

MANIFOLD  
USERS

Instructions and warnings **IE**

 **IMMERGAS**

# ERP MULTI-SYSTEM DISTRIBUTION MANIFOLD

- DIM 2 ZONE ERP
- DIM 3 ZONE ERP
- DIM H-LT ERP (1 high-temperature area 1 low-temperature zone)
- DIM H-2LT ERP (1 high-temperature area 2 low-temperature zones)

\*1.039170ENG\*





## Dear Customer,

Our compliments for having chosen a top-quality Immergas product, able to assure well-being and safety for a long period of time. As an Immergas customer, you can also count on a qualified After-Sales Service, prepared and updated to guarantee the constant efficiency of your products. Read the following pages carefully: you will be able to draw useful suggestions regarding the correct use of the appliance. By respecting these suggestions, you will no doubt be satisfied with your Immergas product.

For assistance and scheduled maintenance, contact Authorised Immergas After-Sales centres: they have original spare parts and are specifically trained directly by the manufacturer.

### General recommendations

All Immergas products are protected with suitable transport packaging.

The material must be stored in dry environments protected from bad weather.

The instruction book is an integral and essential part of the product and must also be given to the new user in the case of transfer or succession of ownership.

It must be stored with care and consulted carefully, as all of the warnings provide important safety indications for installation, use and maintenance stages.

This instructions manual provides technical information for installing Immergas appliances. As for the other issues related to the installation of appliances (e.g. safety in the workplace, environmental protection, injury prevention), it is necessary to comply with the provisions of the regulations in force and the principles of good practice.

In compliance with the legislation in force, the systems must be designed by qualified professionals, within the dimensional limits established by the Law. Installation and maintenance must be performed in compliance with the regulations in force, according to the manufacturer's instructions and by professionally qualified staff, intending staff with specific technical skills in the plant sector, as envisioned by the Law.

Improper installation or assembly of the Immergas appliance and/or components, accessories, kit and devices can cause unexpected problems for people, animals and objects. Read the instructions provided with the product carefully to ensure proper installation.

Maintenance must be carried out by skilled technical staff. The Authorised After-Sales Service represents a guarantee in terms of qualifications and professionalism.

The appliance must only be destined for the use for which it has been expressly declared. Any other use will be considered improper and therefore potentially dangerous.

If errors occur during installation, operation and maintenance, due to non-compliance with technical laws in force, standards or instructions contained in this book (or however supplied by the manufacturer), the manufacturer is excluded from any contractual and extra-contractual liability for any damages and the appliance warranty is invalidated.

For further information regarding legislative and statutory provisions relative to the installation of gas heat generators, consult the Immergas site at the following web address: [www.immergas.com](http://www.immergas.com)

### CE DECLARATION OF CONFORMITY

(according to ISO/IEC 17050-1)

The company **IMMERGAS S.p.A.**, with registered office in via Cisa Ligure 95 42041 Brescello (RE), whose design, manufacturing and after-sales assistance processes comply with the requirements of standard **UNI EN ISO 9001:2008**,

#### DECLARES that:

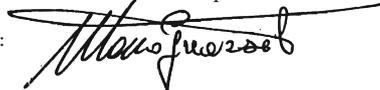
The multi-system hydraulic manifolds DIM 2 ZONE ERP, DIM 3 ZONE ERP, DIM H-2LT ERP, DIM H-2LT ERP comply with the following European Directives and Delegated European regulations:

"Eco-design" Directive 2009/125/EC, "Energy labelling" Directive 2010/30/EC, EU Regulation 811/2013, EU Regulation 813/2013, "Electromagnetic Compatibility" Directive 2004/108/EC, "Efficiency" Directive 92/42/EC and "Low-Voltage" Directive 2006/95/EC.

Mauro Guareschi

Research & Development Director

Signature:



# INDEX

INSTALLER	page
1 Installing the device.....	5
1.1 Description of the device.....	5
1.2 Installation recommendations .....	5
1.3 Main dimensions. ....	6
1.4 Hydraulic connection.....	7
1.5 Electrical connection. ....	7
1.6 Installation layouts.....	8
1.7 Commissioning the device. ....	10
1.8 Circulation pump.....	10
1.9 Sizing the systems.....	10
1.10 Kits available on request. ....	10
1.11 Main components.....	12

USER	page
2 Use and maintenance instructions .....	14
2.1 General warnings.....	14
2.2 Warnings for the user.....	14
2.3 Cleaning the case. ....	14

MAINTENANCE TECHNICIAN	page
3 Checks and maintenance.....	15
3.1 Wiring diagram DIM 2 zone ErP.....	16
3.2 Wiring diagram DIM 3 zone ErP.....	17
3.3 DIM H-LT ErP Wiring diagram.....	18
3.4 DIM H-2LT ErP Wiring diagram.....	19
3.5 DIM connection to boiler via IMG BUS.20	
3.6 DIM connection to boiler via zone signal state.....	21
3.7 DIM connections to ON/OFF room thermostats. ....	22
3.8 DIM connections to ON/OFF room thermostats and C.A.R. <sup>v2</sup> / SUPER C.A.R. remote controls.....	24
3.9 DIM connections to ON/OFF room thermostats and C.A.R. <sup>v2</sup> or C.A.R Universal remote control. ....	24
3.10 Connection between 2 DIM with hydraulics in parallel. ....	25
3.11 DIM connection to another DIM or to Hercules zone kit with hydraulics in series. ....	27
3.12 Description of main functions.....	28
3.13 Zone management P.C.B.....	28
3.14 External temperature probe (Optional).29	
3.15 Troubleshooting.....	29
3.16 Technical data. ....	30

# 1 INSTALLING THE DEVICE

## 1.1 DESCRIPTION OF THE DEVICE.

The "DIM" code (Disgiuntore Idrico Multi-impianti) identifies a series of kits that Immergas proposes for the management of mixed zone central heating systems with large water capacities. In particular, they are kits that can only be coupled with some boiler models in the Immergas range, including an open manifold (distribution manifold) and are available in four different configurations:

- DIM 2 zones ErP, to be used to manage systems divided into 2 zones;
- DIM 3 zones ErP, to be used to manage systems divided into 3 zones;
- DIM H-LT ErP, for the management of mixed systems with differentiated temperature (e.g. a zone with radiators and one with radiant floor panels);
- DIM H-2LT ErP, for the management of mixed systems with differentiated temperature (e.g. a zone with radiators and two with radiant floor panels);

**IMPORTANT:** the boiler models set up for coupling with the manifolds are Immergas boilers with P.C.B. designed for the management of zone systems.

These kits are characterised by the possibility to be recessed into the wall, therefore they have no clearance.

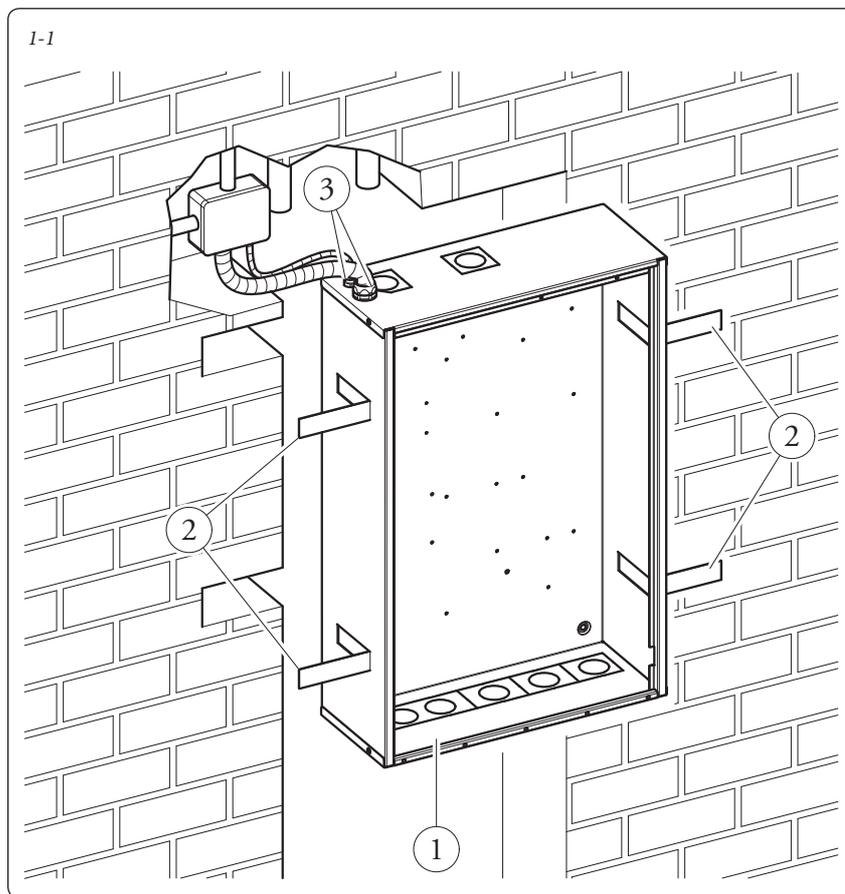
Each zone served by the manifold is managed by a room chrono-thermostat connected to the DIM. Whenever envisioned by the boiler, it is possible to use an Immergas Remote control to control one of the system zones (successively called *main zone*).

## 1.2 INSTALLATION RECOMMENDATIONS.

The place of installation of the appliance and relative Immergas accessories must have suitable features (technical and structural), such as to allow for (always in safe, efficient and comfortable conditions):

- installation (according to the provisions of the technical legislation and technical regulations);
- maintenance operations (including scheduled, periodic, routine and special maintenance);
- removal (outdoors in the place for loading and transporting the appliances and components) as well as their eventual replacement with appliances and/or equivalent components.

Only professionally qualified companies are authorised to install the Immergas Multi-System Distribution Manifold. Installation must be carried out according to regulation standards, current legislation and in compliance with local technical regulations and the required technical procedures. Before installing the device, ensure that it is delivered in perfect condition; if in doubt, contact the supplier immediately. Packing materials (staples, nails, plastic bags, polystyrene foam, etc.) constitute a hazard and must be kept out of the reach of children. In the event of malfunctions, faults or incorrect operation, turn the device off immediately and contact an authorised company (e.g. the Authorised Technical Assistance Centre, which has specifically trained staff and original spare parts). Do not attempt to modify or repair the appliance alone. Failure to comply with the above implies personal responsibility and invalidates the warranty.



### Recess installation.

Perform the masonry work, creating an opening in the wall suitable to contain the device (See par. "Main dimensions").

Insert the distribution manifold (1) into its seat, remembering to open the four support fins (2) before insertion (Fig. 1-1).

Protect the side edges and the front cover during recess preparation for the device.

**IMPORTANT:** the hydraulic and electrical connections must be made within the device unit; you must therefore position the frame first and then perform the connections.

**Attention:** the recessed frame is not a supporting structure and cannot replace the piece of wall removed. It is therefore necessary to check the correct positioning inside the wall.

### Wall-hanging installation.

Fasten the frame to the wall using four expansion plugs, suitable for the type of wall and weight of the device (not supplied) and using the four drilled holes (see Fig. 1-2 pos. X).

Use the fairlead and the sheath-holder (3) supplied to limit the infiltration of water inside the frame.

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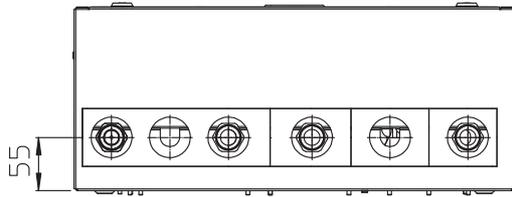
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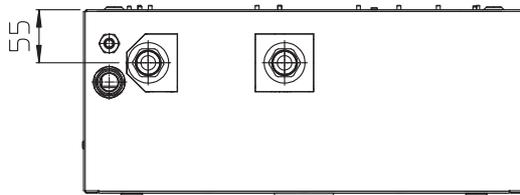
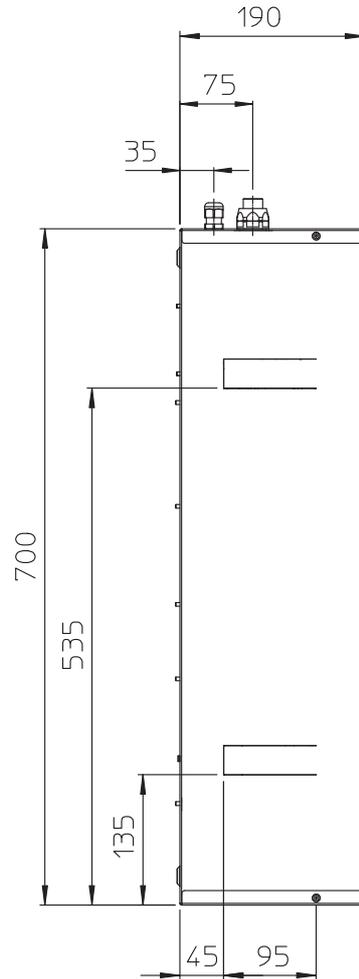
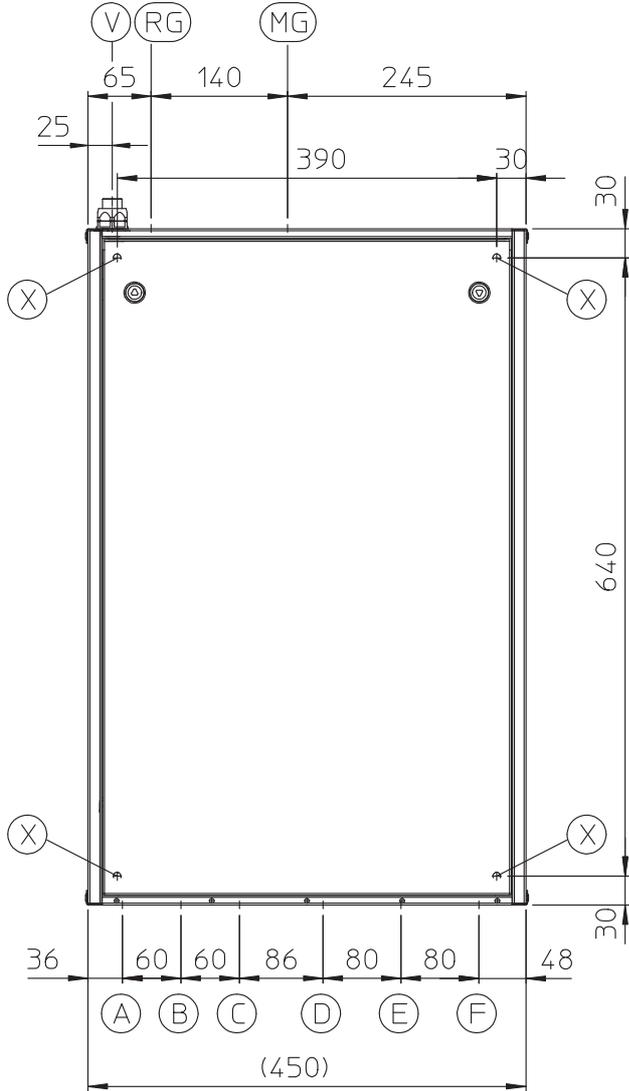
MAINTENANCE TECHNICIAN

1.3 MAIN DIMENSIONS.

1-2



Height (mm)	Width (mm)	Depth (mm)
700	450	190



DIM 2 Zone ErP

- A - Zone return 1 (G 3/4")
- C - Zone return 2 (G 3/4")
- D - Zone flow 2 (G 3/4")
- F - Zone flow 1 (G 3/4")

DIM H-LT ErP

- A - High return temperature (G 3/4")
- B - Low return temperature (G 1")
- E - Low flow temperature (G 1")
- F - High flow temperature (G 3/4")

DIM 3 Zone ErP

- A - Zone return 1 (G 3/4")
- B - Zone return 3 (G 3/4")
- C - Zone return 2 (G 3/4")
- D - Zone flow 2 (G 3/4")
- E - Zone flow 3 (G 3/4")
- F - Zone flow 1 (G 3/4")

DIM H-2LT ErP

- A - High return temperature (G 3/4")
- B - Zone 1 low return temperature (G 1")
- C - Zone 2 low return temperature (G 1")
- D - Zone 1 low flow temperature (G 1")
- E - Zone 2 low flow temperature (G 1")
- F - High flow temperature (G 3/4")

- Key:
- RG - Generator return (G 3/4")
  - MG - Generator flow (G 3/4")
  - V - Electrical connection
  - X - Holes for DIM wall-mounted fastening

#### 1.4 HYDRAULIC CONNECTION.

**Attention:** before making the appliance connections, clean the heating system thoroughly (pipes, radiators, etc.) with special pickling or de-scaling products to remove any deposits that could compromise the correct operation of the device.

