Regulation

RDZ
invisible heating and cooling

WI Master.NET Control Unit

VERSIONE 2.5

Climatic regulation for centralized system

TECHNICAL MANUAL

SAFETY WARNINGS

SAFETY WARNINGS

Please, read this manual thoroughly before installation and/ or use of the equipment and keep it in an accessible place.

The manufacturer's technical department is available at the phone numbers listed on the back of this manual for advice or particular technical requests.

- **ATTENTION**
  Installation and maintenance should be performed by qualified personnel only.

- Only use original spare parts: failure to comply with this norm can make the warranty null and void.

DISPOSAL

In accordance with the provisions of the following European directives 2011/65/EU, 2012/19/EU and 2003/108/EC, regarding reducing the use of hazardous substances in electrical and electronic equipment, in addition to waste disposal.

The barred bin symbol on the equipment indicates that at the end of its useful life it must be collected separately from other waste.
The user must therefore dispose of the equipment at the end of its useful life at the appropriate centres for the separate collection of electronic and electrical waste, or return it to the dealer when purchasing a new equivalent product, on a one to one basis.
Proper separate collection for subsequent recycling treatment and environmentally friendly disposal of the equipment helps prevent possible negative effects on health and the environment and promotes the recycling of the materials that make up the equipment.
Illegal dumping of the product by the user will result in the application of administrative sanctions according to the current law.

TABLE OF CONTENTS

PRESENTATION

The WI-NET control unit is one that can be used in managing peripheral units called SLAVES that periodically check a specific system. In its functionality, it is designed to service buildings with a centralised system. The unit is used for controlling production (boiler - chiller) and a main pump, for setting the season, for detecting the production temperature (TM) and finally for detecting the outdoor temperature (TE).

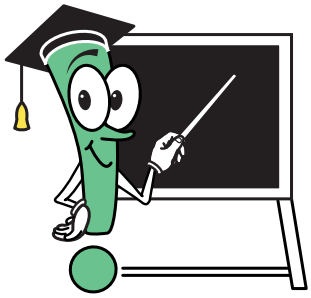


Table A - FLASHING SYMBOLS		
MOVING ICONS		
When the cursor is blinking...	**Pressing the button...**	**What happens is...**
⇕	↓	accesses the **next** screen
	↑	accesses the **previous** screen
	↵	accesses the **fields to be modified** within the current screen
E	Esc	returns to the **previous** menu
*	↓ or ↑	accesses the following field (if present)
	↵	accesses the **submenus**
VALUE FIELDS		
example: 24°C	↑	You can increase the value (e.g.: from "24°C" to "25°C")
	↓	You can decrease the value (e.g.: from "24°C" to "25°C")
	↵	You can confirm the value and proceed to the next field
TEXT FIELDS		
example: Off/On	↓ or ↑	you can change the current setting (e.g.: from "ON" to "OFF")
	↵	You can confirm the value expressed by the text and proceed to the next field

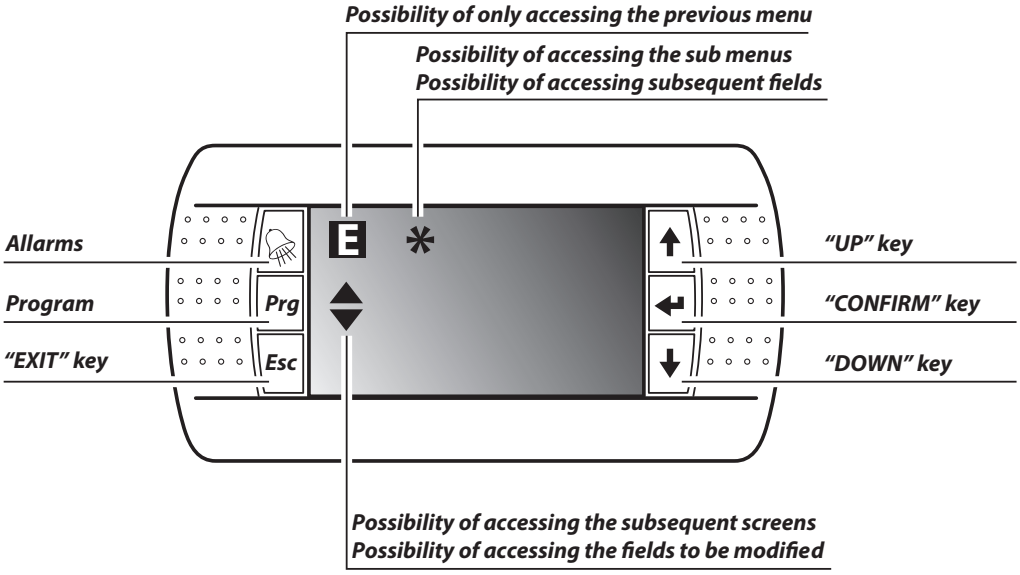
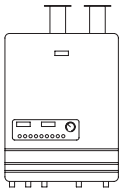
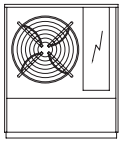
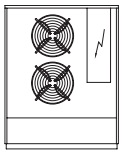
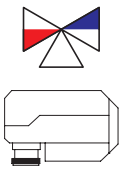
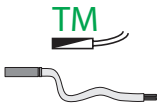
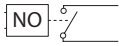
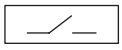


Table B - BUTTON FUNCTIONS			
Key	**Function**		
	The alarm button has a red backlight and is activated when the control system detects an anomaly. Pressing the button once will display the screen pertaining to the problem occurred. In the event of simultaneous alarms, these can be displayed by scrolling through the screens using the UP and DOWN buttons. Pressing this button again RESETS the alarms; should they still be present, the relative screens remain on display; otherwise the words "no alarm" will appear and the red backlight will turn off.		
Prg	Pressing the PRG button from the main screen displays the system time slot programming menu. Pressing the PRG button in any other context, will allow you to scroll through the progression of the displayed views and the various functions: System status / Set values / Readouts /Programming		
Esc	The "ESC" button takes you back to the previous menu without saving possible values that have been modified		
Key	**Moving icon function**	**Text field function (e.g.: ON/OFF)**	**Value field function (e.g.: 24.0°C)**
	When the cursor ✱ is blinking, it allows access to the following fields (if present) when the cursor ▲▼ is blinking it takes you to the previous screen	When the cursor is placed on a text field, this button changes the current setting value (e.g.: from "ON" to "OFF")	When the cursor is placed on a value field, this button will increase the value (e.g., from "24°C" to "25°C")
	When the cursor ✱ is blinking, it allows you to access the submenus When the cursor ▲▼ is blinking, it allows you to access the fields to be modified in the screen	It confirms the value expressed by the text and proceeds to the next field	It confirms the value and proceeds to the next field.
	When the cursor ✱ is blinking, it allows access to the following fields (if present) when the cursor ▲▼ is blinking, it takes you to the next screen	When the cursor is placed on a text field, this button changes the current setting value (e.g.: from "ON" to "OFF")	When the cursor is placed on a value field, this button will decrease the value (e.g., from "24°C" to "25°C")

