



Installation, User and Service Manual

AD317
VM-T-Control Pro

Dear Customer,

Thank you very much for buying this appliance.

Please read through the manual carefully before using the product, and keep it in a safe place for later reference. In order to ensure continued safe and efficient operation we recommend that the product is serviced regularly. Our service and customer service organisation can assist with this.

We hope you enjoy years of problem-free operation with the product.

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1 Safety

1.1 General safety instructions

**Danger**

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

**Danger**

If you smell flue gases:

1. Switch off the appliance.
2. Open the windows.
3. Locate the probable source of the flue gas leak and fix it immediately.

1.2 Recommendations

**Important**

Keep this document close to the place where the appliance is installed.

Casing components

Remove the casing only to perform maintenance and repair work. Put the casing back in place after maintenance and repair work.

Warning stickers

The instructions and warnings affixed to the appliance must never be removed or covered and must remain legible during the entire lifespan of the appliance. Immediately replace damaged or illegible instructions and warning stickers.

Modifications

Modifications to the box require the written approval of Remeha.

1.3 Liabilities

1.3.1 Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various Directives applicable. They are therefore delivered with the **CE** marking and any documents necessary. In the interests of the quality of our products, we strive constantly to improve them. We therefore reserve the right to modify the specifications given in this document.

Our liability as manufacturer may not be invoked in the following cases:

- Failure to abide by the instructions on installing and maintaining the appliance.
- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.

1.3.2 Installer's liability

The installer is responsible for the installation and initial commissioning of the appliance. The installer must observe the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Install the appliance in compliance with prevailing legislation and standards.
- Carry out initial commissioning and any checks necessary.
- Explain the installation to the user.
- If maintenance is necessary, warn the user of the obligation to check the appliance and keep it in good working order.
- Give all the instruction manuals to the user.

1.3.3 User's liability

To guarantee optimum operation of the system, you must abide by the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Call on a qualified professional to carry out installation and initial commissioning.
- Get your installer to explain your installation to you.
- Have the required inspections and maintenance carried out by a qualified installer.
- Keep the instruction manuals in good condition close to the appliance.

2 About this manual

2.1 Symbols used

2.1.1 Symbols used in the manual

This manual uses various danger levels to draw attention to special instructions. We do this to improve user safety, to prevent problems and to guarantee correct operation of the appliance.


Danger

Risk of dangerous situations that may result in serious personal injury.


Danger of electric shock

Risk of electric shock.


Warning

Risk of dangerous situations that may result in minor personal injury.


Caution

Risk of material damage.


Important

Please note: important information.


See

Reference to other manuals or pages in this manual.

2.1.2 Symbols used on the appliance

Fig.1



MW-1000123-2

- 1 Alternating current.
- 2 Protective earthing.
- 3 Before installing and commissioning the appliance, carefully read the instruction manuals provided.
- 4 Dispose of used products through an appropriate recovery and recycling structure.
- 5 Caution: danger of electric shock, live parts. Disconnect the mains power prior to carrying out any work.
- 6 Connect the appliance to the protective earthing.

3 Technical specifications

3.1 Homologations

3.1.1 Standards & Directives

This product complies with the requirements of the following European directives and standards:

- Standards: EN15502
- Efficiency Directive 92/42/EC
- Low Voltage Directive 2014/35/EU
Generic standard: EN 60335-1
Relevant standard: EN 60335-2-102
- Electromagnetic Compatibility Directive 2014/30/EU
Generic standards: EN 61000-6-3, EN 61000-6-1
Relevant Standard: EN 55014
- Ecodesign Directive
This product conforms to the requirements of European Directive 2009/125/EC on the ecodesign of energy-related products.

In addition to the legal requirements and guidelines, the supplementary guidelines in this manual must also be followed.

Supplements or subsequent regulations and guidelines that are valid at the time of installation shall apply to all regulations and guidelines specified in this manual.



Warning

The appliance must be installed by a qualified professional in accordance with applicable local and national regulations.

3.1.2 Regulations and standards

Beside the general technical rules, the relevant standards, regulations, ordinances and guidelines should be followed:

- EnEV Energy Saving Ordinance
- Regulations from the local electricity supplier
- Obligation to register (in some cases, Group Exemption Regulation)

3.1.3 Additional directives

In addition to the legal requirements and guidelines, the supplementary guidelines in this manual must also be followed.

Supplements or subsequent regulations and guidelines that are valid at the time of installation shall apply to all regulations and guidelines specified in this manual.



Warning

The appliance must be installed by a qualified professional in accordance with applicable local and national regulations.

3.1.4 Factory test

Before leaving the factory, each appliance is tested for the following:

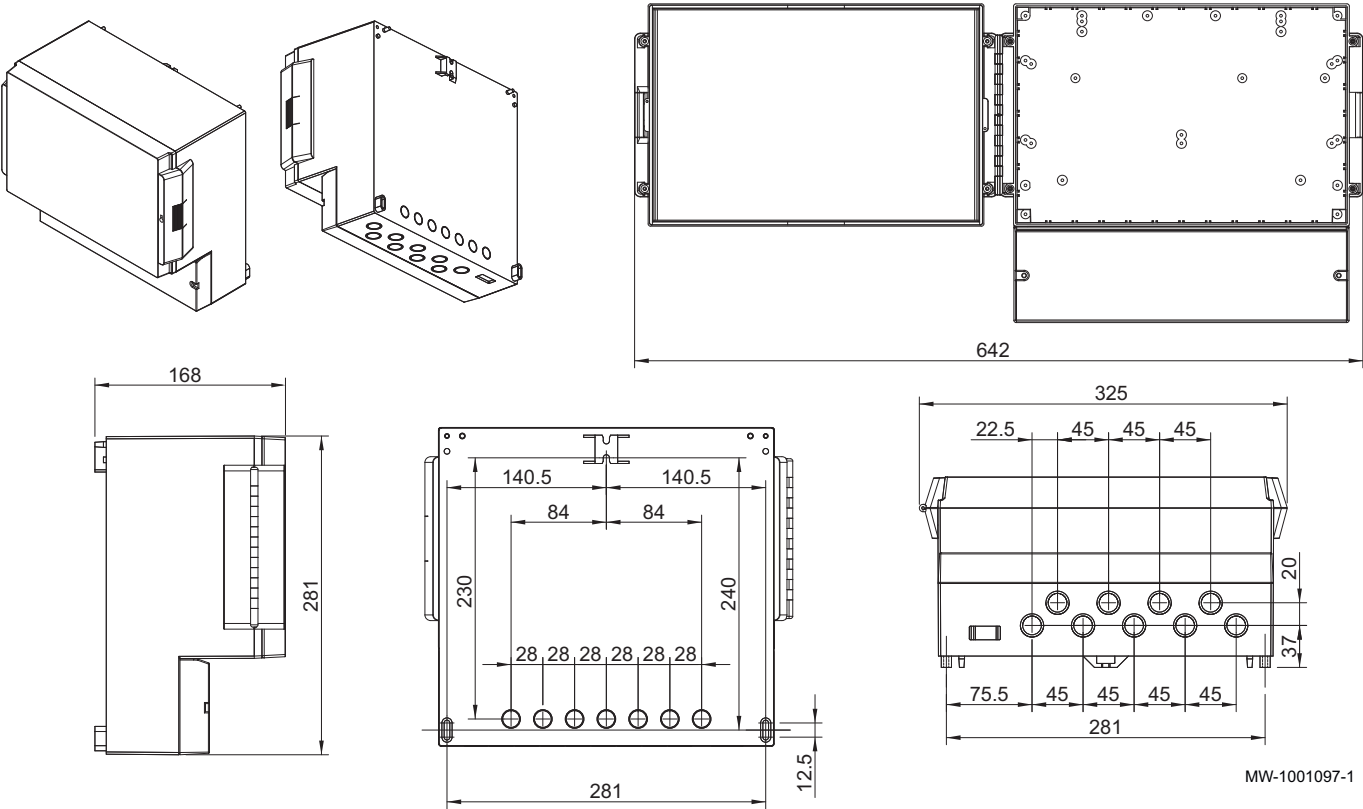
- Electrical tests (components, safety).

3.2 Technical data

- Power supply: 230 V - 50 Hz
- Power: 10 - 1450 W

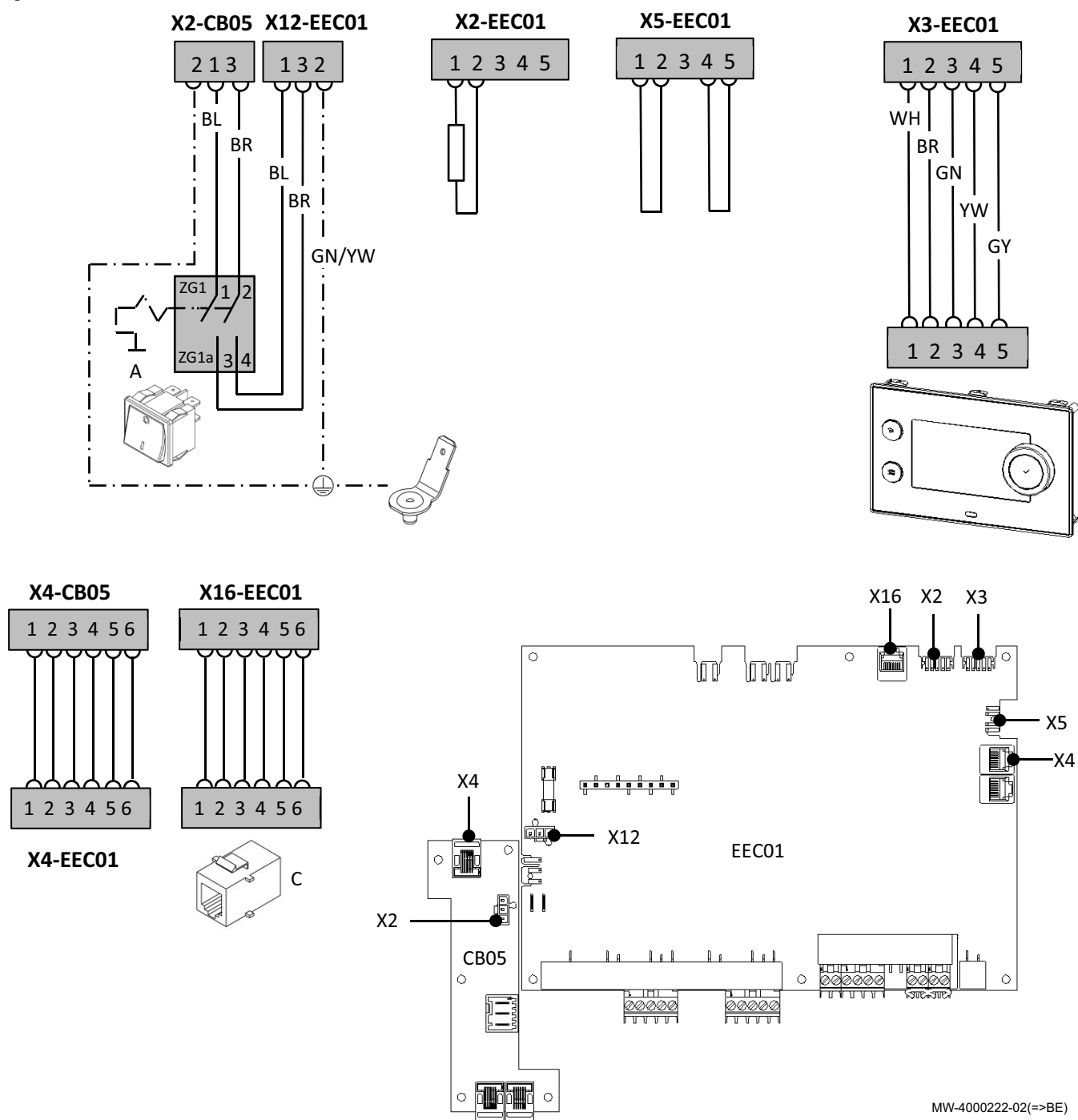
3.3 Dimensions

Fig.2



3.4 Internal connections of the VM-T-Control Pro housing

Fig.3



4 Description of the product

4.1 General description

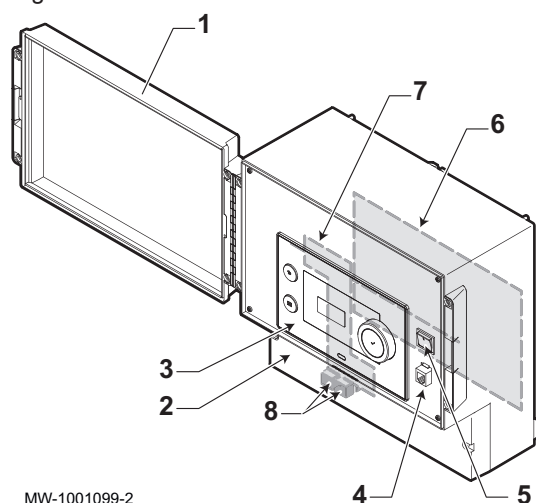
The VM-T-Control Pro unit can be used as an extension box to increase the number of secondary zones that are controlled, including the domestic hot water and the swimming pool.

The unit is:

- fully compatible with the new x-control control system range
- backwards compatible with iSense control systems, but only if connected in slave mode.