A chemical treatment of the thermal system water is required, in compliance with the technical standards in force, in order to protect the system and the appliance from deposits (e.g., lime scale), slurry or other hazardous deposits.

The hydraulic connections must be made in a rational manner using the values as per Fig. 1-2.

**IMPORTANT:** remove all the protection caps from the system flow and return pipes before making the hydraulic connections.

The connections can be made directly using the female couplings on the distribution manifold or by inserting system cut-off cocks (optional). These cocks are particularly useful for maintenance as they allow you to drain the distribution manifold separately without having to empty the entire system.

**N.B.:** Immergas does not supply the G1" cocks to be installed in the low-temperature zone.

Check that the expansion vessel in the boiler allows for the increase in volume of the water resulting from its central heating without opening the safety valve. If this is not the case, an expansion vessel with appropriately dimensioned capacity must be installed on the system.

The DIM is set up for the insertion of the automatic "jolly" vent valve to be mounted on the manifold. This is recommended for better air venting inside the system.

If two DIM devices are installed in parallel, two manual valves must be fitted in order to ensure the correct balance of the hydraulic circuit.

#### 1.5 ELECTRICAL CONNECTION.

The appliance has an IPX5D protection degree; electrical safety of the appliance is achieved only when it is connected properly to an efficient earthing system, as specified by current safety standards.

**Attention:** Immergas S.p.A. declines any responsibility for damage or physical injury caused by failure to connect the boiler to an efficient earth system or failure to comply with the reference standards.

Moreover, ensure that the electrical installation corresponds to the maximum absorbed power specifications as shown on the recessed unit data plate. The distribution manifold is supplied complete with an "X" type power cable without plug. The power supply cable must be connected to a 230V  $\pm 10\%$  / 50Hz mains supply respecting L-N polarity and earth connection;  this network must also have a multi-pole circuit breaker with class III over-voltage category.

To protect from possible dispersions of DC voltage, it is necessary to provide a type A differential safety device.

When replacing the power supply cable, contact a qualified company (e.g. the Immergas Authorised After-Sales Technical Assistance Service).

For the main power supply to the appliance, never use adapters, multiple sockets or extension leads.

**Important:** it is mandatory to prepare two electrical connection lines in order to separate the power supply of each distribution manifold from all other low-voltage connections, according to

the standards in force regarding electrical systems. These lines must arrive inside the recessed frame via relevant sheaths or ducts, passing through the fairlead and the sheath-holder supplied and located on the upper side of the device.

- **Connecting the boiler P.C.B.** This connection (low-voltage) ensures the dialogue between the boiler and the DIM. Make the connections as indicated in chapter 3, according to your appliance model.

**N.B.:** the electrical connection between the electronic boards must be made using cables with a minimum section of 0.50 mm<sup>2</sup> and a maximum section of 2.5 mm<sup>2</sup>; the length of these connections must not exceed 15 metres.

- **Room thermostat connection On - Off.** The room thermostats to be connected to the DIM must have a potential free contact. The On-Off room thermostats relative to the zones must be connected as indicated in Fig. 3-8 or 3-9.

- **Immergas remote control connection.** Connect the remote controls as indicated in figures 3-11, 3-12 and as specified in the boiler instruction manual.

- **External probe connection (optional).** The external probe controls the flow temperature of the system and varies the operation mode and controlled zones depending on its connection (see par. 3.14).

- The external probe must be connected to the boiler by connecting the manifold and the boiler via IMG BUS. (fig. 3-5). The temperature read by the external probe is sent to the manifold via bus. The manifold will then adjust the flow temperature of the various zones, according to the settings of the trimmer and area management probe.

- The external probe must be connected to the manifold by connecting the manifold and boiler via signal state. This way, it will be possible to adjust the flow temperature of the mixed zones. In these conditions, another probe must be connected to the boiler if it is necessary to correlate the direct zone flow with the external temperature (see Fig. 3-6).

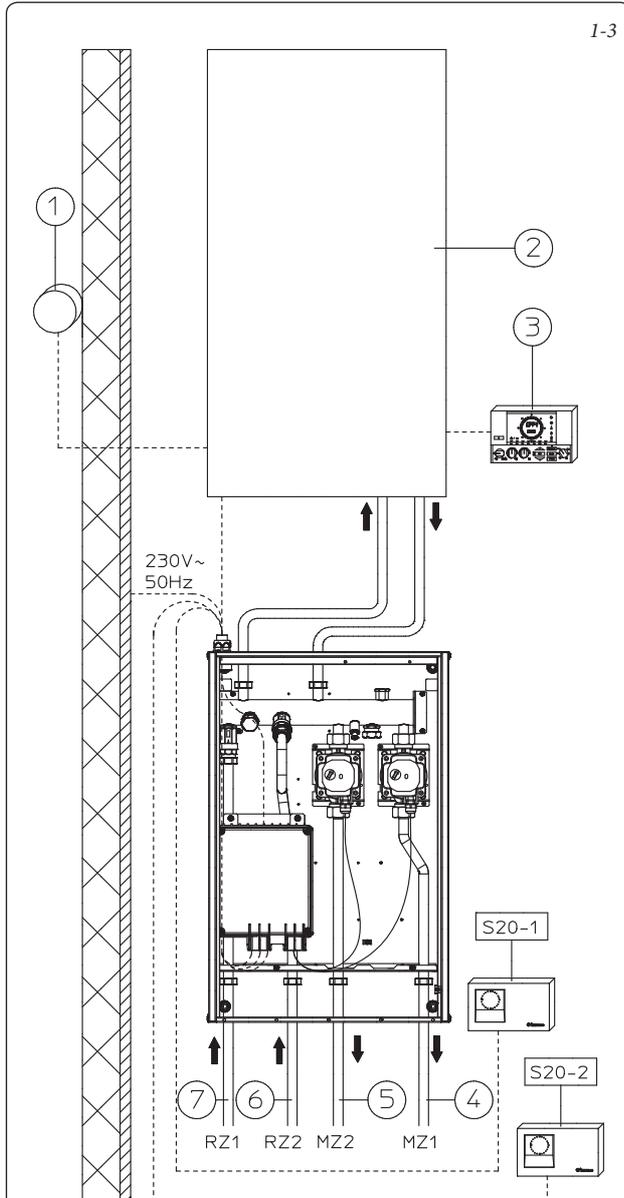
**1.6 INSTALLATION LAYOUTS.**

If you are using a Comando Amico Remoto<sup>v2</sup> (C.A.R.<sup>v2</sup>) or Super C.A.R. zone control remote control, it must be connected directly to the boiler (see instructions in boiler manual). The

chrono-thermostat will control the pre-defined zone on the manifold as the main zone. The C.A.R.<sup>v2</sup> or Super C.A.R. remote control must be set with on-off operation (see the relative instruction manual).

In this case, the T.A. electric connections of the zone, defined as the main zone of the manifold, must be left free.

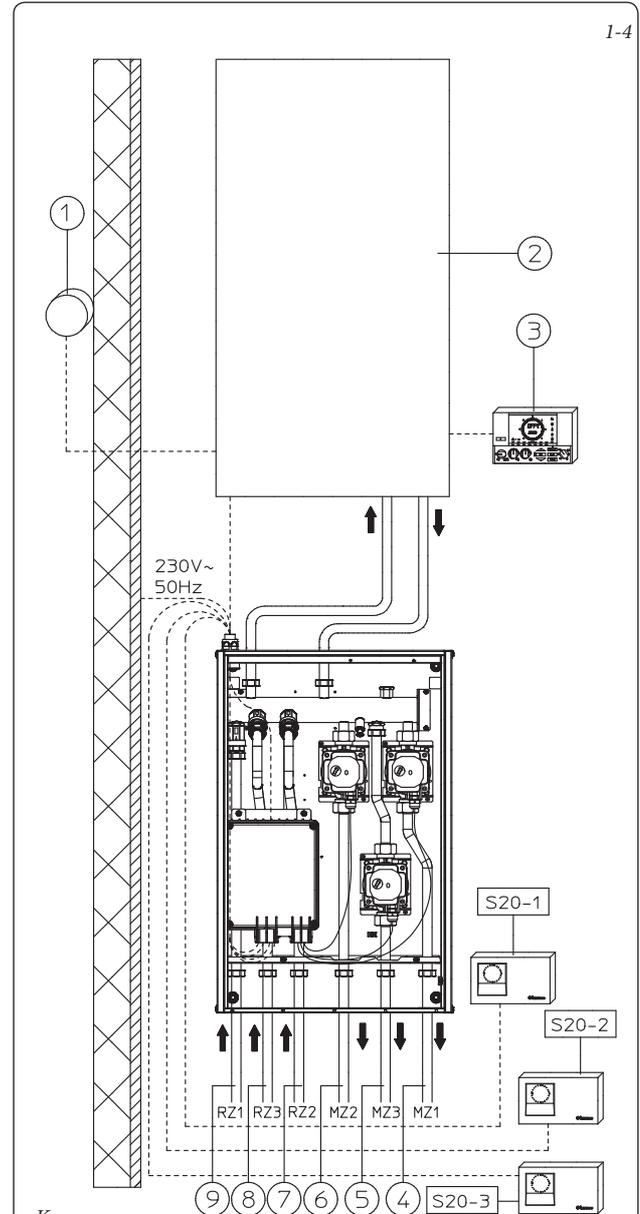
Installation layout of 2 homogeneous zones.



- Key:
- S20-1 - Room thermostat zone 1
  - S20-2 - Room thermostat zone 2
  - 1 - External probe (optional)
  - 2 - Boiler
  - 3 - Comando Amico Remoto<sup>v2</sup> or Super C.A.R. remote control (optional)
  - 4 - Flow to zone 1 system
  - 5 - Flow to zone 2 system
  - 6 - Return from zone 2 system
  - 7 - Return from zone 1 system

Factory settings define zone 1 as the main zone.  
(See fig. 3-1 for electrical connection and zone board setting)

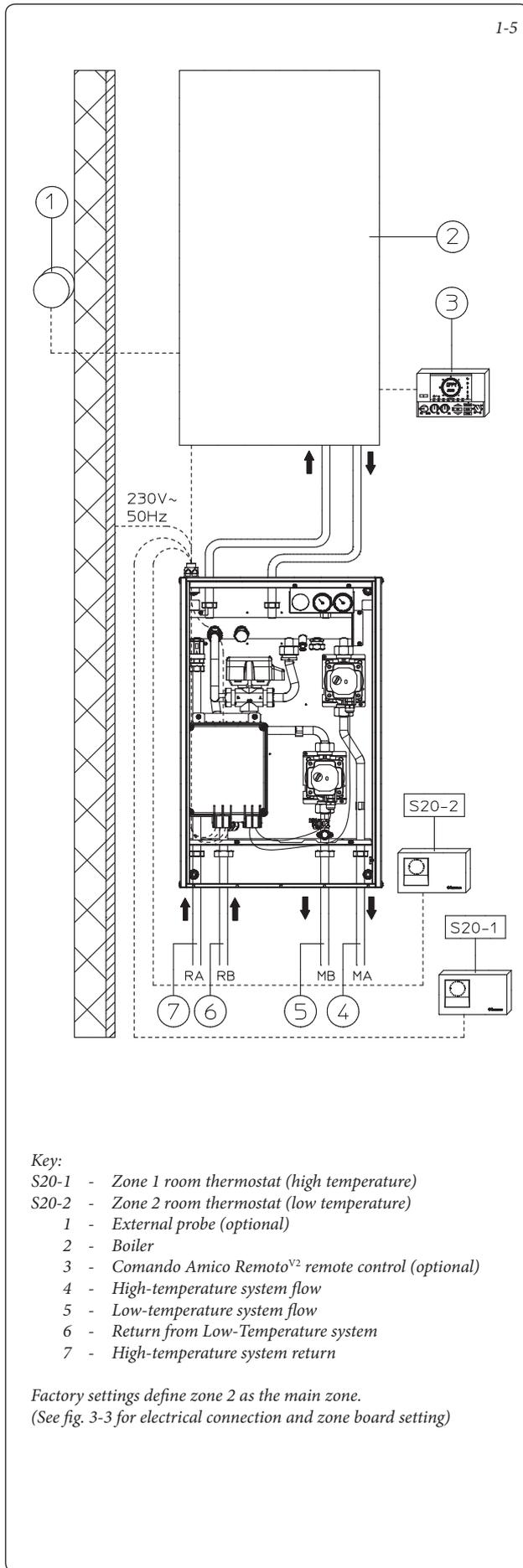
Installation layout with 3 zones in High Temperature or 3 zones in Low Temperature.



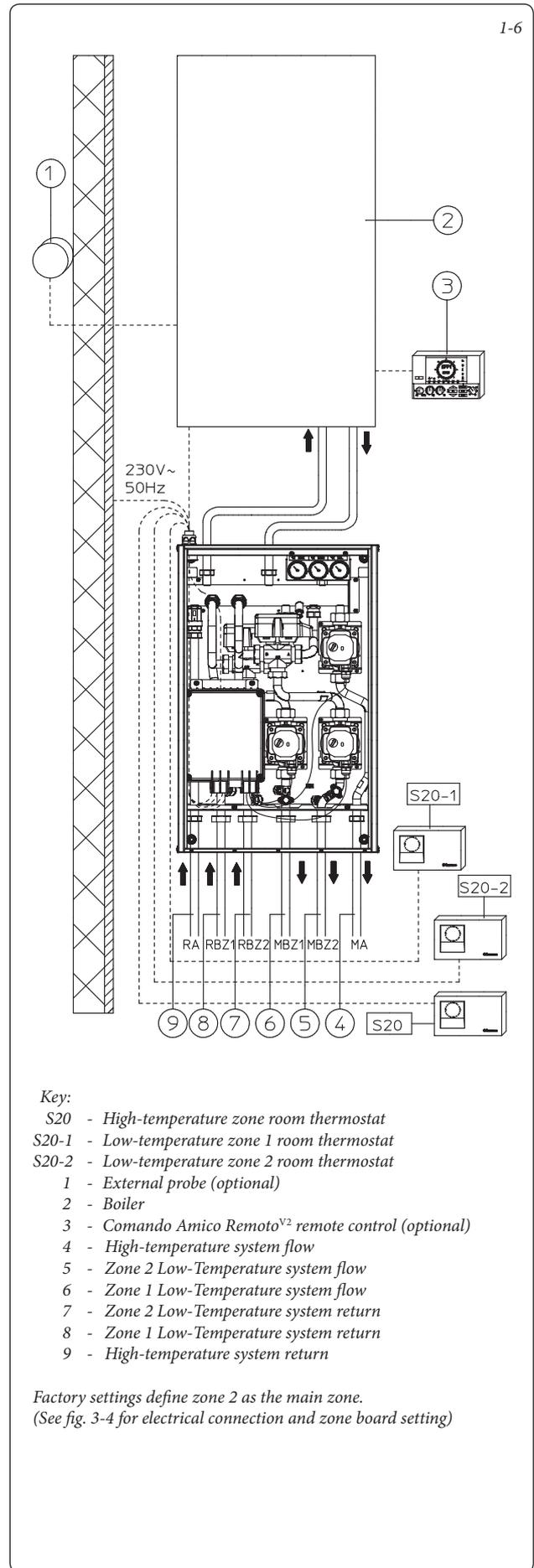
- Key:
- S20-1 - Room thermostat zone 1
  - S20-2 - Room thermostat zone 2
  - S20-3 - Room thermostat zone 3
  - 1 - External probe (optional)
  - 2 - Boiler
  - 3 - Comando Amico Remoto<sup>v2</sup> or Super C.A.R. remote control (optional)
  - 4 - Flow to zone 1 system
  - 5 - Flow to zone 3 system
  - 6 - Flow to zone 2 system
  - 7 - Return from zone 2 system
  - 8 - Return from zone 3 system
  - 9 - Return from zone 1 system

Factory settings define zone 1 as the main zone.  
(See fig. 3-2 for electrical connection and zone board setting)

DIM A-BT installation layout (1 zone in H. T. and 1 zone in L. T.).



