Carrier

United Technologies

Comfort Module Hydronic Systems

Installation, Operation and Maintenance Instructions

Contents

Safety Information

Safety procedures

Important safety information is displayed on the product and in this Manual. Please read this installation manual carefully before installing the unit. It contains further important instructions for proper installation.

Explanation of illustrated marks

Indicates prohibited items.	Indicates mandatory items.	Indicates cautions (including danger/warnings).

Explanation of indications

DANGER	WARNING	CAUTION
Indicates contents will cause death or serious injury if used incorrectly.	Indicates contents could cause death or serious injury if used incorrectly.	Indicates contents could cause an injury or damage to property, furniture or pets if the instructions are not followed carefully.

General notes

- Please ensure this is read thoroughly and kept for future reference.
- Before any repairs or maintenance is carried out an assessment of the potential risks must be undertaken, and appropriate measures taken to ensure the safety of all personnel.
- Do not attempt to repair, move, modify or re-install the unit on your own.

LIABILITY

The manufacturer declines any liability and invalidate the unit warranty for damage resulting from:

- Improper installation; including failure to follow instructions in the manuals
- Modifications or errors in the electrical or refrigerant or water connections.
- Unapproved units coupling; including other manufacturers units.
- Use of the unit under condition other than those indicated.

All of the manufacturing and packaging materials used for your new appliance are compatible with the environment and can be recycled.

Units handling

	Ensure adequate personal protective equipment is used.
	Inspect equipment for damage due to improper transportation or handling: file an immediate claim with the shipping company.
	Dispose of the packaging material in accordance with local requirements.
	When lifting the unit, absolutely do not use hooks inserted in the side handles, use special equipment (e.g. lifting devices, trolleys, etc...).
	Do not step or put anything on the indoor/outdoor unit. It may cause an injury or damage the unit.
	Do not place containers filled with liquids or other objects onto the unit.

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.
Make sure that children do not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Units installation

The installation must be carried out by a qualified installer.

DO NOT INSTALL IN A PLACE…

- Difficult to access for installation and maintenance.
- Exposed to direct sun.
- Too close to heat sources.
- That might increase the vibration of the unit.
- Which cannot bear the weight of the unit.
- Subject to a risk of exposure to a combustible gas.
- Exposed to oils and vapours
- With particular environmental conditions.

AVOID

- Excessive distance between indoor and outdoor units.
- Excessive height difference between indoor and outdoor unit.
- Opening the service valves when the refrigerant pipes are not connected to the indoor and the outdoor units.

Do not compress air or others fluids mixed to (or instead of) the prescribed refrigerant or lubricant, as this may cause abnormal high pressure and can result is burst or injury.

Make sure to vacuum the indoor unit and the refrigerant pipes between indoor and outdoor units before opening the service valves on the outdoor unit to ensure the installation is tight and there are no leaks. (There must be no air intake due to leakage in the refrigeration cycles).

OUTDOOR UNIT

CHOOSE A PLACE...

- Where noise and discharged air do not disturb neighbors.
- Protected from opposing winds.
- That allows for the clearances required.
- Which will not obstruct passageways or doors.
- With floor structure adequately strong to support unit weight and minimize vibration transmission.

Fix the unit with locally purchased bolts.
If the unit is installed in areas where heavy snowfalls may occur, it is necessary to raise its level at least 200 mm above the usual snow level or alternatively to use the outdoor unit bracket kit.

Units installation

INDOOR UNIT

CHOOSE A PLACE...

- Where condensate can easily be piped to an appropriate drain.
- That allows for the clearances required.
- Where the ceiling/wall surface is flat enough to allow easy and safe installation.
- Where the wall structure should be strong enough to carry the unit weight and avoid deformation, rupture or vibration during peration.
- Free from obstructions which may cause irregular air distribution and/or return.
- Which assures the best possible air distribution.
- Without equipment which generate high frequency radio waves.
- With water hazard or humid walls, e.g. laundry or steam pressing premises.

Connecting the units

During the unit installation make first refrigerant and water connections and then electrical connections. To disconnect the unit, first disconnect electrical cables, then refrigerant and water connections.

Refrigerant connections, water connections and piping

Read the Refrigerant handling instruction before attempting any piping work.

Pipe diameter	Tightening torque - Nm
6,35 mm (1/4")	18
9,52 mm (3/8")	42
12,70 mm (1/2")	55
15,87 mm (3/8")	65

AVOID

- Flattening or kinking of refrigerant, water or condensate pipes.
- Unnecessary turns and bends in the connecting pipes.
- Connecting the condensate drain pipe to the outdoor unit.
- Partial insulation of the piping.
- Soling pipes ends.
- Allowing piping to get wet before connection.
- Connecting condensate piping to sewage system drain without appropriate trap. Trap height must be calculated according to the unit discharge head in order to allow sufficient and continuous water evacuation.
- Any rise in the condensate drain piping.
- Installation not correctly leveled which will cause condensate dripping.

Electrical wiring

All field electrical connections are the responsibility of the installer.

DANGER
Electrical shock can cause severe personal injury or death. These operations are carried out by qualified personnel only.

WARNING

- This unit complies with low voltage (2006/95/EC), electromagnetic compatibility (2004/108/EC) and pressure equipment (EEC/97/23) Directives.
- To avoid electric shock or fire make sure these operations are carried out by qualified personnel only.
- Ensure that national safety code requirements have been followed for the main supply circuit.
- Follow all current national safety code requirements.
- Ensure that a properly sized and connected ground wire is in place.
- Check that voltage and frequency of the mains power supply are those required; the available power must be adequate to operate any other possible appliances connected to the same line.
- Check that the impedance of the mains power supply is in conformance with the unit power input indicated in the rating plate of the unit.
- Make sure that properly sized disconnecting and safety switches are installed.
- The disconnection devices from the mains supply must allow full disconnection under the conditions provided for by overvoltage class III.

CAUTION

- Connect the connecting cable correctly. If the connecting cable is connected in a wrong way, electric parts may be damaged.
- Connection to the mains supply is of the Y type; therefore, the cable must only be replaced by the technical support in order to prevent any risk.
- Use the specified cables for wiring and connect them firmly to the terminals.

WARNING

- No other equipment should be connected to this power line.
- Be sure to provide grounding; inappropriate grounding may cause electric shock.
- Do not connect ground wires to gas pipes, water pipes, lightning rods or ground wires for telephone cables.

DANGER
Do not modify this unit by removing any of the safety guards or by by-passing any of the safety interlock switches.

FINAL CHECK

WARNING

- **After the installation work, confirm that refrigerant gas does not leak.**
- **If refrigerant gas leaks out during the installation work, ventilate the room immediately.**
- **If refrigerant gas leaks into the room and flows near a fire source, such as a cooking range, poisonous gas is generated.**

Contact the qualified service if one of the following events takes place:

- hot or damaged power supply cable;
- unusual noise during operation;
- frequent operation of the protection devices;
- unusual smell (such as smell of burning).

Servicing and maintenance

CAUTION

- Ensure adequate personal protective equipment is used
- Extraordinary maintenance operations must be carried out by specially trained personnel.

Disconnect the mains power supply prior to any maintenance operations or prior to handling any internal parts of the unit.

CAUTION

- This equipment contains refrigerant that must be disposed of in a proper manner.
- When disposing of the unit after its operational life, remove it carefully.
- The unit must then be delivered to an appropriate disposal centre or to the original equipment dealer for proper environmentally compatible disposal.

1.1 How to use the document

This document is a complete Installation and Operation manual.

- End User
  You may find in the first part the end user New User Interface NUI (Chapter 2).
  How to use NUI to set your comfort parameters:
  - Description of the NUI
  - Touch'n go functionnalities and setpoints
  - Schedule settings
  - Advanced programming options
- Installation of the system:
  - Chapter 3 80HMA COMFORT MODULE
  - Chapter 4 2-Zone kit
  - Chapter 6 Accessories
  - Chapter 7 Pool kit
- For configuration of the system, you may use the following information:
  - Chapter 5 identifies your system with a library of major systems covered, associated parameters given within a table
  - Section 3.3 Network Configuration and section 3.5 Variable table
  - Section 3.2.11 Discrete Input & Output configuration for comfort module
  - Section 4.3.8 Discrete Input & Output configuration for 2-Zone kit
  - Section 3.4 Operation Controls to adjust climatic curves, backup Heaters, Domestic Hot Water functions, setpoints, Anti-freeze protection.

2. USER INTERFACE - NUI

2.1 Introduction

Carrier Comfort Module has programmable User Interfaces, also called in this document as 'NUI'.
A Master User Interface -NUI 0- is available on the unit and the others are installed on the wall inside the comfort zones as required - NUI 1 for zone 1 and NUI 2 for Zone 2 (2-Zone Kit is required for two zones).
NUI is a low-voltage device for controlling the room comfort and the general operation of the system. NUI has different features including:

- Dedicated Heating / Cooling Setpoints per Zone
- Virtual Zone management *
- System configuration & management
- Keypad lock
- Scheduler for all the weekdays with four periods
- Current Mode selection and visualisation
- Touch 'N' Go buttons, short links to your favorite settings (Home, Away or Sleep)
- Outdoor Air & Room Temperature
- % RH, Room Relative Humidity
- Backlight
- More features depending on the configuration of your system

This section covers the configuration and operation of the system through the User Interface - NUI

Note: *The user interface cover (lid) is available only in the wall installation. In this case, ignore the programming instructions "Open the lid...".*

2.2 Installation Recommendations

2.2.1 Safety Consideration

Read and follow manufacturer instructions carefully. Follow the local electrical regulations during installation.

All the wiring must conform to the local and national electrical regulations.

2.2.2 Power

The NUI will be powered with 12V unregulated DC Voltage.

This power is supplied to the user interface by the unit to which it is connected.

2.2.3 User Interface Location (for In-zone User Interface)

The user interface should be installed:

- Approximately 1.5 m above from the floor
- Close to or in a frequently used room, preferably on an inside partitioning wall
- On a section of wall without pipes or duct works.

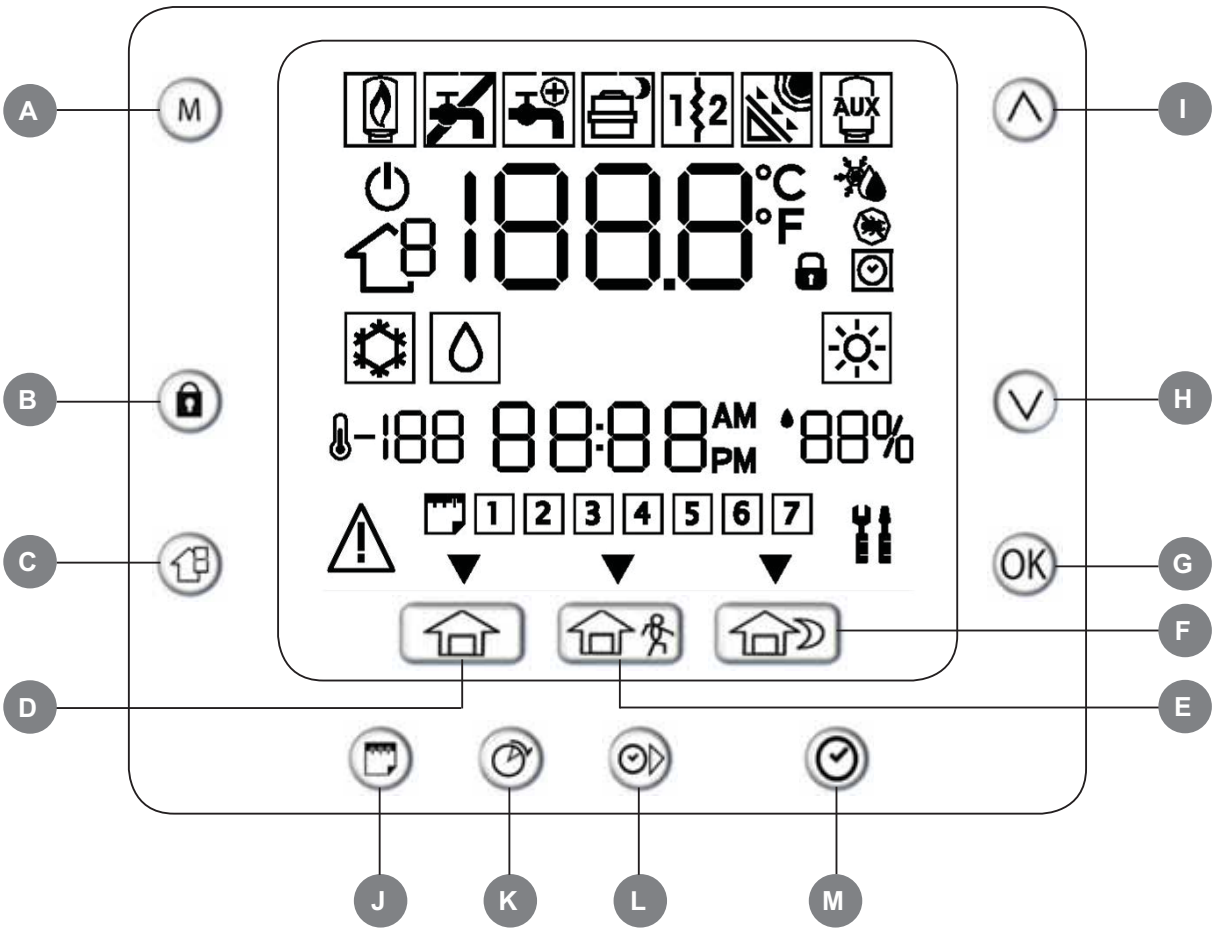
The user interface should NOT be installed:

- Close to a window, on an outside wall, or next to a lid leading to the outside
- Exposed to direct light or heat from the sun, a lamp, fireplace, or any other heat-radiating objects which can cause a false measurement of room temperature
- Close to or in direct airflow from supply registers and return-air registers
- In areas with poor air circulation, such as behind a lid or in an alcove.

2.2.4 Mechanical Installation

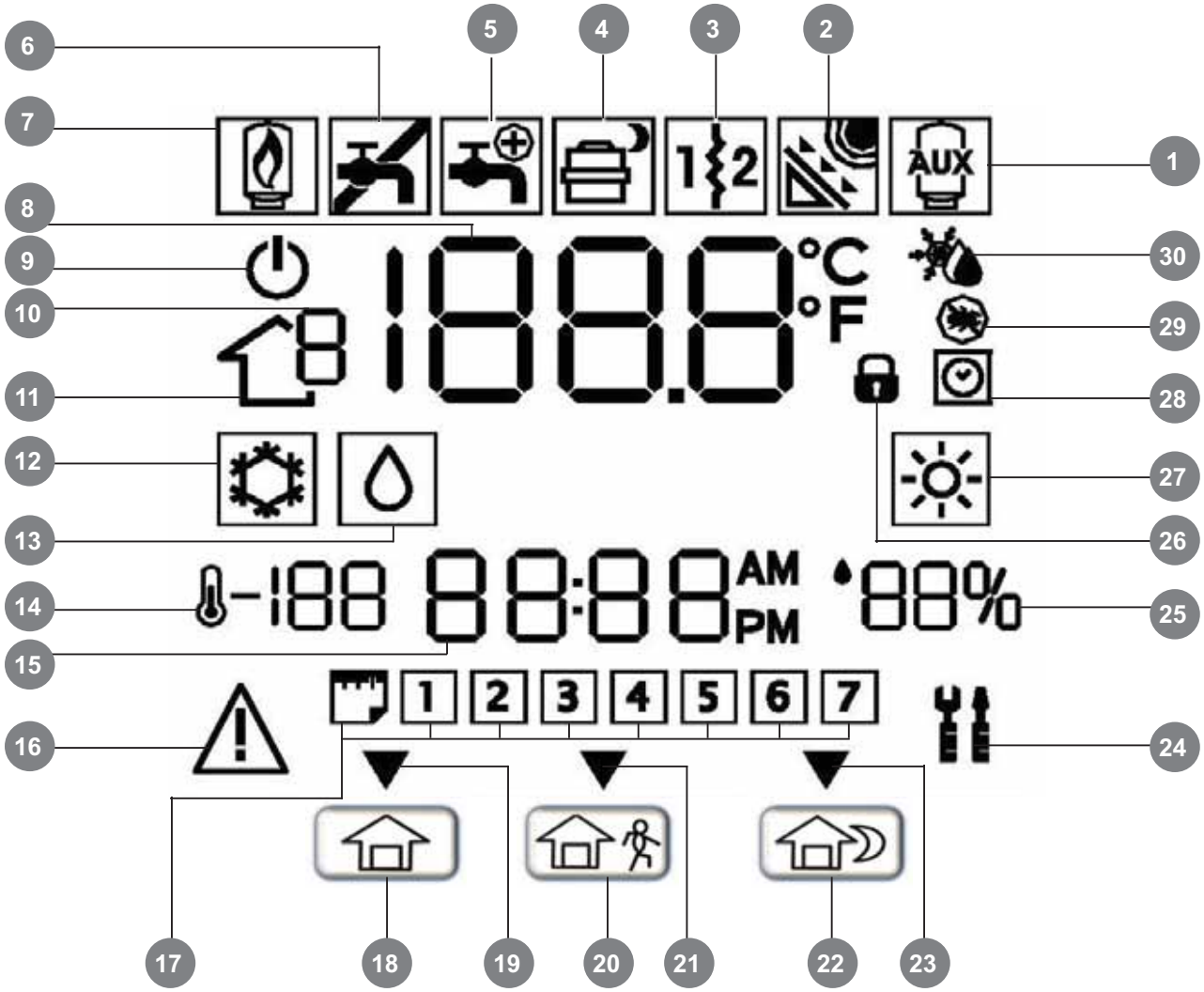
For mechanical installation, see *Installation Manual*.

2.3 User Interface Buttons



A	MODE	Mode selection	H	DOWN	Down button for changing values and scrolling down menu items
B	RUN/HOLD	Activate/ Deactivate the schedule program	I	UP	Up button for changing values and scrolling up menu items
C	ZONE	Select the Zone	J	DAYS	Display weekdays for schedule settings
D	HOME	Select "Home" room setpoint	K	PERIOD	Display the programming time periods for schedule settings
E	AWAY	Select "Away" room setpoint	L	START TIME	Display the period start time for schedule settings
F	SLEEP	Select "Sleep" room setpoint	M	D/H/M SET CLOCK	Adjust clock
G	OK	Confirm the selected settings			

2.4 User Interface On-screen Icons



1	Domestic Hot Water Tank Electric Heater (Booster Heater)	11	Zone icon	21	"Away" setpoint selected
2	Solar	12	Cooling mode	22	Touch 'N' Go - Sleep
3	Electric Heater 1 and 2	13	Domestic Hot Water mode	23	"Sleep" setpoint selected
4	Heat Pump request / Silent mode	14	Outdoor Air Temperature	24	Service/Configuration mode
5	Domestic Hot Water Valve activated	15	Time display	25	Relative Humidity
6	Domestic Hot Water warning icon (disinfection failed)	16	Alarm	26	Keypad lock
7	Gas Boiler	17	Day of the week	27	Heating mode
8	Room Air Temperature	18	Touch 'N' Go - Home	28	Schedule activated
9	System OFF Mode	19	"Home" setpoint selected	29	Disinfection cycle
10	Zone number	20	Touch 'N' Go - Away	30	Home Antifreeze

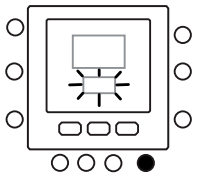
2.5 Programming User Interface

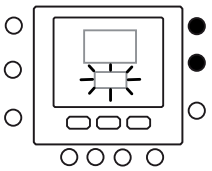
2.5.1 Setting Time and Day

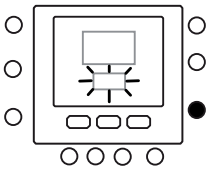
Note: *Set the time only on the Master User Interface -NUI(0) or on the user interface connected to level 3 board. All the other user interfaces are automatically updated. Except at the first configuration, you must set Time and Date on each NUI by pressing the 'OK' Button, this will cancel the Time & Date digits to flash.*

To set time and day, follow the below steps:

1. Open the lid.
2. Press .
3. Use the up or down button to select the hour.
4. Press to set the minutes.
5. Use or to select the minute.
6. Press to set the day.
7. Use or to select the day.
8. Press OK and close the lid.





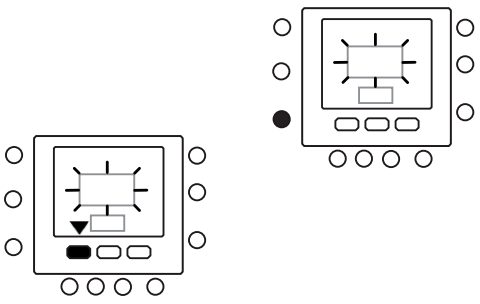


2.5.2 Home/Sleep/Away Settings

1. Select the required zone with or the virtual zoning feature. Refer to section *Virtual Zoning* for more details, or directly on the concerned NUI.

	Own zone: Board address and zone associated to the User Interface - NUI
	Other zone: Board address linked to NUI,: same board address, but different zone
	Master Board: Only for "Access Level 3" NUIs (NUI 1→ n) or Master User Interface (NUI 0)
	Zone 1: Of the selected board through it's address – "Access Level 3" requested
	Zone 2: Of the selected board through it's address – "Access Level 3" requested

2. Press and hold the Touch 'N" Go button or or for five seconds. The set temperature and the icon Heating , Cooling or Domestic Hot Water will flash.



3 Press M to switch between Heating, Cooling or Domestic Hot Water modes (depending on the access level).

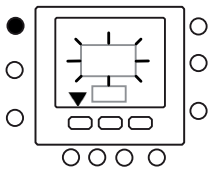
4 Press ∧ or ∨ to set the required temperature for the selected mode.
The triangle icon ▼ above the pressed Touch 'N" Go button will start flashing.

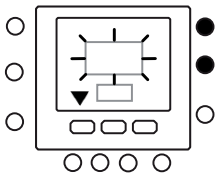
5 Press again ∧ or ∨ to set the new required temperature for the next setting.

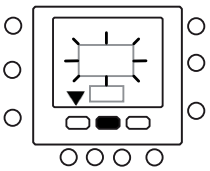
6 Press the next Touch 'N" Go button, and repeat steps 4 and 5.

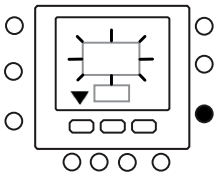
7 Press OK to confirm the changes and exit from the Comfort change mode.

8 If needed, select a different zone using the zone button and repeat the steps (only in case of 2-zones).









The factory settings are given below:

Touch 'N' Go Buttons	Heat	Cool	Domestic Hot Water
Home	20 °C	24 °C	60 °C
Away	15 °C	28 °C	50 °C
Sleep	18 °C	26 °C	Not available

2.5.3 Schedule Settings

The schedule works on 4 different periods, called P1, P2, P3 and P4. Each zone has its own schedule.
The thermostat has preset settings (see below), but settings can be changed as required.
Using virtual zoning (only for access level 3 and the Master Board), you can change the schedules for all the zones in the installation.

Note: *Only Hours could be set, Minute cannot be set.*

Important: *Even if scheduling functionality is not used on site, it is mandatory to enter and validate it.*

Below parameters can be assigned to each period:

: Room temperature ( ), Zone mode (ON/OFF)

: Domestic Hot Water temperature ( ), booster heater (ON/OFF), silent mode (ON/OFF)

Below is an example of a programming using the factory-set periods and the Touch 'N' Go buttons:

Pre-set Period Start Time	Period Number	Option for Each Period	Zone Mode
6:00	P1	Home	ON
8:00	P2	Away	ON
14:00	P3	Home	ON
20:00	P4	Sleep	ON

Pre-set Period Start Time	Period Number	Domestic Hot Water option	Booster Heater allowed	Silent Mode
2:00	P1	Home	NO	NO
4:00	P2	Home	YES	NO
8:00	P3	Home	NO	NO
22:00	P4	Away	NO	NO

Follow the below steps to set your personal time periods to select the time periods for other boards/zones. You can use the virtual zoning feature to do this procedure.

1. Open the lid.

2. Select the required zone by pressing repeatedly.

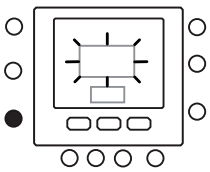
3. Press . Days 1 2 3 4 5 6 7 starts flashing on the display.

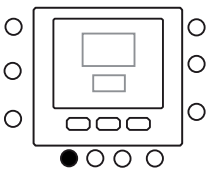
4. Select one of the options (1 to 7 , 1 to 5 , 6 to 7 or individual day) by pressing .

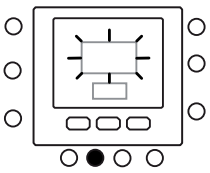
5. When you have selected one of the above options, press . P1 will flash.

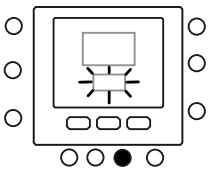
6. To change the hours in P1, press .

7. You will see the hours flashing on the screen. Use or to select the required hour.



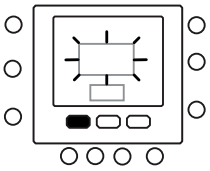




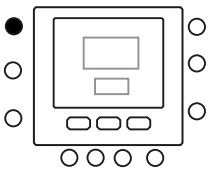


8. The “stop time” for period 1 (P1) is also the “start time” for period 2 (P2). Use the instructions in the next step to change the start time for period 2.

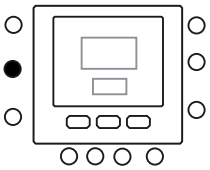
9. Press Home , Away or Sleep to complete the settings for period 1 (P1). The triangle icon (▼) above the selected button will flash.



10. For Domestic Hot Water schedule, select Master Board icon , use (M) to select if the Electrical Heater is allowed or not. (AUX) indicates if the Electric Heaters are allowed.

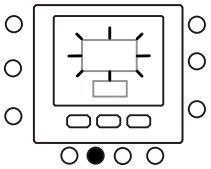


11. For Domestic Hot Water temperature , use to select if silent mode is active or not. indicates if the silent mode is active.

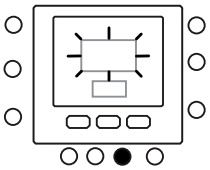


12. For Room Temperature, select - - .

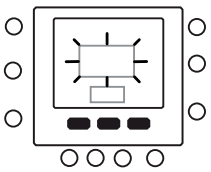
Prior to execute step 3, use (M) to select zone OFF Mode. indicates the mode.



13. Press 2 times. P2 will flash.



14. To change the hours, press .



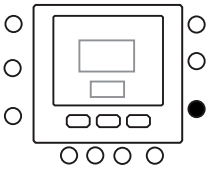
15. Press Home , Away or Sleep for this period.

16. Press (M) to set the Silent mode.

17. Press to set the Electrical Heater option.

18. You can configure all the other periods in the same way.

19. Then repeat all the steps for your remaining time period selection.



20. Press (OK) and close the lid.

Note: *Repeat these steps for each zone.*

2.6 Advanced Programming Options

2.6.1 Changing/Holding Temperature

You can temporarily change the temperature setting. It works only in the own zone, or using Par.1 of the Variable Table.

1. Open the lid.

2. Use to ensure that it is own zone.

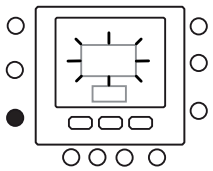
3. Press or to set the new temperature setpoint. This creates a “temporary hold” until the next pre-set time period.
You will see Schedule active icon flashing on the display.

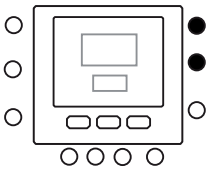
4. Press , to maintain this new temperature setpoint instead of the scheduled value.
The Schedule active icon will stop flashing.

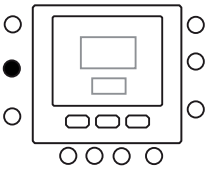
5. To return to the schedule settings, press . This releases the hold and the temperature will return to the temporary level.
The schedule active icon will flash.

6. Close the lid.

Note*: This functionality works only if pararameter Par.1.11: 0, allowing the user to change the setpoints (refer to Variable Table). Otherwise it is not possible to change the room temperature setpoint.*







2.6.2 Advanced Programming Parameters in Variable Table

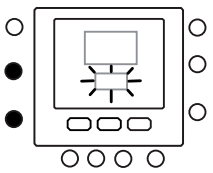
To access and manage the parameters in the variable table, follow the below steps:

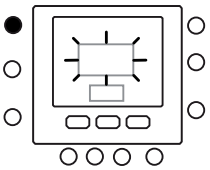
1. Open the lid.

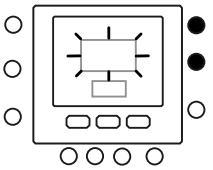
2. Press and and hold for 3 seconds. You will see parameter number “1” is flashing in the time display area.

3. Press , you will see parameter value flashing in the temperature display area.

4. Use or to select the required settings.







5. If the parameter has sub-parameters, use M, then use Days to switch between them. The "Day number" icon indicates the sub parameter number from 1 to 7. Be careful that, for subparameter '0', no "Day number" will be shown.

   Use ∧ or ∨ to select the required value.

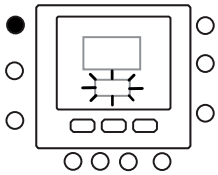
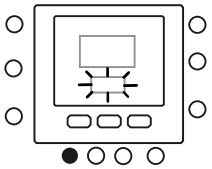
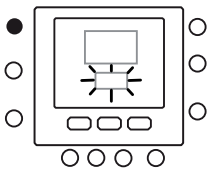
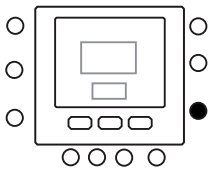
6. Press M to go to the next parameter to be changed. The parameter number will flash.

7. Use ∧ or ∨ to go to the next parameter.

8. Configure all your parameters by following the same procedure.

9. Press OK and close the lid. (Parameters are saved when the ok button is pressed. To exit the variable table without saving the changes, press the zone button.)

10. For setting parameters of virtual zones, use the virtual zoning feature, then follow the same procedure.

Note: *Refer to the Variable Table in this document for more details.*

2.7 Special Features

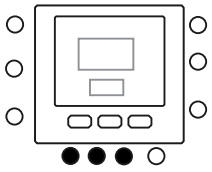
2.7.1 Shortcut to Silent Mode

Press the Hold button for 10 seconds to activate or deactivate Silent mode.
When Silent mode is active, the icon will be displayed. If Silent mode is active, this will always override the selection done in program schedule.
This procedure works only in the Master User Interface - NUI0 - with Zone 0 selected. Otherwise use virtual zoning, to be connected to address 10 (Master Board) and by setting the parameter “System Configuration, Sub-parameter 0, Force frequency reduction to be active entering value 1; Par.109.0: 1”.
Also configure the xx % Max frequency authorized for the compressor, by using the parameter “Frequency Reduction % fraction of the maximum frequency during the Frequency reduction mode (only 30AWH) Par.103: xx”.

2.7.2 Keypad Lock

Follow the below steps to lock the buttons:

1. Open the lid.
2. Press and hold three buttons Days, Period and Start time, for 3 seconds.
3. All the buttons will be disabled and the Lock icon will be displayed.
4. To unlock the buttons, press again the three buttons for 3 seconds.
   The lock icon will disappear.



2.8 Troubleshooting

In case of system failure, the Alarm icon ⚠ will be displayed.
Failures are identified by a fault code. Active fault codes will be displayed in sequence, with a change rate of 1 second, on Par.6 "Fault codes" in the variable table. You can see the addresses of the devices in failure on Par.5.
Refer to Troubleshooting section under *80HMA Comfort Module* in this document for the description of fault codes.

3. 80HMA COMFORT MODULE

3.1 Introduction

The Comfort Module includes the following elements:

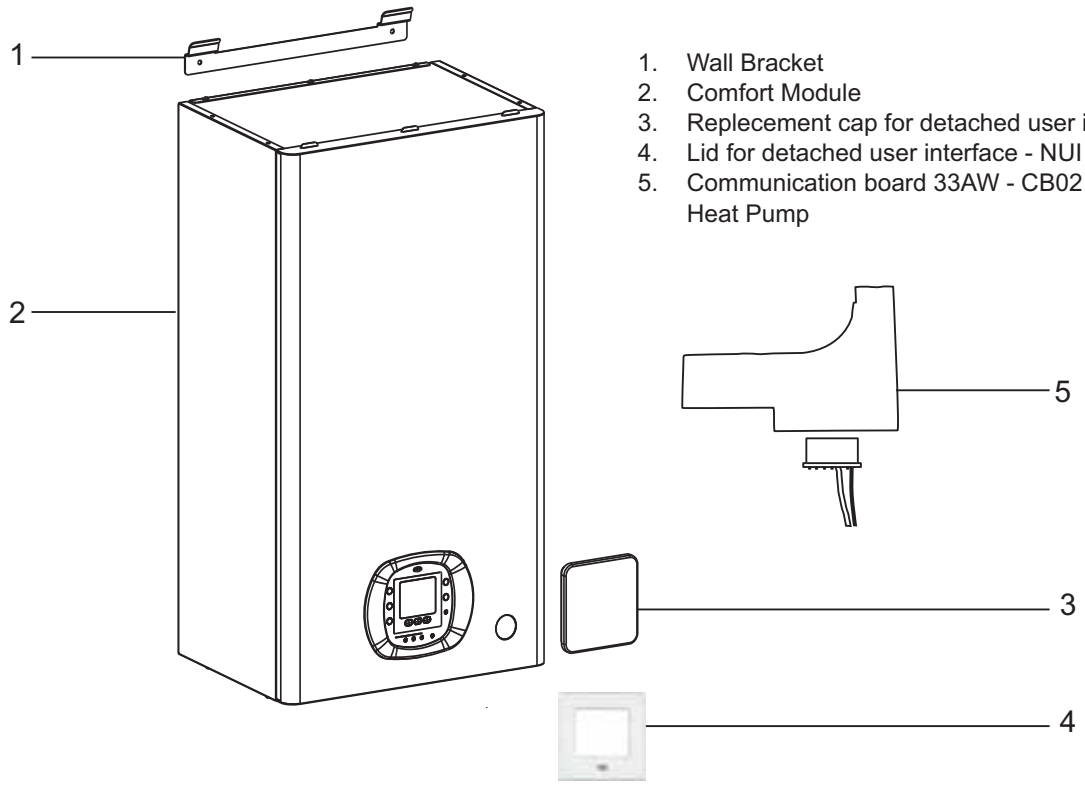
1. 10 litres tank with Electrical Heaters or piping connections for an external Heat source (boiler)
2. Security devices (Flow Switch, Pressure safety valve, thermal fuse for Electrical Heaters, etc.)
3. Control box with Discrete Input/ Discrete Output (DI# / DO#) (DI and DO are customizable on-site)
4. Master User Interface -NUI 0 that could also be located in a zone - it is recommended to preserve NUI 0 on the Comfort Module and to add NUI as an accessory on dedicated zone NUI 1.

In addition, you can design and customize your unit by adding additional accessories as follows:

- An additional Water Pump Kit, Ref 80HMA-9003, to increase the available static pressure to match with the piping network total static pressure losses.
- Brazed Plate Heat Exchanger, to separate the external hydraulic circuit (primary loop) from the internal one (secondary loop), in case of using Antifreeze solution to protect the Heat Pump loop.
- 2 kits are available:
  - BPHE 8 kW Ref 80HMA-9004
  - BPHE 16 kW Ref 80HMA-9005
- A Domestic Hot Water Valve, DHW-V Ref 80AW9023, to send Hot Water from the Heat Pump to the Domestic Hot Water Tank.
- A Domestic Hot Water Tank, Ref 60STS/60STD, to store Domestic Hot Water, with or without solar heat source.
  - With a Water Temperature sensor to ensure a better management from Comfort Module
  - With Booster Electrical Heaters managed by the Comfort Module.
- A Pool Kit to manage the swimming pool temperature, Ref 80HMA-9002, combined with a Pool Diverting Valve with Kit, Ref 80AW-9023, to heat up the swimming pool.
- An additional User Interface NUI, ref 33AW-CS3, must be installed in the room to control the room comfort.
- It is possible to add a 2 Zone Kit, Ref 80HMA-9001 to manage two different zones.
  - Zone 1 with a 3 Way Valve - low temperature device as Underfloor Heating
  - Zone 2 without a 3 Way Valve - higher temperature devices like Terminal Fan Coil Units or radiators
  - The 2 Zone Kit could be installed under the Comfort Module or Next to it.
- A cover panel, Ref 80AW-9027, to install the 2 Zone Kit next to the Comfort Module
- An additional 3 Way Valve and a Leaving Water Temperature sensor, Ref 80HMA-9028, to control more accurately the room comfort.
  - Highly recommended when an Underfloor Heating device is used in Zone 2 (as an accessory).
- A Piping kit, Ref 80HMA-9026, to integrate the Domestic Hot Water Valve in the 2 Zone Kit.

3.1.1 Box Content

Refer to the below picture to see the box content:



1. Wall Bracket
2. Comfort Module
3. Replecement cap for detached user interface
4. Lid for detached user interface - NUI
5. Communication board 33AW - CB02 for 30AWH Heat Pump

3.1.2 Comfort Module Identification

80HMA-M00	Comfort Module with backup boiler connection
80HMA-M03	Comfort Module with 3kW, 1ph Electric Heater backup (1 heating step)
80HMA-M06	Comfort Module with 6kW, 1ph Electric Heater backup (3 heating steps)
80HMA-T06	Comfort Module with 6kW, 3ph Electric Heater backup (3 heating steps)
80HMA-T09	Comfort Module with 9kW, 3ph Electric Heater backup (3 heating steps)

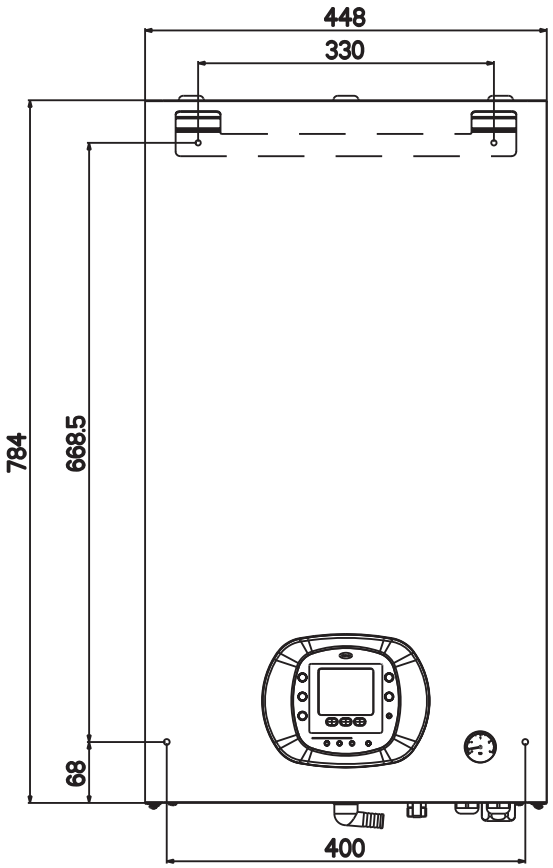
3.1.3 Accessories

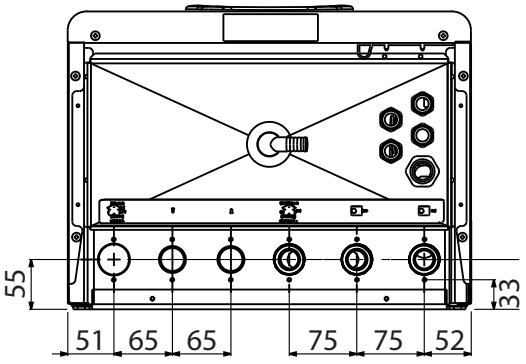
Code	Description	Notes
33AW-RAS02	Remote Outdoor Sensor	Additional Outdoor Temperature sensor, to optimise temperature accuracy - do not place in direct solar rays - on the North side is recommended.
33AW-CB02	Communication kit	Required to communicate with 30AWH Heat Pump series (only in case of using more than one 30AWH heat pumps). To be installed in 30AWH Heat Pump.
33AW-CS3	Additional User Interface - NUI	To control the room comfort in each zone
80HMA-9001	2-Zone Kit	To manage two zones independently: • Zone 1 with Water Pump 1 and Mixing 3-Way Valve • Zone 2 with Water Pump 2. Mixing 3-Way Valve can be installed as an accessory
80HMA-9002	Pool Kit	To manage swimming pool heating
80HMA-9003	Pump Kit	Highly recommended to check, if necessary, when a Boiler is used or when a highest available static pressure is requested depending on the water loop pressure drop
80HMA-9004	BPHE Kit 8kW	To add a heat exchanger in the Comfort Module to separate the primary from the secondary loop (heat transmitters). Heat Pump up to 8 kW
80HMA-9005	BPHE Kit 16kW	To add a heat exchanger in the Comfort Module to separate the primary from the secondary loop (heat transmitters). Heat Pump up to 16 kW
80AW9023	Domestic Hot Water Diverting Valve and Actuator	To heat water for domestic purpose, to be installed outside the Comfort Module or inside. 2-Zone kit using the Piping Kit.
80AW9026	Piping Kit	To install the Domestic Hot Water valve and actuator (80AW9023) inside 2-Zone Kit 80HMA9001
80AW9024	Floor Heating thermal cut-off (TMS)	See EN1264-4, paragraph 4.2.4.1
80AW9028	3-Way valve	To add 3-Way valve, actuator with Leaving Water Temperature Sensor for second zone.
60STS020E03	Domestic Hot Water Tank 200 l, 1 spiral	Tank to produce Domestic Hot Water. With 1 spiral and 3.3 kW Electric Heater included. Domestic Hot Water Temperature sensor included (DHW-S).
60STS030E03	Domestic Hot Water Tank 300 l, 1 spiral	
60STD020E03	Domestic Hot Water Tank 200 l, 2 spirals	Tank to produce Domestic Hot Water. With 2 spirals and 3.3 kW Electric Heater included. Domestic Hot Water Temperature sensor included (DHW-S).
60STD030E03	Domestic hot water tank 300 l, 2 spirals	
80AW9027	Cover Panel for 2-Zone Kit detached from Comfort Module	

3.2 Installation

3.2.1 Features

Comfort Module		80HMA-M00	80HMA-M03	80HMA-M06	80HMA-T06	80HMA-T09
Number of comfort zones managed		1				
Dimensions, H x L x D	mm	800 x 450 x 320 (see below picture for details)				
Operative ambient temperature	°C	5 ÷ 30				
Operating weight	kg	34	35			
Power supply	V-ph-Hz	230-1-50			400-3-50	
Recommended main breaker		C6	C20	C32	C16	C20
Electric Heater element	kW	0	3	6	6	9
Number of auxiliary heating steps		1 (external boiler)	1	3		
Heating and Cooling		Yes				
Connection of backup boiler		Yes	No			





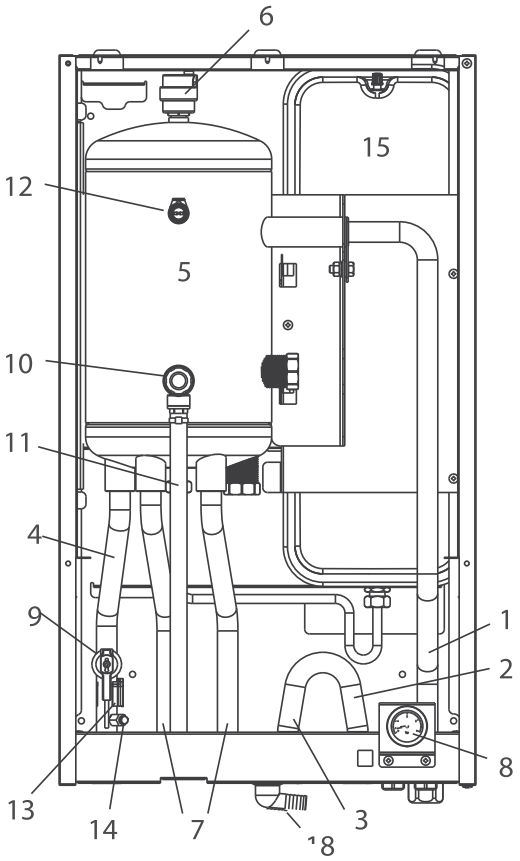
3.2.2 Integrated Hydraulic Connection

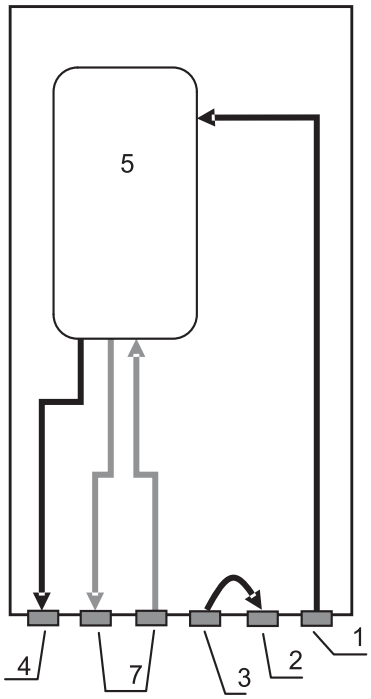
Integrated hydraulic circuit:

Below pictures show the integrated hydraulic circuit of the Comfort Module with and without kits.

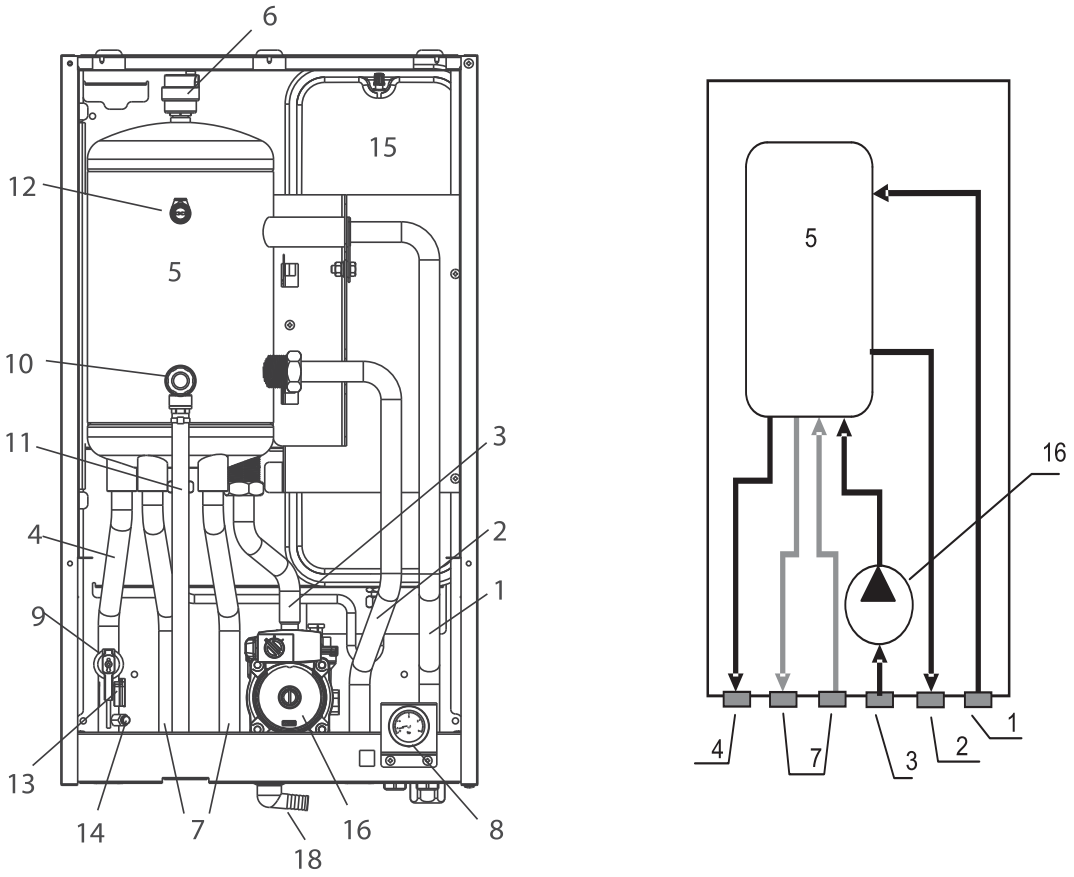
1. Water inlet pipe from Heat Pump (1' male)
2. Water outlet pipe to Heat Pump (1' male)
3. Water inlet pipe from terminal (1' male)
4. Water outlet pipe to terminal (1' male)
5. Buffer tank (10 l)
6. Automatic airvent valve
7. Connection for backup boiler (only M0 version, otherwise Electric Heaters) (3/4' male)
8. Manometer - water loop pressure
9. Flow switch
10. Safety pressure relief valve (3 bars, 300 kPa)
11. Safety pressure relief valve, discharge pipe
12. Buffer tank temperature sensor - TWB
13. Leaving Water Temperature sensor to the Comfort Zone - LWT
14. Water drain valve
15. Expansion vessel (8 l)
16. Water pump
17. Brazed Plate Heat Exchanger - BPHE
18. Drain pipe - Used to drain water from the safety pressure relief valve pressure release. It has to be connected to waste water pipe equipped with a siphon. (Do NOT connect tap to this pipe)

3.2.2.1 Standard Version (80HMA-M00) with Boiler Connections

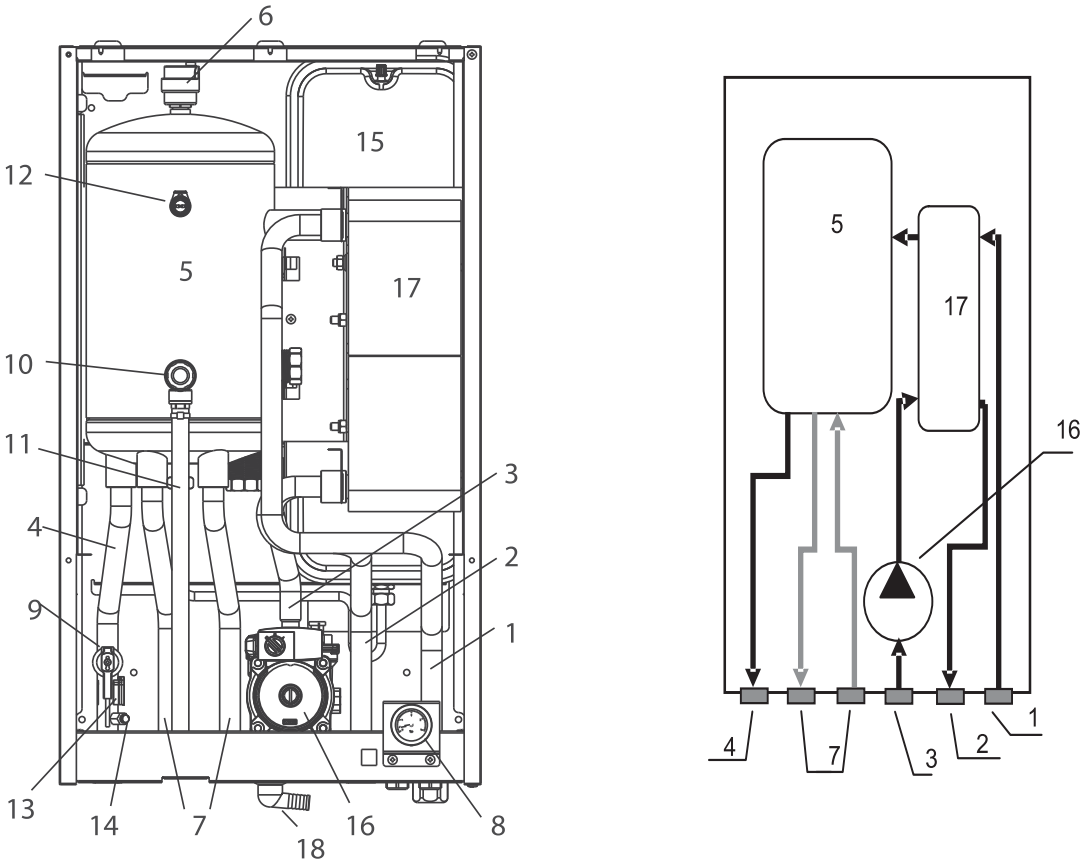




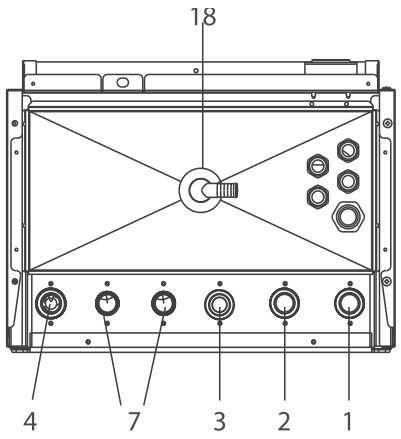
3.2.2.2 Standard Version (80HMA-M00) with Boiler connections + Pump Kit (80HMA-9003)



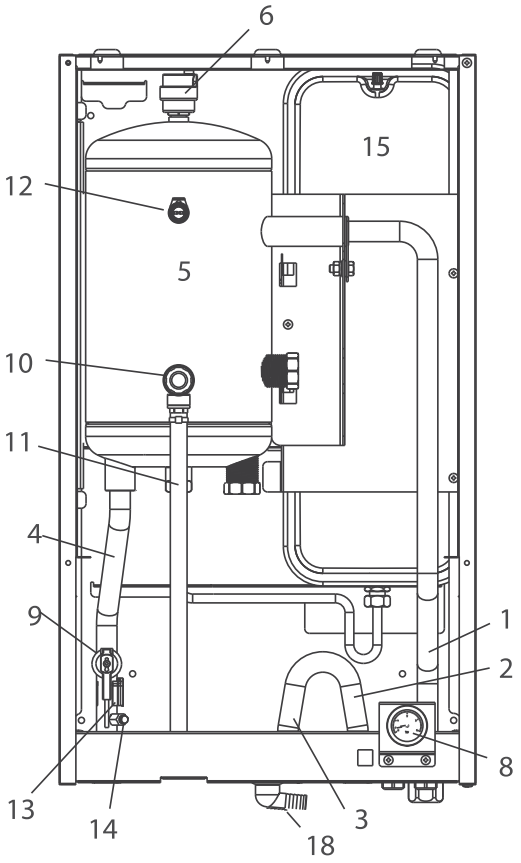
3.2.2.3 Standard Version (80HMA-M00) with Boiler connections + BPHE Kit (80HMA-9004/5)

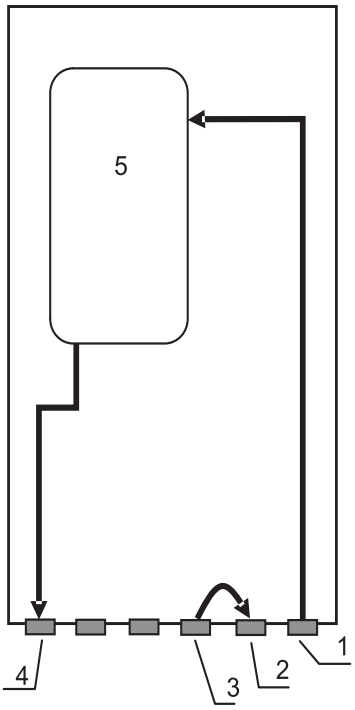


3.2.2.4 Bottom View: Standard Version (80HMA-M00) with Boiler connections with or without BPHE or Pump Accessories

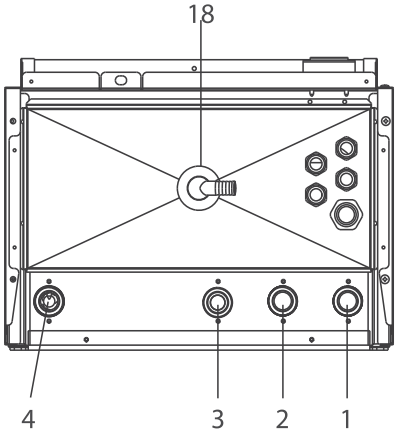


3.2.2.5 Standard version (80HMA-M03/M06/T06/T09) with Electrical Heaters





3.2.2.6 Bottom view: Standard version (80HMA-M03/M06/T06/T09) with Electrical Heaters



3.2.3 Installation Design

Comfort Module is highly customisable to fulfil the installation requirements. Use the below data to configure the installation:

Heat Pump Choice

It is possible to connect three different Heat Pump units to the Comfort Module:

- Carrier 30AWH__HC inverter Heat Pump (or newer) series
  - This option brings about the best performance. The Comfort Module drives the Heat Pump and monitors all its functions and sensors. It is possible to connect up to eight Heat Pumps.
    Note: *Not compatible with 30AWH__H and HB series.*
- Carrier fixed-speed Heat Pump series and other Heat Pumps
  - The Heat Pump is controlled by the Comfort Module through Dry- Contacts, with a minimum set of ommands (ON/OFF - Heat/Cool modes - Setpoints 1 / 2)

In all cases, the total nominal power of the Heat Pumps should not exceed 20 kW.

Below picture shows a possible plan for hydraulic installation.
This example does not cover all the possible configurations. Define other hydraulic configurations using the Variable Table.

To separate the primary loop (from Heat Pump to Comfort Module) from the secondary loop (from Comfort Module to system), a BPHE Kit (80HMA-9004/9005) is used.
Hydraulic performances are shown in the curves below:

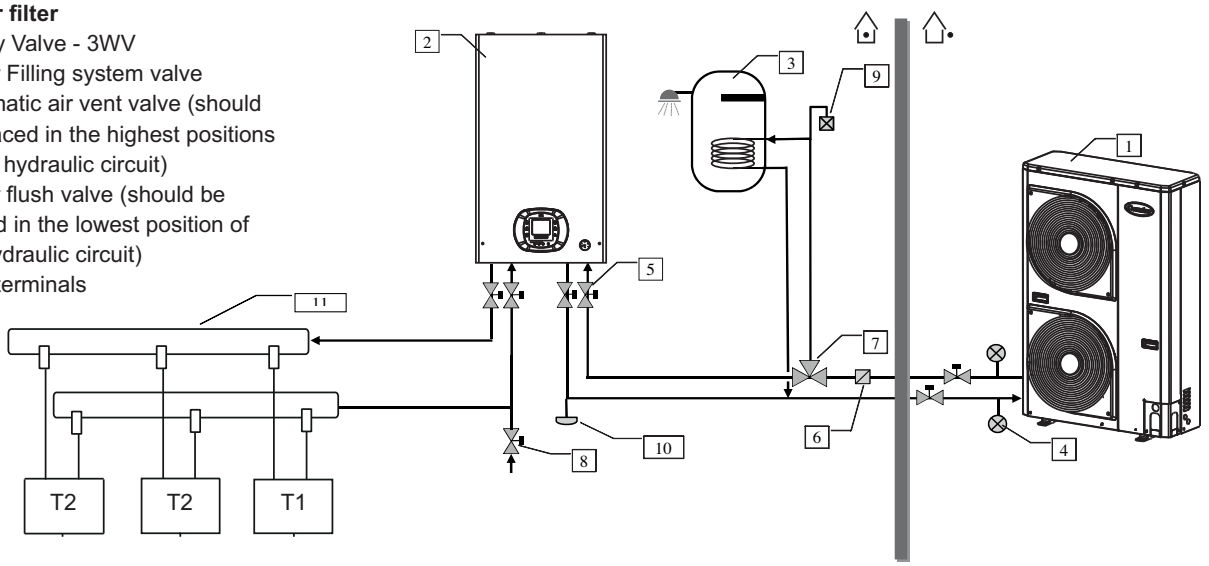
3.2.4 Water Connection

Refer to the Safety Information.

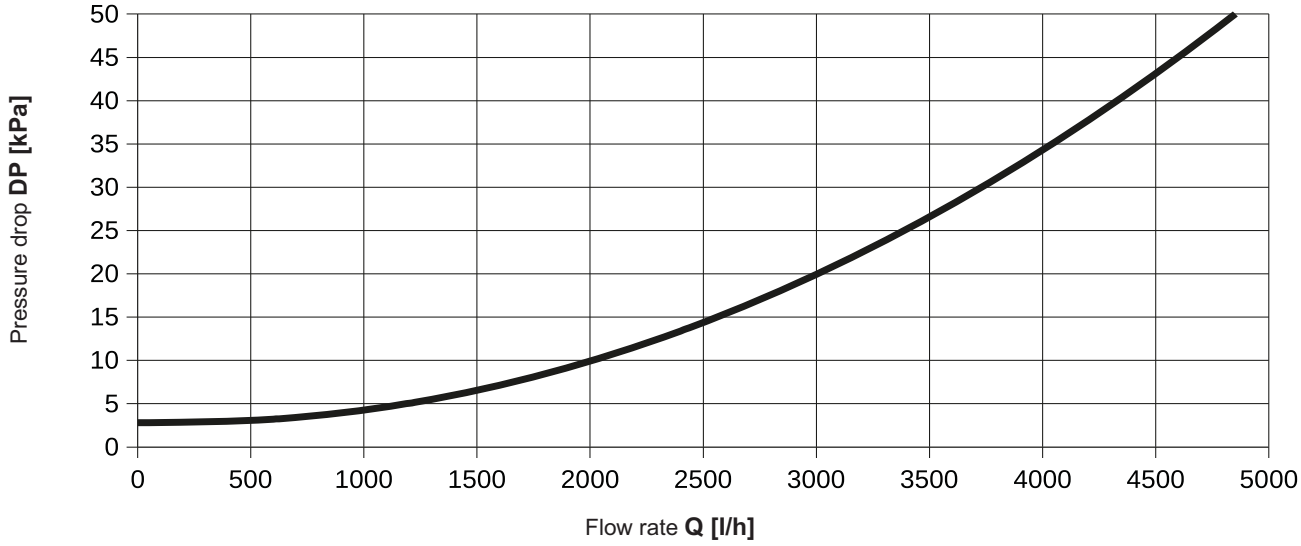
- Do NOT use a counter spanner when tightening the hydronic connections to the module.
- Install ball valves (not included) at the inlet and outlet of the Comfort Module.
- It is recommended to use 1" or bigger pipes for the Comfort Module connections.
- Wrap the connections with anti-condensate insulation and tighten with tape, without exerting excessive pressure on the insulation.
- When all the installation connections are complete, start filling water.

