outputs		
Release the burner	Relay test (7700)	1 <sup>st</sup> speed of burner T2
Test the modulating output	UX outputs test (7710)	in volts
Restart output UX	UX outputs test (7710)	- - -
Reset the outputs	Relay test (7700)	No test

## A. HYDRAULIC DIAGRAM

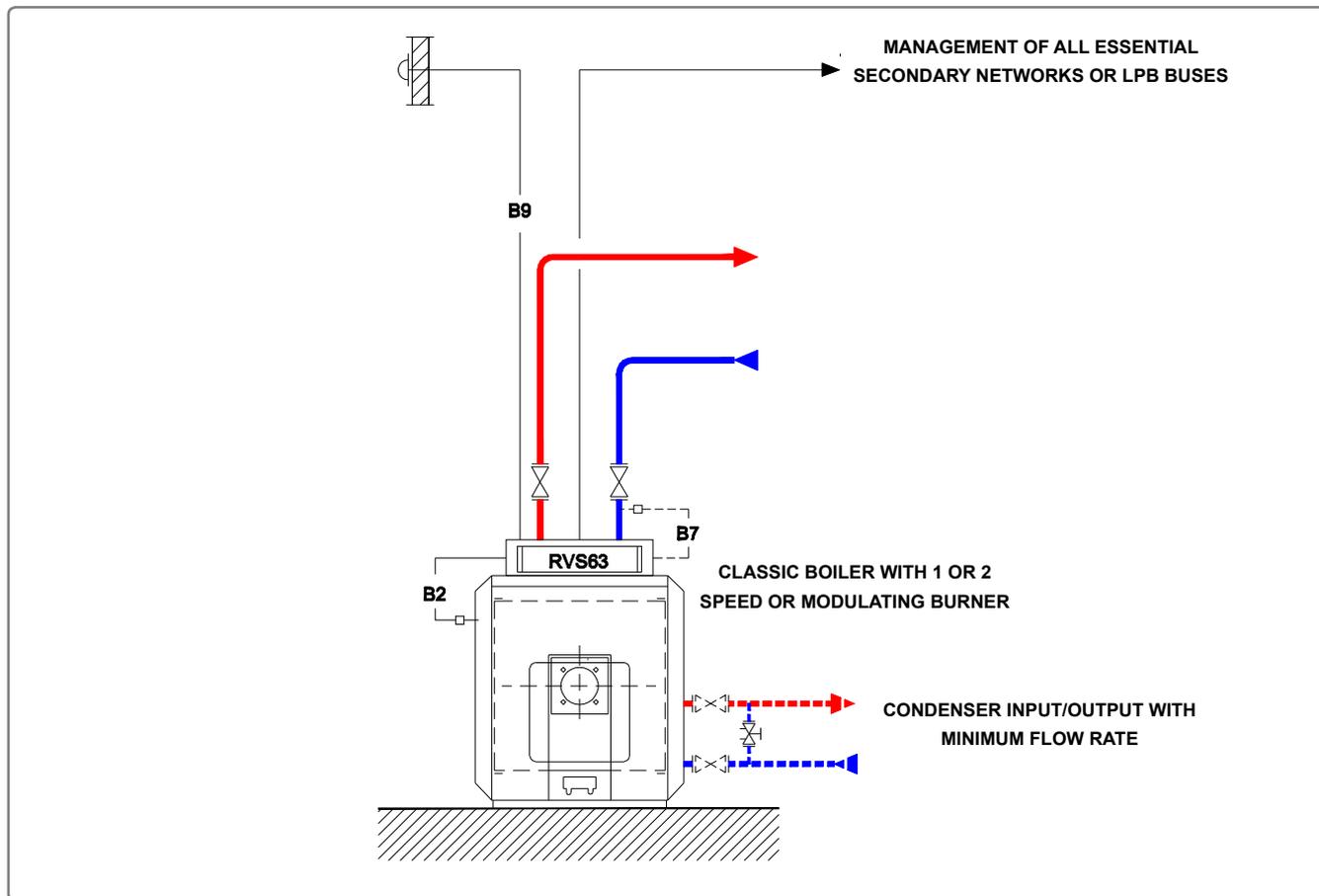


figure 39 - Diagram for single boiler - LRPK / LRP NT+

## B. ELECTRICAL CONNECTION

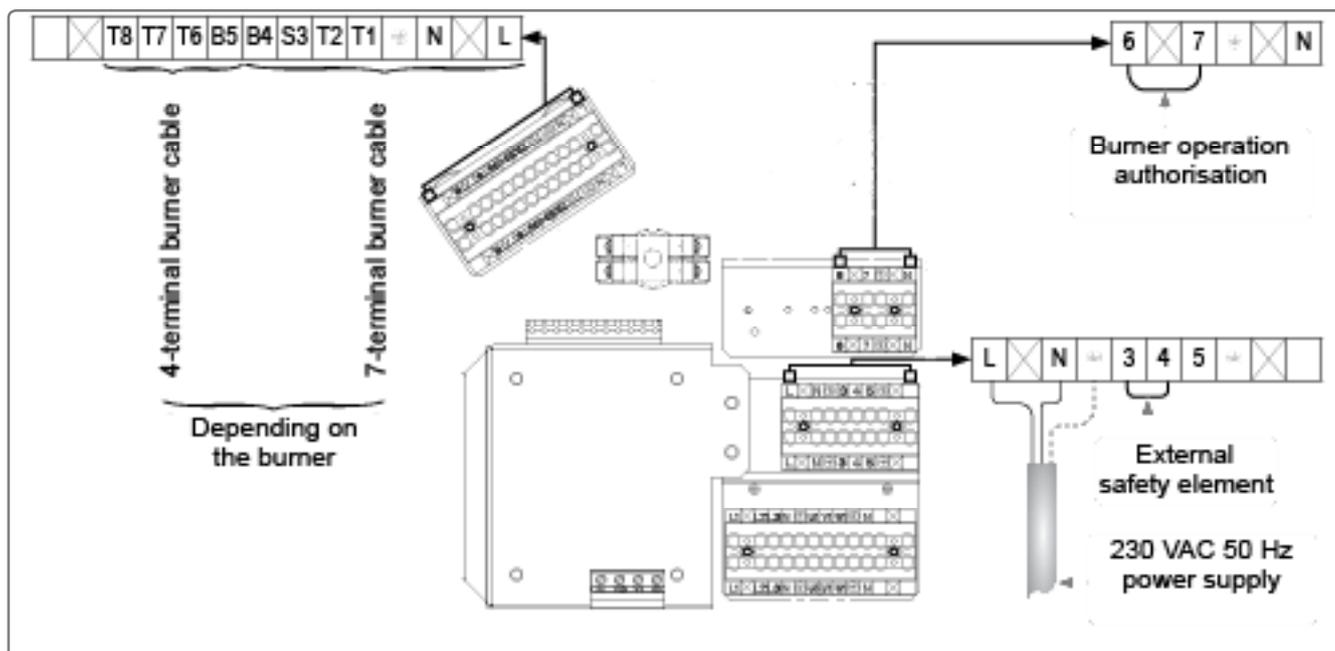


figure 40 - Electrical connection

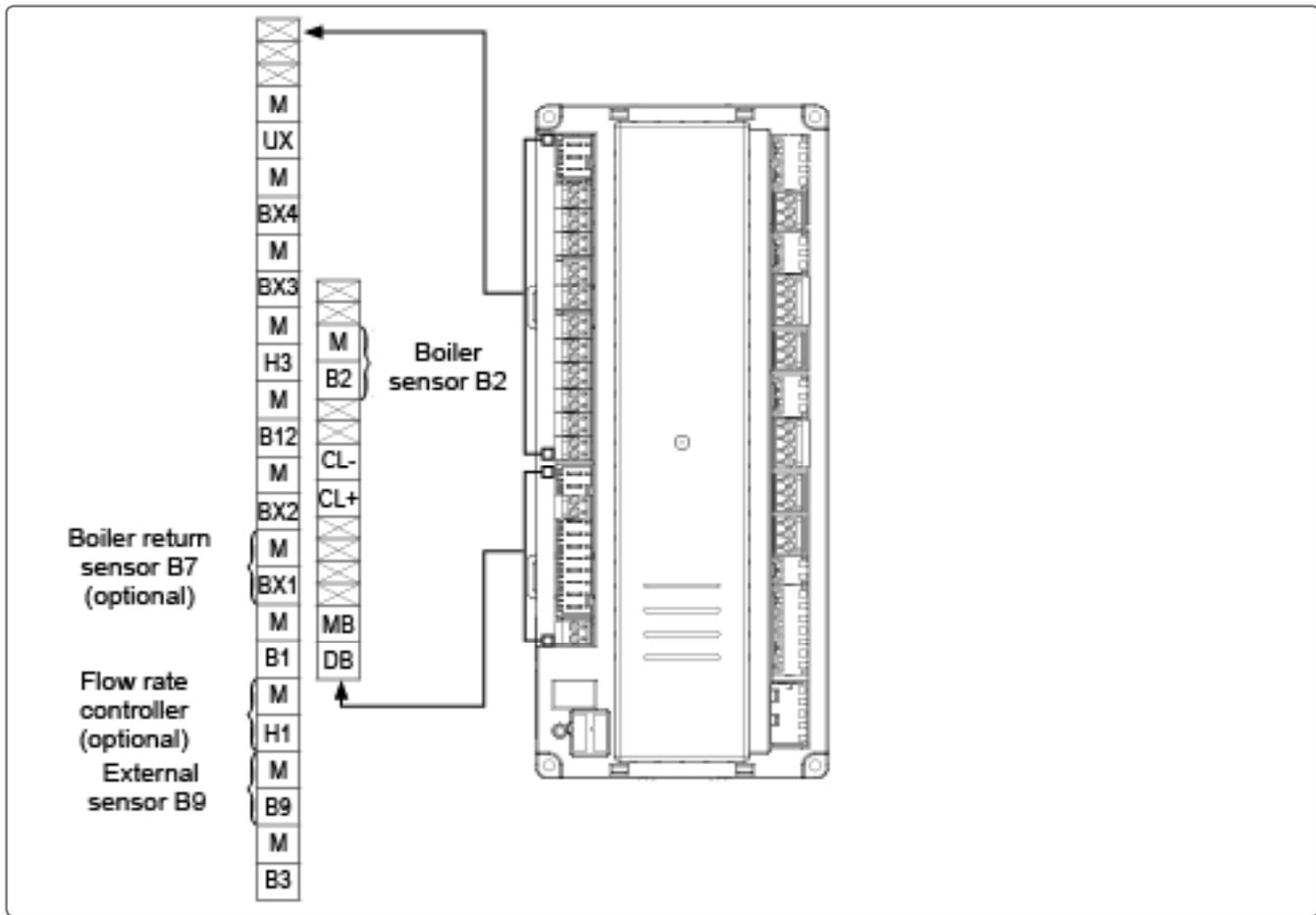


figure 41 - Regulator connection

### C. CONFIGURATION

- ☞ Make the sensor's electrical connections.
- ☞ Start up the boiler.
- ☞ Set the date and time:

• **Time and date** menu

- Set the time
- Set the date
- Set the year

Line No.	Value
Hour / minute (1)	HH.MM
Day / month (2)	DD.MM
Year (3)	YYYY

- ☞ Configure the boiler according to its type (see page 32, "Burner" and following) and remember to activate defect management.

• **Boiler** menu

Type of boiler (5770)	depending on the boiler
-----------------------	-------------------------

• **Configuration** menu

Input function EX2 (5982)	Thermostat safety error message
---------------------------	---------------------------------

☞ Set the boiler's settings:

• **Boiler** menu

Minimum flow temperature of boiler	Minimum setpoint (2210)	50°C (for fuel oil) 60°C (for gas)
Maximum flow temp. setpoint of boiler	Maximum setpoint (2212)	85 °C
Nominal power of boiler (Maximum power)	Nominal power (2330)	depending on the boiler / burner
Basic power of boiler (Minimum power)	Basic power (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. ⚠ OEM access ⚠	Load shedding at start-up of boiler pump (2261)	stop

☞ Manage the secondary networks (see page 32, "Burner"): **essential** to guarantee minimum flow temp. setpoint.

☞ On LRPKs with flow rate control option:

• **Configuration** menu

Input function H1 (5950)	Generator blocked
--------------------------	-------------------

☞ If present, define the return sensor:

• **Configuration** menu

Sensor input BX1 (5931)	Return sensor B7
-------------------------	------------------

**A. HYDRAULIC DIAGRAM**

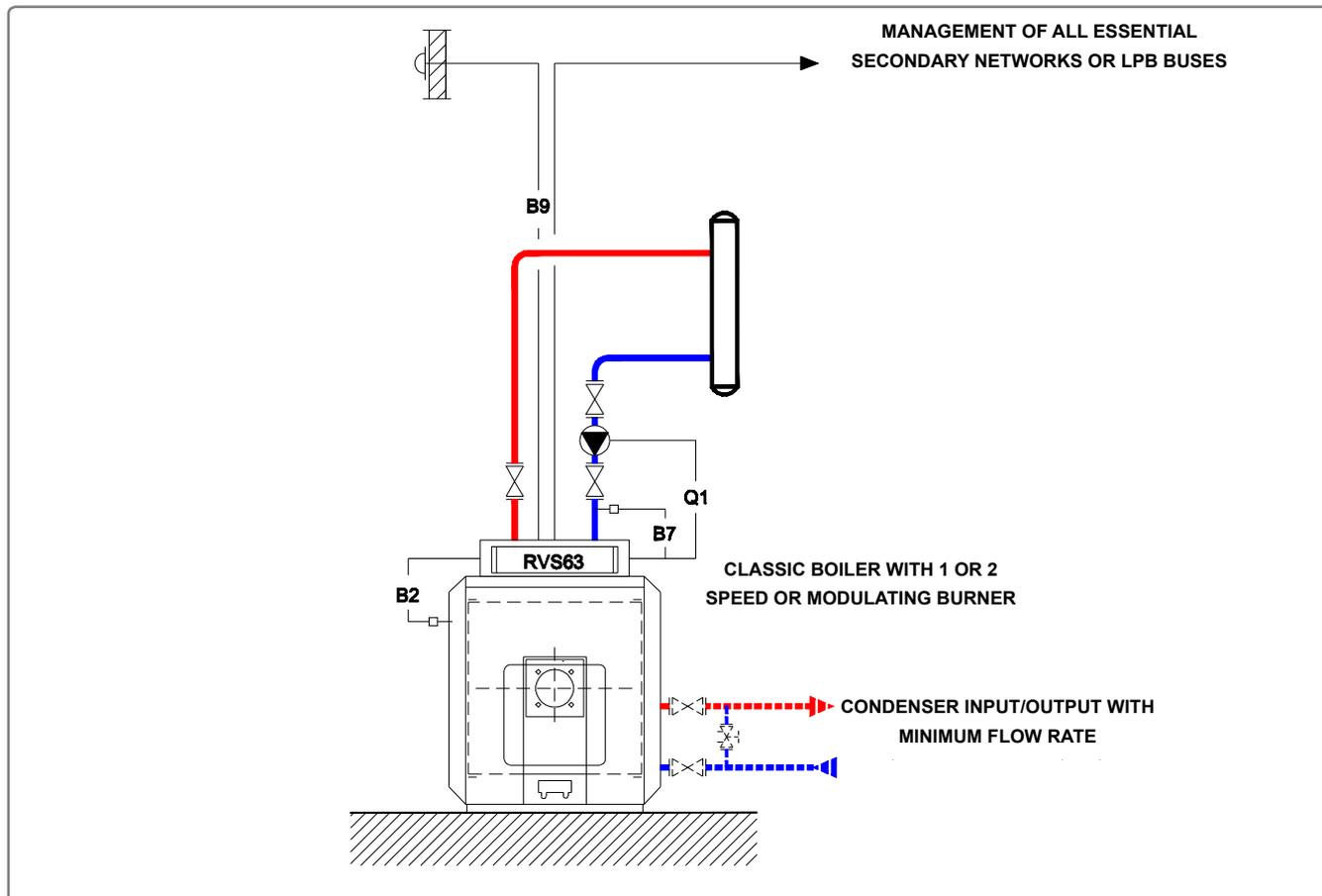


figure 42 - Diagram for single boiler - LRP / LRK / LR / LRR, management of protection of returns with action on consuming elements