4.2 Main components

Fig.4



MW-1001099-2

- 1 Door
- 2 Access cover to the connection terminal block
- 3 T-Control control panel
- 4 Technical service connector
- 5 ON/OFF switch
- 6 EEC-01 PCB
- 7 CB-05 PCB
- 8 S-Bus sockets

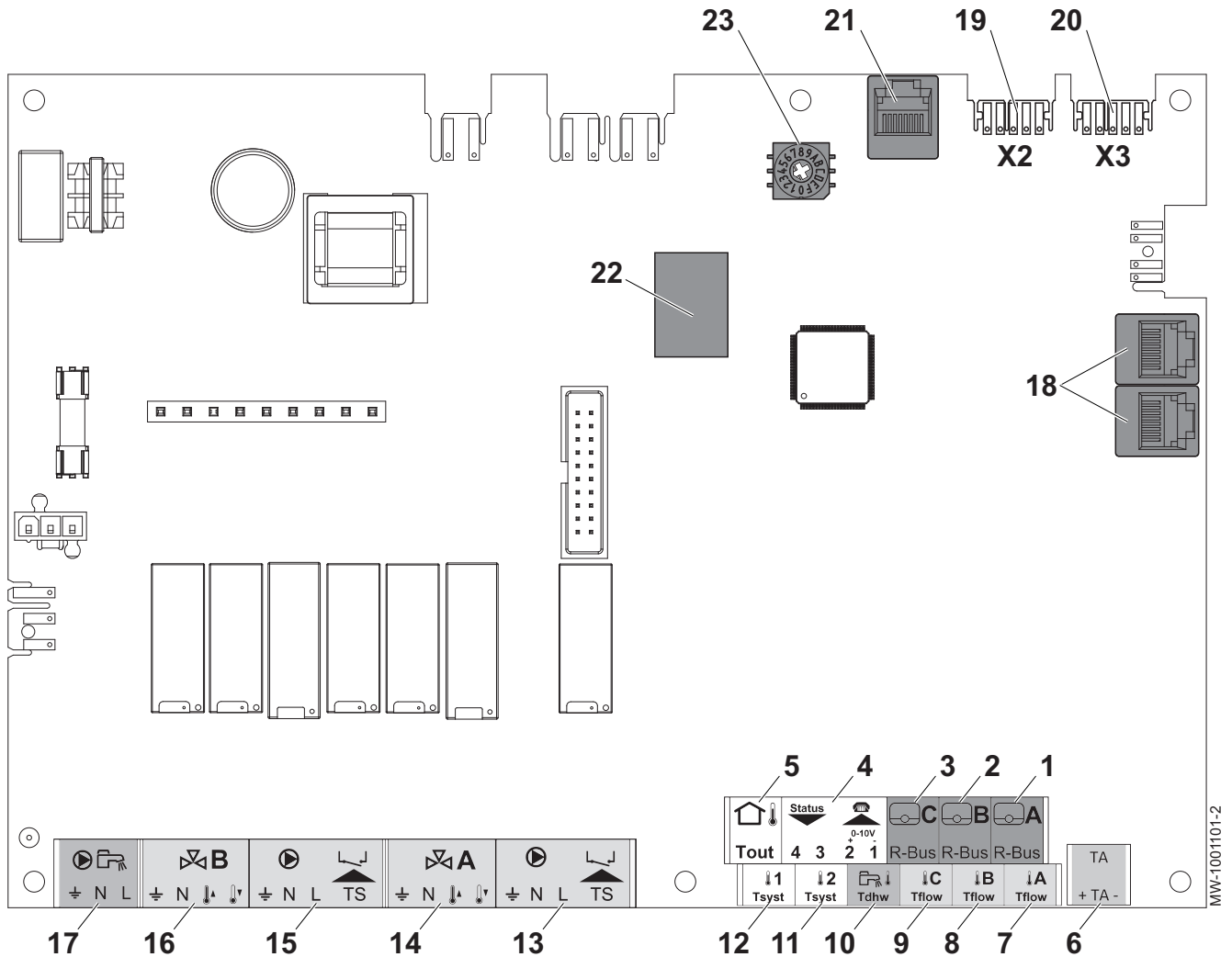
4.3 PCBs

4.3.1 Description of the EEC-01 PCB

Different heating zones can be connected to the EEC-01 PCB. Two zones are designated for heating and one for domestic hot water. The connections for the sensors or pumps of each zone are on the PCB.

The EEC-01 PCB can also be used for cascade regulation.

Fig.5



- 1 Room temperature sensor - circuit A
- 2 Room temperature sensor - circuit B
- 3 Room temperature sensor - circuit C
- 4 Programmable and 0 - 10 V Input/Output status
- 5 Outdoor temperature sensor
- 6 Impressed current anode
- 7 Flow sensor - circuit A
- 8 Flow sensor - circuit B
- 9 Flow sensor - circuit C
- 10 Domestic hot water sensor
- 11 System sensor 2
- 12 System sensor 1
- 13 Pump and safety thermostat - circuit A
- 14 Three-way valve - circuit A
- 15 Pump and safety thermostat - circuit B
- 16 3-way valve - circuit B
- 17 Domestic hot water tank pump

- 18 Connectors for S-BUS cables to **CB-05** PCB
- 19 L-BUS connection (END connector)
- 20 L-BUS connection to the T-Control control panel
- 21 S-BUS connector to connector on the fascia
- 22 Mod-BUS connectors to iSystem control panel in cascade mode
- 23 Coding wheel, selects the generator number in the cascade in Mod-Bus

■ Zone functions of EEC-01

The EEC-01 with the **AD249** option has following basic functions with default zone settings:

- CIRCA1 with parameter **CP020** set as Direct circuit
- CIRCB1 with parameter **CP021** set as Disable
- DHW1 with parameter **CP022** set as Disable
- CIRCC1 with parameter **CP023** set as Disable
- AUX1 with parameter **CP024** set as Disable

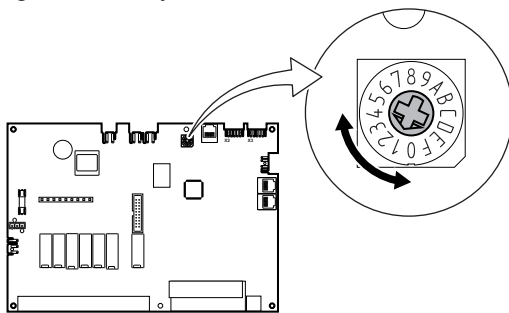
To configure your specific installation, be sure to check and adjust the parameter settings for the selected zones. The zone function table shows which parameter settings are available for which zones.

Tab.1 Parameter setting for zone function

Zone	CIRCA 1 ⁽¹⁾	CIRCB 1 ⁽¹⁾	DHW 1 ⁽¹⁾	CIRCC 1 ⁽¹⁾⁽²⁾	AUX 1 ⁽¹⁾⁽²⁾
Parameter to set zone function	CP020 ⁽³⁾	CP021 ⁽³⁾	CP022 ⁽³⁾	CP023 ⁽³⁾	CP024 ⁽³⁾
0 = Disable	x	x	x	x	x
1 = Direct	x	x		x	
2 = Mixing Circuit	x	x		x	
3 = Swimming pool	x	x		x	
4 = High Temperature	x	x		x	
5 = Fan Convactor	x	x		x	
6 = DHW tank	x	x	x	x	x
7 = Electrical DHW	x	x		x	
8 = Time Program	x	x	x	x	x
9 = ProcessHeat	x	x	x	x	x
10 = DHW Layered			x		
11 = DHW Internal tank	x	x	x	x	x

(1) The number refers to the circuit number which can be set with the rotary dial on the EEC-01.
 (2) With AD249 option.
 (3) The last number of the parameter is related to the zone. The code can be used to identify the parameter settings in the connection examples.

Fig.6 Rotary dial



AD-3001318-01

You can use the rotary dial to identify multiple EEC-01 PCBs, for example in a cascade situation. The default position of the rotary dial is 1. In this case, zone A will appear in the display as CIRCA1 (circuit A 1).

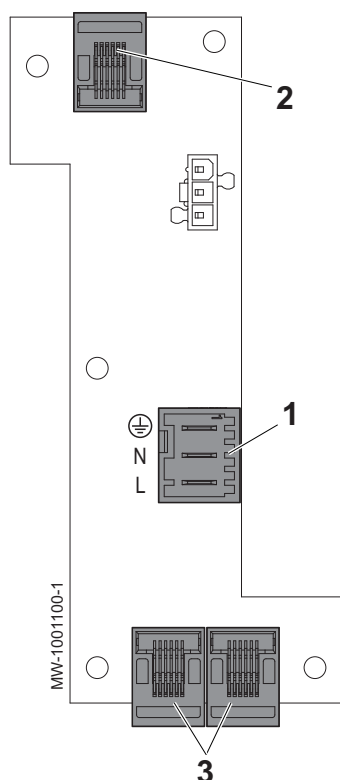
Tab.2 Zone function settings explanation

Zone setting	Explanation
0 = Disable	Removes the circuit display, the circuit is not used, but its pump output can be used as a status output.
1 = Direct	This setting enables a heat pump to be managed for the selected zone. Cooling is not possible.
2 = Mixing Circuit	Setting to manage a valve and a pump with the flow rate sensor, in heating or cooling (example underfloor heating).
3 = Swimming pool	Setting to manage the pool heat pump according to the flow rate sensor (if the sensor is present) and also the swimming pool filter pump.
4 = High Temperature	Setting to manage a pump, heats 365 days with program time, no stop in summer
5 = Fan Convactor	Setting to manage a pump, to warm and refresh
6 = DHW tank	Setting to manage a pump and a sensor for domestic hot water
7 = Electrical DHW	Setting to manage a pump, a sensor and to use the valve connector to control a relay for the tank's immersion heater. When switching to summer mode, the tank automatically switches to electric.
8 = Time Program	Setting to create a timer programme on the pump connectors.
9 = ProcessHeat	Setting to manage a pump, heats 365 days 24/24, no stop in summer, priority on all circuits. The boiler will remove all protections to produce maximum power in a minimum time.
10 = DHW Layered	Setting to manage domestic hot water with 2 sensors, a tank top sensor (Tsyst 1 or 2) triggers heating and the bottom sensor of the tank (Tdhw) stops heating.
11 = DHW Internal tank	Setting to manage domestic hot water for boilers with internal tank.

4.3.2 Description of the CB-05 connection PCB

The connection PCB connects the power supply and the S-Bus to the box.

Fig.7



- 1 Electrical power supply
- 2 S-BUS connection to the EEC-01 PCB
- 3 S-BUS connection to other boxes or generators

4.4 Standard delivery

The delivery includes:

- the housing
- the connectors
- the cable glands
- the installation, use and maintenance manual

4.5 Accessories & options

Various options are available, depending on the configuration of the installation and the country.

Tab.3

Description	Package
S-Bus cable with terminals, 1.5 m	AD308
S-Bus cable with terminals, 12 m	AD309
S-Bus cable with terminals, 20 m	AD310
S-Bus terminals	AD321
Mod-Bus connection cable, 1.5 m	AD124
Mod-Bus connection cable, 12 m	AD134
Mod-Bus connection cable, 40 m	DB119
PCB + sensor for three-way valve	AD249
Domestic hot water sensor and TAS	AD212
Flow sensor after valve	AD199
Sensor for buffer tank or cascade flow	AD250
Outdoor temperature sensor	FM46
Programmable room thermostat	AD137

Description	Package
Wireless programmable room thermostat	AD200
eTwist programmable and connected room thermostat	AD311

5 Before installation

5.1 Installation regulations


Caution

The appliance must be installed and maintained by a certified professional in accordance with prevailing statutory texts and codes of practice.

5.2 Electrical power supply

Tab.4 Electrical information

Power supply voltage	230 V AC/50 Hz
Power supply	Single phase
Fuse on the PCB	6.3 AT


Caution

Please ensure the polarities shown on the terminals are followed, i.e live (L), neutral (N) and earth (\div).

5.3 Choice of the location

- Decide on the ideal location, bearing in mind the space the box requires, as well as any legal requirements.
- Install the box on a solid and stable structure.


Caution

The box must be installed in a frost-free environment.

5.3.1 Data plate

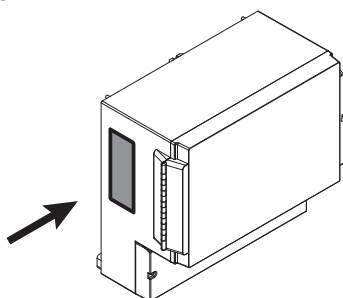
The data plates must be accessible at all times. They identify the product and provide the following information:

- Appliance type
- Date of manufacture (Year - Week)
- Serial number
- CE identification number
- Electrical power supply


Important

Never remove or cover labels and data plates affixed to the appliances. Labels and data plates must be legible throughout the entire lifetime of the appliance. Damaged or illegible instructions and warning stickers must be replaced immediately.

Fig.8



MW-1001106-1

5.3.2 Position of the appliance

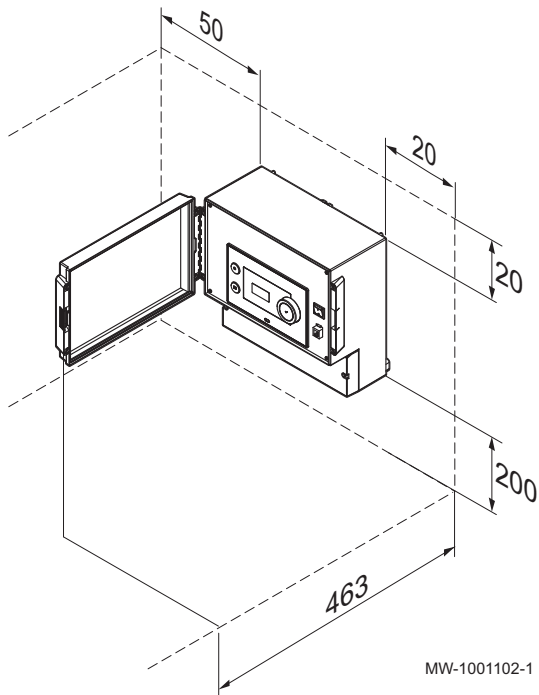


Caution

When installing appliances, respect the IP21 protection rating.