3.2.5 Hydraulic Schematic

1. Heat Pump
2. Comfort Module
3. Domestic Hot Water tank
4. Manometers
5. Ball Valves - Stop Valves
6. **Water filter**
7. 3-Way Valve - 3WV
8. Water Filling system valve
9. Automatic air vent valve (should be placed in the highest positions of the hydraulic circuit)
10. Water flush valve (should be placed in the lowest position of the hydraulic circuit)
11. User terminals

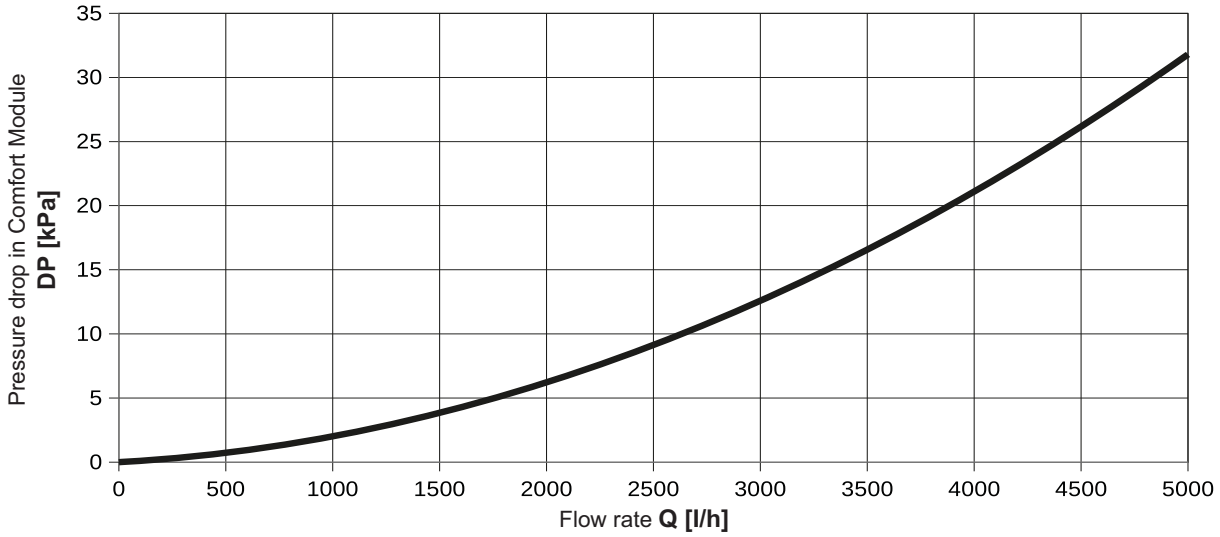


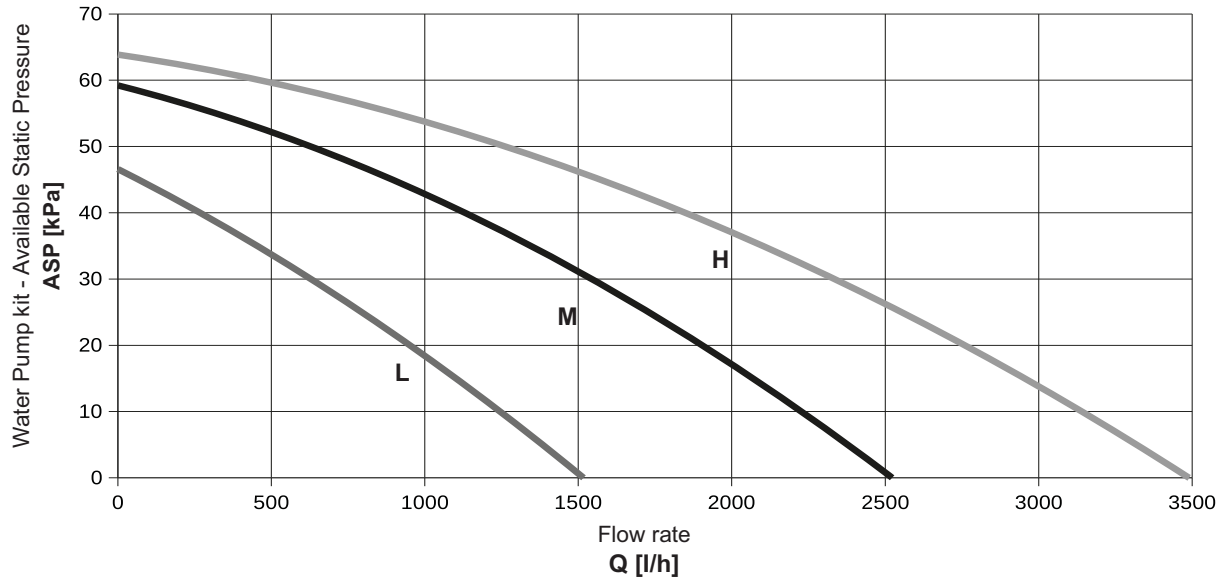
3.2.6 Comfort Module pressure drop (Without any additional kits)



3.2.7 Comfort module Pressure Drop with Pump Kit (80HMA-9003)

If the available static pressure of the Water Pump embedded in the Heat Pump is not sufficient, install the Pump Kit (80HMA-9003). Select the appropriate Water Pump speed (I, II, III) on the selector.



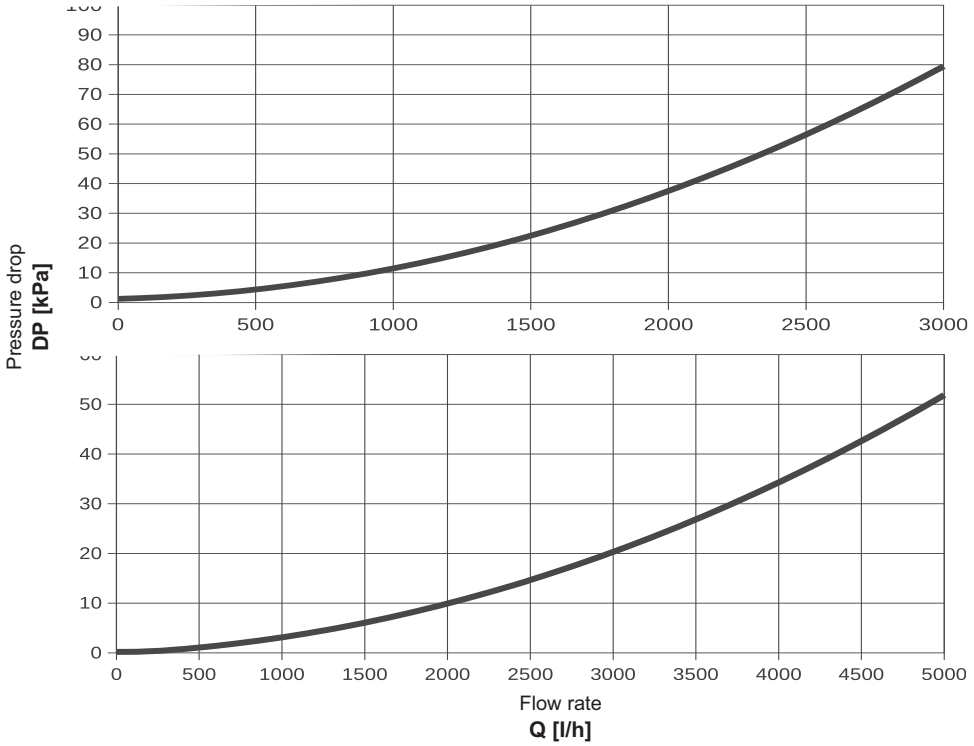


3.2.8 BPHE Kit: Pressure Drop and Available Static Pressure

If a pump or BPHE kit is installed, it is recommended to connect the Water Pump to the Discrete Output DO#1 and configure the corresponding Discrete Output (Par.110.0: 1).

Ensure that the pressure provided is appropriate for the application, by adjusting the water pump speed thank to the embedded selector . Insufficient pressure may cause poor performances and a high DT, while excessive water flow may cause noise issues and a low DT (DT=Water Temperature Difference).

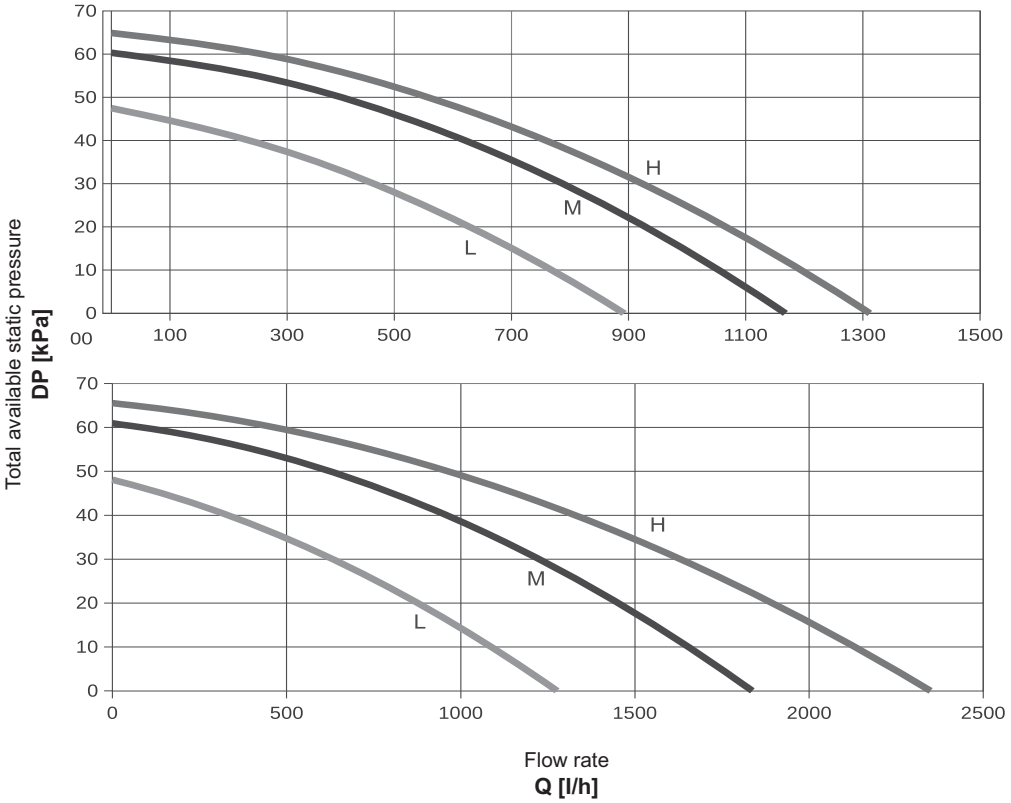
3.2.9 Pressure drop for primary loop



3.2.10 Head Pressure for secondary loop

8 kW BPHE Kit

16 kW BPHE Kit



3.2.11 Discrete Input/Discrete Output Configuration Values

The Discrete Input -DI and Discrete Output -DO are entirely customisable. Using the user interface on board, the required Discrete Input -DI and Discrete Output -DO values can be defined.

- Refer to Discrete Outputs - DO# - and Discrete Inputs- DI# Configuration Values Table (for HMA), to configure the non factory configured DO's or DI's providing different functionalities that the available DI's and DO's could hold, and to Wiring Connection Diagram for the identification of connection numbers on the Terminal Block (TB) .

The factory-set Inputs are:

- **80HMA-M00**
  - Discrete Input DI#7: flow switch (Par.111.6: 11)
- **80HMA-M03**
  - Discrete Input DI#7: Flow switch (Par.111.6: 11)
  - Discrete Output DO#2: 3kW Electric Heater (Par.110.1: 6)
- **80HMA-M06/T06/T09**
  - Discrete Input DI#7: Flow switch (Par.111.6: 11)
  - Discrete Output DO#2: 1st step of Electric Heaters (Par.110.1: 6)
  - Discrete Output DO#3: 2st steps of Electric Heaters (Par.110.2: 7)

Note:

- *Do not change these DI/DO configurations. Check these parameters in Variable Table.*
- *When the Discrete Output or Input function/item is configured, the software acts as per the settings. The DO/DI function settings are provided in the table.*

3.2.12 Communication Bus

All the devices communicate through a unique bus using only two wires (type RS485, connections Rc/Rh). In that way, it is possible to connect Carrier Heat Pumps, user interfaces, 2-zone kits and swimming pool kit using the Rh and Rc connectors available in all the devices.

The communication board 33AW-CB2 is required for connecting more than one 30AWH series Heat Pumps, and it must be installed in each unit.

3.2.13 Additional Devices - Configuration Recommendations

Domestic Hot Water Valve/Pool Valve

You can install a Domestic Hot Water Valve and/or a Pool Valve on the hydraulic circuit to divert water to a Domestic Hot Water Tank or a Pool Heat exchanger.
A 3-Way Valve (ON/OFF) is therefore used as a "Diverting" valve to send water to the Comfort Heating Devices or to the Domestic Hot Water Tank or Pool heat exchanger.
Use Par.81 'Valve after Tank' in the Variable Table to identify if the valve is connected upstream or downstream of the Comfort Module.
Carrier recommends to connect the Domestic Hot Water valve to Discrete Output - DO#6 - and Par.110.5: 2. To configure the corresponding type of Discrete Output 'Domestic Hot Water valve control '.
However, if necessary, you can use a different Discrete Output, if it is properly configured, refer to Discrete Outputs - DO# - Configuration Values Table (for HMA).

Note: *If the system has Domestic Hot Water Valve and a Pool Diverting Valve, both are to be connected either before or after the Comfort Module, and Pool Diverting Valve connected to Pool Kit Discrete Output.*

Domestic Hot Water tank

Carrier provides Domestic Hot Water tanks (60STS/STD series) with 200 litres or 300 litres capacity, Booster Electrical Heaters and a Water Temperature Sensor fully compatible with the Comfort Module.
You can also use other Domestic Hot Water tanks.
Use the Variable Table to identify the following:

- The Discrete Output - DO#4 for Domestic Hot Water Electric Heater (Booster Heater).Par.110.4: 9 to configure the corresponding type of Discrete Output 'Control ON/OFF the Electric Heaters for Domestic Hot Water'.
- If the Domestic Hot Water Temperature sensor (NTC 10kΩ at 25 °C) is available, connect it to Analogic Input - AI#2 and Par112.0:1, sensor connected.

Humidifier/Dehumidifier

Comfort Module can send a command to a humidifier and a dehumidifier using the available Discrete Outputs - DO#'s to configure them in the Variable Table with the corresponding type, in Par.110.x: y Refer to Discrete Outputs - DO# - Configuration Values Table (for HMA).

Gas boiler back up

An external backup boiler can be connected directly to the Comfort Module version 80HMA-M00, or in the hydraulic circuit. In the second case, connect it only before the Comfort Module.
Use Par.80 and Par.81 in the Variable Table to identify the position of Domestic Hot Water/Pool valve/s and gas boiler.

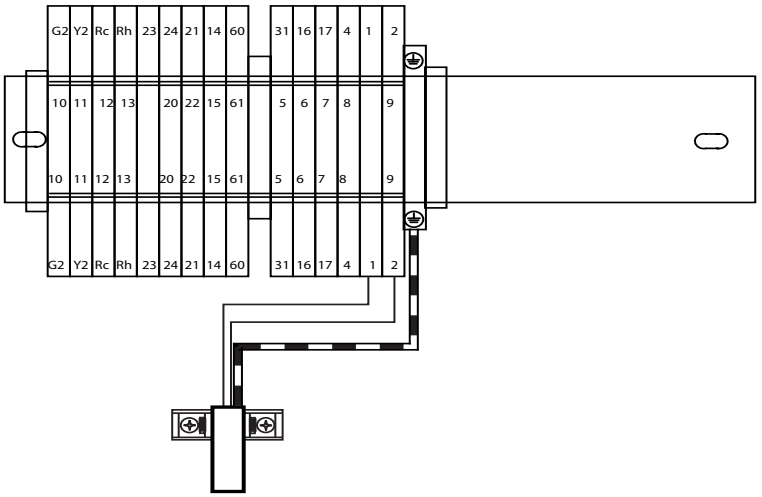
Additional User Interface

Comfort Module is equipped with a Master User Interface -NUI(0). For Room comfort, it can be controlled remotely in the room (not recommended for easy use of Comfort Module) or you can add an additional user interface.
Use the Variable Table to define the Master User Interface and the Comfort Zone User Interface.

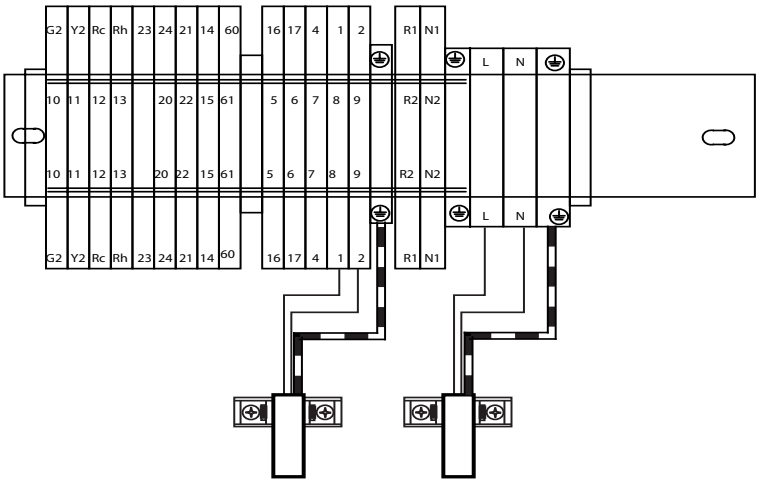
3.2.14 Wiring Connection Diagram

Below pictures show the power supply connections as well as the customized DI's and DO's available in the Comfort Module.

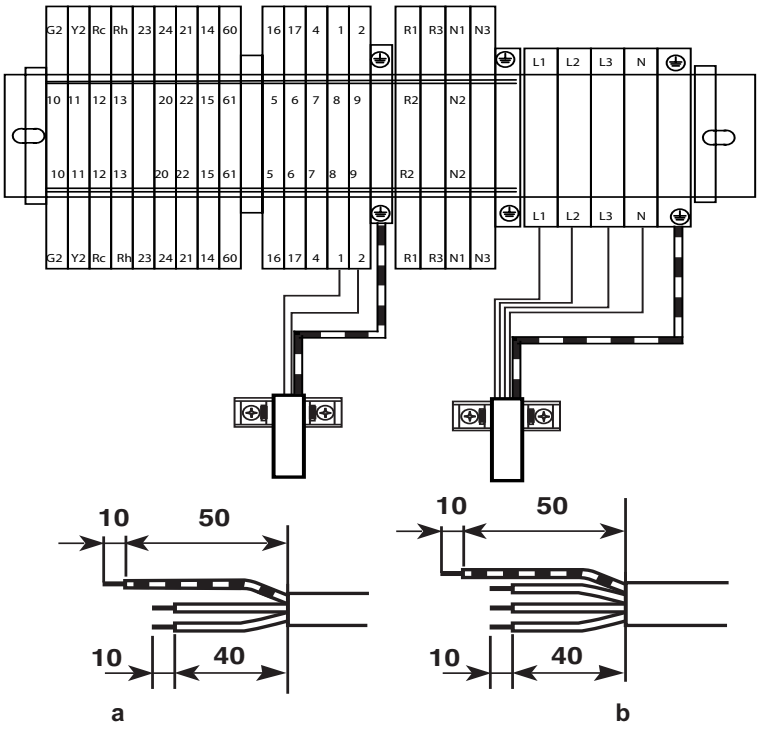
Comfort Module M0



Comfort Module M3 and M6



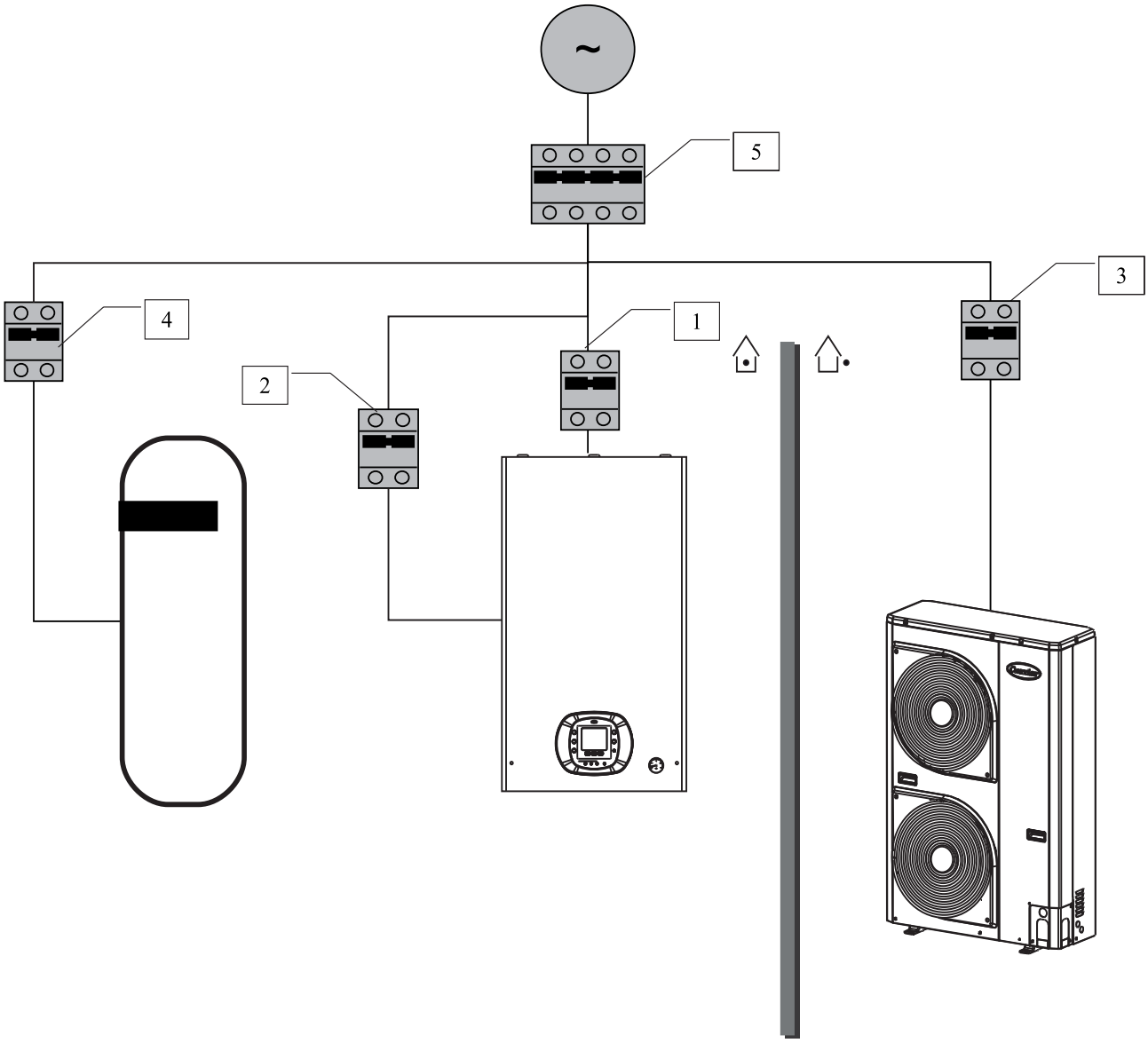
Comfort Module T6 and T9



3.2.15 Power Wiring Diagram

Refer to the below picture and the Safety Information for the electrical connections diagram.

1. Comfort Module Electric Heaters power supply and breaker (connected to pins L/L1,L2,L3 and N in the Comfort Module Terminal Block).
2. Main boards power supply and breaker (connected on Pins 1 and 2 in the Comfort Module Terminal Block).
3. Heat Pump power supply and breakers. Follow the instructions in the Heat Pump installation manual.
4. Domestic Hot Water Tank Electric Heater power supply and breaker (size the breaker and cables in accordance with the Electric Heater power and local regulations).
5. Main power supply source and breakers (install the breakers in accordance with the maximum power consumption and local regulations).



3.2.16 Recommended Wire Sections

Comfort Module			80HMA				
			M00	M03	M06	T06	T09
Power supply	Voltage	V	230			400	
	Frequency	Hz	50				
	Phases	#	1			3	
Operating voltage limits		V	207-253			360 - 400	
Board and auxiliary devices power consumption (max)		kW	1.15	1.15	1.15	1.15	1.15
Boards and auxiliary circuit breaker protection (not included) (Reference 2 in *Power Wiring Diagram* above)			C6	C6	C6	C6	C6
Electric Heater power consumption		kW	0	3	6	6	9
Electric Heater circuit breaker protection (not included) (Reference 1 in *Power Wiring Diagram* above)			C6	C20	C32	C16	C20
Running current (max)		A	5	18	31	14	18
Main power cable size and wire numbers		mm²	3G x 2.5	3G x 4	3G x 6	5G x 2.5	5G x 4
Communication cable		FROH2R	2 x 0,75 mm²				
User Interface -NUI- (additional or remote) cable		FROH2R	4 x 0.75 mm²				
Booster Heater power supply cable		H05VV-F	3G x 2.5 mm²				
Booster Heater activation cable		FROH2R	2 x 1 mm²				
Domestic Hot Water sensor cable		FROH2R	2 x 0.5 mm²				
Remote Outdoor Air Temperature - OAT sensor cable		FROH2R	2 x 0.5 mm²				

3.2.17 Connection Locations on Terminal Block for: DO#, DI#, AI#, Bus, EH Power Supply

Discrete Outputs, terminal block (TB1) connection number			
Terminal Block Connection Number	**Description**	**Supply Type**	**Notes**
4	Discrete Output - DO#1 (*)	Max 2A 230Vac 50Hz	Adding a Water Pump: Remove Jumper between 4-5 to add a protection switch if needed. For configuration, see Par.110.0: 1 Output values Table to set another device function.
31	Discrete Output - DO#2 (*)	Max 2A 230Vac 50Hz	Factory connected to 1° Electric Heater Discrete Output on M3, M6, T6 and T9. For configuration, see Par.110.1 and Discrete Output values table.
16	Discrete Output - DO#3 (*)	Max 2A 230Vac 50Hz	Factory connected to 2° Electric Heater Discrete Output on M6, T6 and T9. For configuration, see Par.110.2 and Discrete Output values table.
17	Discrete Output - DO#4 (*)	Max 2A 230Vac 50Hz	Upon Output Configuration see Par.110.3 and Discrete Output values table
6	Discrete Output - DO#5 (*)	Max 2A 230Vac 50Hz	Upon Output Configuration see Par.110.4 and Discrete Output values table
8	Discrete Output - DO#6 (*)	Max 2A 230Vac 50Hz	Upon Output Configuration see Par.110.5 and Discrete Output values table
9	N	Max 4A 230Vac 50Hz	Neutral available for devices connected. **Reference** for all 230 V Discrete Outputs (DO) Common Reference
7	L	Max 4A 230Vac 50Hz	Line available for devices connected
61	Output Status +	Max 20mA 12Vcc	For internal use - Do not connect any device without further notice.
60	Output Status -		

(*) Refer to the variable table and Discrete Output values table to configure the required function associated to the DO#.

Discrete Inputs, terminal block (TB1) connection number			
Terminal Block Connection Number	**Description**	**Type**	**Notes**
22	Discrete Input - DI#1 (*)	Dry Contact input	Refer to variable table and Discrete Input values table to configure the required function. Par.111.0
20	Discrete Input - DI#2 (*)	Dry Contact input	Refer to variable table and Discrete Input values table to configure the required function. Par.111.1
12	Discrete Input - DI#3 (*)	Dry Contact input	Refer to variable table and Discrete Input values table to configure the required function. Par.111.2
21	Discrete Input - DI#4 (*)	Dry Contact input	Refer to variable table and Discrete Input values table to configure the required function. Par.111.3
13	Discrete Input - DI#5 (*)	Dry Contact input	Refer to variable table and Discrete Input values table to configure the required function. Par.111.4
14	Discrete Input - DI#6 (*)	Dry Contact input	Refer to variable table and Discrete Input values table to configure the required function. Par.111.5
Flow Switch	Discrete Input - DI#7 (*)	Dry Contact input	Factory connected and configured to Flow Switch (FS) - Do not change the configuration.
15	Common	Digital GND	Reference for all dry contact input DI, except DI#7

(*) Refer to the variable table and Discrete Intput values table to configure the required function associated to the DI#.

Analogue Inputs, terminal block (TB1) connection number			
Connector Pin	**Description**	**Type**	**Notes**
10 - 11	AI#2 Domestic Hot Water Temperature sensor	NTC 10kΩ at 25°C	Cable type: FROH2R 2x 0.5 mm² (maximum length: 50 meters)
23 - 24	AI#1 Outdoor Air Temperature sensor	NTC 10kΩ at 25°C	Cable type: FROH2R 2x 0.5 mm² (maximum length: 50 meters)

Communication Pins		
Connector Pin	**Description**	**Notes**
Rh - Rc	Communication bus	To connect to the communication bus
G2 - Y2	NUI User interface supply	User Interface - NUI power supply Voltage: 12 Vdc

Power Supply			
Connector Pin	**Description**	**Feature**	**Notes**
1	L - board	Board power supply	230 Vac 50Hz Main power supply for board and auxiliary devices
2	N - board		
L	L - Heater	Mono-phase Electrical Heaters power supply	230 Vac 50Hz (Only on M3 and M6) Power supply for Electrical Heaters mono phase
N	N - Heater		
L1	L1 - Heater	Three-phases + Neutral Electrical Heaters power supply	400 Vac 50Hz (Only T6 and T9) Power supply for Electrical Heaters three-phases and neutral Electrical Heaters elements in 230V.
L2	L2 - Heater		
L3	L3 - Heater		
N	N - Heater		

3.2.18 Installation Recommendations

Refer to the Safety information.

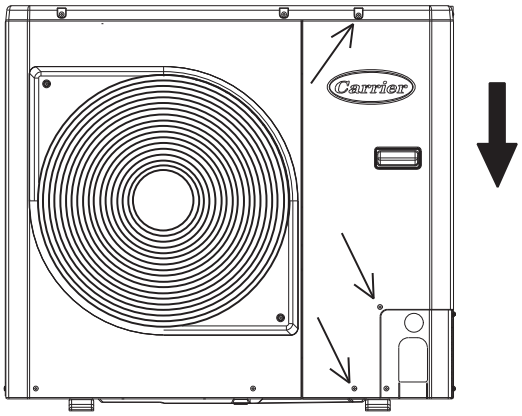
- This device is destined for installation in sheltered buildings, if possible insulated. It should not be installed in a very humid room (for example laundry rooms) or where it may be subjected to water jets or spray.
- The permitted ambient temperature is between 5-30°C.
- Ensure that the wall surface, where the module is to be fixed, is sufficiently strong.
- Fix the module using screws/wall plug fixings suitable for the wall structure and the weight of the module.
- If possible, leave a space of at least 70 cm below and 30 cm on each side of the module for piping connections and maintenance operations.
- **Install a water filter. Carrier warranty is void, if filter is not installed.**

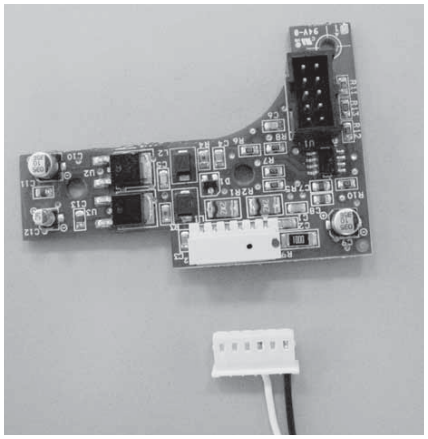
3.2.19 Connect 30AWH Heat Pumps on Communicant Bus

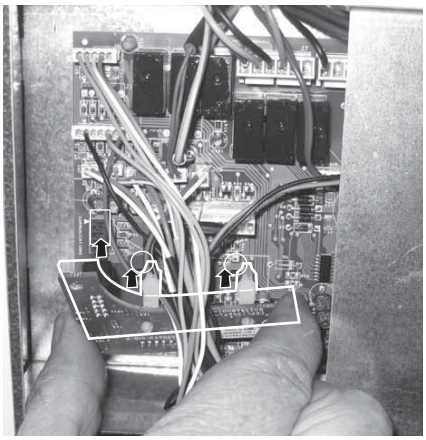
To connect one or more 30AWH units, it is required to install Communication Kit 33AW-CB02 for each Heat Pump. The kit helps to use the Comfort Module Bus to communicate with the Carrier Inverter Heat Pump.

Below picture shows how to connect the kit to the 30AWH board.
The wire colours indicate the corresponding pins:

Blue (BU) → Rh
White (WH) → Rc







3.3 Network Configuration

3.3.1 Initial Network Configuration

Before starting the addressing process:

- Check the wiring and bus connections
- Prepare report on the schematics - serial numbers of the boards

1. *For Comfort Module – Master Board*
   For 2-Zone Kit – Slave Board
   For Pool kit – Slave Board

Serial numbers read from the Variable Table are directly displayed on screen. The parameter number '123' hasn't to be accounted.

For User Interfaces – NUI the SN displayed through Par.123 will give a SN without the 3rd,5th and 6th digits, like XXxXxxXXXXX.
In example:
On Board (C) User interface - NUI - : 2210N106092
On Display Par.123, (once system configured):
2 200 *123* 60 92

The positions of serial numbers are shown in below picture:

(B) Heat Pump 30AWH

(A) Comfort Module (Master Board) & 2-Zone Kit / Pool kit (Slave Board)

(C) User interface - NUI -

3.3.2 Network Overview

- All the devices in the system are connected through a single bus (type RS485) for communication by using the two wires connected to Rc and Rh connections.
- Each board can be connected to every point in the network.
- The communication rate is 38400 bauds.
- A unique address is assigned to each communication element, through a configuration process.
- The addresses range between 1 and 213 and will be assigned to the boards following the below addressing rules:

- **Factory setup**
- **User setup**

Device	Addressing Range
30AWH Heat Pumps	2 - 9
Comfort Module board (Master Board)	10
2-Zone Kit/Pool boards (Slave Boards)	21 - 84
User interfaces	85 - 213

To define the system network connection, all the user interfaces have to be associated to the corresponding boards (master and slaves). The Slave Boards can manage up to two different zones, and therefore can be associated to two different User Interfaces (NUI 1, 2), one for each zone – except for Pool board which needs only one zone to work and therefore only one NUI is required.

Pictures on the next two pages show two typical configuration examples. These examples are used to describe the configuiration process in the next section.

Before the network configuration, it is strongly recommended **to note down all the serial numbers of the boards** and User Interfaces and their corresponding positions in the system.

Below is an example table to record the addresses and serial numbers referred in the below diagrams:

Serial Number	Address	Device	Notes
(B) nnnnnn	2	Heat Pump	
(A) nnnnnn	10	Master Board	Comfort Module
(C) nnnnnn	85	User Interface	Master NUI 0
(A) nnnnnn	21	Slave Board	2 Zone kit board
(C) nnnnnn	86	User Interface	NUI 1 Zone 1
(C) nnnnnn	87	User Interface	NUI 2 Zone 2

3.3.3 Network Addressing process

The procedures given in the coming sections help to configure the network in an easy manner and to come up with a standardized architecture.

- Refer to schematics: Scheme-01 and Schme-02

This will be helpful for system comprehension and troubleshooting.

⚠
- Assuming that all checks are done regarding piping and wiring connections, you may start the configuration process.
- Two tools are offered in the unit: Automatic Addressing Process (AAP) and Manual Addressing Process (MAP).
- Automatic Addressing Process (AAP) is only available from Version V2.00 and upper, please check the label on master/slave boards.

3.3.3.1 Automatic Addressing Process, AAP [Par.129]

Principle:

- The AAP tool provides an automatic process to avoid too many manipulations, using Par.129 instead of Par.121 for MAP tool.
- When Par.129 is set to 1 Auto addressing is performed automatically at power supply on (main Circuit breaker).
- After 30 minutes from power supply ON, the parameter Par.129 will be set automatically to 0.
- Par.129 could also be changed manually by user, at anytime, when the procedure of assigning the network addresses is completed.
- Par.129 is set to 0 by default (factory default value).The user can set this value anytime to 0 or 1 using the user interface, NUI.
- Auto-addressing does not send the "clear the network" command; allowing to add boards step by step.

In case the network has to be re-done from scratch, the "clear the network" command has to be sent (Set Par.121: 7 and press ok) prior to redoing the Auto-Addressing Process by setting Par.129 to 1.

3.3.3.2 Automatic Addressing Process, AAP [Par.129] step by step

Principle: This process is used to assign boards address following network architecture given in Scheme-01 and Scheme-02.

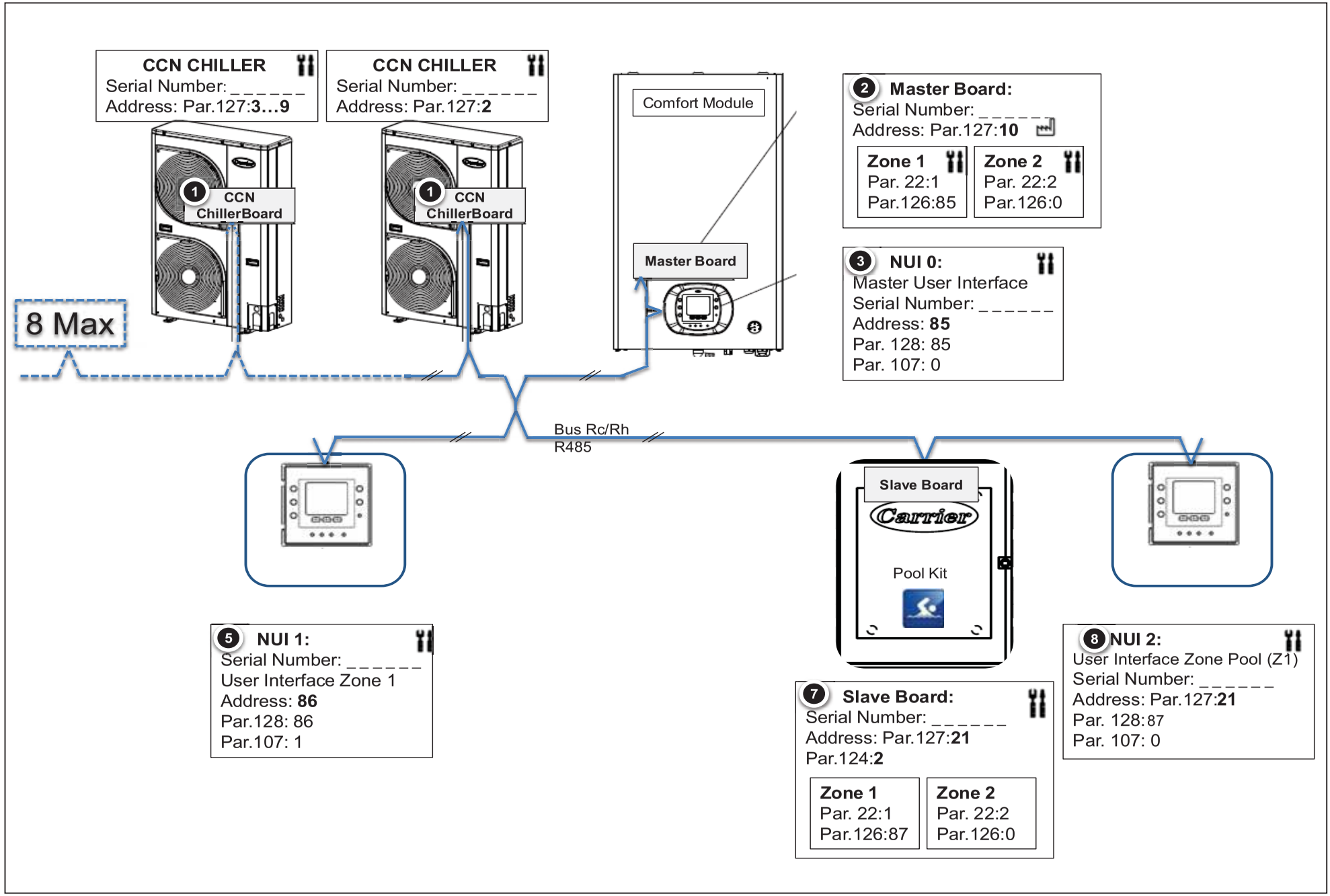
1. Be sure that the boards never been addressed, if any doubt, clear the network by using MAP- Loop A – Initialization of boards to default address.
2. Go to NUI(0) – Master Board
3. Enter in the variable table parameter, press & simultaneously for more than 3 sec, (see § 3.5.1 for more information).
4. Set the parameter Par.129: 1 AAP will be activated for 30 minutes continuous power supply.
5. Power OFF.
6. Disconnect the bus from boards that should be addressed at the same time and follow the process according to your system schematic.
    1. For Schematic Scheme-01
        a. Connect the boards: Master Board (address 10) + NUI(0) (address 85) + Pool kit slave board if existing (address 21) + 30AWH communicant HP (address 2)
        b. Power ON to run the AAP – Wait for 30 sec
        c. Power OFF and connect the NUI(1) (address 86), if existing.
        d. Power ON to run the AAP – Wait for 30 sec
        e. Power OFF and connect the NUI(2) (address 87), if existing.
        f. Power ON to run the AAP – Wait for 30 sec
    2. For Schematic Scheme-02
        a. Connect the boards: Master Board (address 10) + NUI(0) (address 85) + 2-Zone kit slave board (address 21) + 30AWH communicant HP (address 2).
        b. Power ON to run the AAP – Wait for 30 sec
        c. Power OFF and connect the NUI(1) (address 86), if existing .
        d. Power ON to run the AAP – Wait for 30 sec
        e. Power OFF and connect the NUI(2) (address 87), if existing.
        f. Power ON to run the AAP – Wait for 30 sec
        g. Power OFF and connect the NUI(3) (address 88) & Pool kit (address 22), if existing.
        h. Power ON to run the AAP – Wait for 30 sec
7. In case of multiple 30AWH communicant units, connect units one at a time an run the AAP mode by Power ON - Wait for 30 sec and power OFF.
8. Check the number of devices addressed in the network using the Loop I, see § 3.3.12; when done, go to the next step.
9. Disable the AAP by setting Par.129: 0 or wait for 30 minutes with unit powered for more than 30 minutes, Par.129 will turn automatically to 0.

3.3.3.3 Manual Addressing Process, MAP [Par.121] Network Configuration

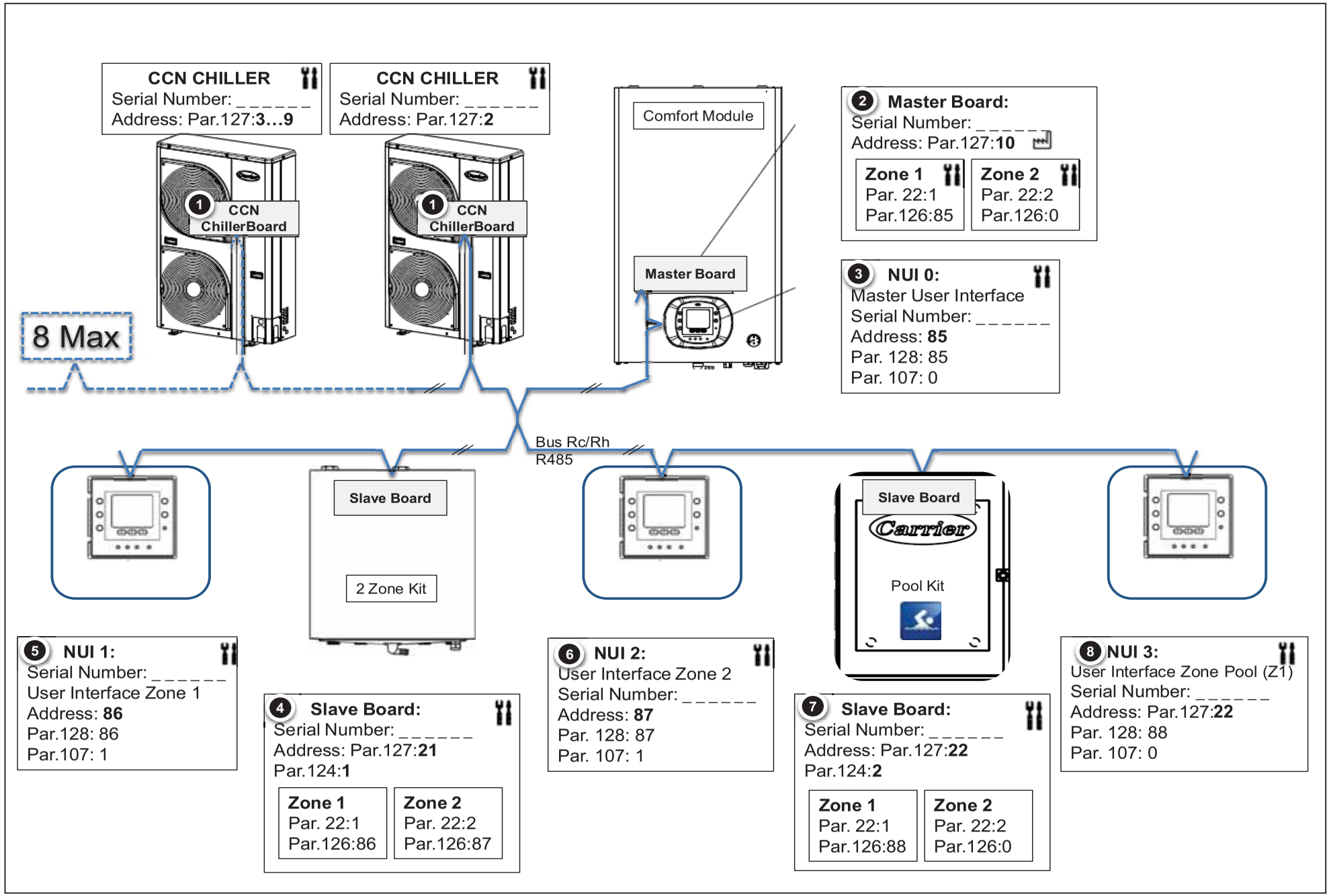
Principle: This process is used to assign boards address following network architecture given in Scheme-01 and Scheme-02, by using the commands in Par.121.

Par.121 Network configuration	
Command	**Action**
0	Do nothing
1	Stop Network Communications
2	Start Auto-configuration
3	Delete single address at Par.127
4	Reset single address at Par.127
5	Read the number of devices connected and store it (show at Par.122)
6	End Auto-configuration and Restart communication
7	Reset all devices and delete the entire network addresses from the database

Scheme-01: Comfort Module 1 Zone + Pool Kit, Recommended configuration example



Scheme-02: Comfort Module + 2-Zone Kit + Pool Kit, Recommended configuration example



3.3.4 Loop A - Initialization of Boards to Default Address

1. Turn ON power to the system.
2. Go to NUI (0) – Master Board  .
3. Go to Variable & Configuration data table – See *Advanced Programming.*
4. Select Parameter 121 (Par.121). ' Network Configuration' by pressing  .
5. Press  and enter "1" → 'Stop network communication is activated'. Press  to validate.
6. Press  and enter "7" → 'Reset all devices and delete the entire network addresses from the database'Press  to validate.
7. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.5 Loop B - Automatic Addressing of :

- **Master Board – Comfort Module (Address 10)**
- **NUI (0) – User Interface on Comfort Module (Address 85)**
- **30AWH---HC – Heat Pump (Address 2)**

1. Turn OFF power to the system and disconnect all the accessories (NUI 1 → n, 2-Zone Kit, Pool Kit)
2. Turn ON power to the system.
3. Go to NUI (0) – Master Board  .
4. Go to Variable & Configuration data table – See *Advanced Programming.*
5. Select Parameter Par 121. ' Network Configuration' by pressing  .
6. Press  and enter "1" → 'Stop network communication is activated'. Press  to validate.
7. Press  and enter "2" 'Start Auto-configuration'. Press  to validate.
8. Press  and enter "5" → 'Read the number of devices connected and note it '. Press  to validate.

   Note: *The value read here, will be used later.*
9. Press  and enter "6" → 'End Auto-configuration and Restart communication'. Press  to validate

   If no error in the Automatic addressing process, "0" is displayed.
10. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.6 Loop C - Addressing of :

- **NUI (1) – User Interface in Zone 1 (Address 86)**
- **Without 2-Zone Kit and Pool Kit connected – If existing**

1. Turn OFF power to the system and connect the User Interface NUI (1).
2. Turn ON power to the system.
3. Go to NUI (0) – Master Board  .
4. Go to Variable & Configuration data table – See *Advanced Programming.*
5. Select Parameter Par 121. ' Network Configuration' by pressing  .
6. Press  and enter "1" → 'Stop network communication is activated'. Press  to validate.
7. Press  and enter "2" 'Start Auto-configuration'. Press  to validate.
8. Press  and enter "5" → Read the number of devices connected. It will be stored in the memory. Press  to validate.

   Note: *The value will be displayed in Par.122.*

9. Press (M) and enter "6" → 'End Auto-configuration and Restart communication'. Press (M) to validate.

   If no error in the Automatic addressing process, "0" is displayed.

10. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.7 Loop D - Addressing of :

- **Pool Kit – Slave Board (Address 21)**
- **NUI (2) – User Interface in Pool Kit Area (Address 87)**
- **Refer to picture *Comfort Module 1 Zone + Pool Kit*, if not ignore this loop and go to Loop E**

1. Turn OFF power to the system and connect the Pool Kit Slave Board and the User Interface NUI (2)
2. Turn ON power to the system.
3. Go to NUI (0) – Master Board  .
4. Go to Variable & Configuration data table – See *Advanced Programming.*
5. Select Parameter Par 121. ' Network Configuration' by pressing (^).
6. Press (M) and enter "1" → 'Stop network communication is activated'. Press (M) to validate.
   Electrical Heaters
7. Press (M) and enter "2" 'Start Auto-configuration'. Press (M) to validate.
8. Press (M) and enter "5" → 'Read the number of devices connected and note it '. Press (M) to validate.

   Note: *The value will be displayed in Par.122.*

9. Press (M) and enter "6" → 'End Auto-configuration and Restart communication'. Press (M) to validate.

   If no error in the Automatic addressing process, "0" is displayed.

10. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.8 Loop E - Addressing of :

- **2-Zone Kit – Slave Board (Address 21)**
- **NUI (1) – User Interface in Zone 1 (Address 86)**
- **Refer to picture *Comfort Module + 2-Zone Kit + Pool Kit***

1. Turn OFF power to the system and connect the 2-Zone Kit Slave Board and the User Interface NUI (1) dedicated to zone 1.
2. Turn ON power to the system.
3. Go to NUI (0) – Master Board  .
4. Go to Variable & Configuration data table – See *Advanced Programming.*
5. Select Parameter Par 121. ' Network Configuration' by pressing (^).
6. Press (M) and enter "1" → 'Stop network communication is activated'. Press (M) to validate.
   Electrical Heaters
7. Press (M) and enter "2" 'Start Auto-configuration'. Press (M) to validate.
8. Press (M) and enter "5" → 'Read the number of devices connected and note it '. Press (M) to validate.

   Note: *The value will be displayed in Par.122.*

9. Press (M) and enter "6" → 'End Auto-configuration and Restart communication'. Press (M) to validate.

   If no error in the Automatic addressing process, "0" is displayed.

10. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.9 Loop F - Addressing of:

- **NUI (2) – User Interface in Zone 2 (Address 87)**
- **Pool Kit – Slave Board (Address 22) – If existing**
- **Refer to picture *Comfort Module + 2-Zone Kit + Pool Kit***

1. Turn OFF power to the system and connect the Pool Kit Slave Board and the User Interface NUI (2) dedicated to zone 2.
2. Turn ON power to the system.
3. Go to NUI (0) – Master Board .
4. Go to Variable & Configuration data table – See *Advanced Programming.*
5. Select Parameter Par 121. ' Network Configuration' by pressing .
   Electrical Heaters
6. Press M and enter "1" → 'Stop network communication is activated'. Press M to validate.
7. Press M and enter "2" 'Start Auto-configuration'. Press M to validate.
8. Press M and enter "5" → 'Read the number of devices connected and note it '. Press M to validate.

   Note: *The value will be displayed in Par.122.*
9. Press M and enter "6" → 'End Auto-configuration and Restart communication'. Press M to validate.

   If no error in the Automatic addressing process, "0" is displayed.
10. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.10 Loop G - Addressing of:

- **NUI (3) – User Interface in Pool kit Area (Address 88)**
- **Refer to picture *Comfort Module + 2-Zone Kit + Pool Kit***

1. Turn OFF power to the system and connect the Pool Kit Slave Board and the User Interface NUI (3) dedicated to the Pool area.
2. Turn ON power to the system.
3. Go to NUI (0) – Master Board .
4. Go to Variable & Configuration data table – See *Advanced Programming.*
5. Select Parameter Par 121. ' Network Configuration' by pressing .
   Electrical Heaters
6. Press M and enter "1" → 'Stop network communication is activated'. Press M to validate.
7. Press M and enter "2" 'Start Auto-configuration'. Press M to validate.
8. Press M and enter "5" → 'Read the number of devices connected and note it '. Press M to validate.

   Note: *The value will be displayed in Par.122.*
9. Press M and enter "6" → 'End Auto-configuration and Restart communication'. Press M to validate.

   If no error in the Automatic addressing process, "0" is displayed.
10. Turn OFF / Turn ON the system power supply to save the last configuration.

3.3.11 Loop H - Addressing of:

- **Network Extension with Multiple 2-Zone Kits**

To declare more 2-Zone Kits and their User Interfaces -NUI (if existing) repeat the instructions in *Loop E* and *Loop F*. The Slave Boards and NUIs will be addressed with the next available address in the database.

3.3.12 Loop I: Check the number of devices addressed in the network and compare that with the number of boards installed.

1. Count the number of boards installed.
   30AWH---HC Communicant & Inverter Heat Pumps (Max. up to 8) + Master Board + 2-Zone Kit + NUIs = Total number of devices

   Note: *Fixed Speed Units (Carrier or not) are driven through dry contacts (DO), thus do NOT count for a communicating board.*

2. Go to Par.122: “Number of network devices” and note down the number.

3. Check that parameter Par.122 is equal to the number of installed devices.

4. If the number in Par.122 is diferent from the number of installed devices, the addressing is incorrect, then:
   - Check connections on the Bus (crossing wires) and Board’s supply.
   - Restart the addressing process from Loop A.

3.3.13 Loop J: Check the right association between the NUI's Zones and their boards (Master Board, Slave Boards).

<u>Sub-loop J-1:</u> Verify association between NUI (0) address 85 and the Master Board address 10 (default address)

1. Go to Variable Table.
2. On Par.128: “User Interface self Address” verify address assigned (NUI (0) @ address 85 and → Press OK to quit Variable Table.
3. Press 5s → Select Board Address 10  → Press OK.
4. Verify if the selected Zone is 1, screen: 
   If not, press  to select Zone 1  .

   Note: *The User Interface NUI (0) is the Master Board (10) Interface allocated to Zone 1.*

5. On Par.126: “User Interface Connected Address” verify the NUI address assigned.

   In that case NUI (0) @ address 85.

   If Par126: Input has a different NUI address than the one read in step 2, enter the right NUI address, → Press M → enter the address 

6. Press M to go back to parameters list, or Press OK to quit Variable Table.

<u>Sub-loop J-2:</u> Verify association between addresses assigned and the serial numbers of all the User Interfaces

Select the NUI addresses you want to check (85 or 86,87, etc.)

Press (5s) → Press OK → Press (5s) → Select Address  → Press OK.

Note:
- *10 for Master Board*
- *If the NUI is associated to a slave, put the slave address (21, 22, etc...).*

1. In the Variable Table, check Par.123: "Board Serial Number" of the selected board address.
2. Record the Board address and its Serial Number on your schematic or table form.
3. Quit the Variable Table, → press OK.
4. Restart from step 1 to check all the NUIs (addresses 85, 86, 87, etc.) depending on your configuration.

<u>Sub-loop J-3:</u> Verify Association between address assigned and the serial number of all Slave Boards
Assign User Interfaces to their Slave Board
Note: *1 Zone: 1 NUI or 2 Zones: 2 NUIs or No NUI*

1. Select the Slave Board Addresses you want to check (21 or 22, etc.)

Press (5s) → Press OK → Press (5s) → Select Address  → Press OK.

2. In the Variable Table, check Par.123: "Board Serial Number" of the selected board address.
3. Record the Board address and its Serial Number on your schematic or table form.
4. Par.126:“User Interface Connected Address”. Enter the corresponding NUI address – If no NUI, the Value is 0.
5. Quit the Variable Table, → press OK.
6. If the Slave Board is driving 2 zones, restart from step 1 with the same Slave Board Address. Select the Zone with the Zone Button.
7. If the system got more Slave Boards, restart from step 1 to check and to assign all the NUIs to each Slave Boards (max. 64) and Zones.

Reminder: *Switch the Zone number by pressing the zone button.*

<u>Sub-loop J-4:</u> Verify association between address assigned and the serial number of all Heat Pumps
30AWH---HC Boards
Note: Maximum *up to 8 Heat Pump boards.*

1. Select the Slave Board Addresses you want to check (2 to 9).

Press (5s) → Press OK → Press (5s) → Select Address  → Press OK.

2. In the Variable Table, check Par.123: "Board Serial Number" of the selected board address.
3. Record the Board address and its Serial Number on your schematic or table form.
4. Restart from step 1 to check the other Heat Pump Board Address.
5. Quit the Variable Table, → press OK.

<u>Sub-loop J-5:</u> Off/On the system power supply to save the configuration.

3.3.14 Virtual Zoning

Virtual Zoning feature is used to set the variable table and schedule setting for different zones other than the own zone.
Note: *To use the Virtual Zoning feature, you must first configure the network.*

The user interface (NUI) helps to configure and manage the network.
Virtual Zoning is accessible only through the:

- Master User Interface (NUI 0 on Master Board)
- Any other User Interface (NUI 1 → n) on Slave Board with Access Level 3.

Virtual Zoning is used to ease the access from one point of the network to complete the configuration of any Master or Slave Board. NUI Configuration such as scheduling, selecting setpoint, can be made directly on NUI (1 → n). NUI (1 → n) with Access Level lower than 3 cannot be used as some of the functions will not be active.
See *Access Level* paragraph for more information.

Virtual Zoning – Navigation
It works by selecting the address of the board to set up and the zone (if it is a dual zone board). The Zone Icon indicates the selected zone.
Use the Zone button to switch between the Virtual zones and the own zone, following the below logic:

Zone icons indications:

	Own zone: Board address and zone associated to the User Interface - NUI
	Other zone: Board address linked to NUI,: same board address, but different zone
	Master Board: Only for "Access Level 3" NUIs (NUI 1→ n) or Master User Interface (NUI 0)
	Zone 1: Of the selected board through it's address – "Access Level 3" requested
	Zone 2: Of the selected board through it's address – "Access Level 3" requested

On NUI – access on own board address - requiered access level 3:

Press → Master Board Press → Own zone Press → Other zone (If existing)

On NUI – remote access to another board address than own board address - requiered access level 3:

Press 5s Select Board Address → Press OK

On selected board address, select Zone 1 or 2 as required to view/change the parameters:

Press →  Press →  Press → 

To select another board address at any time:

Press 5s Select Board Address → Press OK

3.4 Operation Controls

3.4.1 Mode Selection

Select Heating /Cooling /Domestic Hot Water /

OFF mode:

- By pressing M on the user interface NUI (only for own zone) or by using Par.4 in the variable table, taking advantage of Virtual Zoning, select either Master Board or Slave Board address, which will be check with Par.127 - Board address selected - and the corresponding Zone 1 or 2 which will be checked with Par.22 - Virtual zone selected.
- Heating/Cooling modes can be set through external contacts, if Par.108.0: 0, Mode is managed by dry contact - DI#.Domestic Hot Water and OFF Modes could be selected through User Interface - NUI in any case.
- The Water Temperature is determined according to the Outdoor Air Temperature, through a preset or customized climatic curve during commissioning (see advanced settings).

Domestic Hot Water production is always allowed during Heating/Cooling/Domestic Hot Water modes according to the priority logic.
Room Comfort is de-activated in Domestic Hot Water mode (only the protections are enabled).

3.4.2 Room Temperature Setpoint Control

- Control by User Interface - NUI 1 or 2 - in the Zone, Par.107: 1 to allow NUI to control the temperature. Thus, it is possible to set the required temperature on the display, the Comfort Module will operate depending on the needs sensed by the NUI (Heating / Standby / Cooling, if allowed).

- The Room Temperature Sensor on the NUI can be adjusted by ±5°C through Par.18: - Delta to apply to Room Temperature read by User Interface (°C)

- Control by Thermostat - As an alternative, it is also possible to use a Room Thermostat and it's dry contact output to manage the Comfort Module. Thus the Discrete Inputs - DI#, should be configured accordingly in Variable table - see the DI# Configuration Values Table (for HMA) and the Variable Table.

The Room thermostat can also be used in combination with the User Interface NUI 0, to Start/Stop the Heating or Cooling operations.

3.4.3 Backup Heaters (Heating mode only)

If the Outdoor Air Temperature is lower than the value set in Par.92 - OAT Threshold for Backup Heaters and if the difference between the Leaving Water Temperature Setpoint and the current Leaving Water Temperature is higher than the value in Par.93 - Water Temperature Hysteresis for Backup Heaters, for more than (0 to 60 max) minutes in Par.94 - Delay for Backup Heaters, the first step of Electric Heaters is turned ON.

If the Electric Heaters activation conditions are still valid after Par.94 xx minutes (after the first step of Electric Heaters activation), the second step of Electric Heaters is turned ON, and then the third step with the same activation criteria.
If the Outdoor unit is not running because of failure, Heating is performed through the Backup Electrical Heaters, depending on the setting of Par.109.3: 1 - System Configuration, use Heaters / Boiler in case of chiller failure in Heating.