DIM H-2LT installation layout (1 zone in H. T. and 2 zone in L. T.).



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### 1.7 COMMISSIONING THE DEVICE.

**System filling.** Once the device is connected, fill the system via the boiler filling valve. Filling is performed at low speed to ensure the release of air bubbles in the water via the boiler and central heating system vents and the distribution manifold (if any).

Close radiator vent valves when only water escapes from them.

Close the filling cock when the boiler pressure gauge indicates approx. 1.2 bar.

**IMPORTANT:** during these operations, start the circulation pumps by acting on the main switch positioned on the boiler control panel after having activated the T.A. devices relating to the various zones.

**(Only for DIM H-LT and H-2LT).**

Act manually on the 3-way mixing valve using the relevant lever on the electric actuator, keeping the same opening in order to de-aerate the system and, if necessary, control the correct operating pressure.

Once these operations are complete, make sure that the lever on the electric actuator is free from the manual lock position.

### 1.8 CIRCULATION PUMP.

The pump is ideal for the requirements of each central heating system in a domestic and residential environment. In fact, the pump is equipped with electronic control that allows you to set advanced functions.

**Adjustments.** Turn the selector and position it on the desired curve to adjust the circulator pump.

Program	LED
P 1 lower ( $\Delta P-V$ )	green
P 2 upper ( $\Delta P-V$ )	
C 3 lower ( $\Delta P-C$ ) - H=3 m	orange
C 4 upper ( $\Delta P-C$ ) - H=4 m	
Min. - Max.	blue

- **Program P (1 lower 2 upper) ( $\Delta P-V$ ) - Proportional curve (green LED).** This allows the pressure level (head) to be proportionally reduced as the system heat demand decreases (flow rate reduction). Thanks to this function, the electric power consumption of the circulator pump is reduced further: the energy (power) used by the pump decreases according to the pressure level and flow rate. With this setting, the pump guarantees optimal performance in most heating systems, thereby being particularly suitable in single-pipe and two-pipe installations. Any noise originating from the water flow in the pipes, valves and radiators is eliminated by reducing the head. Optimal conditions for thermal comfort and acoustic well-being.

- **Programs C (3 lower 4 upper) ( $\Delta P-C$ ) - Constant curve (orange LED).** The circulator pump maintains the pressure level (head) constant as the system heat demand decreases (flow rate reduction). With these settings, the circulator pump is suitable for all floor systems where all the circuits must be balanced for the same drop in head.

- **MIN. - MAX. program (blue LED).** The pump is distinguished by adjustable operating curves by positioning the selector in any point between the Min. and Max. positions, thereby satisfying any installation requirement (from a simple single-pipe to more modern and sophisticated systems) and always guaranteeing optimum performance. The precise working point can be selected in the entire field of use by gradually adjusting the speed.

**Real-time diagnostics:** a lit LED (in various colours) provides information regarding the pump operating status, see fig. 1-7

**Possible pump release.** The pump block is indicated by a fixed red LED switching on. Turn the selector up to the MAX. position, disconnect and reconnect the power to restart the automatic release process. The pump will then activate the procedure, which will last for a maximum of 15 minutes and the LED will flash upon each restart. It then turns blue for a few seconds and goes back to red if the attempt to restart is not successful. Once the process is complete, position the selector back on the desired curve and if the problem has not been resolved, perform the manual release procedure as described below.

- Disconnect the power to the boiler (the LED switches off).
- Close the system flow and return and allow the

pump to cool down.

- Empty the system circuit via the relative cock.
- Remove the motor and clean the impeller.
- Once unblocked, remount the motor.
- Fill the primary circuit; restore boiler power and set the desired curve.

**Attention:** a scalding hazard is present due to high fluid temperatures and pressures. **Scalding hazard as a result of contact.**

### 1.9 SIZING THE SYSTEMS.

The flow temperatures to the various system zones may be reduced with respect to the boiler outlet temperatures, according to the mixture of the flow and return fluids inside the DIM. In the event that the DIM is used to feed Low-Temperature zones, check that the design parameters allow you to achieve a maximum surface temperature of the radiant floor in compliance with standard UNI EN 1264.

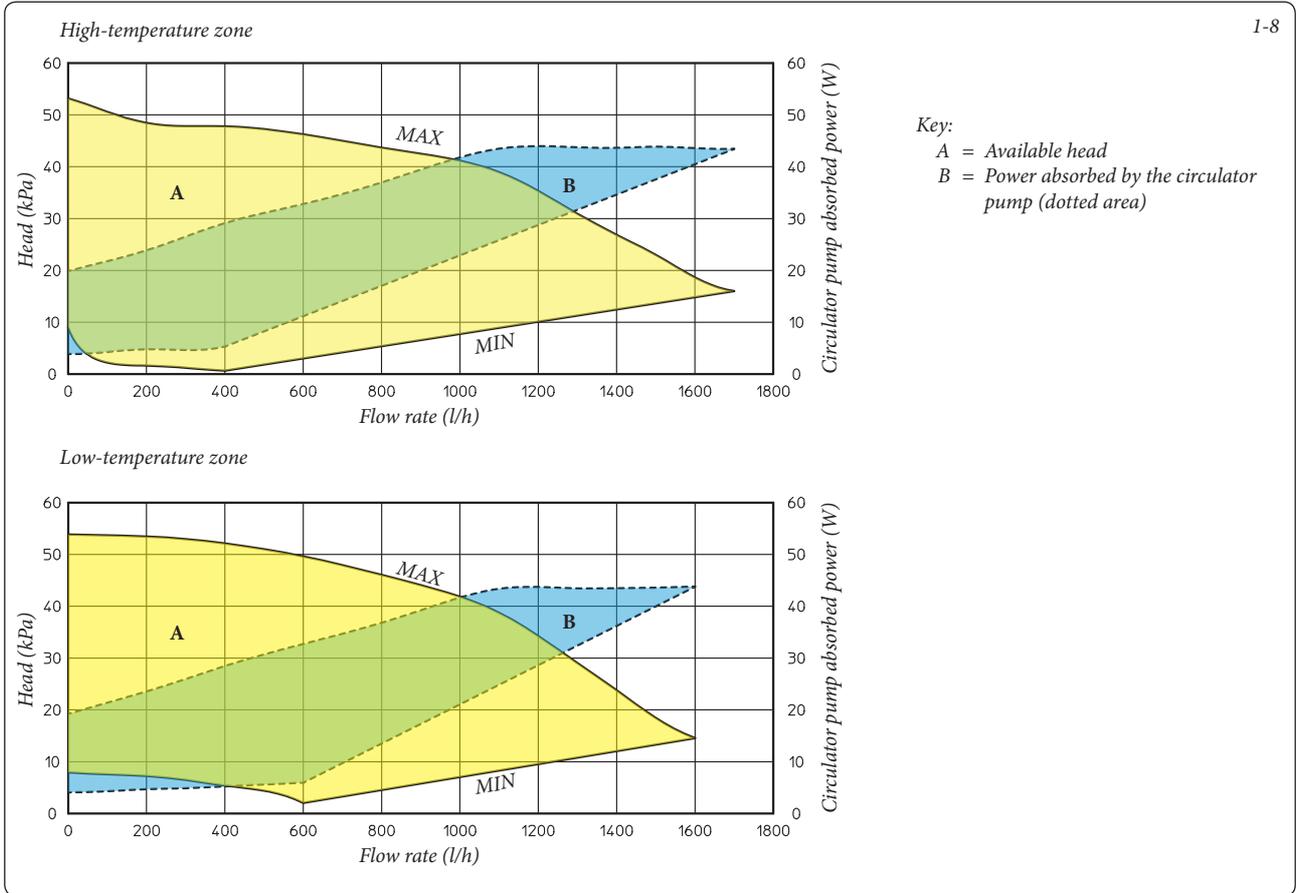
### 1.10 KITS AVAILABLE ON REQUEST.

- System cut-off cock kit (on request). The manifold is designed for the installation of system interception cocks, to be placed on the flow and return pipes of the connection assembly. This kit is particularly useful for maintenance as it allows the DIM to be drained separately without having to empty the entire system.
- External probe kit.
- Safety thermostat kit.
- By pass kit for H-LT and H-2LT versions.

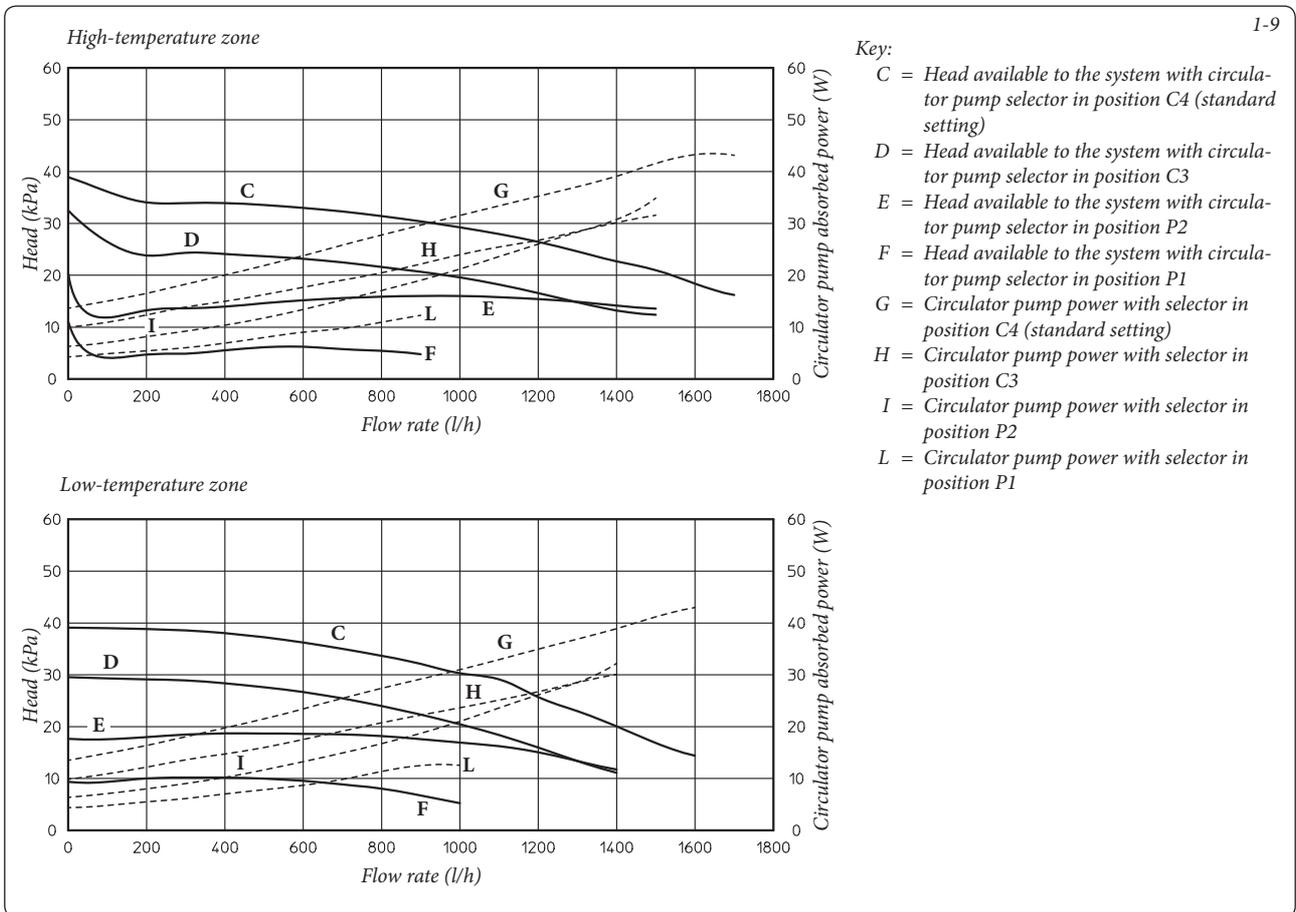
The above-mentioned kits are supplied complete with instructions for assembly and use.

Circulating pump LED	Description	Diagnostics	Remedy
LED steady on	Pump noisy	Insufficient system pressure, circulating pump in cavitation	Restore correct thermal circuit pressure
		Presence of foreign matter in the impeller	Remove the motor and clean the impeller
Flashing white LED	Noises during circulation of the heat transfer fluid	Presence of air in the system	Vent the system
LED steady on		Flow rate too high	Reduce rotation speed
LED off	The circulator does not work	Power outage	Ensure the boiler is correctly powered, ensure the circulator is correctly powered
Red LED		Faulty circulating pump	Replace the circulating pump
		Rotor seized	Remove the motor and clean the impeller
		Insufficient power supply voltage	Check boiler power supply voltage

Head available to the direct zone system fixed speed.



Head available to the direct zone system proportional or constant speed.



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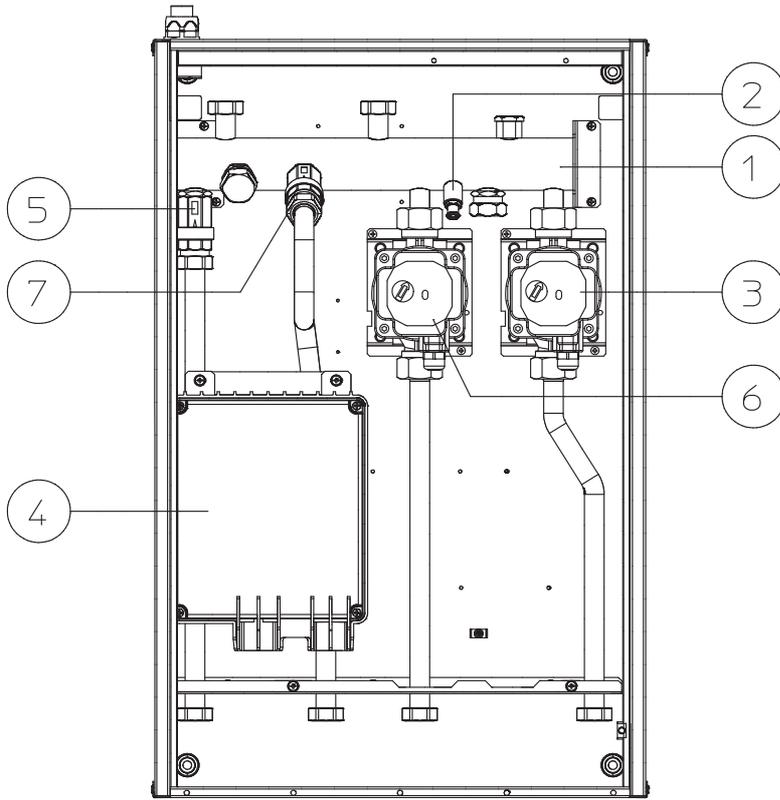
USER

MAINTENANCE TECHNICIAN

1.11 MAIN COMPONENTS.

DIM 2 Zone

1-10

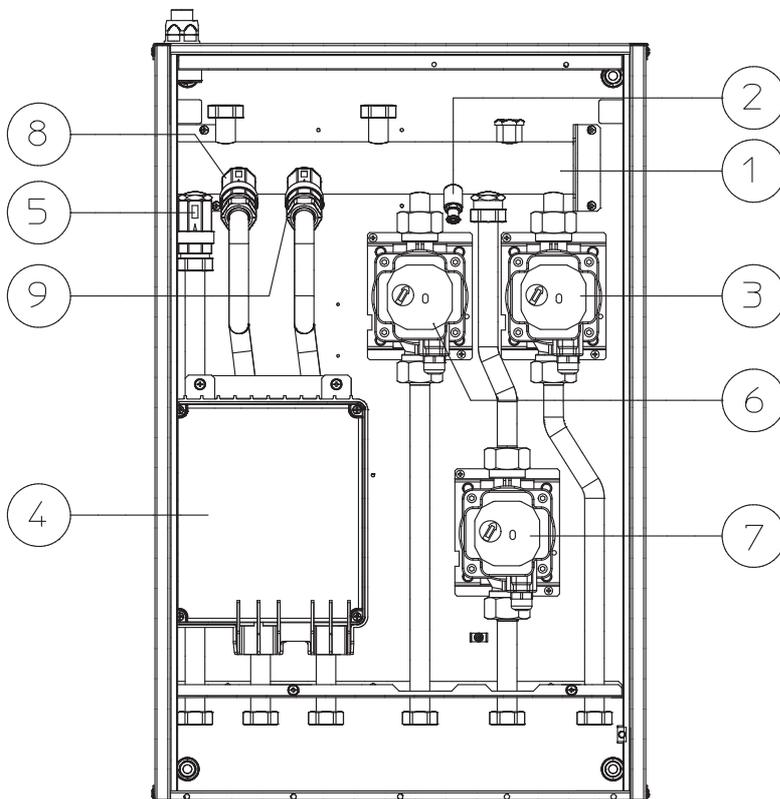


Key:

- 1 - Hydraulic manifold
- 2 - Drain fitting
- 3 - Zone 1 pump
- 4 - Electrical connection box
- 5 - Zone 1 "Europa" one-way valve
- 6 - Zone 2 pump
- 7 - Zone 2 "Europa" one-way valve

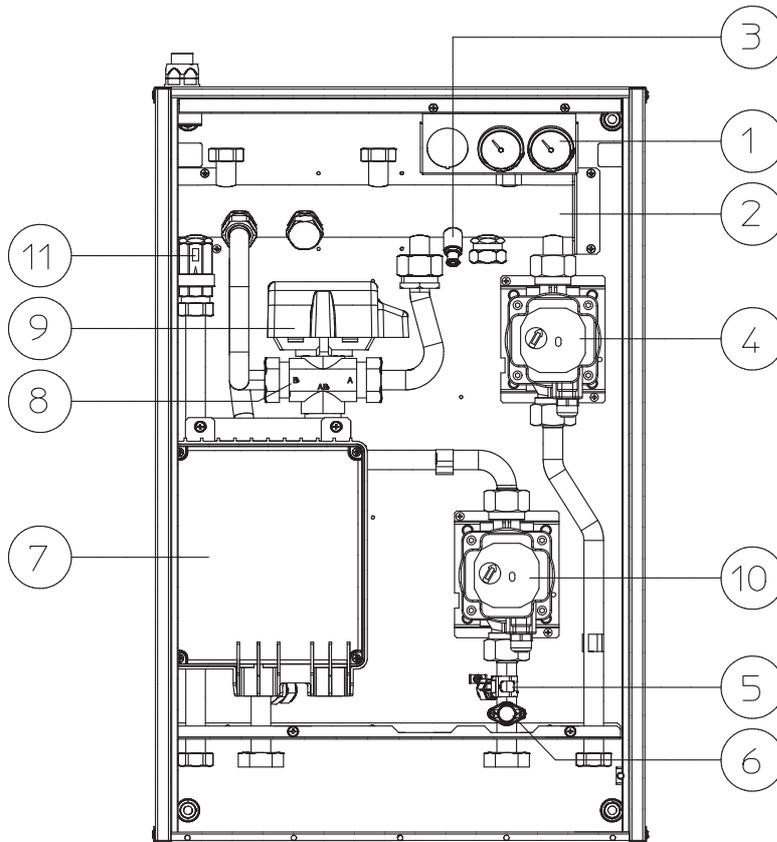
DIM 3 Zone

1-11



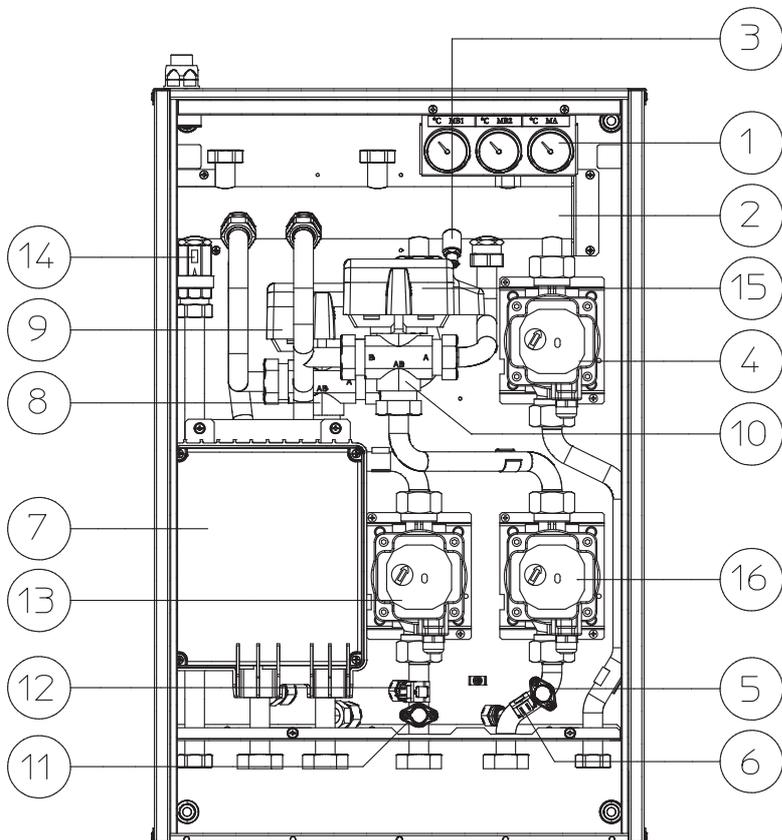
Key:

- 1 - Hydraulic manifold
- 2 - Drain fitting
- 3 - Zone 1 pump
- 4 - Electrical connection box
- 5 - Zone 1 "Europa" one-way valve
- 6 - Zone 2 pump
- 7 - Zone 3 pump
- 8 - Zone 3 "Europa" one-way valve
- 9 - Zone 2 "Europa" one-way valve



Key:

- 1 - Flow temperature thermometers
- 2 - Hydraulic manifold
- 3 - Drain fitting
- 4 - Zone 1 pump
- 5 - Zone 2 flow probe
- 6 - Zone 2 safety thermostat
- 7 - Electrical connection box
- 8 - Zone 2 3-way mixing valve
- 9 - Zone 2 mixing valve motor
- 10 - Zone 2 pump
- 11 - Zone 1 "Europa" one-way valve



Key:

- 1 - Flow temperature thermometers
- 2 - Hydraulic manifold
- 3 - Drain fitting
- 4 - High-temperature zone pump
- 5 - Zone 2 low-temperature safety thermostat
- 6 - Zone 2 low-temperature flow probe
- 7 - Electrical connection box
- 8 - Low-temperature zone 1 3-way mixing valve
- 9 - Low-temperature zone 1 mixing valve motor
- 10 - Low-temperature zone 2 3-way mixing valve
- 11 - Low-temperature zone 1 safety thermostat
- 12 - Low-temperature zone 1 flow probe
- 13 - Low-temperature zone 1 circulator
- 14 - High-temperature zone "Europa" one-way valve
- 15 - Low-temperature zone 2 mixing valve motor
- 16 - Low-temperature zone 2 circulator

## 2 USE AND MAINTENANCE INSTRUCTIONS

### 2.1 GENERAL WARNINGS.

If the device must be deactivated temporarily, act directly on the main switch to power off the system and work safely

- **Attention:** using any components that use electrical power requires the observation of some fundamental rules:
  - do not touch the device with wet or moist parts of the body; do not touch when barefoot.
  - if the device is wall-mounted: do not pull the electric cables, do not leave the device exposed to the elements (rain, sun, etc.);
  - the device power cable must not be replaced by the user;
  - in the event of damage to the cable, switch the device off and exclusively contact professionally qualified staff for replacement;
  - if the device is not going to be used for a certain period, disconnect the main power switch.

### 2.2 WARNINGS FOR THE USER.

This device does not require any regulation or control by the user; *the opening of the device front lid is therefore prohibited.*

The only operation that the user must perform is that of periodically checking the water pressure of the system in the boiler. The boiler pressure gauge should read a value of between 1 and 1.2 bar.

*If the pressure is below 1 bar (with the circuit cool), restore normal pressure via the filling valve located in the boiler (see boiler instruction book).*

**N.B.:** close the valve after the operation.

If pressure values reach around 3 bar, the boiler safety valve may be activated.

In this case, remove water from a radiator air vent valve until a pressure of 1 bar is achieved, or ask for assistance from professionally qualified personnel.

In the event of frequent pressure drops, contact qualified staff for assistance to eliminate any system leakage.

At the end of its service life, the appliance must not be disposed of like normal household waste nor abandoned in the environment, but must be removed by a professionally authorised company. Contact the manufacturer for disposal instructions.

### 2.3 CLEANING THE CASE.

Use damp cloths and neutral detergent to clean the manifold casing. Never use abrasive or powder detergents.

### 3 CHECKS AND MAINTENANCE

- Check connection to a 230V-50Hz power mains via an omni-polar disconnecter (magnetothermal circuit breaker), correct L-N polarity and the earthing connection;
- check that the magnetothermal circuit breaker is working properly;
- make sure the central heating system is filled with water and that the pressure gauge indicates a pressure of 1-1.2 bar;
- make sure that the air valve cap (if present) is open and that the system is appropriately de-aerated;
- check the activation of the main switch located upstream of the appliance;
- check the sealing efficiency of water circuits;
- check the correlation between the electric and hydraulic connections;
- **(only for DIM H-LT or H-2LT)** with request for heat in the mixed zones, check the correct opening and closure of the mixing valve, opening the latter to check the system safety thermostat intervention (the boiler flow temperature must be set over 60 °C).

Even if just one single safety check provides a negative result, do not commission the system.

INSTALLER

USER

MAINTENANCE TECHNICIAN



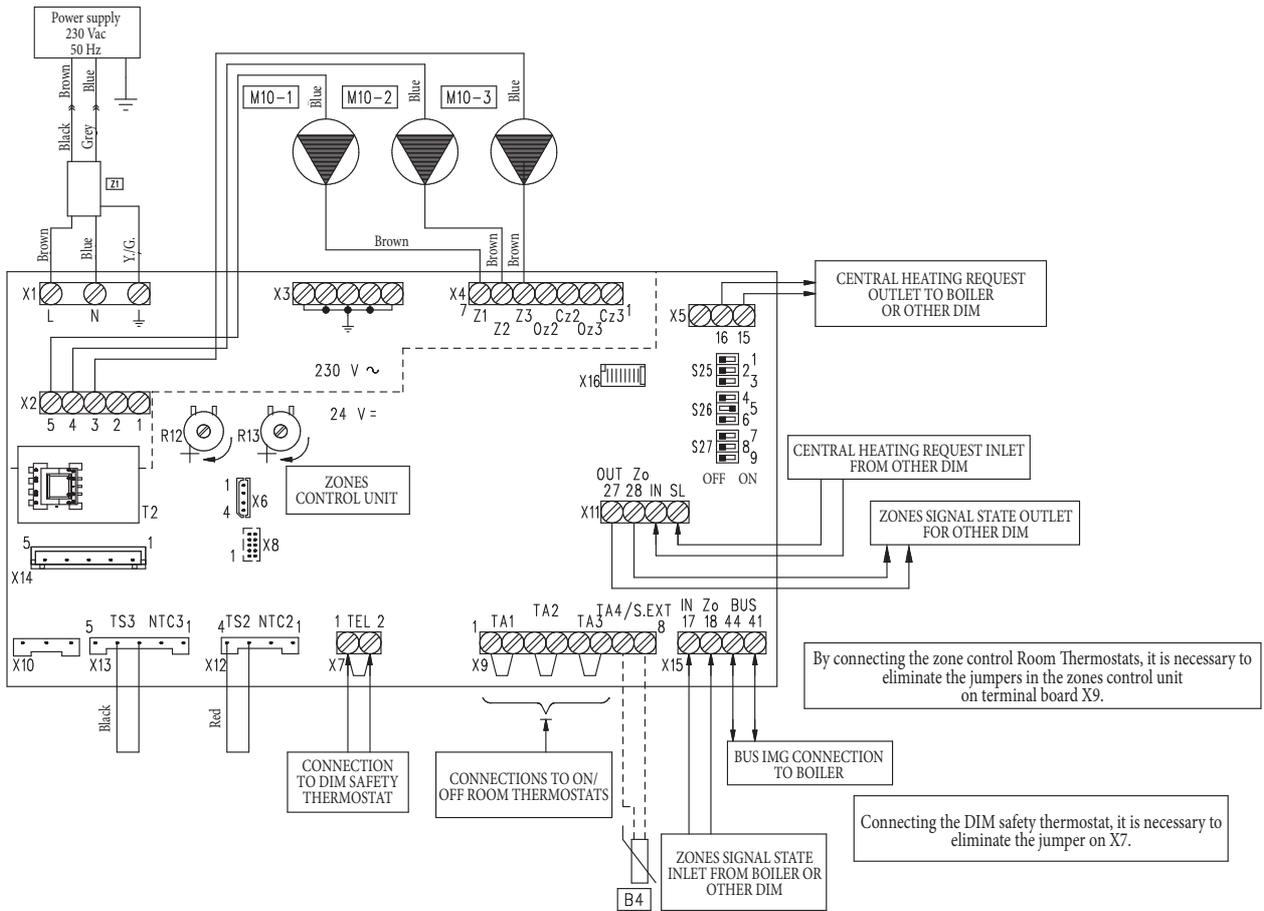
3.2 WIRING DIAGRAM DIM 3 ZONE ERP.

3-2

INSTALLER

USER

MAINTENANCE TECHNICIAN



- Key:
- B4 - External probe (optional)
  - M10-1 - Zone 1 pump
  - M10-2 - Zone 2 pump
  - M10-3 - Zone 3 circulator
  - R12 - Zone 2 low-temperature flow regulation trimmer
  - R13 - Zone 3 low-temperature flow regulation trimmer
  - S25 - Board setting selector
  - S26 - Board setting selector
  - S27 - Board setting selector
  - T2 - Zone control unit low-voltage feeder

ZONE CONTROL UNIT SETTINGS		
N° SWITCH	OFF <input type="checkbox"/>	ON <input type="checkbox"/>
1	<b>Homogeneous zone control</b>	Mixed zone control
2	<b>N° 1 mixed zone (Z2)</b>	N° 2 mixed zones (Z2 and Z3)
3	<b>MASTER board</b>	SLAVE board
4	<b>Main zone = zone 1</b>	Main zone = zone 2
5	Super C.A.R.: main zone flow control	<b>Super C.A.R.: system flow control</b>
6	<b>Mixed zones max. temperature = 50°C</b>	Mixed zones max. temperature = 75°C
7	<b>Normal functioning</b>	Multi-zone recognition state
8	<b>Not used</b>	Not used
9	<b>Mixed zones minimum temperature = 25°C</b>	Mixed zones minimum temperature = 35°C

N.B.: the default settings are highlighted in bold.

On connecting the zone control Room Thermostats, it is necessary to eliminate the jumpers present in the zone control unit on terminal board X9. On connecting the DIM safety thermostat, it is necessary to eliminate the jumper on X7.

The zone control C.A.R.<sup>v2</sup> or Super C.A.R. remote control must be connected directly to the boiler and it will control Zone 1, which is pre-set as the main zone on the manifold set as the Master (see table above). In the event that two or more zones

are used, the chrono-thermostat must be set with on-off operation (see instructions in the relative booklet). The H.T. electric connections controlled by the chrono-thermostat must be free.