**B. ELECTRICAL CONNECTION**

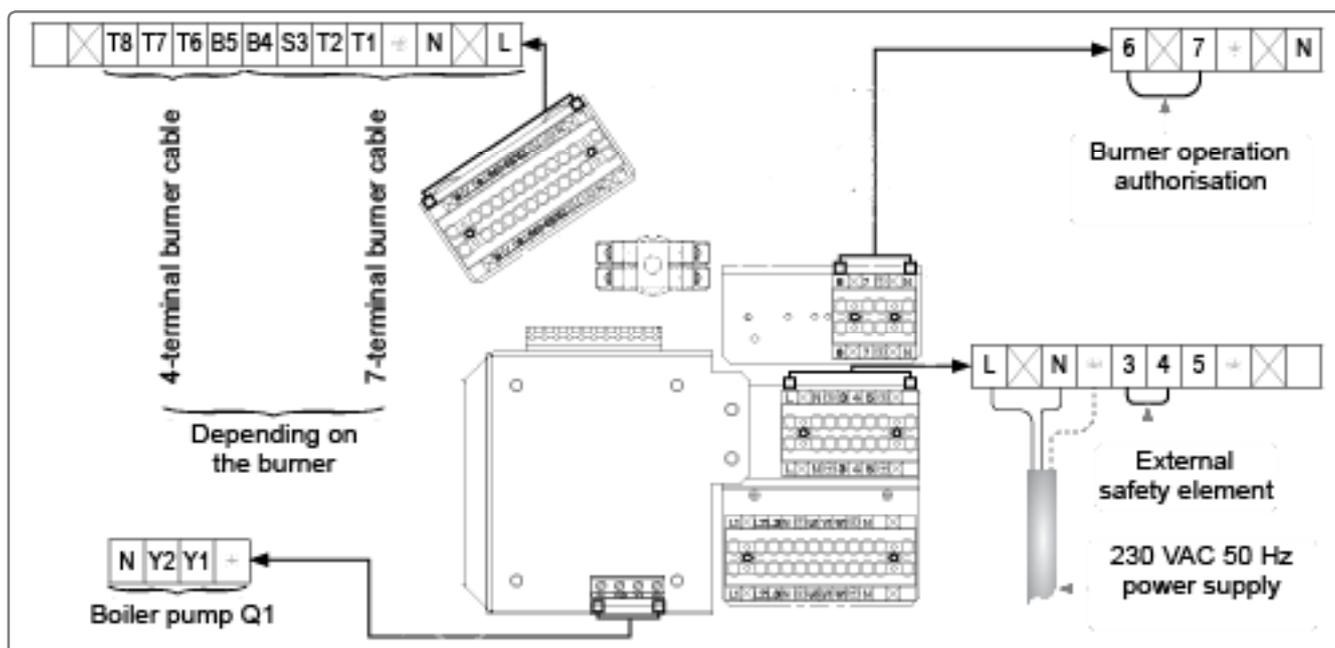


figure 43 - Electrical connection and "boiler pump" connection

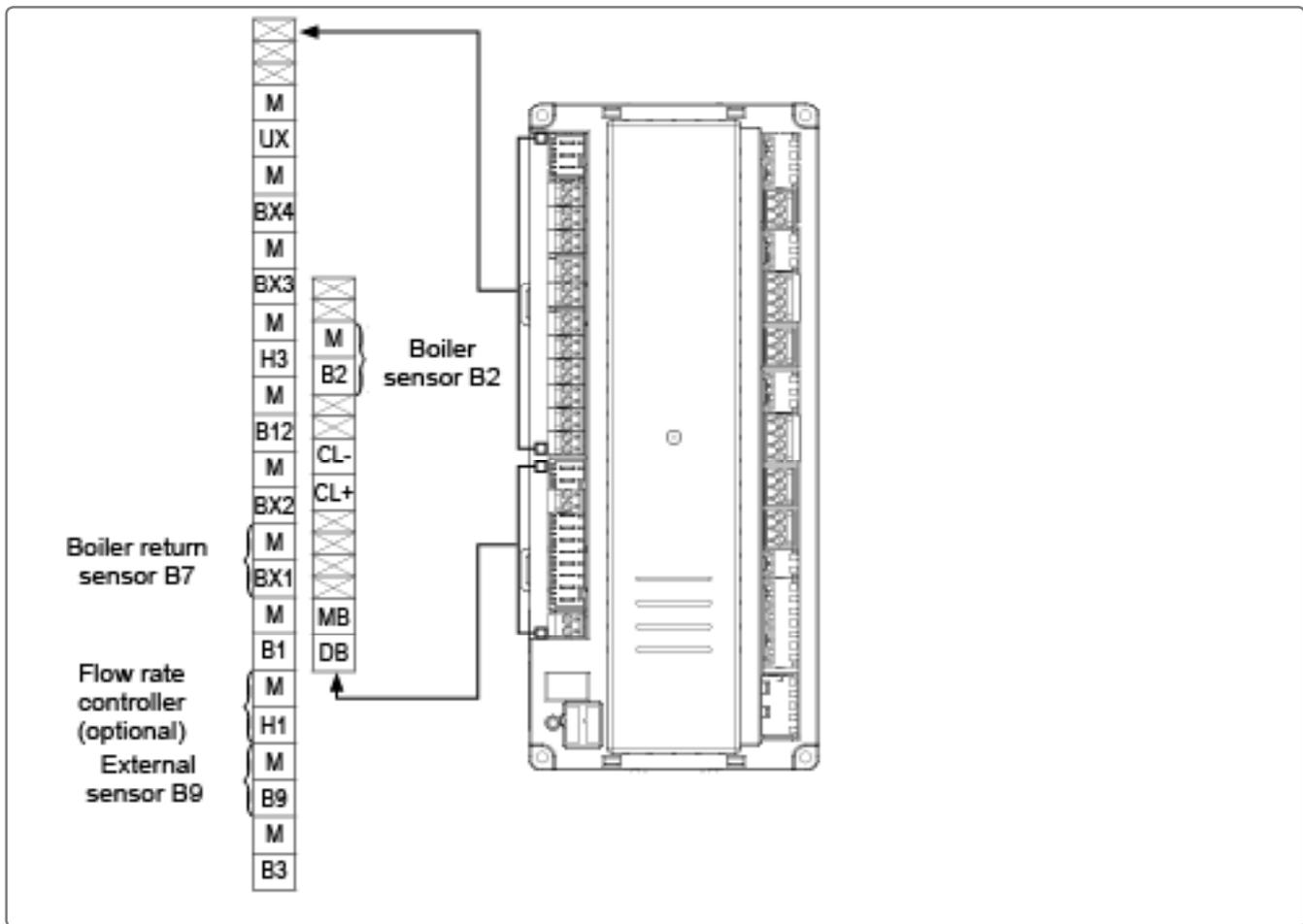


figure 44 - Regulator connection

### C. CONFIGURATION

- ☞ Make the sensor's electrical connections.
- ☞ Start up the boiler.
- ☞ Set the date and time:

• **Time and date** menu

- Set the time
- Set the date
- Set the year

Line No.	Value
Hour / minute (1)	HH.MM
Day / month (2)	DD.MM
Year (3)	YYYY

- ☞ Configure the hydraulics to the primary network:

• **Configuration** menu

Relay output QX2 (5891)	Boiler pump Q1
Sensor input BX1 (5930)	Return sensor B7

*LRP / LRK / LR / LRR, management of*  
**SINGLE BOILER** - *protection of returns with action on consuming elements*

page 3 / 3

☞ Configure the boiler according to its type (see page 32, “Burner” and following) and remember to activate defect management.

• **Boiler** menu

<b>Type of boiler</b> (5770)	depending on the boiler
------------------------------	-------------------------

• **Configuration** menu

<b>Input function EX2</b> (5982)	Thermostat safety error message
----------------------------------	---------------------------------

☞ Set the boiler's settings:

• **Boiler** menu

Minimum flow temperature	<b>Minimum setpoint</b> (2210)	60 °C (for fuel oil) 70 °C (for gas)
Maximum flow temperature	<b>Maximum setpoint</b> (2212)	85 °C
Protection of returns	<b>Minimum return setpoint</b> (2270)	50°C (for fuel oil) 60°C (for gas)
Nominal power (Maximum power)	<b>Nominal power</b> (2330)	depending on the boiler / burner
Basic power (Minimum power)	<b>Basic power</b> (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. ⚠ OEM access ⚠	<b>Load shedding at start-up of boiler pump</b> (2261)	stop

☞ Manage the secondary networks (see page 67, “Management of secondary networks”):  
**essential** to guarantee minimum flow temp. setpoint.

☞ On LRKs with flow rate control option:

• **Configuration** menu

<b>Input function Hx</b> (5950 or 5960)	Generator blocked
---	-------------------

**A. HYDRAULIC DIAGRAM**

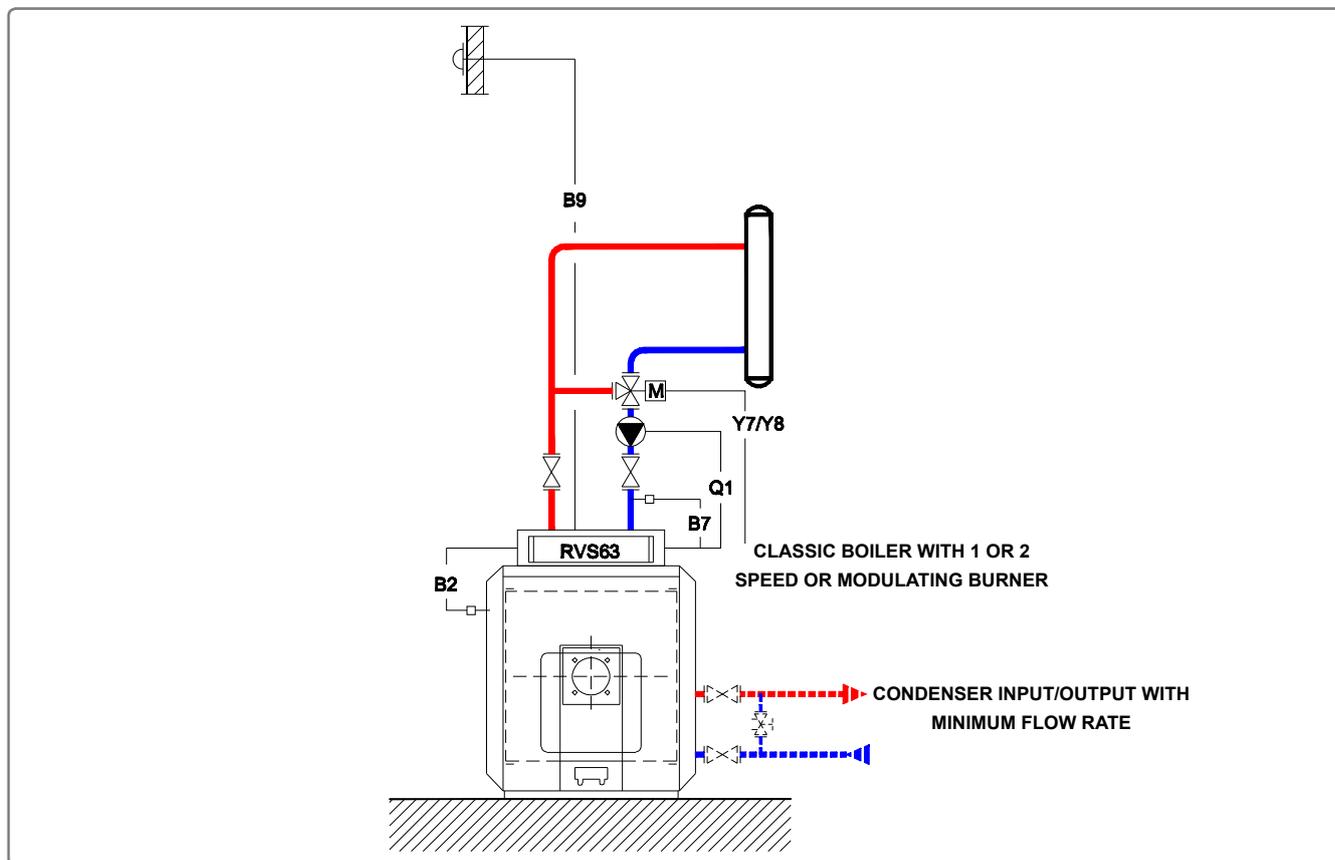


figure 45 - Diagram for single boiler - LRP / LRK / LR / LRR, management of protection of returns with action on consuming elements

**B. ELECTRICAL CONNECTION**

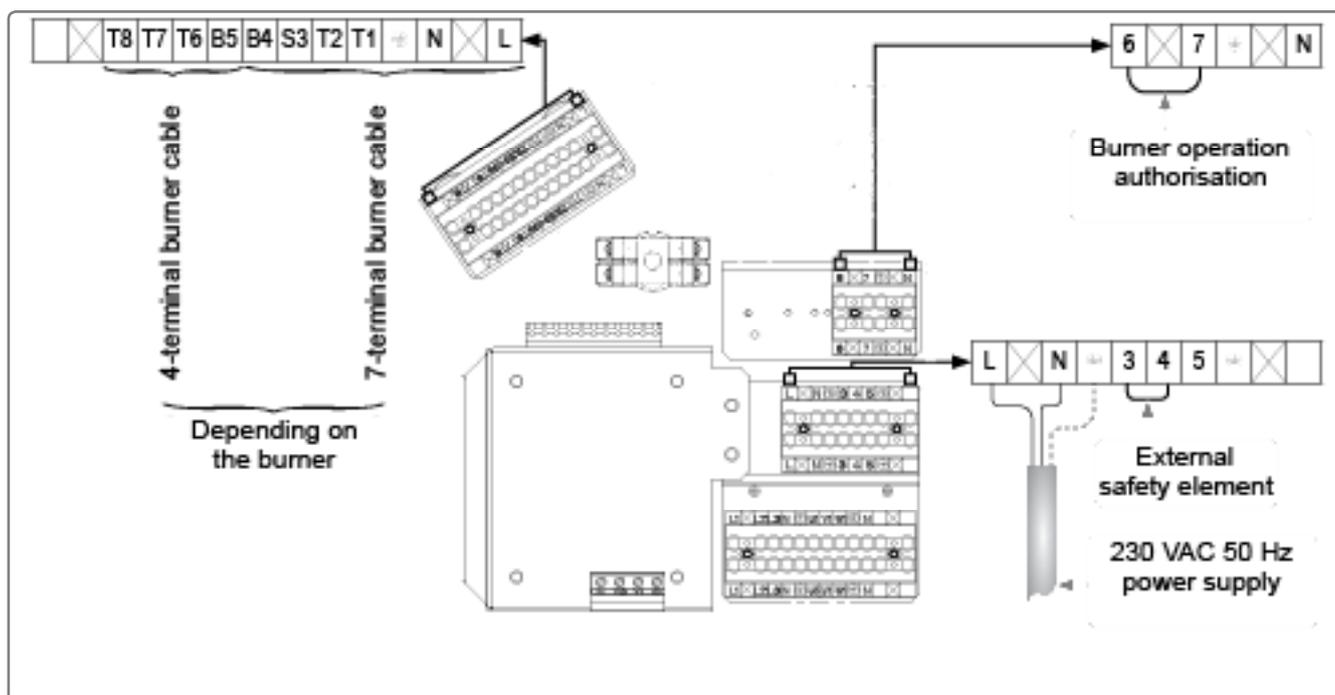


figure 46 - Electrical connection

<p>LRP / LRK / LR / LRR, management of  <b>SINGLE BOILER</b> - protection of returns without compulsory                  command of consuming elements</p>	<p>page 2 / 3</p>
--	-------------------