3.4.4 Climatic Curve

In Heating/Cooling modes, the Leaving Water Temperature Setpoint is determined through Climatic Curves. A selection should be made between pre-set Climatic Curves or Custom Climatic Curves.
Parameters:
Par.51 for Heating
- 0 for Custom Climatic Curves, then additional parameters are required see related paragraph

For Heating Custom Climatic Curve
- 1 to 2 for Underfloor Heating, Lower Water Temperature
- 3 to 5 for TFCU, Medium Water Temperature
- 6 for Radiators, High Temperature

Par.56 for Cooling
- 0 for Custom Climatic Curves, then additional parameters are required see related paragraph

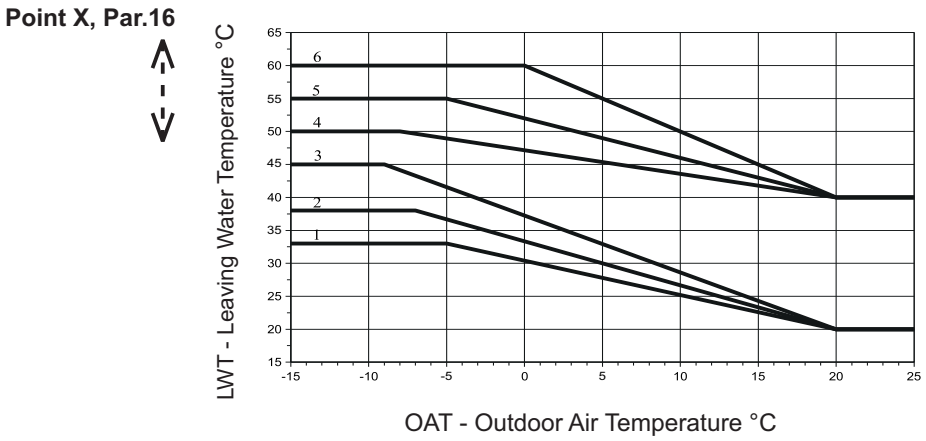
For pre-set Climatic Curve
- 1 for Air conditioning units (except Underfloor), Lower Water Temperature
- 2 for Air conditioning units (except Underfloor), Higher Water Temperature

Adjustment on Climatic Curves for Users with Level Access 1 or 2.
The Water Temperature Setpoint calculated by the climatic curves could be adjusted by ±5°C to tune the system with a better response on Room Temperature. This will not change the initial Climatic Curves parameters.

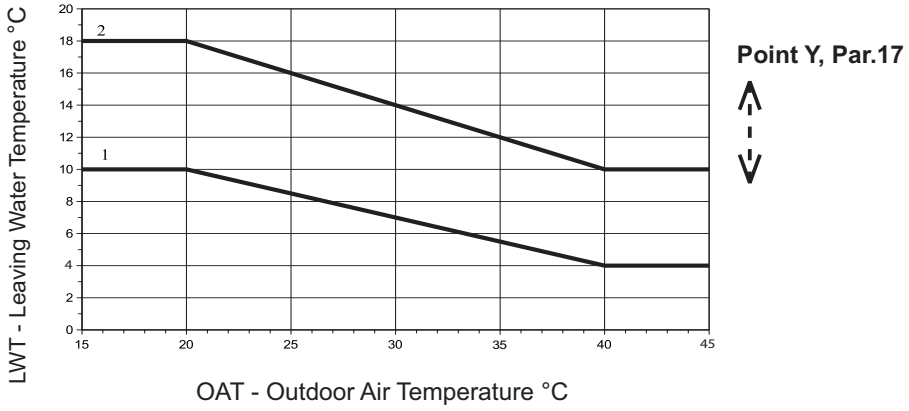
Heating
- Point X, Par.16: - Adjust Heating Climatic Curve, Delta T applied to the maximum temperature of Heating Climatic Curve (°C)

Cooling
- Point Y, Par.17: - Adjust Cooling Climatic Curve, Delta T applied to the minimum temperature of Cooling Climatic Curve (°C)

3.4.4.1 Climatic curve 1 - Heating pre-set climatic curve



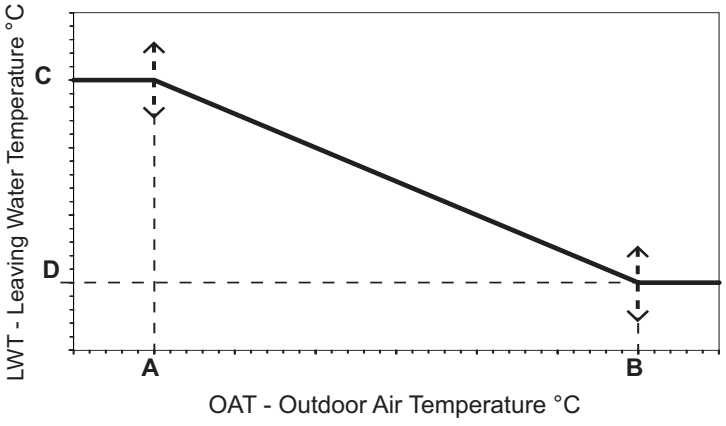
3.4.4.2 Climatic curve 2 - Cooling pre-set climatic curve



3.4.4.3 Climatic curve 3 - Custom curve

If custom curves are used, refer to the parameters of the Variable Table.

For Heating to Par.52-55
For Cooling to Par.57-60



3.4.5 Domestic Hot Water Functions

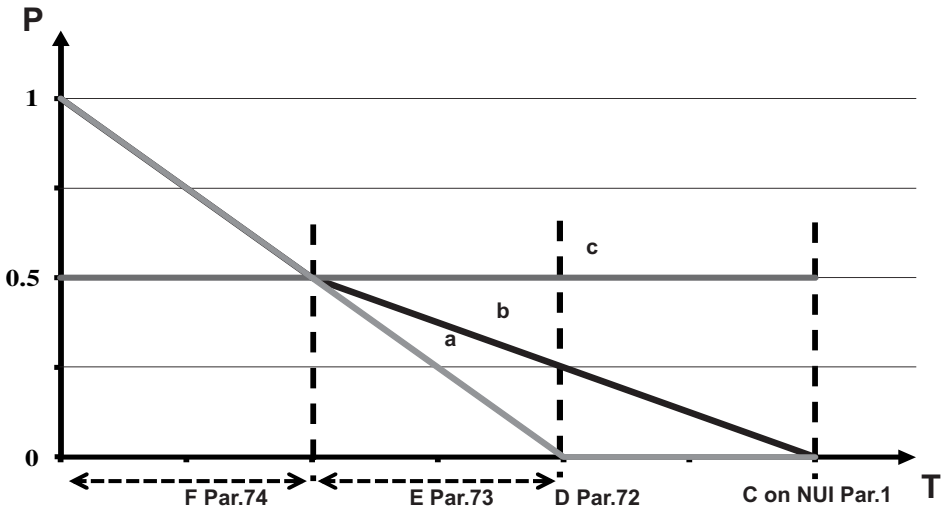
The Comfort Module determines if the Domestic Hot Water valve has to be activated or not following a Priority Logic. The Domestic Hot Water configuration can be set using Par.71 of the Variable Table.
If Par.71 is set:

1. It works using the Domestic Hot Water Temperature (DHW-Sensor must be configured at Par.112.0: 1 and must be connected). If the Domestic Hot Water switch DI# (upon connexion availability) Par.111.#: is configured to 1:
   - It does not allow the production of DHW, if the contact is Open, (Close, if the value of DI# is configured to -1). Priorty is set to 0.
   - It does allow the production of DHW, if the contact is Close, (Open, if the value of DI# is configured to -1). Priority is set to 0.
2. It works as per option 1, but it shows the Solar icon on the User Interface if Domestic Hot Water production is stopped by the Domestic Hot Water switch, Par.111.#: is configured to 1. (which should be connected to a Solar controller).
3. It is based only on Domestic Hot Water Switch, DI# selection. When it is Closed (if configured to 1), Domestic Hot Water Priority is set to 1. Use this option if the DHW-Tank does not have a Temperature Sensor, then Domestic Hot Water request is based on a Water Tank Thermostat providing a dry contact NO or NC. Par.111.#: is configured to 1.

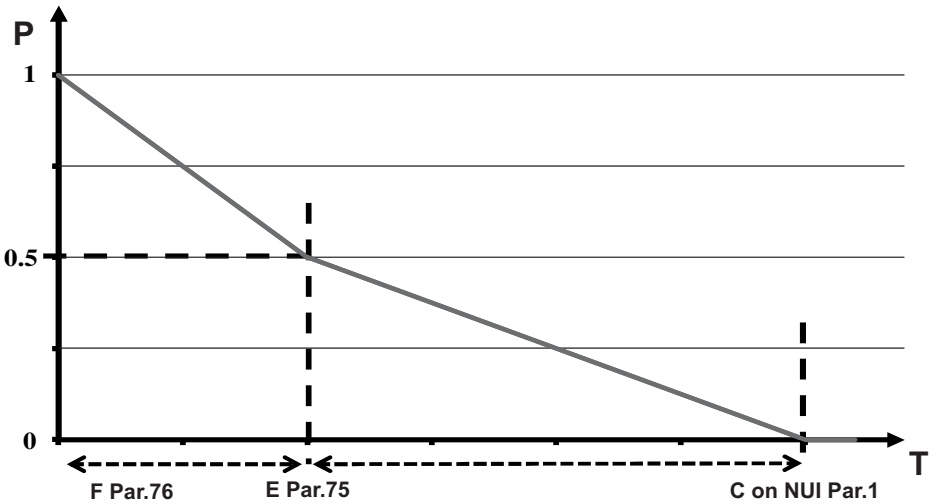
The control always Compare the priority for Domestic Hot Water and Room Comfort (in case of more than one zone, it considers all the priorities).
Below curves are used to calculate the priority, Temperatures should be design upon your system requirements:
Below curves are used to calculate the priority:

- **T.** Domestic Hot Water or Room Temperature (°C)
- **P.** Priority
- **a.** Domestic Hot Water Priority curve in case of Electric Heaters backup
- **b.** Domestic Hot Water Priority curve in case of gas boiler backup
- **c.** Domestic Hot Water Priority in case of Anti-Legionella routine active
- **C.** Domestic Hot Water see NUI 'Touch n'Go' or Room Temperature Setpoint (Par.1) (°C)
- **D.** Temperature for Priority zero (Par.72: - Value of DHW-Temperature for Priority 0)
- **E.** Delta temperature from point C or D for priority 0.5 (Par.73 and 75)
- **F.** Delta temperature from point E for Priority 1 (Par.74 and Par.76)

3.4.5.1 Domestic Hot Water Priority chart



3.4.5.2 Room Comfort Priority chart



Logic to switch between Domestic Hot Water production and Room Comfort

The logic is as follows:

- Move to Domestic Hot Water Production if:
  - Domestic Hot Water Priority is higher than Room Priority for more than 15 minutes
  - Room Priority is 0 and Domestic Hot Water Priority is Higher than 0.

- Move to Room Comfort if:
  - Room Priority is higher than Domestic Hot Water Priority for more than 15 minutes
  - Domestic Hot Water Priority is 0 and Room Priority is more than 0
  - Room Priority is 1 for more than 2 minutes.

Note:

- *If no Room Temperature sensor is available, Room Priority is 0.5, when the DHW-Valve is OFF, 0 when the DHW-Valve is ON.*
- *If Par.71: is set to 3 (Through DI#), - DHW Priority is 1 when the DHW discrete Input - DI# is Closed*
  - DHW Priority is 0 when the DHW discrete Input - DI# is Open (if DI# configuration has a positive value, configured to 1 and a reverse logic when configured to -1).
- *If DHW Discrete Input is configured to 1, the DHW Priority is calculated only when the contact is Closed, otherwise the DHW Priority is 0.*

Additional features for the Domestic Hot Water production:

Booster Heater

Booster Electrical Heaters (Electric Heaters inside Domestic Hot Water Tank) are activated if DHW Temperature is below the DHW Setpoint and the Schedule allows Electric Heaters activation.
This function is available only if the Domestic Hot Water is managed by system control, require DHW Sensor, with or without Solar Heating (Par.71: 1 or 2).
It is possible to force the activation of Booster Heater through Par.78:

- The code is automatically reset when the required DHW Setpoint is reached.
- If Domestic Hot Water Temperature sensor is in alarm, the Booster Electrical Heaters function is never activated.

Disinfection (Anti-Legionella)

This function is available only if the Domestic Hot Water is managed by system control (Par.71: 1 or 2).
The disinfection function disinfects the DHW Tank by periodically Heating Water to a specific High Temperature for a defined time period.
The disinfection function settings must be configured according to national and local regulations.
During disinfection function, Booster Electrical Heaters is activated, if needed, regardless the schedule.
* In case of Boiler Backup, priority lines are adjusted to optimise the Energy Efficiency.

Note: *If Domestic Hot Water sensor is in alarm or disinfection function has not been completed within the defined time frame, Domestic Hot Water production is stopped, unless Par.109.2: is set to 1 - Allowed to Produce DHW despite Anti-legionella failure.*
The system will try to perform the disinfection cycle on the next scheduled day.

3.4.6 Water Loop Antifreeze Protection

This function prevents the freeze of water in the hydraulic circuit.
- It works in all the modes except Cooling mode.
- It drives the system to Heat the water inside the pipes.

The Threshold Water Temperature is set on Par.102: - Water Antifreeze SetPoint from 10 to -10 °C, +4°C by default.

3.4.7 Domestic Hot Water Freeze Protection

This function is active in all the operative modes except:
- Cooling mode

It prevents water freezing in the circuit and in the Domestic Hot Water Tank.

The Threshold Water Temperature is set by Par.102: - Water Antifreeze SetPoint from 10 to -10 °C, +4°C by default.

3.4.8 Home Antifreeze / too Cold / too Warm Protections

There are different protection options active in OFF and Domestic Hot Water mode to control the Room Temperature. All these protections are possible only if the NUI is used as a thermostat,Par.107: 1.

Home/Pool antifreeze protection

It is active when the Room Temperature shown on the User Interface, NUI, goes below the value in Par.12:## - Antifreeze protection Setpoint (°C), Home /Pool (read by Pool sensor Par.112.6: 1).
It prevents the Room/Pool to become too cold, if the system is in OFF/Domestic Hot Water mode.

Too cold protection

- For single Zone: Active, if in the OFF/Domestic Hot Water mode
- For multiple Zone: Active, if slave is OFF and Master is in COOLING mode, the Room Temperature shown on the User Interface (which must be placed in the room, Par.107: 1) is more than the value set in Par.13: ## - Too Cold Setpoint, the Comfort Module turns to HEATING mode, until the Room Temperature is increased at least by 2 °C.

Too Warm Protection

- For single Zone: Active, if in the OFF/Domestic Hot Water mode,
- For multiple Zone: Active, if slave is OFF and Master is in COOLING mode, the Room Temperature shown on the User Interface (which must be placed in the room, Par.107: 1) is more than the value set in Par.14: ##
- Too Warm Setpoint, the Comfort Module turns to COOLING mode, until the Room Temperature is decreased at least by 2 °C.

3.5 Variable Table

3.5.1 Variable Table Parameters - System Configuration

To go to the Variable Table, press and simultaneously for more than 3 seconds.

Use to move between parameters and values, and use to change them.

Press to confirm the parameter.

N.B: The Variable Table shown below refers to the Board and Zone selected.
The Zone Icon displays the Virtual Zone read as per the below code:

- : Own zone (the zone to which user interface is linked)
- : Other zone connected to the same board address
- : Master Board
- : Zone 1 of the selected board address (defined by pressing for more than 5 seconds)
- : Zone 2 of the selected board address (defined by pressing for more than 5 seconds)

Parameters with sub-parameters settings (for example Par.110.#,111.#, etc.), press to enter in the Sub-Parameter changing mode.

Use , to move between the week days to see and modify the sub-parameter values using the arrow buttons. The display shows the day's number (no number for Day 0).

Press to go back to the standard variable table view.

			Available on						RANGE		
Par. No.	**Name**	**Description**	**Comfort Module Zone 1**	**2-Zone Kit**		**Pool**	**User Interface**	**Heat Pump**	**MIN**	**MAX**	**DEFAULT**
			Master	**Zone 1**	**Zone 2**						
Introduction: Following the given example of network, the below two lines indicate values for Par.127 'Address of the Boar selected' and the Par.22 'Zone selected' for which parameters like Climatic curves or Setpoints are displayed. If your are following other rules, please consider your own addresses.											
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
LEVEL 0											
1	Room Setpoint (Point C in Domestic Hot Water Priority chart)	Actual Room / Pool Setpoint (°C) (Point C in Domestic Hot Water Priority chart)							12	30	Depends on mode
2	Room Temperature	Actual room/pool temperature (°C)					Displayed on NUI				
3	Room Humidity	Actual room humudity (%Rh)					On NUI only				
4	User Mode	Actual mode operation 0. Off 1. Domestic Hot Water 2. Cooling 3. Heating					Displayed on NUI		0	3	0
5	Failed Addresses	Addresses of failed devices. Scrolled every 1 second									
6	Fault Codes	Fault codes scrolled every 1 second									

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
LEVEL 1 and 2											
11	User Configuration	Use Days button to select the sub-parameter									
		⓪Home/pool antifreeze protection 0. Disable 1. Enable							0	1	1
		①Allow user to change setpoint/schedule settings for the zone 0. Allowed 1. Not Allowed							0	1	0
		②Water Pump (if configured) behaviour 0. Water Pump does not stop when room/pool setpoint is reached 1. Water Pump stops when room/pool setpoint is reached							0	1	0
12	Antifreeze protection Setpoint	Home/pool antifreeze protection setpoint (°C)							6	12	6
13	Too Cold Setpoint	Too Cold Protection Setpoint (°C)							0	40	15
14	Too Warm Setpoint	Too Warm Protection Setpoint (°C)							0	40	30
15	Room Hysteresis	Hysteresis on Room Temperature (°C)							0.1	2	0.5
16	Adjust Heating Climatic Curve (X in Climatic curve 3)	Delta Temperature applied to the maximum Temperature of Heating Climatic Curve (°C)							-5	5	0
17	Adjust Cooling Climatic Curve (Y in Climatic curve 3)	Delta Temperature applied to the minimum Temperature of Cooling Climatic Curve (°C)							-5	5	0
18	Adjust Room Sensor Temperature	Delta to apply to Room Temperature read by user Interface (°C)							-5	5	0

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
19	Temperatures	Use Days button to select the sub-parameter									
		If Master Board/Pool Board selected, shows the temperatures of:									
		⓪Water in the Comfort Module tank (°C) Water from Comfort Module entering in Pool exchanger (°C)									
		①Leaving water to Comfort Module/pool (°C)									
		②Domestic Hot Water (°C)									
		③Outdoor air, read by the Comfort Module sensor (°C)									
		If Slave Board selected, show the temperatures of:									
		⓪Water temperature in the disconnecting water tank (°C)									
		①Leaving Water Temperature of the selected Zone or Pool Inlet (°C)									
		②Domestic Hot Water or Pool Outlet (°C)									
		③Outdoor air, read by the Comfort Module sensor (°C)									
20	Dehumidifier treshold	Humidity setpoint to start the Dehumidifier (%Rh)							20	100	60
21	Humidifier treshold	Humidity setpoint to start the Humidifier (%Rh)							20	100	40
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
LEVEL 3											
Reading											
31	Flow Switch Status	Displays the Flow Switch status: 0. Water not flowing 1. Water Flowing									
32	Pressure Switch Status	Displays the Pressure Switch status (2 zones kit only): 0. No pressure 1. Pressure									
33	Forced Mode	Force the system to work in these mode for installation: 0. No forced mode 4. Booster Heat: Heating at the maximum power 5. Booster Cool: Cooling at the maximum power 6. Rating Heat: only for testing 7. Rating Cool: only for testing							0	7	0
34	System Mode	It shows and change the main mode of the system: 0. Off 1. Domestic Hot Water/ NA for pool 2. Cooling 3. Heating									
35	Heat Pump mode	It shows the chiller mode: 0. Off 1. N.A. 2. Cool 3. Heat 4. Booster Heat 5. Booster Cool 6. Rating Heat 7. Rating Cool 8. Freeze protection 9. Defrost 10. Hi Temp Protection 11. Timeguard 12. Fail									

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
36	Heat Pump temperatures	Use Days button to select the sub-parameter (when available). Show the temperature of:									
		⓪ Refrigerant expansion temperature (°C)									
		① Outdoor temperature read from Heat Pump (°C)									
		② Heat Pump coil temperature (°C)									
		③ Refrigerant compressor suction temperature (°C)									
		④ Refrigerant compressor discharge temperature (°C) ⑤Heat Pump leaving water temperature (°C)									
		⑥ Heat Pump entering water temperature (°C) ⑦Heat Pump refrigerant temperature (°C)									
37	Heat Pump compressor frequency (only for 30AWH)	Use Days button to select the sub-parameter (only with 30AWH) It display the:									
		⓪ Maximum compressor frequency (Hz)									
		① Requested compressor frequency (Hz)									
		② Current compressor frequency (Hz)									
38	Zone Water Setpoint/Pool setpoint	Water setpoint requested by the zone/Pool kit (°C)									
39	Compressors Run Time	The compressor run time of Heat Pump (x10 hours) (only 30AWH)									
40	Water Pump Run Time	The Water Pump run time (x10 hours)									

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
41	Electrical Heater Run Time	Use Days button to select the sub-parameter (when available) shows the timer of:									
		⓪ Electrical Heater 1 run time (x10 hr)									
		① Electrical Heater 2 run time (x10 hr)									
		② Electrical Heater 3 run time (x10 hr)									
		③ Domestic Hot Water Electrical Heater run time (x10 hr)									
42	Reset Compressors Timer	Set to 1 to reset all Compressor Run Time Timer 0: No Reset 1: Reset							0	1	0
43	Reset Water Pump timer	Set to 1 to reset Water Pump Run Time Timer 0: No Reset 1: Reset							0	1	0
44	Reset Heaters Timer	Use Days button to select the following:							0	1	0
		⓪Heater 1 Run time reset 0: No Reset 1: Reset									
		①Heater 2 Run time reset 0: No Reset 1: Reset									
		②Heater 3 Run time reset 0: No Reset 1: Reset									
		③Domestic hot water heater run time reset 0: No Reset 1: Reset									
45	Heat Pump Capacity	Outdoor unit capacity (only 30AWH)									
46	User Interface SW Version & Release	User Interface, NUI Software Version & Release									
47	Controller SW Version & Release	Board Software Version & Release									

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
Climatic Curve											
51	Heating Climatic Curve No. (Climatic curve 1)	Selection of Heating climatic curve: 0. User define climatic curve 1 to 6. Preseted Climatic Curves. See manual for climatic curve details (NA for Pool)				0			0	6	0
52	Heating Climatic Curve Min.OAT (Point A Climatic curve 3)	User define Heating climatic curve: Minimum Outdoor Air Temperature (°C)				10			-20	15	-7
53	Heating Climatic Curve Max.OAT Point B on Climatic curve 3)	User define Heating climatic curve: Maximum Outdoor Air Temperature (°C)				30			10	50	20
54	Heating Climatic Curve Water setpoint @ Max.OAT	User define Heating climatic curve: water setpoint at Max.OAT Par.53: value (°C) (Point D Climatic Curve 3)				25			20	60	20
55	Heating Climatic Curve Water setpoint @ Min.OAT	User define Heating climatic curve: water setpoint at Max.OAT Par.52: value (°C) (Point C Climatic Curve 3)				35			20	80	35
56	Cooling Climatic Curve Nb. (Climatic Curve 2)	Selection of Cooling Climatic Curve: 0. User define climatic curve 1 to 2. See Climatic Curve 2 for details (NA for Pool)				0			0	2	0
57	Cooling Climatic Curve Max.OAT	User define Cooling Climatic Curve: Maximum Outdoor Air Temperature (°C) (Point B on Climatic Curve 3)				40			24	46	40
58	Cooling Climatic Curve Min.OAT	User define Cooling Climatic Curve: Minimum Outdoor Air Temperature (°C) (Point A on Climatic Curve 3)				22			0	30	22

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
59	Cooling Climatic Curve Water setpoint @ Max.OAT	User define Cooling Climatic Curve: Water Setpoint at Par.57: value (°C) (Point D Climatic curve 3)				12			4	20	12
60	Cooling Climatic Curve Water setpoint @ Min.OAT	User define Cooling Climatic Curve: Water Setpoint at Par.58: value (°C) (Point C on Climatic Curve 3)				18			4	20	18
61	Delta Water Temperature for Room ECO mode	When Eco mode is Active Dry Contact (DI# to be configured in Par.111.#: # - In Cooling mode increase the Water Setpoint Temperature, - In Heating mode decrease the Water Setpoint Temperature, by this value (°)							0	10	5
Domestic Hot Water											
71	Management of Domestic Hot Water production	**1. System control** (it needs Domestic Hot Water Temperature Sensor installed and configured on Par112.0) **2. System control with Solar** (it needs DHW-S ~ Sensor installed and configured on Par112.0:1 and Th-S ~ Solar Thermostat on DI#5-Par.111.4:1) **3. External control** (it needs a Th-S Water Thermostat installed on DHW -Tank and configured as an DI#5, Par.111.4:1)							1	2	3
72	Domestic Hot Water Temperature Priority 0	Value of DHW Temperature for Priority 0 in Domestic Hot Water Priority chart (°C) Point D							40	80	55

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
73	Delta Domestic Hot Water Temperature Priority 0.5	Value of Delta from Par.72 value of Domestic Hot Water Temperature for Priority 0.5 in Domestic Hot Water Priority chart (°C) Point E							5	15	5
74	Delta Domestic Hot Water Temperature Priority 1(F in Domestic Hot Water Priority chart)	Value of Delta from Par.73 value of Domestic Hot Water Temperature for Priority 1 in Domestic Hot Water Priority chart (°C) Point F							5	15	5
75	Delta Room Setpoint Priority 0.5	Value of Delta from Room Setpoint or Pool Setpoint to have Priority 0.5 in Room Comfort Priority chart (°C) Point E							1	5	1
76	Delta Room Setpoint Priority 1	Value of Delta from Room Setpoint or Pool Setpoint to have Priority 1 in Room Comfort Priority chart (°C) Point E							1	5	1
77	Delta Water Temperature for Domestic Hot Water ECO mode	When Eco mode is Active Dry Contact (DI# to be configured in Par.111.#: # decrease the Water Setpoint Temperature, by this value (°)							0	10	5
78	Domestic Hot Water Booster	Force the Domestic Hot Water Electric Heater to turn ON till the Domestic Hot Water Setpoint is reached. 0. Off 1. On							0	1	0
79	Boiler Delay Time	Time in minutes to wait for turning on the boiler if the Domestic Hot Water Priority does not decrease - set 0 to disable the Boiler							0	180	15

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
80	Boiler in Tank	Set the Boiler position in the hydraulic circuit 0. The boiler is connected between the Heat Pump and the Comfort Module - DHW-V - 1. The boiler is connected to Comfort Module (M0)							0	1	1
81	Valve after Tank	Define the Domestic Hot Water / Pool Valve position in the hydraulic circuit 0. DHW-Valve between Heat Pump and Comfort Module 1. DHW-Valve after the Comfort Module							0	1	1
82	Anti-legionella Period	Define how often (days) the disinfection cycle starts. - If 0 is selected Disinfection is not performed							0	7	0
83	Anti-legionella Start time	The day time when the Anti-legionella can start							0	24	3
84	Anti-legionella Temperature	Setpoint for Anti-legionalla Temperature (°C)							60	90	75
85	Anti-legionella Wait Time	Anti-legionella cycle is considered as complete if the Domestic Hot Water Temperature has reached the Anti-legionella setpoint for this time (min)							5	30	30
86	Anti-legionella time over	If Anti-legionella cycle is not completed within this time (hr), it is considered as failed							2	12	4

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
Auxilary Heaters											
91	Electrical Heater Priority	Defines how many Heaters, can be active at the same time. 0. All (Back-up and DHW Heaters) 1. Max 3 Heaters. Priority on Back-up Heaters 2. Max 3 Heaters. Priority on DHW Heaters 3. Max 2 Heaters. Priority on Back-up Heaters 4. Max 2 Heaters. Priority on DHW Heaters 5. Max 1 Heaters. Priority on Back-up Heaters 6. Max 1 Heaters. Priority on DHW Heaters							0	6	0
92	Outdoor Air Temperature Threshold for BackUp Heaters	Outdoor Air Temperature threshold to allow the backup Heaters to turn ON. Below this Threshold the Heaters are allowed to turn on (°C)							-30	25	4
93	Water Temperature Hysteresis for BackUp Heaters	Temperature hysteresis on the water in tank to turn on the backup heaters (°C). If the Water temperature is below the requested Setpoint minus this value, the Heaters are allowed to be turned on							0	10	3
94	Delay for BackUp Heaters	Delay to start backup heaters when the other conditions request them (min)							0	60	10

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
System Configuration and Control											
101	Outdoor Air Temperature Threshold for Boiler	Outdoor Air Temperature threshold to turn on the Boiler and turn off the Heat Pump. Below that only the boiler can operate (°C)							-30	10	-5
102	Water Antifreeze SetPoint	Water Temperature to activate the Antifreeze routine to avoid the water to freeze in the tank and pipes (°C)							-10	10	4
103	Frequency Reduction	% of the maximum frequency for the Frequency Reduction mode (only 30AWH)							50	100	100
104	Discrete Output (DO #) test	Force ON the Discerte Output - the corresponding device will be activated - see your Wiring Diagram & Configuaration for each Board							0	6	0
		0. No output forced 1. DO#1 2. DO#2 3. DO#3 4. DO#4 5. DO#5 6. DO#6							0	6	0
105	System Type	Define the system configuration: 1. Single zone 2. Multiple zone							1	2	1
106	Heat Source Connected	Define the Heat Pump connected to the Comfort Module 0. No Heat Pump 1. Inverter 30AWH Heat Pump(s) 2. Carrier fixed speed Heat Pump 3. Dry contact Heat Pump							0	3	1
107	User Interface in Zone	Define if the user interface is placed in the zone for the comfort or not 0. User interface not used for comfort 1. User interface used for comfort							0	1	0

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
108	Mode and Flow Switch Configuration	Use Days button to select the sub-parameters									
		⓪ Mode Selection 0: Mode is managed by dry contacts - Discrete Inputs (DI) 1: Mode is managed by user interface (NUI)							0	1	1
		①Cooling authorization 0: Cooling in Zone forbidden 1: Cooling in Zone allowed							0	1	0
		②Heating authorization 0: Heating in Zone forbidden 1: Heating in Zone allowed							0	1	1
		③Flow switch configuration 0: Check if there is water flow when pump is Off 1: Don't Check if there is water flow when pump is Off	1						0	1	1
109	System Configuration	Use Days button to select the sub-parameters							0	1	0
		⓪Force frequency reduction 0: Not Active 1: Active									
		①Force all Electric Heaters to turn OFF 0: Normal operation 1: Force OFF									
		②Allowed to Produce Domectic Hot Water despite Anti-legionella failure 0: No 1: Yes									
		③Use Heaters / Boiler in case of chiller failure in Heating 0: No 1: Yes									

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
110	Discrete Output Setup DO#	Use Days button to select the sub-parameters. Output values. See Table Output values signification → Use HOLD to quickly switch between plus (+) and minus (-)									
		⓪ DO#1: Select output code:-35÷35							-35	35	0
		① DO#2: Select output code:-35÷35 **Note:** *For Comfort Module(Master Board) only.* 0. (M00) 6. (M03,M06,T06,T09)							-35	35	See **Note**
		② DO#3: Select output code:-35÷35 **Note:** *For Comfort Module(Master Board) only.* 0. (M00) 7. (M03,M06,T06,T09)							-35	35	See **Note**
		③ DO#4 Select output code:-35÷35							-35	35	0
		④ DO#5 Select output code:-35÷35							-35	35	0
		⑤ DO#6 Select output code:-35÷35							-35	35	0
111	Discrete Input Setup DI#	Use Days button to select the sub-parameters. Input values. Use HOLD to quickly switch between plus (+) and minus (-)									
		⓪ DI#1 - Select input code:-13÷13							-12	12	0
		① DI#2 - Select input code:-13÷13							-12	12	0
		② DI#3 - Select input code:-13÷13							-12	12	0
		③ DI#4 - Select input code:-13÷13							-12	12	0
		④ DI#5 - Select input code:-13÷13							-12	12	0
		⑤ DI#6 - Select input code:-13÷13							-12	12	0
		⑥ DI#7 - Flow Switch - Input code:+11 for Comfort module	11						-12	12	11

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
112	Analog Input Setup AI#	Use Days button to select the sub-parameters									
		⓪ Master: Domestic Hot Water Temperature 0. Not connected 1. Connected							0	1	0
		① Master: Outdoor Temperature Sensor on Comfort Module 0. Not connected 1. Connected							0	1	0
		② Master: Leaving Water Temperature 0. Not connected 1. Connected							0	1	1
		③ Slave: Water Tank/ Pool exchanger Inlet Temperature 0. Not connected 1. Connected		1	1	0			0	1	1
		④ Slave: Leaving Water Temperature Zone 1 0. Not connected 1. Connected							0	1	1
		⑤ Slave: Leaving Water Temperature Zone 2 0. Not connected 1. Connected							0	1	0
		⑥ Slave: Water Pool temperature 0. Not connected 1. Connected							0	1	0
Network Configuration											
121	Network Configuration	Command to configure network 0. Do nothing 1. Stop Network Communications 2. Start Auto-configuration 3. Delete single address at Par.127 4. Reset single address at Par.127 5. Read the number of devices connected and store it (show at Par.122) 6. End Auto-configuration and restart communication 7. Reset all devices and delete the entire network addresses from the database							0	7	0

Variable Table

Par. No.	Name	Description	Available on						RANGE		
			Comfort Module Zone 1	2-Zone Kit		Pool	User Interface	Heat Pump	MIN	MAX	DEFAULT
			Master	Zone 1	Zone 2						
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/ 22	85,...,213	2,...,9	0	255	Own address
22	Virtual zone selected	Zone for which variable table is showed, at the board selected (Par.127 board address)	1	1	2	1			1	2	Own zone
122	Number of network devices	Show the number of devices connected to the network (no Carrier Fixed Speed and Dry Contact Heat Pumps are counted)									
123	Board serial number	Displays the serial number of board selected Address, Par.127, the underlined digits: XXxXxxXXXXX									
124	Slave type	Define the Slave Board type: 1: Zone kit 2: Pool kit (only 1 allowed in the network)		1	1	2			1	2	1
125	Access Rights (see paragraph *Access Level*)	Access Rights: 0: Access level 0 1: Access level 1 2: Access level 2 3: Access level 3							0	3	3
126	User Interface Connected Address	User interface address associated to the relevant Board (at Par.127) and Zone (Par.22) 0. No user interface connected							85	213	0
127	Board address selected	Address of the board for which the Variable Table is shown	10	21	21	21/22	85,...,213 255(*)	2→8	0	255	Own address
128	User Interface self Address	Shows the address of the User Interface being used							85	213	Own address
129	Auto-Addressing configuration process	0: Auto-Addressing configuration process is Disabled 1: Auto-Addressing configuration process is Enabled for 30 min from last power ON - Will be automatically set to '0' after this timing.							0	1	0

Note: *(*) 255 is the NUI's default address.*

3.5.2 Access Level Description

Each board has a different Access Rights Level, Par.125: Access Rights.
* User Interface - NUI inherits the access level from the Virtual Zone to which it is associated.
* Master Board always has access level 3, while the access level is customisable for Slave Boards, 2-Zone Kit and Pool Kit.
The access level defines the operations that the user is allowed to do through the User Interface.

Access Level 0: [Par.11.1: 0]
The user can only manage it's Own Zone, to modify:
- Setpoint
- Mode between OFF and Comfort
The user can not modify:
- Schedule
- Change the installation settings.
This level can be used for the Slave Board, Zones installed in Hotel Rooms or Public areas or when the user has to have the lowest possibility to change the working parameters.

Access Level 1: [Par.11.1: 1]
Same limitations as for Access Level 0, but the user can change:
- Schedule

This level can be used in a facility where each Zone in the Slave Board is used to manage the comfort of a house or where the user can be independent from the working operation of the other Zone of the same Slave Board.

Access Level 2: [Par.11.1: 2]
The user can operate as per Level 1, on both Zones 1&2 located on the same Slave Board , using:
the Zone button , he can access to Virtual Zoning functionality and:
- Connect to the next Zone managed by the same Slave Board
- Connect to it's own Zone .

Access Level 3: [Par.11.1: 3]
The user has the full Access, and he can:
- Use the Virtual Zoning full features
- Change the targeted board address
- Change the Master mode remotely by using the Virtual Zoning
- Change the local mode by operating on local Zones
- Configure all the parameters on each and every board.

Note: *Parameters in the Variable Table are sorted according to the access levels.*

3.5.3 Discrete Outputs-DO - Configuration Values

These values have to be assigned to the Discrete Output parameter, to set the function in sub-parameters through Par.110.#.
Note: *If the Discrete Output -DO# has positive configuration, the DO# is HIGH Powered when the corresponding device has to be activated, acting as a Normally Open - NO.*
If the Discrete Output has negative configuration, the Discrete Output is LOW Non powered when the corresponding device has to be activated, acting as a Normally Close - NC.

Below descriptions refer to positive configurations:
Example:
- *1 → If the Water Pump is prompted to ON, the Discrete Output is high or powered*
- *-1 → If the Water Pump is prompted to ON, the Discrete Output is low or non-powered.*

No.	Name	Description
0	Not used	Discrete Output (DO) is not configured. Discrete Output always LOW or not powered
1	Water Pump	Controls the additional Water Pump
2	Domestic Hot Water valve	Domestic Hot Water valve control
3	Electric Heater A	Control of the 3 Heating steps (backup heaters). ▪ First step: turn on only A ▪ Second step: turn on only A and B ▪ Third step: turn on A, B and C
4	Electric Heater B	
5	Electric Heater C	
6	Electric Heater EH1	Control of the 3 Heating steps (backup heaters). ▪ First step: turn on only EH1 ▪ Second step: turn on only EH2 ▪ Third step: turn on EH1 and EH2
7	Electric Heater EH2	

No.	Name	Description
8	Boiler command On/Off	Control of an external boiler (backup boiler)
9	Electric Heaters Domestic Hot Water	Control On/Off the Electric Heaters for Domestic Hot Water
10	Alarm X	Active if any error in Master board or user interfaces connected to Master board or Heat Pump is present (see Troubleshooting)
11	Alarm Y	Active if any error type B or C in Master board or user interfaces connected to Master board or Heat Pump is present (see Troubleshooting)
12	Alarm W	Active if Alarm X is active or if any error in Slave Boards or user interfaces is present
13	Alarm Z	Active if Alarm Y is active or if any error type B or C in Slave Boards or user interfaces is present
14	Proportional valve Open	Open command for proportional 3-Way Valve
15	Proportional Valve Close	Close command for proportional 3-Way Valve
16	Heat Pump ON/OFF	Command to turn ON/OFF the Heat Pump. High level or powered for ON
17	Heat Pump ON	ON command to Heat Pump
18	Heat Pump OFF	OFF command to Heat Pump
19	Heat Pump HEAT/COOL	Mode command to Heat Pump. High level or powered for Heating
20	Heat Pump HEAT	Heating command to Heat Pump
21	Heat Pump COOL	Cooling command to Heat Pump
22	Heat Pump Setpoint 2/1	Setpoint command to Heat Pump. High level for Setpoint 2
23	Heat Pump Setpoint 1	Setpoint 1 command to Heat Pump
24	Heat Pump setpoint 2	Setpoint 2 command to Heat Pump
25	Dehumidifier A	Command to dehumidifier. Active only in Cooling mode
26	Dehumidifier B	Command to dehumidifier. Not active only in OFF Mode
27	Humidifier A	Command to humidifier. Active only in Heating mode
28	Humidifier B	Command to humidifier. Not active only in OFF Mode
29	Defrost	Active during Heat Pump defrost
30	Fan coil A	Commands the fan coil. Active only in Heating mode if water temperature >25°C and in Cooling mode if the water temperature < 25 °C, and if room temperature requirement is not satisfied
31	Fan coil B	Commands the fan coil. Active in Heating and Cooling mode, if room temperature is not satisfied
32	Fan coil C	Commands the fan coil. Active only in Heating mode if water temperature > 25°C and in Cooling mode, if room temperature requirement is not satisfied
33	User Mode HEAT/COOL	User mode state. High level for Heating mode
34	User Mode HEAT	Active if User mode is Heating
35	User Mode COOL	Active if User mode is Cooling

3.5.4 Discrete Inputs - DI# - Configuration Values Table (for HMA)

These values have to be assigned to the Discrete Input parameter, to set the function in sub-parameters through Par.111.#.
Note: *If the input has a positive number configured, input CLOSE is read as a request - Normaly Open - NO.*
If the input has a negative configuration, input OPEN is read as a request - Normaly Close - NC.

Below descriptions refer to positive configurations.
Example:
1 → If contact is Close, there is Domestic Hot Water production request
-1 → If contact is Open, there is Domestic Hot Water production request

No.	Name	Description
0	Not Used	Input not used
1	Domestic Hot Water input	Demand from Domestic Hot Water thermostat (Close = Demand)
2	On/Off Command Thermostat A*	Input from thermostat type A. Not depending on mode. (Close = Room Temperature < Room temperature setpoint)
3	On/Off Command Thermostat B*	Input from thermostat type B. depending on mode. (Close = demand)
4	Off peak	Off Peak request. (Close = Off Peak active) When active, it uses the gas boiler in Heating, if available, or operates with Eco setpoints
5	Heating/Cooling command	Heating /Cooling mode command (Close = Heating mode)
6	Eco input	ECO request. (Close = ECO active)
7	System ON/OFF	ON/OFF Discrete input (Close = System OFF)
8	Defrost signal	Defrost signal from Heat Pump (Close = Defrost active)
9	Alarm severity 1	Input for Alarm Severity 1, generate alarm code 32 (Close = Alarm active)
10	Alarm severity 2	Input for Alarm Severity 2, generate alarm code 33 (Close = Alarm active)
11	Flow switch	Flow switch input (Close = Flow)
12	Control input	For internal use only - Not to be used -

***Note:**
- *Thermostat A: It is a normal thermostat. Contact is Open/ Close depending on the temperature. The behaviour of the contact does not depend on the Heating/Cooling working mode.*
- *Thermostat B: It is a 'smart' thermostat. Contact is Open/ Close depending on the demand. The behaviour of the contact depends on the Heating/Cooling working mode.*

3.6 Commissioning

Preliminary checks

Check before start up:
- The hydronic system connections are appropriately
- tightened.
- There are no leaks.
- The system is completely purged of air.

Warning: *Inappropriate air purging can cause damage to the pumps and Electric Heaters.*

- The pumps are empty of air and purged before powering up.
- The circuit valves are open and the pumps are set to the speed determined in the study to provide the necessary water flow.
- Adjust the pumps speed with the selector, positions I, II, III, when pump is not energized.
- The filling and drain valves are closed.
- The water circuit pressure is about 100 kPa (1 bar)-maximum should not exceed 300 kPa.
- The filter(s) are installed.
- Electrical connections are appropriately tightened. Inappropriate tightening can cause running problems and overheating which may result in serious damage.
- All the electrical devices are properly earthed.
- No tools or other objects are left inside the unit.
- The unit is stable.

Start up

- Ensure that all the mechanical, hydraulic and electrical connections are appropriate.

Warning: *Do NOT switch on the Electric Heater circuit breakers before completing the entire configuration and the water filling.*
- Turn ON only the boards and the Heat Pump and start the network configuration as described in this manual.
- During the water filling, use Par.104 to run the Water Pump/s to remove any air left in the circuit.
- Once all these operations are completed and the system is configured,switch ON the circuit breakers of the Electrical Heaters.

3.7 Maintenance

Refer to the Safety information.
The equipment must be serviced periodically to maintain performance and reliability.
The product warranty may be cancelled in case of wrong or incomplete maintenance.
The user is not authorized to open the unit or remove any parts.
Any maintenance activity requiring opening of the unit must be carried out by qualified service personnel.

Carry out below operations at least once a year:
- Check the expansion vessel
- Check parts for wear
- Check setpoints and operating points
- Check safety devices
- Check electrical connections for tightness
- Check the earth connections
- Check for water and refrigerant leaks
- Check operation and parameters
- Clean the water filter
- Check system pressure
- Clean the condensate tray
- Activate the Security pressure valve (See pictures in section *Integrated Hydraulic Connection*), by rotating the movable parts, to remove dirt and ensure normal operation.

3.8 Adding Water to Circuit

The user can perform this operation without opening the unit, using the filling valve given in the hydraulic circuit.
The exact operating pressure is 1 bar. If the pressure is lower than 1 bar, fill water in the circuit. The maximum operating pressure is 3 bar.
Above this value, the safety pressure relief valve opens.
Verify that the expansion vessels are sufficient for the application.
When filling the system, consider that, during normal Heating operation, the pressure can increase due to water expansion.

3.9 Troubleshooting

In case of system failure, the ⚠ icon blinks on display, depending on the Access Level.
Par.5 shows the addresses of the failed devices. If there are multiple device failures, the addresses are displayed in sequence and change every second.
Par.6 shows the active error codes (change every second) for the selected board address and the corresponding virtual zone.

Note: *Par.6 shows the error corresponding to the selected address. If the ⚠ blinks and no error is shown in Par.6, check the address of the failed device on Par.5, and select this address on the user interface to see the number of failures.*

Error type behavior:

Type A: The system still works
Type B: The system works with limited functionalities or the zone affected by the error is turned off
Type C: More than 50% of Heat Pumps are failed
Type D: Zone or system is turned OFF

Alarm code	Item	Product type	Failure when	Type
Heat Pump				
2	Safety Input	30AWH	Communicated by Heat Pump	B
3	Entering Water Temperature Thermistor (EWT)	30AWH	Communicated by Heat Pump	B
4	Actual Refrigerant Temperature Thermistor BPHE (TR)	30AWH	Communicated by Heat Pump	B
5	Outdoor Air Thermistor of GMC (Accessory OAT sensor installed)	30AWH	Communicated by Heat Pump	A
6	Lost communication with user interface - NUI	30AWH	Communicated by Heat Pump	A
7	User Interface Room Sensor	30AWH	Communicated by Heat Pump	A
9	Flow Switch error or Water Pump malfunction	30AWH	Communicated by Heat Pump	B
10	EEProm Corrupt	30AWH	Communicated by Heat Pump	B
13	Lost communication to RS485 (system configuration type=6)	30AWH	Communicated by Heat Pump	A
14	Loss of signal From INVERTER Board	30AWH	Communicated by Heat Pump	B
15	Leaving Water Temperature Thermistor (LWT)	30AWH	Communicated by Heat Pump	B
16	Alarm test	30AWH	Communicated by Heat Pump	A
17	INVERTER Outdoor Air Thermistor (TO)	30AWH	Communicated by Heat Pump	A
18	G-Tr short circuit protection	30AWH	Communicated by Heat Pump	B
20	Position Detection Circuit Error	30AWH	Communicated by Heat Pump	B
21	Inverter Current Sensor Error	30AWH	Communicated by Heat Pump	B
22	Outdoor Heat Exchange Sensor (TE) / (TS)	30AWH	Communicated by Heat Pump	B
23	Discharge Temperature Sensor (TD)	30AWH	Communicated by Heat Pump	B
24	Outdoor Fan Error	30AWH	Communicated by Heat Pump	B
26	Other Units Error (installed in parallel)	30AWH	Communicated by Heat Pump	B
27	Compressor Lock	30AWH	Communicated by Heat Pump	B
28	Discharge Temperature Level Error	30AWH	Communicated by Heat Pump	B
29	Compressor Breakdown	30AWH	Communicated by Heat Pump	B

Alarm code	Item	Product type	Failure when	Type
Master Board - Comfort Module				
40	Temperature/Humidity sensor of User Interface in zone 1	Single zone	Value out of range and User Interface In Zone. Par.107: 1	A
41	Comfort Module Tank Temperature sensor failure [TWB]	Comfort Module / 2-Zone Kit	Value out of range	B
42	Leaving Water Temperature Sensor failure	Comfort Module / 2-Zone Kit	Sensor Value out of range	B
43	Domestic Hot Water temperature sensor failure	Any	- The DHW Temperature sensor is configured and the value is out of range OR Domestic Hot Water production type - configuration - Par.71:1 or 2 and the sensor is not configured	B
44	Outdoor temperature sensor failure	Comfort Module / 2-Zone Kit	Outdoor Air Temperature Sensor is configured and - the value is out of range or or - Outdoor Air Temperature Sensor is not configured or Outdoor Air Temperature Sensor from communicating Heat Pump not available	A
45	Flowswitch 1	Any	Flowswitch is configured and: Case 1: - Water Pump Output not configured - DHW-V is not active - Heat Pump is ON → Flowswitch detects no flow Case 2: - Water Pump Output not configured - Heat Pump is ON - Par.81: 1 → Flowswitch detects no flow Case 3: - Water Pump Output is configured - Water Pump Output is ON → Flowswitch detects no flow	B;D
46	Flowswitch 2	Comfort Module / 2-Zone Kit	Flowswitch is configured and: Case 1: - Water Pump Output not configured - Heat Pump is OFF → Flowswitch detects flow Case 2: - Water Pump Output not configured - Heat Pump is ON - DHW-V is active - Par.81: 0 → Flowswitch detects flow Case 3: - Water Pump Output is configured - Water Pump Output is OFF → Flowswitch detects flow	B;D
47	Communication with Master User Interface	Comfort Module	When Master Board did not receive data from user interface within 3 minutes	B

Alarm code	Item	System type	Failure when	Type
48	Communication with any user interface (not master)	Comfort Module - NUI 1 used in Zone	Communication lost with any NUIs in the zone or non-Master User Interface within 3 minutes	A
49	Communication with Slave Board	2-Zone Kits / NUIs	Communication lost within 3 minutes time from all slaves addressed boards	B
50	Loss of communication with Heat Pump or double address of the Heat Pump	Comfort Module and Heat Pump 30AWH	Heat pump Connected - Par.106: 1 and communication lost or Heat Pump address not available in master board database	B
51	LOW domestic hot water temperature warning	Comfort Module (DHW)	Par.71: 1 or 2 and - Domestic Hot Water priority=1 and - Booster Heater schedule is OFF and - Booster request is OFF	
52	Disinfection not succesful	Comfort Module (DHW)	Par.133: 1 or 2 and - Disinfection cycle not completed within time defined or - Disinfection cycle not performed due to error 43	B
53	Type B failure in Heat Pump network	30AWH or Communicant Heat Pump using CCN	Par.71: 1 - 30AWH: more than 50% of the connected Heat Pumps are not communicating or - have a type B failure - For all Heat Pump types (including dry contact DI#): alarm severity 2 input is active in master board	C
54	EEProm corrupted		If EEProm is currupt, call Carrier Service.	B;D
55	Pressure switch is OFF in more than 50% of the Slave Boards	Multiple zone 2-Zone Kit	Pressure switch of more than 50% of the Slave Boards indicates there is no pressure	B;D
56	User mode is HEAT, all zones are not allowed to work in HEAT. Or user master mode is not allowed	Any	User mode is HEAT, all zones are not allowed to work in HEAT (Par.108.2: 0)	B
57	User mode is COOL, all zones are not allowed to work in COOL. Or user master mode is not allowed	Any	User mode is COOL, all zones are not allowed to work in COOL (Par.108.1: 0)	B
58	Communication from not existing addresses	Any	Communication from a board address which is not know in the database. Refer to addressing process to rebuilt the network properly.	B;D
59	Two OR More Masters	Any	Communication from more than 1 Master on the bus. Only one Master Board is allowed on the bus, remove the additional Master(s).	B;D
60	More than 1 pool kit	Any	Communication from more than 1 Pool slave board (Only one on bus is allowed). Refer to Par.105: 2 [System Type] Make sure that Par124: 2 [Slave Type]	B;D

Alarm code	Item	System type	Failure when	Type
61	Product_ID Mismatch	Any	Addressed device is not within valid range. Refer to the addressing process to rebuilt the network properly. Also, check the Boards version and compatibility.	B;D
62	User Interface in zone definition error	Single zone	Two user interfaces associated to Master Board to one Zone, Associate one User Interface to the Zone 2. - Select Board address 10, Select Zone 2 with Zone button - Verify that you are connected to right Board & Zone reading Par127: 10 & Par.22: 2 - Set Par.126 with the address of one of the two User Interfaces, found at Par.128 on each NUI.	B;D
63	Error on associated user interface: (Master User Interface NUI 0 or additional User Interface NUI 1 or NUI 2)	Any	Alarm active on Master User Interface or additional User Interface	A
64	Alarm severity 1	Carrier Fixed Speed	Communicated by Heat Pump or alarm severity 1 Input is ACTIVE	A
65	Alarm severity 2	Carrier Fixed Speed	Communicated by Heat Pump or alarm severity 2 Input is ACTIVE	B
66	Lost communication on control Input on Master board	Master	No communication within 24hr on input set as 12	A
Slave Boards - 2-Zone Kit or Pool Kit				
70	Configuration	Single zone	Board has slave address and it is not a pool kit	B;D
71	Mode mismatch in pool kit	Pool kit	Slave user mode in Pool kit is COOL. Cool prevented in that zone (Par.108.1: 0)	B
72	Mode mismatch in pool kit	Pool kit	Slave user mode in Pool kit is HEAT HEAT prevented in that zone (Par.108.2: 0)	B
73	Water in tank termperature	Multi zone	Value out of range and sensor is configured	A
74	Temperature/Humidity sensor of user interface	Multi zone Par.107: 1	NUI, User Interface: Value out of range	A
75	Leaving Water Temperature sensor	Multi zone System configured to use it	Value out of range	B
76	Pressure Switch	Multi zone System configured to use	Pressure is too low. Contact is active	B;D
77	Safety Input	Multi zone System configured to use	Safety Input is active	B
78	Communication Master – Slave	Multi zone	Communication lost with Mater board	B;D
79	Commnication with user interface	Multi zone	Communication lost with user interfaces	B
80	EEProm corrupt		EEProm is corrupt - Call Carrier Service	B;D

Alarm code	Item	System type	Failure when	Type
81	Double address	Any	2 or more Slave Boards with same address on the bus. Reset & restart the full addressing process.	B;D
82	Invalid address	Any	Board address is not within the valid range Restart addressing process.	B;D
83	Flow switch zone 1	Any	- Flow switch configured - Water Pump configured → Flow switch detects no flow	B
84	Flow switch zone 2	Any	Flowswitch is configured Case 1: - Water Pump Discrete Output not configured - Flowswitch detects flow Case 2: - Water Pump Discrete Output configured - Water pump Discrete Output OFF → Flowswitch detects flow	
85	Error on associated user interface	Any	Alarm is active on associated User Interface	A
86	Lost communication on control input on Slave Board	Slave	No communication within 24hr on input set as 12 or 13	A
87	Pool temperature sensor error	Pool	Value out of range	A
User Interfaces - NUI 0, 1, 2, etc.				
90	Loss of communication with selected board	Any	Check wiring and/or Addresses on Bus	A
91	Loss of communication with Master board	Any	Check wiring and/or Addresses on Bus	A
92	Invalid address	Any	Board address is not within valid range. Refer to addressing process to rebuilt the network properly.	B
93	NUI not associated to board	Any	Check the configuration (verify addressing and association of user interface). - If Par.128 of the User Interface that is not associated is 225, the addressing process must be repeated. - Set Par.126 of the Board & Zone to which the NUI has to be associated with the value read at Par.128 of the NUI.	B
94	Temperature error message	Any	Value out of range	A
95	Humidity error message	Any	Value out of range	A
96	EEprom error message	Any	Values in eeprom corrupted - Call Carrier Service	B
97	Double address	Any	2 or more devices with same address as the user interface. Refer to the addressing process to rebuilt the network properly.	B

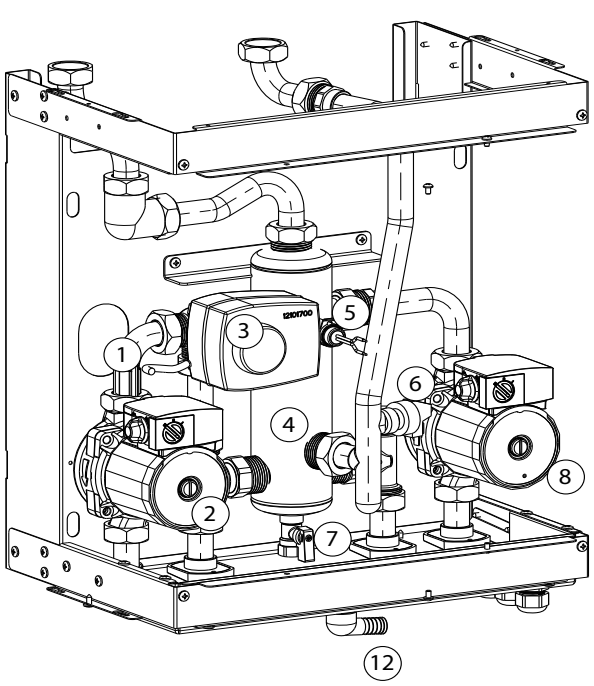
4.1 Introduction

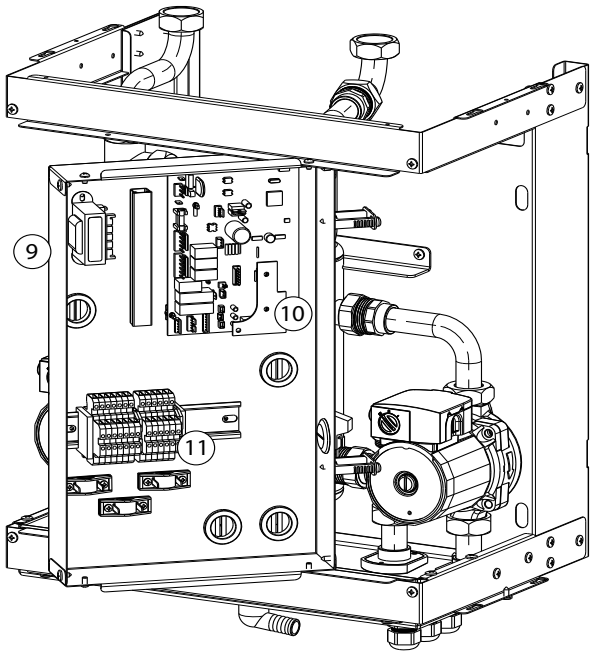
The 2-Zone Kit is used with 80HMA series units to control two different zones with different leaving water temperature.

4.1.1 Accessories

Accessory	Code
Additional User Interface	33AW-CS3
Underfloor Heating Maximum Temperature Safety switch (TMS) (EN1264-4, paragraph 4.2.4.1)	80AW9024
Piping kit to install the Domestic Hot Water valve and actuator (80AW9023) inside the unit	80AW9026
Domestic Hot Water valve and actuator	80AW9023
Cover panel to install the 2-Zone Kit detached from the Comfort Module	80AW9027
Kit to add 3-way valve and actuator in second zone	80AW9028

4.2 Unit Description



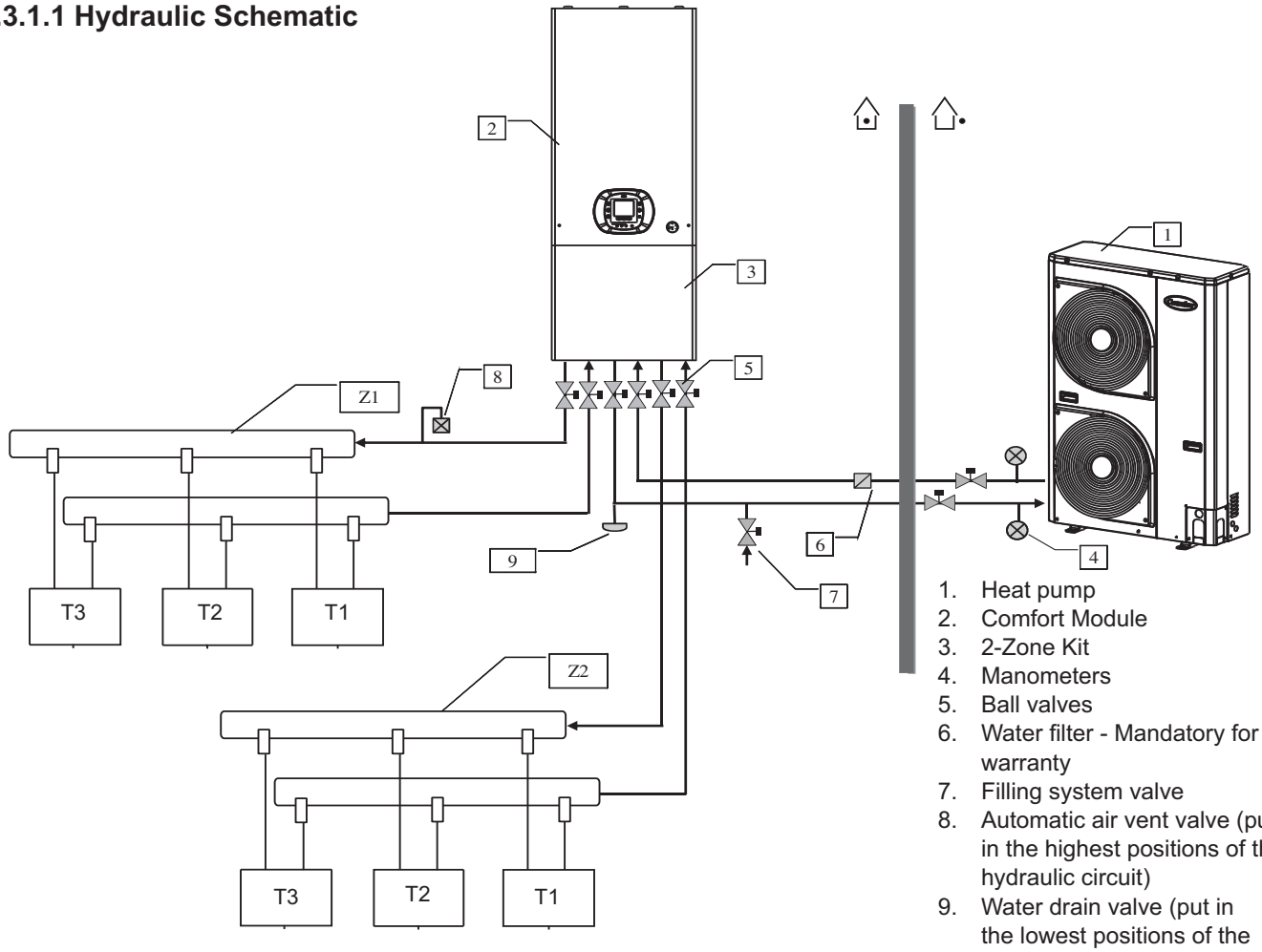


1. Leaving Water Temperature sensor (Zone 1)
2. Water Pump (Zone 1)
3. 3-Way Valve and actuator (Zone 1)
4. Collector
5. Tank Water Temperature sensor
6. Pressure Switch
7. Drain valve
8. Water Pump (Zone 2)
9. Control box
10. Electronic board
11. Terminal block
12. Drain pipe. Do not connect tap to this pipe. It is used to drain water from the Safety Pressure Release Valve.