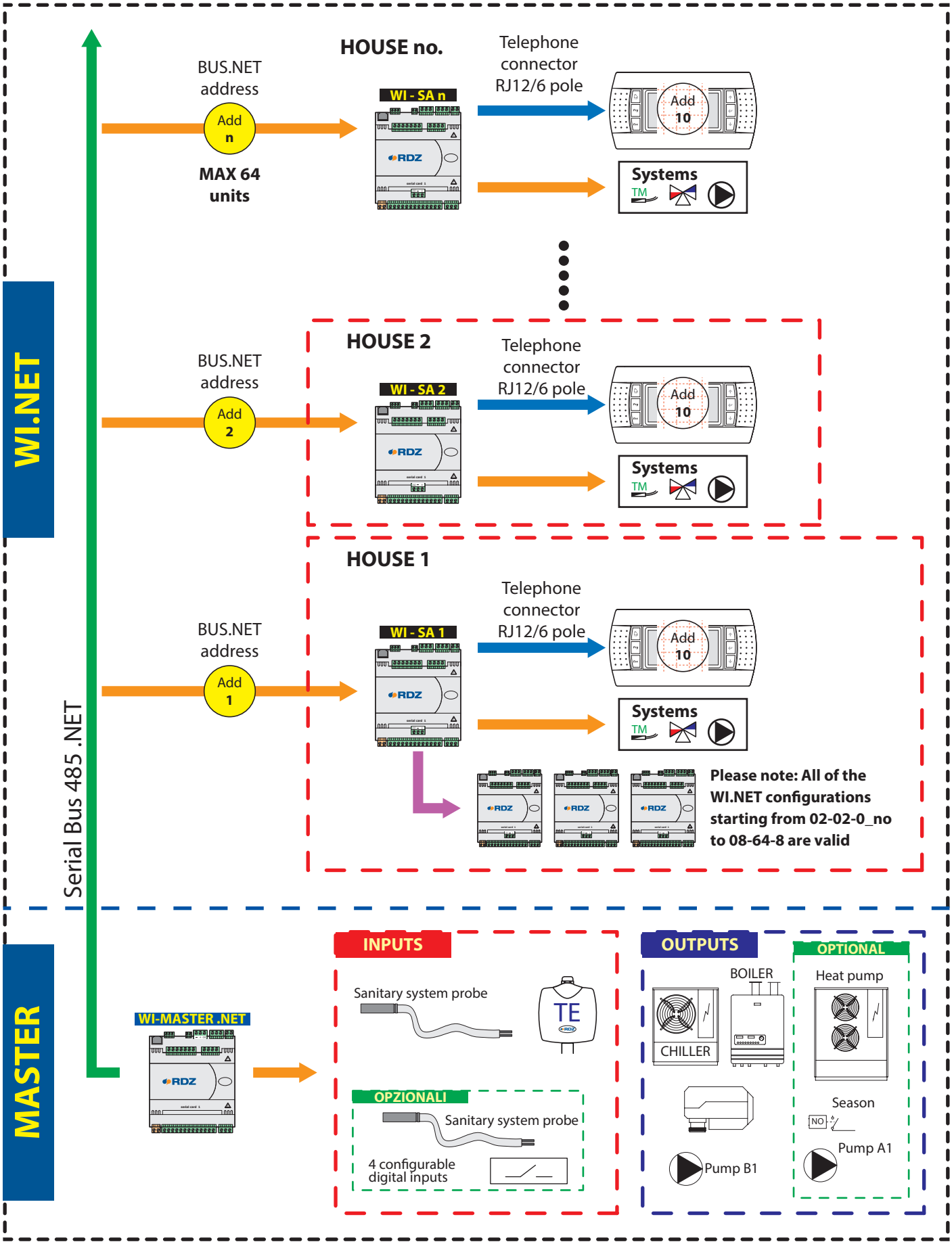
Table C - BUTTON COMBINATION FUNCTION			
BUTTON COMBINATION	**ACTIVATION**	**FUNCTION**	**HARDWARE**
	At start up and during operation	Backlight control (increases contrast)	UI/E
	At start up and during operation	Backlight control (decreases contrast)	UI/E
	At start up and during operation	Historic system information and logs.	WI
	Upon start-up	Board address setting	WI-M1 WI-S2 WI-S3 WI-S4
	During operation	Information menu: Type: Type of hardware Address: Board address Prg: type of program Vers: Program version	WI

CONTROL UNIT OPERATION PANORAMIC DIAGRAM

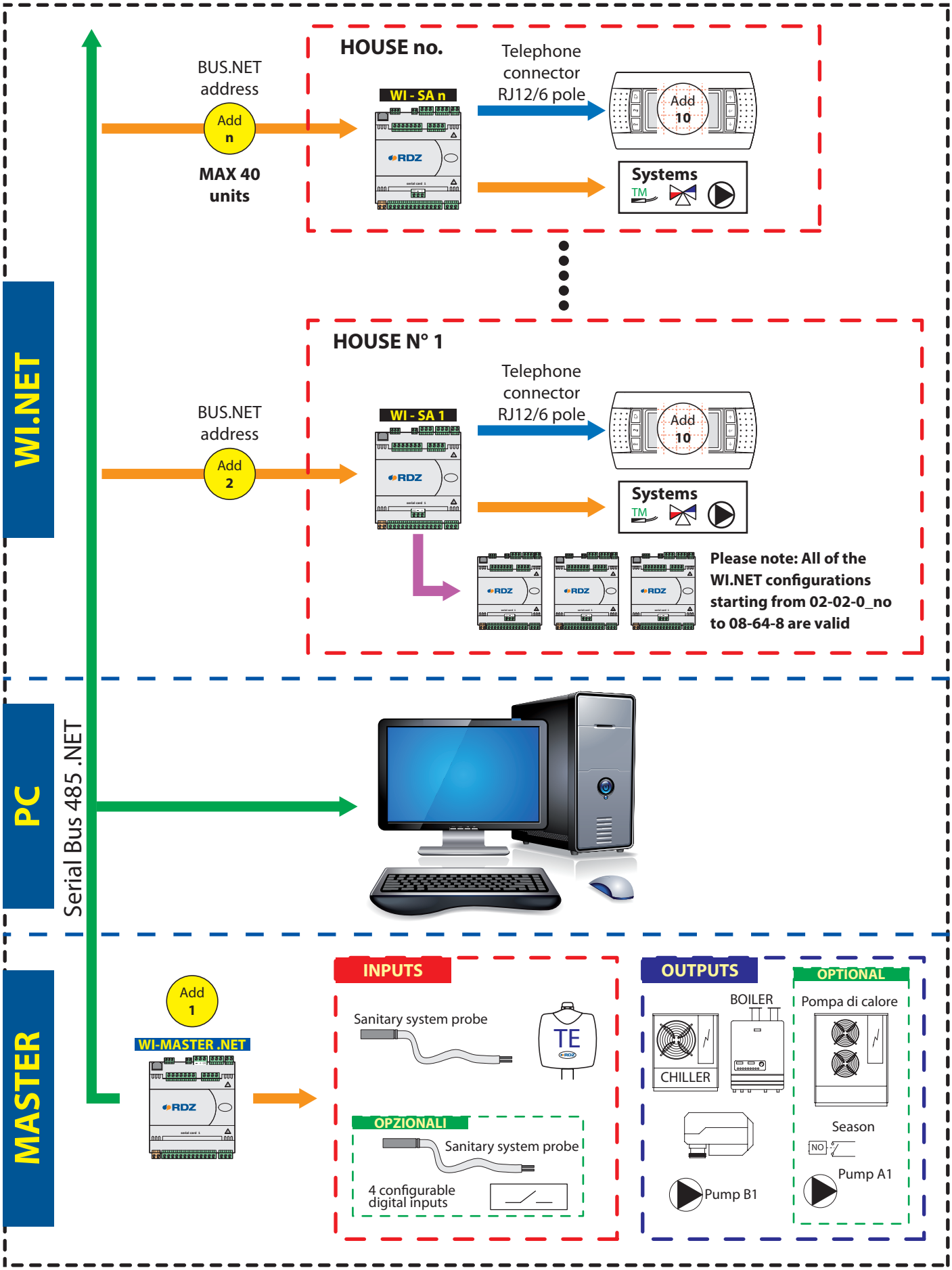
Let's take a closer look to the symbols that summarise the general functions, connection to the local data bus and the elements connected to the unit.
Here is how the objects used later on are read:

Table E - Diagram key			
	**Boiler** *Digital output*		**Chiller** *Digital output*
	**Heat pump** *Digital output*		**Mixing valve** *Analogue output*
	**Delivery Temperature Sensor** *Analogue input* (NTC)		**System Pump** *Digital output*
	**Outdoor temperature sensor** *Analogue input* (NTC)		**Season** *Digital output*
	*Digital Input*		**Address** *IU-PRO User Interface*
	**Address** *Slave Unit*		**Address** *Primary Master / Secondary Master Unit*

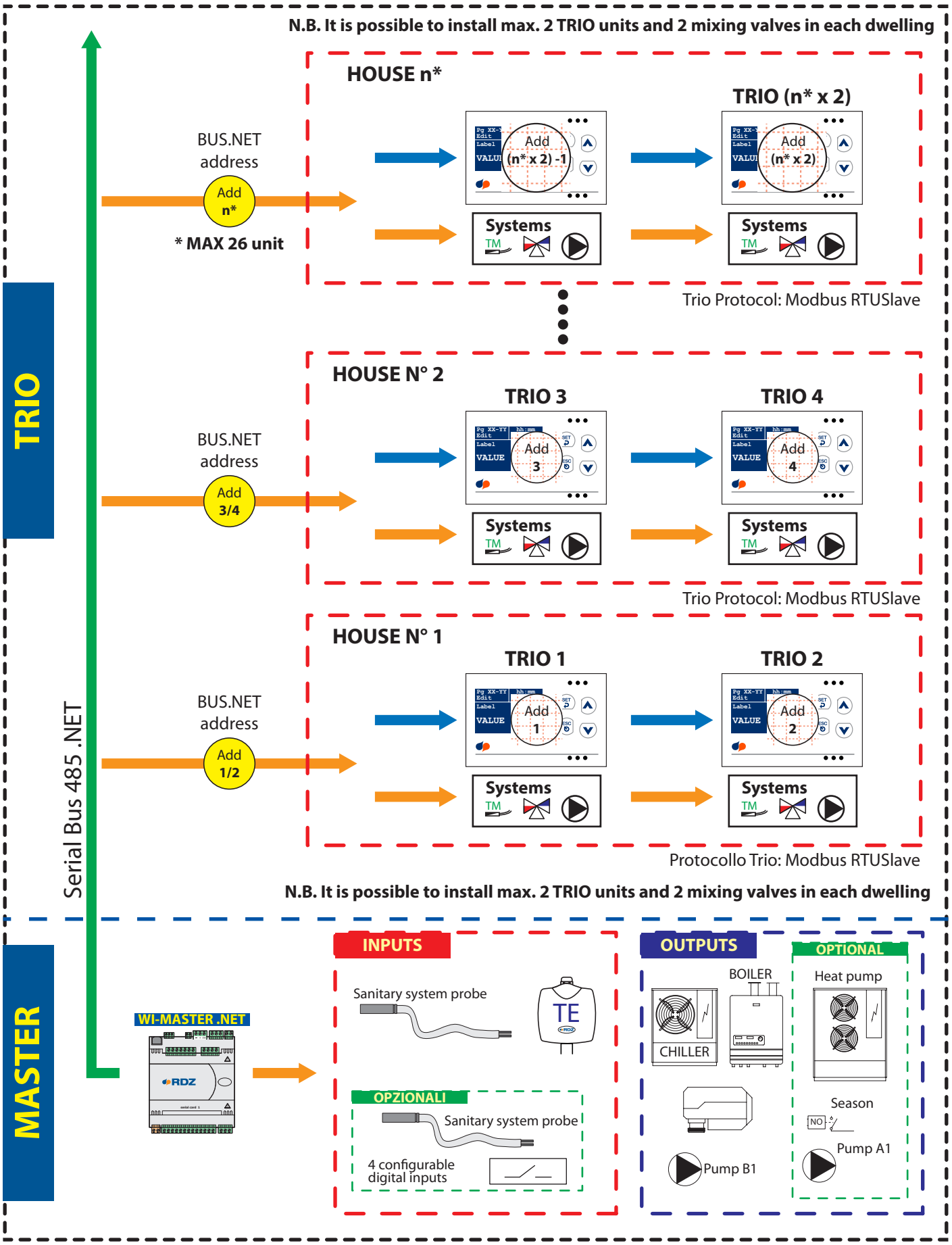
OPERATION MODE: MASTER