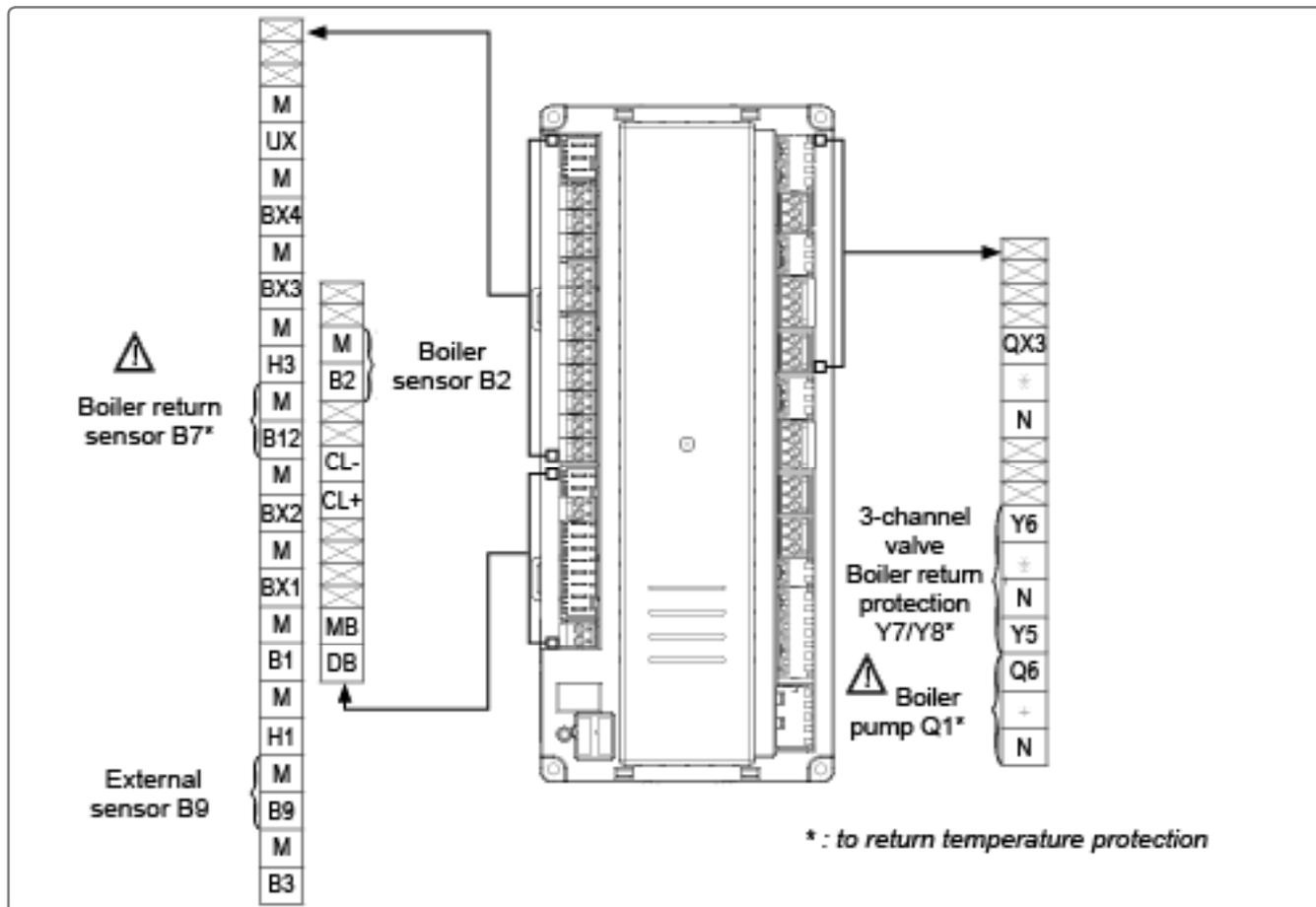


figure 47 - Regulator connection

### C. CONFIGURATION

- ☞ Make the sensor's electrical connections.
- ☞ Start up the boiler.
- ☞ Set the date and time:

• **Time and date** menu

- Set the time
- Set the date
- Set the year

Line No.	Value
Hour / minute (1)	HH.MM
Day / month (2)	DD.MM
Year (3)	YYYY

- ☞ Configure the hydraulics to the primary network:

• **Configuration** menu

Define management of the 3-channel valve protecting the returns (via RVS63):

RVS63	Function of mixing group 2 (6015)	Return Temp regulator
-------	-----------------------------------	-----------------------

<p><i>LRP / LRK / LR / LRR, management of</i>  <b>SINGLE BOILER</b> - protection of returns without compulsory  <i>command of consuming elements</i></p>	<p>page 3 / 3</p>
--	-------------------

☞ Configure the boiler according to its type (see page 32, “Burner” and following) and remember to activate defect management.

- **Boiler** menu
 

	<b>Type of boiler</b> (5770)	depending on the boiler
--	------------------------------	-------------------------
  
- **Configuration** menu
 

	<b>Input function EX2</b> (5982)	Thermostat safety error message
--	----------------------------------	---------------------------------

☞ Set the boiler's settings:

- **Boiler** menu
 

Minimum flow temperature	<b>Minimum setpoint</b> (2210)	60 °C (for fuel oil) 70 °C (for gas)
Maximum flow temperature	<b>Maximum setpoint</b> (2212)	85 °C
Protection of returns	<b>Minimum return setpoint</b> (2270)	50°C (for fuel oil) 60°C (for gas)
Nominal power (maximum power)	<b>Nominal power</b> (2330)	depending on the boiler / burner
Basic power (minimum power)	<b>Basic power</b> (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. ▲ OEM access ▲	<b>Load shedding at start-up of boiler pump</b> (2261)	stop

☞ Manage the secondary networks if necessary (see page 67, “Management of secondary networks”).

☞ On LRKs with flow rate control option:

- **Configuration** menu
 

	<b>Input function Hx</b> (5950 or 5960)	Generator blocked
--	---	-------------------

**A. HYDRAULIC DIAGRAM**

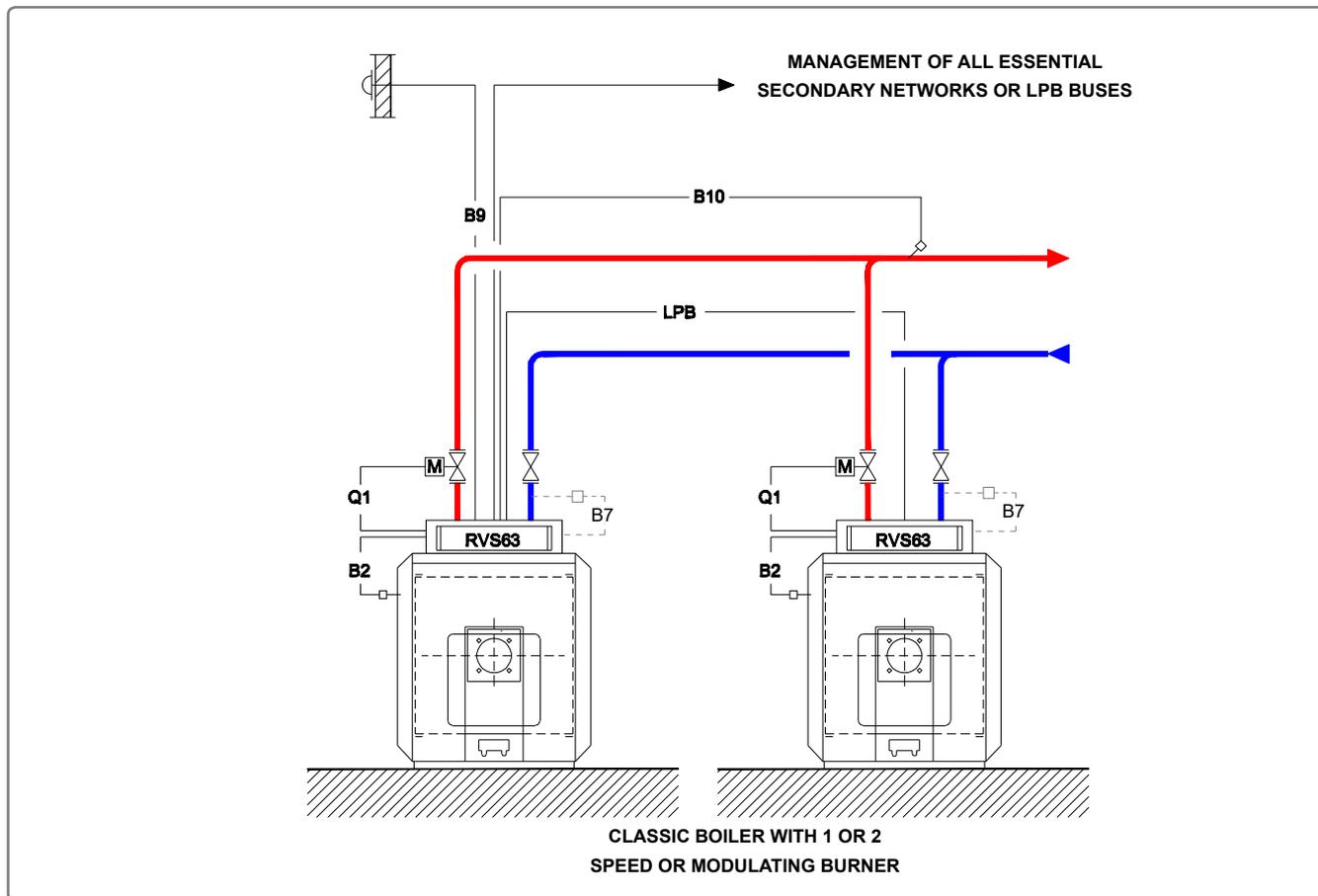


figure 48 - Cascade diagram - LRPK / LRP NT+, management of flow protection with action on secondary networks

**B. ELECTRICAL CONNECTION**

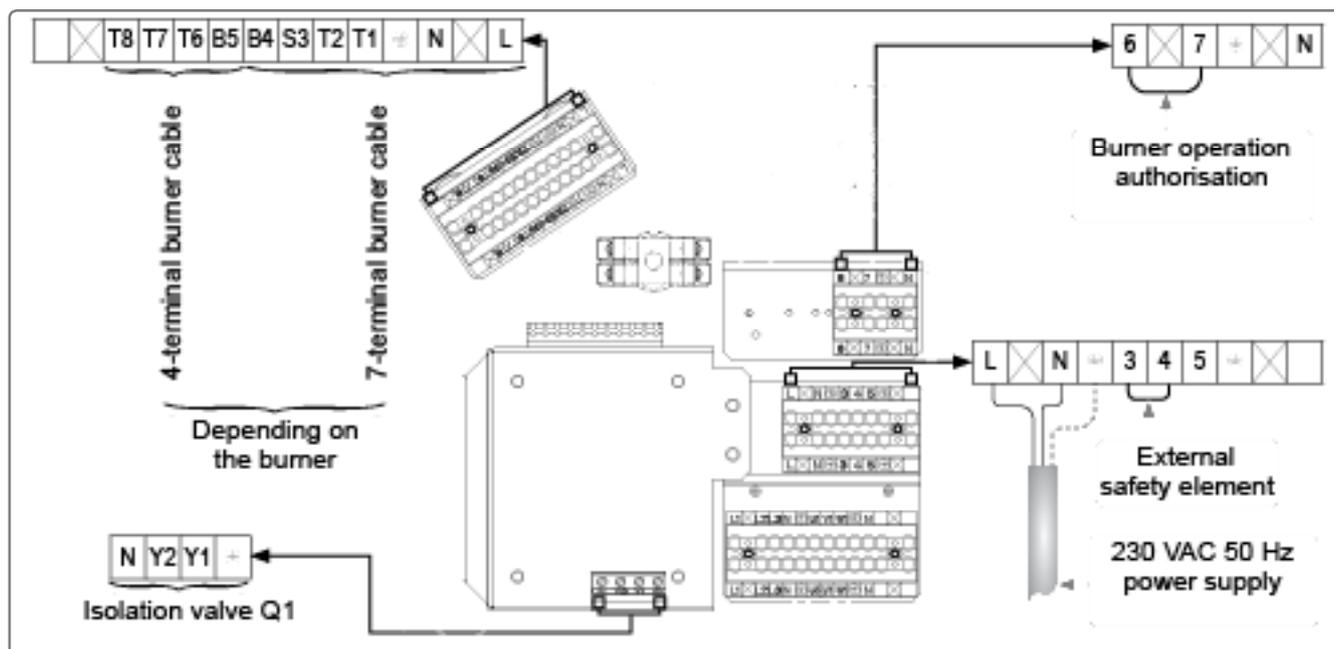


figure 49 - Identical connection for both boilers

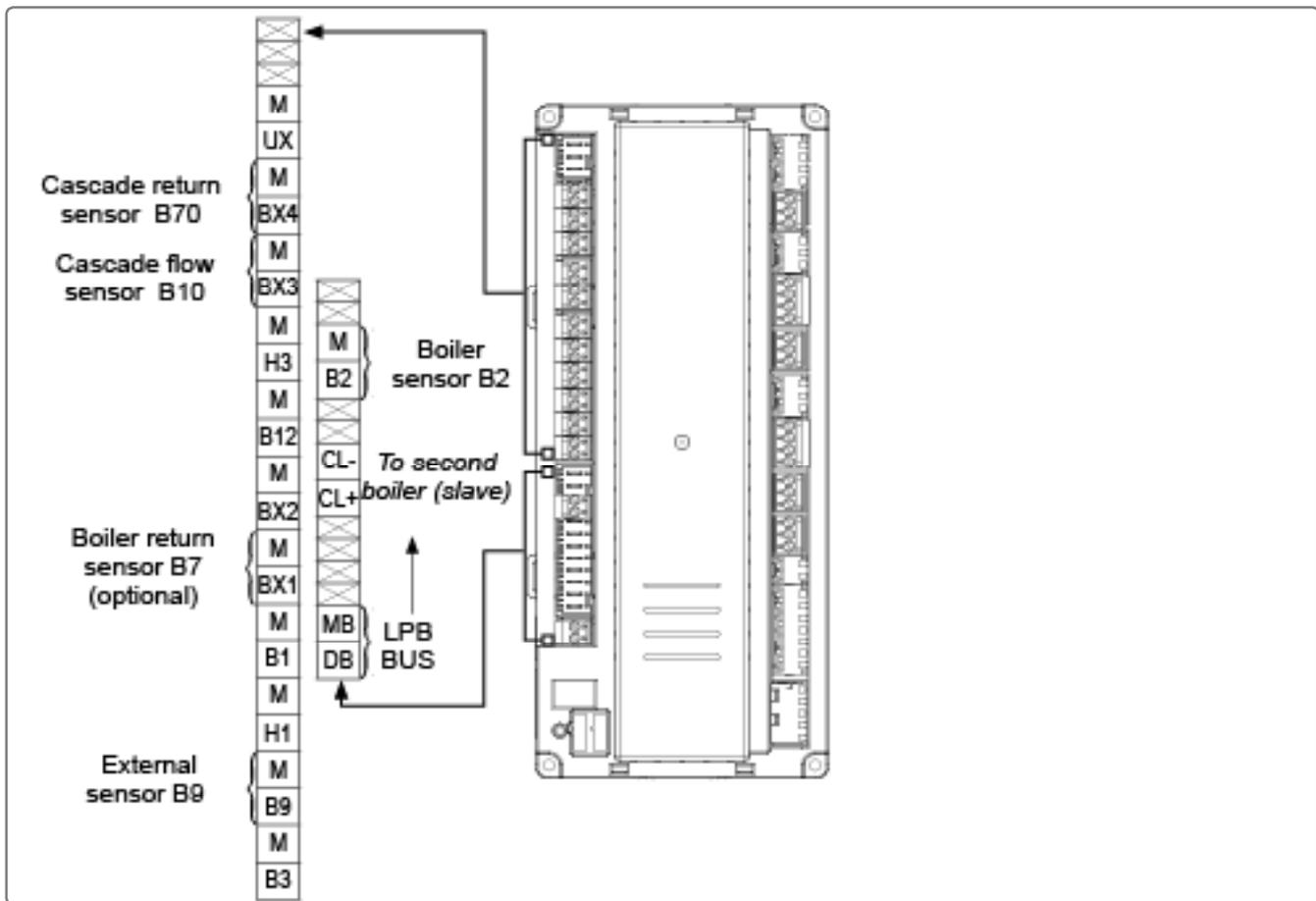


figure 50 - Connection of regulator to the first boiler (master)