4.3 Installation

4.3.1 Installation Design

4.3.1.1 Hydraulic Schematic



1. Heat pump
2. Comfort Module
3. 2-Zone Kit
4. Manometers
5. Ball valves
6. Water filter - Mandatory for warranty
7. Filling system valve
8. Automatic air vent valve (put in the highest positions of the hydraulic circuit)
9. Water drain valve (put in the lowest positions of the hydraulic circuit)

Z1. Zone 1 user terminals
Z2. Zone 2 user terminals

4.3.1.2 Terminals

Terminal types:
- Under floor circuit
- Fan coils
- Radiators
- Low temperature radiators

Different terminals have different water temperature requirements.
2-Zone Kit allows to use, at the same time, terminals with different water temperature requirements.

Room temperature control

Different terminals (T1, T2,…Tn) can be placed in a single room or in multiple rooms.
Each of them can have a thermostat, to stop the terminal when a certain temperature is reached.

It is possible to control up to 2 rooms (placed in different zones), with user interfaces or a thermostats connected to the unit.
In each zone, the controlled room should be the one with the highest Heating/Cooling requirements.

Below items can be connected for each zone:

- User interface
- Thermostat A
- Thermostat B
- Nothing (controlled in remote by virtual zone)

Note: *See paragraph Input configuration for thermostat type A/B. See Virtual Zoning in section 80HMA Comfort Module.*

It is recommended to place a thermostat on the terminals placed in rooms with significantly different temperature requirements.
It is recommended to use the user interface to control the room temperature; this way, the water temperature can be adjusted to meet the setpoint, and the comfort and energy efficiency are optimised.
If no user interface is used:
- If thermostats are used, set the climatic curves slightly higher in Heat mode and slightly lower in Cool mode.
- If no thermostats are used (temperature requirements should be same for all the rooms), the climatic curves must be set appropriately for both Heating and Cooling operation.

4.3.2 Installation Recommendations

Refer to the Safety information.

- This device is destined for installation in sheltered buildings, if possible insulated.
  It should not be installed in very humid rooms (for example laundry rooms) or where it may be subjected to water projections or spray.
- If the module is installed on the wall, ensure that the support is sufficiently strong.
- Fix the module using screws/wall plug fixings adapted to the wall structure and the module weight.
- When possible, allow a space of minimum 70 cm below and 30 cm on each side of the module for piping connections and ease of maintenance.
- See paragraph *Water Connections*.
- In case of installation with fan coils, a minimum water quantity of 3 liters / kW is required; install a buffer tank if required.

4.3.3 Features

2-Zone Kit				
Dimensions	Unit	H (mm)	mm	485
		W (mm)	mm	450
		D (mm)	mm	330
	Packing	H (mm)	mm	565
		W (mm)	mm	530
		D (mm)	mm	410
Weight	Unit		kg	22
	Gross		kg	27
Hydraulic data	Hydraulic connections		inch	1" M
	Operating water pressure		kPa / bar	100 / 1
	Maximum pressure		kPa / bar	300 / 3
Hydraulic devices	Pump	Nr		2
		Type		water cooled
		Nr of speed		3
		Static pressure	kPa	70
	3-way valve	Nr		1 - located in Zone 1 loop
		Kv		6,3
		Type		modulating
		Switching time (90°)	sec	240
		Actuator type		3 point - SPDT 230 V
	Collector	Volume	lt	1
	Draining valve			√
Operating Range	Outdoor Air Temperature Water Temperature Room Temperature	Heating and cooling	°C	same as Comfort Module
Electrical data	Power supply	Voltage	V	230
		Frequency	Hz	50
		Phases		1
	Operating voltage limits		V	207-253
	Power consumption		W	260
Recommended Circuit Breaker	Comfort Module + 2-Zone Kit		Type	C10
	Electic Heaters		Refer to section *80HMA Comfort Module.*	
	Main power supply			

4.3.4 Additional Devices

3-Way Valve - 3WV

A 3-Way Valve can be used to have an additional control of the water temperature. The Discrete Output for Open and Close commands can be configured in the Variable Table.

Water Temperature delivered to Zone 2 (WT2) will be set by the 2-Zone Kit accrdingly the Climatic Curves and mode used. The Water Temperature Sensor has to be wired and configured (read accessory Installation Manual).

4.3.5 Water Connections

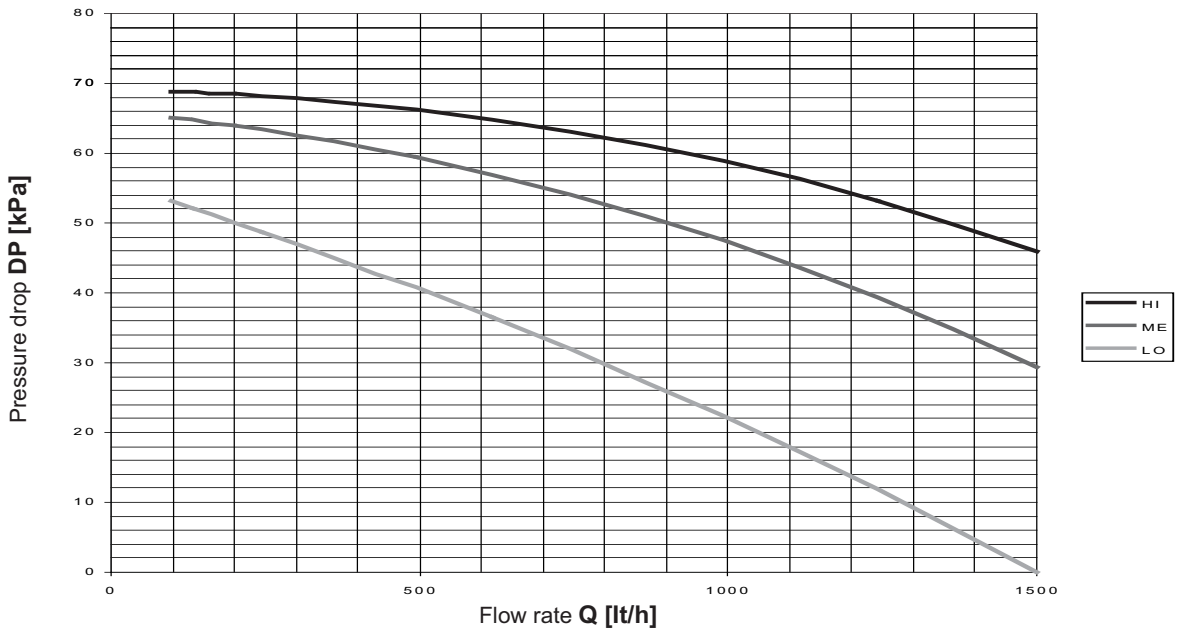
Refer to the Safety Information.

- A counter spanner is not needed when tightening the hydronic connections to the module.
- To avoid bacteria and dirt proliferation in the circuit, use water mixed with water treatment products.
- Install valves (not included) at the Inlet and Outlet of the 2-Zone Kit.
- Use 1" pipe or bigger for connections between the 2-Zone Kit and terminal.
- Wrap the connections with anti-condensate insulation and tighten with tape, without exerting excessive pressure on the insulation.
- When all the installation connections are complete, start water filling.

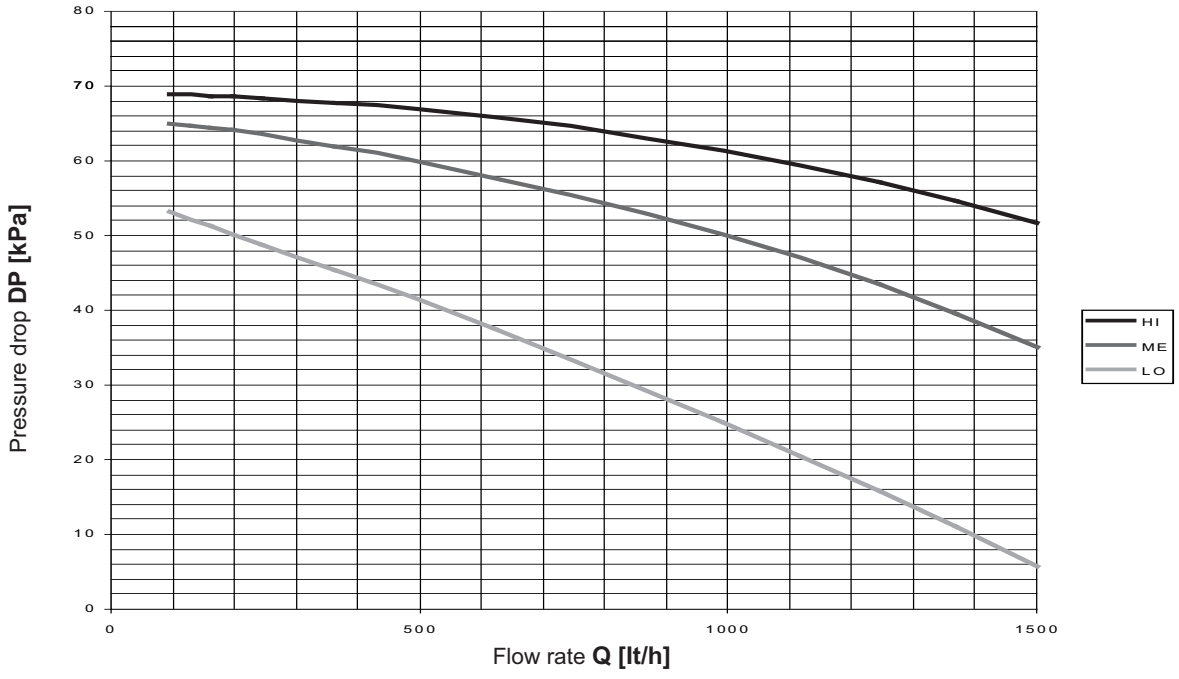
4.3.6 Pump Speed Selection

The pump provided with the module has 3 speeds.
You can select the speed of the module pump to ensure the target flow rate (± 20 %) in the space Heating /Cooling loop, knowing the available pressure of the system at different pump speed (see below pictures for zone with valve) and the pressure drop of the installation.

4.3.6.1 Available Static Pressure with 3WV (Zone 1 as a standard)



4.3.6.2 Available Static Pressure without 3WV (Zone 2)



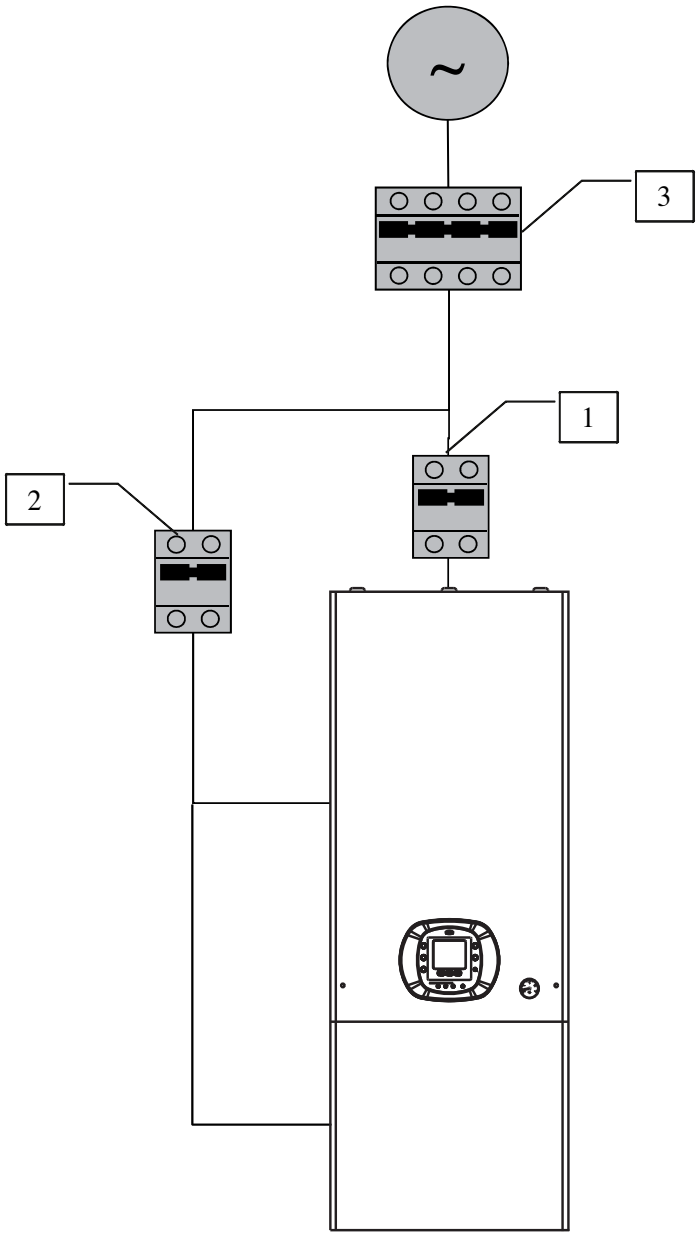
4.3.7 Power Supply

Refer to the Safety Information and the electrical scheme supplied with the unit.
Electrical installation must be according to the below picture and section *80HMA Comfort Module*.

Description	Cable Type	Cable size
2-Zone Kit power supply cable	FROH2R	3G x 1mm^2
Communication cables to the bus	FROH2R	2 x 0.5mm^2

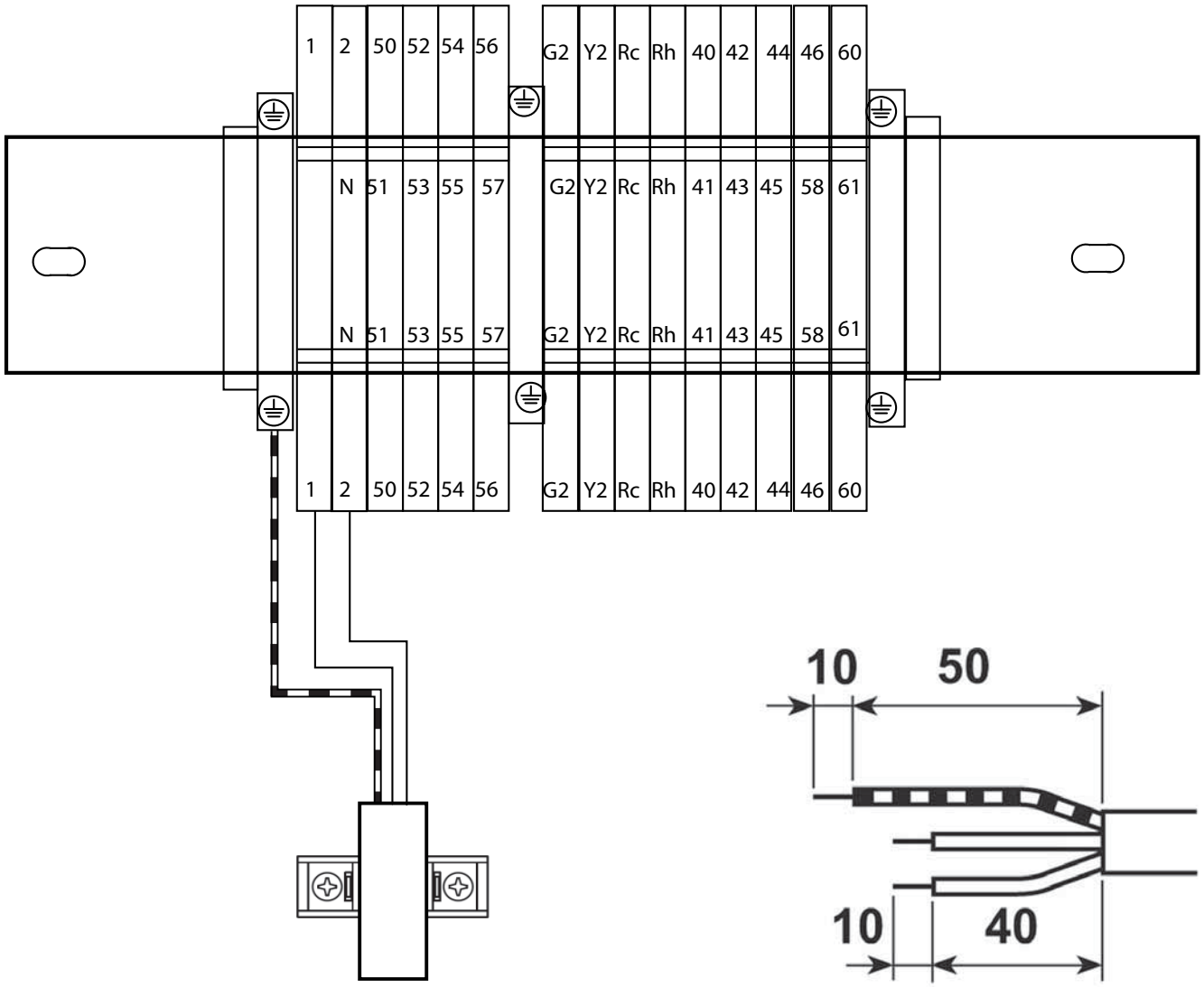
See section *80HMA Comfort Module*.
To prevent any risk, the power cable must only be replaced by the technicians of the after-sales service (type Y connection).

1. Comfort Module Electric Heaters power supply and breaker (connected to pins L/L1,L2,L3 and N in the Comfort Module connector).
2. Main boards power supply and breaker (connected on Pins 1 and 2 in the Comfort Module connector).
3. Main power supply source and breakers (install the breakers in accordance with the maximum power consumption and local regulations).



4.3.8 Wiring Connection Diagram

4.3.8.1 Terminal block Description



4.3.8.2 Discrete Output

Discrete Outputs, terminal block (TB1) connection number - 2 Zone Kit			
Connector Pin	**Description**	**Type**	**Notes**
52-53	Discrete Output - DO#1 (*)	Max 2A 230Vac 50Hz	Water Pump zone 1 is factory connected. Remove the jumper between the pins to add a protection switch, if needed.
54-55	Discrete Output - DO#2 (*)	Max 2A 230Vac 50Hz	Water Pump zone 2 is factory connected. Remove the jumper between the pins to add a protection switch, if needed.
56	Discrete Output - DO#3 (*)	Max 2A 230Vac 50Hz	Open Command for 3WV in Zone 1, factory connected and Par.110.2: 22
57	Discrete Output - DO#4 (*)	Max 2A 230Vac 50Hz	Close Command for 3WV in Zone 1, factory connected and Par.110.3: 23
50	Discrete Output - DO#5 (*)	Max 2A 230Vac 50Hz	If 3WV accessory installed: Open Command for 3WV Zone 2 and Par.110.4: 24
51	Discrete Output - DO#6 (*)	Max 2A 230Vac 50Hz	If 3WV accessory installed: Open Command for 3WV Zone 2 and Par.110.5: 25
9	N	Max 4A 230Vac 50Hz	Available for devices connected. Reference for all 230 V Discrete Ouputs - DO#s
46	Output Status Zone 1 +	Max 20mA 12Vcc	For internal use
60	Output Status Common		
61	Output Status Zone 2 +		

*Refer to variable table and Output value table to configure the desired function.

4.3.8.3 Discrete Input

Discrete Inputs, terminal block (TB1) connection number			
Connector Pin	**Description**	**Type**	**Notes**
58	Discrete Input - DI#1 (*)	Dry Contact	
41	Discrete Input - DI#2 (*)	Dry Contact	
42	Discrete Input - DI#3 (*)	Dry Contact	
44	Discrete Input - DI#4 (*)	Dry Contact	
45	Discrete Input - DI#5 (*)	Dry Contact	
43	Discrete Input - DI#6 (*)	Dry Contact	
Pressure Switch	Discrete Input - DI#7 (*)	Dry Contact	Factory connected - to pressure switch
40	Common	Digital GND	Reference for all dry contact input, except input 7.

*Refer to variable table and Iutput value table to configure the desired function.

Communication Pins		
Connector Pin	**Description**	**Notes**
Rh	Communication bus	To connect to the communication bus
Rc		
G2	12Vcc User interface	User interface power supply
Y2		

Power Supply			
Connector Pin	**Description**	**Feature**	**Notes**
1	L - board	Board power supply	230Vac 50Hz Power supply for board and auxiliary devices
2	N - board		

4.3.9 Mechanical Installation

For mechanical installation, see *Installation Manual*.

4.3.10 Commissioning

See section *80HMA Comfort Module.*

4.4 Operation Controls

4.4.1 Heating/Cooling mode

Select the mode of the zone by:
- User Interface
- Discrete Input DI# (connected to thermostat dry contact)
- Schedule

You can select between the OFF Mode and the mode of the Comfort Module (Cooling/Heating).

If the User Interface - NUI is used and it is selected as in zone
(Par.107: 1 in the Variable Table), the 2 Zone Kit operates to fulfill the request of the selected Room Temperature setpoint, the Water Temperature is calculated THANKS TO the Climatic Curve selected.

4.4.2 Antifreeze Protection

This function prevents the icing of water in the hydronic circuit. It works in all the mode except Cooling mode and drives the system to heat the water inside the pipes.

The threshold can be selected with Par.102 of the Variable Table

4.4.3 Home Antifreeze / too Cold / too Warm Protections

See section 80HMA Comfort Module.
If enabled, it works only if the Room Temperature is measured by the system, when User Interface -NUI is selected as in zone (Par.107: 1).

4.4.4 Discrete Outputs - DO# - Configuration Values Table (2-Zone Kit, 80HMA-9001)

These values have to be assign to the Discrete Output parameter, to set the function in sub-parameters through Par.110.
Note: *If the Discrete Output -DO# has positive configuration, the DO# is HIGH Powered when the corresponding device has to be activated, acting as a Normally Open - NO.*
If the Discrete Output has negative configuration, the Discrete Output is LOW Non powered when the corresponding device has to be activated, acting as a Normally Close - NC.

The following descriptions refer to positive configurations.
Example:
1 → If the Water Pump is prompted to ON, the Discrete Output is high or powered
-1 → If the Water Pump is prompted to ON, the Discrete Output is low or non-powered

No.	Name	Description
0	Not used	Output not configured. Output always Low Level or Non powered
1	Water Pump zone 1	Water Pump
2	Water Pump zone 2	Water Pump
3	Alarm X	Active if an error type A or B in Slave Board or User Interface zone 1 is present (see *Troubleshooting*)
4	Alarm Y	Active if an error type B in Slave Board or User Interface zone 1 is present (see *Troubleshooting*)
5	Alarm W	Active if an error type A or B in Slave Board or User Interface zone 2 is present (see *Troubleshooting*)
6	Alarm Z	Active if an error type B in Slave Board or User Interface zone 2 is present (see *Troubleshooting*)
7	Dehumidifier A zone 1	Command for Dehumidifier. Active only in Cooling Mode
8	Dehumidifier B zone 1	Command for Dehumidifier. Not Active only in OFF Mode
9	Humidifier A zone 1	Command for Humidifier. Active only in Heating Mode
10	Humidifier B zone 1	Command for Humidifier. Not Active only in OFF Mode
11	Dehumidifier A zone 2	Command for Dehumidifier. Active only in Cooling Mode
12	Dehumidifier B zone 2	Command for Dehumidifier. Not Active only in OFF Mode
13	Humidifier A zone 2	Command for Humidifier. Active only in Heating Mode
14	Humidifier B zone 2	Command for Humidifier. Not Active only in OFF Mode
15	Defrost	Active if Defrost is working
16	User Mode HEAT/COOL zone 1	User Mode state. High lever for Heating Mode
17	User Mode HEAT zone 1	Active if Heating Mode is working
18	User Mode COOL zone 1	Active if Cooling Mode is working
19	User Mode HEAT/COOL zone 2	User Mode state. High lever or powered for Heating Mode
20	User Mode HEAT zone 2	Active if Heating Mode is working
21	User Mode COOL zone 2	Active if Cooling Mode is working
22	Proportional Valve Open zone 1	Open Command for proportional valve
23	Proportional Valve Close zone 1	Close Command for proportional valve
24	Proportional Valve Open zone 2	Open Command for proportional valve
25	Proportional Valve Close zone 2	Close Command for proportional valve
26	Fan coil A zone 1	Active only in Heating mode if Water temperature > 25 °C and in Cooling Mode if water temperature <25 °C
27	Fan coil B zone 1	Active in Heating and Cooling mode
28	Fan coil C zone 1	Active only in Heating mode if Water temperature > 25 °C and in Cooling Mode
29	Fan coil A zone 2	Active only in Heating mode if Water temperature > 25 °C and in Cooling Mode if Water Temperature <25 °C
30	Fan coil B zone 2	Active in Heating and Cooling mode
31	Fan coil C zone 2	Active only in Heating mode if Water Temperature > 25 °C and in Cooling mode
32	Pool Water Valve	Pool Water Valve
33	Shut off valve	Shut OFF valve for the 2-Zone Kit

Note: *These Discrete Outputs -DO# are factory set. Do NOT change them.*

DO#1 → Par.110.0: 1 (Water Pump Zone 1)
DO#2 → Par.110.1: 2 (Water Pump Zone 2)
DO#3 → Par.110.2: 22 (Proportional Valve Open zone 1)
DO#4 → Par.110.3: 23 (Proportional Valve Close zone 1)

4.4.5 Discrete Inputs - DI# - Configuration Values Table (for 2-Zone Kit 80HMA-9001)

The inputs are completely customisable using Par.111 of the Variable Table (see section *80HMA Comfort Module*).

Note: *If the input has positive configuration, input CLOSE is read as a request. If the input has negative configuration, input OPEN is read as a request.*

All the descriptions are referred to positive configurations. Example:

1 → If contact is close, there is Domestic Hot Water production request

-1 → If contact is open, there is Domestic Hot Water production request

No.	Name	Description
0	Not Used	Input not used
1	On/Off Command Thermostat A* Zone 1	Input from Thermostat type A. Not depending from Mode. (Close = Room Temperature < Room Setpoint Temperature)
2	On/Off Command Thermostat B* Zone 1	Input from Thermostat type B. Depending from Mode. (Close = Demand)
3	On/Off Command Thermostat A* Zone 2	Input from Thermostat type A. Not depending from Mode. (Close = Room Temperature < Room Setpoint Temperature)
4	On/Off Command Thermostat B* Zone 2	Input from Thermostat type B. Depending from Mode. (Close = Demand)
5	Eco input Zone 1	ECO request. (Close = ECO Active)
6	Eco input Zone 2	ECO request. (Close = ECO Active)
7	Safety input Zone 1	Safety Input (Close = Safety Active)
8	Safety input Zone 2	Safety Input (Close = Safety Active)
9	Pressure switch	Pressure Switch Input (Close = Flow)
10	Flow switch Zone 1	Flow Switch Input (Close = Flow)
11	Flow switch Zone 2	Flow Switch Input (Close = Flow)
12	Control input Zone 1	Special setting. Do NOT use to avoid loosing configuration
13	Control input Zone 2	Special setting. Do NOT use to avoid loosing configuration

4.4.6 Analogue Input Configuration

The temperature sensors of the water in the disconnection tank and of the leaving water to the zone 1, are factory connected.
If the 3-way valve 80HMA9028 kit is installed, the additional temperature sensor will be connected to the board and it is necessary to configure it on the Variable Table (Par.112.5).

NB: These Inputs are factory set. Do NOT change them.

Par.112.3 → set to 1
Par.112.4 → set to 1
Par.112.5 → set to 0

4.5 Maintenance

See section *80HMA Comfort Module.*

4.5.1 Troubleshooting

In case of system failure, the alarm icon ⚠ will light up on the user interface.
Failures are identified by a fault code.
Active fault codes will be displayed in sequence, with a change rate of 1 second.
Refer to section *80HMA Comfort Module* for the description of fault codes.

4.6 Safety Recommendations

See section *80HMA Comfort Module* and Safety information.

5.1 Schematics and Configuration

The Schematic and Configuration section has been created to guide you during the first configuration during Start-up. The schematics will provide you a better understanding on the major arrangements of components and accessories. Refer to the following table to find out the best schematic reflecting your system, where the major schematics used in the field are proposed.

As there are multiple possibilities to configure the Inputs / Outputs functionalities, you can use different schematic configurations to re-design your system.
For example, using the configurations "free", you will be able to add a needed functionality (i.e. Alarm report on a non used Discrete Output).

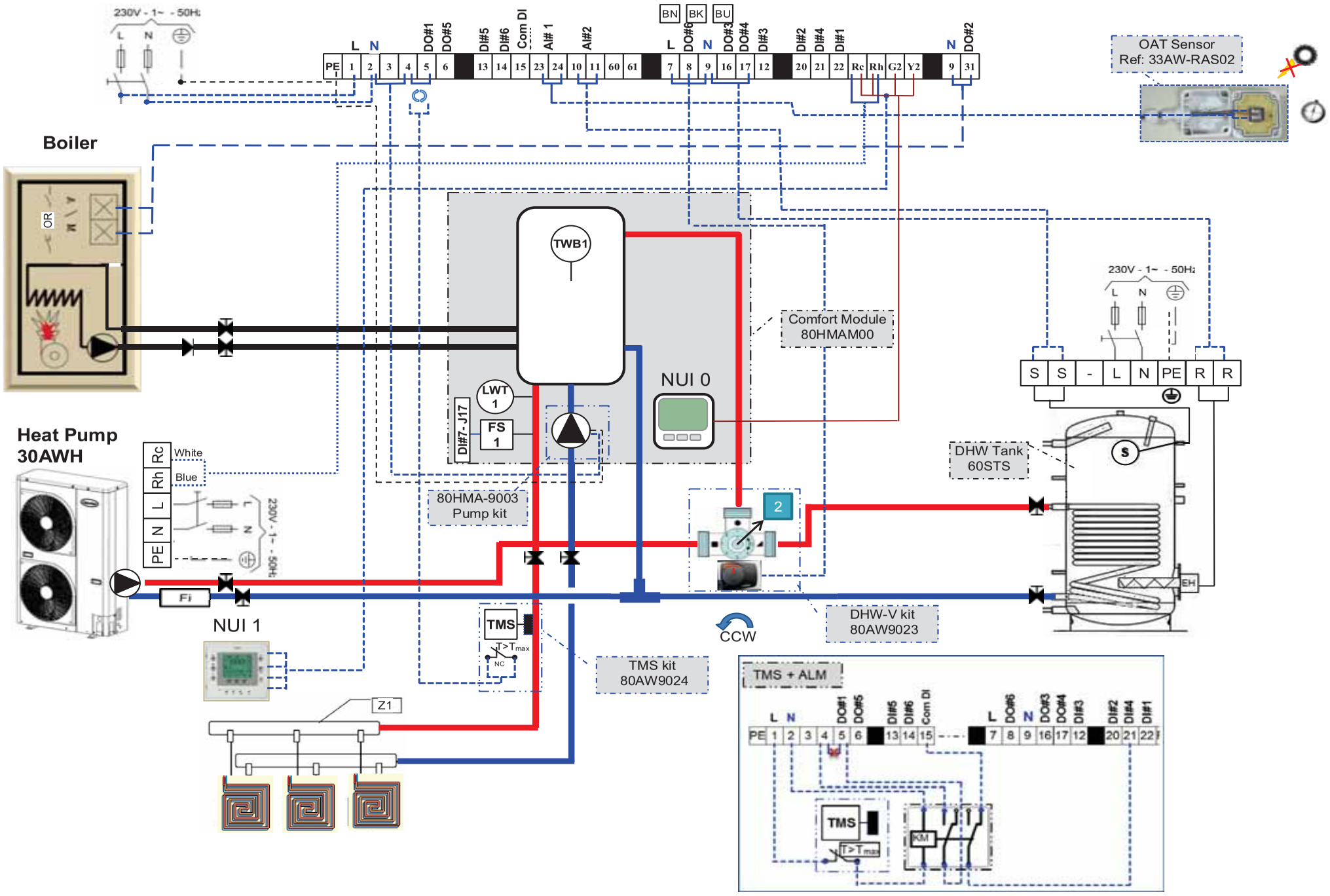
5.1.1 Schematics List

Schematic nb	Nb of Zones	Comfort Module Type	2 Zone Kit	30AWH--HC	UFH	TFCU	Radiator	3WV-2 - Zone 2	NUI(0) + NUI(1) / NUI(2)	Thermostat	DHW-Tank / + Solar ✷	Water Pump	BPHE
Schematic- 1.01	1	M00		●	●				●		●	●	
Schematic- 1.01b	1	M00		●	●				●		✷	●	
Schematic- 1.02	1	M03		●	●				●		●	♦	
Schematic- 1.03	1	M06		●	●				●		●	♦	
Schematic- 1.04	1	T06		●	●				●		●	♦	
Schematic- 1.05	1	T09		●	●				●		●	♦	
Schematic- 1.06	1	M/T		●	●				●		●	●	
Schematic- 1.07	1	M/T		●	●				●		✷	●	
Schematic- 1.08	1	M/T		●		●			●		●	●	
Schematic- 1.09	1	M/T		●			●		●		●	●	
Schematic- 2.01	2	M00	●	●	●			●	●●		●		
Schematic- 2.02	2	M03	●	●	●			●	●●		●		
Schematic- 2.03	2	M06	●	●	●			●	●●		●		
Schematic- 2.04	2	T06	●	●	●			●	●●		●		
Schematic- 2.05	2	T09	●	●	●			●	●●		●		
Schematic- 2.06	2	M/T	●	●	●			●	●●		✷		
Schematic- 2.07	2	M/T	●	●	●	●		♦	●●		●		
Schematic- 2.08	2	M/T	●	●	●		●	♦	●●		✷		
Schematic- 3.01	2	M/T	●	●	●			●	● 0	●●			
Schematic- 3.02	2	M/T	●	●	●	●	●	♦	● 0	●●			
Schematic- 3.03	2	M/T	●	●	●	●	●	♦	●Z1	●			
Schematic- 3.04	2	M/T	●	●	●	●	●	♦	●	●Z2			
Schematic- 3.05	1	M/T		●					● 0	●Z1			
Schematic- 3.06	1~2	M/T		●							Ext.		
Schematic- 3.07	1~2	M/T		●									●

Legend	
Used	●
Possible to use	♦
Do not affect configuration	
DHW-T & Solar	✷

LEGEND	
Label	**Description**
2ZK	Two Zone Kit
3WV-1 or 3WV-2	3 Way Valve in Zone 1 or Zone 2 (Accessory)
AI#	Analogic Input & Number
BPHE	Brazed Plate Heat Exchanger, Water Primary loop to Water Secondary loop exchanger
CM / HMA	Comfort Module / HMA
DHW	Domestic Hot Water
DHW-S.	Domestic Hot Water Temperature Sensor - Located in DHW-Tank 60STS/STD
DHW-T	Domestic Hot Water Tank
DHW-V	Domestic Hot Water Valve or Diverting Valve
DI#	Discrete Input & Number
DO#	Discrete Output & Number
ECO_Mode Z1 or Z2	Economic Mode for Zone 1 or 2
EH1 or EH2	Electrical Heaters Backup for Comfort Stage 1 or Stage 2
EHS->DHW-T	Electrical Heaters Boosters on the Domestic Hot water Tank
Ext.ALM	Discrete Input used to take in account an external device in Alarm.
Fi	Water Filter
Free	Discrete Input/Output or Analogic Input not used and available for any suitable configuration (see table Input/Output value)
FS	Flow Switch located in Comfort Module
H/C Mode	Cooling or Heating Mode @ Comfort Module Level
HIP	Low Pressure Switch on Water side located in the 2 Zone Kit - Same function as a Flow switch
LWT1	Leaving Water Temperature controlled by the Comfort Module
Master	Master board on Comfort Module - Bus Address 10
NUI(0)	User Interface on Comfort Module - Not used as a thermostat -
NUI(1)	User Interface in the Zone 1
NUI(2)	User Interface in the Zone 2
OAT	Outdoor Air Temperature Sensor or value
OFF Peak	To lower consumption of electricity during High Rate period, Unit will run in ECO mode. For M00 only, the unit will work with Boiler only.
ON / OFF	ON / OFF system @ Comfort Module Level
Slave	Slave board on 2 Zone kit - Bus Address from 21 to 84 -
Spt	Setpoint
TFCU	Terminal Fan Coil Unit
TH-1(A) / TH-2(A)	Thermostat Type A in Zone 1 or 2
TH-1(B) / TH-2(B)	Thermostat Type B in Zone 1 or 2
Th-S Solar	Dry Contact used from external control, Demand to produce Hot Water with the Heat Pump
TMS1-ALM or TMS2-ALM	Maximum Temperature Safety - Used to protect UFH against too high temperature
Tstat-1 or Tstat-2	Thermostat in Zone 1 or Zone 2
TWB1	Water Temperature in the Comfort module Tank
TWB2	Water Temperature in the 2 Zone Kit decoupling bottle
UFH	Under Floor Heating device
WP / WP-1 / WP-2	Water Pump
WT1 or WT2	Leaving Water Temperature controlled by the 3 Way Valve in Zone 1 or Zone 2 (Accessory)

Schematic- 1.01	Zone 1	X	HMA-M00	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.01	Zone 1	X	HMA-M00	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	WP-1	1
110.1	DO#2 ~ (9-31)	**Boiler**	**8**
110.2	DO#3 ~ (9-16)	*Free*	0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	*Free*	0	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
80	Boiler [in tank]	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
79	Boiler delay time (min)	15	
101	OAT [Boiler=ON & HP=OFF] (°C)	-5	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

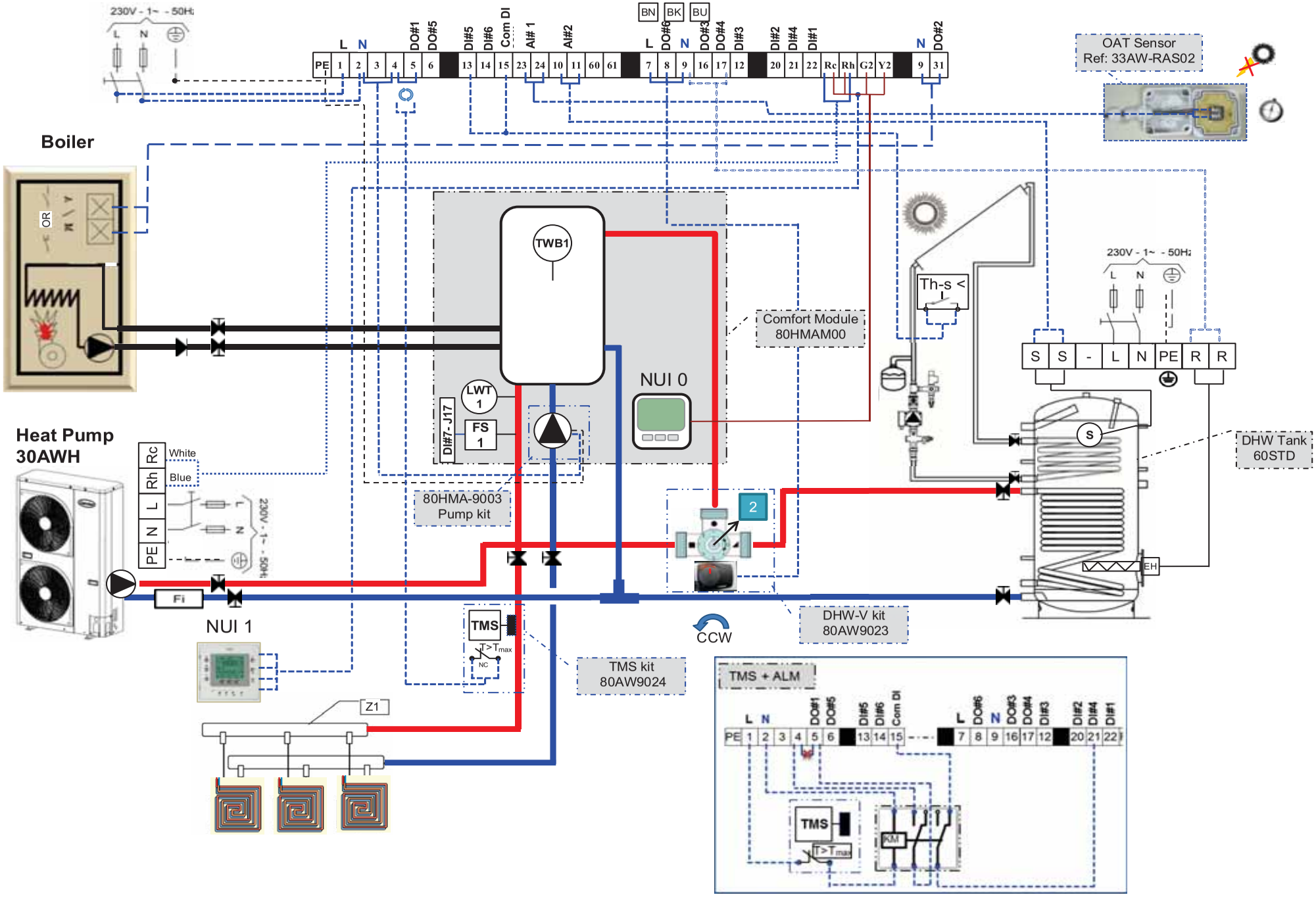
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.01b	Zone 1	X	HMA-M00	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar	X	HP-no.com		BPHE	



Schematic- 1.01b	Zone 1	X	HMA-M00	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar	X	HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	WP-1	1
110.1	DO#2 ~ (9-31)	**Boiler**	**8**
110.2	DO#3 ~ (9-16)	*Free*	0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	Th-S Solar step	1	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=1, WT sensor =1	2	
80	Boiler [in tank]	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
79	Boiler delay time (min)	15	
101	OAT [Boiler=ON & HP=OFF] (°C)	-5	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

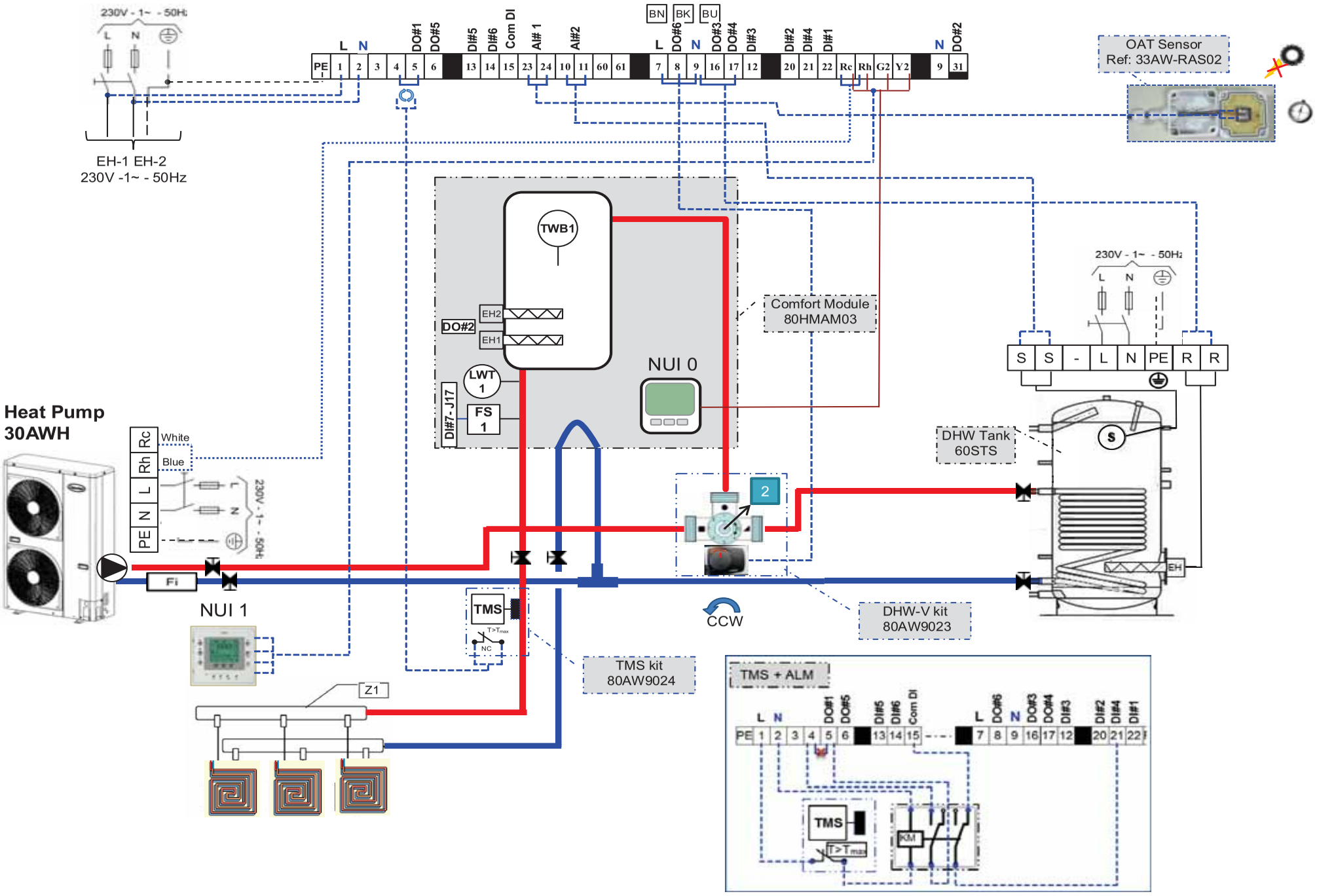
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.02	Zone 1	X	HMA-M03	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.02	Zone 1	X	HMA-M03	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	Free	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	*Free*	0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	*Free*	0	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

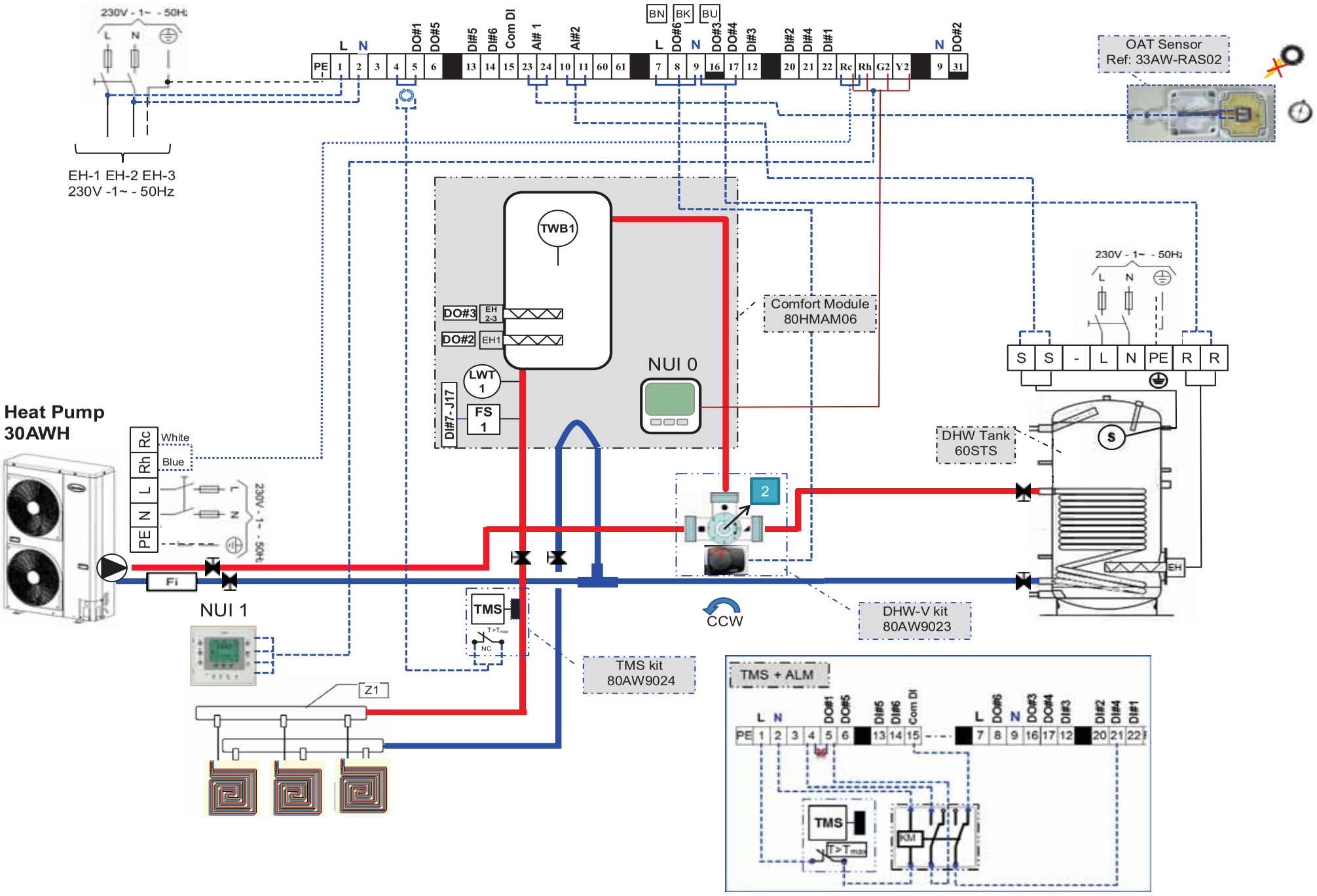
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.03	Zone 1	X	HMA-M06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.03	Zone 1	X	HMA-M06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	Free	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2**	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	*Free*	0	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

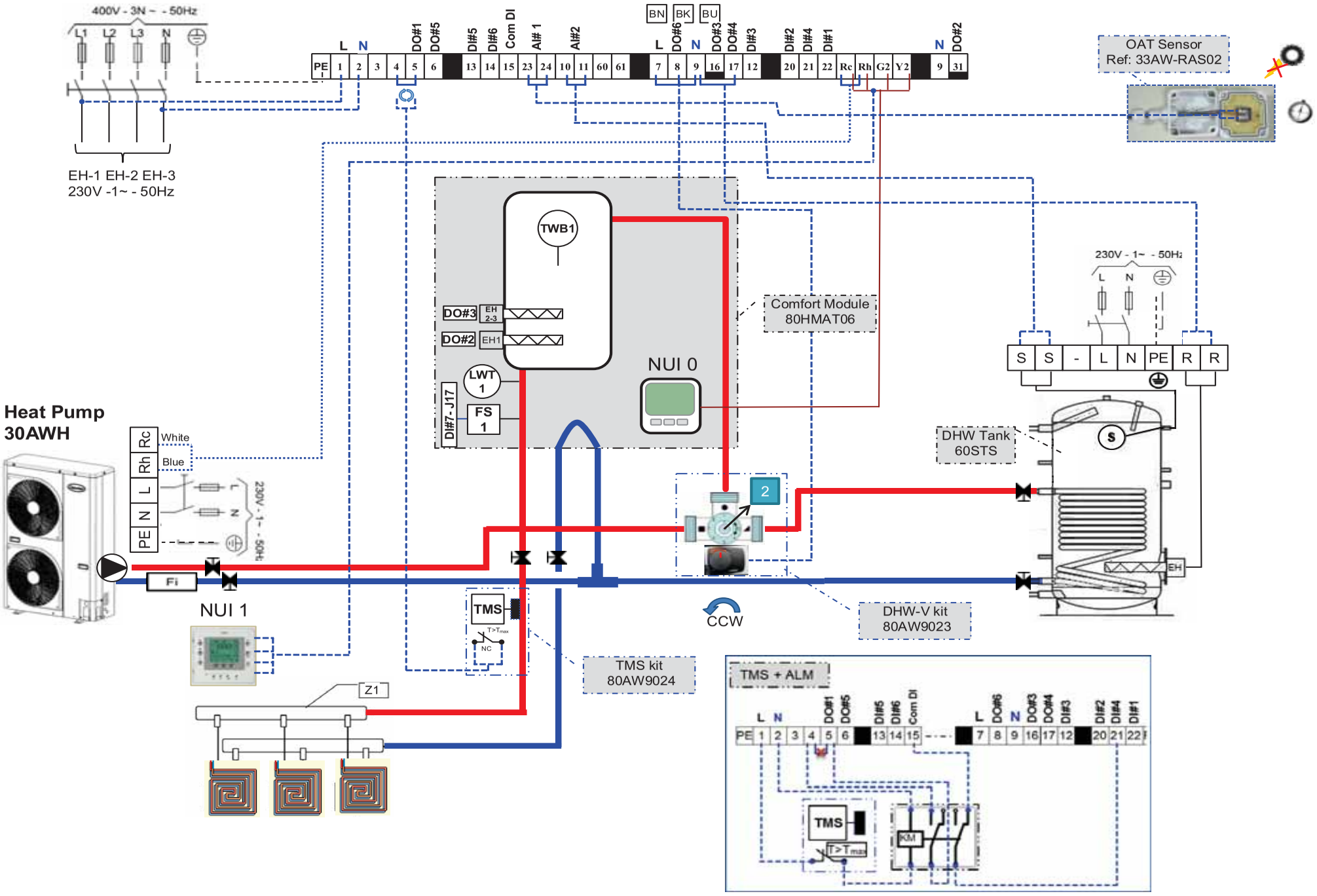
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.04	Zone 1	X	HMA-T06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.04	Zone 1	X	HMA-T06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	Free	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2**	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	*Free*	0	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

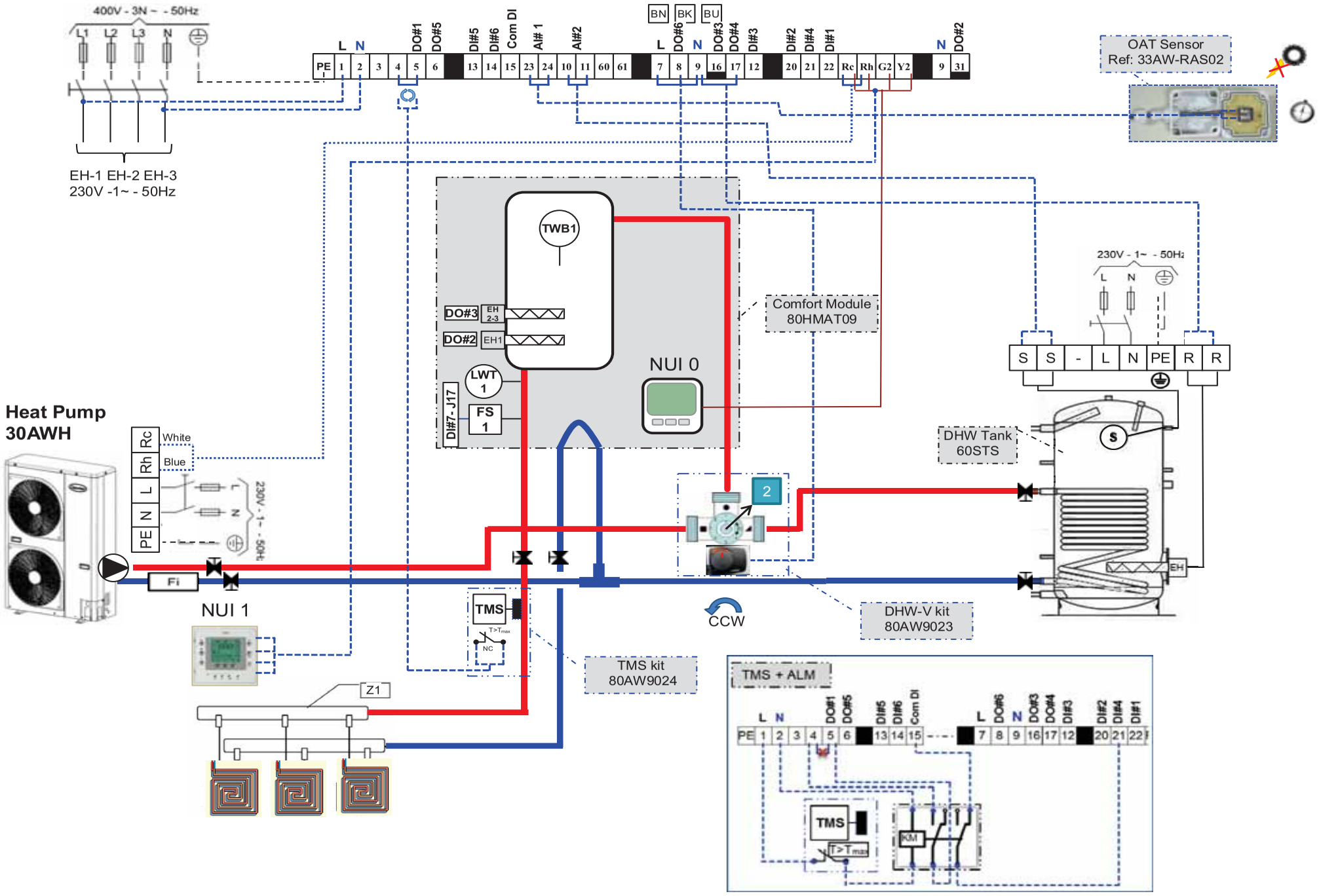
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.05	Zone 1	X	HMA-T09	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.05	Zone 1	X	HMA-T09	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	Free	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2**	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	*Free*	0	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

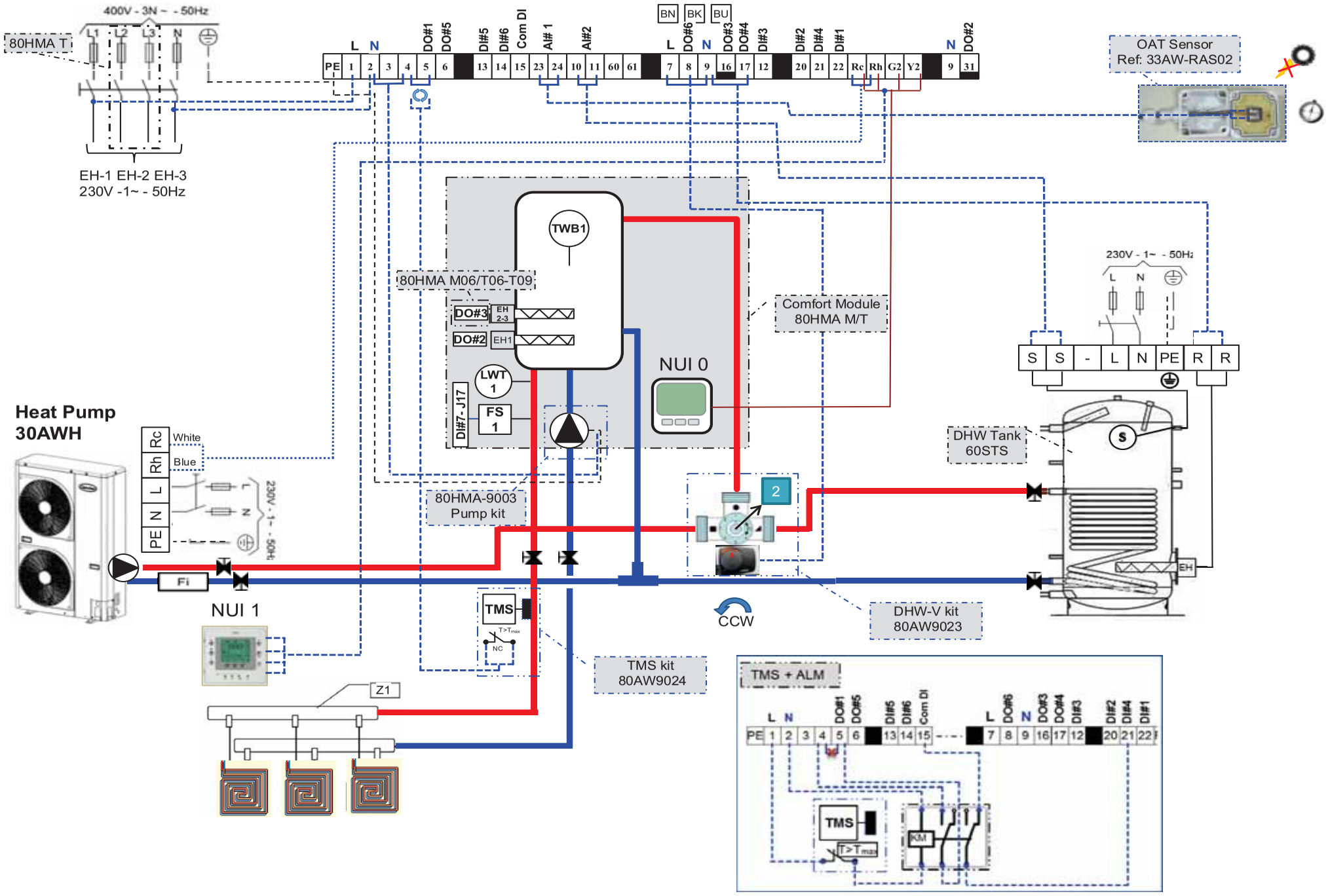
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.06	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.06	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value				
Par. Nb	Name	Use	Value	
110.0	DO#1 ~ (9 - 4)	WP-1	1	
110.1	DO#2 ~ (9-31)	**EH1**	**6**	
110.2	DO#3 ~ (9-16)	**EH2**	**7**	→ For M03 Value = 0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9	
110.4	DO#5 ~ (9 - 6)	*Free*	0	
110.5	DO#6 ~ (9 - 4)	DHW-V	2	