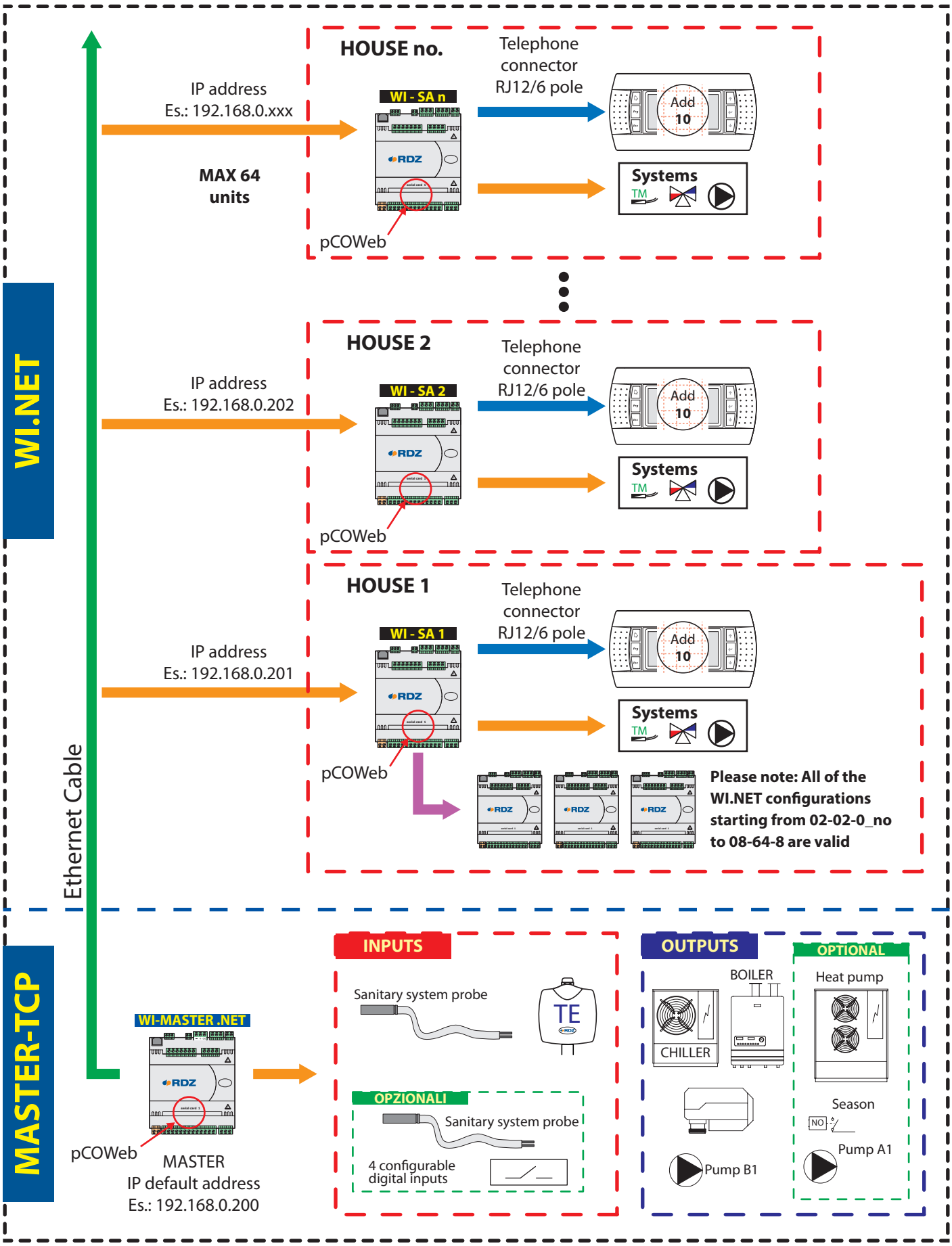
OPERATION MODE: MASTER-PC



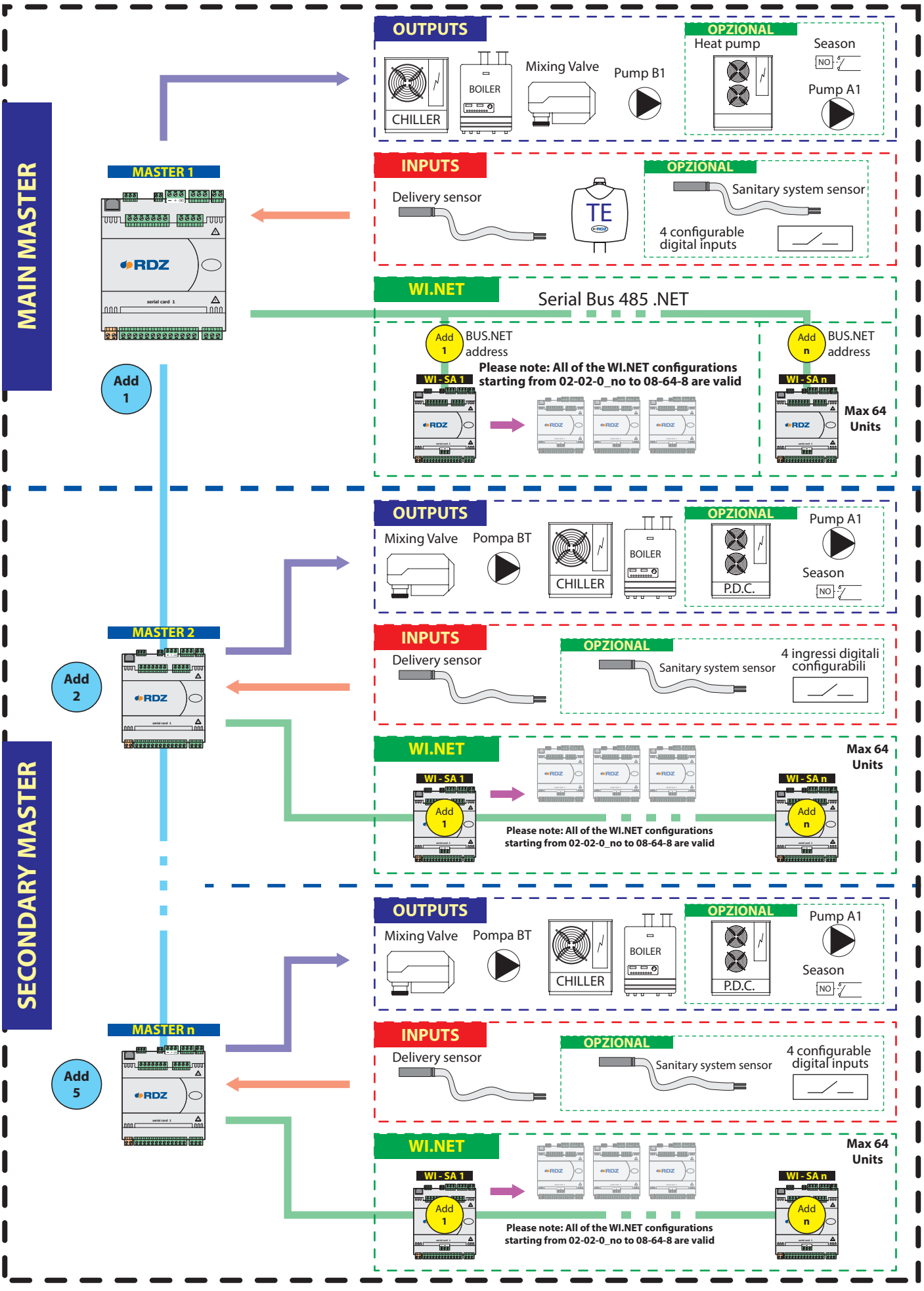
OPERATION MODE: MASTER-TRIO



OPERATION MODE: MASTER-TCP



OPERATION MODE: MULTI - MASTER

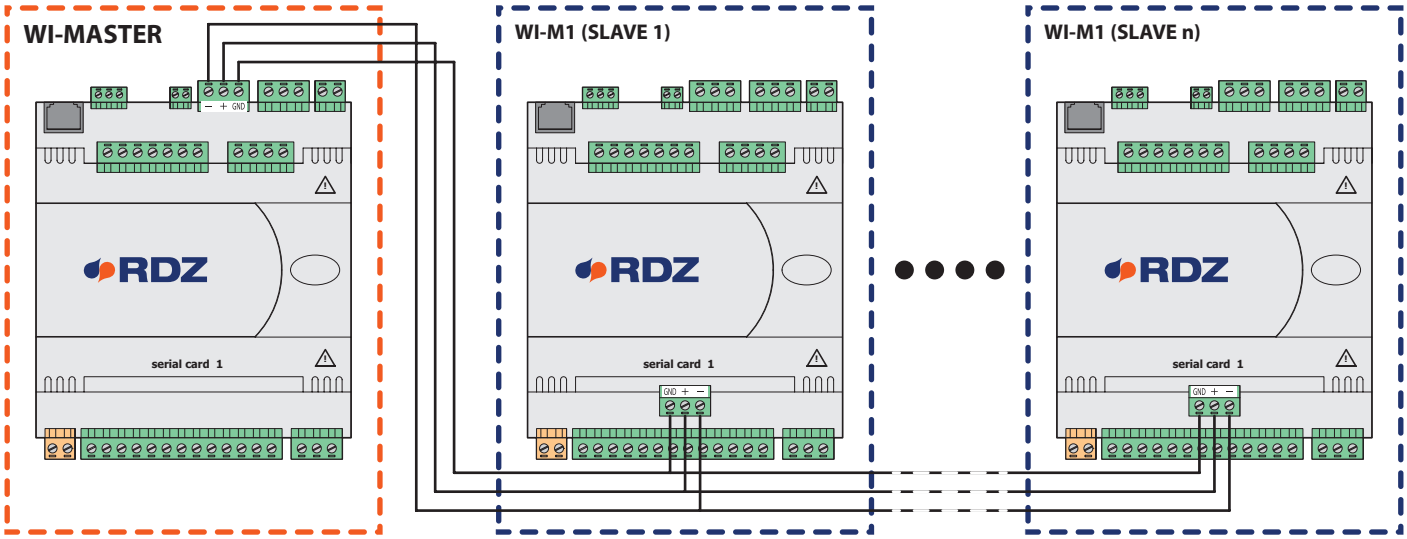


INSTALLATION

The control units come out by default with the software already configured for the pre-established connection
The main steps for configuring the system in the following modes are shown below:
- MASTER
- MASTER-PC
- MASTER-TRIO
- MASTER-TCP
- MULTI-MASTER.