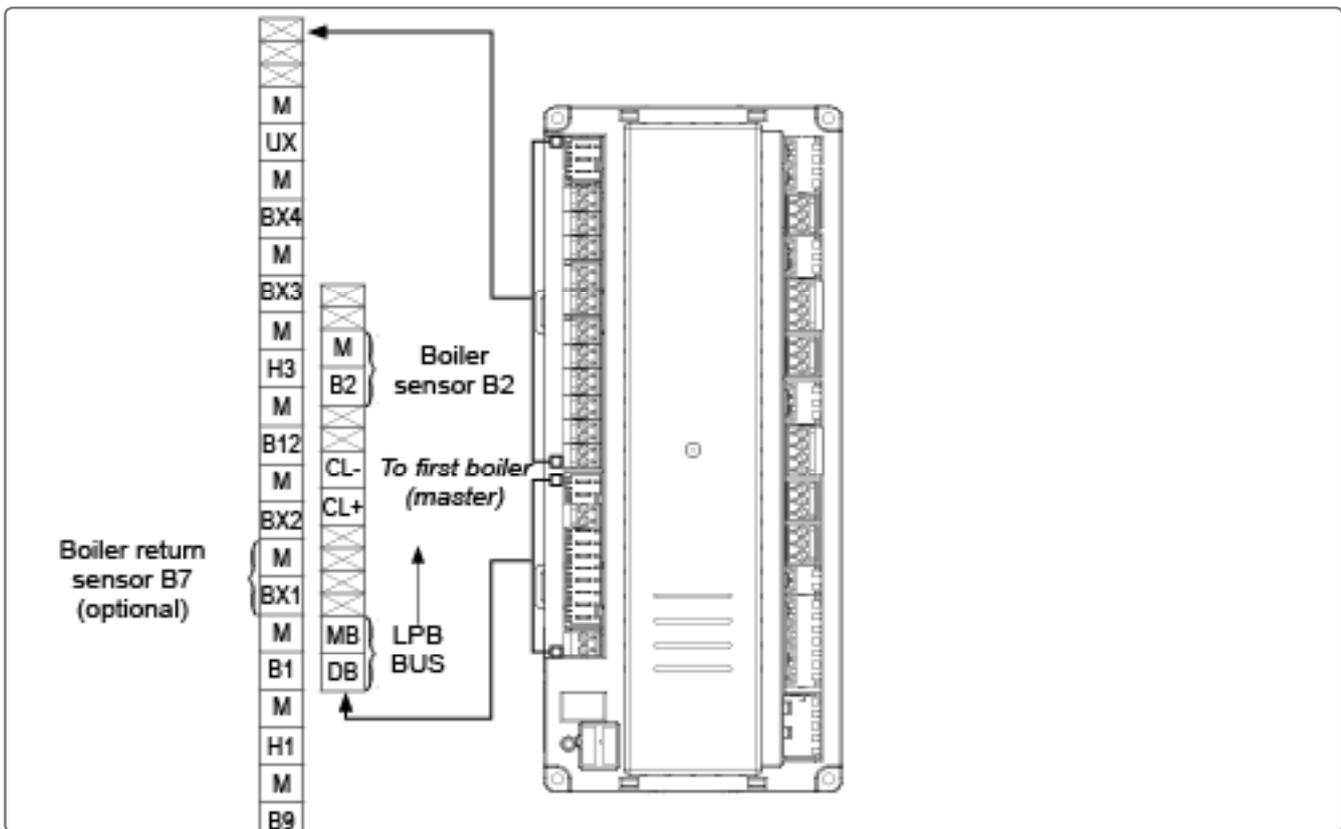


figure 51 - Connection of regulator to the second boiler (slave)

## C. CONFIGURATION ON EACH BOILER

- ☞ Make the sensor's electrical connections.
- ☞ Start up the boiler.
- ☞ Connect the LPB bus.
- ☞ Set the date and time:

	Line No.	Value
• <b>Time and date</b> menu		
Set the time	Hour / minute (1)	HH.MM
Set the date	Day / month (2)	DD.MM
Set the year	Year (3)	YYYY

- ☞ Configure the hydraulics to the primary network:

• <b>Configuration</b> menu		
Relay output QX2 (5891)		Boiler pump Q1
Sensor input BX1 (5930)		Return sensor B7

- ☞ Configure the boiler according to its type (see page 32, "Burner" and following) and remember to activate defect management.

• <b>Boiler</b> menu		
Type of boiler (5770)		depending on the boiler

• <b>Configuration</b> menu		
Input function EX2 (5982)		Thermostat safety error message

- ☞ Set the boiler's settings:

• <b>Boiler</b> menu		
Minimum flow temperature	Minimum setpoint (2210)	50°C (for fuel oil) 60°C (for gas)
Maximum flow temperature	Maximum setpoint (2212)	85 °C
Nominal power (Maximum power)	Nominal power (2330)	depending on the boiler / burner
Basic power (Minimum power)	Basic power (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. <span style="font-size: small;">△</span> OEM access <span style="font-size: small;">△</span>	Load shedding at start-up of boiler pump (2261)	stop

**ON THE MASTER BOILER**

☞ Define the cascade flow and return sensor (option):

• **Configuration** menu

Sensor input BX3 (5930)	Common flow sensor B10
Sensor input BX4 (5930)	Cascade return sensor B70

☞ Check the connection of the sensors:

• **Inputs/outputs test** menu

Temperature sensor BX3 (7822)	in °C
Temperature sensor BX4 (7823)	in °C

☞ Configure as master of the cascade:

• **LPB network** menu

Appliance address (6600)	1
Segment address (6601)	0
Clock operation (6640)	Master

☞ Configure the cascade:

• **Cascade** menu

Commutation auto séq.Gen. (3540)	500
Pilot boiler (3544)	generator 1
Re-start tempo (3532)	300
Start tempo (3533)	5
Cascade strategy (3510)	Switch-on delayed / stop delayed

△ OEM access △

**ON THE SLAVE BOILER**

☞ Configure as slave of the cascade:

• **LPB network** menu

Appliance address (6600)	2
Segment address (6601)	0
Clock operation (6640)	Slave without readjustment

☞ Manage the secondary networks (see page 67, "Management of secondary networks"): **essential** to guarantee minimum flow temp. setpoint.

**HOMOGENEOUS CASCADE** - *LR / LRR / LRP / LRK, management of protection of returns on boiler pump action and management of secondary networks*

**A. HYDRAULIC DIAGRAM**

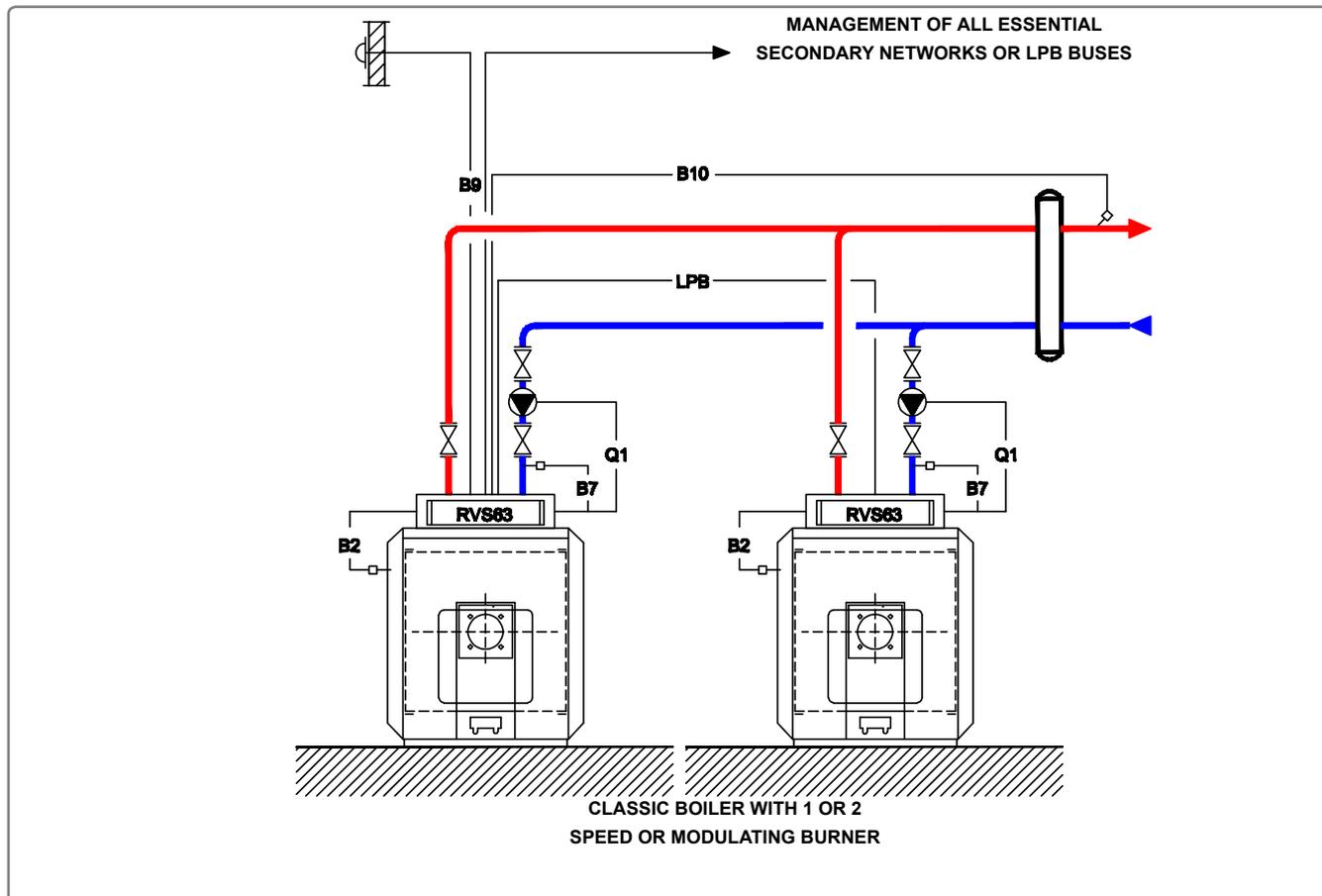


figure 52 - Cascade diagram - LR / LRR / LRP / LRK, management of protection of returns on boiler pump action and management of secondary networks

**B. ELECTRICAL CONNECTION**

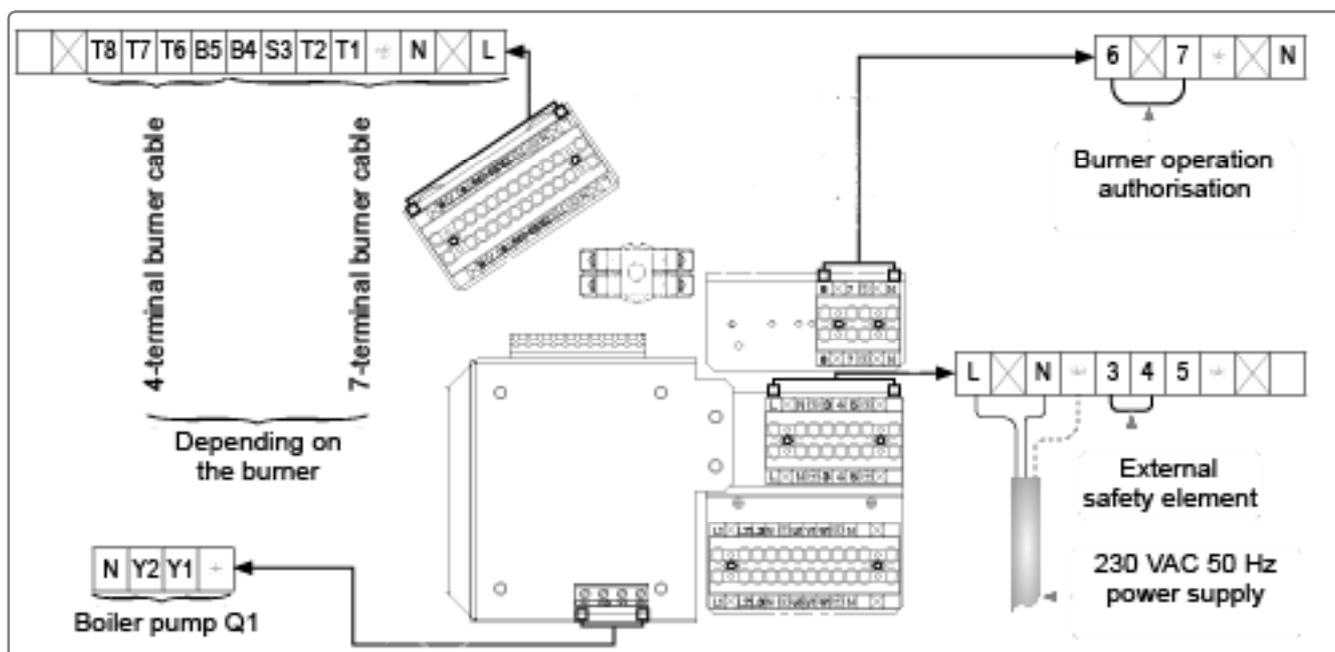


figure 53 - Identical connection for both boilers

**HOMOGENEOUS CASCADE** - protection of returns on boiler pump action and management of secondary networks

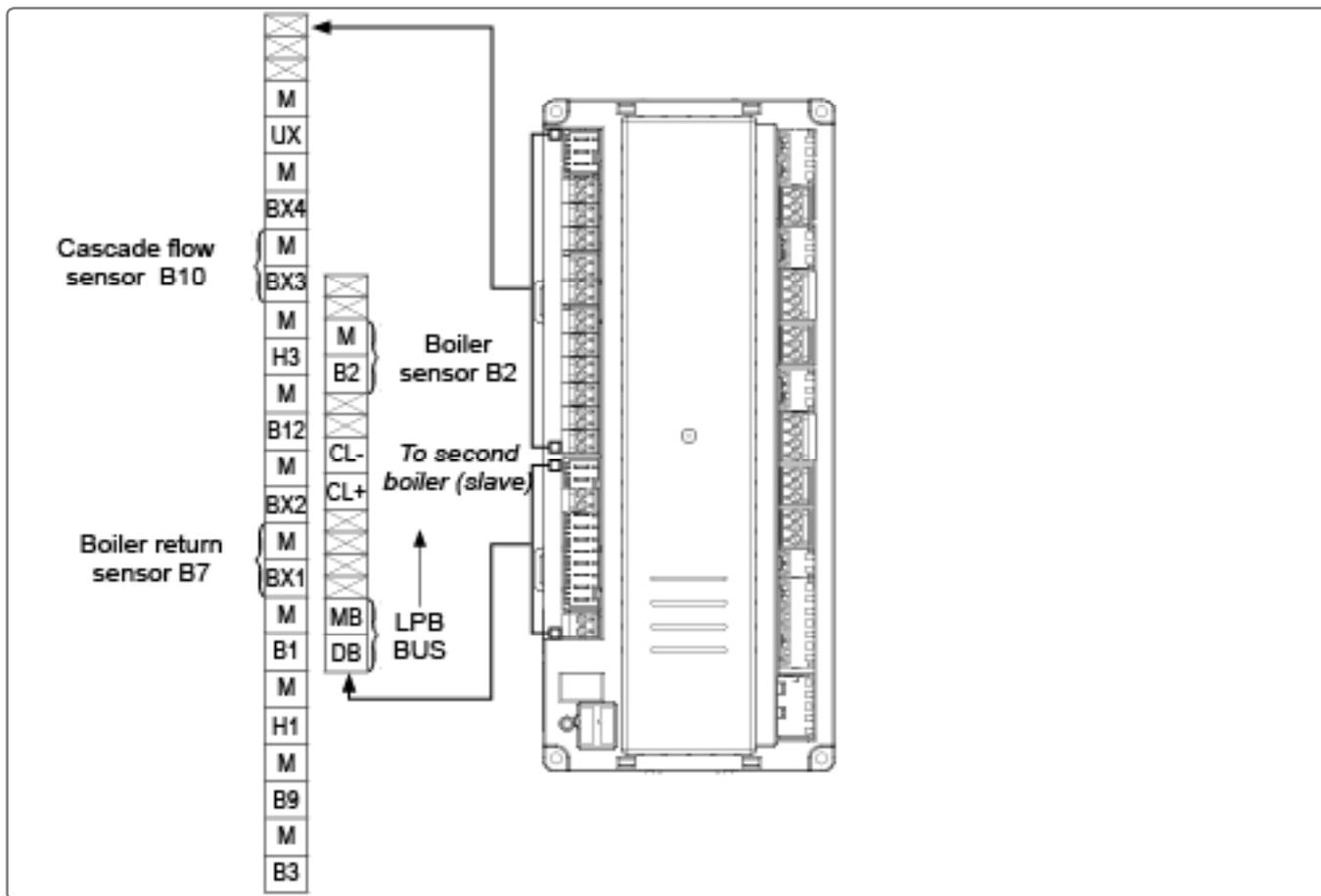


figure 54 - Connection of regulator to the first boiler (master)