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	*Free*	0	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

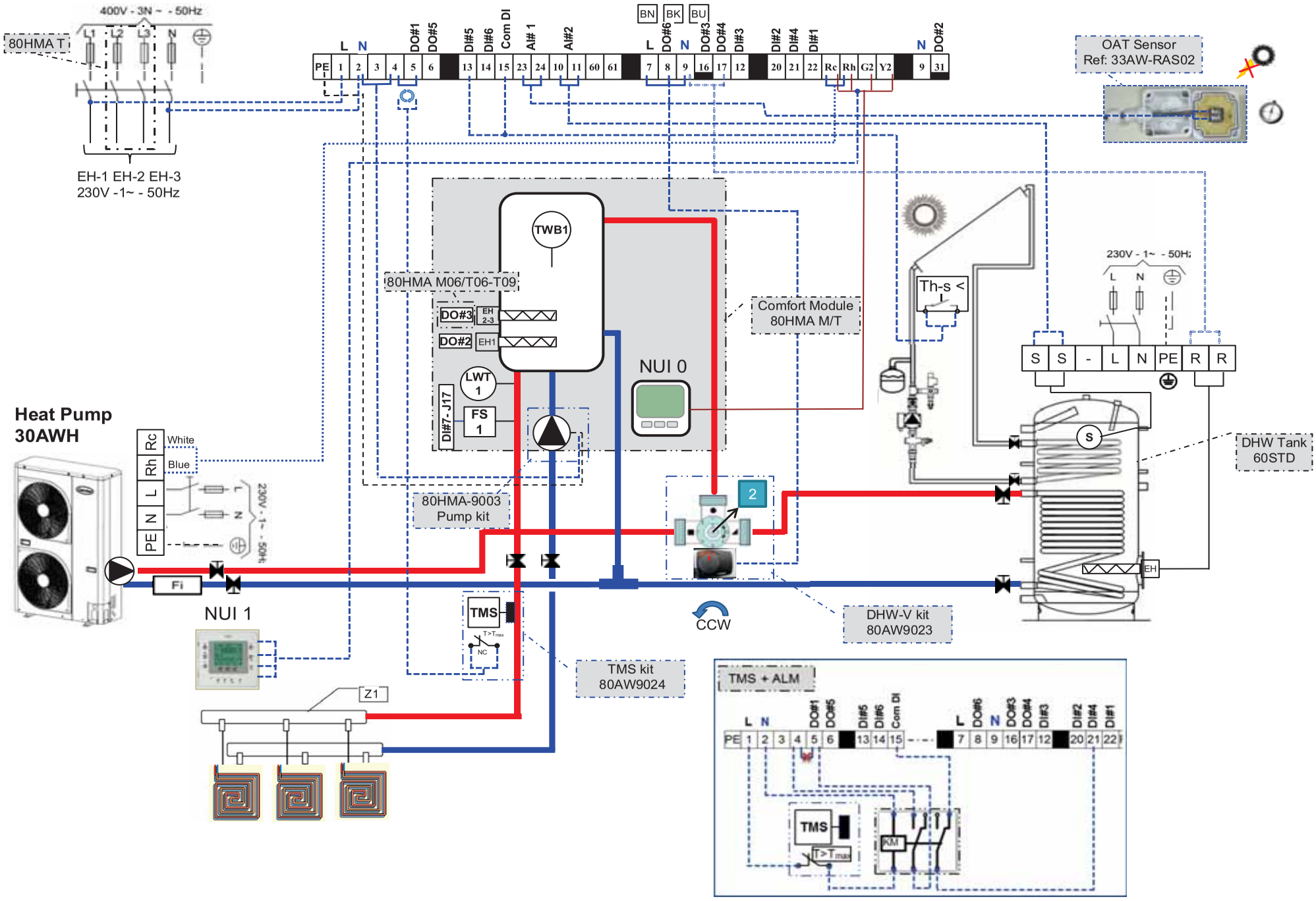
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.07	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar	X	HP-no.com		BPHE	



Schematic- 1.07	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar	X	HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value				
Par. Nb	Name	Use	Value	
110.0	DO#1 ~ (9 - 4)	WP-1	1	
110.1	DO#2 ~ (9-31)	**EH1**	**6**	
110.2	DO#3 ~ (9-16)	**EH2**	**7**	→ For M03 Value = 0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9	
110.4	DO#5 ~ (9 - 6)	*Free*	0	
110.5	DO#6 ~ (9 - 4)	DHW-V	2	

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (15-22)	*Free*	0	
111.1	DI#2 ~ (15-20)	*Free*	0	
111.2	DI#3 ~ (15-12)	*Free*	0	
111.3	DI#4 ~ (15-21)	*TMS Alarm*	10	→ option: Use relays fields supplied (see diagram)
111.4	DI#5 ~ (15-13)	Th-S Solar step	1	
111.5	DI#6 ~ (15-14)	*Free*	0	
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**	

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=1, WT sensor =1	2	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

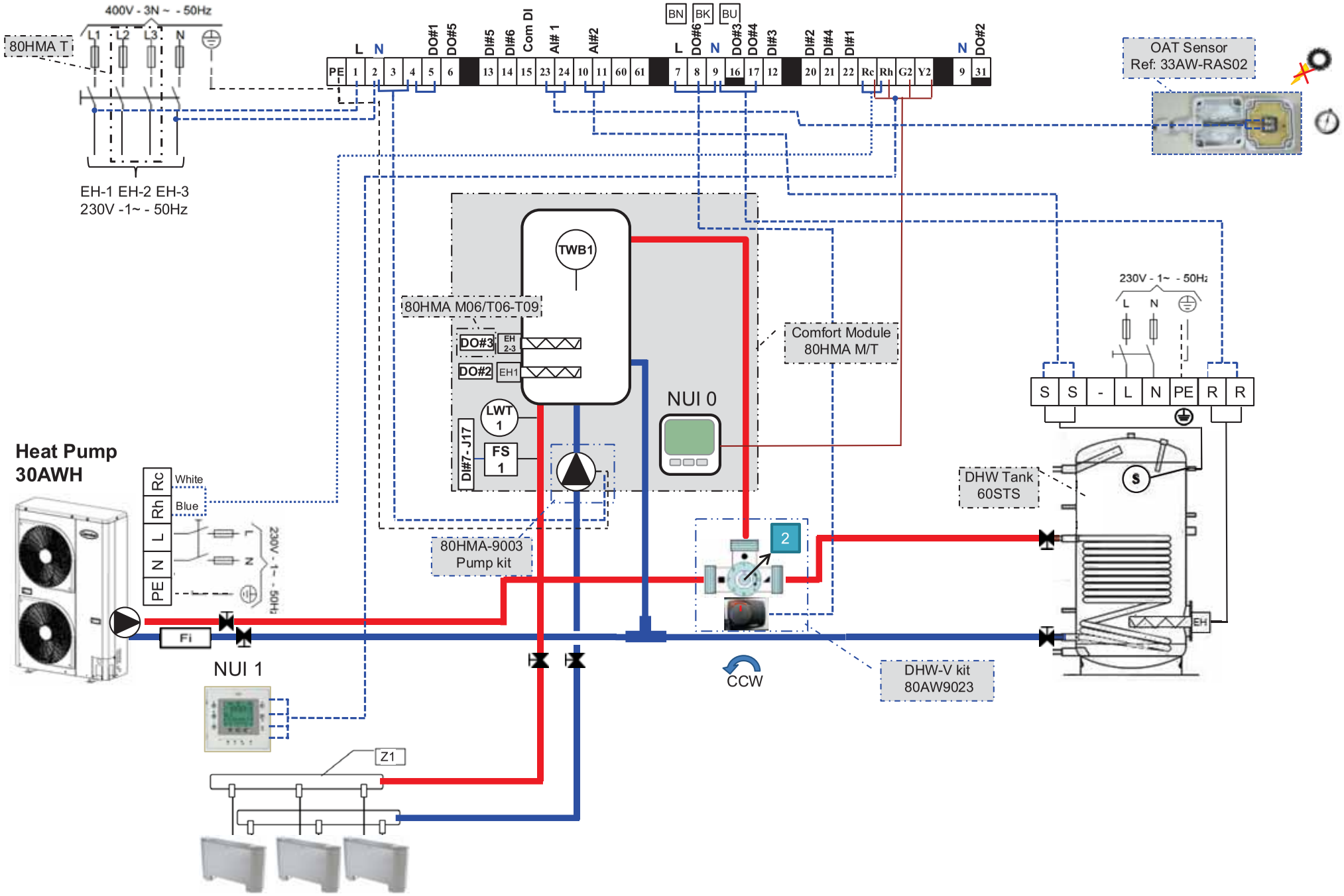
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.08	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH		TMS 1-2		DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU	X	Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 1.08	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH		TMS 1-2		DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU	X	Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value				
Par. Nb	Name	Use	Value	
110.0	DO#1 ~ (9 - 4)	WP-1	1	
110.1	DO#2 ~ (9-31)	**EH1**	**6**	
110.2	DO#3 ~ (9-16)	**EH2**	**7**	→ For M03 Value = 0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9	
110.4	DO#5 ~ (9 - 6)	*Free*	0	
110.5	DO#6 ~ (9 - 4)	DHW-V	2	

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

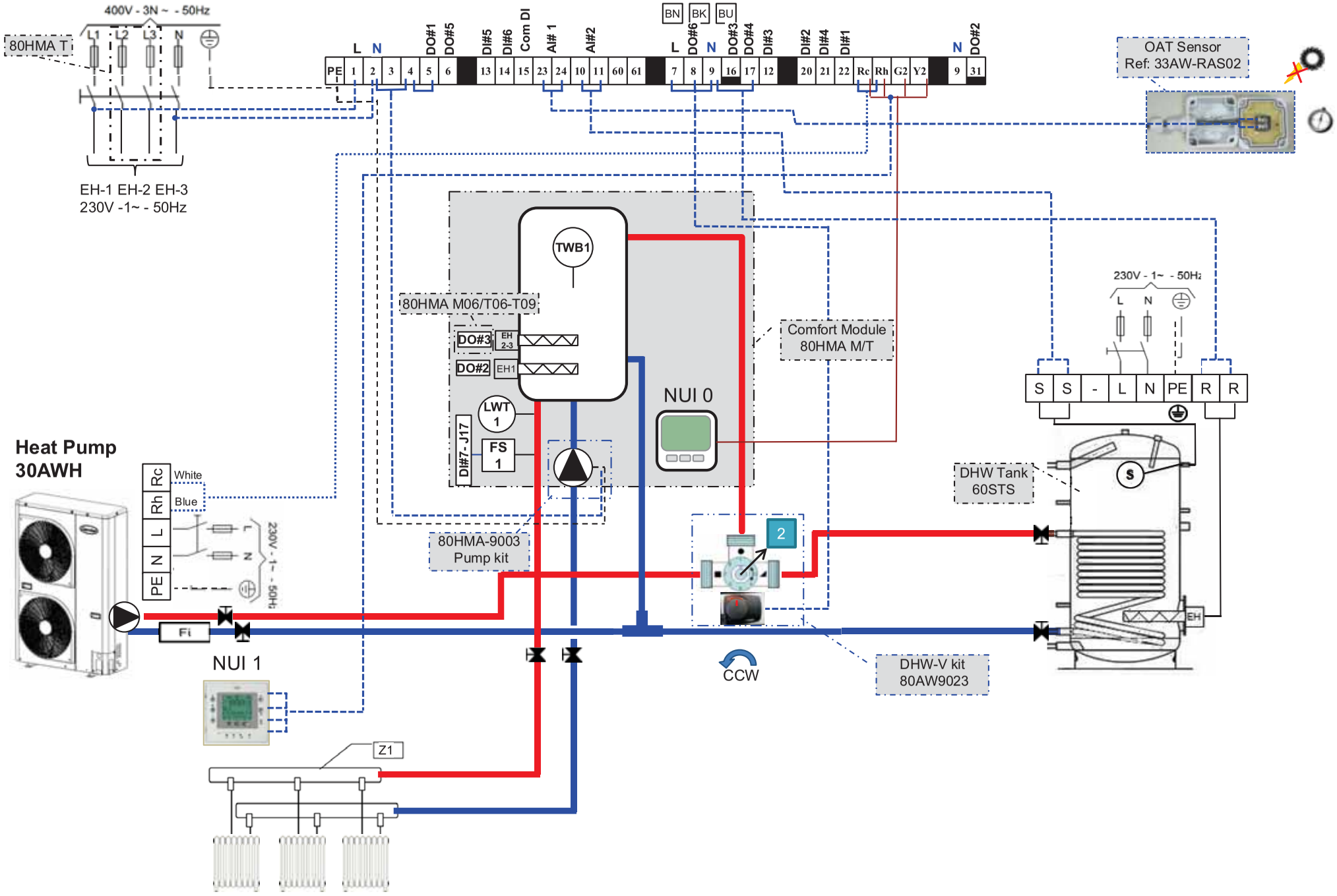
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 1.09	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH		TMS 1-2		DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator	X	(+) Solar		HP-no.com		BPHE	



Schematic- 1.09	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH		TMS 1-2		DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator	X	(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. **Board Selected Address: MASTER**

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10**	Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
22	Zone	1 or 2	Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

Discrete Outputs configuration Value				
Par. Nb	Name	Use	Value	
110.0	DO#1 ~ (9 - 4)	WP-1	1	
110.1	DO#2 ~ (9-31)	**EH1**	**6**	
110.2	DO#3 ~ (9-16)	**EH2**	**7**	→ For M03 Value = 0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9	
110.4	DO#5 ~ (9 - 6)	*Free*	0	
110.5	DO#6 ~ (9 - 4)	DHW-V	2	

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values		
127	Board address Selected	10	10	
22	Virtual Zone selection	1	2	
126	NUI Connected Address	85	86	
107	NUI in Zone [Use]	0	1	
128	NUI used: own address	85	86	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [before tank]	0	
105	System Type	1	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values	
91	Electrical Heater Priority [All=On]	0	
92	OAT Spt for EHS=On (°C)	4	
93	WT Hysteresis for EHS=On (°C)	3	
94	Delay for Backup Heaters (min)	10	
102	Water Anti-Freeze Setpoint (°C)	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1	
108.1	Cooling authorization in Zone	0	
108.2	Heating authorization in Zone	1	
108.3	FS [Water Flow & Pump=OFF]	1	
109.2	DHW Production if Anti-Legionella = Fail	1	
109.3	Boiler/EHS= OFF even if HP= Fail	0	
11.0	Home Freeze protection	1	
11.2	WP=ON all time	0	
12	Home Freeze protection Spt (°C)	6	

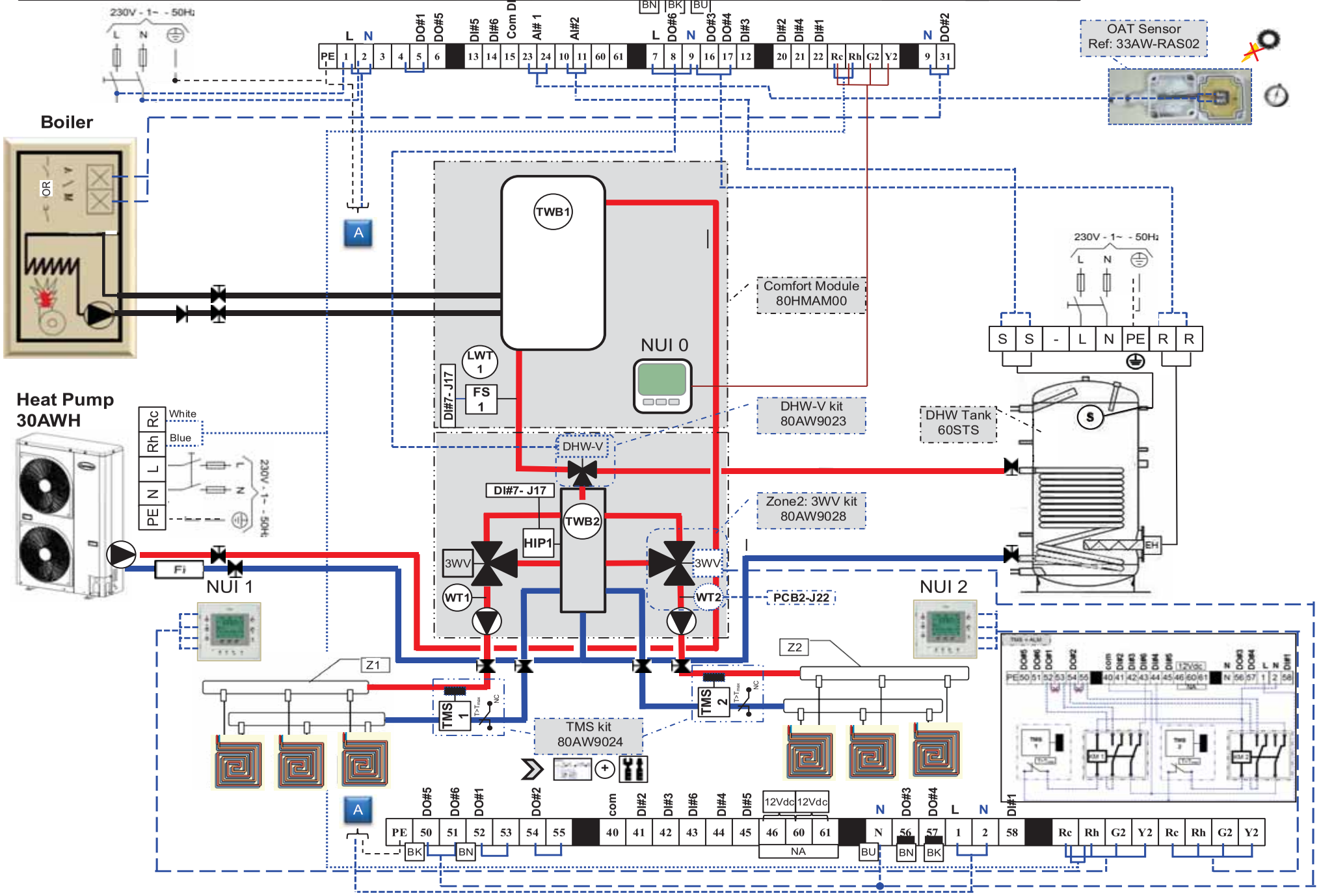
5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) DHW Setpoint Eco mode (Par.77)
3) Anti-legionella setting (Par.82 > 86)
4) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
5) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Schematic- 2.01	Zone 1	X	HMA-M00	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 2.01	Zone 1	X	HMA-M00	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**Boiler**	**8**
110.2	DO#3 ~ (9-16)	*Free*	0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
80	Boiler [in tank]	1	
81	DHW-V [before tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
77	DHW Setpoint Eco mode	5		
79	Boiler delay time (min)	15		
101	OAT [Boiler=ON & HP=OFF] (°C)	-5		
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1		
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
108.3	FS [Water Flow & Pump=OFF]	1		
109.2	DHW Production if Anti-Legionella = Fail	1		
109.3	Boiler/EHS= OFF even if HP= Fail	0		
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time	0	0	0
12	Home Freeze protection Spt (°C)		6	6
124	Slave Type [Kit 2 Zone= 1]		1	1

→ Anti-Freeze solution requested below this point

5) Other configurations

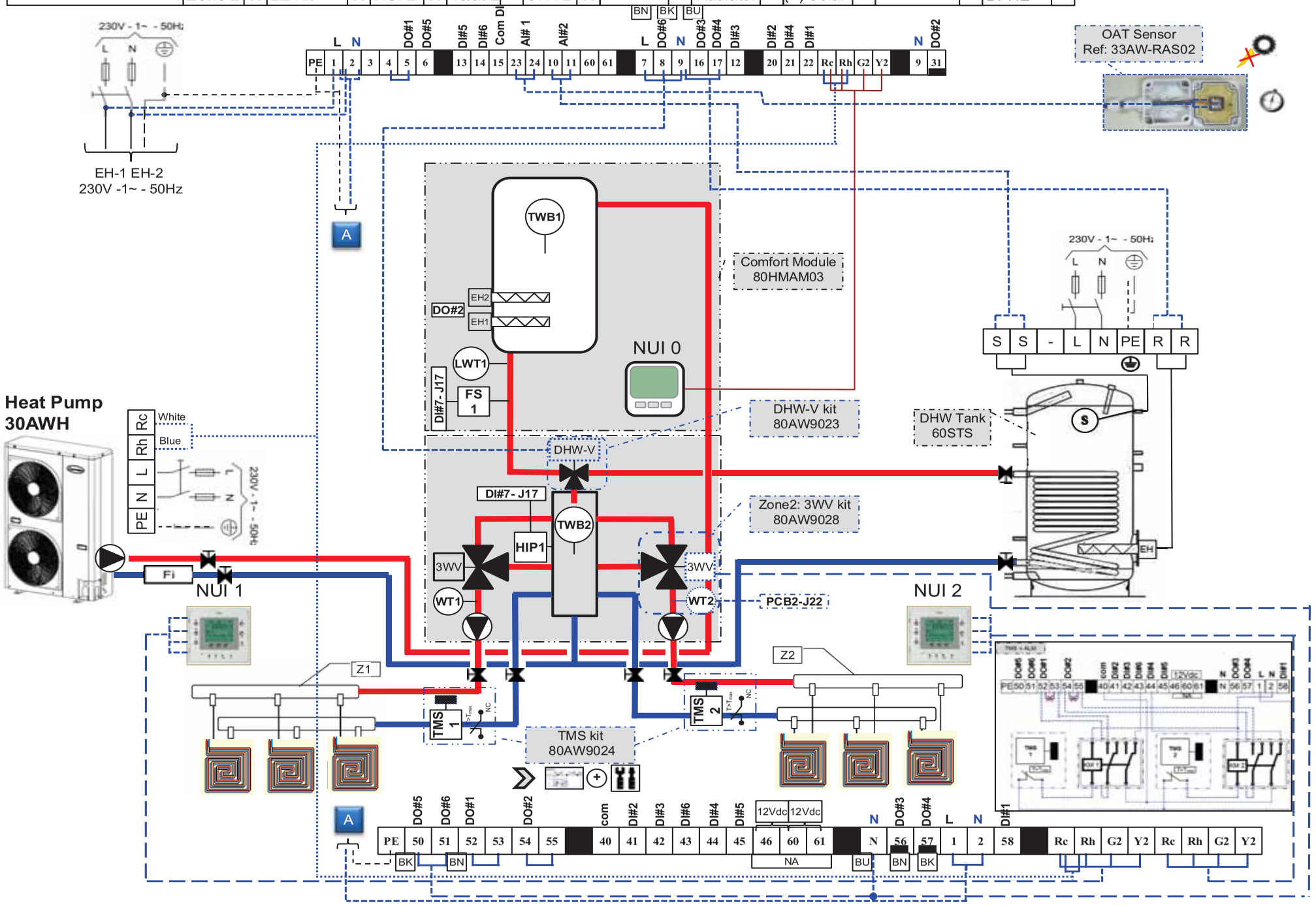
1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'

Schematic- 2.02	Zone 1	X	HMA-M03	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 2.02	Zone 1	X	HMA-M03	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	*Free*	0
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
77	DHW Setpoint Eco mode	5		
79	Boiler delay time (min)	15		
101	OAT [Boiler=ON & HP=OFF] (°C)	-5		
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1		
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
108.3	FS [Water Flow & Pump=OFF]	1		
109.2	DHW Production if Anti-Legionella = Fail	1		
109.3	Boiler/EHS= OFF even if HP= Fail	0		
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time	0	0	0
12	Home Freeze protection Spt (°C)		6	6
124	Slave Type [Kit 2 Zone= 1]		1	1

→ Anti-Freeze solution requested below this point

5) Other configurations

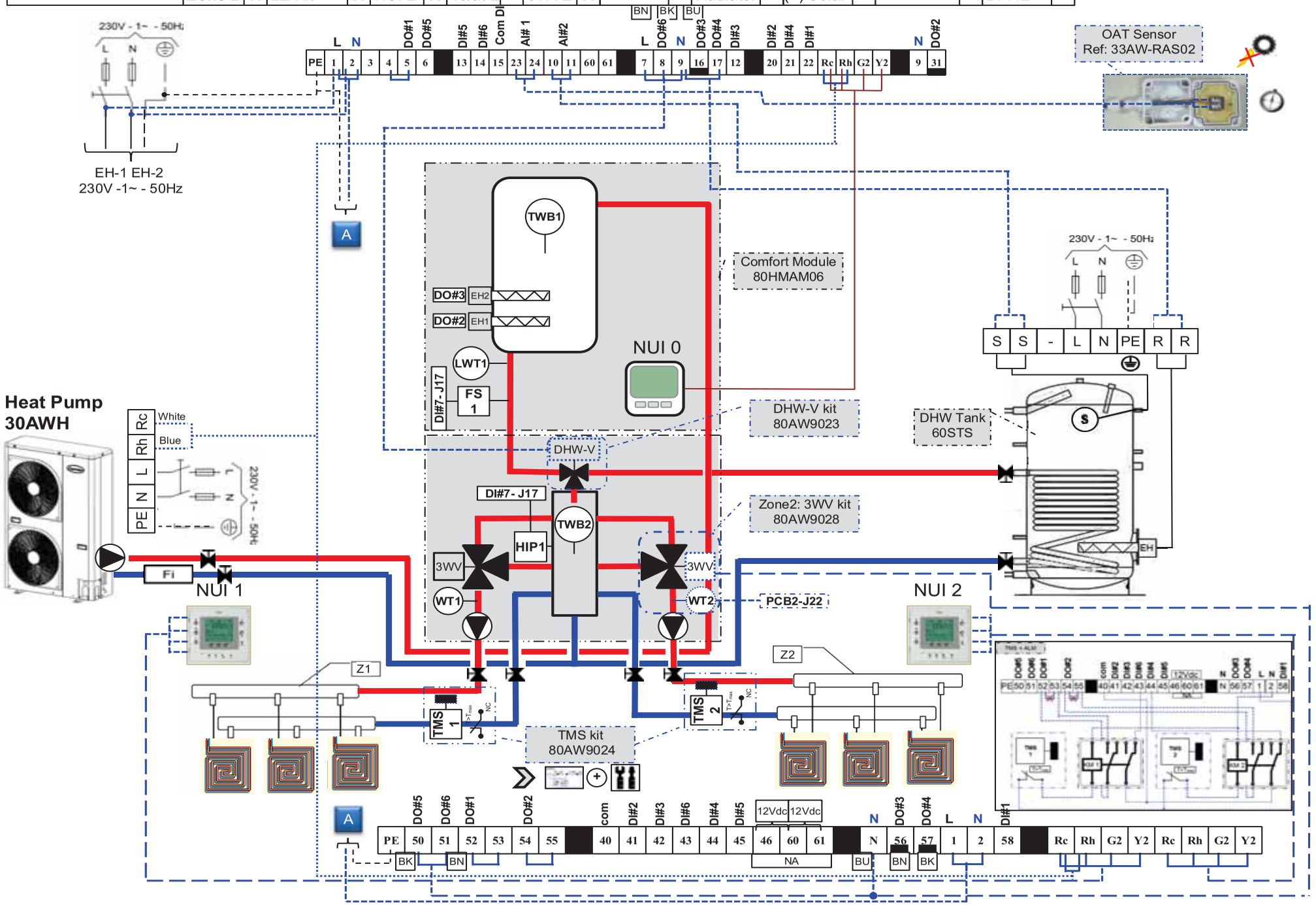
1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'

Schematic- 2.03	Zone 1	X	HMA-M06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 2.03	Zone 1	X	HMA-M06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2**	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values			
127	Board address Selected (1)	**10**	**21**		
22	Virtual Zone selection (2)	1	1	2	
77	DHW Setpoint Eco mode	5			
79	Boiler delay time (min)	15			
101	OAT [Boiler=ON & HP=OFF] (°C)	-5			
102	Water Anti-Freeze Setpoint (°C)	4	4	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1			
108.1	Cooling authorization in Zone	0	0	0	
108.2	Heating authorization in Zone	1	1	1	
108.3	FS [Water Flow & Pump=OFF]	1			
109.2	DHW Production if Anti-Legionella = Fail	1			
109.3	Boiler/EHS= OFF even if HP= Fail	0			
11.0	Home Freeze protection	1	1	1	
11.2	WP=ON all time	0	0	0	
12	Home Freeze protection Spt (°C)		6	6	
124	Slave Type [Kit 2 Zone= 1]		1	1	

5) Other configurations

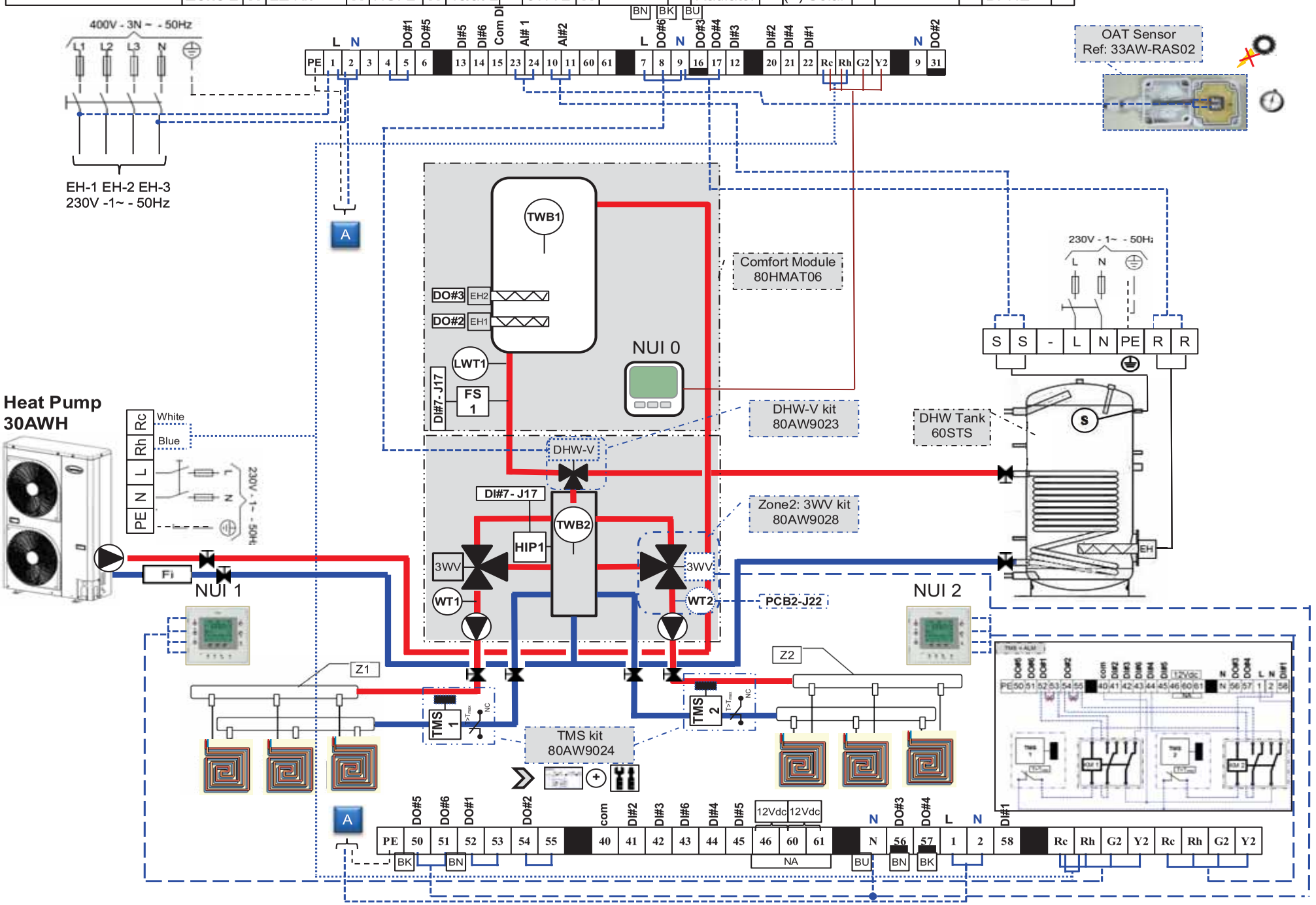
1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'

Schematic- 2.04	Zone 1	X	HMA-T06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 2.04	Zone 1	X	HMA-T06	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2**	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values			
127	Board address Selected (1)	**10**	**21**		
22	Virtual Zone selection (2)	1	1	2	
77	DHW Setpoint Eco mode	5			
79	Boiler delay time (min)	15			
101	OAT [Boiler=ON & HP=OFF] (°C)	-5			
102	Water Anti-Freeze Setpoint (°C)	4	4	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1			
108.1	Cooling authorization in Zone	0	0	0	
108.2	Heating authorization in Zone	1	1	1	
108.3	FS [Water Flow & Pump=OFF]	1			
109.2	DHW Production if Anti-Legionella = Fail	1			
109.3	Boiler/EHS= OFF even if HP= Fail	0			
11.0	Home Freeze protection	1	1	1	
11.2	WP=ON all time	0	0	0	
12	Home Freeze protection Spt (°C)		6	6	
124	Slave Type [Kit 2 Zone= 1]		1	1	

5) Other configurations

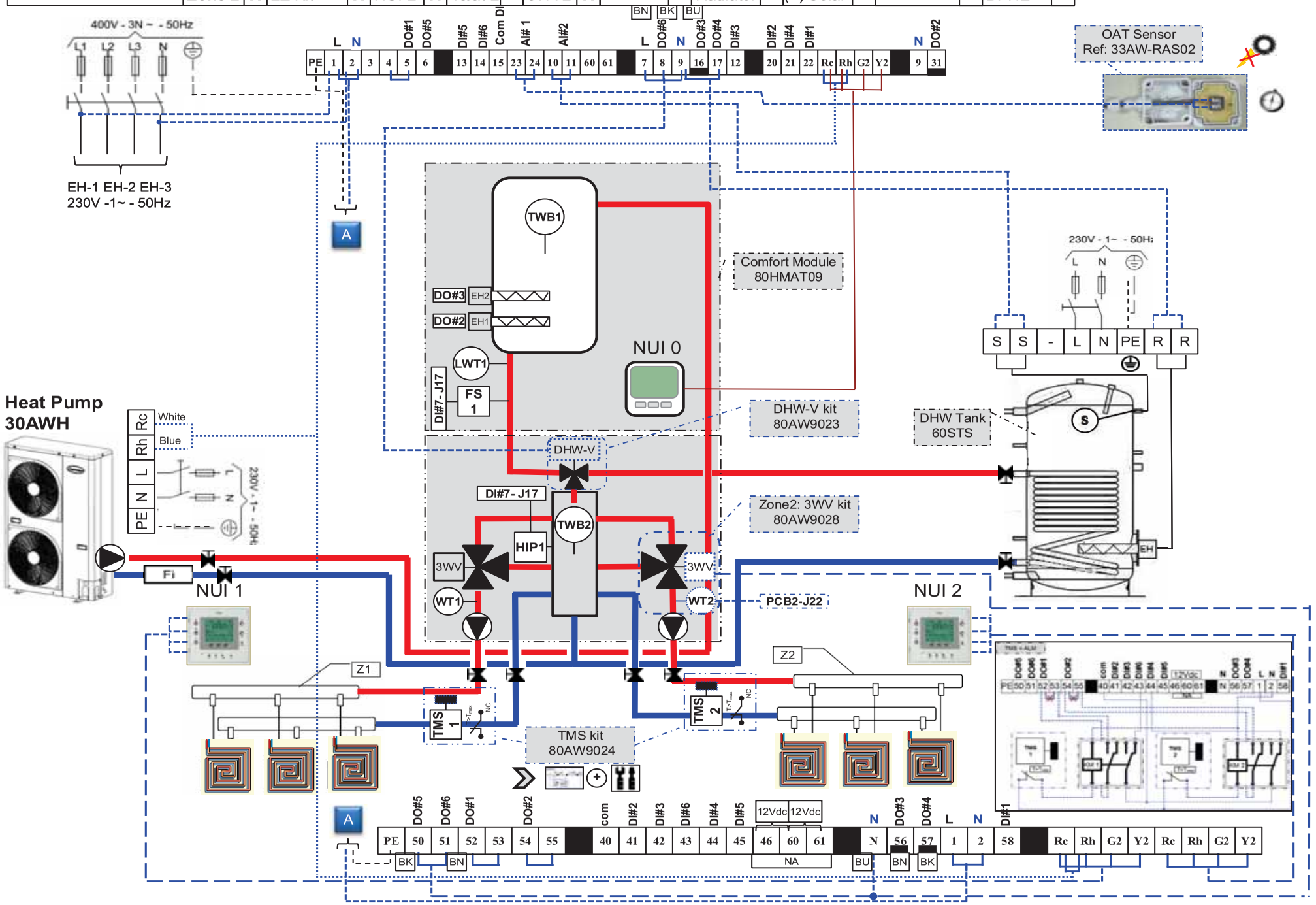
1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'

Schematic- 2.05	Zone 1	X	HMA-T09	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 2.05	Zone 1	X	HMA-T09	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2**	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	*Free*	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values			
127	Board address Selected (1)	**10**	**21**		
22	Virtual Zone selection (2)	1	1	2	
77	DHW Setpoint Eco mode	5			
79	Boiler delay time (min)	15			
101	OAT [Boiler=ON & HP=OFF] (°C)	-5			
102	Water Anti-Freeze Setpoint (°C)	4	4	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1			
108.1	Cooling authorization in Zone	0	0	0	
108.2	Heating authorization in Zone	1	1	1	
108.3	FS [Water Flow & Pump=OFF]	1			
109.2	DHW Production if Anti-Legionella = Fail	1			
109.3	Boiler/EHS= OFF even if HP= Fail	0			
11.0	Home Freeze protection	1	1	1	
11.2	WP=ON all time	0	0	0	
12	Home Freeze protection Spt (°C)		6	6	
124	Slave Type [Kit 2 Zone= 1]		1	1	

5) Other configurations

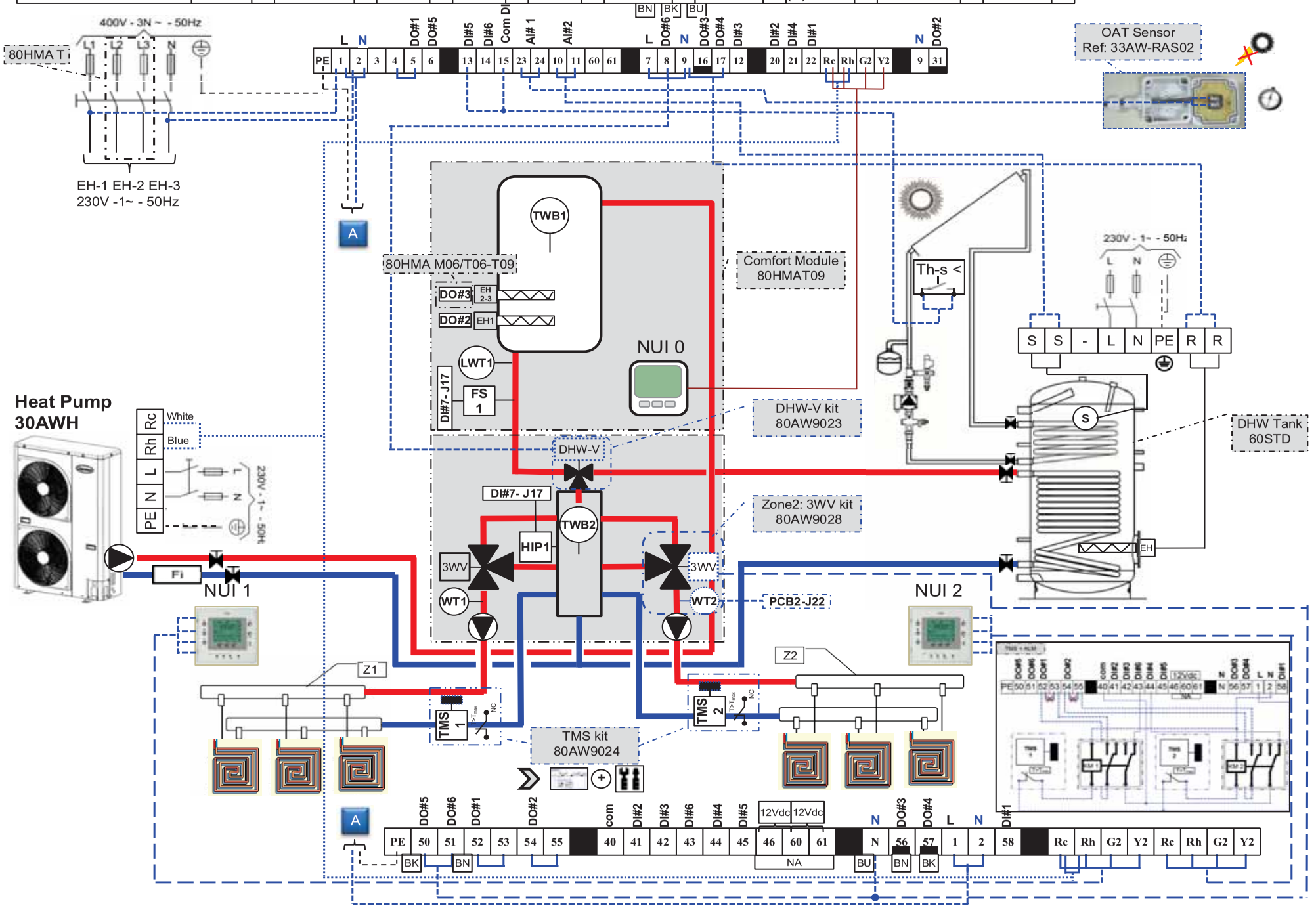
1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'

Schematic- 2.06	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator	X	(+) Solar	X	HP-no.com		BPHE	



Schematic- 2.06	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator	X	(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2***(5)*	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	Th-S Solar step	1
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
77	DHW Setpoint Eco mode	5		
79	Boiler delay time (min)	15		
101	OAT [Boiler=ON & HP=OFF] (°C)	-5		
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1		
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
108.3	FS [Water Flow & Pump=OFF]	1		
109.2	DHW Production if Anti-Legionella = Fail	1		
109.3	Boiler/EHS= OFF even if HP= Fail	0		
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time	0	0	0
12	Home Freeze protection Spt (°C)		6	6
124	Slave Type [Kit 2 Zone= 1]		1	1

→ Anti-Freeze solution requested below this point

5) Other configurations

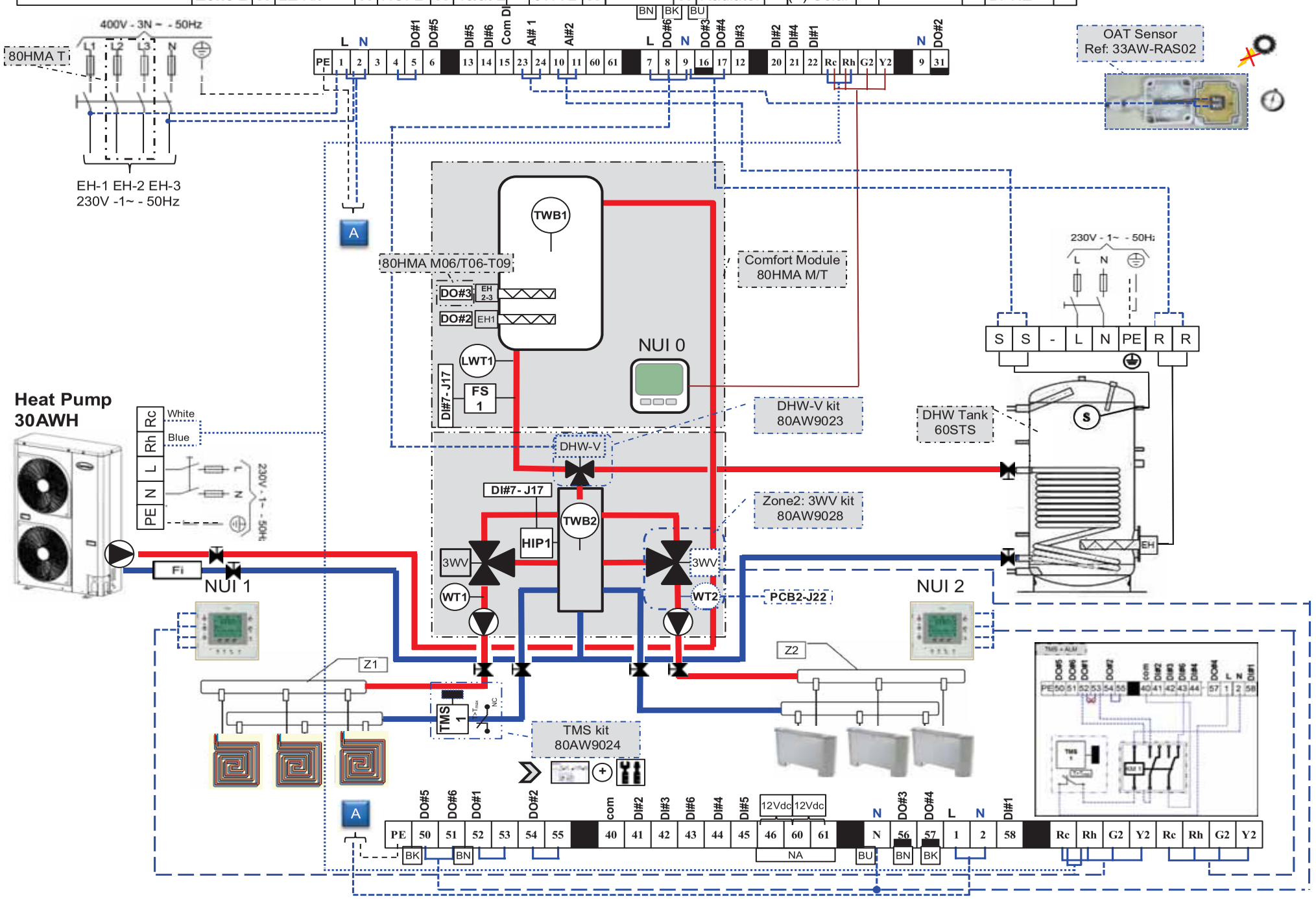
1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'
(5) → For M03 size DO#3 is '*Free*', set the value to '0'

Schematic- 2.07	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU	X	Radiator		(+) Solar		HP-no.com		BPHE	



Schematic- 2.07	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU	X	Radiator		(+) Solar		HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2***(5)*	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	Th-S Solar step	0
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*Free*	0
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values			
127	Board address Selected (1)	**10**	**21**		
22	Virtual Zone selection (2)	1	1	2	
77	DHW Setpoint Eco mode	5			
79	Boiler delay time (min)	15			
101	OAT [Boiler=ON & HP=OFF] (°C)	-5			
102	Water Anti-Freeze Setpoint (°C)	4	4	4	→ Anti-Freeze solution requested below this point
108.0	Mode selection thru NUI(1), DI(0)	1			
108.1	Cooling authorization in Zone	0	0	0	
108.2	Heating authorization in Zone	1	1	1	
108.3	FS [Water Flow & Pump=OFF]	1			
109.2	DHW Production if Anti-Legionella = Fail	1			
109.3	Boiler/EHS= OFF even if HP= Fail	0			
11.0	Home Freeze protection	1	1	1	
11.2	WP=ON all time	0	0	0	
12	Home Freeze protection Spt (°C)		6	6	
124	Slave Type [Kit 2 Zone= 1]		1	1	

5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*

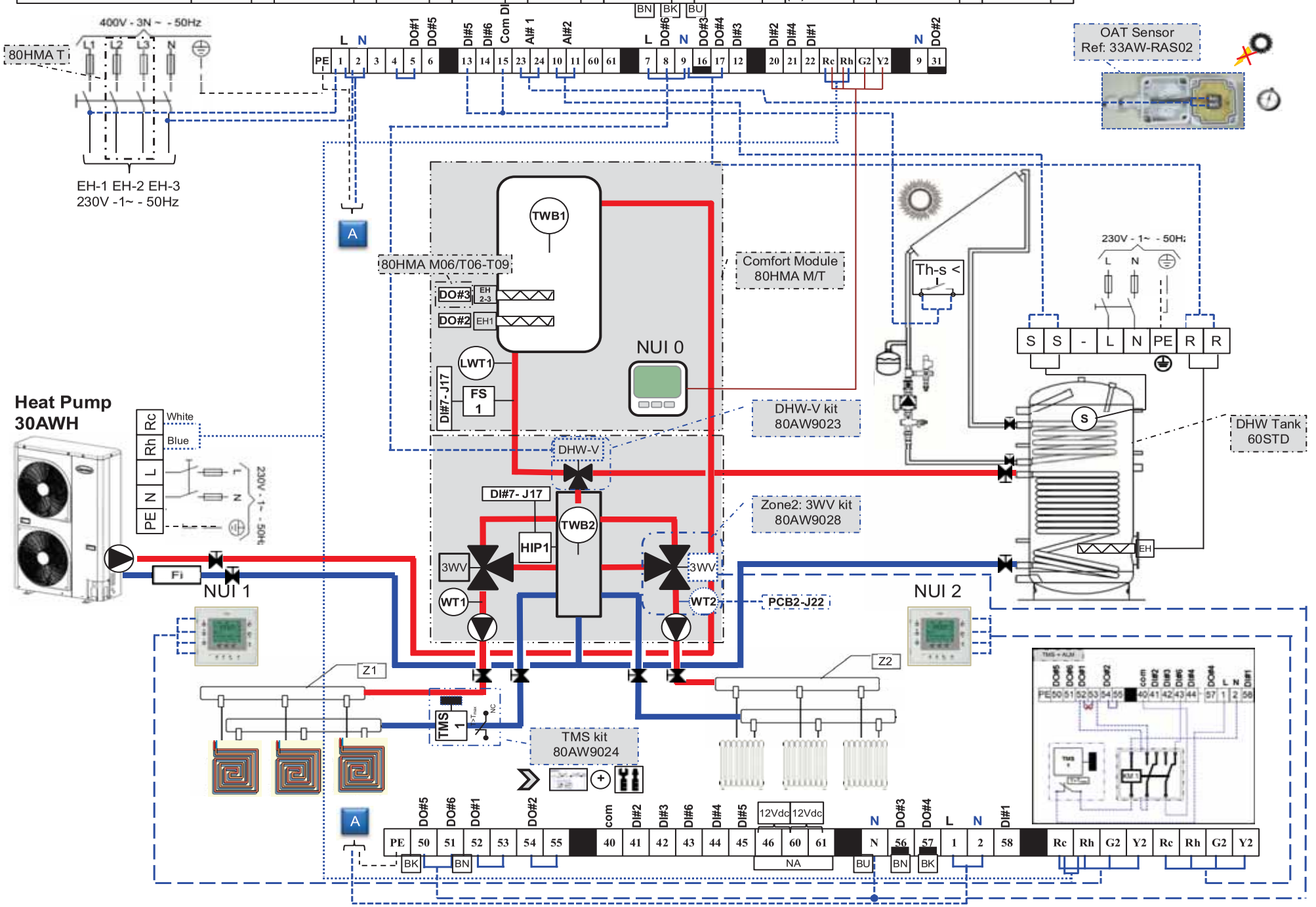
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

(3) → option: Use relays fields supplied (see diagram)

(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating.
If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'

(5) → For M03 size DO#3 is '*Free*', set the value to '0'

Schematic- 2.08	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator	X	(+) Solar	X	HP-no.com		BPHE	



Schematic- 2.08	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T	X	(+)Sensor	X	30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2	X	TFCU		Radiator	X	(+) Solar	X	HP-no.com		BPHE	

Note: All electronic board addresses are referring to the Network configuration example. If it is different, please correct addresses given in this example by your settings

Configuration:

1. Board Selected Address: MASTER & SLAVE

: Value **"Bolded"** are factory settings, follow them

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9 - 4)	*Free*	0
110.1	DO#2 ~ (9-31)	**EH1**	**6**
110.2	DO#3 ~ (9-16)	**EH2***(5)*	**7**
110.3	DO#4 ~ (9-17)	EHS->DHW-T	9
110.4	DO#5 ~ (9 - 6)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
110.0	DO#1 ~ (9-52)	**WP-1**	**1**
110.1	DO#2 ~ (9-54)	**WP-2**	**2**
110.2	DO#3 ~ (9-56)	**3WV-1**	**22**
110.3	DO#4 ~ (9-57)	**3WV-1**	**23**
110.4	DO#5 ~ (9-50)	3WV-2*(4)*	24
110.5	DO#6 ~ (9-51)	3WV-2*(4)*	25

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	*Free*	0
111.1	DI#2 ~ (15-20)	*Free*	0
111.2	DI#3 ~ (15-12)	*Free*	0
111.3	DI#4 ~ (15-21)	*Free*	0
111.4	DI#5 ~ (15-13)	Th-S Solar step	1
111.5	DI#6 ~ (15-14)	*Free*	0
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	*Free*	0
111.3	DI#4 ~ (40-44)	*Free*	0
111.4	DI#5 ~ (40-45)	*Free*	0
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7
111.6	DI#7 ~ (J17)	**HIP-1**	**9**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	1
112.1	AI#2 ~ (23-24)	OAT	1
112.2	AI#3 ~ (J6C)	**LWT1**	**1**

Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.3	AI#1 ~ (J6A)	**TWB2**	**1**
112.4	AI#2 ~ (J6B)	**WT1**	**1**
112.5	AI#3~(J22.1-2)	WT2*(4)*	1

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86	87	
107	NUI in Zone [Use]	0	1	1	
128	NUI used: own address	85	86	87	→ Check it directly in front of each NUI used

3) System type, Production used & Domestic Hot Water type

Par. Nb	Name	Values	
127	Board address Selected	10	
22	Virtual Zone selection	1	
71	DHW-Tank, Solar=0, WT sensor =1	1	
81	DHW-V [after tank]	1	
105	System Type	2	
106	Heat source connected	1	→ Inverter 30AWH---HC

4) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
77	DHW Setpoint Eco mode	5		
79	Boiler delay time (min)	15		
101	OAT [Boiler=ON & HP=OFF] (°C)	-5		
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1		
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
108.3	FS [Water Flow & Pump=OFF]	1		
109.2	DHW Production if Anti-Legionella = Fail	1		
109.3	Boiler/EHS= OFF even if HP= Fail	0		
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time	0	0	0
12	Home Freeze protection Spt (°C)		6	6
124	Slave Type [Kit 2 Zone= 1]		1	1

→ Anti-Freeze solution requested below this point

5) Other configurations

1) Set Priority curves Comfort / DHW (Par.13 > 18) & (Par.72 > 76)
2) Anti-legionella setting (Par.82 > 86)
3) Comfort : Set Heating / Cooling Climatic Curves (Par.51 > 60)
   Note: Cooling mode not allowed in this example, thus climatic curve in cooling is ignored
4) Room Eco mode (Par.61)

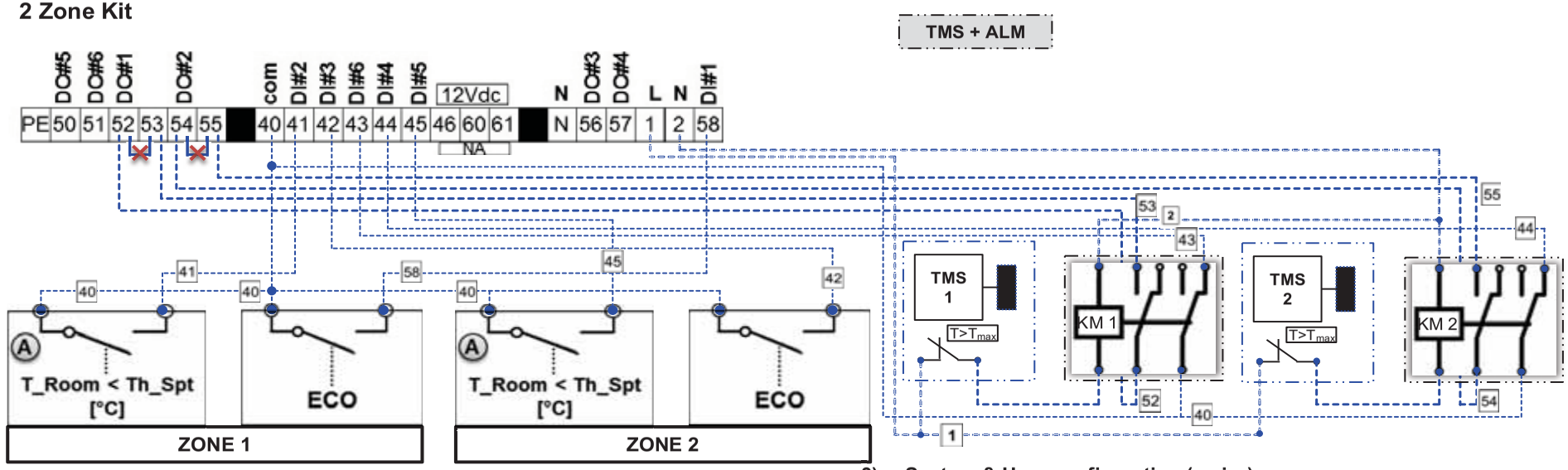
6) User configuration on NUI

1) Set Day & Time on each NUI
2) Set Room Home/Away/Sleep, DHW Setpoints
3) Set Schedule – mandatory –

Notes:
(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'
(5) → For M03 size DO#3 is '*Free*', set the value to '0'

Schematic- 3.01	Zone 1	X	HMA-M/T	X	NUI-1		Tstat-1	X	UFH	X	TMS 1-2	X	DHW-T		(+)Sensor		30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2		Tstat-2	X	3WV2	X	TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

2 Zone Kit



Board Selected Address: SLAVE

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (40-58)	ECO_Mode Z1	5	→ To Select Economic Setpoints
111.1	DI#2 ~ (40-41)	TH-1(A)	1	→ Using Thermostat instead of NUI
111.2	DI#3 ~ (40-42)	ECO_Mode Z2	6	→ To Select Economic Setpoints
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8	→ If Alarm report not used, set to 0
111.4	DI#5 ~ (40-45)	TH-2(A)	3	→ Using Thermostat instead of NUI
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7	→ If Alarm report not used, set to 0
111.6	DI#7 ~ (J17)	**HIP-1**	**9**	→ Factory Configuration

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85			
107	NUI in Zone [Use]	0	0	0	→ NUI (0) on Comfort Module
128	NUI used: own address	85			

3) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1	0	0
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time: 0	0	0	0
12	Home Freeze protection Spt (°C)		6	6

4) Description

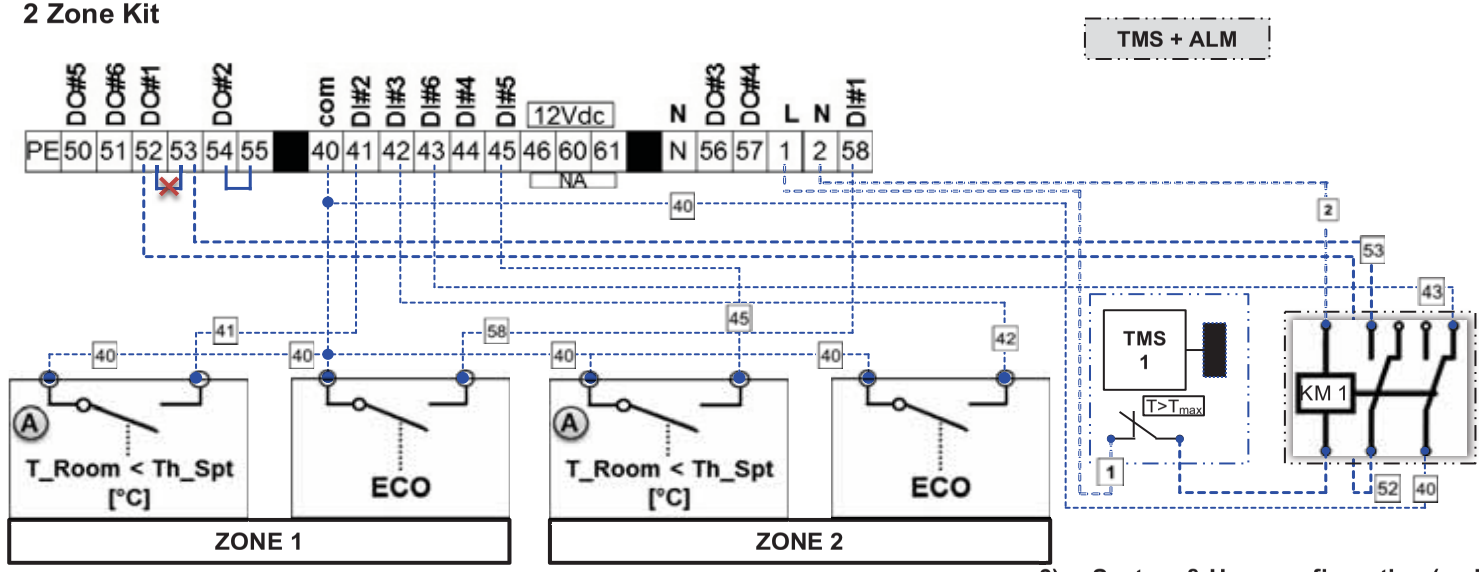
1) The Current System is a 2 zones system configured in "Heating Only"
2) When Room Temperature is greater than Thermostat Setpoint, the contact is closed requesting for Heating in the concerned zone
3) NUI(0) on Comfort Module to select Modes: OFF/ Heating / Domestic Hot Water
4) Apply all other configurations depending on your system type (see schematics)

Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve isn't used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'
→ Do not affect the actual configuration – see corresponding schematic

Schematic- 3.02	Zone 1	X	HMA-M/T	X	NUI-1		Tstat-1	X	UFH	X	TMS 1-2	X	DHW-T		(+)Sensor		30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2		Tstat-2	X	3WV2		TFCU	X	Radiator	X	(+) Solar		HP-no.com		BPHE	