MASTER

BUS CONNECTION



SLAVE CONFIGURATION

S1 SUPERVISOR SCREEN

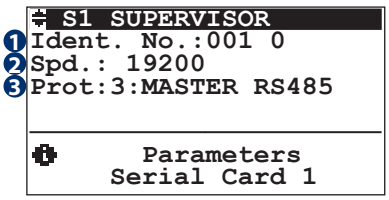


Table of variables	
Num	**Description**
❶	Identification number of the slave unit: this value must be unique for each unit within the same configuration
❷	Communication speed: 19200 (default)
❸	Communication protocol: - set "MASTER RS485" for MASTER mode

MASTER - SLAVE S1 SCREEN

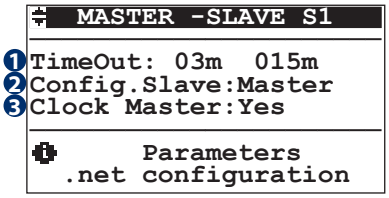


Table of variables	
Num	**Description**
❶	TimeOut: Delay time between one MASTER communication and the other.
❷	Config Slave: - set on "MASTER"
❸	Clock Master: set to "Yes", all information regarding the clock will be communicated from the Master

MASTER CONFIGURATION

1.2.1.2.4.1 - MASTER TYPE SCREEN

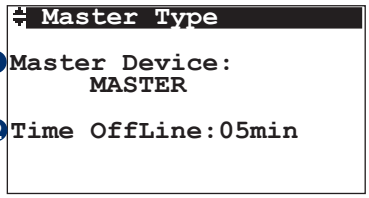


Table of variables	
Num	**Description**
1	Type of master device: - MASTER the WI control unit is the master for the system - MASTER-PC the PC is the master for the system - MASTER-TRIO the WI control unit is the master for the system - MASTER-TCP the WI control unit is the master for the system
2	Delay time before defining the PC-MASTER offline

1.2.1.2.4.6 - S2 SUPERVISOR SCREEN

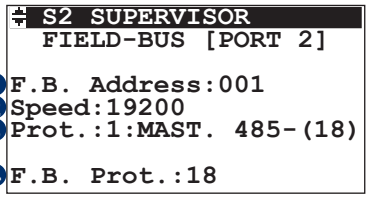


Table of variables	
Num	**Description**
1	Device address (must be 1)
2	Communication speed:
3	Communication protocol: - set "MAST". 485-(18)" for MASTER mode
4	Communication port (read only parameter)

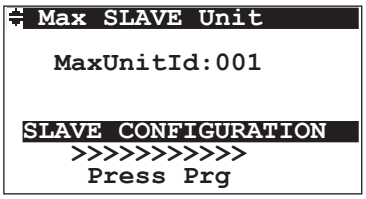
SLAVE DETECTION

The detection of the slave units can be done in 2 ways: manual or automatic.

MANUAL DETECTION

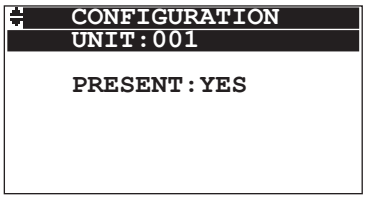
1.2.1.2.4.3 - MAX SLAVE UNIT SCREEN

In order to manually associate the slave unit you must first set the address of the slave unit with the highest value in the "**MaxUnitId**" field, then press the "**PRG**" button to access the screen, UNIT CONFIGURATION



1.2.1.2.4.3.1 - UNIT CONFIGURATION SCREEN

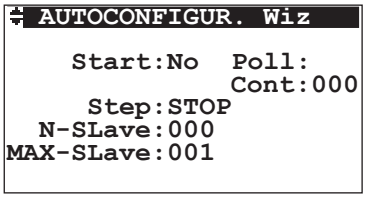
Using the "**UP**" and "**DOWN**" buttons you an move through the various slave units (from **1** to **MaxUnitId** previously set). Then, using the "**PRESENT**" field you can associate the unit selected with the master.



AUTOMATIC DETECTION

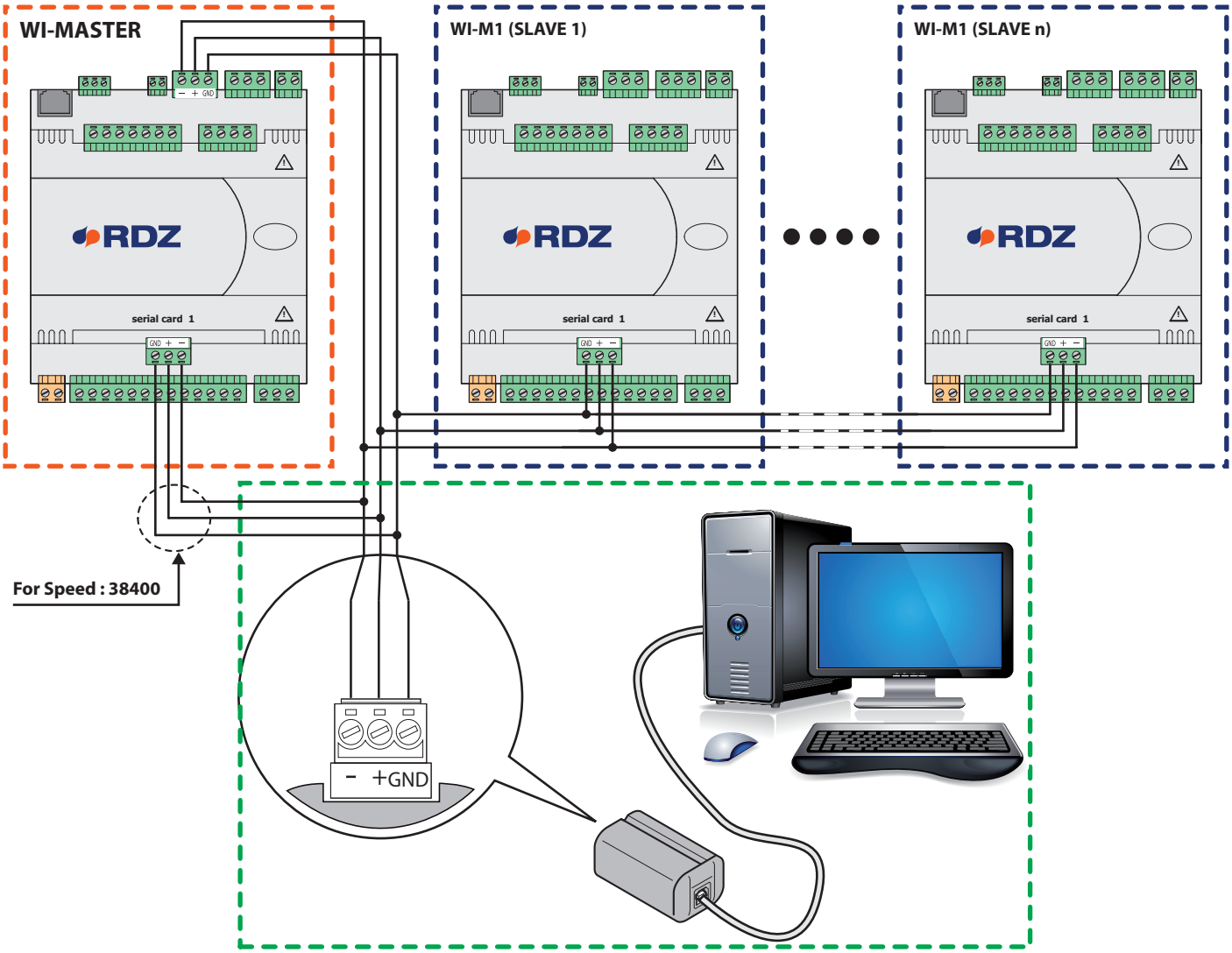
1.2.1.2.4.24 - AUTOCONFIGURATION WIZARD SCREEN

To detect the slave unit automatically, just set the "**Start**" parameter to "**Yes**", at this point the master will start searching for all of the slave units that are connected and correctly configured.