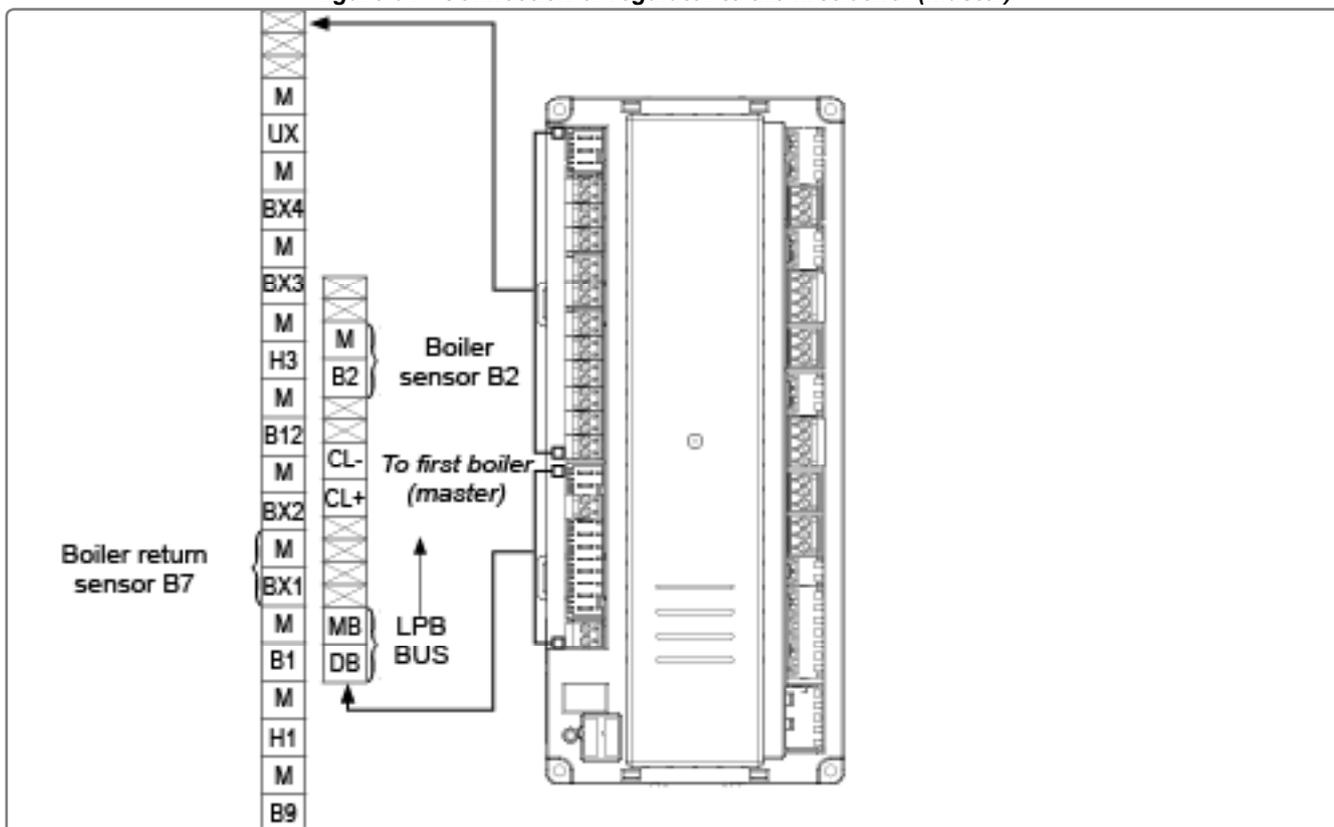


figure 55 - Connection of regulator to the second boiler (slave)

<p><b>HOMOGENEOUS CASCADE</b> - protection of returns on boiler pump action and management of secondary networks</p>	<p>LR / LRR / LRP / LRK, management of</p>	<p>page 3 / 4</p>
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### C. CONFIGURATION

#### ON EACH BOILER

☞ Make the sensor's electrical connections.

☞ Start up the boiler.

☞ Connect the LPB bus.

☞ Set the date and time:

	Line No.	Value
• <b>Time and date</b> menu		
Set the time	Hour / minute (1)	HH.MM
Set the date	Day / month (2)	DD.MM
Set the year	Year (3)	YYYY

☞ Configure the hydraulics to the primary network:

• <b>Configuration</b> menu		
	Relay output QX2 (5890)	Boiler pump Q1
	Sensor input BX1 (5930)	Return sensor B7

☞ Configure the boiler according to its type (see page 32, "Burner" and following) and remember to activate defect management.

• <b>Boiler</b> menu		
	Type of boiler (5770)	depending on the boiler
• <b>Configuration</b> menu		
	Input function EX2 (5982)	Thermostat safety error message

☞ Set the boiler's settings:

• <b>Boiler</b> menu		
Minimum flow temperature	Minimum setpoint (2210)	60 °C (for fuel oil) 70 °C (for gas)
Maximum flow temperature	Maximum setpoint (2212)	85 °C
Protection of returns	Minimum return setpoint (2270)	50°C (for fuel oil) 60°C (for gas)
Nominal power (Maximum power)	Nominal power (2330)	depending on the boiler / burner
Basic power (Minimum power)	Basic power (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. ▲ OEM access ▲	Load shedding at start-up of boiler pump (2261)	stop

<p>LR / LRR / LRP / LRK, management of  <b>HOMOGENEOUS CASCADE</b> - protection of returns on boiler pump action                  and management of secondary networks</p>	<p>page 4 / 4</p>
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**ON THE MASTER BOILER**

☞ Define the cascade flow sensor:

	Line No.	Value
• <b>Configuration</b> menu		
	Sensor input BX3 (5930)	Common flow sensor B10

☞ Check the connection of the sensors:

• <b>Inputs/outputs test</b> menu		
	Temperature sensor BX3 (7822)	in °C

☞ Configure as master of the cascade:

• <b>LPB network</b> menu		
	Appliance address (6600)	1
	Segment address (6601)	0
	Clock operation (6640)	Master

☞ Configure the cascade:

• <b>Cascade</b> menu		
	Commutation auto séq.Gen. (3540)	500
	Pilot boiler (3544)	generator 1
	Re-start tempo (3532)	300
	Start tempo (3533)	5
⚠ OEM access ⚠	Cascade strategy (3510)	Switch-on delayed / stop delayed

**ON THE SLAVE BOILER**

☞ Configure as slave of the cascade:

• <b>LPB network</b> menu		
	Appliance address (6600)	2
	Segment address (6601)	0
	Clock operation (6640)	Slave without readjustment

**ON THE MASTER BOILER**

☞ Manage the secondary networks (see page 67, “Management of secondary networks”):  
**essential** to guarantee minimum flow temp. setpoint.

**HOMOGENEOUS CASCADE -**

*LR / LRR / LRP / LRK, management of protection of returns via 3-channel valve without obligation to act on the consuming elements*

**A. HYDRAULIC DIAGRAM**

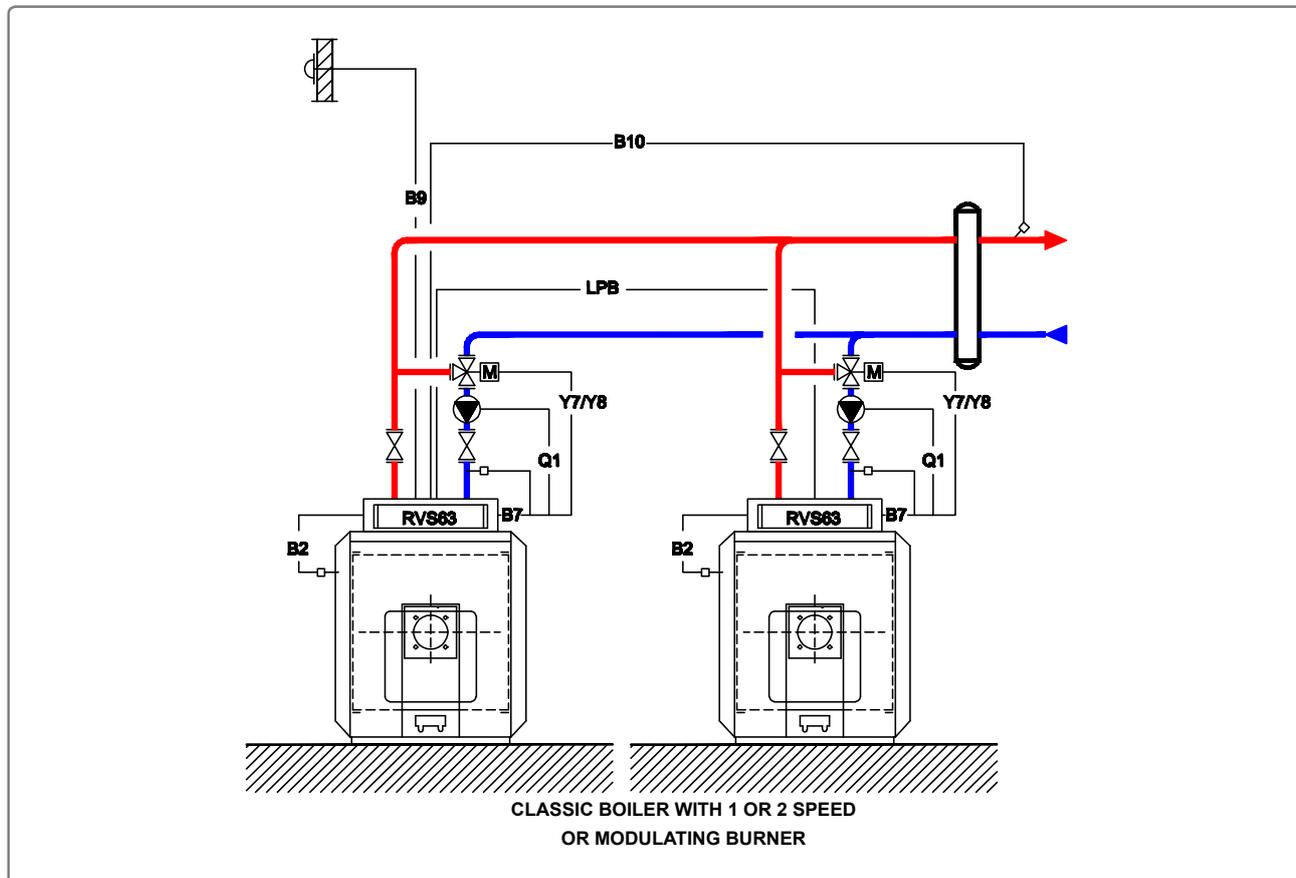


figure 56 - Cascade diagram - LR / LRR / LRP / LRK, management of protection of returns via 3-channel valve without obligation to act on the consuming elements

**B. ELECTRICAL CONNECTION**

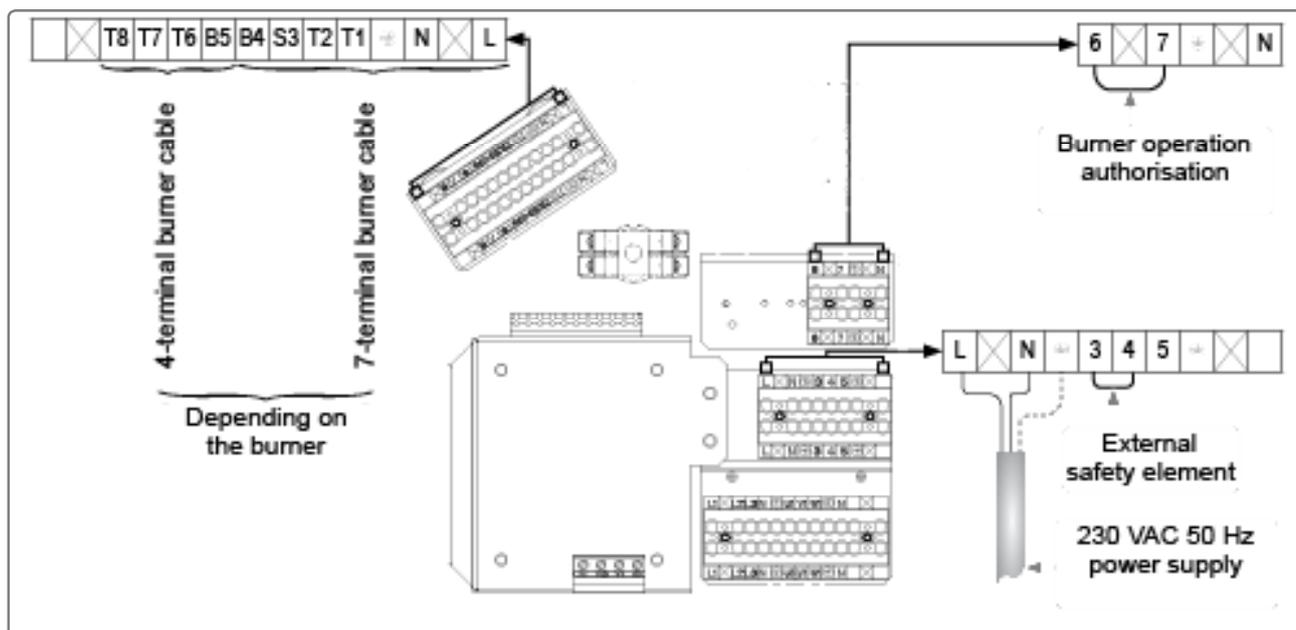


figure 57 - Identical connection for both boilers

**HOMOGENEOUS CASCADE -**

LR / LRR / LRP / LRK, management of protection of returns via 3-channel valve without obligation to act on the consuming elements