- Allow sufficient space around the housing to allow access and facilitate maintenance. The minimum recommended dimensions are shown in the illustration in mm.
- As standard, the control panel access door opens to the left. If the door's opening direction is reversed, ensure there is sufficient space on the right-hand side.

Fig.9



6 Connecting diagrams and configuration

6.1 Factory settings for circuits

In the factory, the different circuits are configured as indicated in the table. You can modify this configuration and adapt it to the needs of your installation. Three installation types are described here to provide a guide.

Tab.5

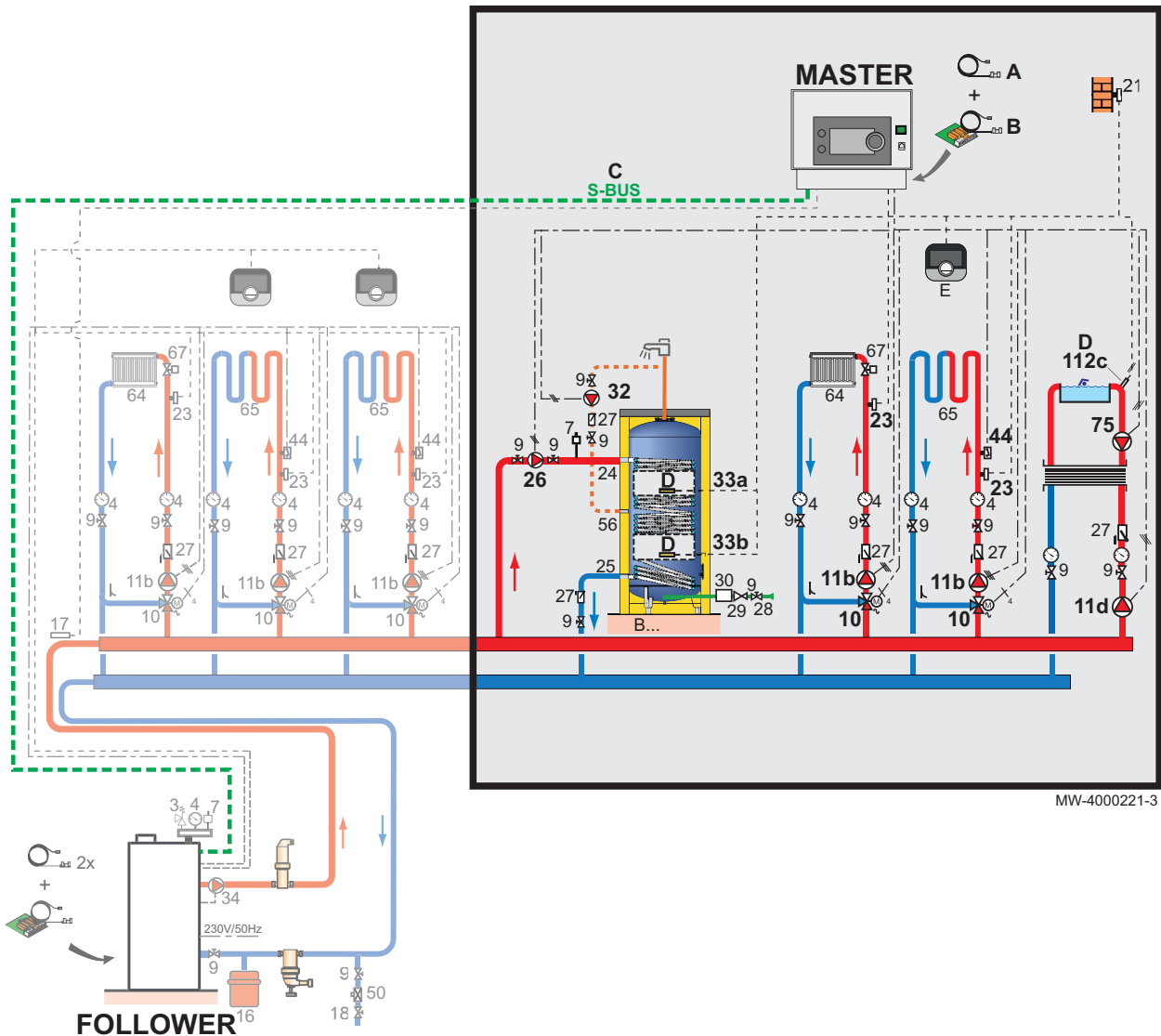
Circuit	Circuit type	Specifications
CIRCA	Direct heating circuit	Gradient: 1.5 Maximum temperature: 90 °C
CIRCB CIRCC (optional) AUX (optional)	Circuit with mixing valve	Gradient: 0.7 Maximum temperature: 50 °C
DHW	Domestic hot water circuit	Set point temperature: 55 °C

6.2 Addition of 2 heating circuits + 1 DHW circuit + 1 swimming pool circuit controlled by VM-T-Control Pro

Tab.6 Packages used in this configuration

AD199	Flow sensor after valve
AD249	Three-way valve PCB and sensor
AD212 (x3)	Domestic hot water sensor and TAS
AD309	S-Bus 12 m cable with terminals
AD311	eTwist programmable and connected room thermostat
AD250	Sensor for buffer tank or cascade flow

Fig.10



MW-4000221-3

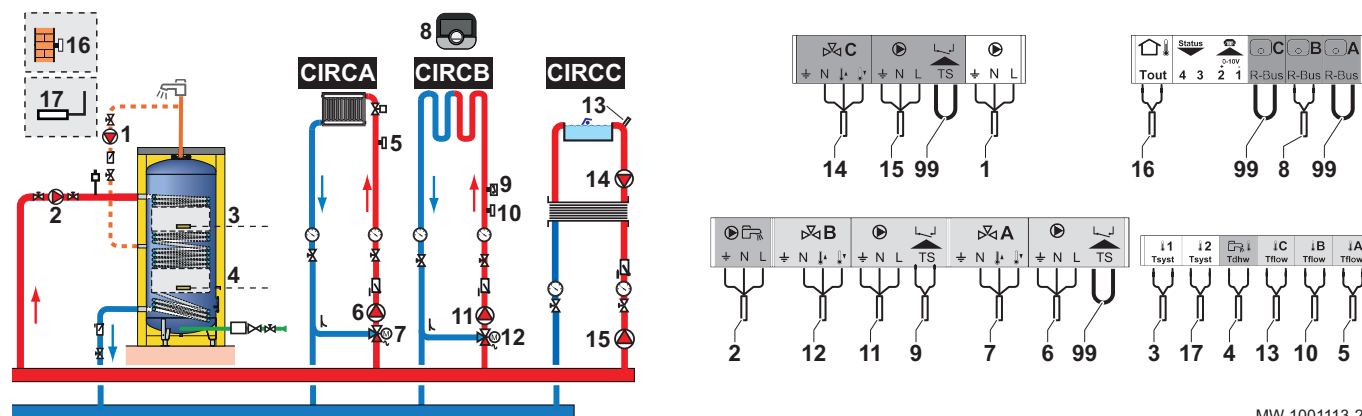
- Master** Master control system
Follower Generator with follower control
- 4 Pressure gauge
 - 7 Automatic air vent
 - 9 Isolation valve
 - 10 Three-way mixing valve
 - 11b Pump for heating circuit with mixing valve
 - 11d Swimming pool primary circuit pump
 - 17 Sensor for buffer tank or cascade flow
 - 21 Outdoor temperature sensor
 - 23 Flow temperature sensor
 - 24 Domestic hot water tank exchanger primary inlet
 - 25 Domestic hot water tank exchanger primary outlet
 - 26 DHW booster pump
 - 27 Non-return valve
 - 28 Domestic cold water inlet
 - 29 Pressure reducer
 - 32 Domestic hot water circulation loop pump

- 33a Domestic hot water temperature sensor, high position
- 33b Domestic hot water temperature sensor, low position
- 34 Primary pump
- 44 Safety thermostat with manual reset, for underfloor heating
- 64 Direct heating circuit
- 65 Heating circuit with mixing valve
- 67 Manual radiator valve
- 75 Pump for DHW use
- 112c Sensor for swimming pool circuit
- A Optional package AD199
- B Optional package AD249
- C Optional package AD309
- D Optional package AD212
- E Optional package AD311

6.2.1 Electrical connections

For this configuration, the AD249 and AD309 packages should be installed for the S-BUS connection.

Fig.11



1. Make the connections on the master box.

Tab.7

1	Domestic hot water circulation loop pump
2	DHW booster pump
3	Domestic hot water temperature sensor, high position
4	Domestic hot water temperature sensor, low position
5	Flow temperature sensor after mixing valve
6	Pump for heating circuit with mixing valve
7	Three-way mixing valve
8	"Room Unit" programmable room thermostat
9	Safety thermostat with manual reset, for underfloor heating
10	Flow temperature sensor after mixing valve
11	Pump for heating circuit with mixing valve
12	Three-way mixing valve
13	Sensor for swimming pool circuit
14	Swimming pool pump
15	Automatically regulated electronic pump for direct heating circuit
16	Outdoor temperature sensor
17	Sensor for buffer tank or cascade flow
99	Bridging

2. Make the S-BUS connection to the generator.

6.2.2 System configuration

For this hydraulic configuration, certain parameters must be adapted.



1. Select the cascade icon **Cascade management B.**
2. Select **Enable master func.**
3. Select **Yes**.



4. Select the cascade icon **Cascade management B.**
5. Check the following parameters:

Tab.8

Code	Description	Adjustment required
NP006	Cascade Type	Traditional
NP009	CascInterStageTime	4
NP011	CascadeTypeAlgo	Temperature

6. Press the key.
7. Select **Installation Setup**.

8. Configure the parameters for the following components:

Tab.9

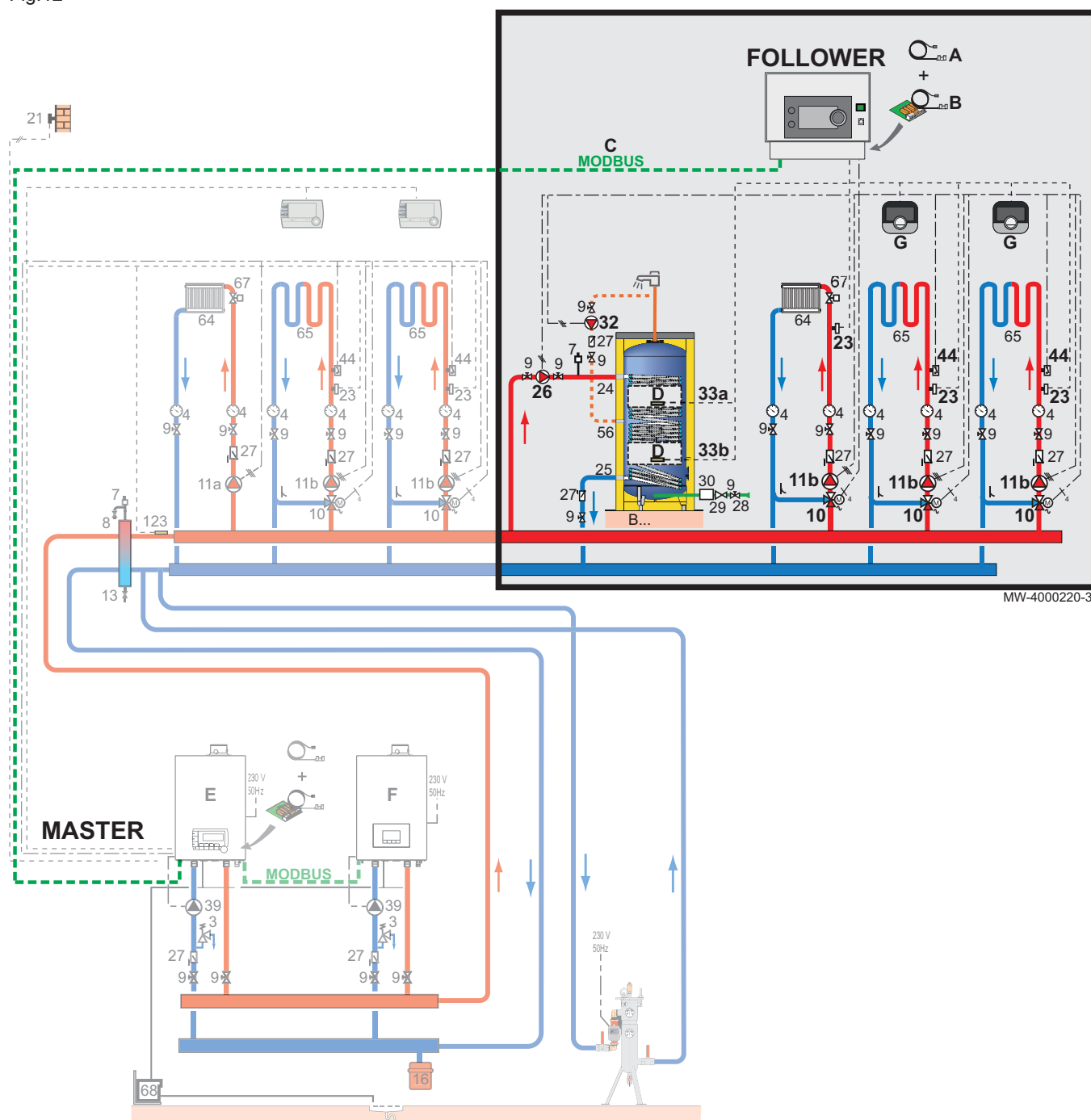
Component	Access	Parameter	Code	Adjustment required
Cascade	Analogue input > Adv. Parameters	Sets the general configuration of the sensor input 2	EP037	System (cascade)
Recirculating pump	AUX	Functionality of the zone	CP024	Time Program
Stratified tank	Analogue input > Adv. Parameters	Sets the general configuration of the sensor input 1	EP036	DHW tank top
	DHW	Functionality of the zone	CP022	DHW Layered
Swimming pool	CIRCC > Parameters, counters, signals > Parameters	Functionality of the zone	CP023	Swimming pool