2 Zone Kit



Board Selected Address: SLAVE

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (40-58)	ECO_Mode Z1	5	→ To Select Economic Setpoints
111.1	DI#2 ~ (40-41)	TH-1(A)	1	→ Using Thermostat instead of NUI
111.2	DI#3 ~ (40-42)	ECO_Mode Z2	6	→ To Select Economic Setpoints
111.3	DI#4 ~ (40-44)	*Free*	0	
111.4	DI#5 ~ (40-45)	TH-2(A)	3	→ Using Thermostat instead of NUI
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7	→ If Alarm report not used, set to 0
111.6	DI#7 ~ (J17)	**HIP-1**	**9**	→ Factory Configuration

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85			
107	NUI in Zone [Use]	0	0	0	→ NUI (0) on Comfort Module
128	NUI used: own address	85			

3) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1	0	0
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time: 0	0	0	1*(4)*
12	Home Freeze protection Spt (°C)		6	6

4) Description

1) The Current System is a 2 zones system configured in "Heating Only"
2) When Room Temperature is greater than Thermostat Setpoint, the contact is closed requesting for Heating in the concerned zone
3) NUI(0) on Comfort Module to select Modes : OFF/ Heating / Domestic Hot Water
4) Apply all other configurations depending on your system type (see schematics)

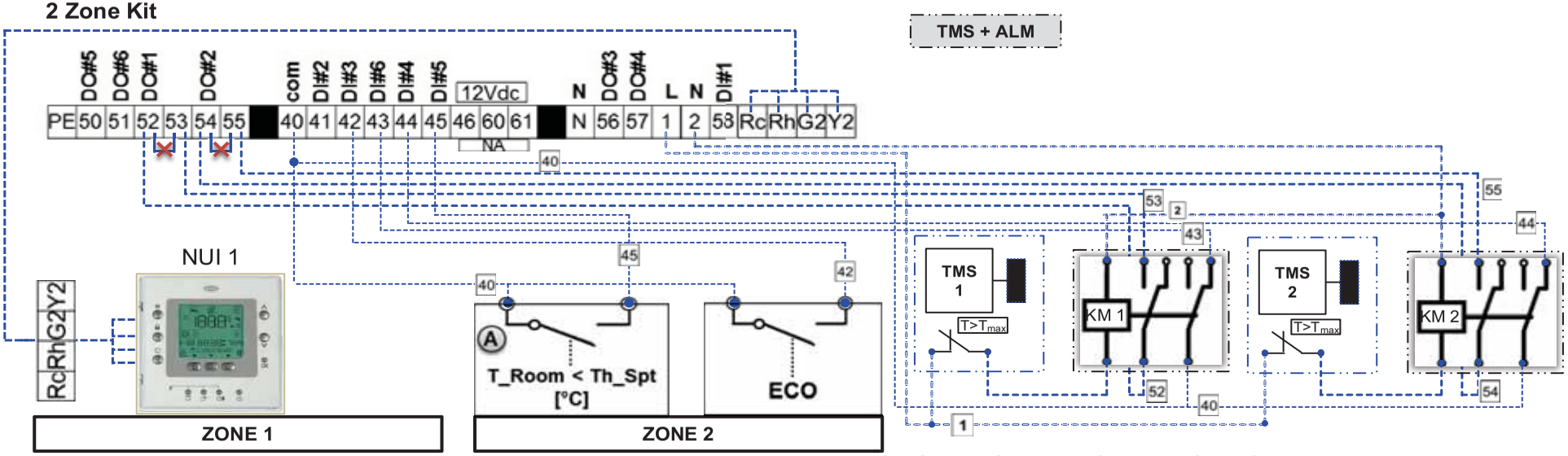
Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → Water Pump for TFCU's or Radiators could be set to 1, stopped, if Setpoint is reached

→ Do not affect the actual configuration – see corresponding schematic

Schematic- 3.03	Zone 1	X	HMA-M/T	X	NUI-1	X	Tstat-1		UFH	X	TMS 1-2	X	DHW-T		(+)Sensor		30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2		Tstat-2	X	3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	

2 Zone Kit



Board Selected Address: SLAVE

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value	
127	**Slave**	**21** *(1)*	
22	Zone	1 or 2 *(2)*	
Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (40-58)	*Free*	0
111.1	DI#2 ~ (40-41)	*Free*	0
111.2	DI#3 ~ (40-42)	ECO_Mode Z2	6 → To Select Economic Setpoints
111.3	DI#4 ~ (40-44)	*TMS2-ALM(3)*	8 → If Alarm report not used, set to 0
111.4	DI#5 ~ (40-45)	TH-2(A)	3 → Using Thermostat instead of NUI
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7 → If Alarm report not used, set to 0
111.6	DI#7 ~ (J17)	**HIP-1**	**9** → Factory Configuration

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85	86		
107	NUI in Zone [Use]	0	1	0	→ NUI (0) on Comfort Module
128	NUI used: own address	85	86		

3) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1		
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time: 0	0	0	0
12	Home Freeze protection Spt (°C)		6	6

4) Description

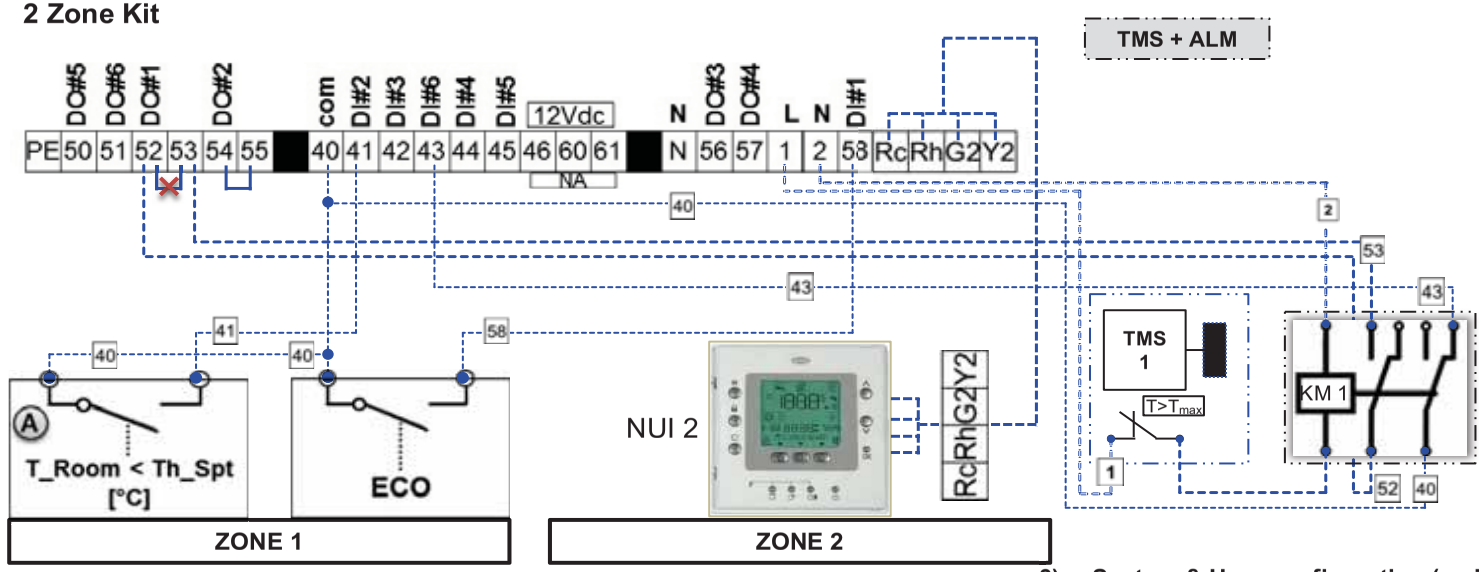
1) The Current System is a 2 zones system configured in "Heating Only"
2) When Room Temperature is greater than Thermostat Setpoint, the contact is closed requesting for Heating in the concerned zone
3) NUI(1) to control the Zone 1(Thermostat & Scheduling)
4) NUI(0) on Comfort Module to select Modes : OFF/ Heating / Domestic Hot Water
5) Apply all other configurations depending on your system type (see schematics)

Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)
(4) → 3 Way Valve Accessory in Zone 2, recommended for better Water Temperature control especially with Under Floor Heating. If the 3 way Valve is not used, then DO#5, DO#6 & AI#3 (Z2) are '*Free*', set the value to '0'
→ Do not affect the actual configuration – see corresponding schematic

Schematic- 3.04	Zone 1	X	HMA-M/T	X	NUI-1		Tstat-1	X	UFH	X	TMS 1-2	X	DHW-T		(+)Sensor		30AWH/com	X	WP-1	
Configuration	Zone 2	X	2Z Kit	X	NUI-2	X	Tstat-2		3WV2		TFCU	X	Radiator	X	(+) Solar		HP-no.com		BPHE	

2 Zone Kit



Board Selected Address: SLAVE

1) Outputs/Inputs/Analogic Inputs Configuration

Par. Nb	Description	Value
127	**Slave**	**21** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Inputs configuration Value				
Par. Nb	Name	Use	Value	
111.0	DI#1 ~ (40-58)	ECO_Mode Z1	5	→ To Select Economic Setpoints
111.1	DI#2 ~ (40-41)	TH-1(A)	1	→ Using Thermostat instead of NUI
111.2	DI#3 ~ (40-42)	*Free*	0	
111.3	DI#4 ~ (40-44)	*Free*	0	
111.4	DI#5 ~ (40-45)	*Free*	0	
111.5	DI#6 ~ (40-43)	*TMS1-ALM(3)*	7	→ If Alarm report not used, set to 0
111.6	DI#7 ~ (J17)	**HIP-1**	**9**	→ Factory Configuration

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values			
127	Board address Selected *(1)*	10	21	21	
22	Virtual Zone selection *(2)*	1	1	2	
126	NUI Connected Address	85		86	
107	NUI in Zone [Use]	0	0	1	→ NUI (0) on Comfort Module
128	NUI used: own address	85		86	

3) System & User configuration (major)

Par. Nb	Name	Values		
127	Board address Selected (1)	**10**	**21**	
22	Virtual Zone selection (2)	1	1	2
102	Water Anti-Freeze Setpoint (°C)	4	4	4
108.0	Mode selection thru NUI(1), DI(0)	1		
108.1	Cooling authorization in Zone	0	0	0
108.2	Heating authorization in Zone	1	1	1
11.0	Home Freeze protection	1	1	1
11.2	WP=ON all time: 0	0	0	1*(4)*
12	Home Freeze protection Spt (°C)		6	6

4) Description

1) The Current System is a 2 zones system configured in "Heating Only"
2) When Room Temperature is greater than Thermostat Setpoint, the contact is closed requesting for Heating in the concerned zone
3) NUI(2) to control the Zone 2 (Thermostat & Scheduling)
4) NUI(0) on Comfort Module to select Modes : OFF/ Heating / Domestic Hot Water
5) Apply all other configurations depending on your system type (see schematics)

Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*

(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

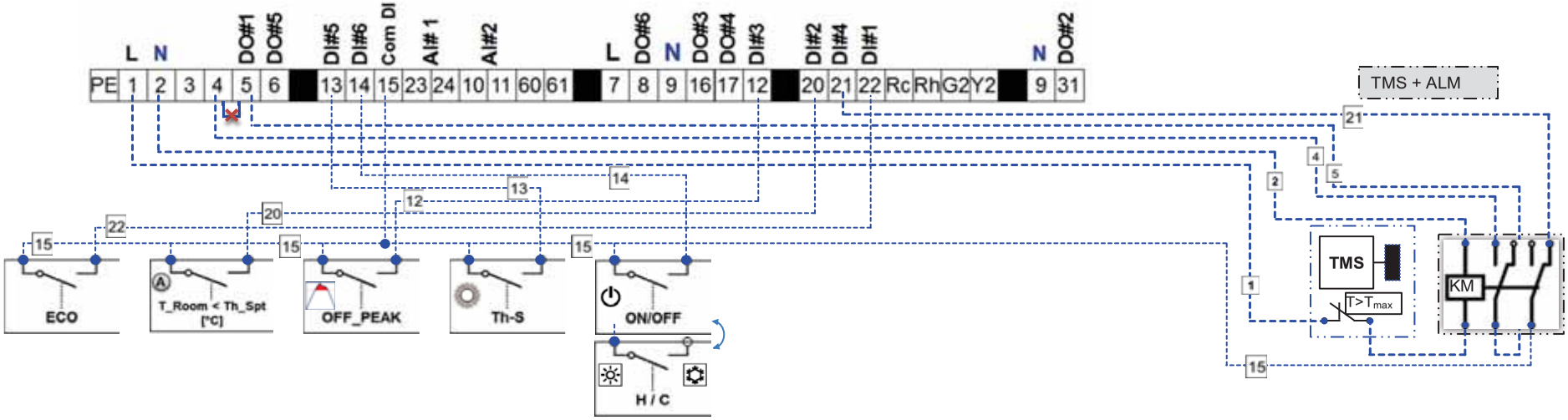
(3) → option: Use relays fields supplied (see diagram)

(4) → Water Pump for TFCU's or Radiators could be set to 1, stopped, if Setpoint is reached

→ Do not affect the actual configuration – see corresponding schematic

Schematic- 3.05	Zone 1		HMA-M/T	X	NUI-1		Tstat-1	X	UFH	X	TMS 1-2	X	DHW-T		(+)Sensor		30AWH/com	X	WP-1	
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU	X	Radiator	X	(+) Solar		HP-no.com		BPHE	

Comfort Module - Additional functionalities using Discrete Inputs



Board Selected Address: MASTER

1) Inputs Configuration

Par. Nb	Description	Value	
127	**Master**	**10** *(1)*	
22	Zone	1 or 2 *(2)*	
Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.0	DI#1 ~ (15-22)	ECO_Mode Z1	6
111.1	DI#2 ~ (15-20)	TH-1(A)	2
111.2	DI#3 ~ (15-12)	OFF Peak	4
111.3	DI#4 ~ (15-21)	TMS1-ALM *(3)*	0
111.4	DI#5 ~ (15-13)	Th-S Solar	1
111.5	DI#6 ~ (15-14)	ON / OFF	7
111.5	DI#6 ~ (15-14)	Mode H/C	5
111.6	DI#7 ~ (J17)	**Flow Switch**	**11**

→ To Select Economic Setpoints
→ Using Thermostat instead of NUI
→ To Use lower costs energy (Boiler) or ECO mode
→ Request for to activate DHW HP production
→ Mode ON/OFF with Heating only Heat Pump
→ Mode Heat/Cool with Heat Pump Reversible
→ Factory Configuration

2) Configure NUI's Addresses upon their location & the type of use

Par. Nb	Name	Values	
127	Board address Selected	10	10
22	Virtual Zone selection	1	2
126	NUI Connected Address	85	
107	NUI in Zone [Use]	0	0
128	NUI used: own address	85	

→ NUI (0) on Comfort Module

3) System & User configuration

1) These configurations are relevant for Discrete inputs only.
   Refer to other schematics for the system parameters

Par. Nb	Name	Values	
127	Board address Selected (1)	**10**	**10**
22	Virtual Zone selection (2)	1	2
108.0	Mode selection thru NUI(1), DI(0)	0	0
108.1	Cooling authorization in Zone	1	1
108.2	Heating authorization in Zone	1	1

→ Heat Pump Reversible, if not, set it to 0

4) Description

1) The Current System is a 1 or 2 zones system, the current view is dedicated to Comfort Module HMA
2) When Room Temperature is greater than Thermostat Setpoint, the contact is closed requesting for Heating in the concerned zone
3) NUI(0) on Comfort Module to select Modes : OFF/ Heating / Cooling / Domestic Hot Water
   OR using Dry-Contacts Par.108.0: 1& DI#6: 5
4) Apply all other configurations depending on your system type (see schematics)

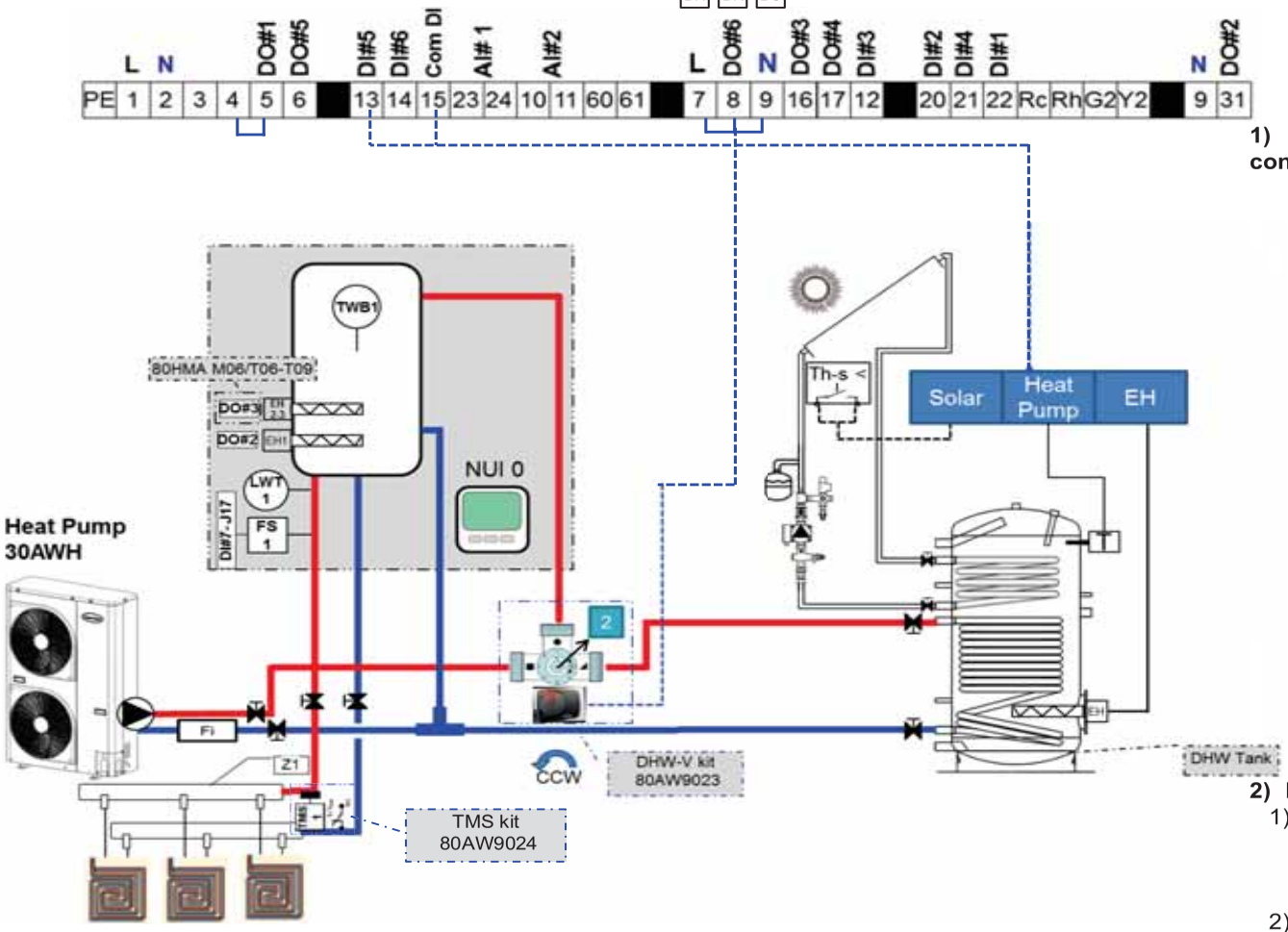
Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*
(3) → option: Use relays fields supplied (see diagram)

→ Do not affect the actual configuration – see corresponding schematic

Schematic- 3.06	Zone 1	☐ HMA-M/T	X NUI-1	☐ Tstat-1	☐ UFH	☐ TMS 1-2	☐ DHW-T	☐ (+)Sensor	☐ 30AWH/com	☐ WP-1
Configuration	Zone 2	☐ 2Z Kit	☐ NUI-2	☐ Tstat-2	☐ 3WV2	☐ TFCU	☐ Radiator	☐ (+) Solar	☐ HP-no.com	☐ BPHE

Domestic Hot Water using a Non-Carrier DHW-Tank – With or Without Solar



1) Discrete Input / Output / Analogic Input and system configuration only using non-Carrier DHW Tank

Par. Nb	Description	Value	
127	**Master**	**10** *(1)*	
22	Zone	1 or 2 *(2)*	
Discrete Inputs configuration Value			
Par. Nb	Name	Use	Value
111.4	DI#5 ~ (15-13)	DHW Demand	1
Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
The DO#'s are not used in that case EH stage managed by the DHW-T control			
110.3	DO#4 ~ (9-17)	*Free*	0
110.5	DO#6 ~ (9 - 4)	DHW-V	2
Analogic Inputs configuration Value			
Par. Nb	Name	Use	Value
112.0	AI#1 ~ (10-11)	DHW-S	0
System configuration Value			
Par. Nb	Name	Values	
71	DHW-Tank managed thru external Dry-contact	3	
81	DHW-V [after tank] One Zone	0	
81	DHW-V [Before tank] Two Zones using 2 Zone Kit	1	

2) Description

1) The Domestic Hot Water temperature is managed by an external control.
   The external control is providing a dry-contact to close when there is a demand .
2) With or without any influence on settings as it is managed by the external control
3) Electrical Heaters Boosters are managed by external control, therefore no Discrete Output DO# is required.
4) The DHW-Valve has to be declared Before or After Tank depending mainly on the use, not on the 2 Zone Kit.
5) Apply all other configurations depending on your system type (see schematics).

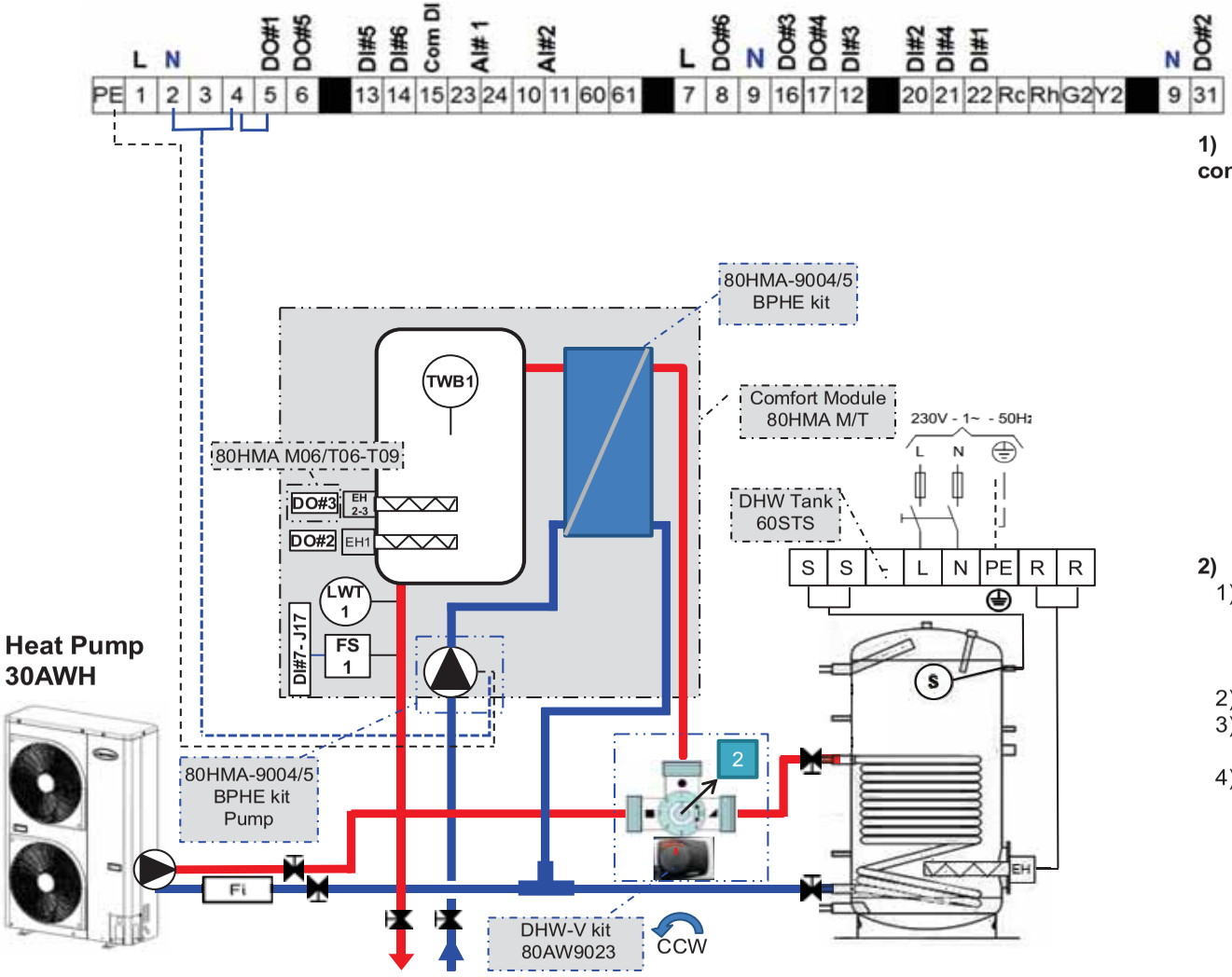
Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

☐ → Do not affect the actual configuration – see corresponding schematic

Schematic- 3.07	Zone 1		HMA-M/T	X	NUI-1		Tstat-1		UFH		TMS 1-2		DHW-T		(+)Sensor		30AWH/com		WP-1	X
Configuration	Zone 2		2Z Kit		NUI-2		Tstat-2		3WV2		TFCU		Radiator		(+) Solar		HP-no.com		BPHE	X

Comfort Module using the BPHE kit 80HMA-9004 or 9005



1) Discrete Input / Output / Analogic Input and system configuration only using non-Carrier DHW Tank

Par. Nb	Description	Value
127	**Master**	**10** *(1)*
22	Zone	1 or 2 *(2)*

Discrete Outputs configuration Value			
Par. Nb	Name	Use	Value
The DO#'s are not used in that case EH stage managed by the DHW-T control			
110.0	DO#1 ~ (9 - 4)	WP-1	1
110.5	DO#6 ~ (9 - 4)	DHW-V	2

2) Description

1) The Brazed plate Heat exchanger is providing two split water loops:
   - Primary on production side
   - Secondary on user side
2) The Water Pump is provided with the kit.
3) The only settings to adjust is the use of the DO#1 dedicated to the Water Pump in the Comfort Module.
4) The Control Point used in the Heat Pump 30AWH will be adjusted automatically taking in account the DT between the LWT and in the Tank TWB.

Notes:

(1) → Selected Board address using Virtual Zoning *(for which Variable Table is shown)*
(2) → Selected Zone Number using Virtual Zoning *(for which Variable Table is shown)*

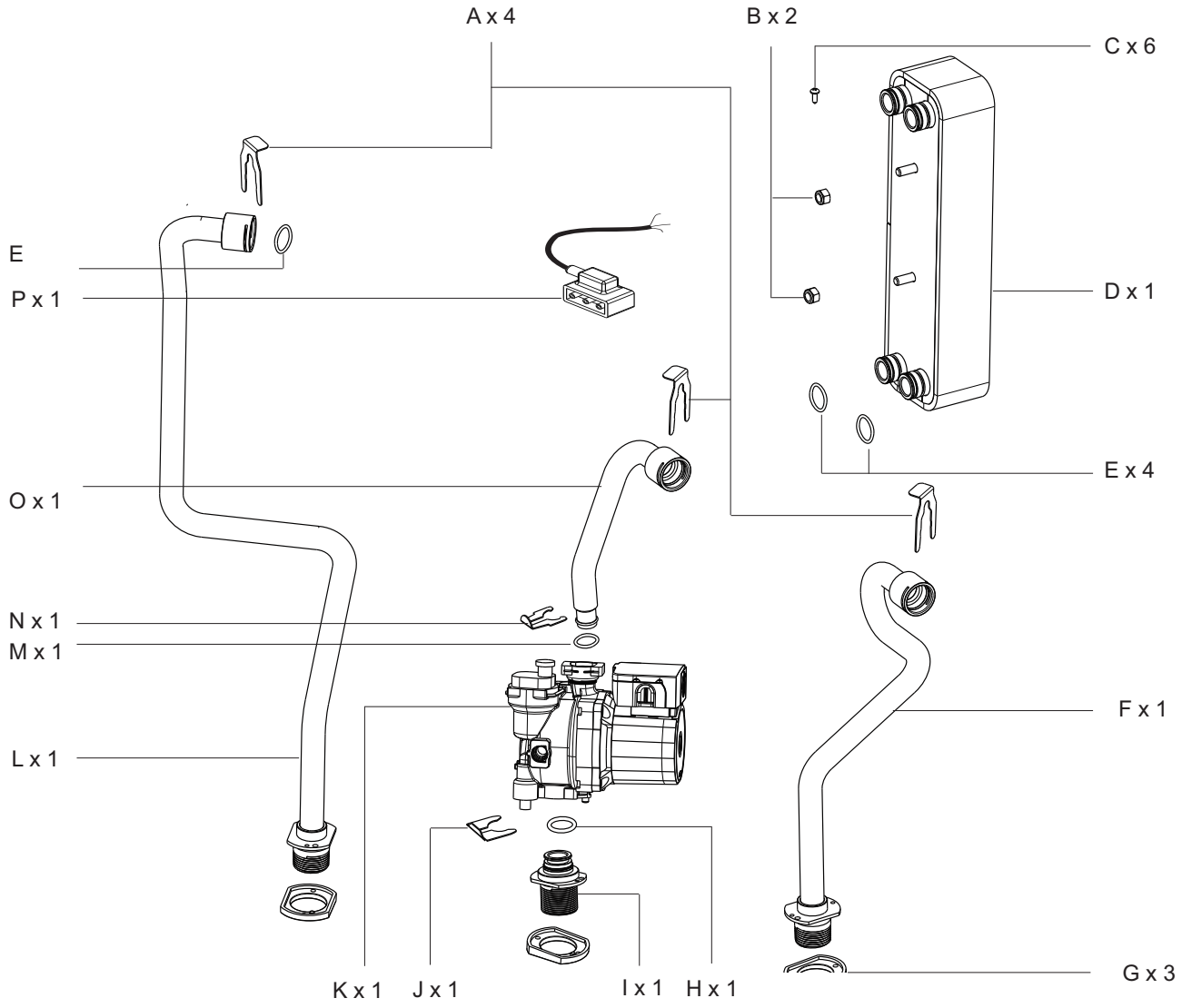
→ Do not affect the actual configuration – see corresponding schematic

6.1 Adding Brazed Plate Heat Exchanger (BPHE Kit)

The Brazed Plate Heat Exchanger (BPHE Kit) and Water Pump are installed in the 80HMA Comfort Module to separate the external hydraulic circuit (primary loop) from the internal circuit (secondary loop).

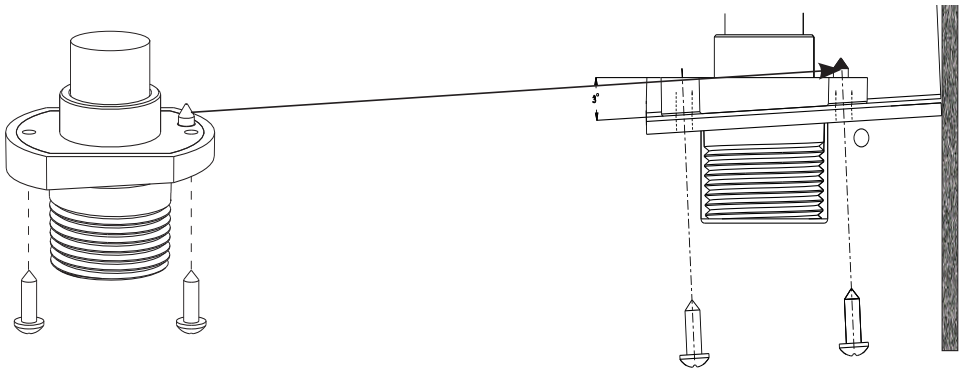
BPHE kit code:

- 80HMA-9004 for Heat Pump up to 8 kW
- 80HMA-9005 for Heat Pump up to 16 kW

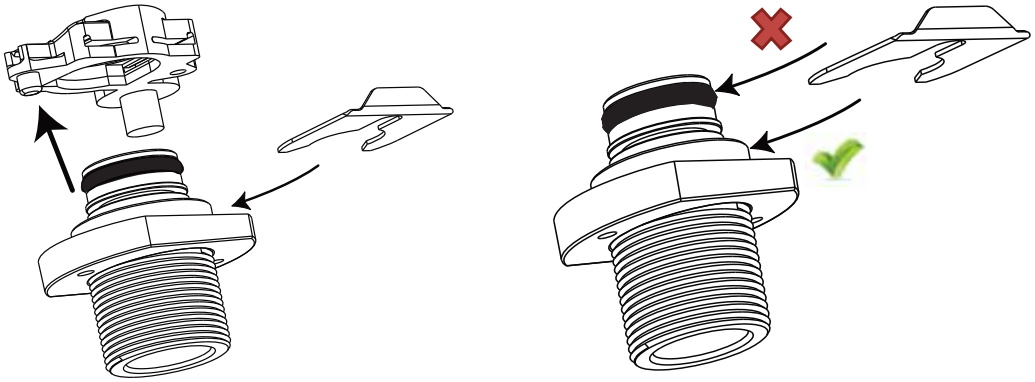


Box content:

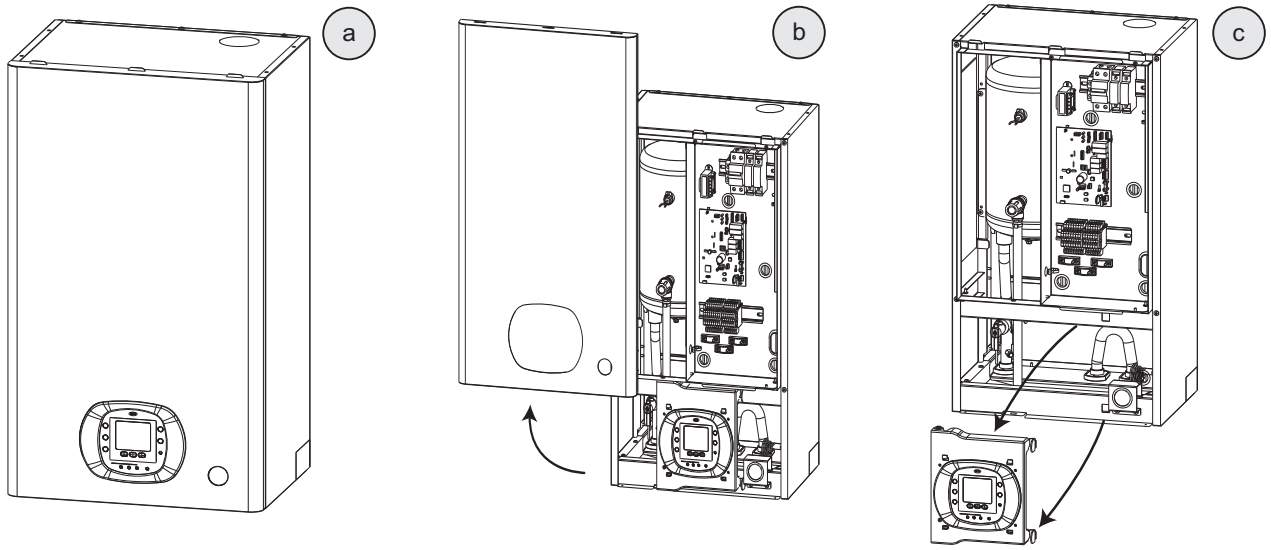
A: Clip- Ø21
B: Nut
C: Screw
D: Brazed Plate Heat Exchanger (BPHE)
E: O-ring 21.89 x 2.62 on BPHE
F: Pipe to Heat Pump
G: Insulation Rubber
H: O-ring 20.22 x 3.53 inlet Pump
I: Pump inlet connector
J: Clip- Ø20
K: Pump
L: Pipe from Heat Pump
M: O-ring 17.86 x 2.62 outlet pump
N: Clip- Ø18
O: Pump Outlet Pipe
P: Pump plug & cable



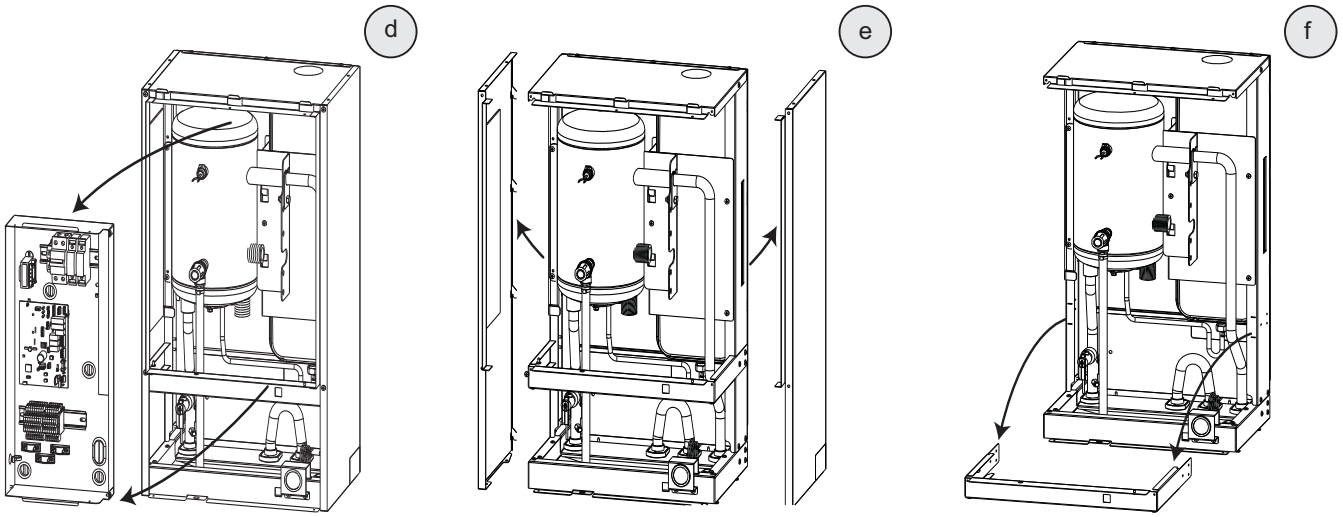
2. Recommendations to install pipe/pump connectors:
- Ensure that the pin on the insulation rubber is positioned exactly with the hole on the pump inlet connector.
- Observe the slope angle on the rubber, to ensure appropriate fixing on the chassis.



3. ***Warning*** - O-ring and pipe installation:
- Ensure that the pipe inlet connector is pushed well into the slot to avoid damaging the O-ring while inserting the clip.
- Ensure that the clip is inserted in such a way that the O-ring is not cut or damaged.



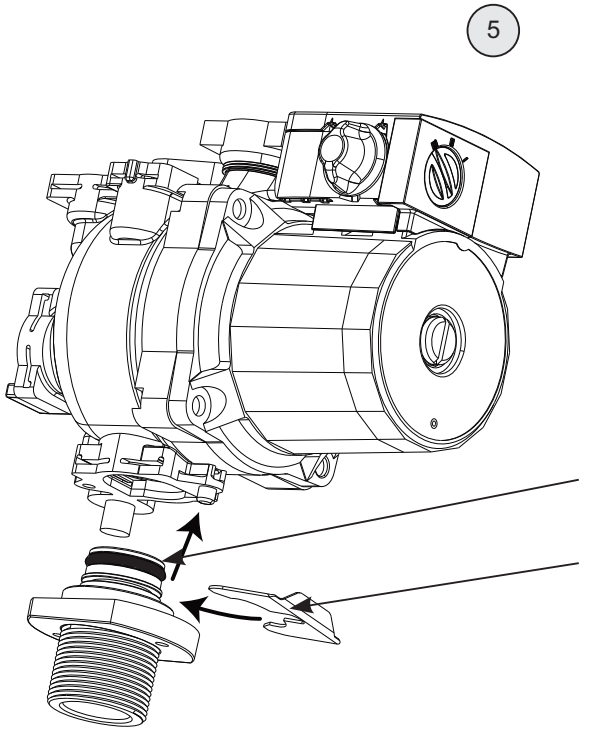
4. Disassemble the 80HMA unit.
Steps a-c: Remove front panel and user interface assembly.



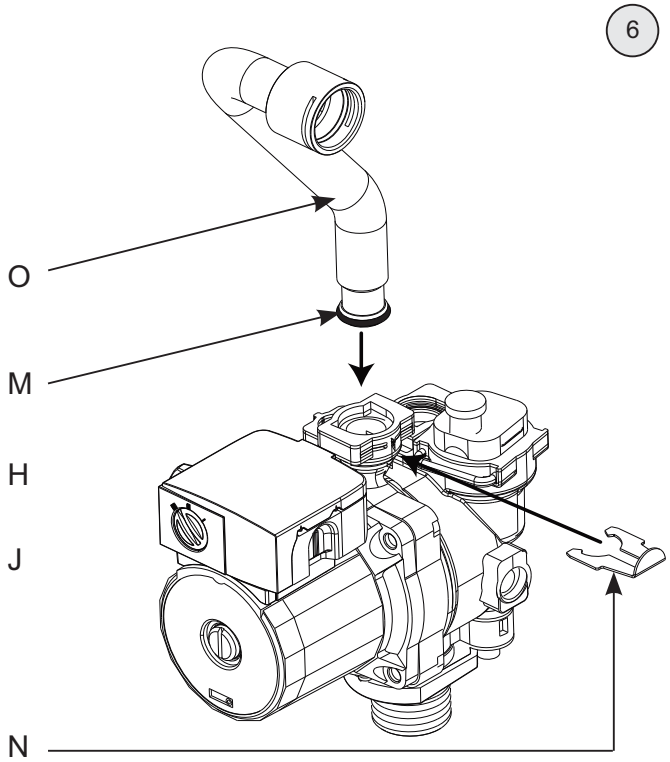
Step d: Remove control box assembly.

Step e: Remove side panels.

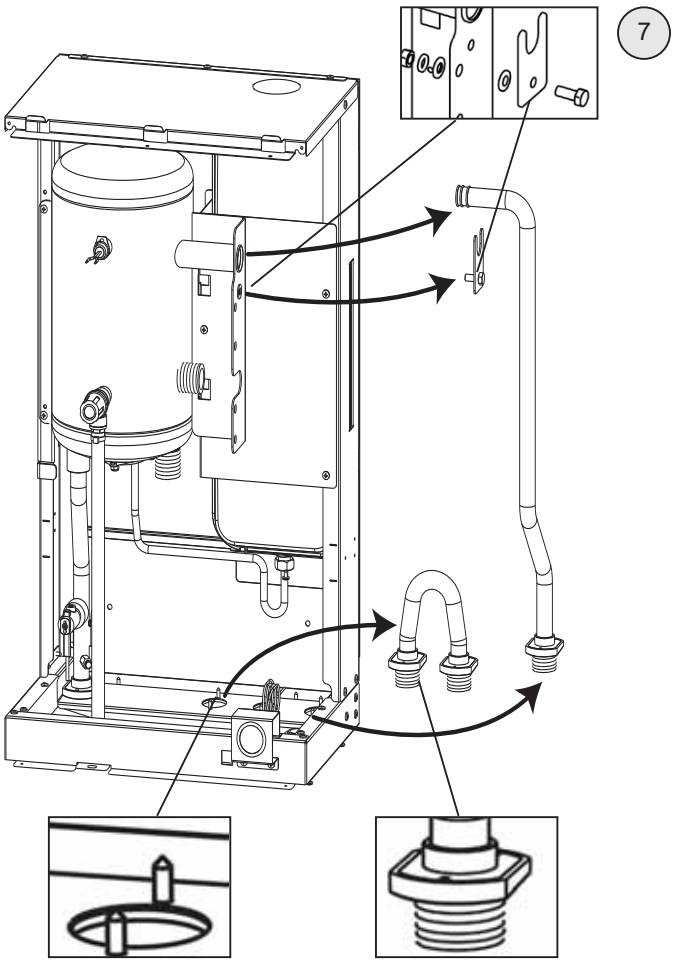
Step f: Remove middle stiffer bracket.



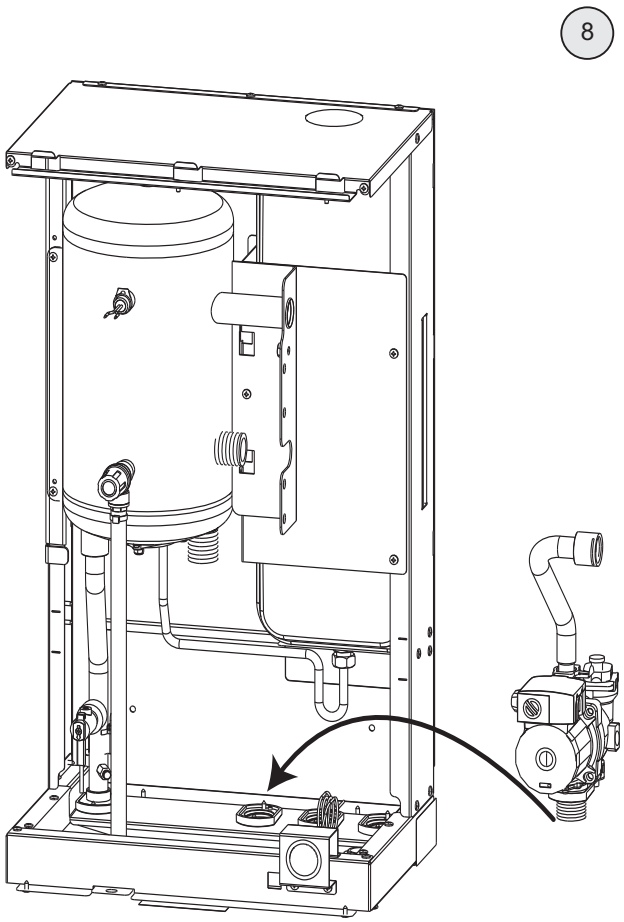
5. Prepare the pump. Attach the pump inlet connector. Use O-ring (H) and clip (J).



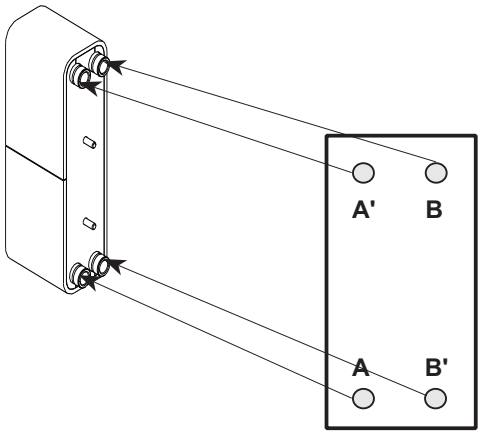
6. Attach the pump outlet pipe (O) to the pump. Use O-ring (M) and clip (N).



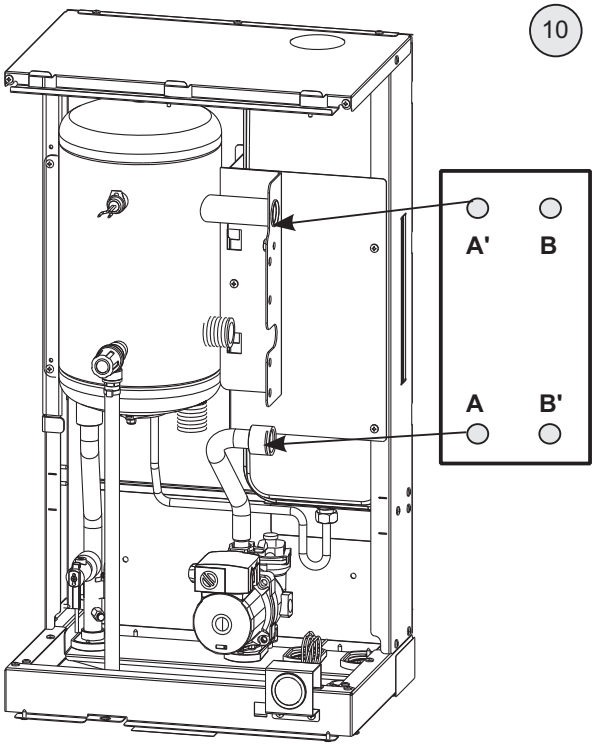
7. Remove tank pipe and bypass pipe.



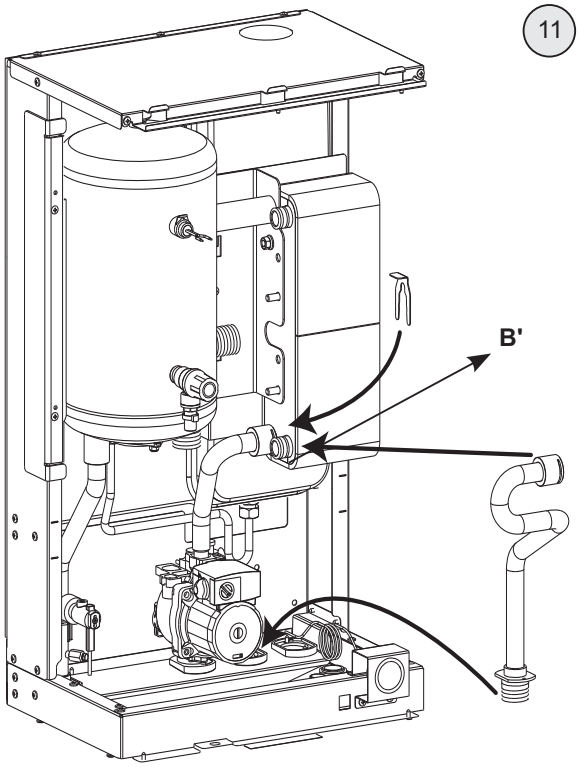
8. Install the pump in the slot where bypass pipe was connected.



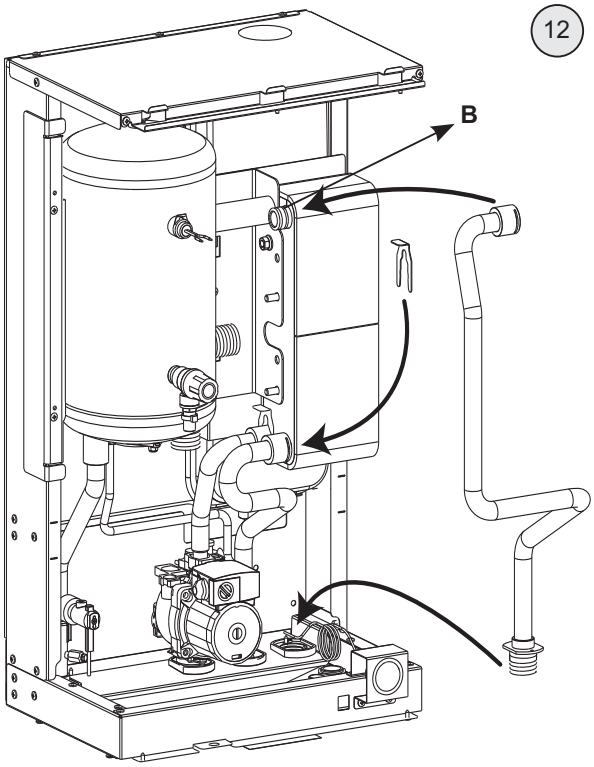
9. Slots on the Brazed Plate Heat Exchanger:
Primary Loop
B - From Production-Heat Pump
B' - Return to Production-Heat Pump
Secondary loop
A' - To Buffer Tank
A - From Water Pump



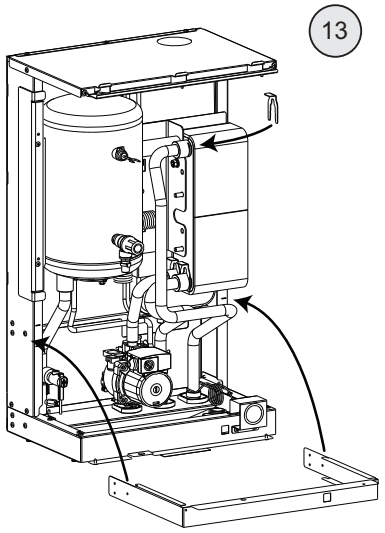
10. Install the heat exchanger on the support attached to the buffer tank, using screws.
Connect **A'** to the buffer tank.
Connect **A** to the pump.



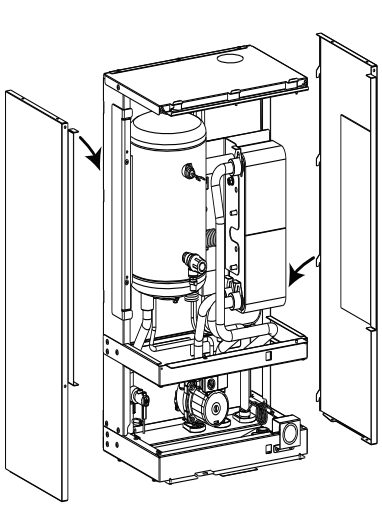
11. Attach the 'Pipe to heat pump (F)'.
Connect the top end of the pipe to **B'**.
Connect the bottom end of the pipe to the slot where bypass pipe was connected. Use clip (A).



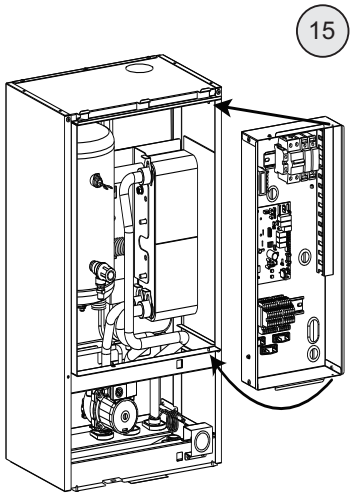
12. Attach the 'Pipe from heat pump (L)'.
Connect the top end of the pipe to **B**.
Connect the bottom end of the pipe to the slot where tank pipe was connected. Use clip (A).



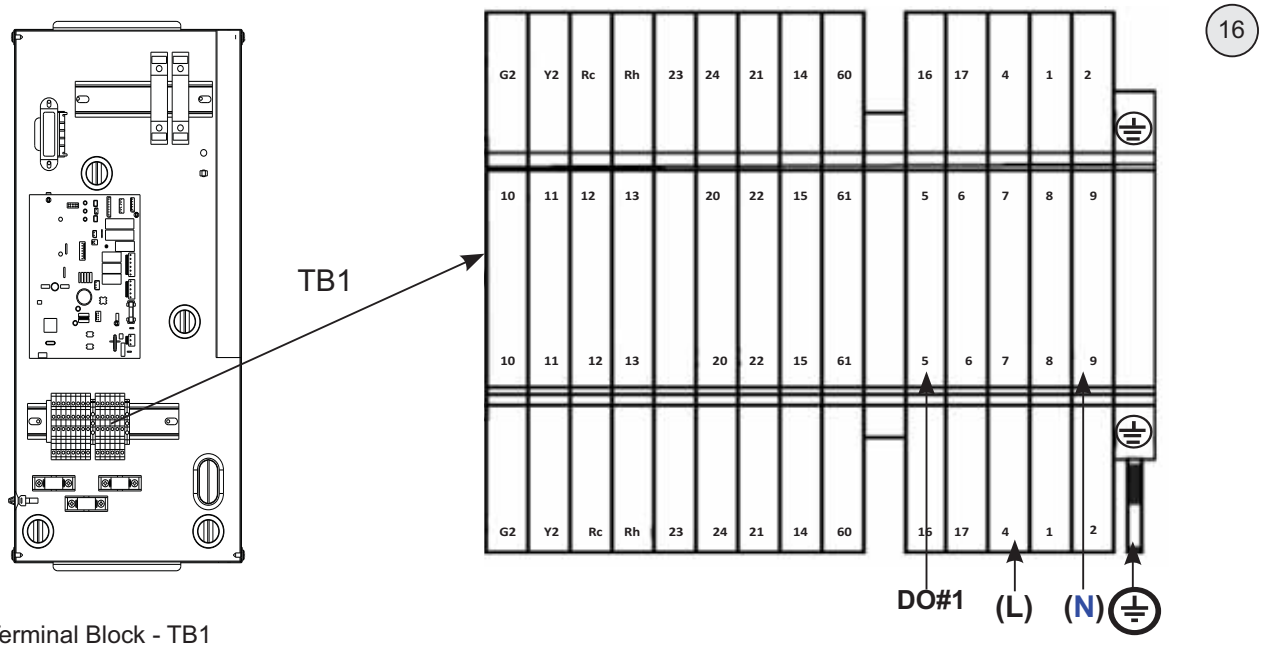
13. Reinstall middle stiffer bracket.



14. Install side panels.

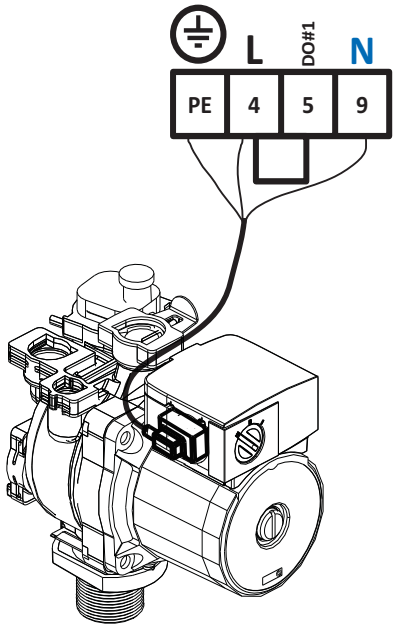


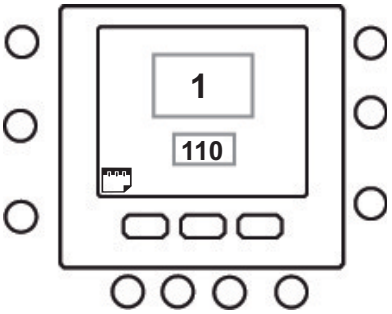
15. Connect control box assembly.



16. Terminal Block - TB1

17

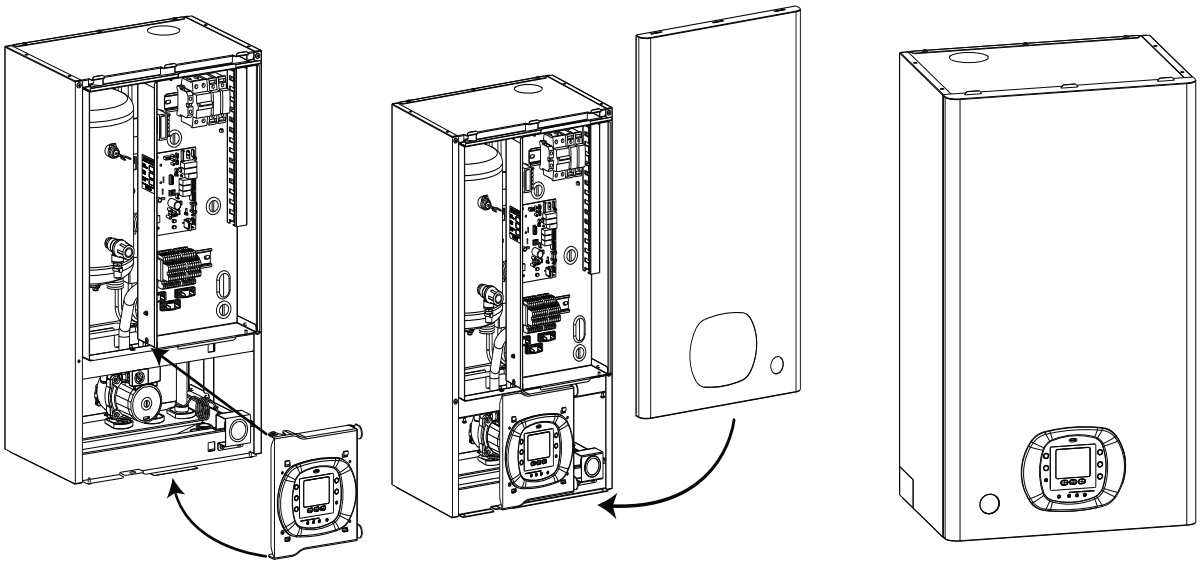




Par.110.0: 1

17. Electrical connections for the pump. Refer to *Wiring Diagram* and *Comfort Module IOM* for more details.

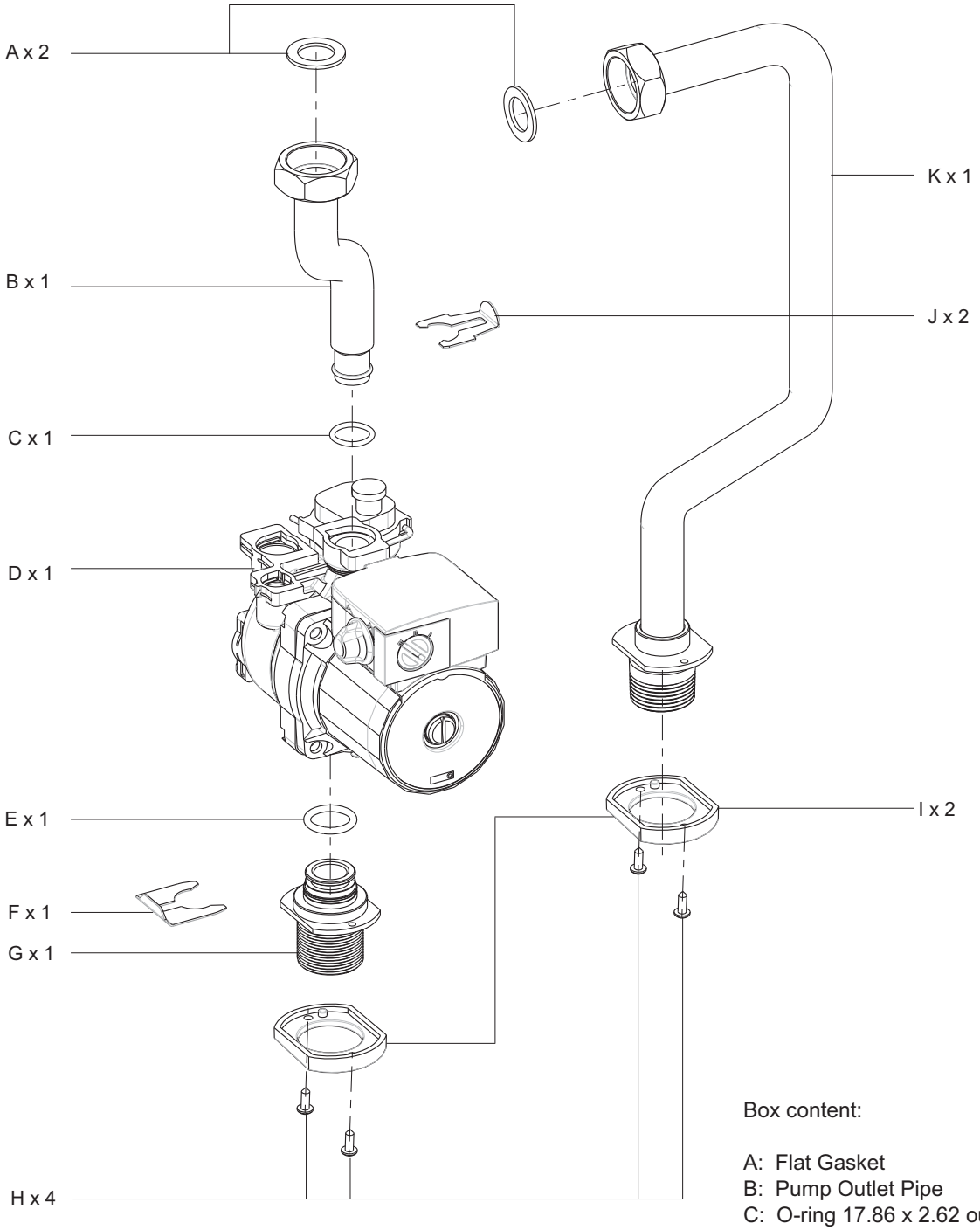
18



18. Reassemble the Comfort Module in the given order.

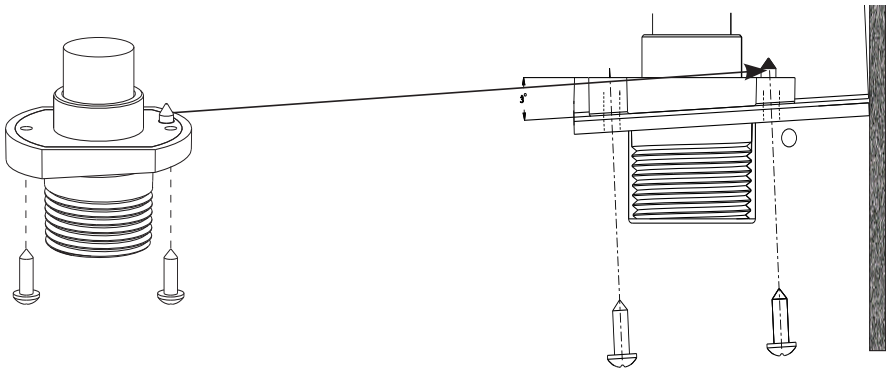
6.2 Adding Pump Kit – 80HMA 9003

Install an additional Water Pump (Pump Kit code 80HMA-9003) inside the 80HMA Comfort Module, to increase the available static pressure to the system.