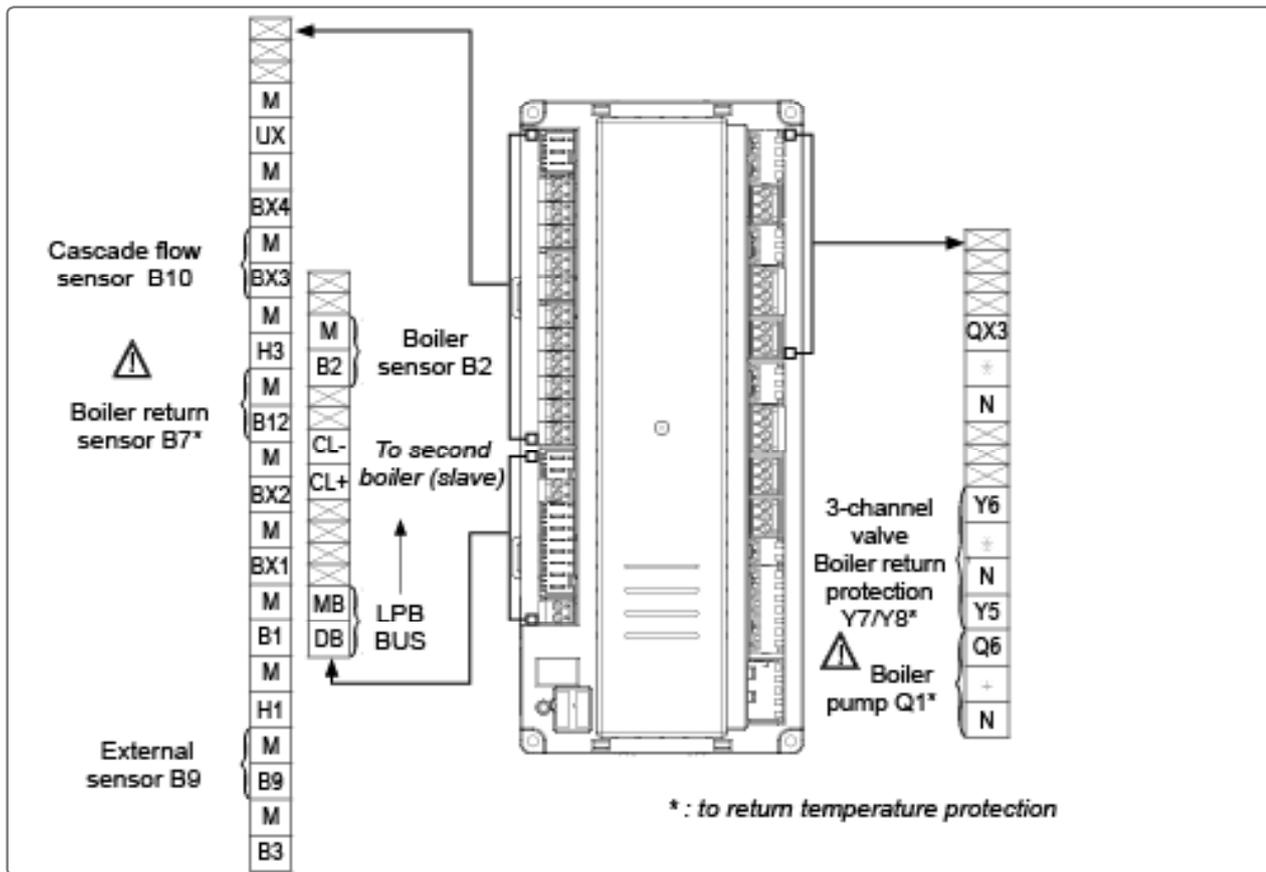


figure 58 - Connection of regulator to the first boiler (master)

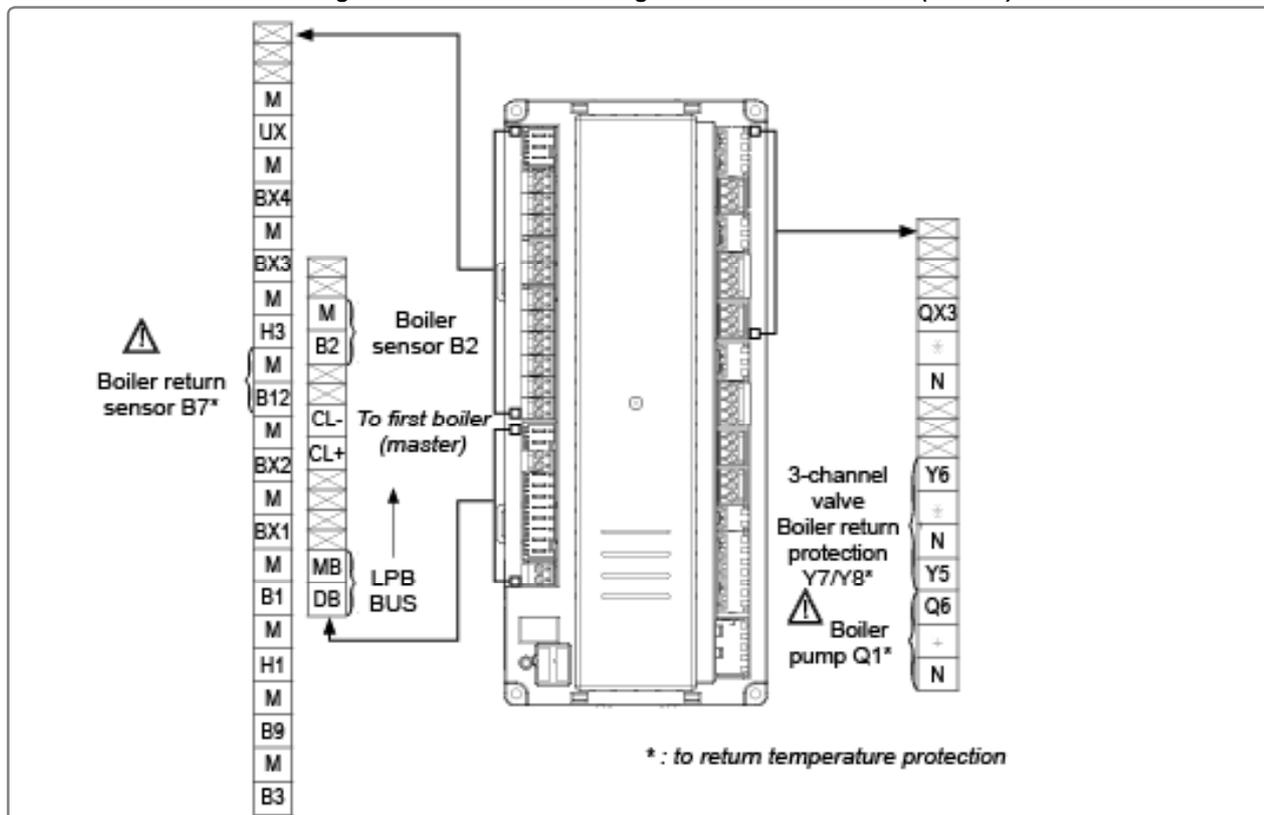


figure 59 - Connection of regulator to the second boiler (slave)

<b>HOMOGENEOUS CASCADE</b> -	<i>LR / LRR / LRP / LRK, management of protection of returns via 3-channel valve without obligation to act on the consuming elements</i>	page 3 / 4
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### C. CONFIGURATION ON EACH BOILER

- ☞ Make the sensor's electrical connections.
- ☞ Start up the boiler.
- ☞ Connect the LPB bus.
- ☞ Set the date and time:

	Line No.	Value
• <b>Time and date</b> menu		
Set the time	Hour / minute (1)	HH.MM
Set the date	Day / month (2)	DD.MM
Set the year	Year (3)	YYYY

- ☞ Configure the hydraulics to the primary network.

Define management of the 3-channel cascade valve protecting the returns (via RVS63):

RVS63	Function of mixing group 2 (6015)	Return Temp regulator
-------	-----------------------------------	-----------------------

- ☞ Configure the boiler according to its type (see page 32, "Burner" and following) and remember to activate defect management.

• <b>Boiler</b> menu	Type of boiler (5770)	depending on the boiler
• <b>Configuration</b> menu	Input function EX2 (5982)	Thermostat safety error message

- ☞ Set the boiler's settings:

• <b>Boiler</b> menu		
Minimum flow temperature	Minimum setpoint (2210)	60 °C (for fuel oil) 70 °C (for gas)
Maximum flow temperature	Maximum setpoint (2212)	85 °C
Protection of returns	Minimum return setpoint (2270)	50°C (for fuel oil) 60°C (for gas)
Nominal power (Maximum power)	Nominal power (2330)	depending on the boiler / burner
Basic power (Minimum power)	Basic power (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. ▲ OEM access ▲	Load shedding at start-up of boiler pump (2261)	stop

<b>HOMOGENEOUS CASCADE</b> -	<i>LR / LRR / LRP / LRK, management of protection of returns via 3-channel valve without obligation to act on the consuming elements</i>	page 4 / 4
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### ON THE MASTER BOILER

☞ Define the cascade flow sensor:

- **Configuration** menu

Sensor input BX3 (5930)	Common flow sensor B10
-------------------------	------------------------

☞ Check the connection of the sensors:

- **Inputs/outputs test** menu

Temperature sensor BX3 (7822)	in °C
-------------------------------	-------

☞ Configure as master of the cascade:

- **LPB network** menu

Appliance address (6600)	1
Segment address (6601)	0
Clock operation (6640)	Master

☞ Configure the cascade:

- **Cascade** menu

Commutation auto séq.Gen. (3540)	500
Pilot boiler (3544)	generator 1
Re-start tempo (3532)	300
Start tempo (3533)	5
Cascade strategy (3510)	Switch-on delayed / stop delayed

△ OEM access △

### ON THE SLAVE BOILER

☞ Configure as slave of the cascade:

- **LPB network** menu

Appliance address (6600)	2
Segment address (6601)	0
Clock operation (6640)	Slave without readjustment

### ON THE MASTER BOILER

☞ Manage the secondary networks if necessary (see page 67, "Management of secondary networks").

**A. HYDRAULIC DIAGRAM**

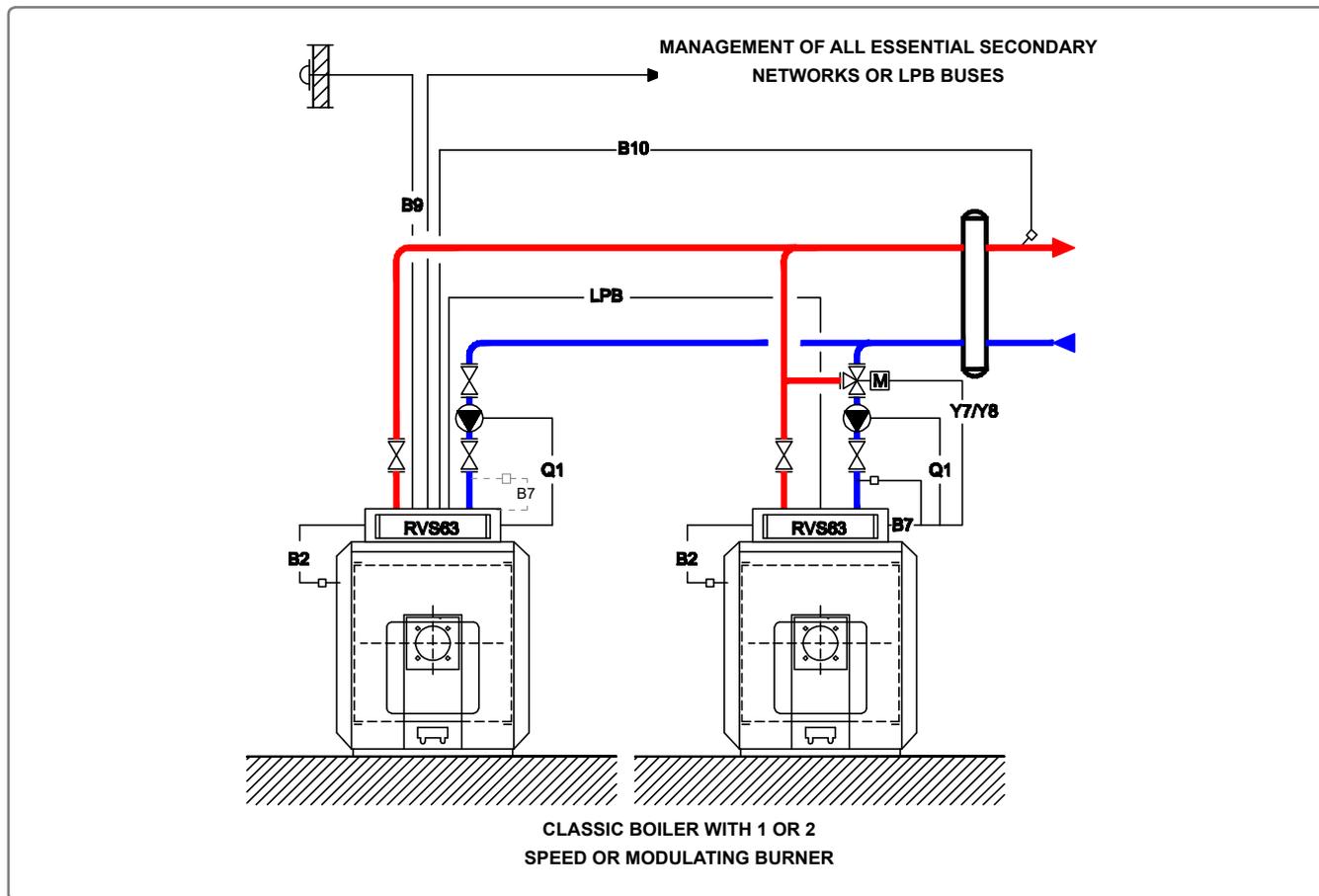


figure 60 - Cascade diagram - LRP NT+ with LRP / LR, protection of returns via 3-channel valve

**B. ELECTRICAL CONNECTION**

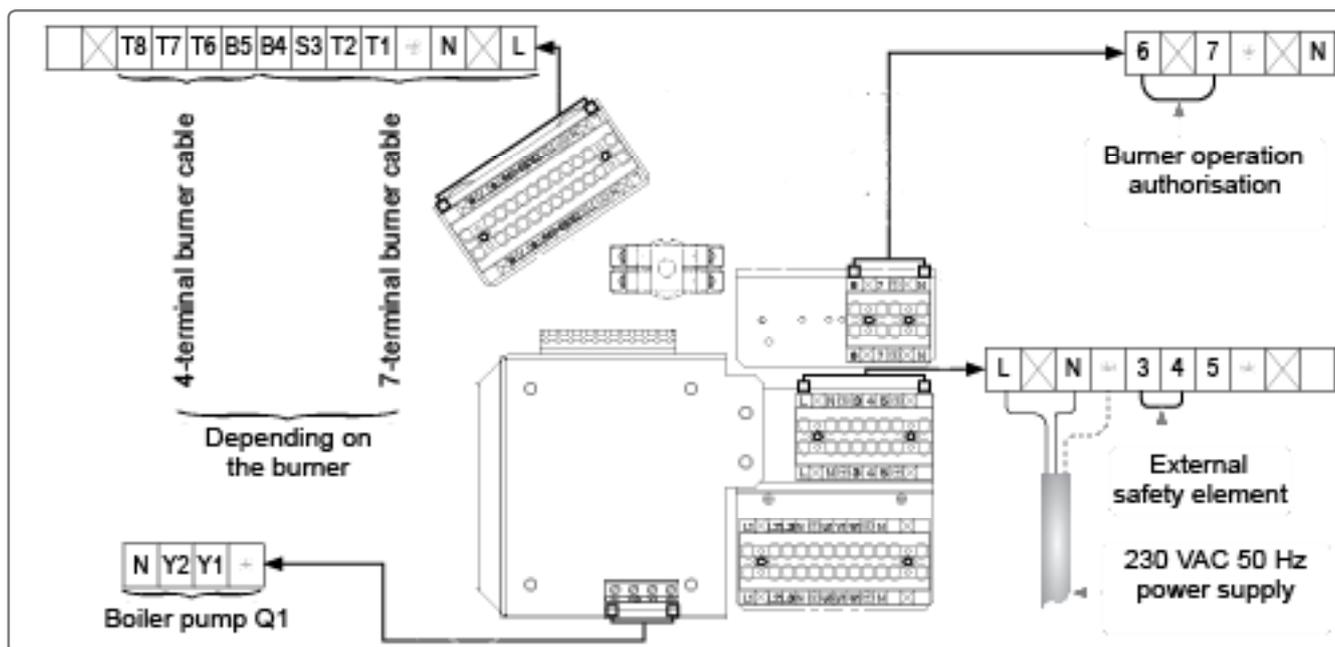


figure 61 - Connection of the first boiler (LRP NT+)