6.3 Cascade of 3 generators, 3 heating circuits and 1 DHW circuit controlled by VM-T-Control Pro

Tab.10 Packages used

AD199 (x2)	Flow sensor after valve
AD212 (x2)	Domestic hot water sensor and TAS
AD309	S-Bus cable with terminals, 12 m
AD249	Three-way valve PCB and sensor
AD250	Sensor for buffer tank or cascade flow

Fig.12



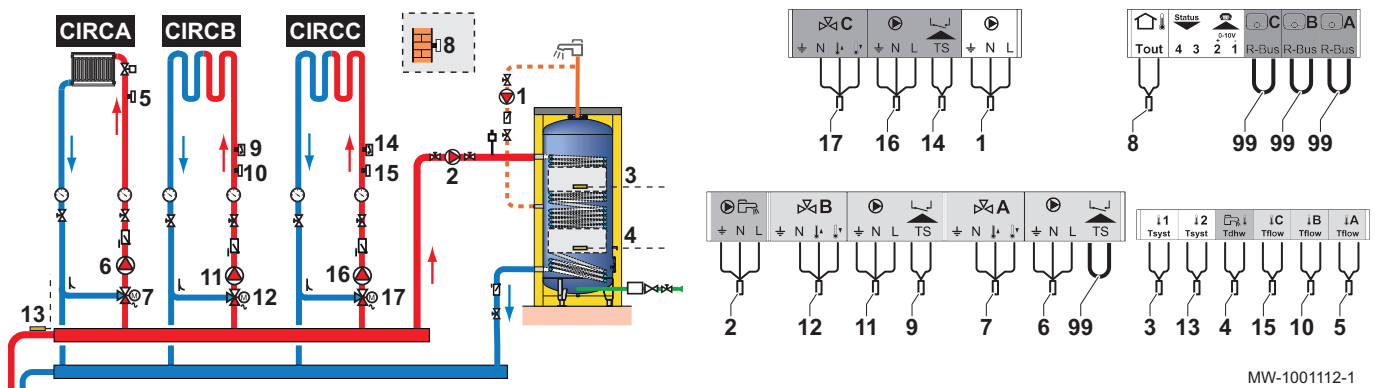
- Master** Master control system
- Follower** Generators with follower control
- 4 Pressure gauge
 - 7 Automatic air vent
 - 9 Isolation valve
 - 10 Three-way mixing valve
 - 11b Pump for heating circuit with mixing valve
 - 11d Swimming pool primary circuit pump
 - 21 Outdoor temperature sensor
 - 23 Flow temperature sensor
 - 24 Domestic hot water tank exchanger primary inlet
 - 25 Domestic hot water tank exchanger primary outlet
 - 26 DHW booster pump
 - 27 Non-return valve
 - 28 Domestic cold water inlet
 - 29 Pressure reducer
 - 32 Domestic hot water circulation loop pump

- 33a Domestic hot water temperature sensor, high position
- 33b Domestic hot water temperature sensor, low position
- 34 Primary pump
- 44 Safety thermostat with manual reset, for underfloor heating
- 64 Direct heating circuit
- 65 Heating circuit with mixing valve
- 67 Manual radiator valve
- 75 Pump for DHW use
- A Optional package AD199
- B Optional package AD249
- C Optional package AD309
- D Optional package AD212
- E Generator equipped with S-Control

6.3.1 Electrical connections

For this configuration, the AD249 and AD308 packages should be installed for the S-BUS connection.

Fig.13



1. Make the connections on the master box.

Tab.11

1	Domestic hot water circulation loop pump
2	DHW booster pump
3	Domestic hot water temperature sensor, high position
4	Domestic hot water temperature sensor, low position
5	Flow temperature sensor after mixing valve
6	Pump for heating circuit with mixing valve
7	Three-way mixing valve
8	Outdoor temperature sensor
9	Safety thermostat with manual reset, for underfloor heating
10	Flow temperature sensor after mixing valve
11	Pump for heating circuit with mixing valve
12	Three-way mixing valve
13	Sensor for buffer tank or cascade flow
14	Safety thermostat with manual reset, for underfloor heating
15	Flow temperature sensor after mixing valve
16	Pump for heating circuit with mixing valve
17	Three-way mixing valve
99	Bridging

2. Make the S-BUS connection to the three generators.

6.3.2 System configuration

For this hydraulic configuration, certain parameters must be adapted.



1. Select the cascade icon **Cascade management B.**
2. Select **Enable master func.**
3. Select **Yes**.

4. Select the cascade icon **Cascade management B.**
5. Check the following parameters:

Tab.12

Code	Description	EEC-01
NP006	Cascade Type	Traditional
NP009	CascInterStageTime	4
NP011	CascadeTypeAlgo	Temperature

6. Press the  key.
7. Select **Installation Setup**.
8. Configure the parameters for the following components:

Tab.13

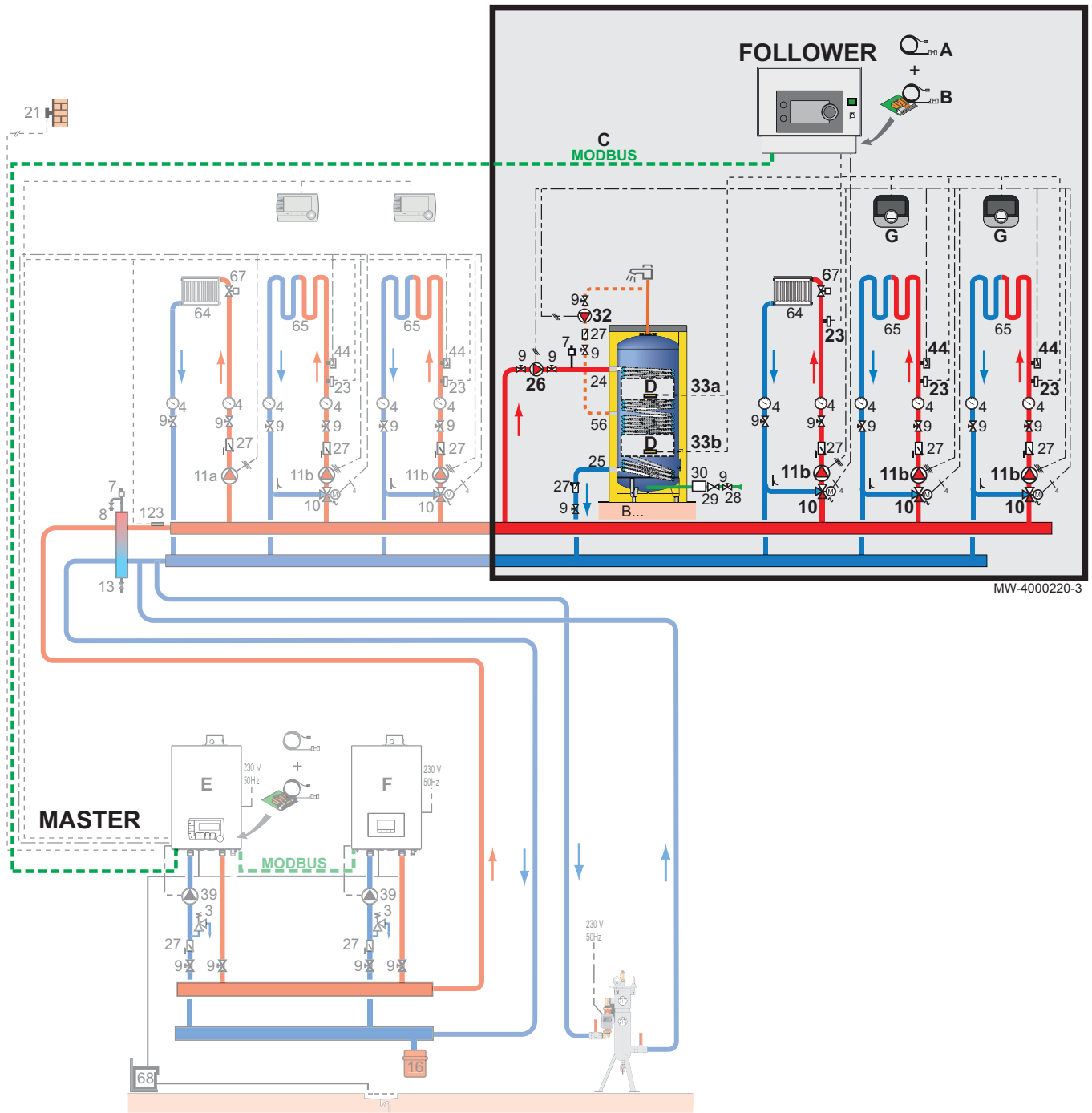
Component	Access	Parameter	Code	Adjustment required
Cascade	Analogue input > Adv. Parameters	Sets the general configuration of the sensor input 2	EP037	System (cascade)
Recirculating pump	AUX	Functionality of the zone	CP024	Time Program
Stratified tank	Analogue input > Adv. Parameters	Sets the general configuration of the sensor input 1	EP036	DHW tank top
	DHW	Functionality of the zone	CP022	DHW Layered

6.4 Cascade of 2 generators + addition of 3 heating circuits + 1 DHW circuit controlled by VM-T-Control Pro

Tab.14 Packages used

AD134	Mod-Bus 12 m connection cable
AD199 (x2)	Flow sensor after valve
AD212 (x2)	Domestic hot water tank sensor circuit
AD249	Three-way valve plate
AD311 (x2)	eTwist programmable and connected room thermostat

Fig.14



- | | | | |
|-----------------|--|-------------|---|
| Master | Generator with master control | 33a | Domestic hot water temperature sensor, high position |
| Follower | Follower control | 33b | Domestic hot water temperature sensor, low position |
| 4 | Pressure gauge | 34 | Primary pump |
| 7 | Automatic air vent | 44 | Safety thermostat with manual reset, for underfloor heating |
| 9 | Isolation valve | 64 | Circuit A: direct heating circuit |
| 10 | Three-way mixing valve | 65 | Circuit B or C: heating circuit with mixing valve |
| 11b | Pump for heating circuit with mixing valve | 67 | Manual radiator valve |
| 11d | Swimming pool primary circuit pump | 75 | Pump for DHW use |
| 21 | Outdoor temperature sensor | 112c | Sensor for swimming pool circuit |
| 23 | Flow temperature sensor | A | Optional package AD199 |
| 24 | Domestic hot water tank exchanger primary inlet | B | Optional package AD249 |
| 25 | Domestic hot water tank exchanger primary outlet | C | Optional package AD134 |
| 26 | DHW booster pump | D | Optional package AD212 |
| 27 | Non-return valve | E | Generator equipped with iSense Pro |
| 28 | Domestic cold water inlet | | |
| 29 | Pressure reducer | | |
| 32 | Domestic hot water circulation loop pump | | |

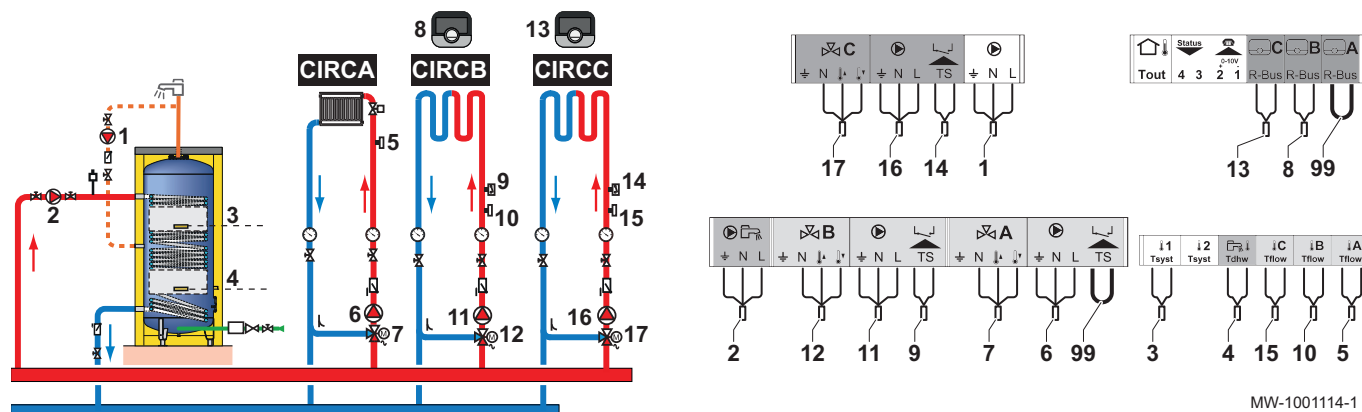
F Generator equipped with S-Control

G Optional package AD311

6.4.1 Electrical connections

For this configuration, the AD249 and AD134 packages should be installed for the Mod-BUS connection.