MASTER - PC

BUS CONNECTION



SLAVE CONFIGURATION

S1 SUPERVISOR SCREEN

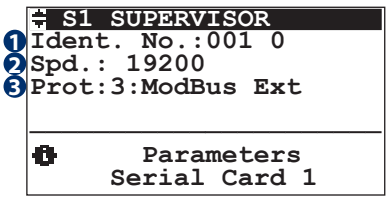


Table of variables	
Num	**Description**
❶	Identification number of the slave unit: this value must be unique for each unit within the same configuration
❷	Communication speed: 19200 (default)
❸	Communication protocol: - set "Modbus Ext" for the MASTER-PC mode

MASTER - SLAVE S1 SCREEN

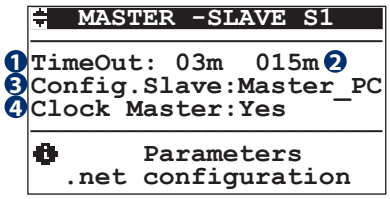


Table of variables	
Num	**Description**
1	TimeOut: Delay time between one communication and another between PC and slave unit
2	Total communication time between the PC and all slaves
3	Config Slave: - set on "MASTER-PC"
4	Clock Master: set to "Yes", all information regarding the clock will be communicated from the Master

MASTER CONFIGURATION

1.2.1.2.4.1 - MASTER TYPE SCREEN

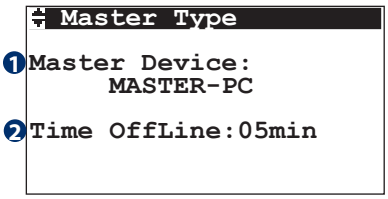


Table of variables	
Num	**Description**
1	Type of master device: - set on MASTER-PC
2	Set the delay time before defining the PC offline (default 5 min)

1.2.1.2.4.6 - S2 SUPERVISOR SCREEN

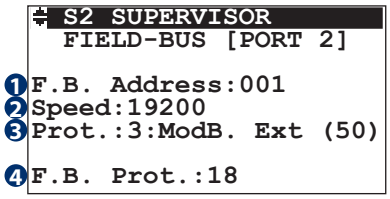


Table of variables	
Num	**Description**
1	Device address (must be 1)
2	Communication speed:
3	Communication protocol: - set "3:ModB. Ext (50)" if in MASTER-PC mode
4	Communication port (read only parameter)

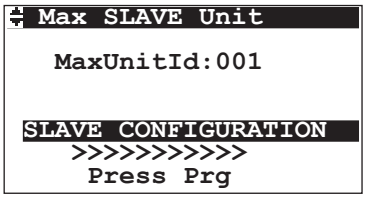
SLAVE DETECTION

The detection of the slave units can be done in 2 ways: manual or automatic.

MANUAL DETECTION

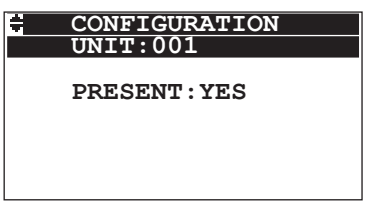
1.2.1.2.4.3 - MAX SLAVE UNIT SCREEN

In order to manually associate the slave unit you must first set the address of the slave unit with the highest value in the "**MaxUnitId**" field, then press the "**PRG**" button to access the screen, UNIT CONFIGURATION



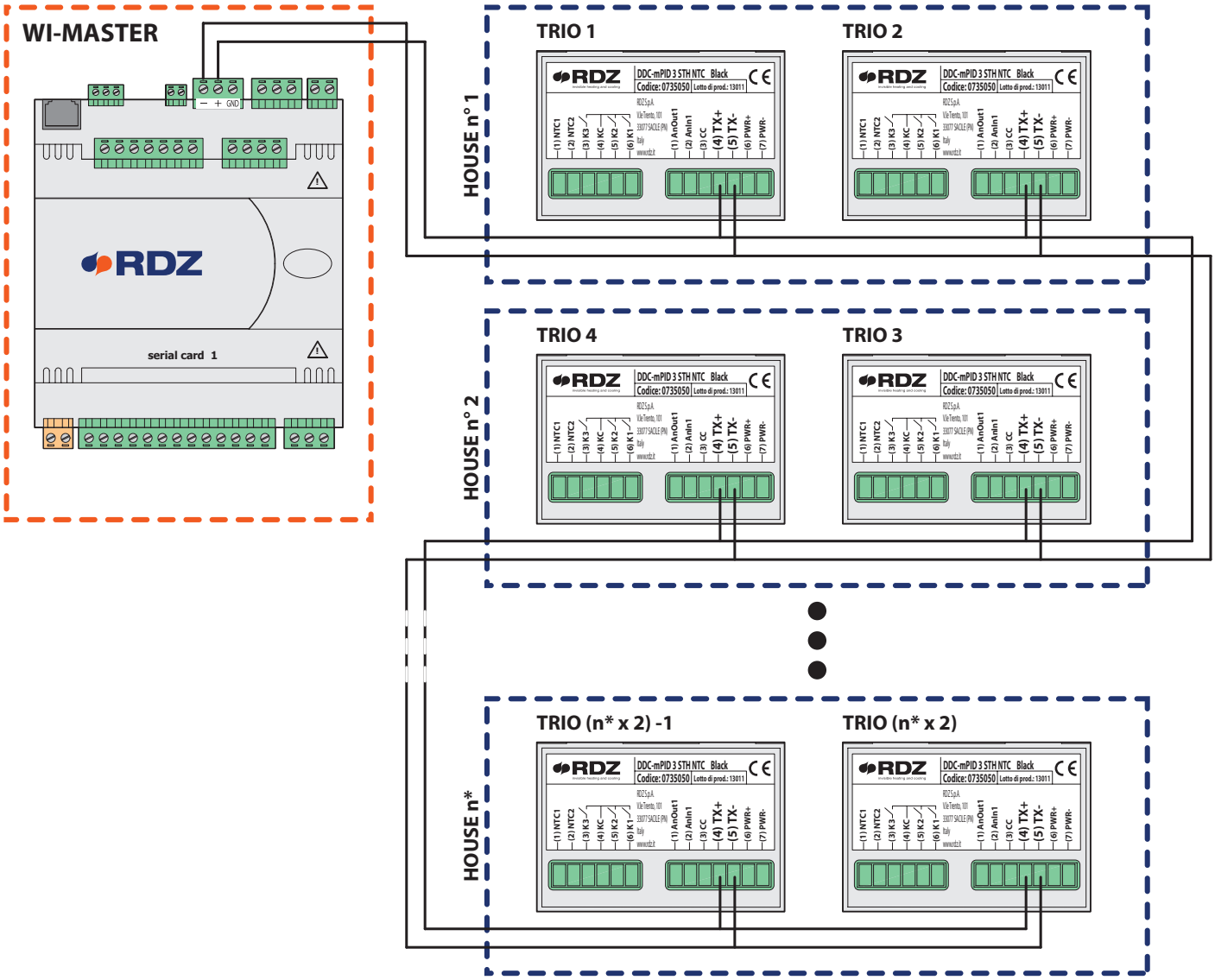
1.2.1.2.4.3.1 - UNIT CONFIGURATION SCREEN

Using the "**UP**" and "**DOWN**" buttons you an move through the various slave units (from **1** to **MaxUnitId** previously set). Then, using the "**PRESENT**" field you can associate the unit selected with the master.