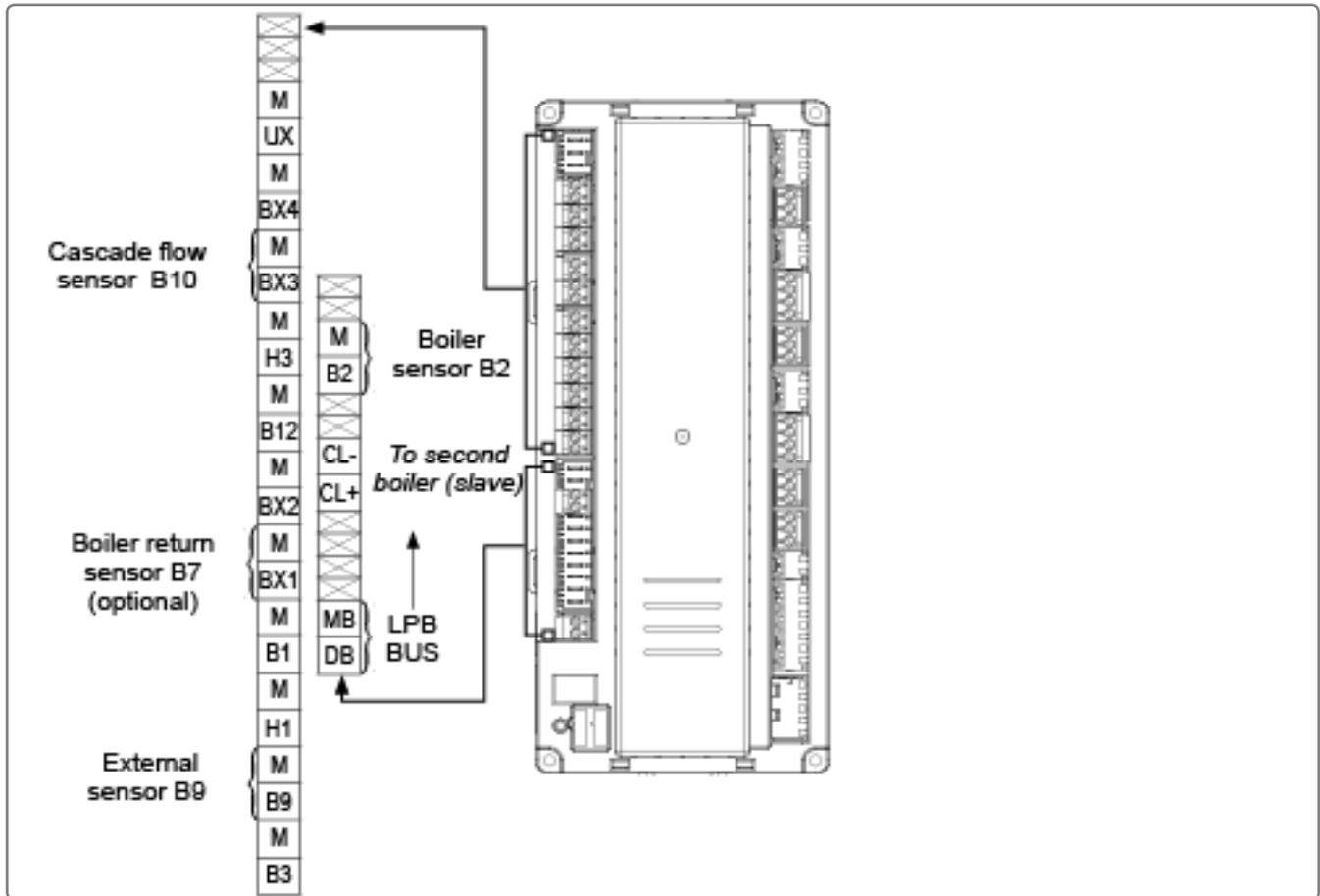


figure 62 - Connection of regulator on the first boiler (LRP NT+)

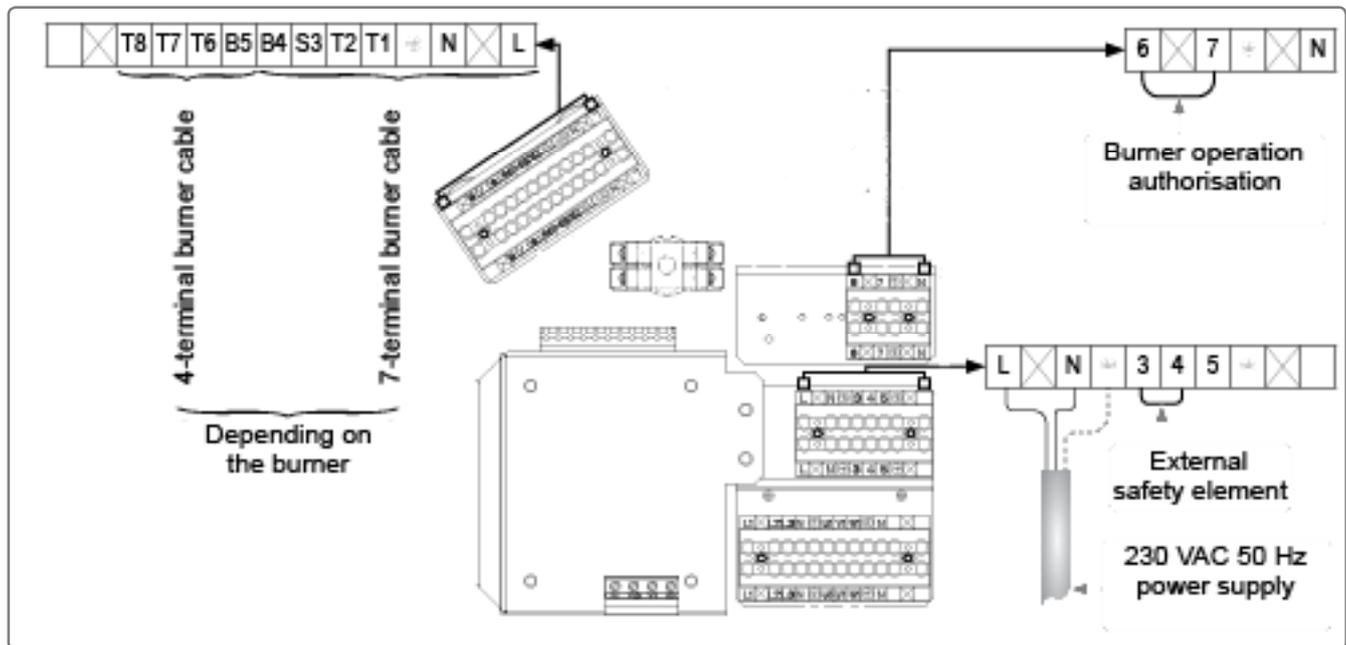


figure 63 - Connection of the second boiler (LRP / LR)

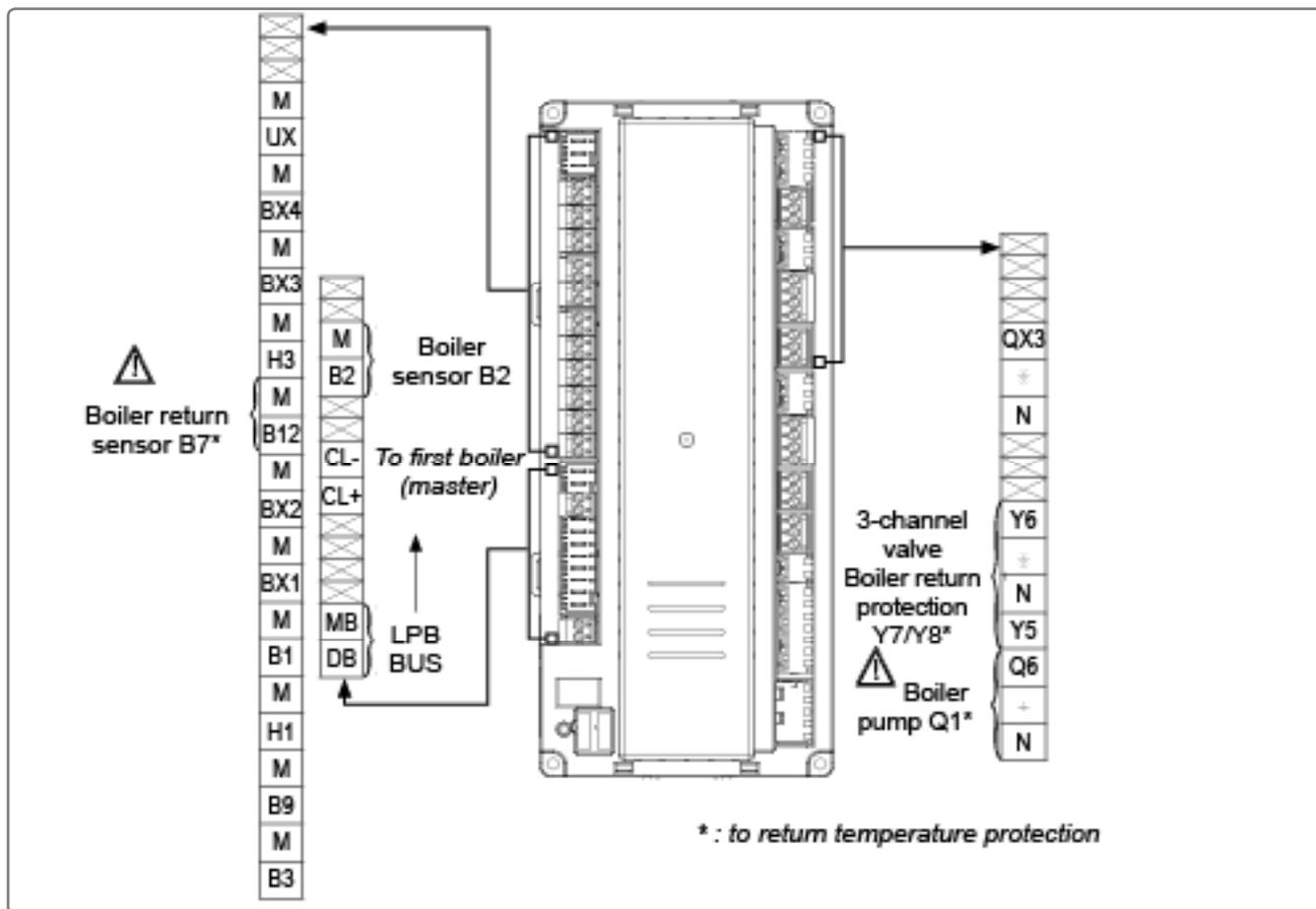


figure 64 - Connection of regulator on the second boiler (LRP / LR)

### C. CONFIGURATION

#### ON LRP NT+ BOILER (master boiler)

- ☞ Make the sensor's electrical connections.
- ☞ Start up the boiler.
- ☞ Set the date and time:

• **Time and date** menu

- Set the time
- Set the date
- Set the year

Line No.	Value
Hour / minute (1)	HH.MM
Day / month (2)	DD.MM
Year (3)	YYYY

- ☞ Configure the hydraulics to the primary network:

• **Configuration** menu

Relay output QX2 (5890)	Boiler pump Q1
Sensor input BX3 (5930)	Common flow sensor B10

☞ Check the connection of the sensors:

• **Inputs/outputs test** menu

Temperature sensor BX3 (7822) | in °C

☞ Configure the boiler according to its type (see page 32, "Burner" and following) and remember to activate defect management.

• **Boiler** menu

Type of boiler (5770) | depending on the boiler

• **Configuration** menu

Input function EX2 (5982) | Thermostat safety error message

☞ Set the boiler's settings:

• **Boiler** menu

Minimum flow temperature	Minimum setpoint (2210)	50°C (for fuel oil) 60°C (for gas)
Maximum flow temperature	Maximum setpoint (2212)	85 °C
Nominal power (Maximum power)	Nominal power (2330)	depending on the boiler / burner
Basic power (Minimum power)	Basic power (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. <small>△</small> OEM access <small>△</small>	Load shedding at start-up of boiler pump (2261)	stop

☞ Configure as master of the cascade:

• **LPB network** menu

Appliance address (6600)	1
Segment address (6601)	0
Clock operation (6640)	Master

☞ Configure the cascade:

• **Cascade** menu

Commutation auto séq.Gen. (3540)	- - -
Pilot boiler (3544)	generator 1
Re-start tempo (3532)	300
Start tempo (3533)	5
Cascade strategy (3510)	Switch-on delayed / stop delayed

△ OEM access △

**ON LRP / LR BOILER (back-up boiler)**

☞ Make the sensor's electrical connections.

☞ Start up the boiler.

☞ Set the date and time:

• **Time and date** menu

Set the time	Hour / minute (1)	HH.MM
Set the date	Day / month (2)	DD.MM
Set the year	Year (3)	YYYY

☞ Configure the hydraulics to the primary network.

• **Boiler** menu

Define management of the 3-channel cascade valve protecting the returns (via RVS63):

Function of mixing group 2 (6015)	Return Temp regulator
-----------------------------------	-----------------------

☞ Configure the boiler according to its type (see page 32, "Burner" and following) and remember to activate defect management.

• **Boiler** menu

Type of boiler (5770)	depending on the boiler
-----------------------	-------------------------

• **Configuration** menu

Input function EX2 (5982)	Thermostat safety error message
---------------------------	---------------------------------

☞ Set the boiler's settings:

• **Boiler** menu

Minimum flow temperature	Minimum setpoint (2210)	60 °C (for fuel oil) 70 °C (for gas)
Maximum flow temperature	Maximum setpoint (2212)	85 °C
Protection of returns	Minimum return setpoint (2270)	50°C (for fuel oil) 60°C (for gas)
Nominal power (Maximum power)	Nominal power (2330)	depending on the boiler / burner
Basic power (Minimum power)	Basic power (2331)	depending on the boiler / burner
Removal of load shedding of boiler pump. ▲ OEM access ▲	Load shedding at start-up of boiler pump (2261)	stop

☞ Configure as slave of the cascade:

• **LPB network** menu

Appliance address (6600)	2
Segment address (6601)	0
Clock operation (6640)	Slave without readjustment

**ON LRP NT+ BOILER**

☞ Manage the secondary networks (see page 67, “Management of secondary networks”):  
**essential** to guarantee minimum flow temp. setpoint.