Fig.15



1. Make the connections on the slave box.

Tab.15

1	Domestic hot water circulation loop pump
2	DHW booster pump
3	Domestic hot water temperature sensor, high position
4	Domestic hot water temperature sensor, low position
5	Flow temperature sensor after mixing valve
6	Pump for heating circuit with mixing valve
7	Three-way mixing valve
8	"Room Unit" programmable room thermostat
9	Safety thermostat with manual reset, for underfloor heating
10	Flow temperature sensor after mixing valve
11	Pump for heating circuit with mixing valve
12	Three-way mixing valve
13	"Room Unit" programmable room thermostat
14	Safety thermostat with manual reset, for underfloor heating
15	Flow temperature sensor after mixing valve
16	Pump for heating circuit with mixing valve
17	Three-way mixing valve
99	Bridging

2. Make the Mod-BUS connection to the two generators.

6.4.2 System configuration

For this hydraulic configuration, certain parameters must be adapted.




1. Select the cascade icon **Cascade management B.**
2. Select **Enable master func.**
3. Select **Yes.**

4. Select the cascade icon **Cascade management B.**

5. Check the following parameters:

Tab.16

Code	Description	Adjustment required
NP006	Cascade Type	Traditional
NP009	CascInterStageTime	4
NP011	CascadeTypeAlgo	Temperature

6. Press the  key.

7. Select **Installation Setup**.

8. Configure the parameters for the following components:

Tab.17

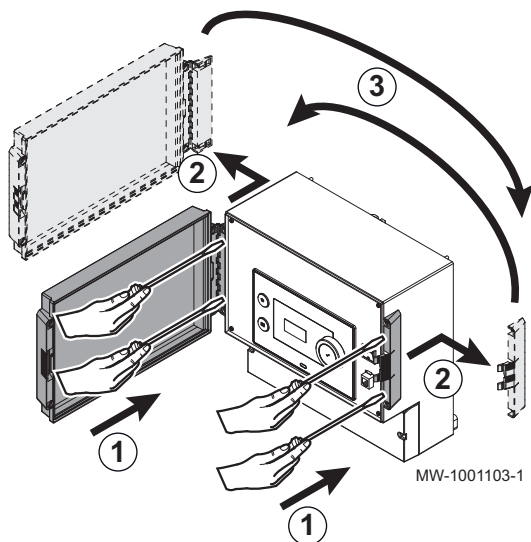
Component	Access	Parameter	Code	Adjustment required
Recirculating pump	AUX	Functionality of the zone	CP024	Time Program
Stratified tank	Analogue input > Adv. Parameters	Sets the general configuration of the sensor input 1	EP036	DHW tank top
	DHW	Functionality of the zone	CP022	DHW Layered

7 Installer instructions

7.1 Reversing the opening direction of the box door

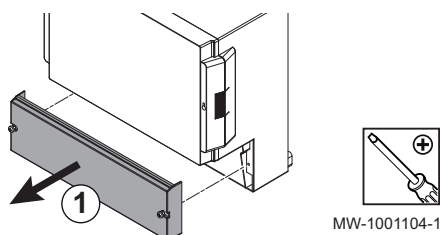
The access door is delivered from the factory to open to the left. It is possible to reverse the opening direction of the door:

1. With the door open, use a screwdriver to unclip the door and the support.
2. To remove them, push towards the back of the box.
3. Reverse the support and the door.
4. Clip both elements back into place.



7.2 Accessing the connection terminal block

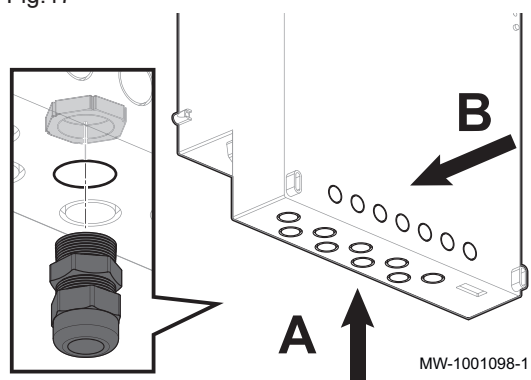
Fig.16



1. Remove the lower cover by unscrewing the two screws.

7.2.1 Cable routing

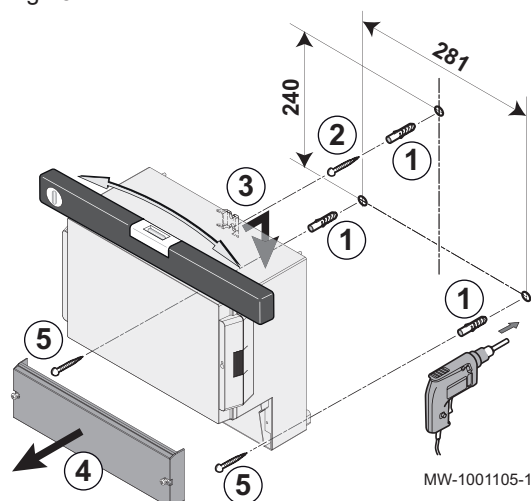
Fig.17



A-B Routing of the cables to the connection terminal blocks, through the cable glands

7.3 Fit the housing to the wall

Fig.18



1. Drill three holes in the wall and insert the dowels.
2. Fit the upper screw, leaving 3 mm between the wall and the head of the screw.
3. Hang the housing on the wall on the locating screw.
4. Remove the cover from the housing.
5. Fit the two lower screws.

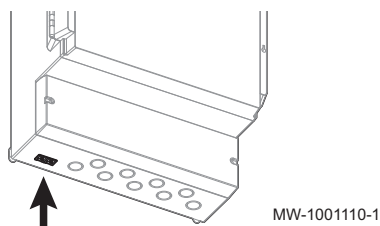
7.4 Connecting the box to a generator or to another box

7.4.1 Connect an S-BUS cable

To connect a S-BUS cable with RJ-11 connectors, proceed as follows:

1. Connect the cable to one of the sockets on the lower part of the box. For lengths greater than 20 metres, use a straight RJ12-type cable. The length of the bus cable must not exceed 100 metres.

Fig.19



7.4.2 Connect a Mod-BUS cable

To connect a Mod-BUS cable with mini-DIN connectors, proceed as follows:

1. Remove the front panel of the box by unscrewing the four screws.

Fig.20

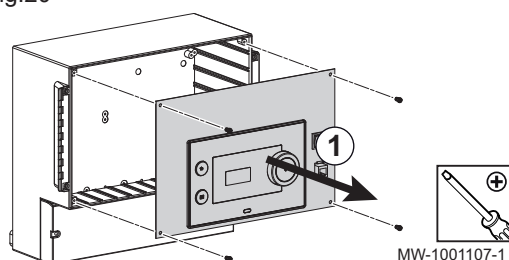
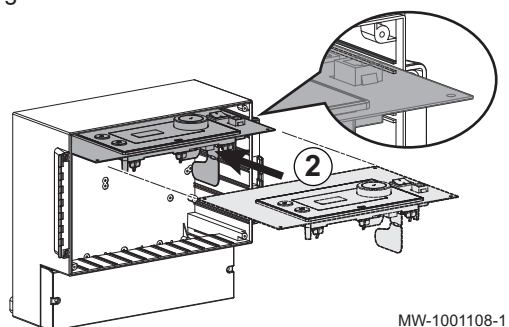
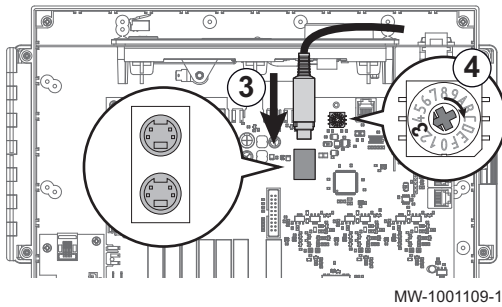


Fig.21



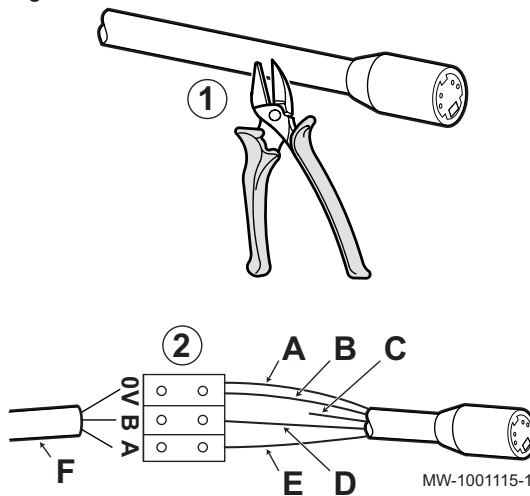
2. Place the front panel in the maintenance position by sliding it into the upper grooves on the box.

Fig.22



3. Connect the cable to one of the mini-DIN. sockets
4. If necessary, change the number of the generator in the cascade using the coding wheel.

Fig.23



■ Extending a Mod-BUS cable

To increase the distance of the Mod-BUS connection, connect a 2-wire shielded cable, use an existing AD124 bus cable with mini-DIN connector and proceed as follows:

1. Cut the Mod-BUS cable
2. Connect the four wires of the BUS cable to the three pin terminal block.

- A Braided shield (0 V terminal)
- B Brown wire (0 V terminal)
- C Green wire (DO NOT USE)
- D White wire (terminal B)
- E Yellow wire (terminal A)
- F 2-wire shielded cable

7.5 Selecting the operating mode

The VM-T-Control Pro box can be used:

- as an extension box
- as a mixed control box.

7.5.1 Using the VM-T-Control Pro box as an extension box

In this case, the VM-T-Control Pro box is connected in a network with one or more generators equipped with a S-Control and T-Control control panel (with the option of S-Bus network connection):

- The circuits A, B and DHW are available as standard,
- The circuits C and AUX are only available with the AD249 option,
- It is possible to have a network of 1 to 8 VM-T-Control Pro boxes or generators equipped with a S-Control or T-Control control panel.

7.5.2 Using the VM-T-Control Pro box as a mixed control box

In this case, the VM-T-Control Pro box is connected in a network with one or more generators equipped with a iSense Pro control panel (ModBus network connection)

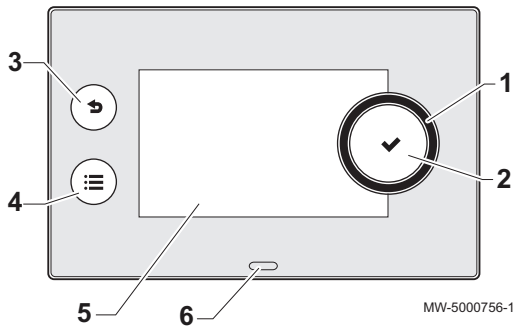
- The circuits A, B and DHW are available as standard,
- The circuits C and AUX are only available with the AD249 option,
- It is possible to have from 1 to 20 VM iSense Pro or VM-T-Control Pro boxes and 1 to 10 generators equipped with a iSense Pro or T-Control control panel.

7.6 Configuring the installation

7.6.1 Control panel description

■ Description of the user interface

Fig.24

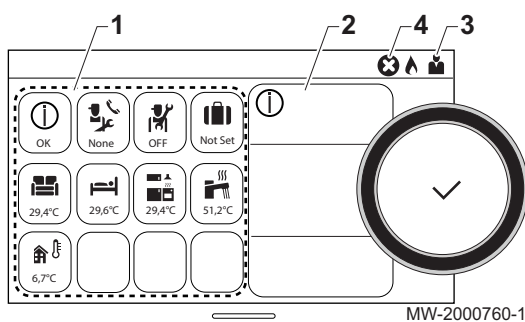


- 1 Rotary knob to select a menu or setting
- 2 Validation button ✓
- 3 Back key ← to return to the previous level or previous menu
- 4 Main menu key ≡
- 5 Display screen
- 6 LED for status indication:
 - continuous green = normal operation
 - flashing green = warning
 - continuous red = shutdown
 - flashing red = lockout

■ Description of the main screen

This screen is displayed automatically after the appliance is started up. The screen goes into standby if no key is pressed for five minutes. Press one of the buttons on the control panel to exit standby.

Fig.25



- 1 Symbols
The selected icon is highlighted.
- 2 Information on the selected icon
- 3 Navigation level:
 - 👤: User level
 - 🛠️: Installer level
This level is reserved for installers and is protected by an access code. When this level is active, the icon becomes .
- 4 ⊗ error notification: only visible if an error occurs.

Tab.18 Symbols

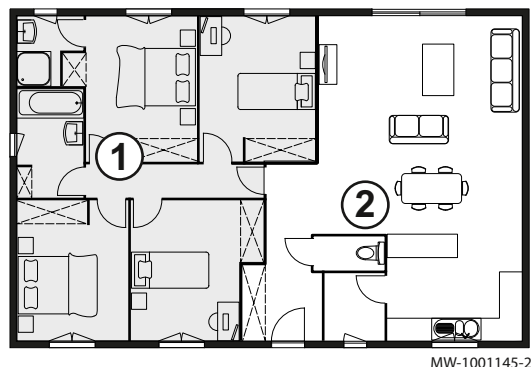
	User Level		Frost protection mode
	Installer Level		Maintenance message
	Timer programme		Outdoor temperature sensor
	Timer programme override		Buffer tank
	Holiday mode		Cascade
	Manual mode		Domestic hot water override
	Eco mode		All zones
	Zone icons		

7.6.2 Definition of zone and activity

■ Zone

Term given to the different hydraulic circuits CIRCA, CIRCB, It indicates several rooms served by the same circuit.