MASTER-TRIO

BUS CONNECTION



CONFIGURAZIONE TRIO

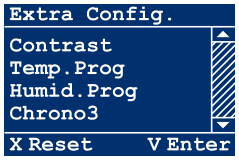
PASSWORD ENTERING AND ACCESSING THE TECHNICAL MENU

From the main menu, it is possible to access the technical menu by pressing and holding (>5 sec) SET + ▼.
Then, when you are required to enter the access password use the following combination of keys:

SET + SET + SET + ▲ + ▲ + ▲

By pressing the last key, you can access the technical menu.

With ▲ and ▼ it is possible to browse through the fields of the menu.



PROCEDURE TO EDIT PARAMETERS

To edit the highlighted field, briefly press SET. Use ▲ and ▼ to set the desired value. SET is used to confirm the value (Enter) and go back to the main page.

TYPE PARAMETER

Label	Description	Min	Max	Default
Type	It identifies the controller operating mode	0.0	5.0	0.0

Set at 0.0 for system without mixing valve
Set at 1.0 for system with mixing valve
n.b.: values different from 0.0 and 1.0 will be not accepted.

SLAVE PARAMETER

Label	Description	Min	Max	Default
Slave	Controller set in Slave mode	0.0	1.0	0.0

Set value at **1.0**

ONOFFBYMASTER PARAMETER

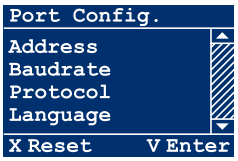
Label	Description	Min	Max	Default
OnOffByMaster	Centralized on/off from Master unit	0.0	1.0	0.0

ACCESSING THE CONFIGURATION MENU

From the main menu, it is possible to access the configuration menu by pressing and holding (>5 sec) ESC + ▲, then use ▲ and ▼ to browse through the various items of the menu.

PROCEDURE TO EDIT PARAMETERS

To edit the parameters, go to the desired entry and briefly press SET
Use ▲ and ▼ to change the set value and select the desired one.
SET is used to confirm the selection (Enter) and go back to the home page.



ADDRESS PARAMETER

Label	Description	Min	Max	Default
Address	Device Address	1.0	247.0	1.0

Set device address value according to the flat and relevant zones.
By using the following formula you can work out the exact value to be set:

Address ZONE 1 = (n° Flat -1) x 2 + 1
Address ZONE 2 = (n° Flat -1) x 2 + 2

Example data chart		
HOUSE Number	**ZONE 1 Address**	**ZONE 2 Address**
1	1	2
2	3	4
3	5	6
4	7	8
....	.....	.....
26	51	52

BAUDRATE PARAMETER

Label	Description	Value	Default
Baudrate	Communication speed	9600 **19200** 38400 57600 115200	115200

Set value at **19200**

PROTOCOL PARAMETER

Label	Description	Value	Default
Protocol	Communication protocol	Newthom Modbus RTUMaster **Modbus RTUSlave**	Newtohm

Set value on **Modbus RTUSlave**

MASTER CONFIGURATION

1.2.1.2.4.1 - MASTER TYPE SCREEN

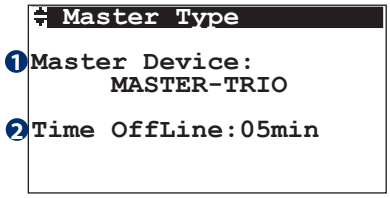


Table of variables	
Num	**Description**
❶	Type of master device: - set on MASTER-TRIO (the WI control unit is the master for the system)
❷	Set the delay time before defining the PC offline (default 5 min)

1.2.1.2.4.6 - S2 SUPERVISOR SCREEN

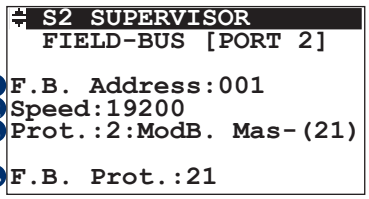


Table of variables	
Num	**Description**
❶	Device address (must be 1)
❷	Communication speed:
❸	Communication protocol, set: "2:ModB. Mas-(21)" if in MASTER-TRIO mode
❹	Communication port (read only parameter)

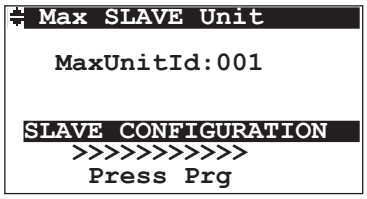
SLAVE DETECTION

The detection of the slave units can be done in 2 ways: manual or automatic.

MANUAL DETECTION

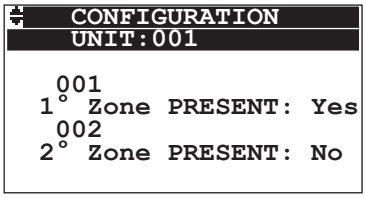
1.2.1.2.4.3 - MAX SLAVE UNIT SCREEN

In order to manually associate the slave unit you must first set the address of the slave unit with the highest value in the "**MaxUnitId**" field, then press the "**PRG**" button to access the screen, UNIT CONFIGURATION



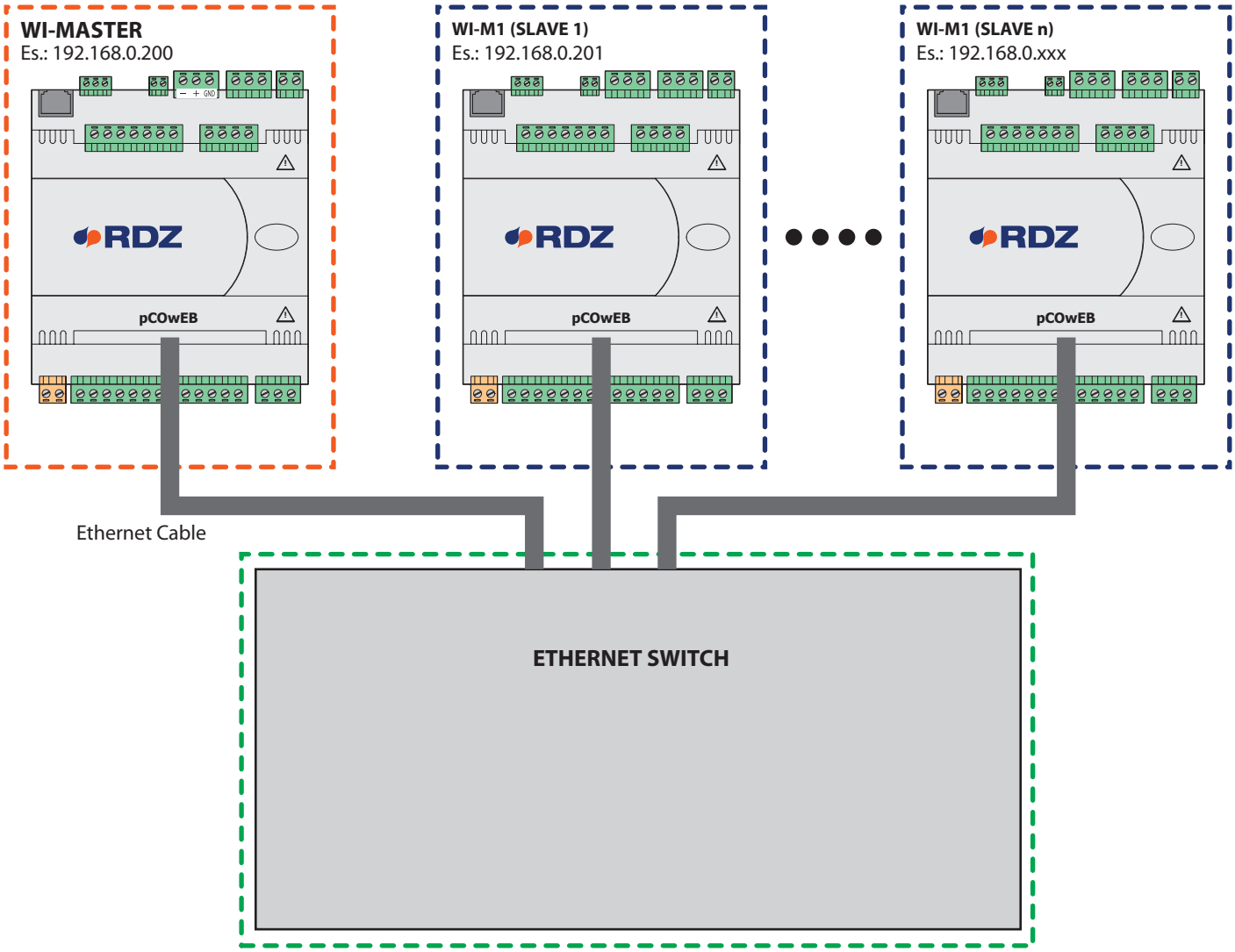
1.2.1.2.4.3.1 - UNIT CONFIGURATION SCREEN