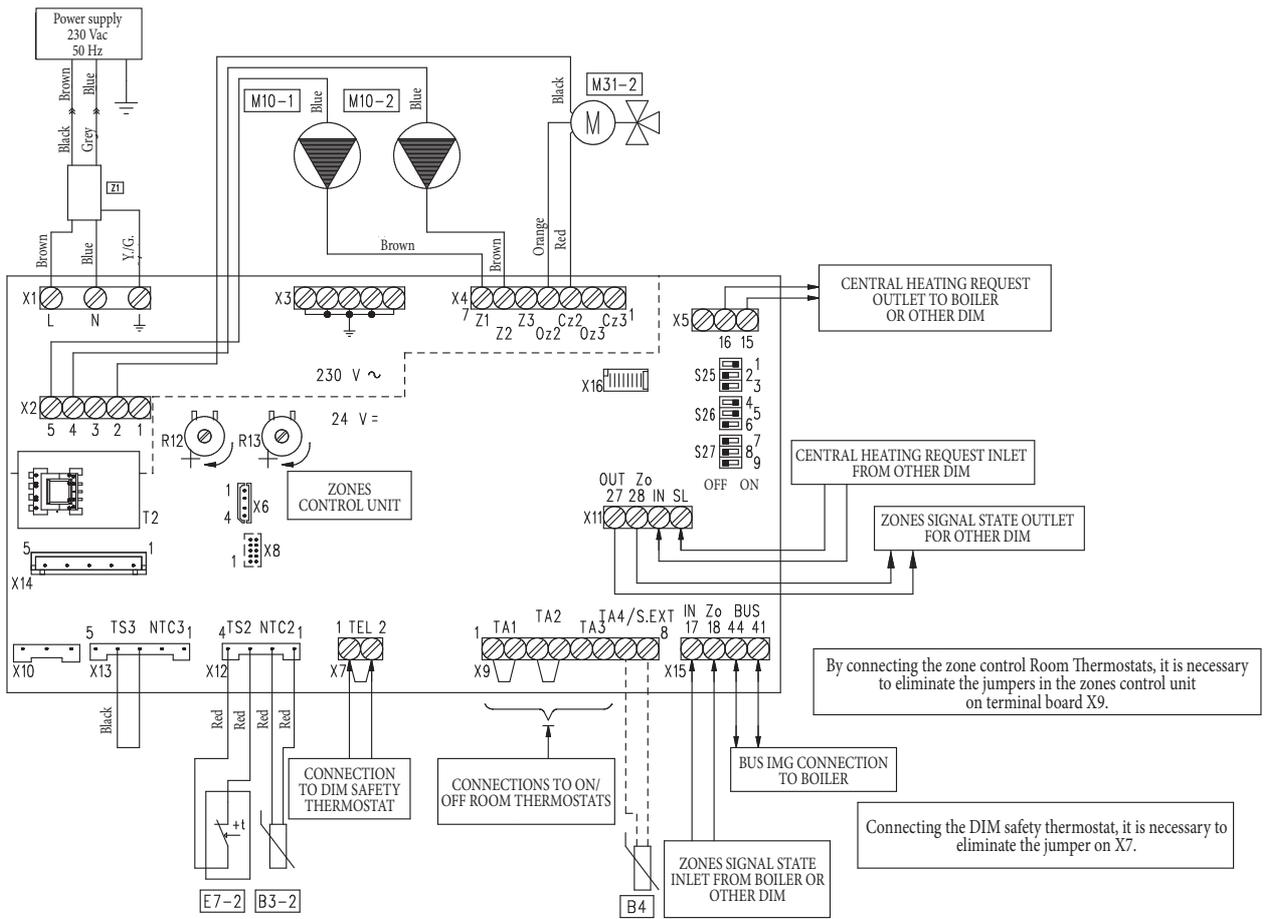
3.3 DIM H-LT ERP WIRING DIAGRAM.

3-3

INSTALLER

USER

MAINTENANCE TECHNICIAN



- Key:
- B4 - External probe (optional)
  - B3-2 - Zone 2 low-temperature flow probe
  - E7-2 - Zone 2 low-temperature safety thermostat
  - M10-1 - Zone 1 pump
  - M10-2 - Zone 2 pump
  - M31-2 - Mixing valve zone 2
  - R12 - Zone 2 low-temperature flow regulation trimmer
  - R13 - Zone 3 low-temperature flow regulation trimmer
  - S25 - Board setting selector
  - S26 - Board setting selector
  - S27 - Board setting selector
  - T2 - Zone control unit low-voltage feeder

ZONE CONTROL UNIT SETTINGS		
N° SWITCH	OFF <input type="checkbox"/>	ON <input type="checkbox"/>
1	Homogeneous zone control	<b>Mixed zone control</b>
2	<b>N° 1 mixed zone (Z2)</b>	N° 2 mixed zones (Z2 and Z3)
3	<b>MASTER board</b>	SLAVE board
4	Main zone = zone 1	<b>Main zone = zone 2</b>
5	Super C.A.R.: main zone flow control	<b>Super C.A.R.: system flow control</b>
6	<b>Mixed zones max. temperature = 50°C</b>	Mixed zones max. temperature = 75°C
7	<b>Normal functioning</b>	Multi-zone recognition state
8	Not used	Not used
9	<b>Mixed zones minimum temperature = 25°C</b>	Mixed zones minimum temperature = 35°C

N.B.: the default settings are highlighted in bold.

On connecting the zone control Room Thermostats, it is necessary to eliminate the jumpers present in the zones control unit on terminal board X9.  
 On connecting the DIM safety thermostat, it is necessary to eliminate the jumper on X7.

The zone control C.A.R.<sup>v2</sup> or Super C.A.R. remote control must be connected directly to the boiler and it will control Zone 2, which is pre-set as the main zone on the manifold set as the Master (see table above). In the event that two or more zones

are used, the chrono-thermostat must be set with on-off operation (see instructions in the relative booklet). The H.T. electric connections controlled by the chrono-thermostat must be free.



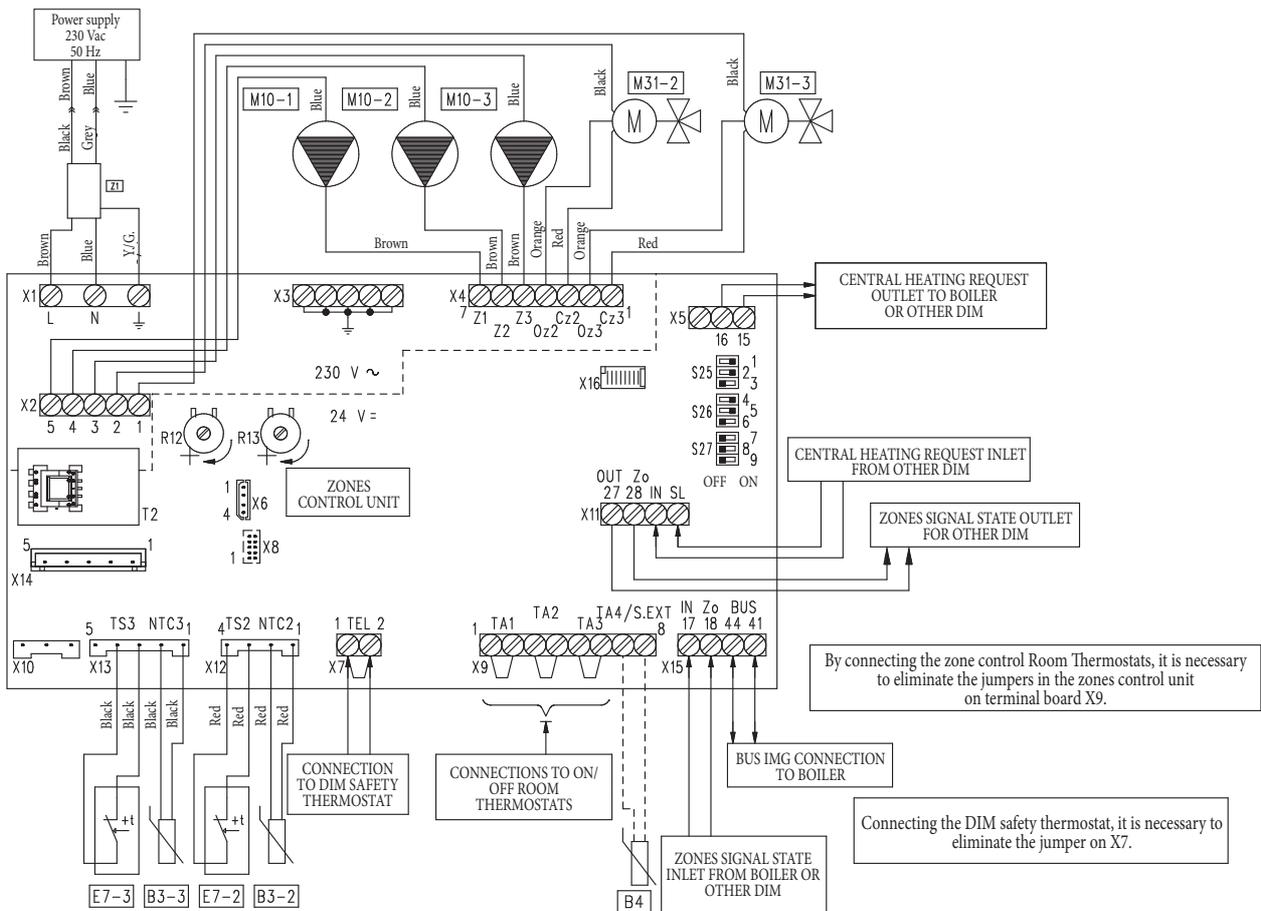
3.4 DIM H-2LT ERP WIRING DIAGRAM.

3-4

INSTALLER

USER

MAINTENANCE TECHNICIAN



- Key:
- B4 - External probe (optional)
  - B3-2 - Zone 2 low-temperature flow probe
  - B3-3 - Zone 3 low-temperature flow probe
  - E7-2 - Zone 2 low-temperature safety thermostat
  - E7-3 - Zone 3 low-temperature safety thermostat
  - M10-1 - Zone 1 pump
  - M10-2 - Zone 2 pump
  - M10-2 - Zone 3 circulator
  - M31-2 - Mixing valve zone 2
  - M31-3 - Zone 3 mixing valve
  - R12 - Zone 2 low-temperature flow regulation trimmer
  - R13 - Zone 3 low-temperature flow regulation trimmer
  - S25 - Board setting selector
  - S26 - Board setting selector
  - S27 - Board setting selector
  - T2 - Zone control unit low-voltage feeder

ZONE CONTROL UNIT SETTINGS		
N° SWITCH	OFF <input type="checkbox"/>	ON <input type="checkbox"/>
1	Homogeneous zone control	<b>Mixed zone control</b>
2	N° 1 mixed zone (Z2)	<b>N° 2 mixed zones (Z2 and Z3)</b>
3	<b>MASTER board</b>	SLAVE board
4	Main zone = zone 1	<b>Main zone = zone 2</b>
5	Super C.A.R.: main zone flow control	<b>Super C.A.R.: system flow control</b>
6	<b>Mixed zones max. temperature = 50°C</b>	Mixed zones max. temperature = 75°C
7	<b>Normal functioning</b>	Multi-zone recognition state
8	<b>Not used</b>	Not used
9	<b>Mixed zones minimum temperature = 25°C</b>	Mixed zones minimum temperature = 35°C

N.B.: the default settings are highlighted in bold.

On connecting the zone control Room Thermostats, it is necessary to eliminate the jumpers present in the zones control unit on terminal board X9. On connecting the DIM safety thermostat, it is necessary to eliminate the jumper on X7.

The zone control C.A.R.<sup>v2</sup> or Super C.A.R. remote control must be connected directly to the boiler and it will control Zone 2, which is pre-set as the main zone on the manifold. The H.T. electric connections controlled by the chrono-thermostat must be free.

N.B.: in systems that require a high-temperature mixed zone (by setting switch 6), it is necessary to remove the relative safety thermostat at 55 °C in the controlled zone and carry out a jumper on the free terminals. Perform this operation with

the utmost care and only when it is necessary.

### 3.5 DIM CONNECTION TO BOILER VIA IMG BUS.

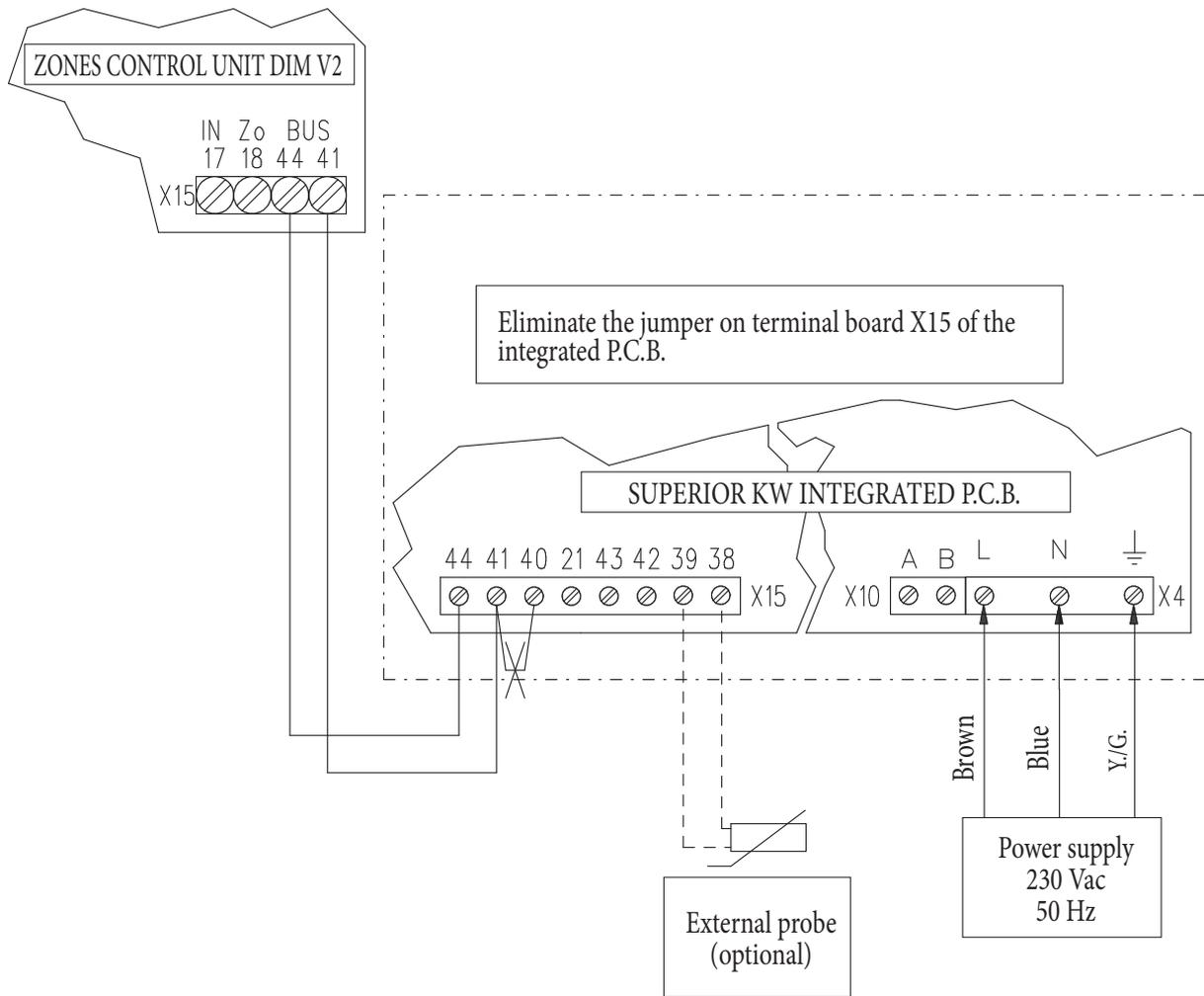
ONLY FOR BOILERS SET UP FOR DIGITAL COMMUNICATION WITH ZONE CONTROL UNIT.

3-5

INSTALLER

USER

MAINTENANCE TECHNICIAN



**N.B.:** In this mode, the remote control cannot be connected to terminals 44 and 41 of the integrated P.C.B.

On boiler models set up for digital communication with the zone control unit, the BUS dialogue can be activated with a wide exchange of interactions between boiler and DIM, the main ones being:

The DIM will receive the following from the boiler:

- Digital zone state signal;
- Temperatures regulated on display for the Low-Temperature zones (where possible);
- External temperature probe connected to boiler.

The boiler will receive the following from the DIM:

- Zone central heating request;
- Boiler flow temperature correlated to the zones request;
- Error codes of the faults present on the zone control unit.

**3.6 DIM CONNECTION TO BOILER VIA ZONE SIGNAL STATE.**

**N.B.:** in this connection mode, when the boiler must be disconnected from the supply voltage, it is also necessary to power off the manifold.