Fig.26



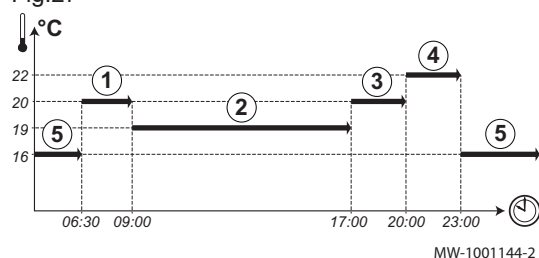
Tab.19 Example

Zone	Factory-set name
Zone 1	CIRCA
Zone 2	CIRCB

■ Activity

This term is used when programming time ranges. It refers to the client's desired comfort level for different activities during the course of the day. One set point temperature is associated to each activity. The last activity of the day remains valid until the first activity of the following day.

Fig.27




Tab.20 Example:

Start of the activity	Activity	Set point temperature
6:30	Morning ①	20 °C
9:00	Away ②	19 °C
17:00	Home ③	20 °C
20:00	Evening ④	22 °C
23:00	Sleep ⑤	16 °C

7.6.3 Changing the basic settings



1. Press the  key.
2. Select **System Settings**.
3. Carry out one of the following operations:


Tab.21

Menu	Description
Set Date and Time	Setting the date and time
Select Country and Language	Select the country and language.
Daylight Saving Time	Setting the automatic change to daylight saving time. These changes will be carried out on the last Sunday in March and October
Installer Details	Display the installer details
Set Heating Activity Names	Personalise the name of the activities
Set Screen Brightness	Setting the screen brightness
Set click sound	Switch the sound of the rotary knob on or off
License Information	Display the creation licenses for the internal software

7.6.4 Changing the name of an activity

You can change the names of the activities. The modification applies to all of the zones.



1. Press the  key.
2. Select **System Settings**.
3. Select **Set Heating Activity Names**.
4. Select the activity you want to change.
5. Change the name of the activity (10 characters max.).


Tab.22

Factory setting		Customer setting
Activity 1:	Sleep	
Activity 2:	Home	
Activity 3:	Away	
Activity 4:	Morning	
Activity 5:	Evening	
Activity 6:	Custom	






7.6.5 Personalising the name and symbol for a zone

It is possible to personalise the name and symbol for a zone.



1. Select the icon for the **zone** to be modified; , for example.
2. Select **Zone configuration**.
3. Select **Friendly Name of the user zone**.
4. Modify the name of the zone (20 characters max.).
5. Select **Icon display zone**.
6. Modify the linked symbol.

Tab.23

Factory-set name and symbol		Customer-set name and symbol	
CIRCA			
CIRCB			
CIRCC (optional)			
DHW			
AUX (optional)			

8 Commissioning


8.1 Initial commissioning (or after an update)



1. Switch the VM-T-Control Pro housing on using the on/off switch.
⇒ The Select country and language used for translation parameter appears.
2. Select Select country and Select language and confirm.
⇒ The two settings have been saved and Enable or disable daylight saving time appears.
3. Select Off or On and confirm.
⇒ Configure the date and time used by the appliance appears.
4. Select and confirm, Year, Month, Day, Hour and Minute.
⇒ The main screen appears.

8.2 Accessing the Installer level

Certain parameters, which may affect the operation of the appliance, are protected by an access code. Only the installer is authorised to modify these parameters.

To access the installer level:

1. Select the  icon.
2. Enter the code **0012**.

⇒ The **Installer** level is activated . After modifying the desired settings, exit the **Installer** level.
3. To exit the Installer level, select the  icon, then **Confirm**.


If no actions are taken for 30 minutes, the system will automatically exit the Installer level.

8.3 Room temperature for a zone






8.3.1 Selecting the operating mode

To set the room temperature for the different living zones, you can choose between five operating modes:



1. Select the icon for the affected **zone**, , for example.
2. Select the desired operating mode:

Tab.24

Mode		Description
	Scheduling	Selection of a timer programme
	Manual	The room temperature is constant
	Short temperature change	The room temperature is forced for a defined period
	Holiday	The room temperature is reduced during an absence period to save energy
	Antifrost	The installation and equipment are protected during the winter period

8.3.2 Changing the temperature settings of a zone

You can change the temperature settings of activities for the zone selected.




1. Select the icon for the **zone** to be modified; , for example.
2. Select **Set Heating Activity Temperatures**.
3. Select the activity to change its temperature setting.

8.3.3 Changing the room temperature temporarily

Regardless of the operating mode selected for a zone, it is possible to modify the room temperature for a defined period. Once this time has elapsed, the selected operating mode will restart.




1. Select the icon for the **zone** to be modified; , for example.
2. Select **Short temperature change**.
3. Define the duration in **Hour** and in **Minute**.
4. Set the **Temporary room setpoint per zone** parameter.

8.3.4 Timer programming for heating

■ Activating timer programming mode

In order to be able to use a timer programme, it is necessary to activate the **Scheduling** operating mode. This is activated for each zone individually.




1. Select the icon for the **zone** to be configured, , for example.
2. Select **Zone configuration > OperatingZoneMode > Scheduling**.

■ Creating a timer programme for heating

A timer programme can be used to vary the room temperature in a living zone depending on activities during the day. This can be programmed for each day of the week.



1. Select the icon for the **zone** to be programmed, , for example.
2. Select **Zone configuration > Heating Schedule**.
3. Select the programme to be modified.
 - ⇒ The programmed activities for Sunday are displayed.
 - The last activity of the day remains active until the first activity of the following day.
4. Select the day to be modified.
5. Carry out the following actions according to your needs:
 - **Modify** the timings for programmed activities.
 - **Add** a new activity.
 - **Delete** a programmed activity (choose the activity "Delete").
 - **Copy** programmed daily activities to other days.
 - **Modify temperatures** linked to an activity.

■ Selecting a timer programme

In the **Timer programming** operating mode, three programs are available per zone. Each program is independent.

To select a timer programme for a zone:




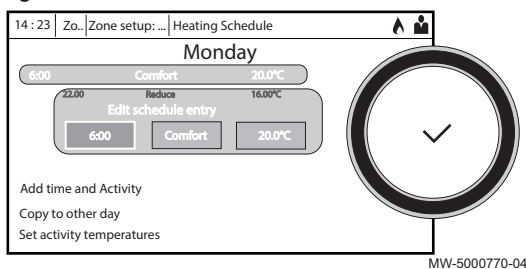
1. Select the icon for the affected **zone**, , for example.
2. Select **Scheduling**.
3. Select the desired timer programme.

Fig.28



8.4 Domestic hot water temperature

8.4.1 Choosing the domestic hot water operating mode






For the production of domestic hot water, you can choose between five operating modes.



1. Select the  icon for the **DHW** zone.

2. Select the desired operating mode:


Tab.25

Mode	Description
 Scheduling	Selection of a timer programme
 Manual	The domestic hot water temperature remains at the comfort temperature permanently
 Hot water boost	The production of domestic hot water is forced at the comfort temperature for a defined duration
 Holiday	The domestic hot water temperature is reduced during an absence period to save energy
 Antifrost	The installation and equipment are protected during the winter period

8.4.2 Forcing domestic hot water production (override)

Regardless of the selected operating mode, you can force domestic hot water production to the comfort temperature for a defined duration.



1. Select the  icon for the **DHW** zone.
2. Select **Hot water boost**.
3. Define the duration in **Hour** and in **Minute**.

8.4.3 Modifying the domestic hot water set point temperatures

You can modify the "Comfort domestic hot water" and "Reduced domestic hot water" set point temperatures.



1. Select the  icon for the **DHW** zone.
2. Select one of the following menus:

Menu	Description
ComfortZoneDHWtemp	Only modify the "Comfort domestic hot water" set point temperature
Zone configuration > Domestic Hot Water Setpoints	Modify the "Comfort domestic hot water" and "Reduced domestic hot water" set point temperatures.

8.4.4 Timer programming for domestic hot water

■ Activating the Timer programming mode for domestic hot water

In order to use the timer programme, the **timer programming (Scheduling)** mode must be activated. This is activated for each zone individually.



1. Select the icon for the **DHW**  zone.
2. Select **Zone configuration > OperatingZoneMode > Scheduling**.

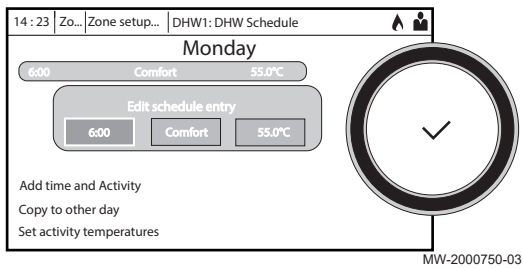
■ Creating a timer programme for domestic hot water

A timer programme can be used to vary the domestic hot water temperature depending on activities during the day. This can be programmed for each day of the week.



1. Select the  icon for the **DHW** zone.

Fig.29



2. Select **Zone configuration > DHW Schedule**.
3. Select the programme to be modified.
 - ⇒ The programmed activities for Sunday are displayed.
 - The last activity of the day remains active until the first activity of the following day.
4. Select the day to be modified.
5. Carry out the following actions according to your needs:
 - **Modify** the timings for programmed activities.
 - **Add** a new activity.
 - **Delete** a programmed activity (choose the activity "Delete").
 - **Copy** programmed daily activities to other days.
 - **Modify temperatures** linked to an activity.

■ Selecting a timer programme

In the **Timer programming** operating mode, three programs are available. To select a timer programme:




1. Select the  icon for the **DHW** zone.
2. Select **Scheduling**.
3. Select the desired timer programme.

8.5 Activating the holiday program

If you will be absent for several weeks, you can reduce the room temperature and domestic hot water temperature in order to save energy.

To activate holiday mode for all zones including the domestic hot water:



1. Select the **Holiday Mode**  icon.
2. Set the following parameters:

Tab.26

Parameter	Description
Start date holiday	Set the date and time for the start of the absence period.
End date holiday	Set the date and time for the end of the absence period.
Wished room temperature during holiday	Set the desired room temperature for the absence period
Reset	Restart or cancel the holiday programme

8.6 Drying screed

The screed drying function reduces the drying time of the screed for underfloor heating. This function can be activated for individual zones.

Every day at midnight, the set point temperature is recalculated and the number of days is decreased.

To activate this function:




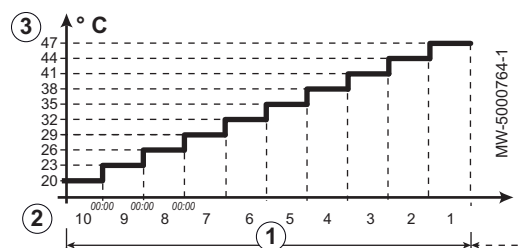
1. Select the icon for the **zone** to be activated, , for example.
2. Select **Set Screed Drying**.

Fig.30



3. Set the following parameters:

Parameters	Description
Zone screed drying	Number of days of drying (1)
ScreedStartTemp	Drying start temperature (2)
ScreedStopTemp	Drying end temperature (3)

The screed drying programme will start immediately and continue for the selected number of days.

At the end of the programme, the selected operating mode will restart.

Tab.27 Example: Adjustment of the temperature setting every 7 days

Days	Start temperature	End temperature	Temperature variation
1 to 7	+25 °C	+55 °C	Temperature increased every day by 5 °C
8 to 14	+55 °C	+55 °C	Temperature maintained at +55 °C without dropping at night
15 to 21	+55 °C	+25 °C	Temperature decreased every day by 5 °C

8.7 Setting the heating curve

The relationship between the outdoor temperature and the central heating flow temperature is controlled by a heating curve. This can be adjusted according to the requirements of the installation.

To set the heating curve for a zone:




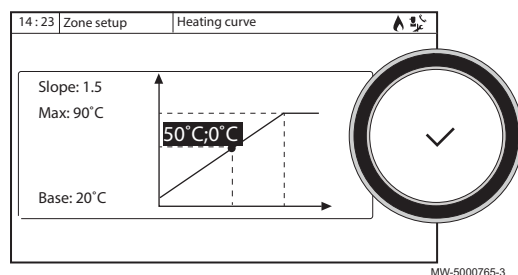
1. Select the icon for the **zone** to be modified; , for example.
2. Select **Heating Curve**.
3. Set the following parameters:

Fig.31




Tab.28

Parameter	Description
Slope:	Value of the heating curve gradient. <ul style="list-style-type: none"> • underfloor heating circuit: gradient between 0.4 and 0.7 • radiator circuit: gradient of approx. 1.5
Max:	Maximum temperature of the circuit
Base:	Curve base point temperature (default value: Off = automatic mode). If Base: Off, the curve base point temperature becomes equal to the room set point temperature
50 °C; 0 °C	Water temperature in the circuit for an outdoor temperature. This data is visible all along the curve.

8.8 Saving the installer details

The name and phone number of the installer can be saved so that the user can find it easily.




1. Press the  key.
2. Select **System Settings > Installer Details**.
3. Enter the name and phone number.

8.9 Saving the commissioning settings

You can save all installation-specific settings. These settings can be restored if necessary, for example after replacement of the main electronic control system board.