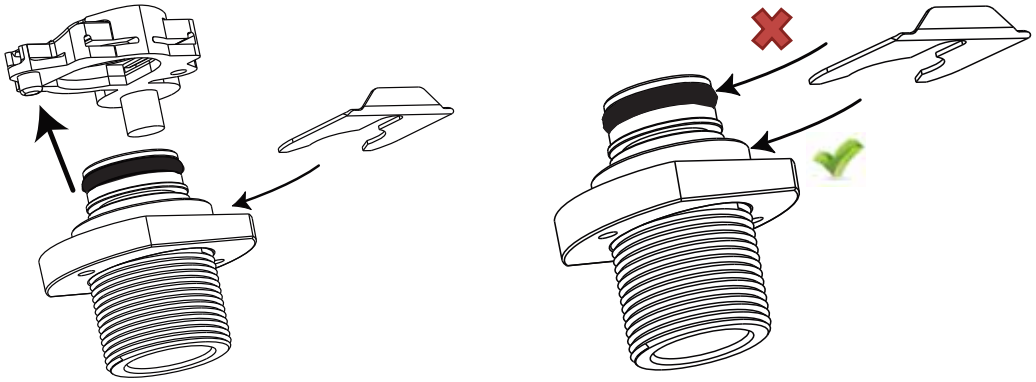


Box content:

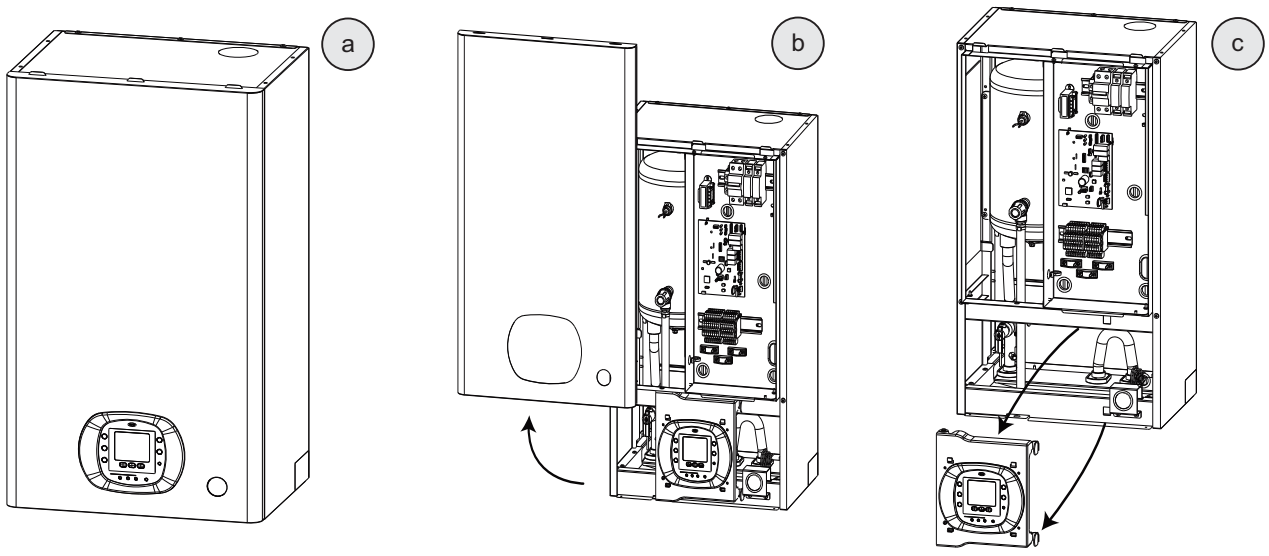
A: Flat Gasket
B: Pump Outlet Pipe
C: O-ring 17.86 x 2.62 outlet pump
D: Pump
E: O-ring 20.22 x 3.53 inlet Pump
F: Clip- Ø18
G: Pump Inlet Connector
H: Screw
I: Insulation Rubber
J: Clip- Ø20
K: Pipe
L: Pump plug & cable



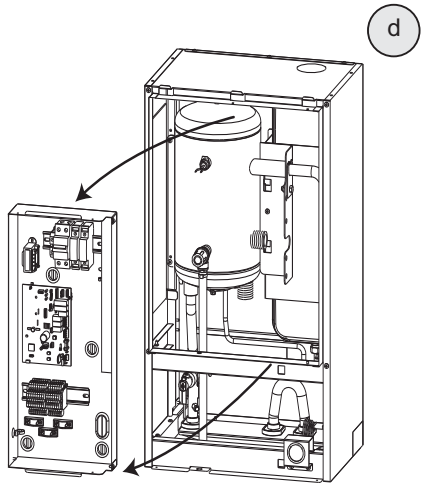
2. Recommendations to install pipe/pump connectors:
- Ensure that the pin on the insulation rubber is positioned exactly with the hole on the pump inlet connector.
- Observe the slope angle on the rubber, to ensure appropriate fixing on the chassis.



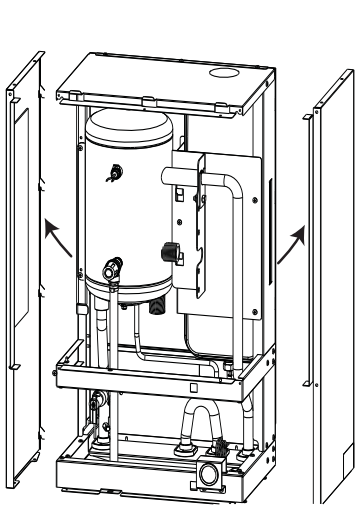
3. ***Warning*** - O-ring and pipe installation:
- Ensure that the pipe inlet connector is pushed well into the slot to avoid damaging the O-ring while inserting the clip.
- Ensure that the clip is inserted in such a way that the O-ring is not cut or damaged.



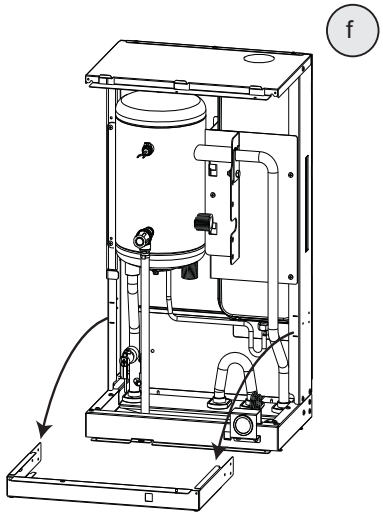
4. Disassemble the 80HMA unit.
Steps a-c: Remove front panel and user interface assembly.



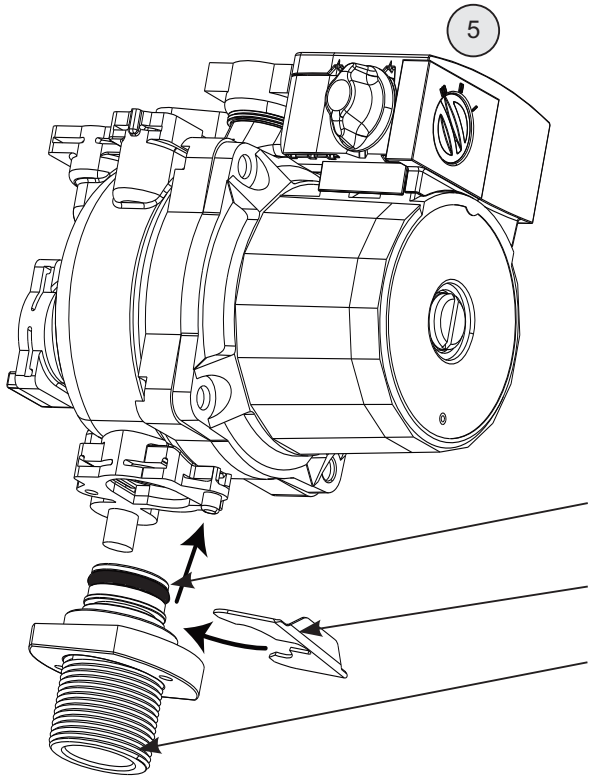
Step d: Remove control box assembly.



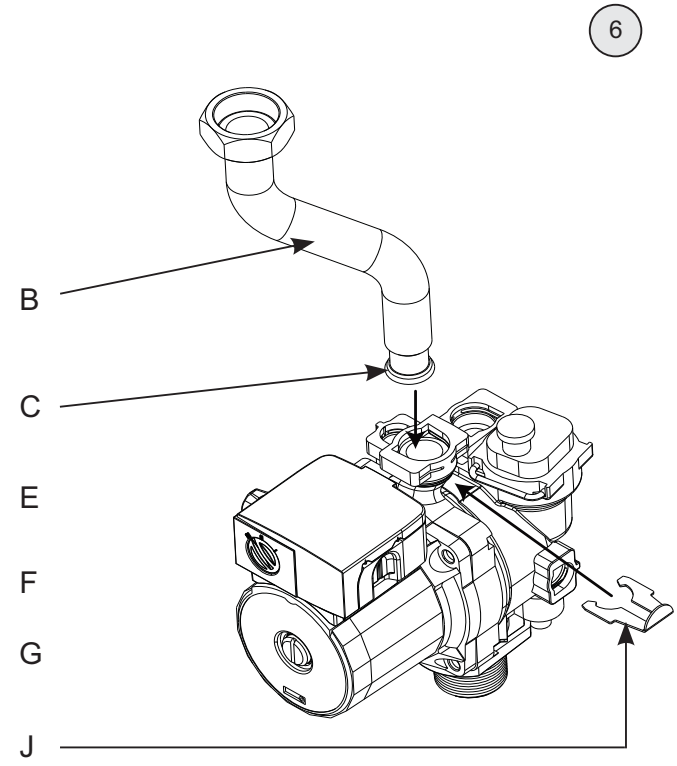
Step e: Remove side panels.



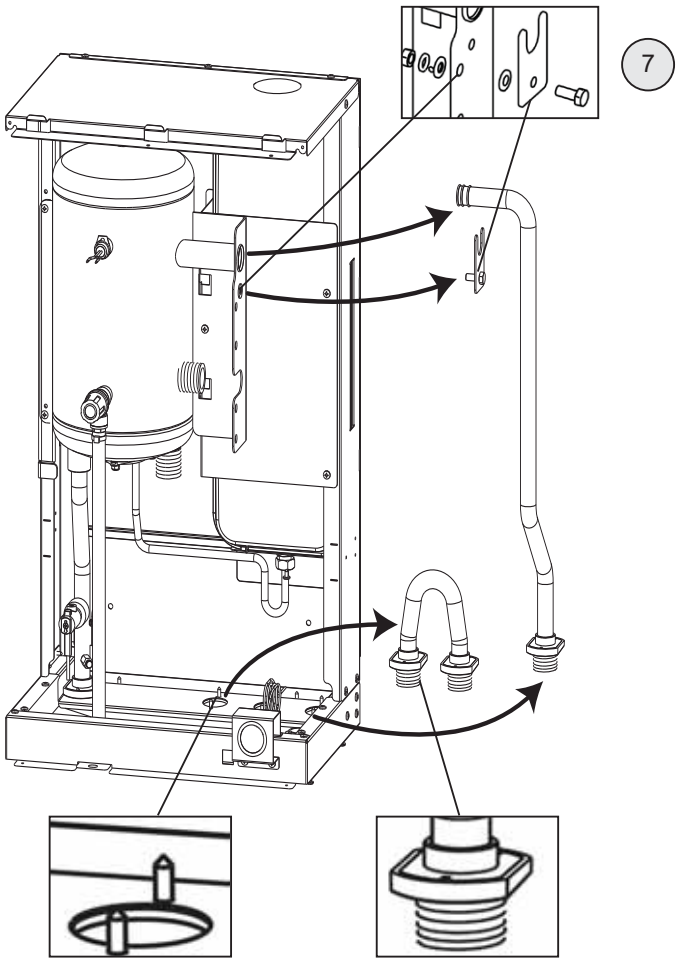
Step f: Remove middle stiffer bracket.



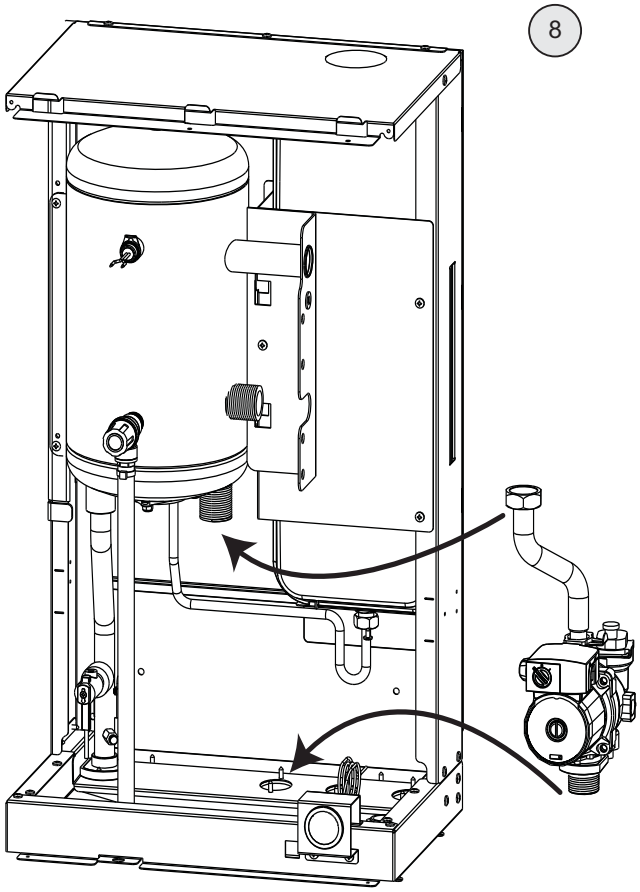
5: Prepare the pump. Attach the pump inlet connector (G). Use O-ring (E) and clip (F).



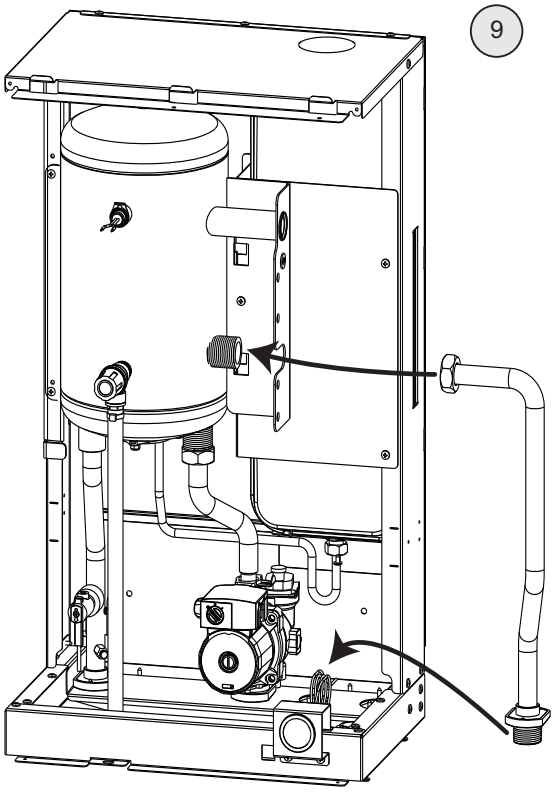
6: Attach the pump outlet pipe (B) to the pump. Use O-ring (C) and clip (J).



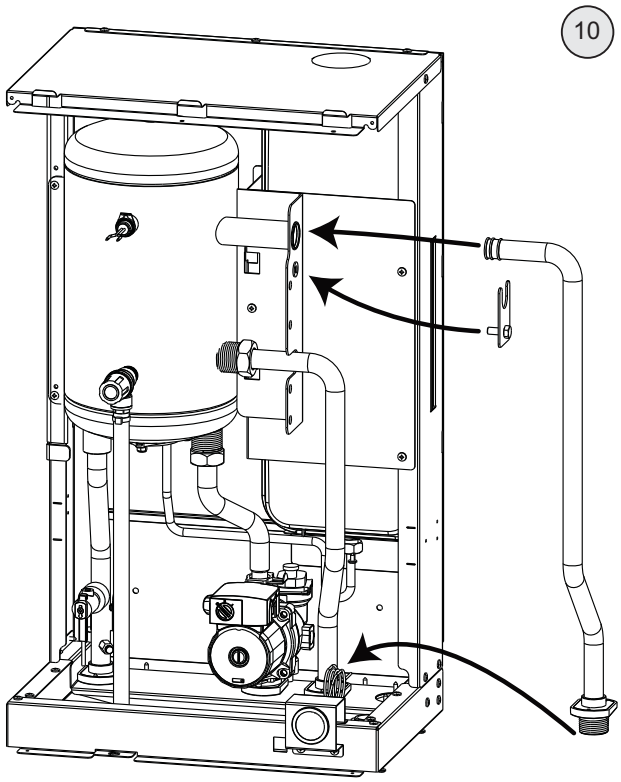
7: Remove tank pipe and bypass pipe.



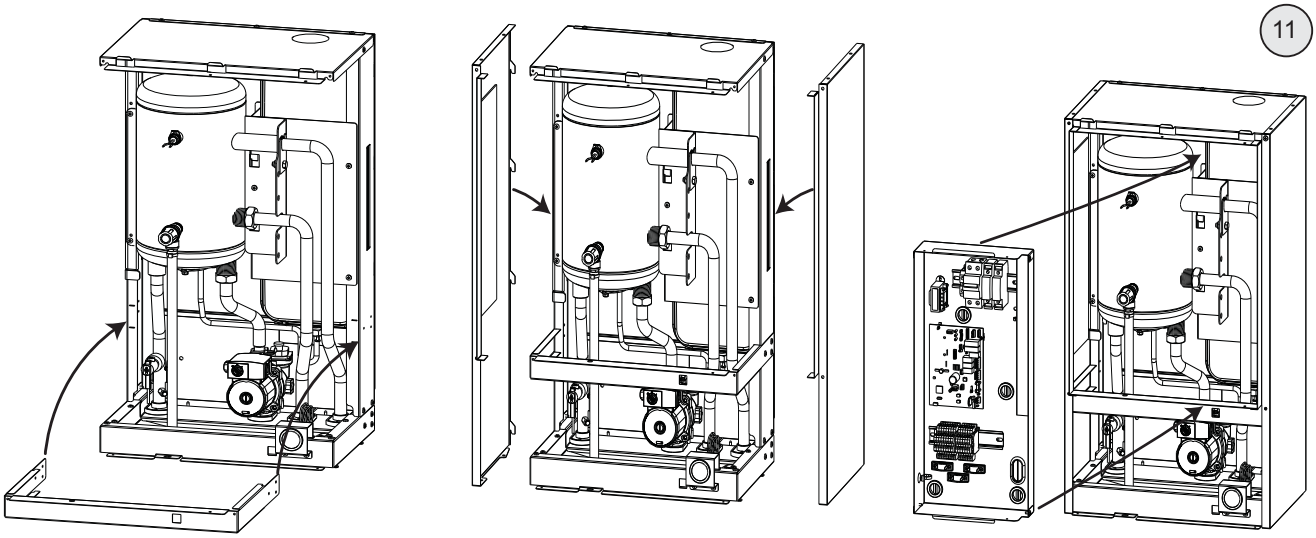
8: Install the pump in the slot where bypass pipe was connected. Connect the top end of the pump to the buffer tank. Use flat gasket (A).



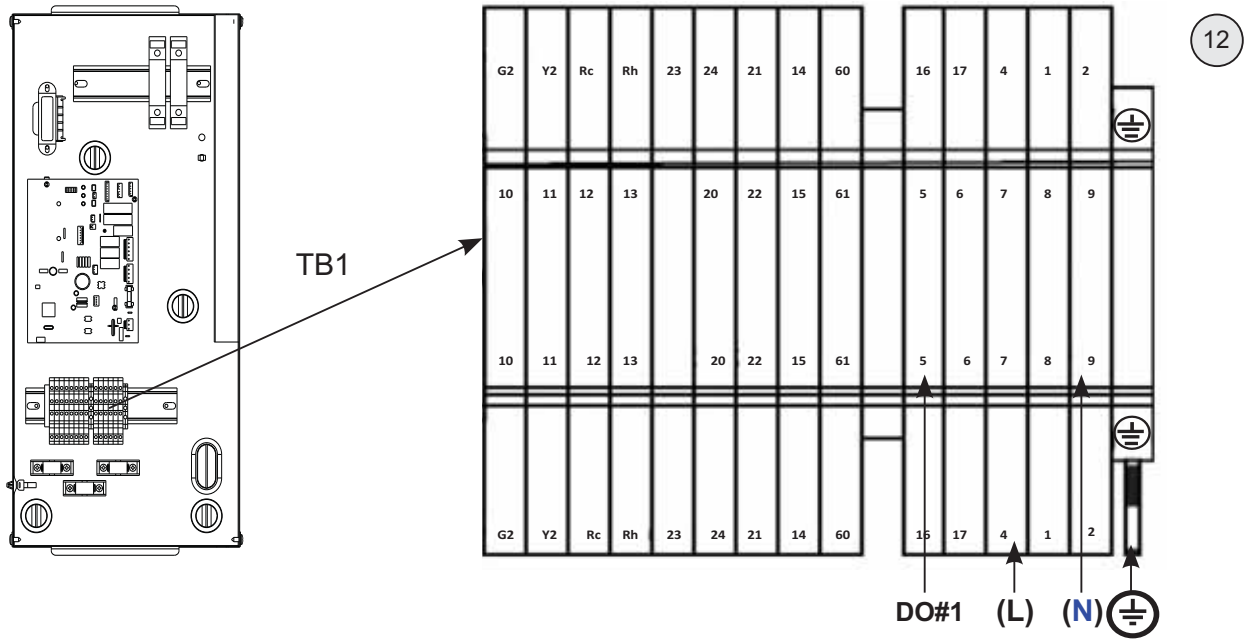
9: Attach the pipe (K). Connect the top end of the pipe to the buffer tank. Connect the bottom end of the pipe to the slot where bypass pipe was connected. Use flat gasket (A).



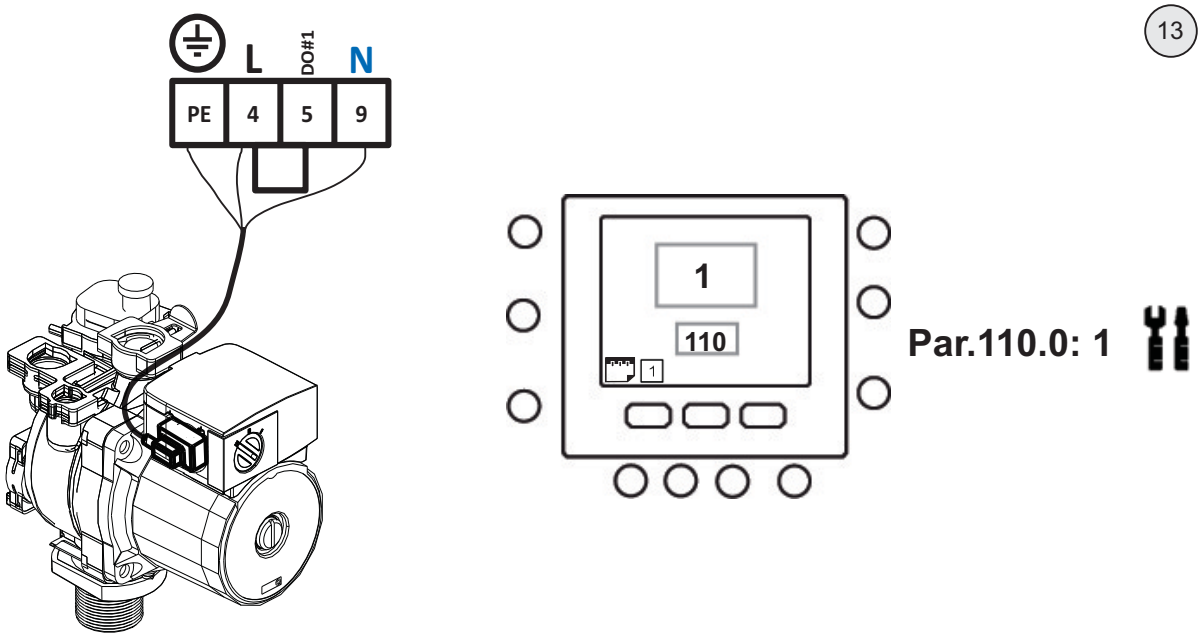
10: Reconnect the tank pipe.



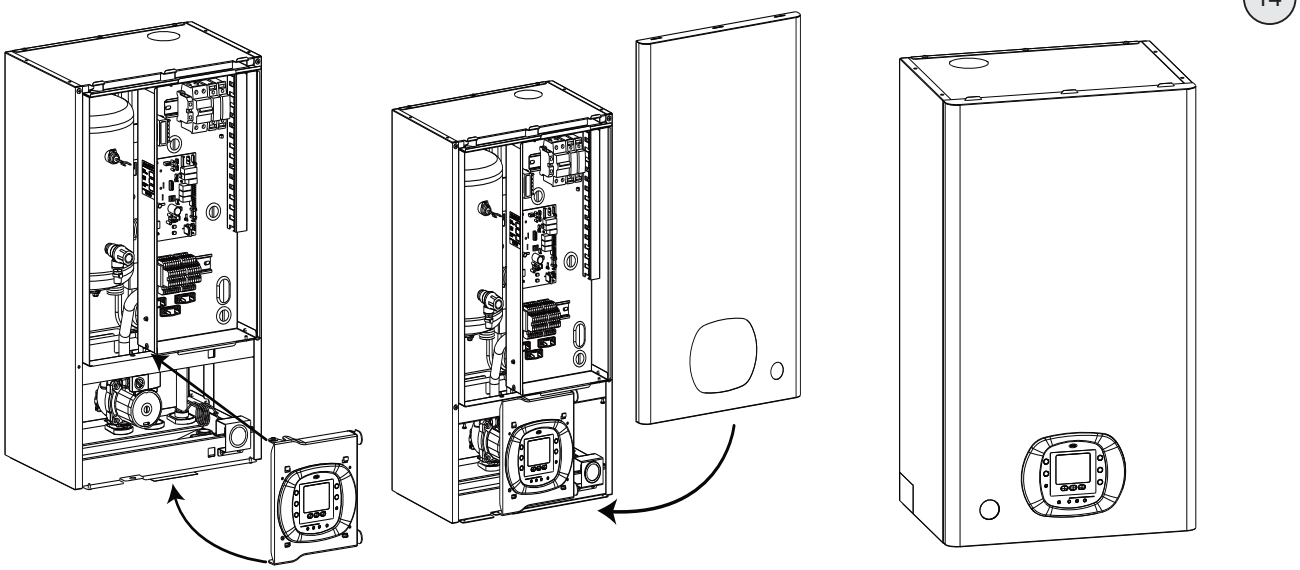
11: Reassemble the Comfort Module in the given order.



12: Terminal Block - TB1



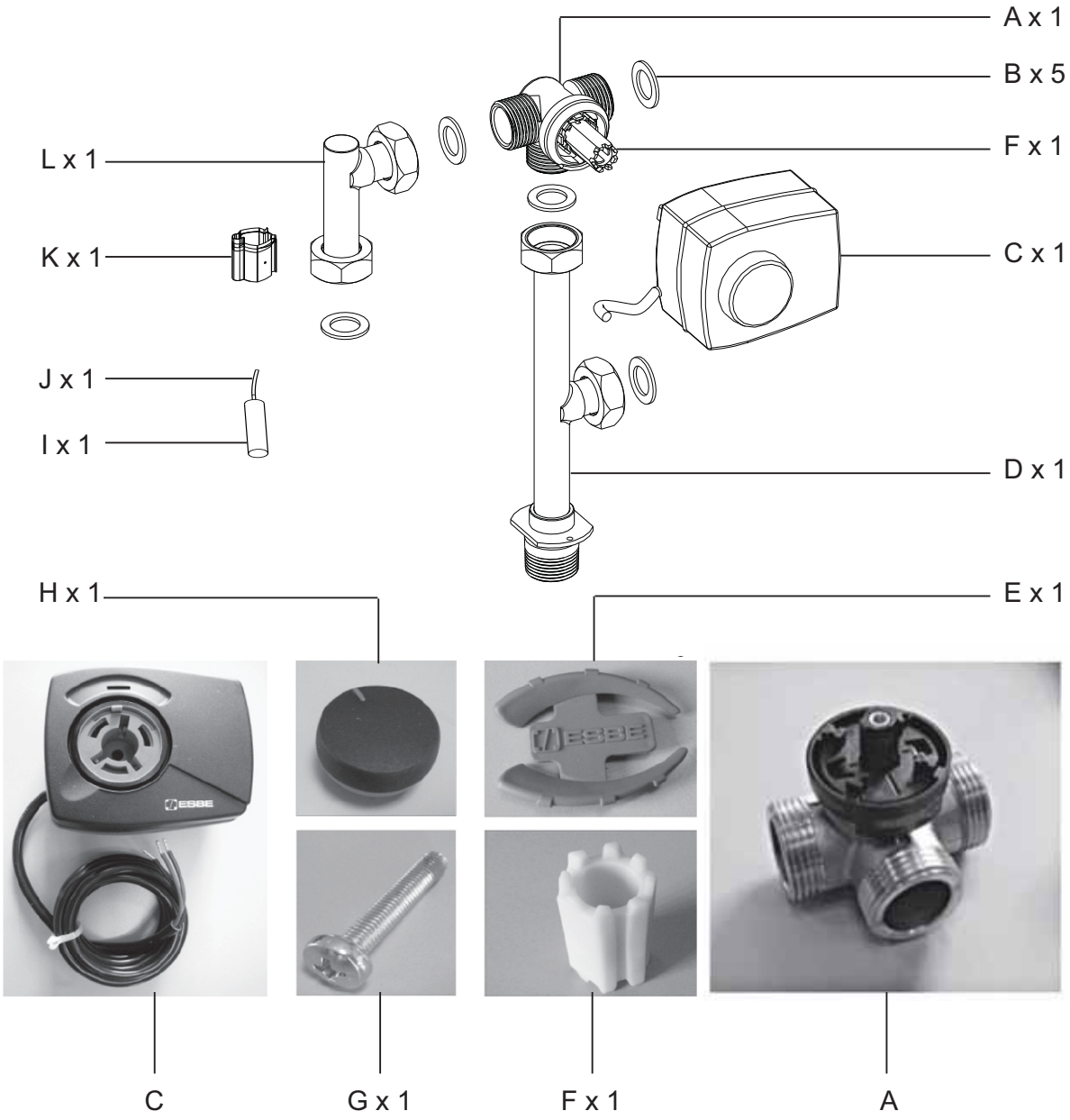
13: Electrical connections for the pump. Refer to Wiring Diagram & Comfort Module IOM for more details.



14: Reassemble the Comfort Module in the given order.

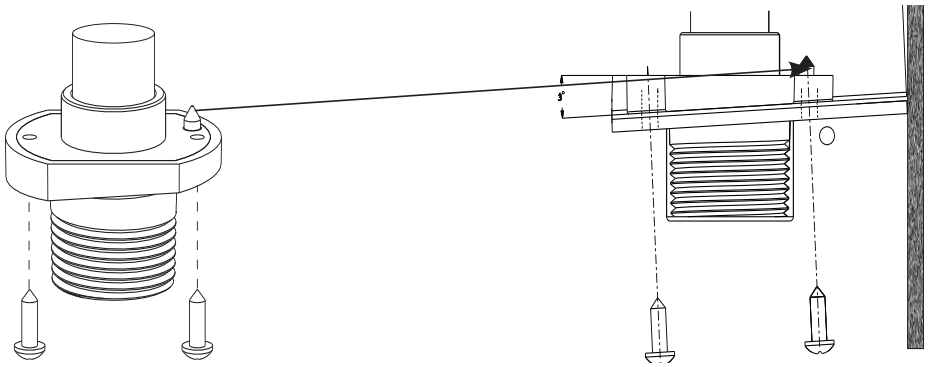
6.3 Adding 3-Way Valve Kit – 80AW9028

Install the 3WV Kit 80AW9028 inside the 2-Zone Kit for:
- 80AW-9025
- 80HMA-9001

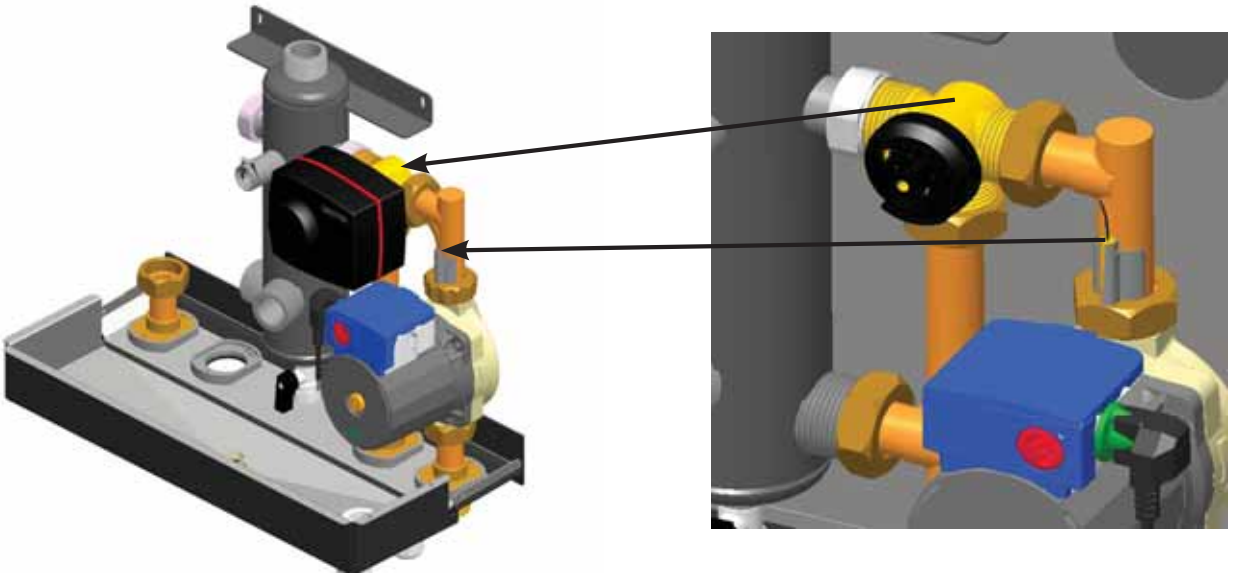


Box content:

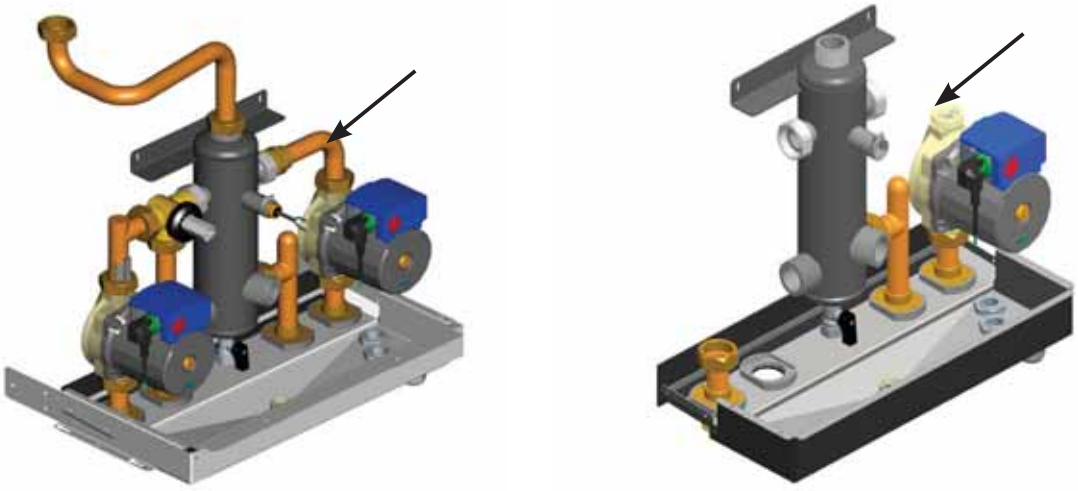
A: 3-Way Valve
B: Flat seal
C: Actuator
D: 3-Way Valve Bypass Pipe
E: Indicator
F: Shaft
G: Screw
H: Knob
I: Water Temperature Sensor (WT2)
J: Water Temperature Sensor Connector
K: Clip
L: Pump Inlet Pipe



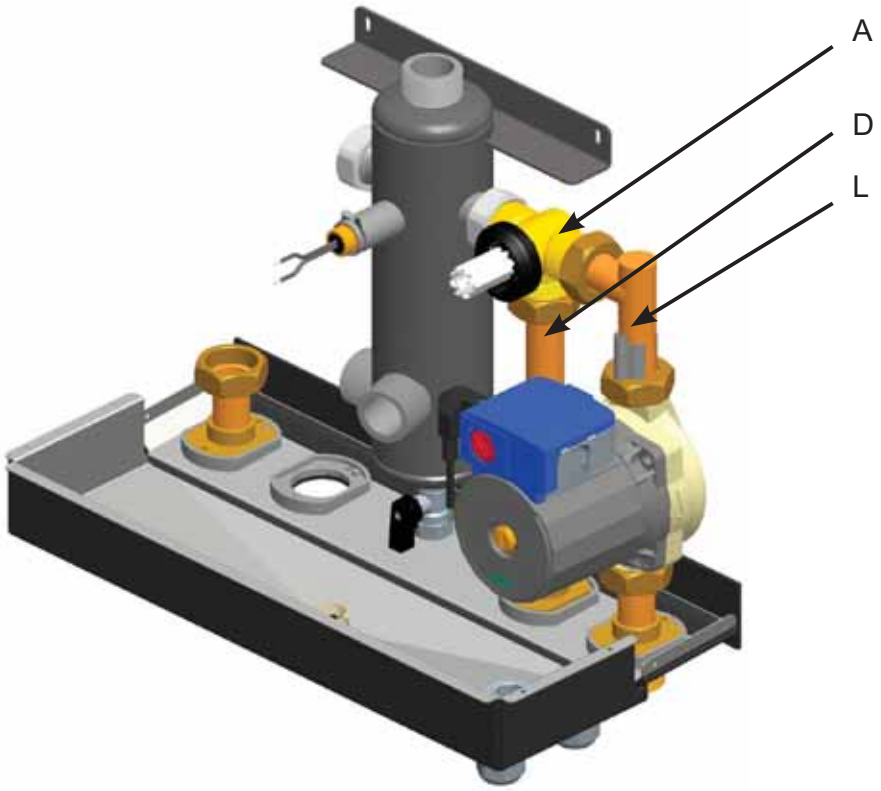
Recommendations to install pipe/pump connectors:
- Ensure that the pin on the insulation rubber is positioned exactly with the hole on the pump inlet connector.
- Observe the slope angle on the rubber, to ensure appropriate fixing on the chassis.



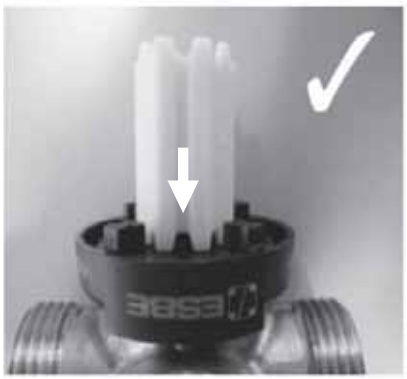
1. Location of the 3-Way Valve Kit 80AW9028 and Water Temperature sensor (WT2)

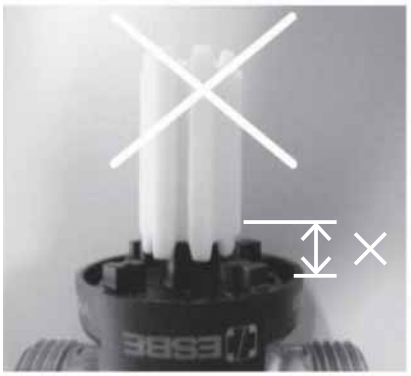


2. Remove the inlet pipe connected to the pump.



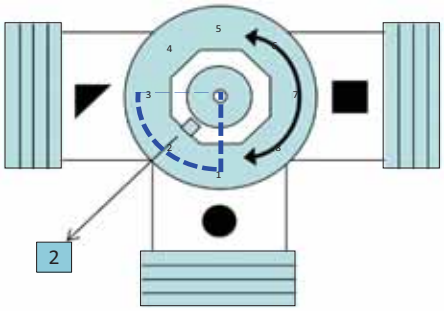
3. Install the pump inlet pipe (L), bypass pipe (D) and the valve (A), as shown in the picture.





4. Prepare the valve body:

- Install the shaft (F).
- Turn the shaft and adjust the valve to the right position as indicated (correct angle shown in the picture - see step no. 5).
- Make sure that the actuator is in the medium position (medium position is the position of the actuator when it is delivered; if the position is medium, it can be adjusted manually - see step no. 9).



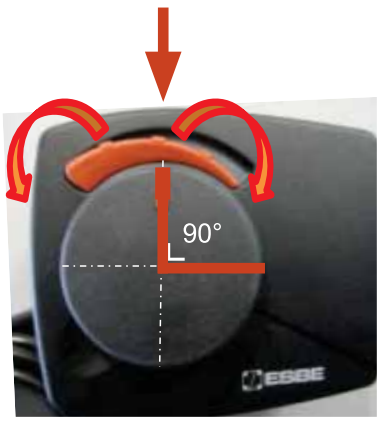
5. Valve and actuator positioning

Be sure that:
- The valve is adjusted to the right position as indicated.
- The actuator position is at 90°. If not, adjust it using the manual position. See step 9.

6. Assemble the actuator on the valve body and tighten the screw inside the actuator.
7. Fix the indicator and knob on the actuator.

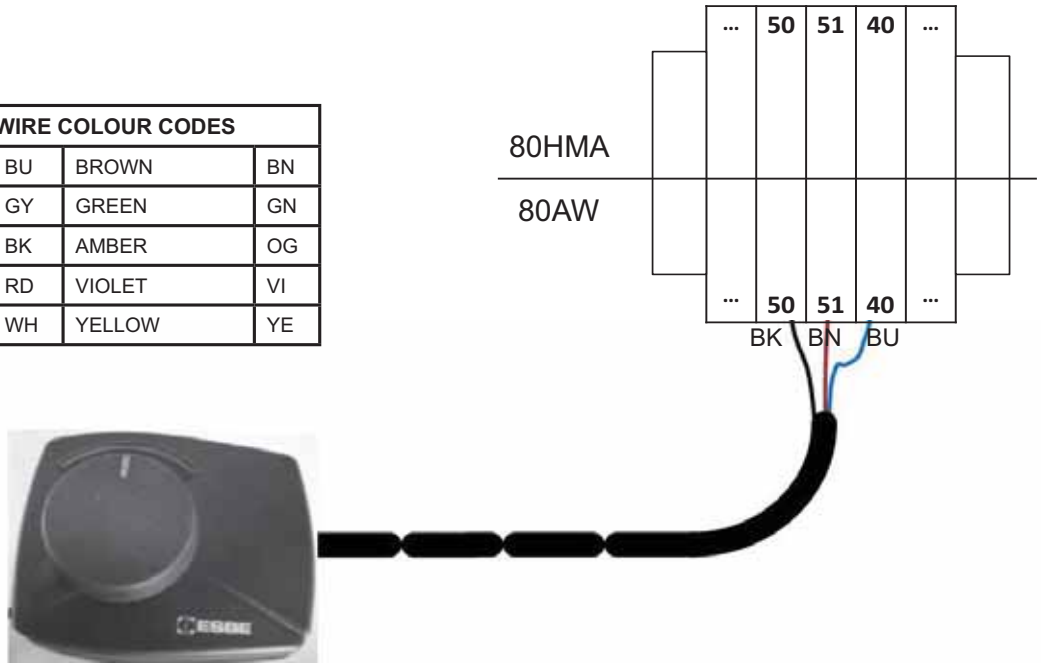
8. For installing the actuator, insert the actuator on the valve and press.

AUTO



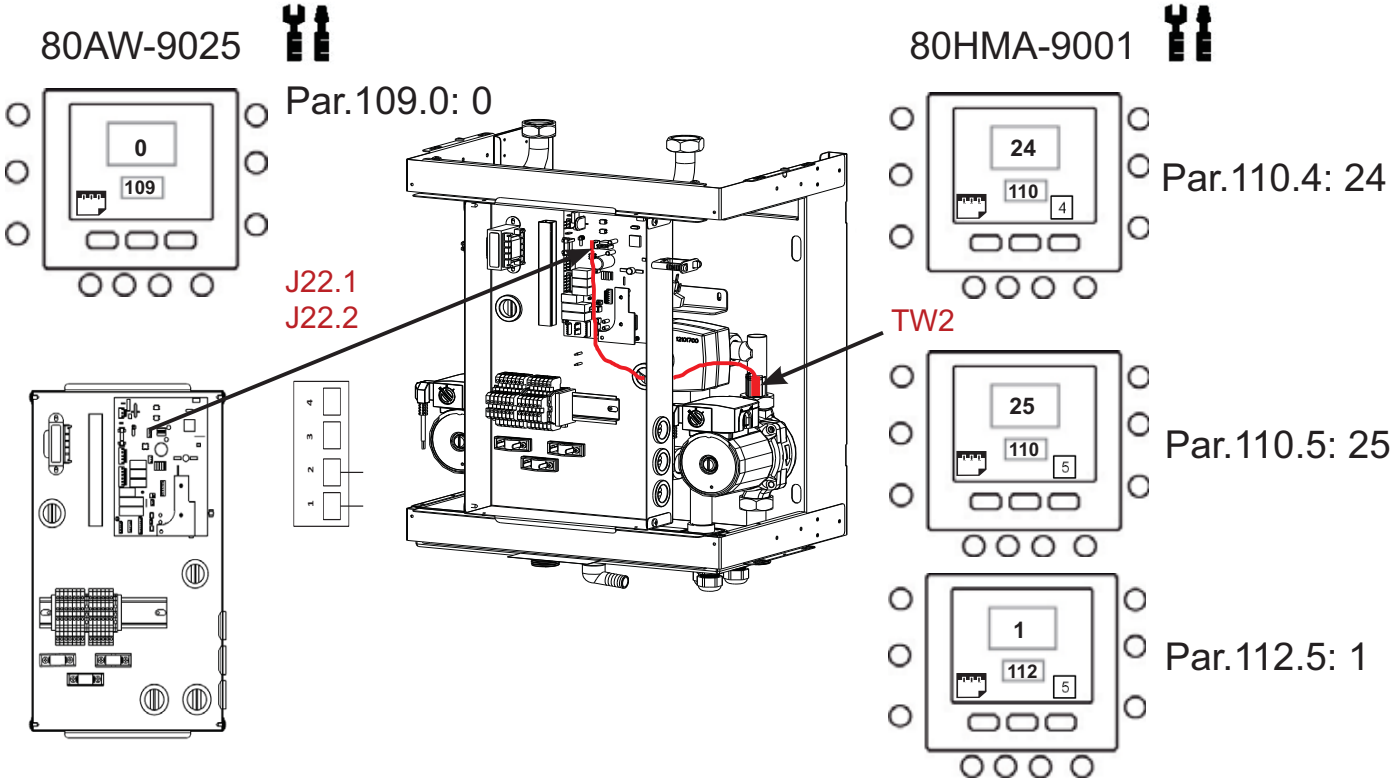
9. Actuator position adjustments:
- Automatic: The actuator position cannot be adjusted manually.
- Manual: The actuator position can be adjusted manually using the knob.

STANDARD WIRE COLOUR CODES			
BLUE	BU	BROWN	BN
GREY	GY	GREEN	GN
BLACK	BK	AMBER	OG
RED	RD	VIOLET	VI
WHITE	WH	YELLOW	YE



10. Electrical connections:

Note: *WT2 sensor connector with 2 pins will use the pins 1 & 2 on J22 connector.*
Wire the connections and enter settings in the control.

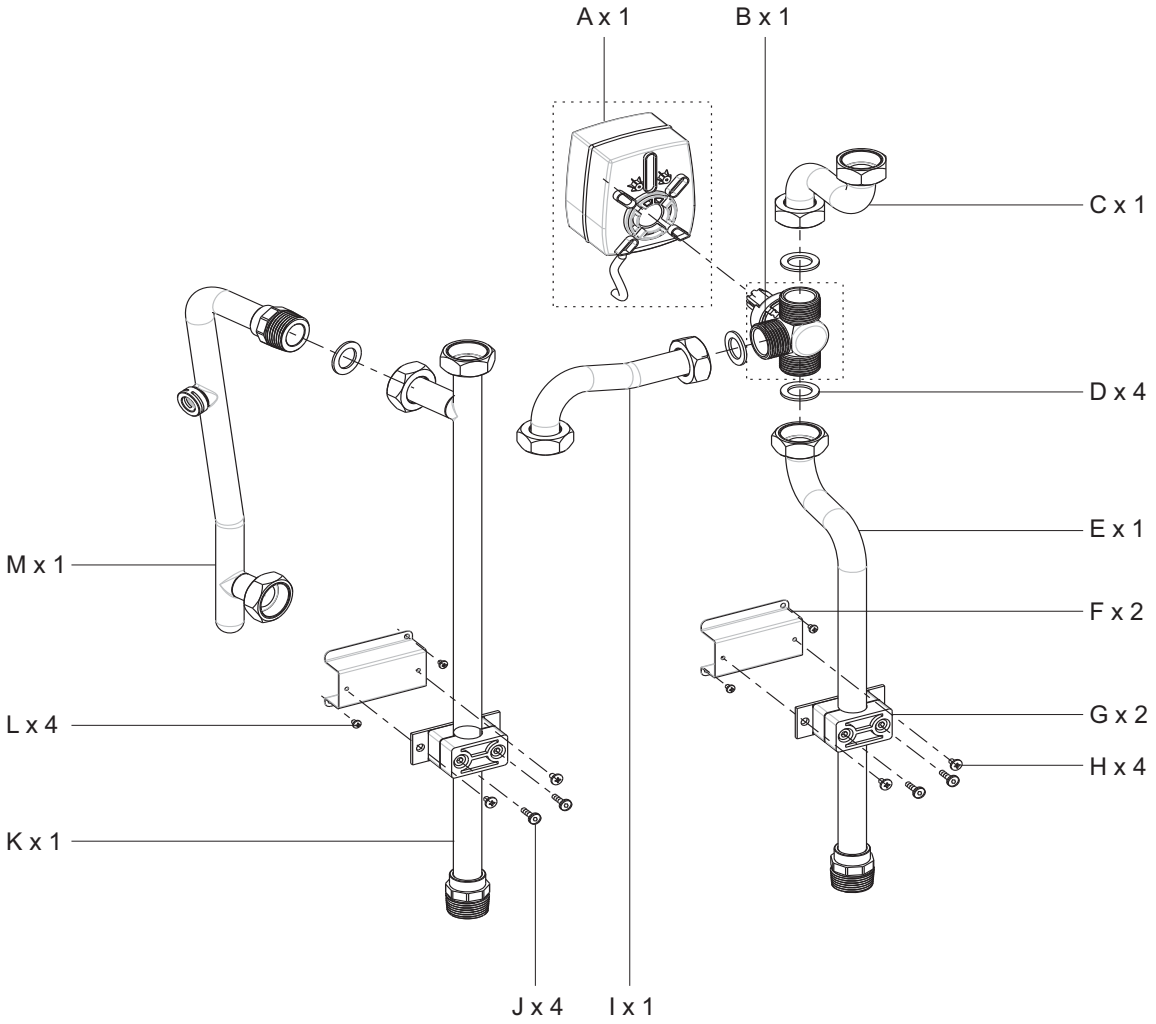


6.4 Adding Piping Kit – 80AW9026

Piping Kit 80AW9026 is used to install Domestic Hot Water Valve DHW-V 80AW9023 and actuator inside the 2-Zone Kit for:

- 80AW-9025
- 80HMA-9001

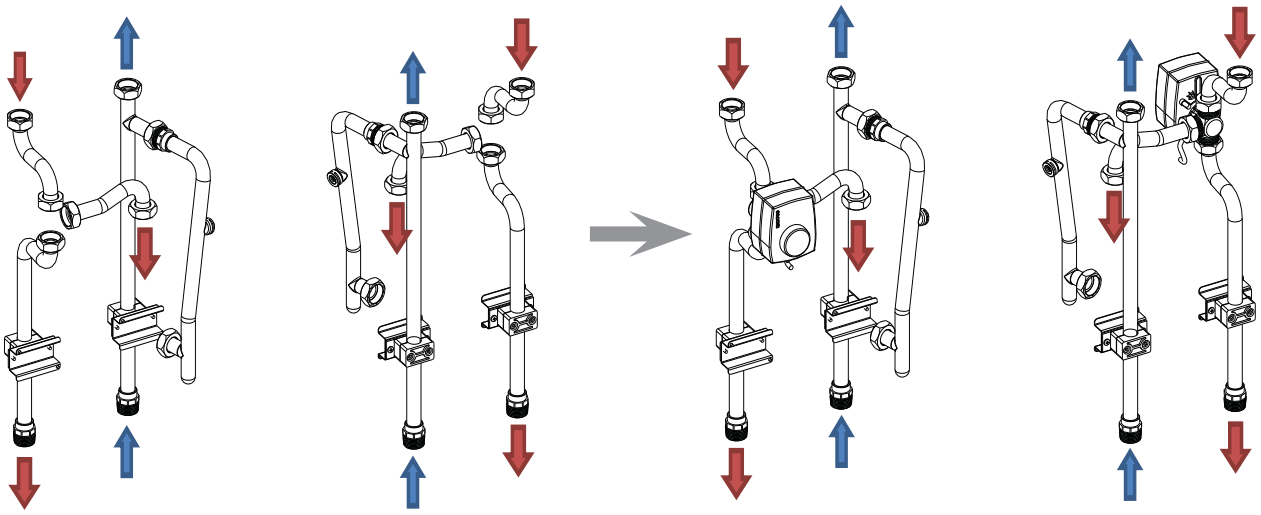
Complete below procedure to install the piping kit:



Box content:
Note: *A and B are provided separately with accessory 80AW9023 - DHW Valve.*

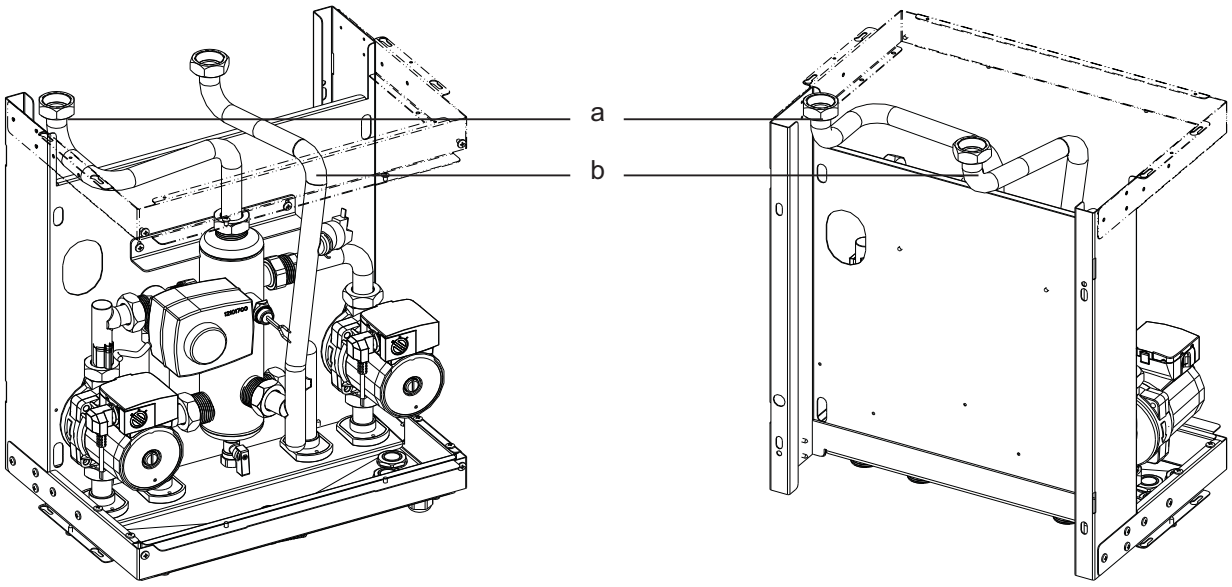
A: DHW-Valve: Actuator (80AW9023)
B: DHW-Valve: Body (80AW9023)
C: Inlet Pipe from Comfort Module
D: Flat Gasket
E: Pipe to Domestic Hot Water Tank
F: Bracket
G: Pipe Holder
H: Screws
I: Inlet Pipe to de-coupling bottle
J: Pipe Holder Screws
K: Pipe from Domestic Hot Water Tank to Comfort Module
L: Screws
M: Return pipe to Comfort Module from de-coupling bottle

80AW9026 **80AW9026 + 80AW9023**

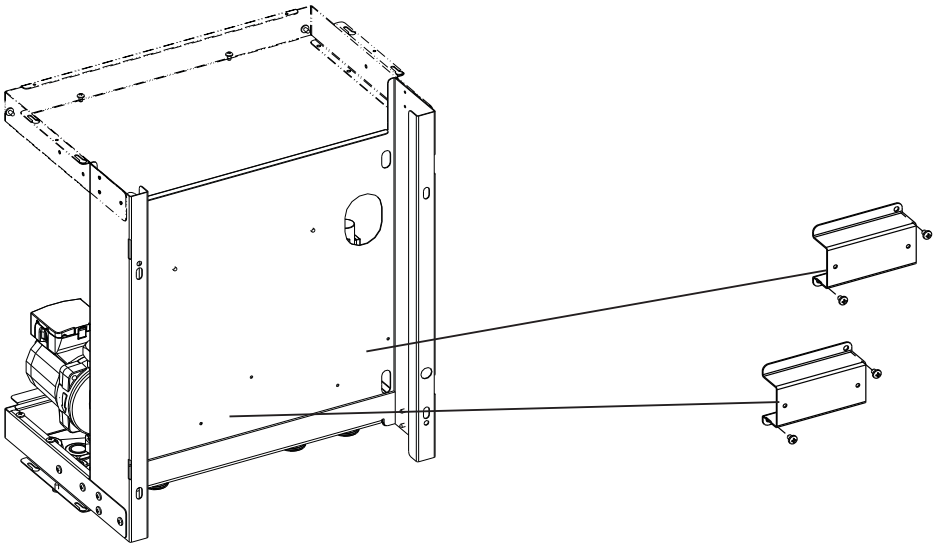


Warning:

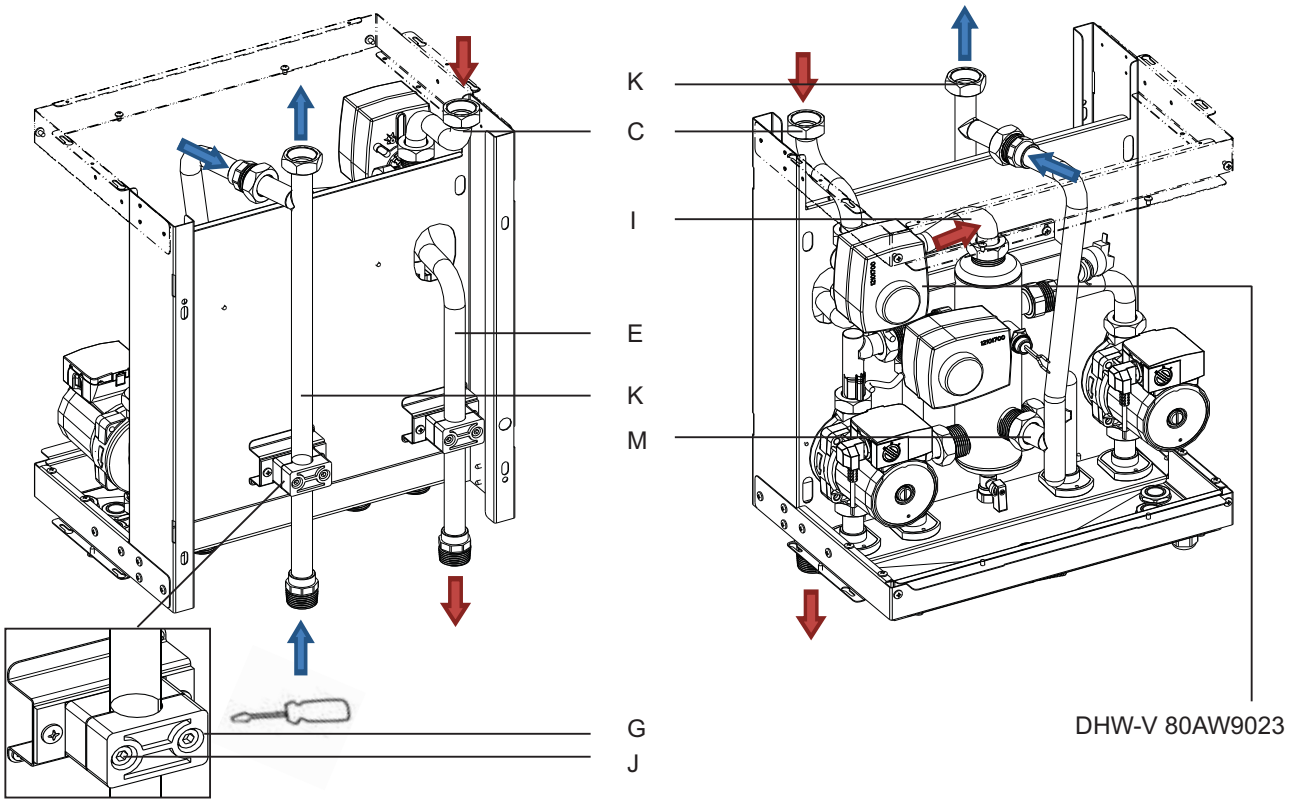
- *Piping Kit 80AW 9026 must be installed inside the 2-Zone Kit before connecting it to the Comfort Module or mounted on the wall.*
- *It is recommended to adjust the position and alignment of the pipes while connecting the 2-Zone Kit to the Comfort Module.*
- *Tighten the piping holders using the pipe holder screws 'J'.*



1. Remove inlet (a) and outlet pipes (b) from 2-Zone Kit. Keep the flat seals aside to assemble the piping.



2. Install the brackets (F) on the 2-Zone Kit, using the pre-punched holes.



3. Install the pipe from DHW-Tank to Comfort Module (K) and the pipe from DHW-V to DHW-Tank (E) on the brackets using the pipe holders (G).
4. Tighten softly to be able to adjust the pipes on the pipe holders.
5. Install the DHW Valve 80AW9023 assembly and the pipes as shown.
6. In case of 2-Zone Kit installed below the Comfort Module, adjust the piping location on the pipe holders before mounting the complete assembly on the wall and tighten the pipe holder screws (J).
7. Wiring connections and configuration for DHW-V are given in the dedicated Installation Manual.
8. Refer to *2-Zone Installation Manual* for connecting the 2-Zone Kit to the Comfort Module.