INSTALLER

USER

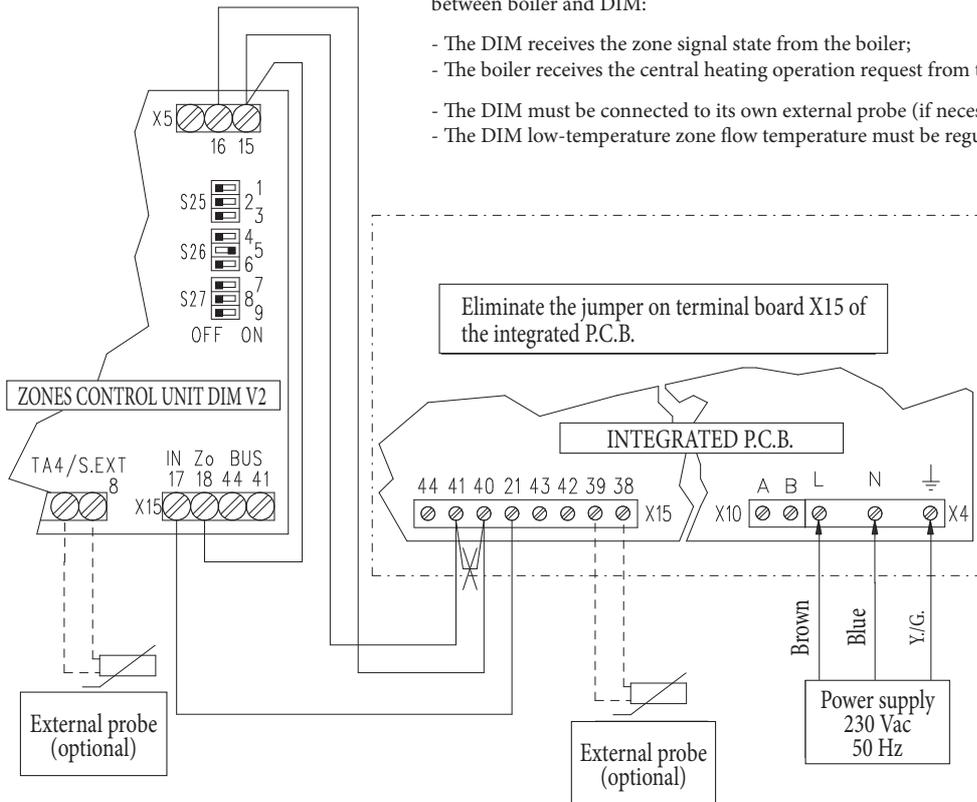
MAINTENANCE TECHNICIAN

**IMMERGAS MODELS WITH ZONE SIGNAL STATE OUTLET**

3-6

Terminal 21 allows you to activate the analogue dialogue with a strict exchange of information between boiler and DIM:

- The DIM receives the zone signal state from the boiler;
- The boiler receives the central heating operation request from the DIM.
- The DIM must be connected to its own external probe (if necessary);
- The DIM low-temperature zone flow temperature must be regulated by its trimmer.



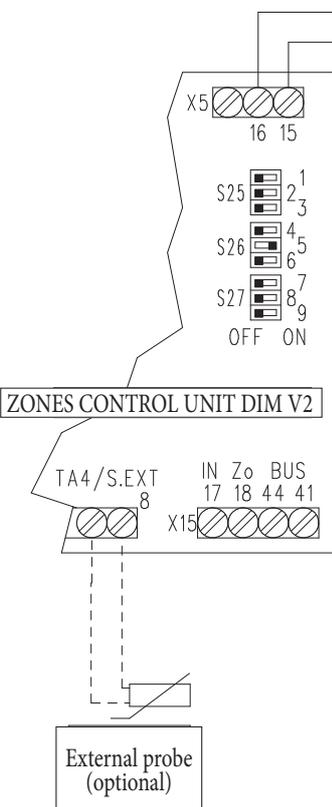
**CONNECTION TO GENERAL BOILERS**

3-7

**Boiler ignition request:**  
to terminals 15 and 16 of zones control unit  
the potential free contact of the boiler ignition control relay  
(230 Vac, 0.5 A max).  
The contact is closed with active request.

If the DIM is connected to the boiler without the zone signal state or the IMG BUS dialogue, the zone pumps are controlled only by the respective room thermostats. In this case, the pumps cannot be controlled from the boiler, activating them for example for post-circulations or deactivating them by selecting the "summer" function on the boiler.

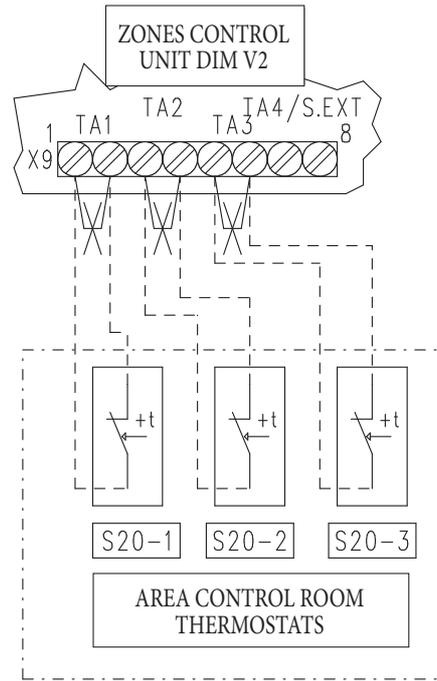
The DIM must be connected to its own external probe (if necessary).  
The DIM Low-Temperature zone flow temperature must be regulated by its trimmer.



3.7 DIM CONNECTIONS TO ON/OFF ROOM THERMOSTATS.

WIRING DIAGRAM FOR DIM CONNECTION TO ON-OFF ROOM THERMOSTATS.

3-8



Key:  
 S20-1 - Room thermostat zone 1  
 S20-2 - Room thermostat zone 2  
 S20-3 - Room thermostat zone 3

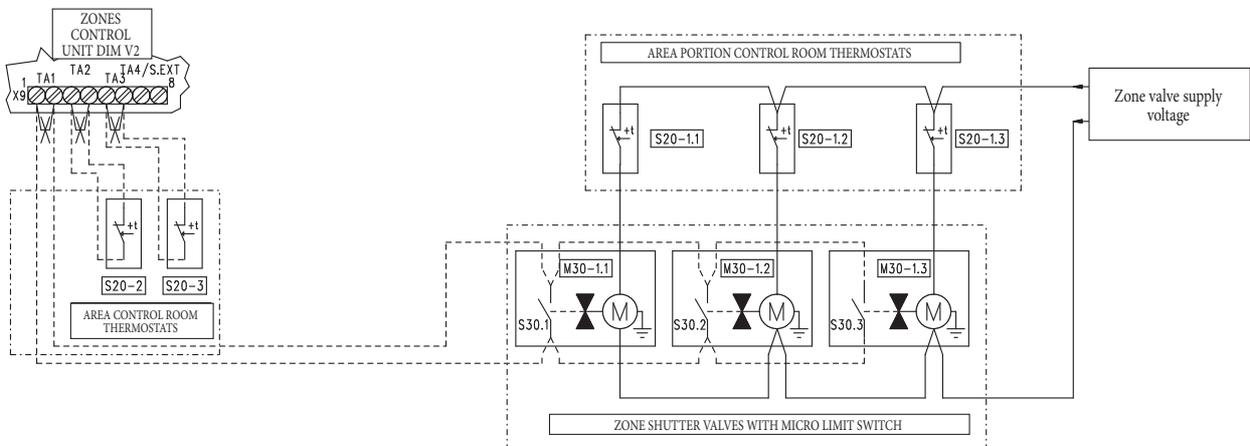
**Note:** All components represented in this diagram are optional.

All zones on the DIM can be controlled by the relative room thermostat.

On connecting the room thermostats, it is necessary to eliminate the jumpers present on the X9 terminal board of the zones control unit.

WIRING DIAGRAM FOR DIM CONNECTION TO ON-OFF ROOM THERMOSTATS WITH SHARED ZONES.

3-9



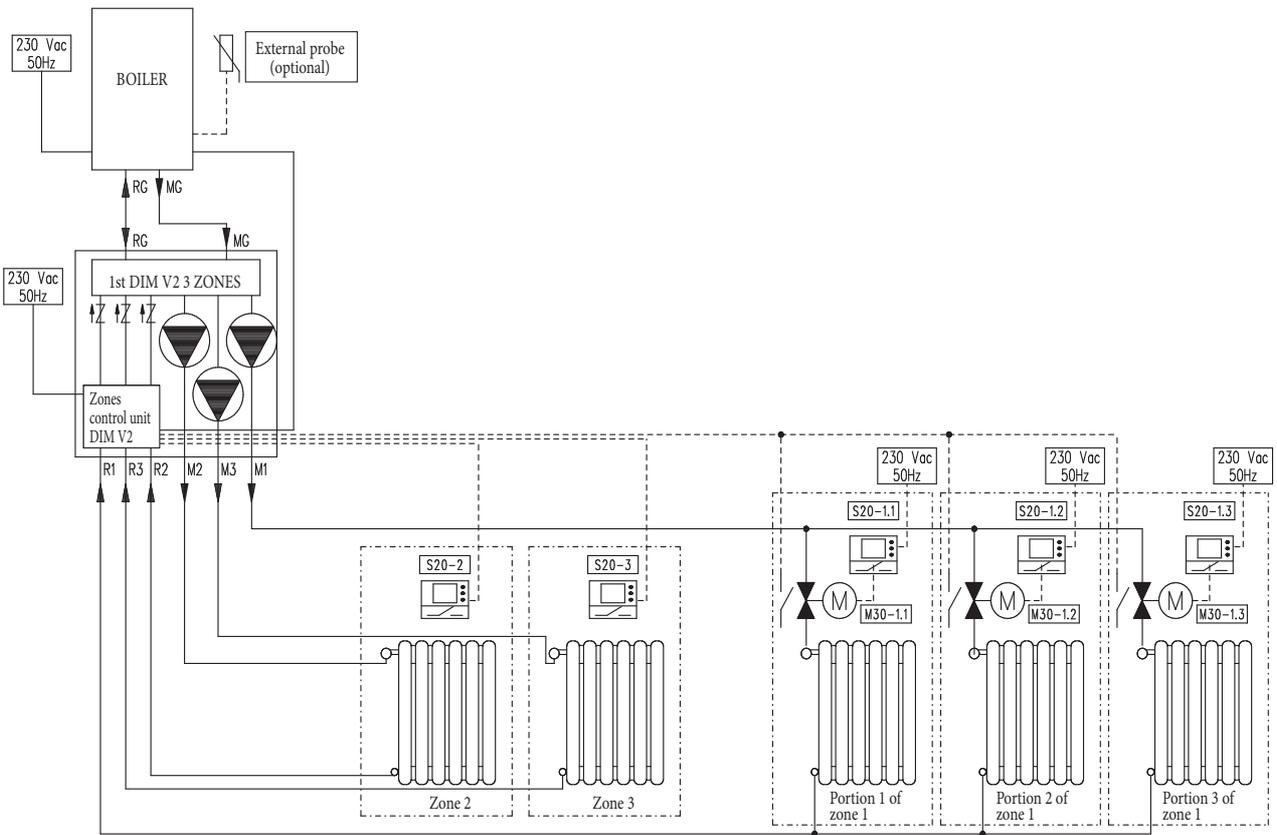
Key:  
 M30-1.1 - Portion valve 1 of zone  
 M30-1.2 - Portion valve 2 of zone  
 M30-1.3 - Portion valve 3 of zone  
 S20-2 - Room thermostat zone 2  
 S20-3 - Room thermostat zone 3  
 S20-1.1 - Portion 1 room thermostat of zone  
 S20-1.2 - Portion 2 room thermostat of zone  
 S20-1.3 - Portion 3 room thermostat of zone  
 S30.1 - Portion valve 1 of zone end run micro switch  
 S30.2 - Portion valve 2 of zone end run micro switch  
 S30.3 - Portion valve 3 of zone end run micro switch

All zones on the DIM can be controlled by the relative room thermostat, prior to the elimination of the jumpers on terminal block X9.

The room thermostat contacts can be replaced by those of the end run micro-switches belonging to other zone valves inserted into the hydraulic circuit downstream from the zone pumps.

In the case of a single zone (controlled by a unique pump), it is divided into several portions (controlled by various zone valves); the wiring diagram shown above must be followed.

**Note:** All components represented in this diagram are optional.



- Key
- M30-1.1 - Portion valve 1 of zone 1
  - M30-1.2 - Portion valve 2 of zone 1
  - M30-1.3 - Portion valve 3 of zone 1
  - S20-2 - Room thermostat zone 2
  - S20-3 - Room thermostat zone 3
  - S20-1.1 - Portion 1 room thermostat of zone 1
  - S20-1.2 - Portion 2 room thermostat of zone 1
  - S20-1.3 - Portion 3 room thermostat of zone 1

**3.8 DIM CONNECTIONS TO ON/OFF ROOM THERMOSTATS AND C.A.R.<sup>v2</sup> / SUPER C.A.R.. REMOTE CONTROLS.**

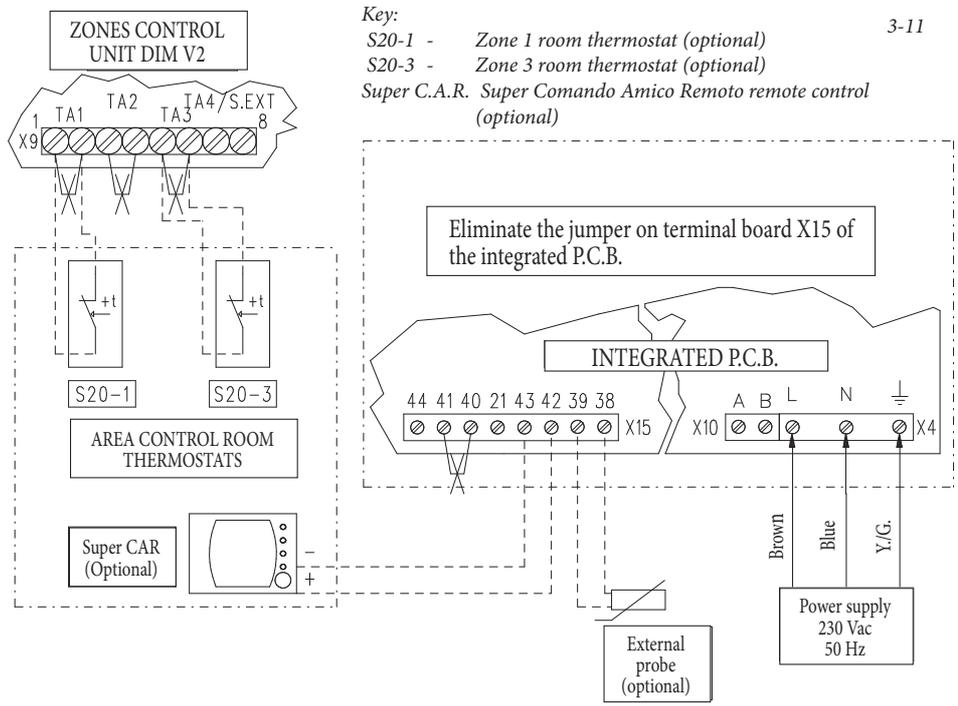
This diagram represents an example of the connection of the Super C.A.R. remote control. It is possible to connect the Super C.A.R., (or C.A.R.<sup>v2</sup>) remote control to terminals 42 and 43 and on all boiler boards suitable for communicating with their remote controls (see boiler instruction book).

On connecting the zone control room thermostats or the Super CAR remote control, it is necessary to eliminate the jumpers present in the zone control unit on terminal board X9 and on the integrated P.C.B. on clamp X15.

Any Super C.A.R. remote control must be connected to the control panel on terminals 42 and 43, respecting polarity.

The Super C.A.R. remote control can control the zone set as the main zone on the relative control unit.

With the Super C.A.R. remote control connected to the ends of the terminals corresponding to the Room Thermostat of the main zone, NOTHING else must be connected (no thermostat nor jumper).