1. Press the  key.
2. Select **Advanced Service Menu > Save as commissioning settings**.
3. Select **Confirm** to save the settings.

When you have saved the commissioning settings, the option **Revert commissioning settings** is available in the **Advanced Service Menu**.

8.10 Cascade operation

The HMI T-control control panel installed as master is able to control up to seven generators in cascade.

The system sensor is connected to the master generator.

All the generators in the cascade are connected by an S-BUS cable.

The generators are automatically numbered:

- Number 1 = master generator
- Number 2 = not assigned
- Number 3 = first slave generator
- Number 4 = second slave generator, and so on.

The cascade can be controlled in two different ways:

- Traditional control: successive addition of supplementary generators.
- Parallel control: simultaneous addition of supplementary generators.

The set point temperature sent to the generator can be managed in two different ways:

Tab.29 Temperature-type cascade algorithm

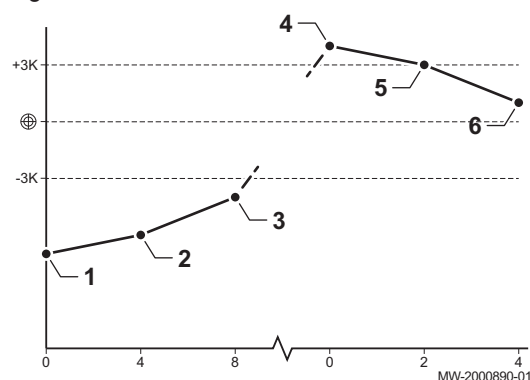
Output	The set point temperature sent to the generator is managed using the maximum requested output from the heating and domestic hot water circuits
Temperature	The set point temperature sent to the generator is managed using the maximum set point temperature requested from the heating and domestic hot water circuits, to which is added the error between the measured cascade temperature and the maximum required set point temperature

Tab.30 Output-type cascade algorithm

Output	The PI controller will calculate the output set point depending on the difference between the measured cascade temperature and the maximum temperature setpoint required by the circuits.
Temperature	The set point temperature is set at 90 °C.

8.10.1 Managing a traditional cascade

Fig.32



- 1 The first generator starts running when system temperature is 3 °C below the set point temperature.
- 2 After the duration defined by the NP009 parameter (here 4 minutes), the second generator starts up if $\Delta T < 6$ °C and the system temperature is still more than 3 °C below the set point temperature.
- 3 After a second duration defined by the NP009 parameter (here 8 minutes), the third generator starts up if $\Delta T < 6$ °C and the system temperature is still more than 3 °C below the set point temperature.
- 4 The first generator shuts down when system temperature is 3 °C above the set point temperature.
- 5 After the duration defined by the NP009 parameter (here 2 minutes), the second generator shuts down if $\Delta T < 6$ K and the system temperature is still more than 3 °C above the set point.
- 6 After a second duration defined by the NP009 parameter (here 8 minutes), the third generator shuts down if $\Delta T < 6$ °C and the system temperature is still more than 3 °C above the set point temperature.

Tab.31 Factory settings for management parameters for a traditional cascade

Code	Description	EEC-01
NP006	Cascade Type	Traditional
NP009	CascInterStageTime	4
NP011	CascadeTypeAlgo	Temperature

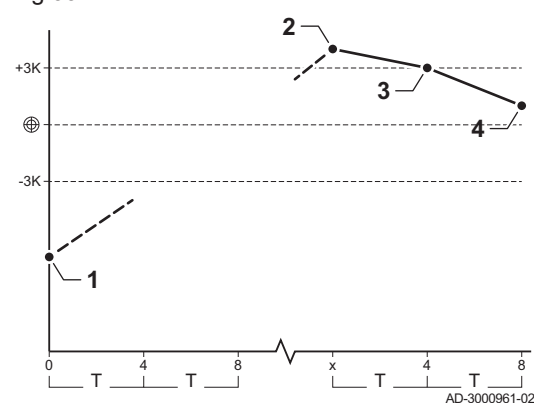
8.10.2 Managing a parallel cascade



Caution

Parallel mode is not suitable for the cascades of oil generators connected to a single flue gas pipe (for start-up reasons).

Fig.33



- 1 All generators start to operate when the system temperature is 3 °C below the set point temperature and if the outdoor temperature is less than the value of the NP007 CascTOutsideHeatParl parameter (Outdoor trigger temperature).
- 2 The first generator shuts down when system temperature is 3 °C above the set point temperature.
- 3 After the duration defined by the NP009 parameter (here 2 minutes), the second generator shuts down if $\Delta T < 6$ °C and the system temperature is still more than 3 °C above the set point.
- 4 After a second duration defined by the NP009 parameter (here 8 minutes), the third generator shuts down if $\Delta T < 6$ °C and the system temperature is still more than 3 °C above the set point temperature.

Tab.32 Factory settings for management parameters for a parallel cascade

Code	Description	EEC-01
NP005	Cascade Permutation: choice of the lead generator.	0: switching the lead boiler every seven days
NP006	Cascade Type	parallel
NP009	CascInterStageTime	4
NP011	CascadeTypeAlgo	Temperature

9 Menu tree



Level 1 menus accessible with the  button:

Level 1 menu
Installation Setup
Commissioning Menu
Advanced Service Menu
Error History
System Settings
Version Information

9.1 Menu - Installation Setup

Tab.33 Installation Setup

Level 2 menu	Level 3 menu
CIRCA	<ul style="list-style-type: none"> • Short temperature change • OperatingZoneMode • Heating Schedule • Set Cooling Activity Temperatures • ZoneTimeProg Select • Holiday Mode • Zone Function • MaxZoneTFlowSetpoint • Control strategy • Heating Curve • Set Screed Drying • Zone friendly Name • Icon display zone • Parameters, counters, signals (<i>see Tab.38, page 43</i>) • <i>Zone Tflow Setpoint</i> • <i>ZoneTRoomUnit setp</i> • <i>Zone RoomTemperature</i> • <i>ZoneCurrent activity</i> • <i>ZoneCurrentHeatMode</i> • <i>Zone Name Short</i> • <i>Parent device</i>
CIRCB	<ul style="list-style-type: none"> • Idem CIRCA
DHW	<ul style="list-style-type: none"> • Hot water boost • OperatingZoneMode • DHW Schedule • Domestic Hot Water Setpoints • ZoneTimeProg Select • Holiday Mode • Zone Function • MaxZoneTFlowSetpoint • Anti Legionella Menu • Zone friendly Name • Icon display zone • Parameters, counters, signals (<i>see Tab.39, page 44</i>) • <i>Zone Tflow Setpoint</i> • <i>ZoneTRoomUnit setp</i> • <i>Zone RoomTemperature</i> • <i>ZoneCurrent activity</i> • <i>Zone Name Short</i> • <i>Parent device</i>
CIRCC	<ul style="list-style-type: none"> • Idem CIRCA

Level 2 menu	Level 3 menu
AUX	<ul style="list-style-type: none"> • Zone Function • Zone friendly Name • Icon display zone • Parameters, counters, signals (<i>see Tab.40, page 44</i>) • <i>Zone Name Short</i> • <i>Parent device</i>
Outside temp	<ul style="list-style-type: none"> • Summer Winter • Force summer mode • Frost min out temp • Out sensor detected • Parameters, counters, signals (<i>see Tab.41, page 44</i>) • Outside temperature • SeasonMode
Disabled buffer tank	<ul style="list-style-type: none"> • Buffer Tank Schedule • Type Buffer Tank • Buff Tank HC Strat. • Stp Buffertank Heat • BufferTank HystStart • Parameters, counters, signals (<i>see Tab.42, page 45</i>) • Btank mode • Meas Btank temp 1 • Meas Btank temp 2
0-10 volt input	• <i>Parameters, signals (see Tab.43, page 45)</i>
Analogue input	• <i>Signals, advanced parameters, and advanced signals (see Tab.44, page 45)</i>
Digital Input	• <i>Parameters and signals (see Tab.45, page 45)</i>
Cascade management B	<ul style="list-style-type: none"> • S-Bus master • Parameters, counters, signals (<i>see Tab.46, page 45</i>)
Status information	• <i>Parameters and signals (see Tab.47, page 46)</i>

9.2 Menu - Advanced Service Menu

Tab.34 Advanced Service Menu

Level 2 menu	Level 3 menu
Auto Detect	• <i>Automatic detection of all peripheral devices connected to the bus</i>
Save as commissioning settings	
Revert commissioning settings	
Reset to Factory Settings	

9.3 Menu - Error History

Tab.35 Error History

Level 2 menu	Level 3 menu
<i>List of errors</i>	• <i>Press and hold the ✓ button to clear the list</i>

9.4 Menu - System Settings

Tab.36 System Settings

Level 2 menu	Level 3 menu
Set Date and Time	
Select Country and Language	
Daylight Saving Time	

Level 2 menu	Level 3 menu
Installer Details	
Set Heating Activity Names	
Set Screen Brightness	
Set click sound	
Firmware Update	
License Information	

9.5 Menu - Version Information

Tab.37 Version Information

Level 2 menu	Level 3 menu
MK3 (HMI T-control), EEC-01	(see Tab.48, page 46)

9.6 Sub-menus - Parameters, counters, signals

Tab.38 CIRCA/CIRCB/CIRCC

Installation Setup > CIRCA/CIRCB/CIRCC > Parameters, counters, signals				
Parameters	Signals	Counters	Adv. Parameters	Adv. Signals
<ul style="list-style-type: none"> • MaxZoneTFlowSetpoint • Tflow setpoint zone • Zone Function • Postrun zone pump • RoomT. Holiday • MaxReducedRoomT. Lim • Zone friendly Name • Zone Name Short • Manu ZoneRoomTempSet • Zone HCZP Comfort • Zone HCZP Reduced • Zone Heating Curve • ZoneRoomUnitInfl • OperatingZoneMode • ZoneStartTimeHoliday • ZoneEndTime Holiday • ZoneEnd Change Mode • TypeReducedNightMode • Zone screed drying • ScreedStartTemp • ScreedStopTemp • Tflow Sensor Enable • Temporary Room Setp • Zone, fire place • ZoneTimeProg Select • OTH LogicLev contact • Icon display zone • MaxZone Preheat time • Control strategy 	<ul style="list-style-type: none"> • Zone RoomTemperature • Zone Tflow /DHW temp • ZonePumpSpeed • Zone Tflow Setpoint • ZoneCurrentMode • ZoneCurrent activity • ZoneOTContr present • ZoneState Heatdemand • Zone Mod HeatDemand • ZoneTRoomUnit setp • ZoneCurrentHeatMode • ZoneTout temp 	<ul style="list-style-type: none"> • Zone Pump Run Hours • Zone Nbr Pump Starts 	<ul style="list-style-type: none"> • ConfigZonePumpOut • Zone Power setpoint • Zone PWM Pump speed • Zone Heat up speed • Zone cool down speed • Zone Buffered 	<ul style="list-style-type: none"> • Status Pump zone • ZoneTRoomUnit setp • Zone RU present • Zone over heating • ZoneRTC TcalcRoomStp

Tab.39 DHW

Installation Setup > DHW > Parameters, counters, signals				
Parameters	Signals	Counters	Adv. Parameters	Adv. Signals
<ul style="list-style-type: none"> • MaxZoneTFlowSetpoint • Zone Function • Postrun zone pump • Zone friendly Name • Zone Name Short • OperatingZoneMode • ZoneStartTimeHoliday • ZoneEndTimeHoliday • ZoneEnd Change Mode • ComfortZoneDHWtemp • ReducedZoneDHWtemp. • Holiday ZoneDHWtemp • Antileg ZoneDHWtemp • Start Antileg • Zone Dhw antileg. • ZoneDhwHysterisis • Optimise DHW Zone • Release DHW zone • DHW Zone Priority • Tflow Sensor Enable • ZoneConfigDHWAntileg • ZoneTimeProg Select • StartdayAntileg zone • Icon display zone • DHW Cal Offset zone • Zone IncTFlowStp DHW • Zone DHW TAS enable 	<ul style="list-style-type: none"> • Zone Tflow /DHW temp • ZonePumpSpeed • Zone Tflow Setpoint • ZoneCurrentMode • ZoneCurrent activity 	<ul style="list-style-type: none"> • Zone Pump Run Hours • Zone Nbr Pump Starts 	<ul style="list-style-type: none"> • Zone Power setpoint • Zone PWM Pump speed • Zone Buffered 	<ul style="list-style-type: none"> • Status Pump zone • Zone RU present

Tab.40 AUX

Installation Setup > AUX > Parameters, counters, signals	
Parameters	Adv. Parameters
<ul style="list-style-type: none"> • Zone Function • Zone friendly Name • Zone Name Short 	<ul style="list-style-type: none"> • ConfigZonePumpOut

Tab.41 Outside temp

Installation Setup > Outside temp > Parameters, counters, signals		
Parameters	Signals	Adv. Signals
<ul style="list-style-type: none"> • Outdoor sensor • Summer Winter • Force summer mode • Season cross-over • Building Inertia • Frost min out temp 	<ul style="list-style-type: none"> • Outside temperature • Low average Out Temp • SeasonMode 	<ul style="list-style-type: none"> • Out sensor detected • High average OutTemp