The heat requests sent to the boiler(s) may differ. They may originate from one or several of the following applicants:

- Heating circuit controlled by the controller
- DHW circuit controlled by the controller
- Consumer request not controlled by the controller via a 0...10V signal
- Constant temperature request
- External temperature request via the LPB bus

### A. HYDRAULIC DIAGRAM

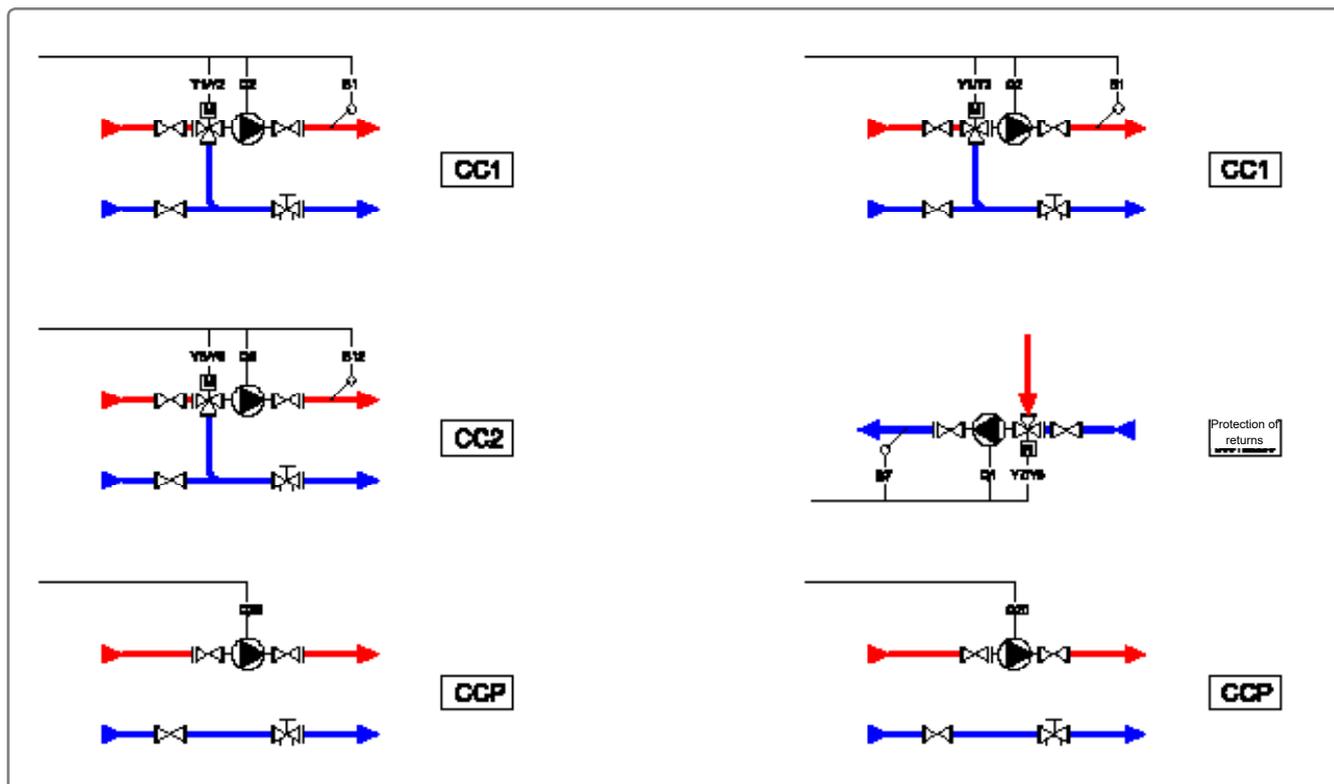


figure 65 - Heat request diagram - RVS63

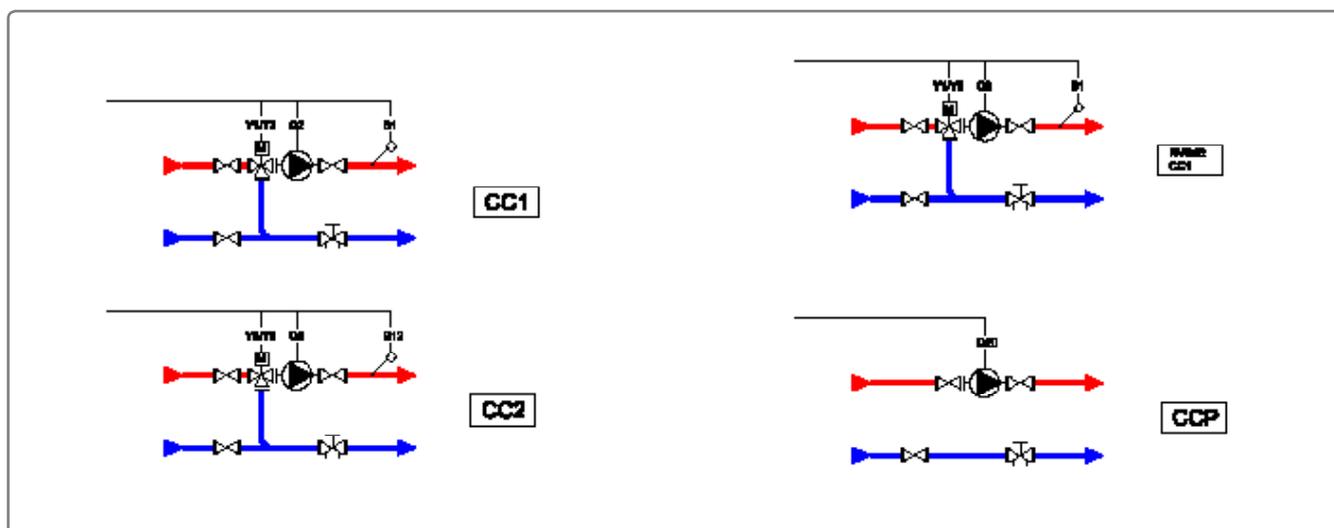


figure 66 - Heat request diagram - RVS63 + options

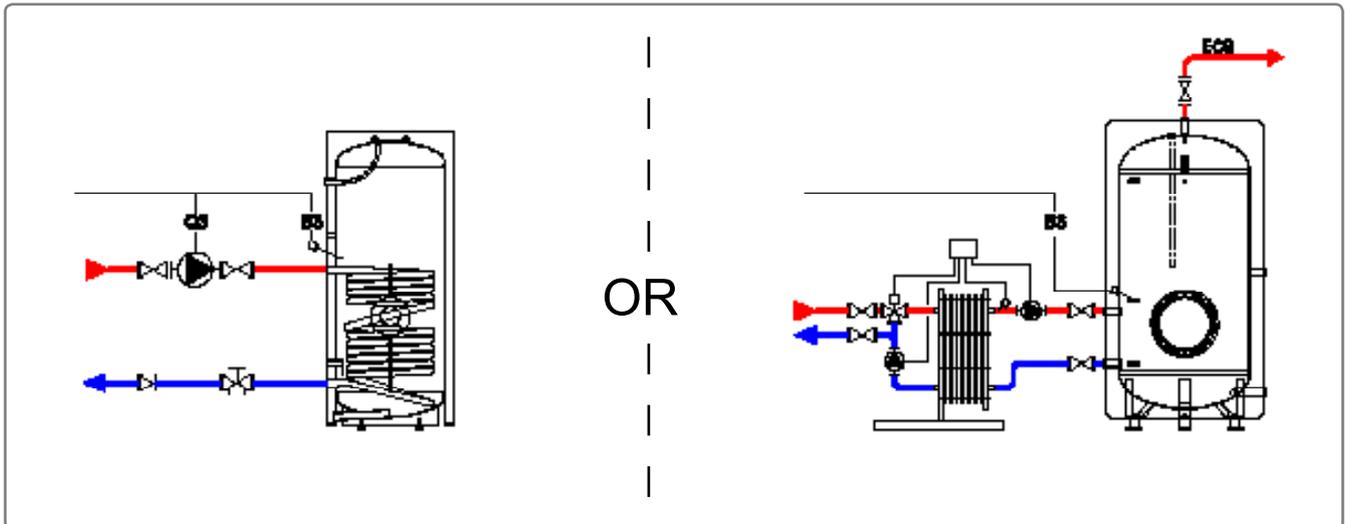


figure 67 - Heat request diagram- DHW production

## B. ELECTRICAL CONNECTION

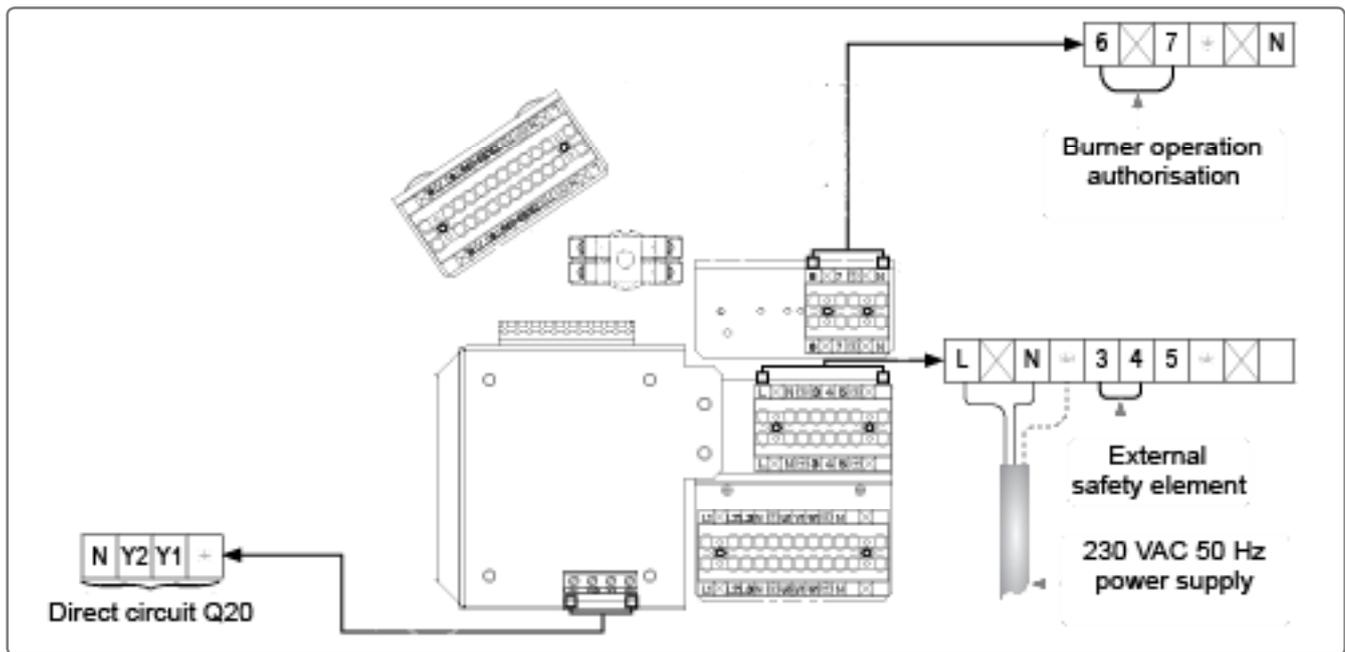


figure 68 - Electrical connection and connection of direct circuit

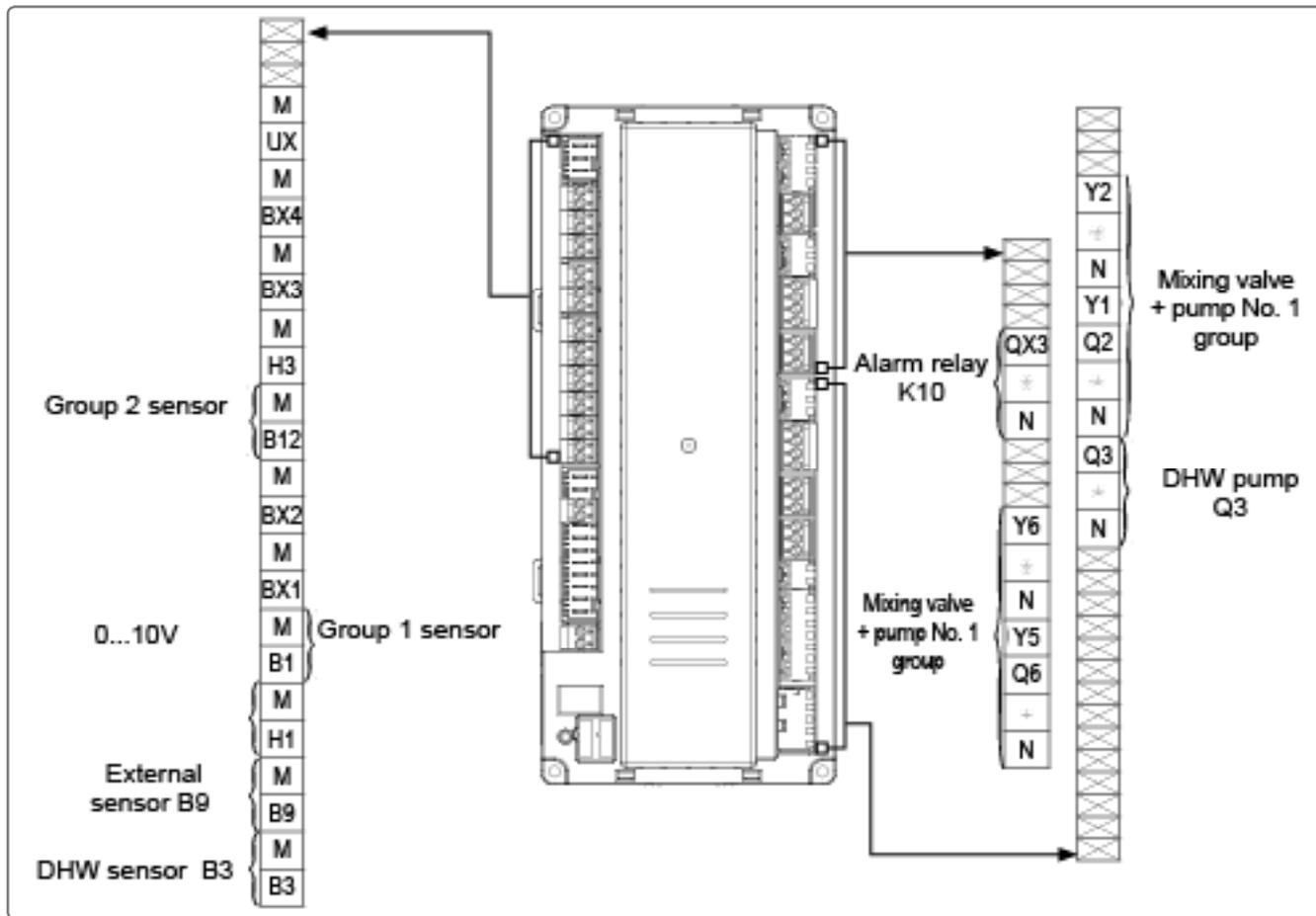


figure 69 - Regulator connection

### C. CONFIGURATION

#### Regulation of secondary networks by another machine and sending of a temperature setpoint via a 0...10V signal

☞ Configure the H1 input:

	Line No.	Value
• <b>Configuration</b> menu		
Input function H1	(5950)	Heat request 10V
Temperature value 10V	(5954)	100°C (or other, depending on the boiler room regulator)

#### Regulation of secondary networks by another machine and sending of a temperature setpoint via the LPB bus

☞ Connect the bus between the 2 regulators:

**Constant flow temperature from generators or low level setting**

☞ Configure the H1 input:

	Line No.	Value
• <b>Configuration</b> menu		
Input function H1	(5950)	Minimum flow temperature setpoint
Contact action	(5951)	Standby if no shunt / On if shunt in place
Minimum flow temperature setpoint H1	(5952)	Depending on requirement

**DHW**

DHW production can be summarised in 2 hydraulic diagrams:

☞ with Q3 charging pump

☞ without charging pump but with RUBIS plate heat exchanger

**With charging pump:**

☞ Connect the DHW sensor and the charging pump

☞ Test the connections

Relay test (7700)	Q3 DHW charging pump
-------------------	----------------------

Remember to reset the parameter to "no test" mode

☞ Test the sensor

B3 DHW temperature (7750)	B3 DHW sensor
---------------------------	---------------

☞ Configure the DHW and associated functions

• **DHW** menu

Comfort setpoint (1610)	---
Reduced setpoint (1612)	---
Release (1620)	According to the installation

Adjust the DHW charging priority

Prioritise a shifting priority where possible:

DHW charging priority (1630)	shifting/valve, absolute/pump
------------------------------	-------------------------------

• **DHW storage tank** menu

Raising of flow temp. setpoint (5020)	16 °C
---------------------------------------	-------

• **clock4/DHW programme** menu

Pre-selection (560)	---
start/stop phases (561...566)	---

☞ Change the DHW mode



☞ Configure an anti-Legionella function:

	Line No.	Value
Anti-Legionella function	(1640)	---
Periodic Legionella function	(1641)	---
Legionella function per day week	(1642)	---
Anti-Legionella setpoint	(1645)	---
Anti-Legionella function duration	(1646)	---

**Without charging pump but with RUBIS plate heat exchanger:**

☞ This refers to the definition of a low level setting of the flow temperature setpoint.

• **Configuration** menu

Input function H1	(5950)	Minimum flow temperature setpoint
Contact action	(5951)	Standby if no shunt / On if shunt in place
Minimum flow temperature setpoint H1	(5952)	65 °C

• **DHW** menu

Comfort setpoint	(1610)	---
Release	(1620)	24/day

• **DHW storage tank** menu

raising of flow temp. setpoint	(5020)	16 °C
--------------------------------	--------	-------

☞ Change the DHW mode



## 7. SPARE PARTS LIST

Reference	Description
76320	Switch
76321	Thermometer
76322	Thermostat (without knurled wheel)
76323	Safety thermostat
76324	Indicator
76130	Fuse holders
71898	Fuses
76325	Regulator thermostat knurled wheel with adjustment stop
72367	AVS37 display with AVS92 cover
76148	AVS37 - RVS63 display ribbon
72357	RVS63 without connectors
76328	NAVISTEM B2000 regulation plate
72359	RVS46
72358	QAA75 ambience unit
71122	QAD36 surface contact temperature sensor
62864	QAZ36 wired sensor
62860	QAC34 exterior sensor







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