Key:  
 S20-1 - Zone 1 room thermostat (optional)  
 S20-3 - Zone 3 room thermostat (optional)  
 Super C.A.R. Super Comando Amico remote control (optional)

3-11

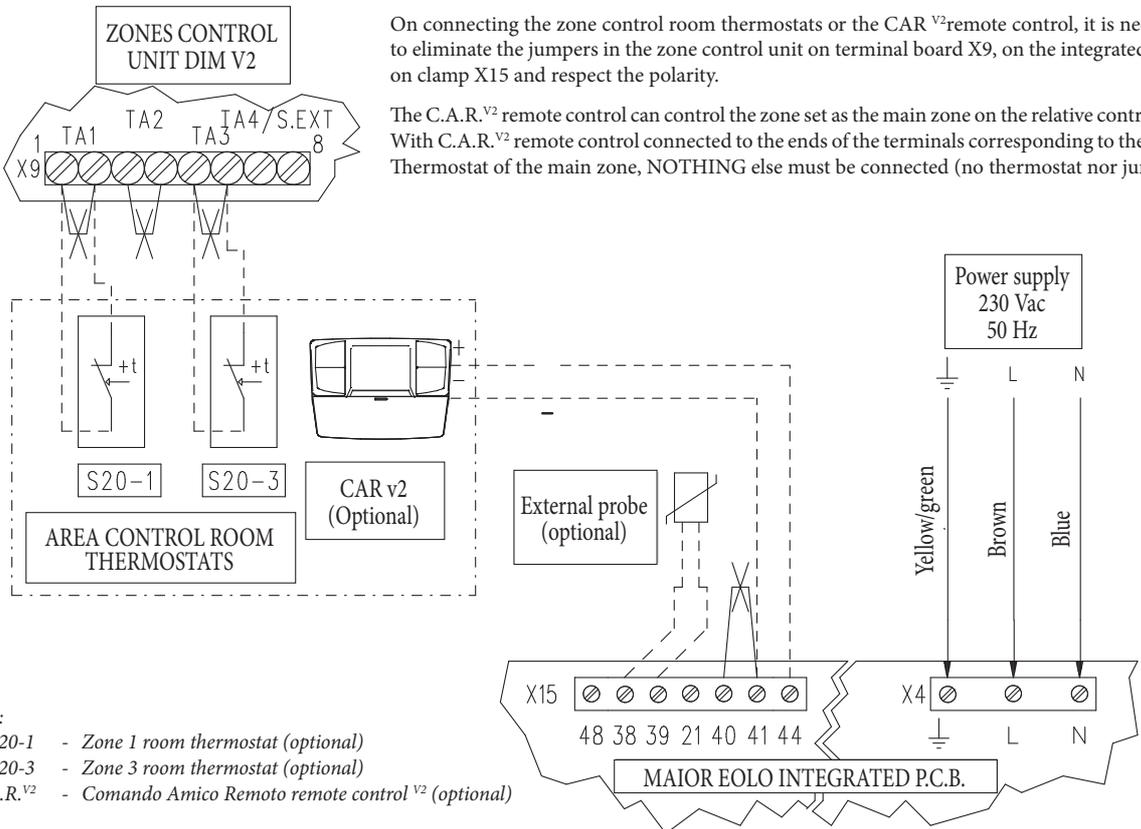
**3.9 DIM CONNECTIONS TO ON/OFF ROOM THERMOSTATS AND C.A.R.<sup>v2</sup> OR C.A.R UNIVERSAL REMOTE CONTROL.**

3-12

Example of C.A.R.<sup>v2</sup> (or C.A.R. Universal) remote control to terminals 41 and 44 on all boiler boards suitable for interacting with these remote options (see the instruction manual of the boiler).

On connecting the zone control room thermostats or the CAR<sup>v2</sup> remote control, it is necessary to eliminate the jumpers in the zone control unit on terminal board X9, on the integrated P.C.B. on clamp X15 and respect the polarity.

The C.A.R.<sup>v2</sup> remote control can control the zone set as the main zone on the relative control unit. With C.A.R.<sup>v2</sup> remote control connected to the ends of the terminals corresponding to the Room Thermostat of the main zone, NOTHING else must be connected (no thermostat nor jumper).



Key:  
 S20-1 - Zone 1 room thermostat (optional)  
 S20-3 - Zone 3 room thermostat (optional)  
 C.A.R.<sup>v2</sup> - Comando Amico Remoto remote control<sup>v2</sup> (optional)

### 3.10 CONNECTION BETWEEN 2 DIM WITH HYDRAULICS IN PARALLEL.

#### DIM TO BOILER BUS CONNECTION WIRING DIAGRAM.

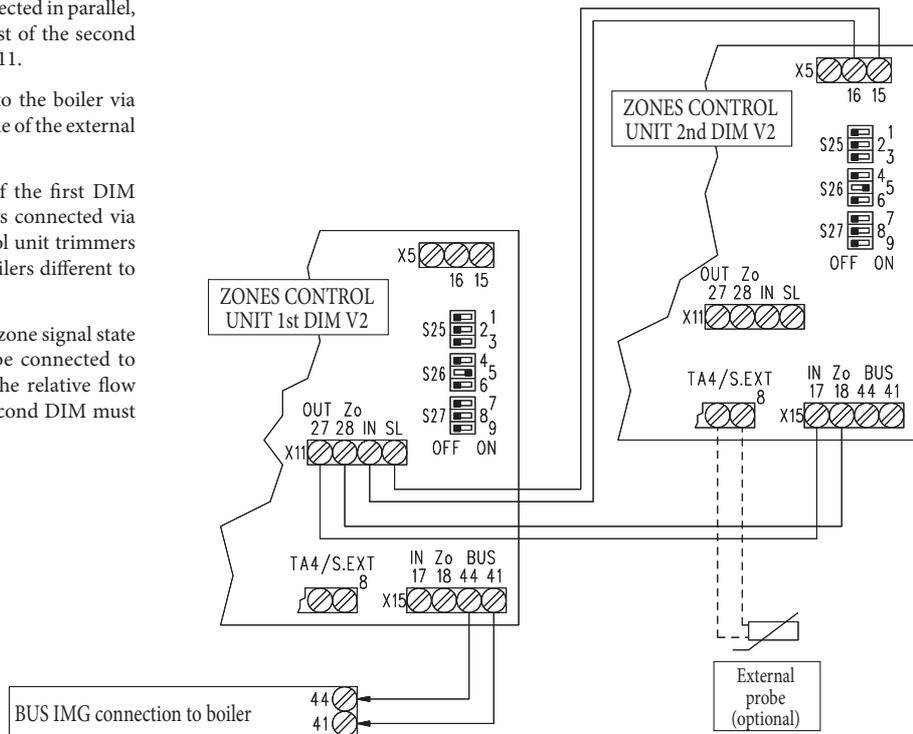
3-13

If the first DIM is connected to the boiler via IMG BUS and a second one is to be connected in parallel, connect the central heating request of the second DIM to the first one using input X11.

The first DIM will be connected to the boiler via IMG BUS and it will detect the value of the external probe from the boiler.

The LT zone flow temperature of the first DIM will be set on Superior kW boilers connected via IMG BUS, or on DIM zone control unit trimmers when the same is connected to boilers different to Superior kW.

The second DIM receives only the zone signal state from the first DIM and it must be connected to an external probe (if required); the relative flow temperature of LT zones of the second DIM must be adjusted on its trimmers.



INSTALLER

USER

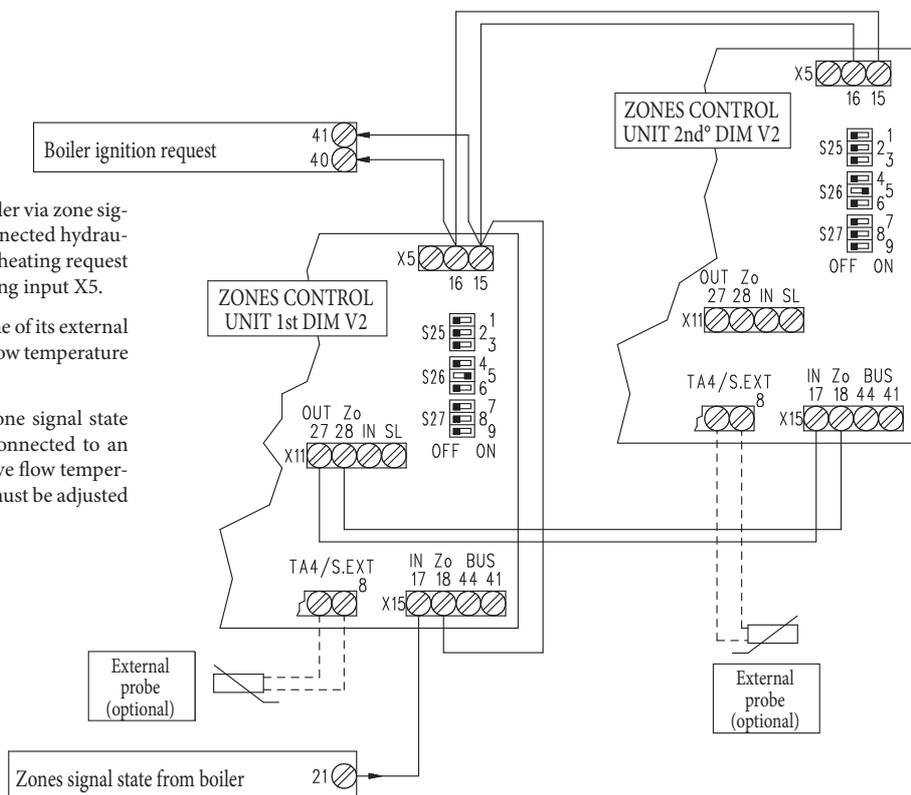
#### DIM TO BOILER STATE SIGNAL CONNECTION WIRING DIAGRAM.

3-14

If the first DIM is connected to the boiler via zone signal state and a second one is to be connected hydraulically in parallel, connect the central heating request of the second DIM to the first one using input X5.

The first DIM must be connected to one of its external probes (if required) and the LT zone flow temperature must be adjusted on its trimmers.

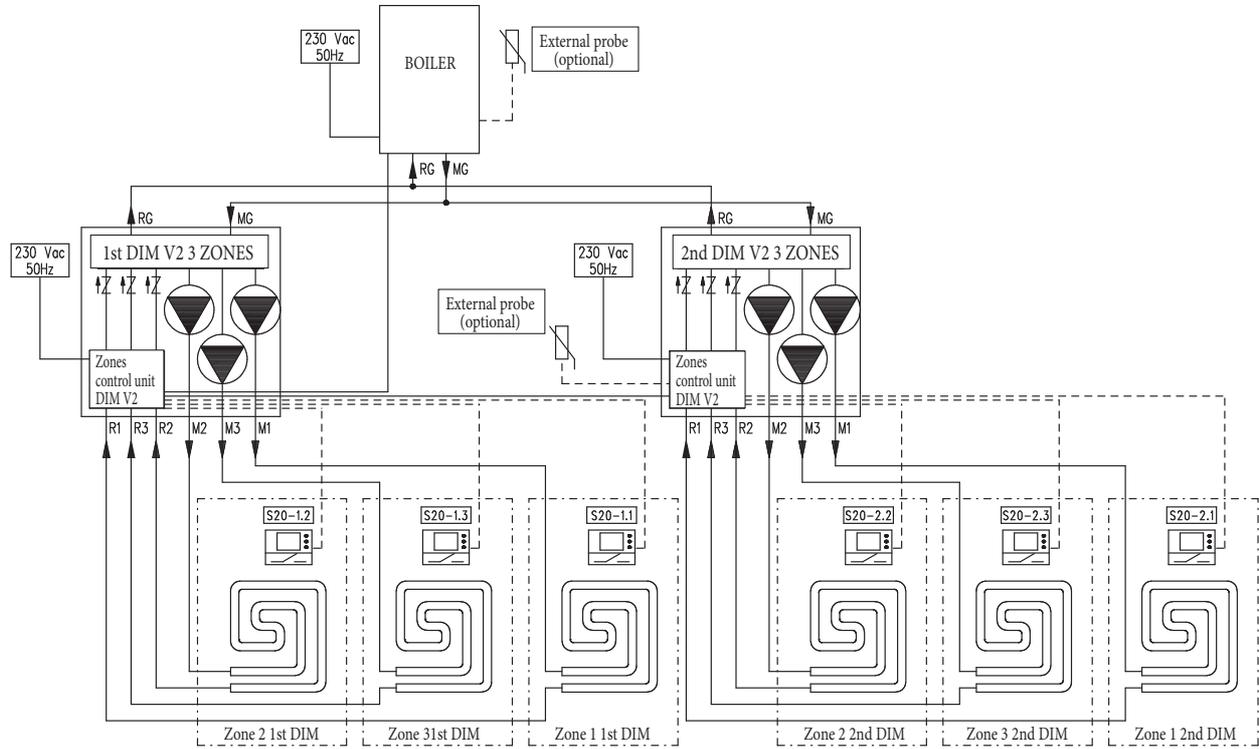
The second DIM receives only the zone signal state from the first DIM and it must be connected to an external probe (if required); the relative flow temperature of LT zones of the second DIM must be adjusted on its trimmers.



MAINTENANCE TECHNICIAN

Example of hydraulic diagram for parallel connection of 2 DIM.

3-15

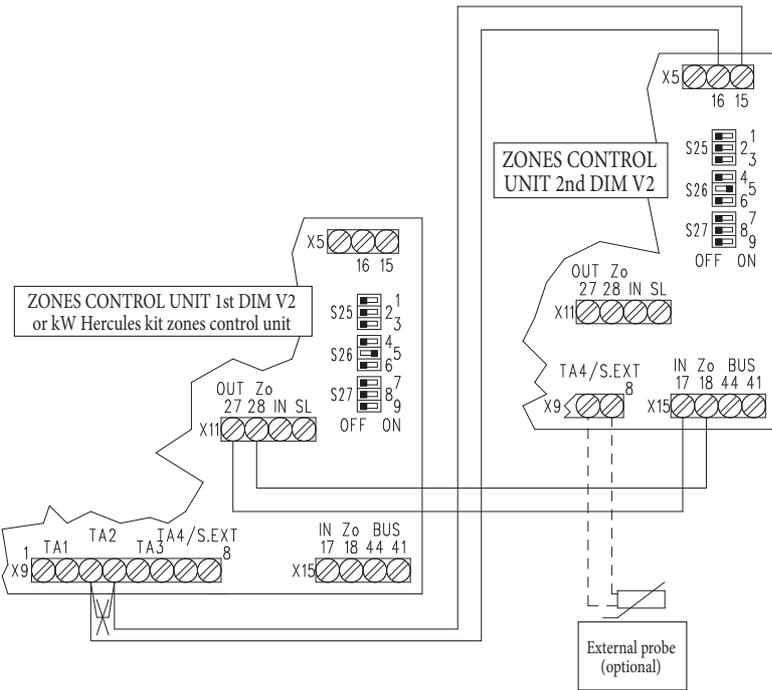


**Key:**

- S20-1.1 - Zone 1 room thermostat 1st DIM
- S20-1.2 - Zone 2 room thermostat 1st DIM
- S20-1.3 - Zone 3 room thermostat 1st DIM
- S20-2.1 - Zone 1 room thermostat 2nd DIM
- S20-2.2 - Zone 2 room thermostat 2nd DIM
- S20-2.3 - Zone 3 room thermostat 2nd DIM

3.11 DIM CONNECTION TO ANOTHER DIM OR TO HERCULES ZONE KIT WITH HYDRAULICS IN SERIES.

3-16



With two DIM connected to each other in series, connect the central heating request of the second DIM to the HT input of the first one on the zone in which it has been connected.

In the example, it is supposed that the second DIM is connected on the output of zone 2 of the first DIM.

All considerations shown in this layout are valid also if a DIM is connected to a Hercules kW boiler with zone kit.

The first DIM will be connected to the boiler via zone signal state or IMG BUS (where permitted) and it can receive the value of the external probe from the boiler only if the IMG BUS interaction is available.

The LT zone flow temperature of the first DIM will be set on Superior kW boilers connected via IMG BUS, or on DIM zone control unit trimmers when the same is connected to boilers different to Superior kW or does not use the IMG BUS communication.