Tab.42 Disabled buffer tank

Installation Setup > Disabled buffer tank > Parameters, counters, signals		
Parameters	Counters	Signals
<ul style="list-style-type: none"> Type Buffer Tank Buff Tank HC Strat. Stp Buffertank Heat Setp Buffertank Cool Buffer Tank Slope BufferTankTcalOffset BufferTank HystStart Buf.Tank post run BufferTank HystStop 	<ul style="list-style-type: none"> Buffer Tout Meas Btank temp 1 Meas Btank temp 2 Btank OnOff input HD Btank mode 	<ul style="list-style-type: none"> BTankSelectOutSensor

Tab.43 0-10 volt input

Installation Setup > 0-10 volt input	
Parameters	Adv. Parameters
<ul style="list-style-type: none"> SCB func. 10V PWMIn Min Setp Temp 0-10V Max Setp Temp 0-10V Min Setp Power 0-10V Max Setp Power 0-10V Min Setp Volt 0-10V Max Setp Volt 0-10V 	<ul style="list-style-type: none"> Meas 0-10V input SCB Tsetp 0-10V input Power setp 0-10V

Tab.44 Analogue input

Installation Setup > Analogue input		
Signals	Adv. Parameters	Adv. Signals
<ul style="list-style-type: none"> Sensor in config SCB 1 Sensor in config SCB 2 	<ul style="list-style-type: none"> Sensor input config 1 Sensor input config 2 	<ul style="list-style-type: none"> Input meas sensor 1 Input meas sensor 2 Av input meas sensor 1 Av input meas sensor 2

Tab.45 Digital Input

Installation Setup > Digital Input	
Parameters	Signals
<ul style="list-style-type: none"> Digital input config Logic level Digi In Req FlowSetp digi In Req PowSetp digi In 	<ul style="list-style-type: none"> Digital input 1 status

Tab.46 Cascade management B

Installation Setup > Cascade management B > Parameters, counters, signals			
Parameters	Signals	Adv. Parameters	Adv. Signals
<ul style="list-style-type: none"> Enable master func Cascade Permutation Cascade Type CascTOutsideHeatParl CascTPostRunGenePump CascInterStageTime CascTOutsideCoolPara CascadeTypeAlgo CascForceStop Pprim Cascade Mode 	<ul style="list-style-type: none"> CascadeNbProducer CascSystemTF CascNbStageAvailable CascNbStageRequired CascNbProdPresent 	<ul style="list-style-type: none"> CascProdMan Hys.High CascProdMan Hys.Low CascProdManErrRange CascPFactorAlgoTemp 	<ul style="list-style-type: none"> CascTempoBetwStage Cascade with cooling

Tab.47 Status information

Installation Setup > Status information	
Parameters	Signals
<ul style="list-style-type: none"> • Status relay func. 	<ul style="list-style-type: none"> • Status contact 1 1

Tab.48 Version Information

Installation Setup > Version Information		
Appliance information	MK3	EEC-01
<ul style="list-style-type: none"> • Factory location • Appliance type • Appliance hardware version • Year of manufacture • Week of manufacture • Day of manufacture • Serial number • Custom serial number • Reference 	<ul style="list-style-type: none"> • Complete version • Manufacturer code • Hardware version • Software version • OBD version • Global OBD version • Year of manufacture • Week of manufacture • Day of manufacture • Serial number • Custom serial number • Reference • Configuration table version • Software version • Software release type 	<ul style="list-style-type: none"> • Complete version • Manufacturer code • Hardware version • Software version • OBD version • Global OBD version • Year of manufacture • Week of manufacture • Day of manufacture • Serial number • Custom serial number • Reference • Configuration table version • Software version • Software release type

10 Maintaining the installation

10.1 Viewing the service notifications

When a service notification appears on the display, you can view the details of the notification.



1. Select the **Maintenance** icon.
⇒ Information about maintenance is displayed (cannot be modified).



10.2 Resetting or re-establishing the parameters.

10.2.1 Auto-detecting options and accessories

Use this function after replacing a boiler PCB in order to detect all the devices connected to the CAN bus.

To detect devices connected to the CAN bus:



1. Press the key.
2. Select **Advanced Service Menu > Auto Detect**.
3. Select **Confirm** to carry out the auto-detect.

10.2.2 Reverting to the commissioning settings

If the commissioning settings were saved, you can revert to the values specific to your installation.

To revert to the commissioning settings



1. Press the key.
2. Select **Advanced Service Menu > Revert commissioning settings**.
3. Select **Confirm** to revert to the commissioning settings.

10.2.3 Reverting to the factory settings

To revert to the factory settings for the boiler:



1. Press the key.
2. Select **Advanced Service Menu > Reset to Factory Settings**.
3. Select **Confirm** to revert to the factory settings.

10.3 Accessing information on the hardware and software versions

Information about the hardware and software versions of the different appliance components is stored in the control panel.

To access:



1. Press the key.
2. Select **Version Information**.
3. Select the component for which you would like to see the version information.

Component	Description
EEC-01	Information about the PCB controlling the zones for heating and domestic hot water
MK3 - T-Control	Information about the control panel

11 Troubleshooting

11.1 Error codes

If an error occurs, the control panel displays a message and a corresponding code.

The control panel status LED flashes and/or is displayed in red.

The control panel can display three types of error codes:

Type of code	Description	Colour of the error icon (X)
Axx.xx codes	Warning	Grey
Hxx.xx codes	Blockage	Red
Exx.xx codes	Lock out	Red + red flashing screen

1. Make a note of the code displayed. The code is important for the correct and rapid diagnosis of the type of malfunction and for any technical assistance that may be needed.
2. Switch the boiler off and switch it back on.
3. The boiler starts up again automatically when the cause of the error has been removed.
⇒ If the code is displayed again, correct the problem by following the instructions in the tables below.

11.2 List of error codes

Tab.49 Lockout codes

Code	Description
H02.02	Waiting For Configuration Number
H02.03	Configuration Error
H02.04	Parameter Error
H02.05	CSU does not match CU type
H02.36	Functional device has been disconnected
H02.45	Full Can Connection Matrix
H02.46	Full Can Device Administration
H02.55	Invalid or missing device serial number

Tab.50 Alarm codes



Code	Description
A02.18	Object Dictionary Error

11.3 Displaying and clearing the error memory

The error memory stores the 32 most recent errors. You can check the details of each error and then clear it from the error memory.

To display and clear the error memory:



1. Press the  key.
2. Select **Error History**.
⇒ The list of the 32 most recent errors is displayed with the error code, a short description and the date.
3. Carry out the following actions according to your needs:
 - Show the details of an error: select the desired error.
 - To clear the error memory, press and hold the  rotary knob.

12 Warranty

12.1 General

We would like to thank you for buying one of our appliances and for your trust in our product.

In order to ensure continued safe and efficient operation, we recommend that the product is regularly inspected and maintained.

Your installer and our service department can assist with this.

12.2 Terms of warranty

The following provisions do not affect the application, in favour of the buyer, of the legal provisions with regard to hidden defects that are applicable in the buyer's country.

The following provisions do not affect the application, in favour of the buyer, of the legal warranty in accordance with articles 1641 to 1648 of the civil code.



Important

The warranty is applied in accordance with the terms of sale, delivery and warranty of the company selling the **Remeha** products.

This appliance comes with a warranty that covers all manufacturing faults; the warranty period will commence on the date of purchase stated on the installer's invoice.

The warranty period is stated in our price list.

As a manufacturer, we can by no means be held liable if the appliance is used incorrectly, is poorly maintained or not maintained at all, or is not installed correctly (it is your responsibility to ensure that installation is carried out by a qualified installer).

In particular, we cannot be held liable for material damage, intangible losses or physical injury resulting from an installation that does not comply with:

- Legal or regulatory requirements or provisions laid down by the local authorities.
- National or local regulations and special provisions relating to the installation.
- Our manuals and installation instructions, in particular in terms of regular maintenance of the appliances.
- The rules of good workmanship.

Our warranty is limited to the replacement or repair of the parts found to be defective by our technical services team, excluding labour, transfer and transport costs.

Our warranty does not cover replacement or repair costs for parts that may become defective due to normal wear, incorrect usage, the intervention of unqualified third parties, inadequate or insufficient supervision or maintenance, a mains supply that is not appropriate or the use of unsuitable or poor quality fuel.

Smaller parts, such as motors, pumps, electrical valves etc., are guaranteed only if these parts have never been dismantled.


The rights established in European Directive 99/44/EEC, implemented by legal decree No. 24 of 2 February 2002 and published in Official Journal No. 57 of 8 March 2002, remain in force.

13 Spare parts

13.1 General

Only replace defective or worn parts of the VM-T-Control Pro housing with original parts or recommended parts.

Send the part to be replaced to your supplier's Quality Control department if the relevant part is covered by the guarantee (see the General Terms of Sale and Delivery).



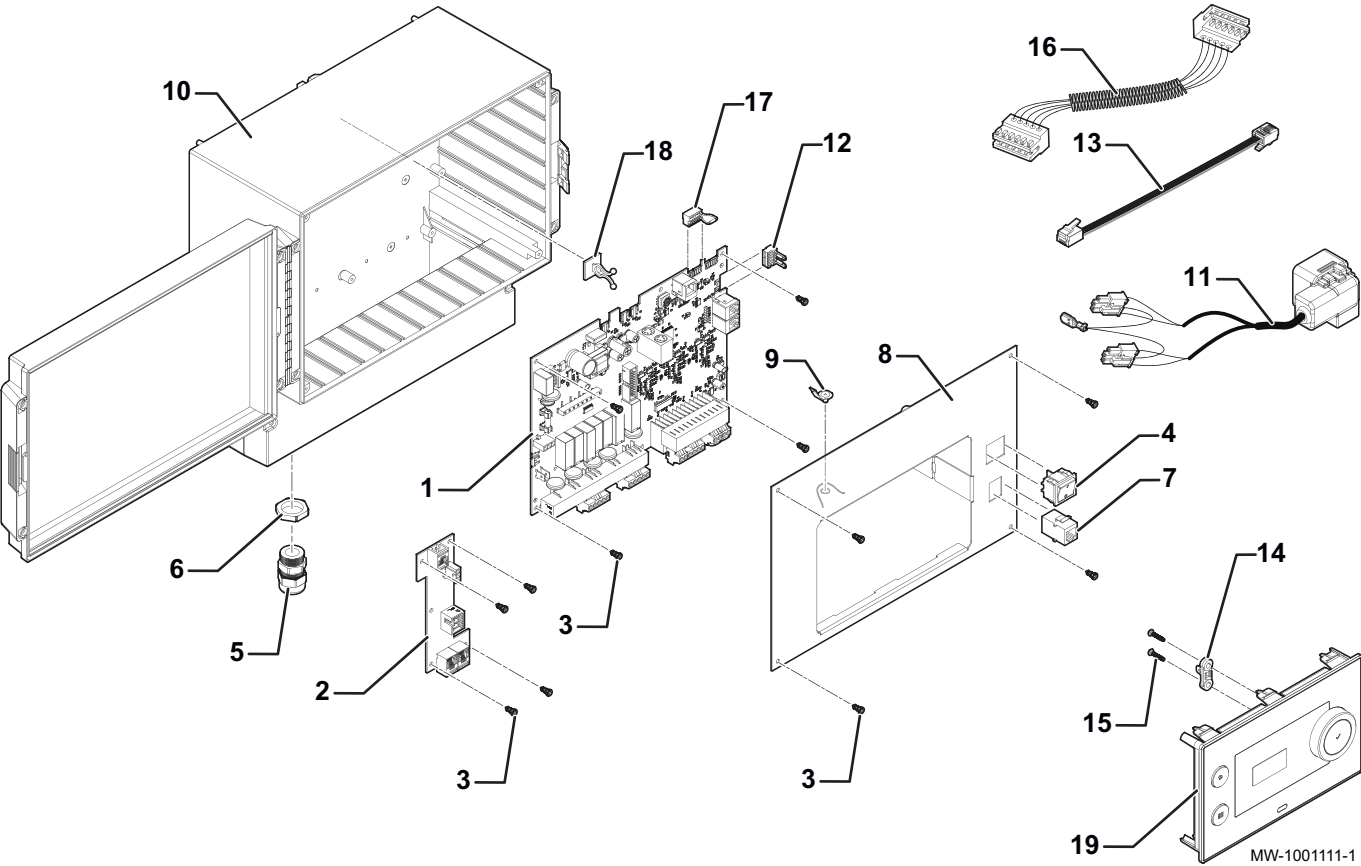
Important

Always enclose a completed return form, which can be downloaded from the Remeha website for professionals, under **Support – Goods return form**. This form allows Remeha to treat warranty claims quicker and more effectively.

13.2 Spare parts

13.2.1 VM-T-Control Pro unit

Fig.34



Tab.51

Markers	Reference	Description
1	7665009	EEC-01 main PCB
2	7671865	CB-05 connection PCB
3	S62185	CBL Z ST 2.9x9.5 C ZN screw
4	95325027	Bipolar On/Off switch with green light
5	95315801	PE 11 cable gland
6	95315406	PE 11 lock nut
7	7671840	RJ11 Service Tool connector

Markers	Reference	Description
8	7676390	Unit front panel
9	96493510	PMC46/01 earth POP rivet
10	7672069	Housing
11	7676108	Power cable harness
12	7676161	END connector - L-BUS termination
13	7676221	L-BUS - RJ11 0.3 m cable
14	7618888	Traction arrester device
15	7610590	EJOT WN 5451 25x15 screw
16	7682206	Control panel cable harness
17	7214943	END connector - L-BUS termination
18	95320386	Cable guide sticker
19	7695389	HMI T-control control panel

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