6.5 Adding Domestic Hot Water Valve – 80AW9023

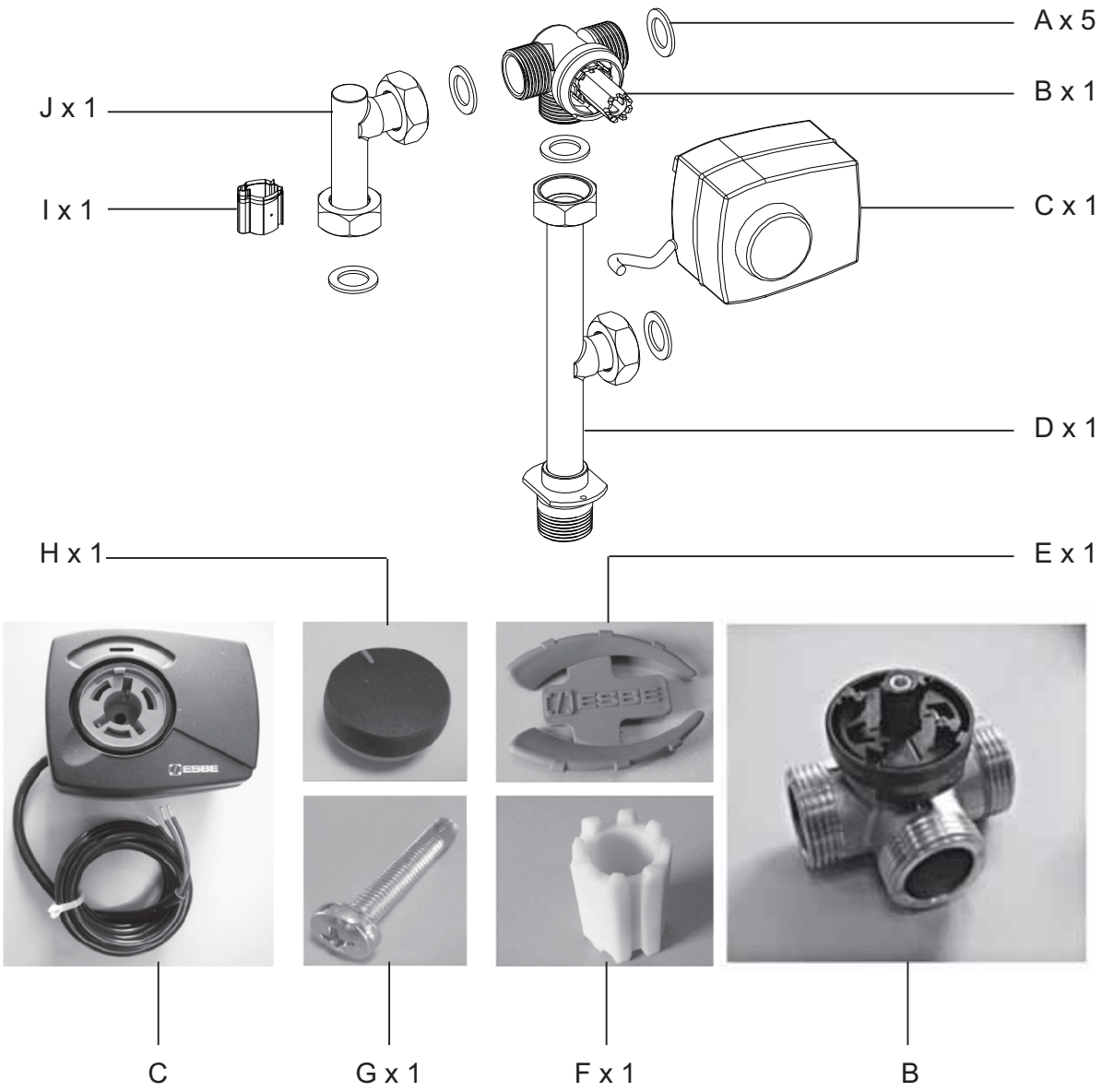
80AW9023 - Domestic Hot Water Valve, Pool Diverting Valve and Pool Mixing Valve:

- DHW-V: Domestic Hot Water Valve to heat domestic water tank. Can be installed outside the Comfort Module 80HMA or inside the 2-Zone Kit using Piping kit 80AW9026
- P-DV: Diverting Valve to heat up swimming pool heat exchanger (not Carrier)
- P-3WV: 3-Way Mixing Valve to control the water temperature delivered to the swimming pool.

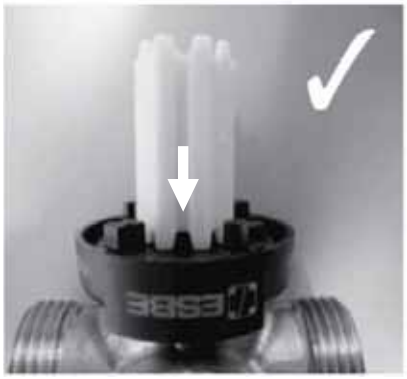
The Pool kit 80HMA-9002 must be provided to manage the swimming pool heating.

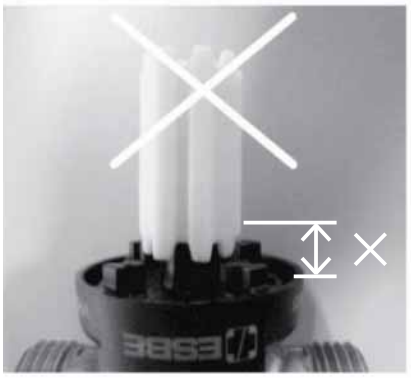
DHW-V 80AW9023 is installed inside the 2-Zone Kit for:

- 80AW-9025
- 80HMA-9001



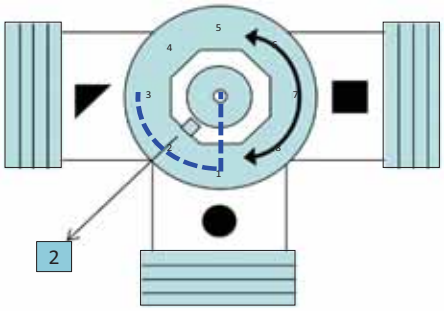
Box Content: A: Flat seal, B: 3-Way Valve, C: Actuator, D: 3-Way Valve Bypass Pipe, E: Indicator, F: Shaft, G: Screw, H: Knob, I: Clip, J: Pump Inlet Pipe





1. Prepare the valve body:

- Install the shaft (D).
- Turn the shaft and adjust the valve to the right position as indicated (correct angle shown in the picture - see step no. 2 and 8b),
- Make sure that the actuator is in the medium position (medium position is the position of the actuator when it is delivered; if the position is medium, it can be adjusted manually - see step no. 6).



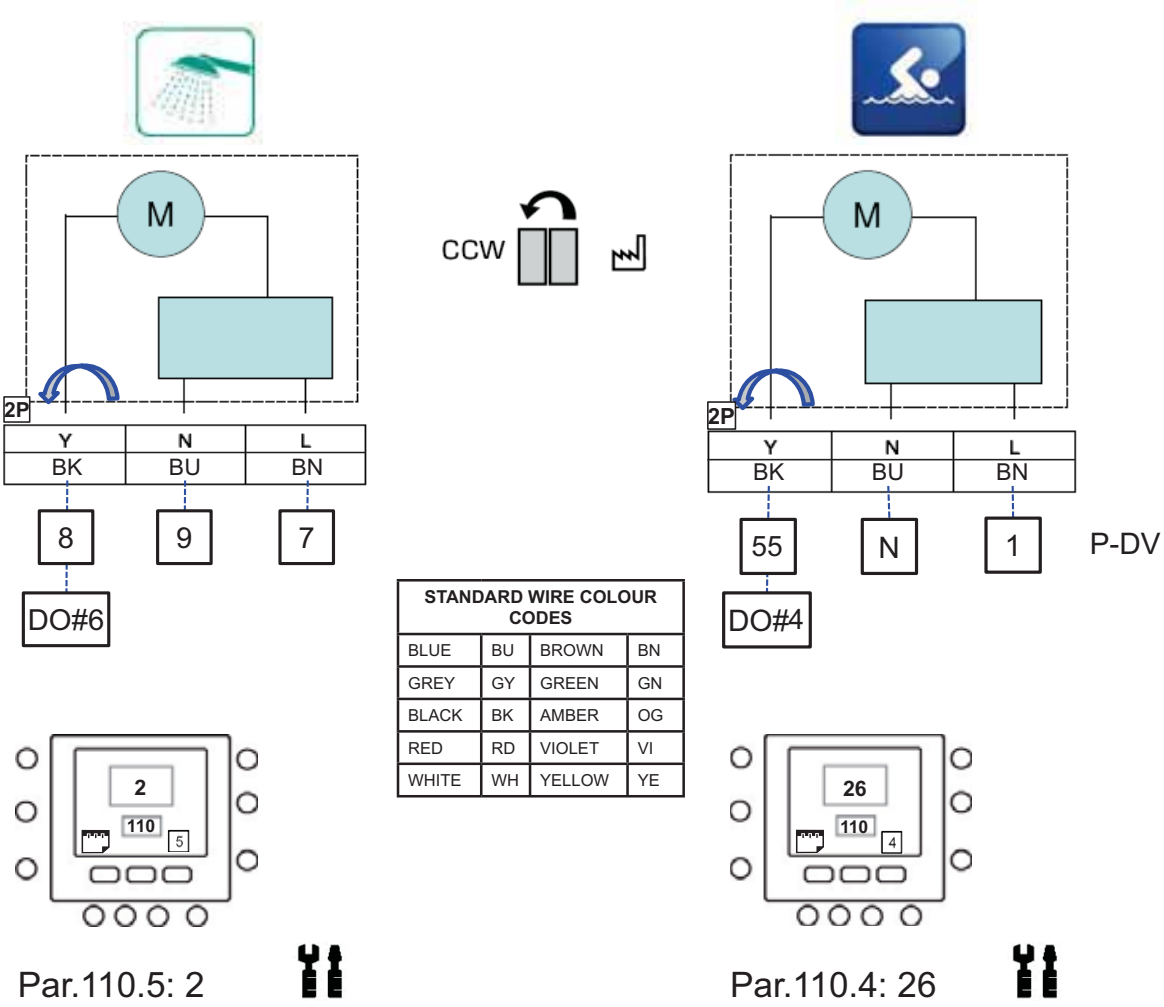
2. Valve and actuator positioning

Be sure that:
- The valve is adjusted to the right position as indicated. For a different use or valve location, see step no. 8b.
- The actuator position is at 90°. If not, adjust it using the manual position. See step 6.

3. Assemble the actuator on the valve body and tighten the screw inside the actuator.
4. Fix the indicator and knob on the actuator.

5. For installing the actuator, insert the actuator on the valve and press.

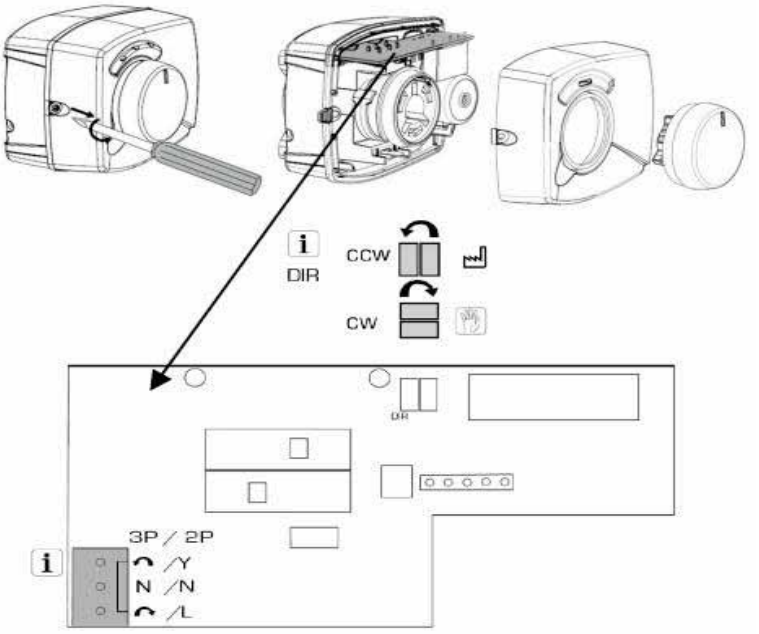
6. Actuator position adjustments:
- Automatic: The actuator position cannot be adjusted manually.
- Manual: The actuator position can be adjusted manually using the knob.



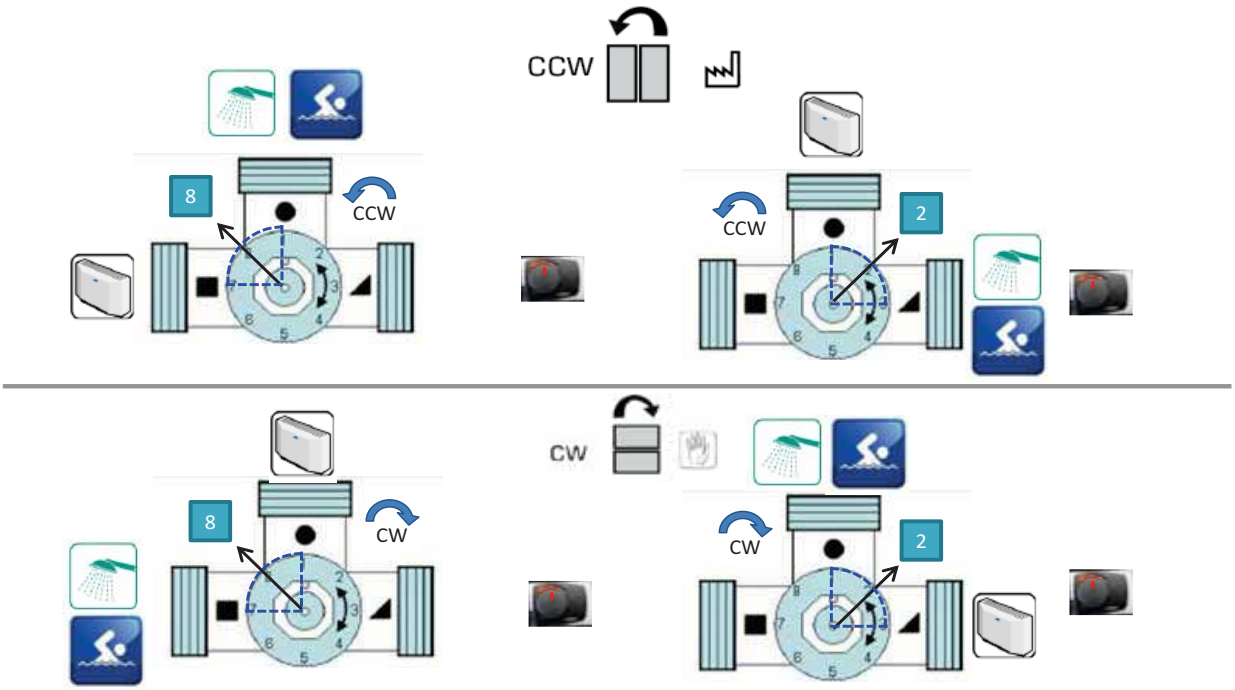
STANDARD WIRE COLOUR CODES			
BLUE	BU	BROWN	BN
GREY	GY	GREEN	GN
BLACK	BK	AMBER	OG
RED	RD	VIOLET	VI
WHITE	WH	YELLOW	YE

7a. DHW-V- Domestic Hot Water Valve: Electrical connections on Comfort Module 80HMA or 80AW
Wire the connections and enter settings in the control.

7b. P-DV - Swimming Pool Diverting Valve: Electrical connections on Pool Kit
Wire the connections and enter settings in the control.



8a. Other configurations when the body valve position is not the same as in standard drawing.
Factory set to Counter Clockwise, to set the actuator Clockwise, adjust the jumpers accordingly. See step no. 8b.

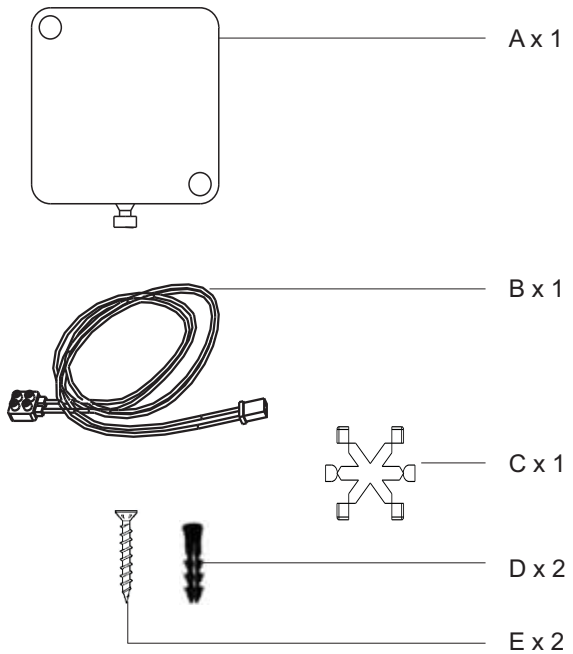


8b. Other body valve possible positions

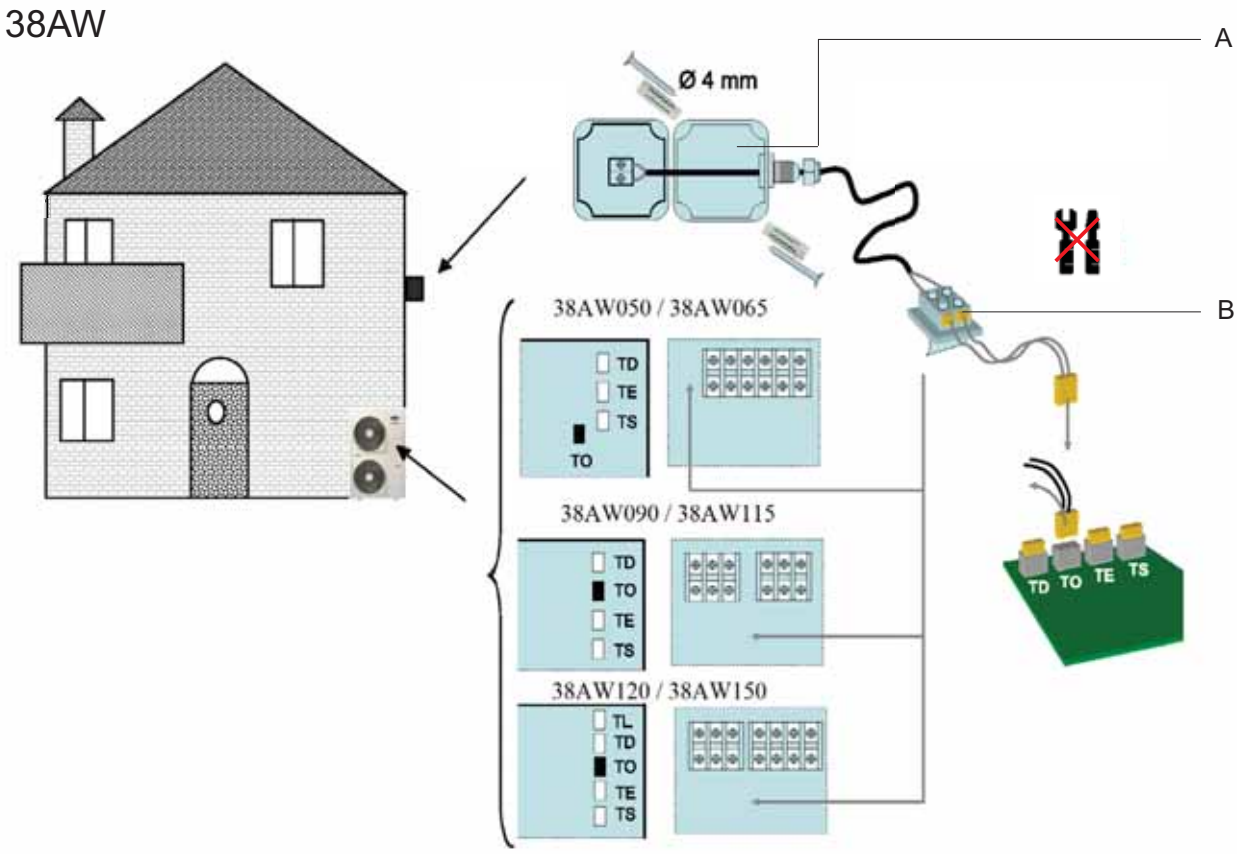
6.6 Remote Outdoor Air Temperature Sensor – 33AW-RAS02

Remote Outdoor Air Temperature Sensor
Reference: 33AW-RAS02
Type: NTC 10 kΩ @ 25 °C

Products compatibility :
- Comfort Module 80HMA
- Condensing Unit 38AW



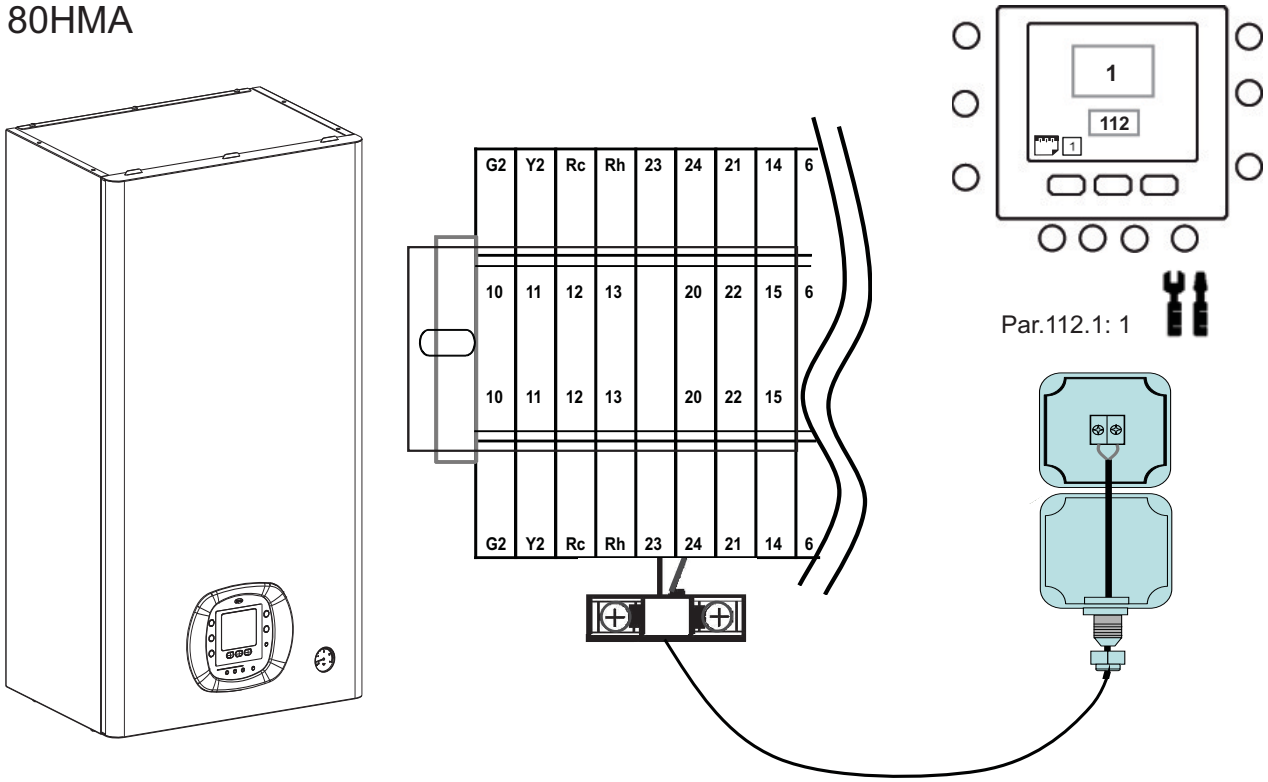
Box Content:
A - Remote Outdoor Air Temperature Sensor
B - Plug & Cable
C - Caps
D- Screw Anchor
E - Screw



OAT Sensor on 38AW:

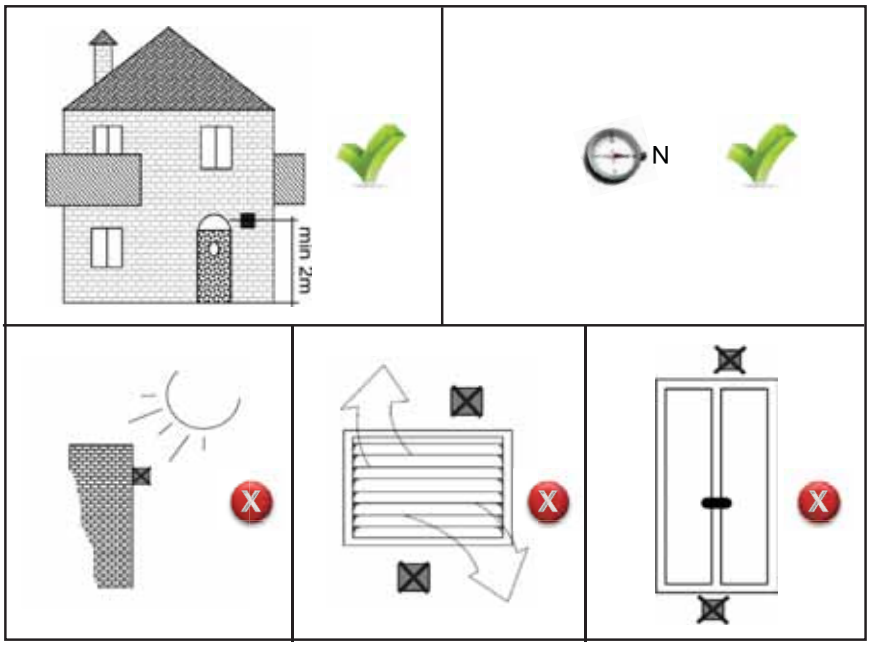
1. Use the additional connector 'B' to connect one side of the OAT sensor 'A', using the field supplied cable (FROH2R - 2x 0.5 mm²).
2. Install connector 'B' on 38AW. The existing connector 'TO' should be removed and replaced by connector 'B'.
3. No additional configuration is required.

80HMA



OAT Sensor on 80HMA:

1. The additional connector 'B' is not used.
2. OAT sensor is connected directly to 80HMA, using the field supplied cable (FROH2R - 2x 0.5 mm²). TB pins 23-24 are used.
3. Configure Par.112.1: 1 on 80HMA.



Location recommendations for OAT sensor installation:

The OAT Sensor should be installed only on the outside wall, on the North side of the building or premises.

The OAT Sensor should NOT be installed:
- Indoor, close to a window, or next to a lid leading to the outside
- Exposed to direct light or heat from the sun, a lamp, fireplace, or any other heat-radiating objects
- Close to or in direct airflow from supply registers or return-air registers.

7.1 Introduction

The Pool Kit installed with the Comfort Module or Master Board, is the control board (Slave Board) which helps managing the Heating/Cooling system for a swimming pool, controling all the required devices.

All the devices (valve, pump, pipes, etc.) are field-supplied and should be sized according to the system requirements.

7.1.1 Accessories

Code	Description	Notes
33AW-CS3	User Interface	Additional User Interface
80AW9023	- 3-Way Valve and actuator used as Diverting Valve P-DV - 3-Way Valve and actuator used as a Proportional Mixing Valve	- To drive the water from the Comfort Module to the Pool Heat Exchanger - To control the water Temperature from the Heat Exchanger to the Pool

7.2 Installation

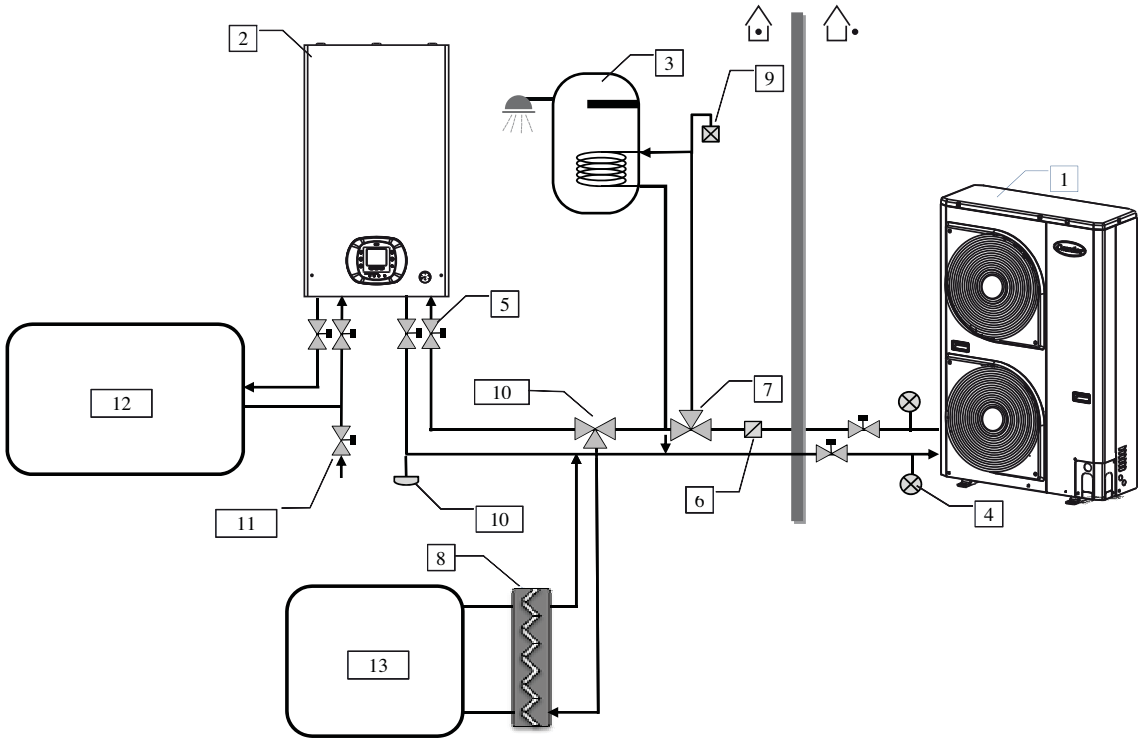
7.2.1 Installation Design

Below pictures show a possible plan to connect the PoolKit to the hydraulic circuit and the required devices.

All the input and output values are fully customizable, so these pictures are only for illustrative purpose.

Hydraulic Circuit

1. Heat Pump
2. Comfort Module - Master Board
3. Domestic Hot Water Tank
4. Manometers
5. Ball valves - Stop Valves
6. Water filter
7. 3-Way Valve - Diverting Valve for Domestic Hot Water Valve - DHW-V
8. Pool Heat Exchanger
9. Auto purge air valve (put in the highest positions in the hydraulic circuit)
10. 3-Way Valve used as Diverting Valve P-DV
11. Filling system valve
12. To Zone Terminals
13. To Pool system

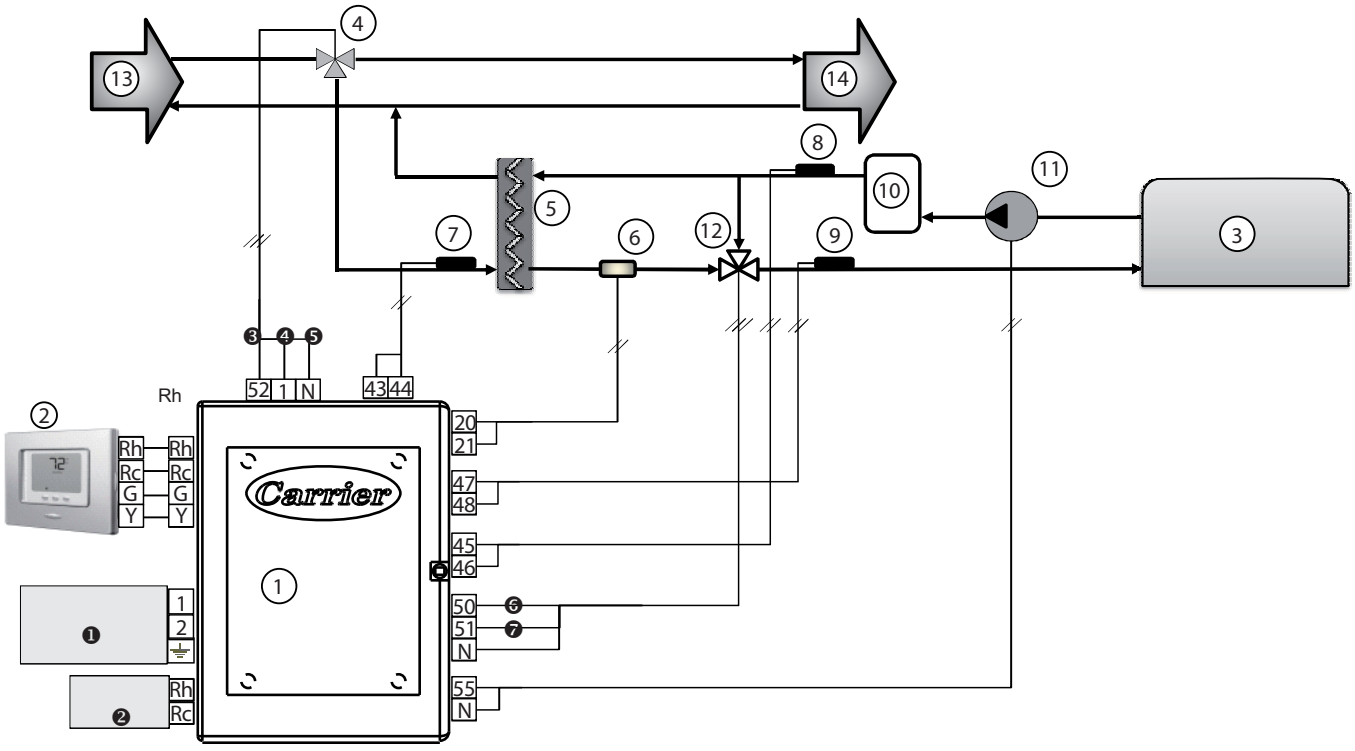


Pool System

1. Pool kit 80HMA-9001 - Control Box -
2. Pool User Interface - NUI -
3. Swimming pool
4. 3-Way Valve for Pool Heat Exchanger (80AW9023 in this example)
5. Pool Heat exchanger
6. Flow switch
7. Water Temperature Sensor to Pool Heat Exchanger
8. Pool water temperature sensor
9. Leaving Water Temperature Sensor to Pool
10. Pool cleaning system
11. Pool Pump
12. 3-Way Valve used as a Proportional Mixing Valve
13. Hydraulic circuit from heat production
14. Hydraulic circuit to the Comfort System - Zone terminal, Domestic Hot Water Tank

❶ Power Supply for Pool Board (1=L, 2=N)
❷ To CCN Network, communication bus (Rc,Rh)
❸ Black
❹ Brown
❺ Blue
❻ Open
❼ Close

Note: *Pool Kit can be matched with Comfort Module (80HMA) or Control Box (32HMA).* - *For Future use*



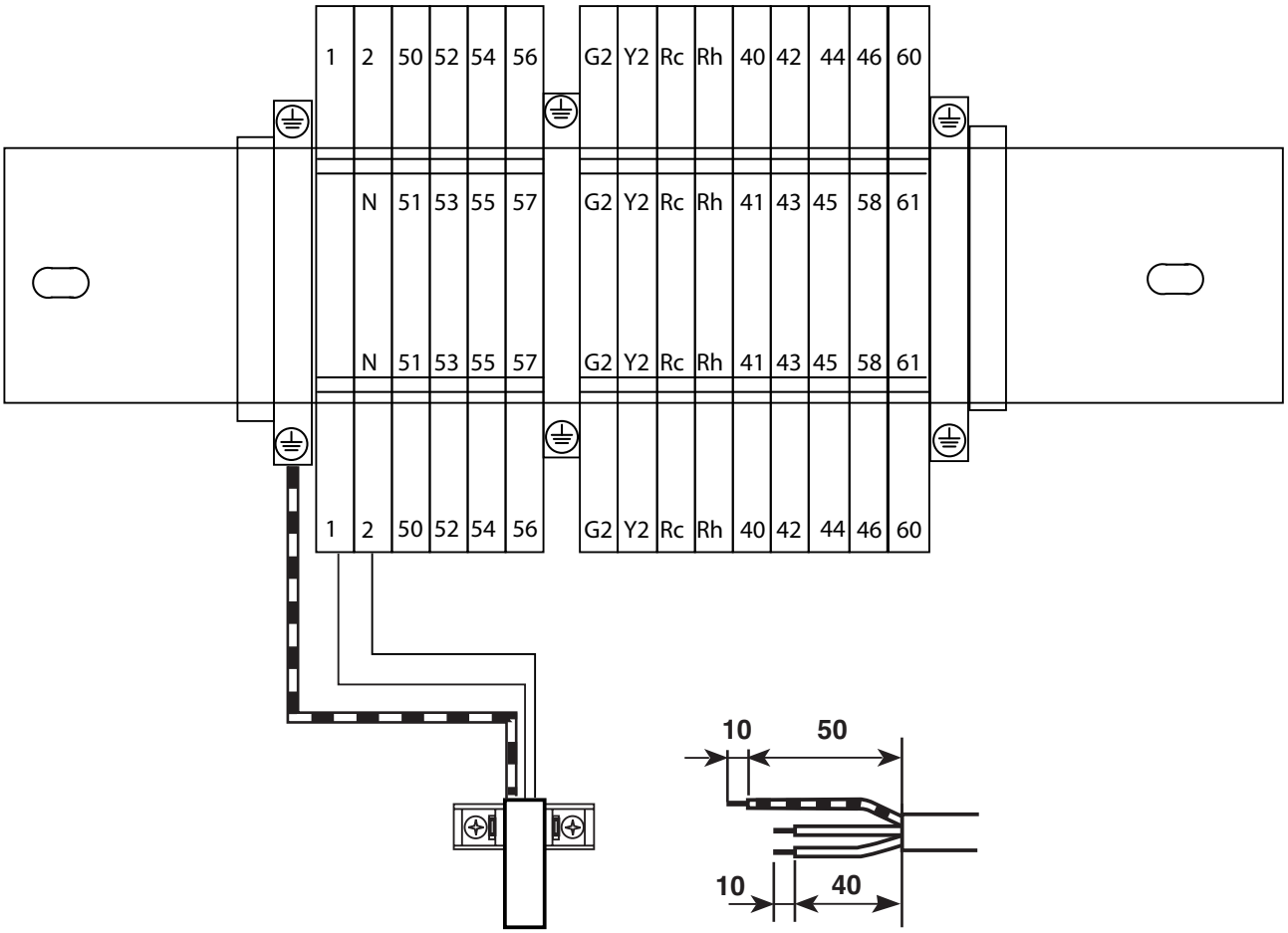
7.2.2 Configuration - Variable Table

Refer to section *80HMA Comfort Module* to configure the network.
The Pool Kit works in the same way as the 2-Zone Kit, but uses different logics dedicated to swimming pool Heating/ Cooling. Par.124 : "Slave type" must be set to 2 to work as Pool Kit.
Note: *Only one Pool Kit is allowed in the network.*
After the addressing of all the devices in the network, move on to the parameters of the Variable Table to configure the relevant settings.

The description of the Pool Kit parameters are in the Variable Table column dedicated to the Pool Kit.
No change in any other parameters. Pool kit can work in Heating or Cooling mode.
Pool mode is independent from the main system mode.

7.2.3 Wiring Connection Diagram

7.2.3.1 Terminal Block Description



These values have to be assign to the Discrete Input parameter, to set the function in sub-parameters through Par.111.

Note: *If the input has a positive number configured, input CLOSE is read as a request - Normally Open - NO.*
If the input has a negative configuration, input OPEN is read as a request - Normally Close - NC

All the descriptions refer to positive configuration values.
Example:
1 → If contact is close, the system switches to ON.
-1 → If contact is open, the system switches to ON.

7.2.4 Input Values

No.	Name	Description
0	Not Used	Input not used
1	ON/OFF Command	Input from ON/OFF contact (Close = ON)
7	Safety Input Zone 1	Safety Input (Close = Safety Active)
9	Pressure Switch	Pressure Switch Input (Close = Flow)
10	Flow Switch Zone 1	Flow Switch Input (Close = Flow)

7.2.5 Discrete Outputs - DO# - Configuration Values Table (for Pool Kit)

Note: *If the Discrete Output -DO has positive configuration, DO is energized when the corresponding device has to be activated.*
If the Discrete Output -DO has negative configuration, DO is de-energized when the corresponding device has to be activated.

All the descriptions refer to positive configurations.
Example:
1 → If the water pump is requested ON, the output is energized.
-1 → If the water pump is requested ON, the output is de-energized.

OUTPUT VALUES		
No.	**Name**	**Description**
0	Not used	Output not configured. Output always de-energized
1	Pool Water Pump	Water Pump
3	Alarm X	Active if an error type A or B in Slave Board or User Interface zone 1 is present (see *Troubleshooting*)
4	Alarm Y	Active if an error type B in Slave Board or User Interface zone 1 is present (see *Troubleshooting*)
16	User Mode HEAT/COOL zone 1	User Mode state. DO is energized for Heating mode
17	User Mode HEAT zone 1	Active if Heating mode is working
22	Proportional Valve Open zone 1	Open command for Proportional Valve
23	Proportional Valve Close zone 1	Close command for Proportional Valve
26	Pool Water Valve	Pool Water Valve
33	Shut Off valve	Shut Off valve

In the picture *Pool System*, the input and output are set as shown below:

Discrete Output - DO Configuration:

Par.110.0: 22 (Proportional Valve, Command Open)
Par.110.1: 23 (Proportional Valve, Command Close)
Par.110.2: 26
Par.110.3: 0
Par.110.4: 0
Par.110.5: 1 (Water Pump)

Discrete Input - DI Configuration:

Par.111.0: 0
Par.111.1: 0
Par.111.2: 0
Par.111.6: 10 (Flow Switch)

Analogic Input - AI Configuration:

Par.112.3: 1 (Temperature Sensor Water Entering in exchanger)
Par.112.4: 1 (Temperature Sensor Leaving Water to Pool)
Par.112.6: 1 (Temperature Sensor Pool Water)

7.2.6 Discrete Outputs, Terminal Block (TB1) Connection Numbers

Refer to Variable Table and Output/Input value table to configure the required function.

DISCRETE OUTPUT -DO			
Connector Pin	**Description**	**Type**	**Notes**
50	Discrete Output - DO#1 (*)	Max 2A 230Vac 50Hz	In example Par.110.0: 22 - Proportional Valve, Command Open
51	Discrete Output - DO#2 (*)	Max 2A 230Vac 50Hz	In example Par.110.1: 23 - Proportional Valve, Command Close
52	Discrete Output - DO#3 (*)	Max 2A 230Vac 50Hz	
53	Discrete Output - DO#4 (*)	Max 2A 230Vac 50Hz	In example Par.110.3: 0 - Output not active
54	Discrete Output - DO#5 (*)	Max 2A 230Vac 50Hz	In example Par.110.4: 0 - Output not active
55	Discrete Output - DO#6 (*)	Max 2A 230Vac 50Hz	
N	Neutral Reference	Max 4A 230Vac 50Hz	Available for devices connected. Reference for all 230Vac Outputs

*Refer to variable table and Output value table to configure the desired function

7.2.7 Discrete Inputs, Terminal Block (TB1) Connection Numbers

DISCRETE INPUT -DI			
Connector Pin	**Description**	**Type**	**Notes**
23	Discrete Input - DI#1 (*)	Dry Contact	In example Par.111.0: 0 - Input not active
41	Discrete Input - DI#2 (*)	Dry Contact	In example Par.111.1: 0 - Input not active
42	Discrete Input - DI#3 (*)	Dry Contact	In example Par.111.2: 0 - Input not active
20-21	Discrete Input - DI#7 (*)	Dry Contact	In example Par.111.6: 10 - Flow Switch
40	Common	Digital GND	Reference for all dry contact input, except input 7

ANALOGUE INPUT - AI		
Connector Pin	**Description**	**Notes**
43	AI#1 - EWT_Pool-BPHE Water temperature entering the Heat Exchanger from Comfort Module	AI Type: NTC 10kΩ at 25°C In example Par.112.3: 1 - Temperature Sensor Water Entering in exchanger
44		
45	AI#2 - LWT_Pool Leaving Water Temperature to Pool	AI Type: NTC 10kΩ at 25°C In example Par.112.4: 1 - Temperature Sensor Leaving Water to Pool
46		
47	AI#3 - RWT_Pool Pool Water Temperature	AI Type: NTC 10kΩ at 25°C In example Par.112.6: 1 - Temperature Sensor Pool Water
48		

Communication		
Connector Pin	**Description**	**Notes**
Rh	Communication bus	To connect to the communication bus
Rc		
G2	12Vcc User interface	User Interface - NUI - Power Supply
Y2		

Power Supply			
Connector Pin	**Description**	**Feature**	**Notes**
1	L - board	Board Power Supply	230Vac 50Hz. Power supply for board and auxiliary devices
2	N - board		

7.2.8 Installation Recommendations

Refer to the Safety Information.

- Install the device in sheltered buildings, if possible insulated. It should not be installed in very humid rooms (for example laundry rooms) or where it may be subjected to water projections or spray.
- The module is fixed to the wall, ensure that the support is sufficiently strong.
- Fix the module using screws/wall plug fixings adapted to the wall structure and module weight.

7.3 Features

Pool kit				
Dimensions	Unit	H (mm)	mm	370
		W (mm)	mm	274
		D (mm)	mm	140
	Packing	H (mm)	mm	400
		W (mm)	mm	300
		D (mm)	mm	170
Weight	Unit		kg	3
	Gross		kg	6
Operating range	Ambient temperature range	Heating and Cooling	°C	5÷30°C
Electrical data	Power supply	Voltage	V	230
		Frequency	Hz	50
		Phases		1
	Operating voltage limits		V	207-253
	Power consumption (only board)		W	10
Recommended circuit breaker	Pool kit with max power connectable devices		Type	C10

7.4 Connectable Devices

7.4.1 Water Pump

Water pump, if connected, will be activated when the Pool mode is on. Select the Pool mode through:

- User Interface
- Dry Contact
- Schedule

Pool Kit can work without controlling the Water Pump when the Water Pump is configured by setting Par.11.2.

"User Config" Value set to:
0. Water pump does not stop when Pool Setpoint is reached
1. Water pump stops when Pool Setpoint is reached

When Pool kit is OFF, Pump in turned OFF. Some of the third-party pool cleaning systems have their own Water Pump which is controlled directly.
The Pool kit works checking the Flow Switch status independently from the control of Water Pump.

7.4.2 3-Way Valve (Proportional Mixing Valve)

The Proportional Valve is used for a better control of the Water Temperature provided to the pool. If the water temperature supplied by the Heat Exchanger is higher or lower than the requested value, the valve is activated to adjust it. To manage the Leaving Water Temperature, the temperature requested -Control Point- to the Comfort Module is also controlled. The proportional valve is requested to increase the control precision to avoid supplying too hot water to the pool. If the Proportional Valve is installed, the Leaving Water Temperature Sensor (ref. 9 pic. 4) must also be installed.

7.4.3 Flow Switch

It is strongly recommended to install a Flow Switch with the system. The Pool Kit control logic uses this sensor to detect if the Pool Kit is operative or not.
When the Flow Switch detects water flow, the priority is calculated and the software runs all the logics dedicated to the pool.
If the Flow switch is not installed, it is considered as detecting the flow.

7.4.4 3-Way Valve (Diverting Valve P-DV)

This valve drives the water to the Pool Heat Exchanger when pool Heating/Cooling is required.
This valve is not optional and must be installed on the same hydraulic side of the Domestic Hot Water Valve.

On the Variable Table of the Comfort Module, set Par.107 according to the correct position of the valve.

7.4.5 Water Temperature Sensor from Pool

This sensor detects the temperature of the pool water. It is used to calculate the priority and the Heat/Cool demand of the pool. This temperature is also used to change the Leaving Water Temperature Setpoint calculated by the Climatic Curve (±4°C).

It is strongly recommended to install this sensor, if not, the control always considers a priority of 0.5.

7.4.6 Leaving Water Temperature Sensor to Pool

This sensor detects the Water Temperature provided to the pool.
The control acts to provide water at the setpoint calculated with the Climatic Curve, driving the Proportional Valve (if available) and asking the right Water Temperature -Control Point- to the Comfort Module.
Also, it is used to avoid suppying too hot water to the pool. If the water provided to the pool is 5 °C higher than the Leaving Water Setpoint, the control stops the pool heating.
It is strongly recommended to install this sensor.

7.4.7 Water Temperature Sensor from Comfort Module to Heat Exchanger

This sensor is used to calculate the water temperature requested to the Comfort Module -Control point.

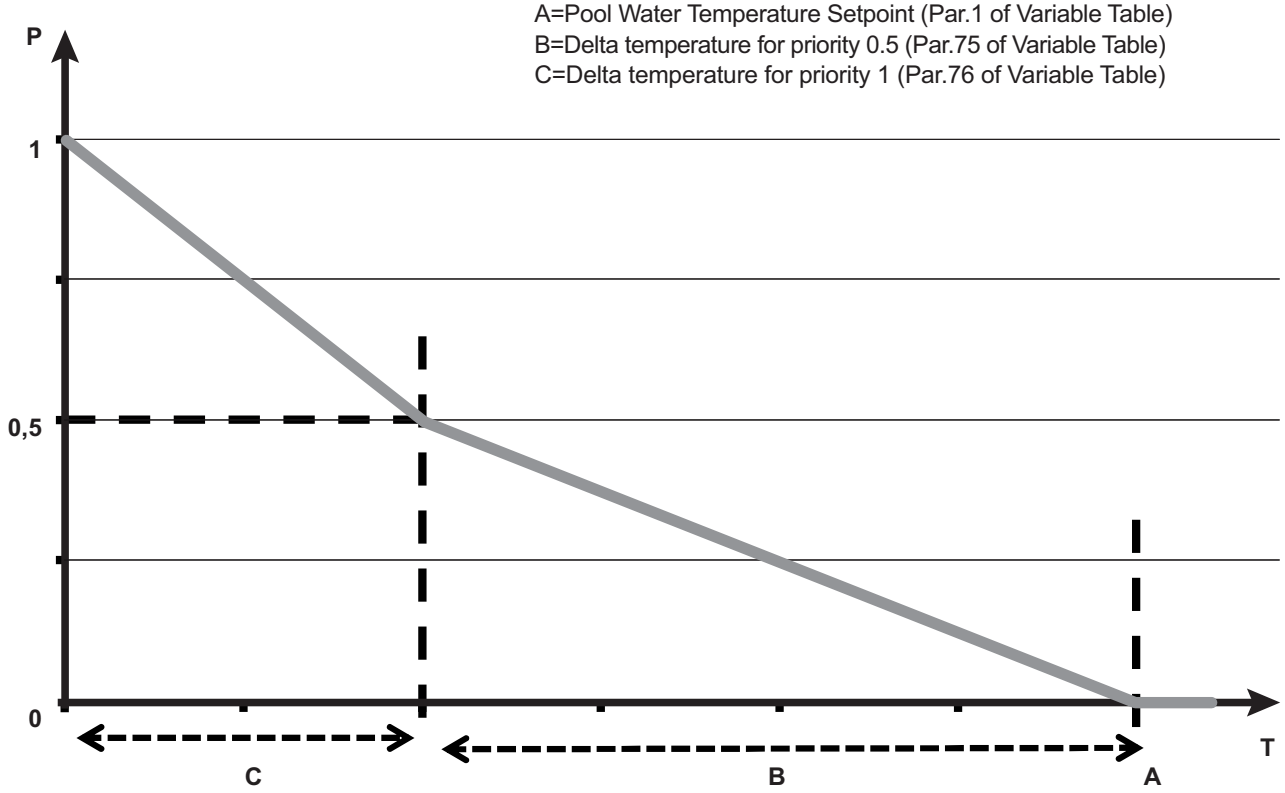
This sensor helps to achieve better efficiency for the Pool Kit.

7.5 Operation Controls

The pool Heating/Cooling request works following the priority logic described in section *80HMA Comfort Module*.
The curve below is used to calculate the Pool priority. When the pool priority is higher than the Room and Domestic Hot Water priority, the system switches to perform pool Heating/Cooling.

The priority will be calculated only when the Flow Switch detects water flow (if installed and configured).
If there is no Pool Water Temperature Sensor, the priority will be always 0.5.

P=Priority calculated
T=Pool Water Temperature
A=Pool Water Temperature Setpoint (Par.1 of Variable Table)
B=Delta temperature for priority 0.5 (Par.75 of Variable Table)
C=Delta temperature for priority 1 (Par.76 of Variable Table)



Mode selection

See sections *80HMA Comfort Module* and *User Interface - NUI*.
Select the mode of the zone by:

- User Interface (Heat/Cool/Off)
- Dry Contact (On/Off)
- Schedule (On/Off)

The Pool Kit works communicating a heating demand and a priority to the Comfort Module, and this priority is compared with the priorities from zones and Domestic Hot Water tank. Using the user interface, if the mode set is not OFF, and the Schedule mode is ON, the Water Pump will be turned on and the water temperature setpoint requested will be compared with the Water Pool Temperature, to calculate the priority.

Using the Dry Contact, the user can set the Pool ON or OFF, but the mode (Heating/Cooling) has to be set using the User Interface by the Virtual Zoning feature, if no Pool User Interface is used (refer to section *80HMA Comfort Module*). When the mode is On, the Water Pump is turned ON and priority will be calculated.

In all the case, the Water Pump behaviour also depends on the setting of Par.11.2 and the Pool Temperature.
If Pool Temperature Sensor is used, do NOT stop the Water Pump when the set point is reached to read the exact Pool Temperature.

If Flow Switch is installed, priority is 0 if no flow is detected.

Pool Antifreeze protection

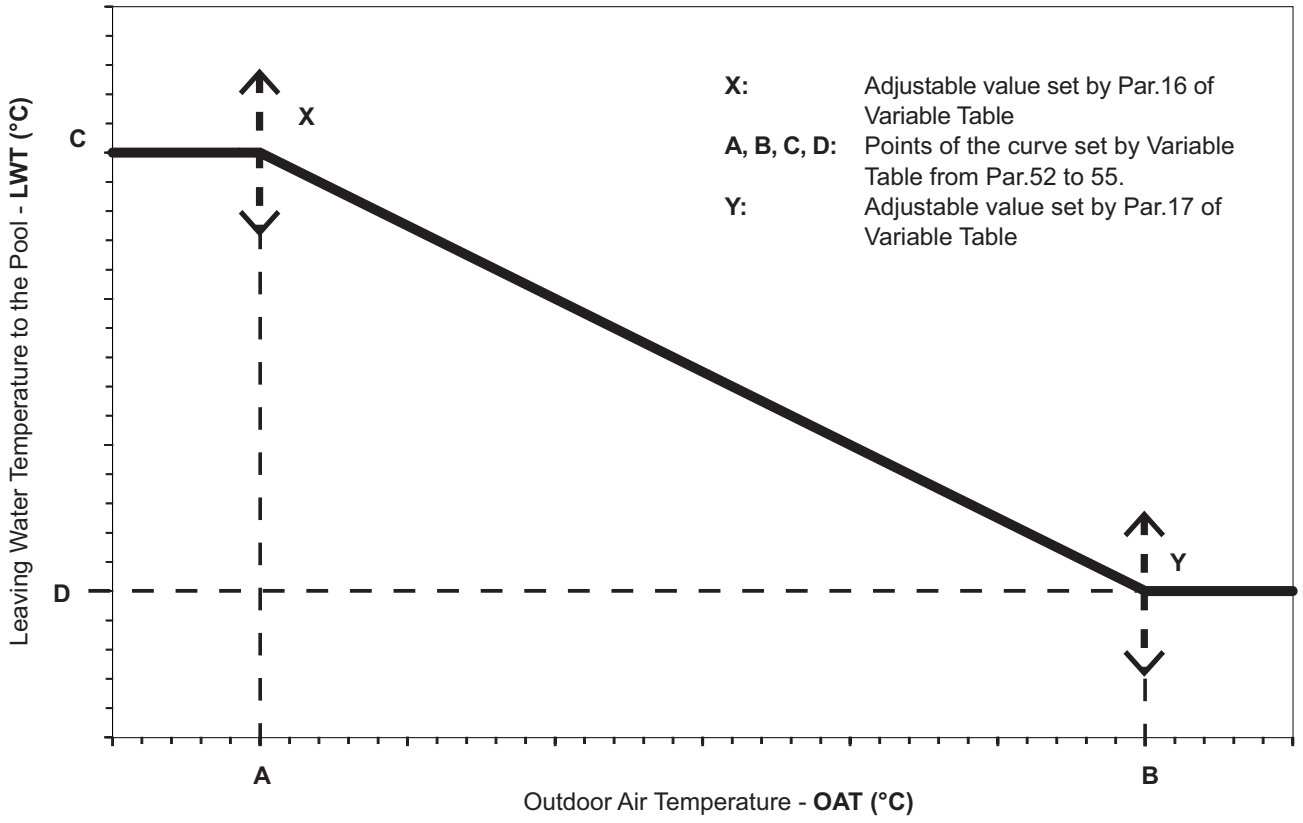
If enabled on Variable Table Par.11.0, and if the Pool Temperature read by the Water Pool Temperature Sensor is below the value at Par.12 "Antifreeze Setpoint" of the Variable Table, the Pool Kit starts heating the Pool.
This protection is active only when the Pool mode is OFF, and the main system is not in Cooling mode.

Antifreeze protection

This function prevents the icing of water in the hydronic circuit. It works in all the modes except Cooling mode and drives the system to Heat up the water inside the pipes. The threshold is adjustable on Par.12: "Antifreeze Setpoint" of the Variable Table.

Climatic Curve

The temperature of the water provided to the pool is calculated by the Climatic Curve.
It works using the Outdoor Air Temperature, according to the below curve and the values set in the Variable Table (Par.52-60).
The Pool Kit adjusts the temperature requested to the Comfort Module to achieve the setpoint.



7.6 Troubleshooting

In case of system failure, the alarm icon (⚠) will light up on the user interface.
Failures are identified by a fault code. Active fault codes will be displayed in sequence, with a change rate of 1 second.
Refer to section *80HMA Comfort Module* for the description of fault codes.

Manufacturer: Carrier SCS, Montluel, France

www.eurovent-certification.com
www.certiflash.com

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