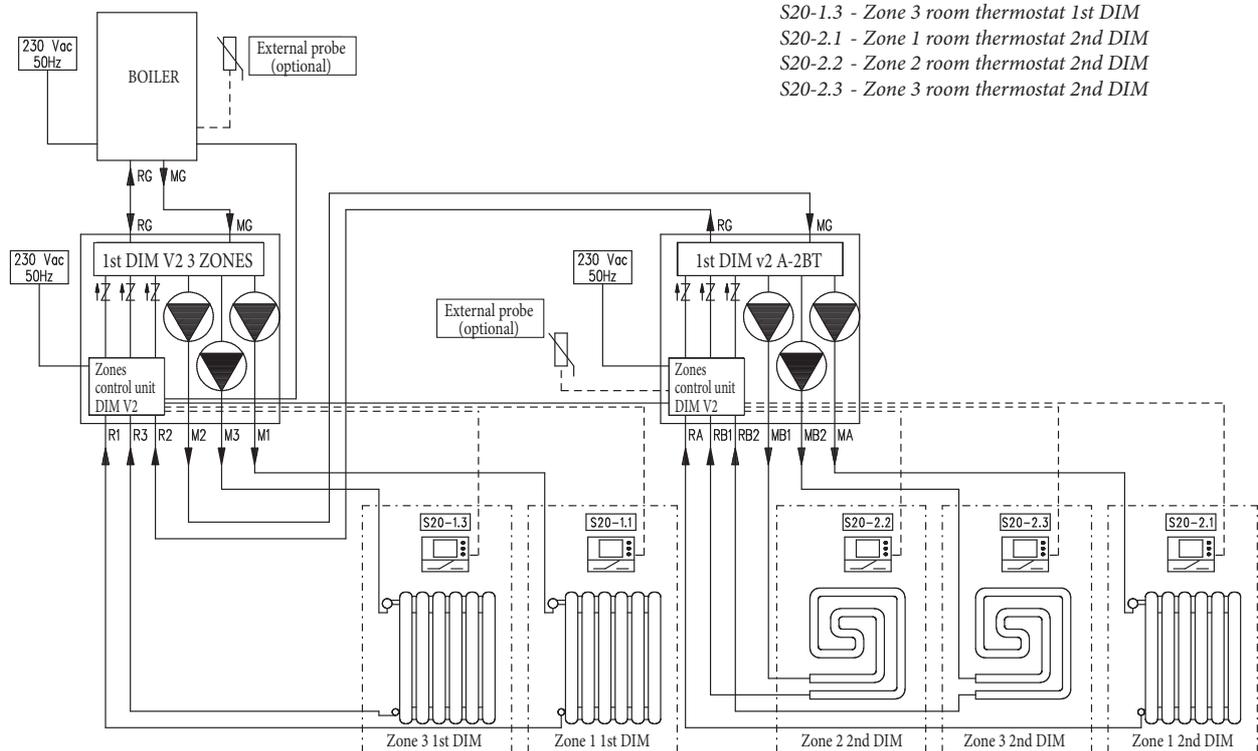
The second DIM receives only the zone signal state from the first DIM and it must be connected to an external probe (if required); the relative flow temperature of LT zones of the second DIM must be adjusted on its trimmers.

INSTALLER

USER

Example of hydraulic diagram for connection in series of 2 DIM.

3-17



- Key:
- S20-1.1 - Zone 1 room thermostat 1st DIM
  - S20-1.3 - Zone 3 room thermostat 1st DIM
  - S20-2.1 - Zone 1 room thermostat 2nd DIM
  - S20-2.2 - Zone 2 room thermostat 2nd DIM
  - S20-2.3 - Zone 3 room thermostat 2nd DIM

MAINTENANCE TECHNICIAN

### 3.12 DESCRIPTION OF MAIN FUNCTIONS.

#### Three-way valves/anti-block pumps.

The device is supplied with a function that makes the pumps start (according to the model installed) at least 1 once every 24 hours in order to reduce the risk of pump blocking due to prolonged inactivity. In the case of the H-LT and H-2LT versions, the same function also acts on the mixing valve in order to prevent and avoid the risk of blocking due to prolonged inactivity.

#### Post-circulation.

System post-circulation can be performed, controlled by the boiler, in the system zone selected as the main zone (see installation layout).

#### Summer DHW/functioning priority.

In the case of DHW or boiler functioning priority in Summer mode, all active pumps are deactivated and any mixing valves are closed (only for L-HT and H-2LT versions). Normal functioning of the DIM re-starts at the end of the DHW phase, taking the boiler switch to the Winter position.

#### Mixing valve initialisation.

(Only for DIM H-LT and H-2LT).

Every time that the the appliance is powered, initialisation of the mixing valves is carried out, closing them for three minutes. This way, synchronisation is performed between the P.C.B. and the mixing valve. The transfer of heat energy to the Low-Temperature zone can only take place at the end of this initialisation phase.

#### Anti-freeze.

(Only for DIM H-LT and H-2LT).

The P.C.B. is supplied with a function that protects the Low-temperature system if the system water drops below 5°C.

### 3.13 ZONE MANAGEMENT P.C.B.

The zone control unit can be configured using the selector switches on the unit (14 Fig. 3-18), via which you can choose between the following options:

	n°	OFF	ON
S25	1	Homogeneous zone control	Mixed zone control
	2	N° 1 mixed zone (Z2)	N° 2 mixed zones (Z2 and Z3)
	3	Master board	Slave board
S26	4	Main zone = zone 1	Main zone = zone 2
	5	Super CAR: main zone flow control	Super CAR: system flow control
	6	Mixed zones max. temperature = 50°C	Mixed zones max. temperature = 75°C
S27	7	Normal functioning	Multi-zone recognition state
	8	Not used	Not used
	9	Mixed zones minimum temperature = 25°C	Mixed zones minimum temperature = 35°C

- S26 (5) can only be modified if the Super C.A.R. remote control can be coupled with the Superior kW range boilers.

- S26 (6) in the event of the setting with max. flow temperature of 75°C, the relative safety thermostat must be replaced with one suitable for supporting this temperature.

**Warnings.** Various LEDs are present on the board to display the functioning status and to indicate any anomalies.

The LEDs from 1 to 7 (13 Fig. 3-18) identify the activation of the relative relay:

- LED H1 zone 1 activation (high temperature)
- LED H2 zone 2 activation (low temperature)
- LED H3 zone 3 activation (optional)
- LED H4 mixer opening zone 2 L.T.

- LED H5 mixer opening zone 2 L.T.
- LED H6 mixer opening zone 3 (optional)
- LED H7 mixer closing zone 3 (optional)

The LED H11 signals that the zone management board is powered.

LEDs 8 and 9 indicate the functioning status of the board:

Warning	H8	H9	H10
CH request presence	ON	OFF	OFF
Disabling of active zones	ON L	OFF	OFF
Zone 2 safety thermostat intervention	OFF	ON	OFF
Zone 2 L.T. probe fault	OFF	ON L	OFF
Zone 3 safety thermostat intervention	OFF	OFF	ON
Zone 3 L.T. probe fault	OFF	OFF	ON L
Bus IMG anomaly	OFF	ON A	ON A
IMG communication present	OFF	OFF	ON F
Intervention of safety thermostat B.T. DIM	OFF	ON V	OFF

Key:

ON = ON

OFF = OFF

ON L = Slow flashing (0.6 s on, 0.6 s off)

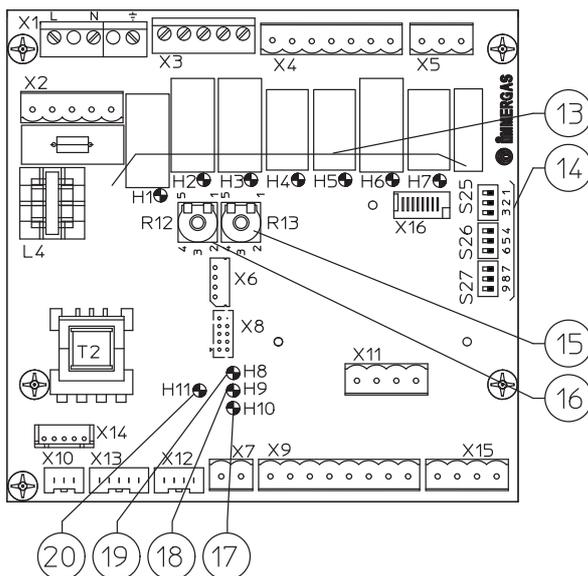
ON V = Fast flashing (0.3 s on, 0.3 s off)

ON F = Flash flashing (0.2 s on, 1 s off)

ON A = Alternate flashing

Zone management P.C.B.

3-18



Key:

- 13 - Relay functioning signal LED (H1 ÷ H7)
- 14 - Zone management board functioning mode selectors
- 15 - Zone 3 low flow temperature regulation trimmer.
- 16 - Zone 2 low flow temperature regulation trimmer.
- 17 - Board functioning status signal LED
- 18 - Board functioning status signal LED
- 19 - Board functioning status signal LED
- 20 - Board power supply signal LED

**3.14 EXTERNAL TEMPERATURE PROBE (OPTIONAL).**

The manifold is designed for the application of the external probe (Fig. 3-19), which is available as an optional kit. The probe can be connected directly to the manifold P.C.B. or to the boiler electrical system and allows the max. system flow temperature to be automatically decreased when the external temperature increases, in order to adjust the heat supplied to the system according to the change in external temperature. The external probe always operates when connected, regardless of the presence or type of room chrono-thermostat used, and can work in combination with Immergas timer thermostats. The external probe must be electrically connected as indicated in the Fig. 3-5, 3-6, 3-11, 3-12, 3-13, 3-14 or 3-16.

- **Control of the High-Temperature zone.** The correlation between flow temperature to the system and external temperature is determined by the parameters set on the boiler. See boiler instructions manual.
- **Control of the Low-Temperature zone.** The correlation between flow temperature to the system and external temperature is determined by the position of the trimmer (15 or 16 Fig. 3-18) on the zone board according to the curve represented in the diagram (Fig. 3-20).

- No external temperature probe. To set the flow temperature of the low-temperature zones, it is necessary to act using a screwdriver on the trimmer (R12 or R13) present on the zone control unit following the table provided below (15 or 16 Fig. 3-18).

Trimmer position R12 or R13	Low-temperature zone flow (25 ÷ 50 °C)	High-temperature zone flow (25 ÷ 75 °C)
1	25 °C	25 °C
2	30 °C	37.5 °C
3	35 °C	50 °C
4	40 °C	62.5 °C
5	50 °C	75 °C

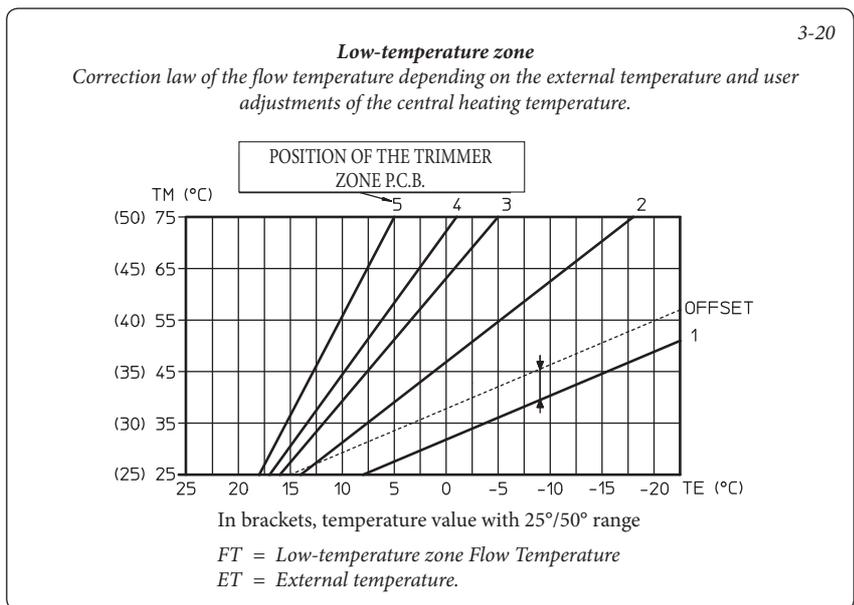
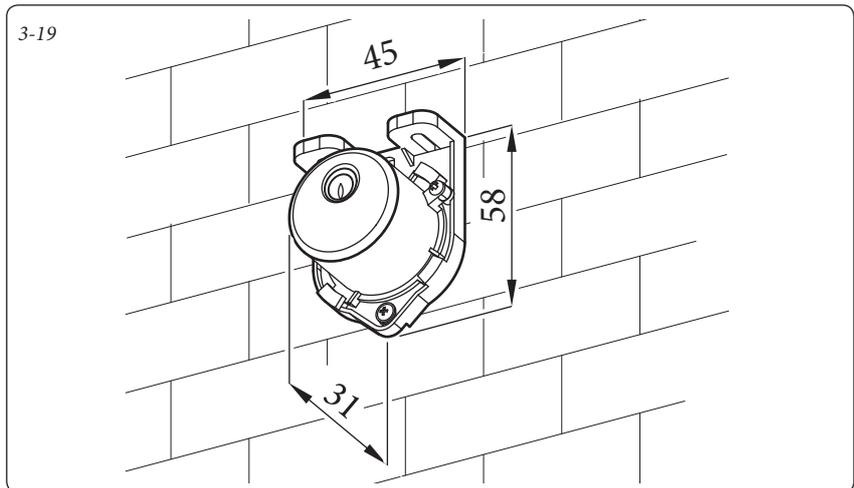
Trimmer position R12 or R13	Low-temperature zone flow (35 ÷ 50 °C)	High-temperature zone flow (35 ÷ 75 °C)
1	35 °C	35 °C
2	39 °C	45 °C
3	43 °C	55 °C
4	47 °C	65 °C
5	50 °C	75 °C

**Note:** using an IMG BUS connection to the Superior kW boiler, the low-temperature zones are regulated on the boiler display.

**Note:** when the external probe is connected, the OFFSET action can be regulated (with Superior kW boilers only).

**3.15 TROUBLESHOOTING.**

- Presence of air in the system. Check the opening of the boiler vents, the central heating system and the DIM, act on the 3-way mixing valve, keeping it open for de-aeration (only for H-LT and H-2LT version). Make sure the system pressure and expansion vessel factory-set pressure values are within the set limits; the factory-set value for the expansion vessel must be 1.0 bar, and system pressure between 1 and 1.2 bar.
- Low-temperature safety thermostat intervention. It can depend on the blocked pump, the blocked mixing valve or an anomaly on the P.C.B. Check the correct operation of the components indicated above, making sure that the anomalies signalled by flashing of the LEDs H9 or H10 (according to the cases) on the P.C.B. disappear.
- Low-temperature flow regulation NTC probe anomaly. Replace the component and/or check its correct operation, making sure that the anomaly signalled via switch-on of the LEDs H9 or H10 (according to the cases) on the P.C.B. disappears.
- Low-temperature zone flow temperature insufficient or too low. It can depend on an incorrect regulation of the trimmer (R12 or R13) present on the P.C.B. from the blocked or broken mixing valve (only for H-LT and H-2LT version), or on the temperature set on the lower boiler with respect to that requested in the low-temperature circuit (only for boilers connected without IMG BUS). Check the correct regulation of the trimmer, check the correct operation of the mixing valve (only for H-LT and H-2LT versions). Make the boiler function with a flow temperature over that set for the low-temperature zone (only for boilers connected without IMG BUS).
- The table below identifies the errors displayed on the boiler, when the manifolds are connected with the IMG BUS:



Code	Description
32	Zone 2 Low-Temperature probe anomaly
33	Zone 3 Low-Temperature probe anomaly
34	Low-temperature zone 2 safety thermostat intervention
35	Low-temperature zone 3 safety thermostat intervention
36	IMG BUS communication loss
46	DIM safety thermostat intervention (optional)

### 3.16 TECHNICAL DATA.

INSTALLER

USER

MAINTENANCE TECHNICIAN

		DIM 2 zone ErP	DIM 3 zone ErP	DIM H-LT ErP	DIM H-2LT ErP
Maximum nominal pressure	bar	3	3	3	3
Maximum operating pressure	°C	90	90	90	90
Low-temperature circuit minimum set-point regulation temperature	°C	--	--	25 or 35	25 or 35
Low-temperature circuit maximum set-point regulation temperature	°C	--	--	50 or 75	50 or 75
Low-temperature safety thermostat intervention	°C	--	--	55	55
Water content in device	l	1.3	1.7	1.5	1.9
Total head available in direct zone with 1000 l/h flow rate (max.)	kPa (m c.a.)	31.40 (3.20)	31.40 (3.20)	31.40 (3.20)	29.20 (2.98)
Total head available in mixed zone (mixing valve open) with 1000 l/h flow rate (max.)	kPa (m c.a.)	--	--	30.30 (3.10)	30.30 (3.10)
Empty device weight	kg	17.3	19.8	19.7	23.2
Full device weight	kg	18.6	21.5	21.2	25.1
Electrical connection	V/Hz	230/50	230/50	230/50	230/50
Maximum input	A	0.62	0.95	0.62	0.95
Installed electric power	W	100	135	100	135
Power in stand-by	W	1.2	1.2	1.2	1.2
EEI value	-	≤ 0.23 - Part. 2	≤ 0.23 - Part. 2	≤ 0.23 - Part. 2	≤ 0.23 - Part. 2
Electric plant protection	-	IPX5D	IPX5D	IPX5D	IPX5D
Maximum distance between boiler - DIM	m	15	15	15	15