Using the "**UP**" and "**DOWN**" buttons you an move through the various slave units (from **1** to **MaxUnitId** previously set). Then, using the "**PRESENT**" field you can associate the unit selected with the master.



MASTER-TCP

LAN CONNECTION



MASTER IP ADDRESS CONFIGURATION

Refer to the pCOWeb manual.

SLAVE DETECTION

To configure the connected slaves on the Master it is necessary to connect Master device with an internet browser. (For how to connect and to change the IP address of the Master, refer to the pCOWeb manual).

Click on the icon labeled NET (Master Slave Configuration) (Fig. 1)
and enter User: "admin" and Password: "0123" to access the Slave configuration page (Fig. 2).

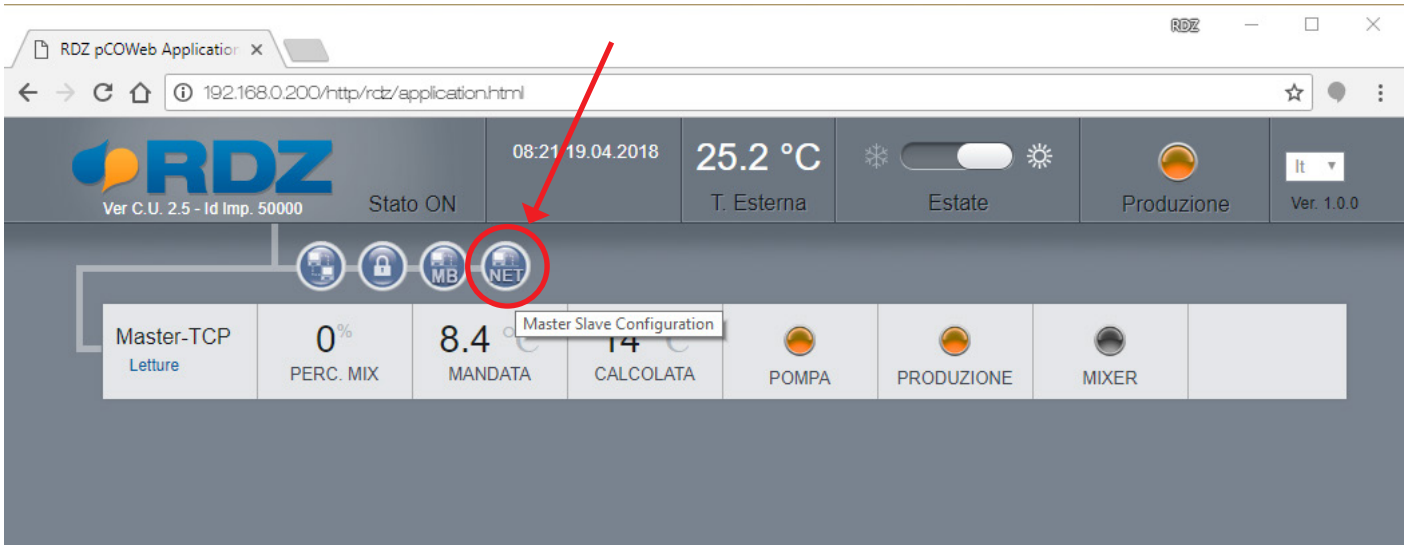


Fig. 1

Click "Modify" and enter each of the IP addresses configured in the slaves, then press Enter or click "Submit" at the bottom of the page (For the connection modes and for changing the IP address of the Slaves refer to the pCOWeb manual) .

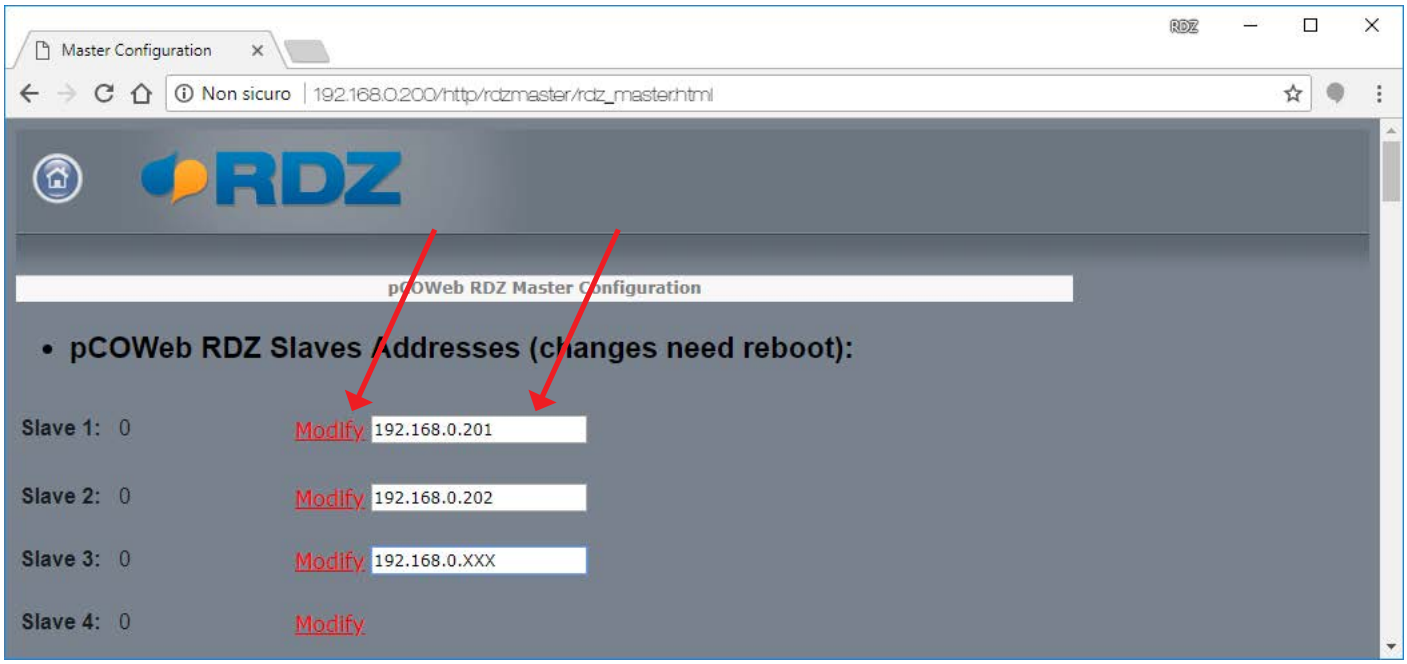


Fig. 2

Then click on "Reboot" (Fig. 3) to restart the pCOWeb (Fig. 4), and apply the changes, after about 1 minute the main page will be displayed automatically (Fig. 1).

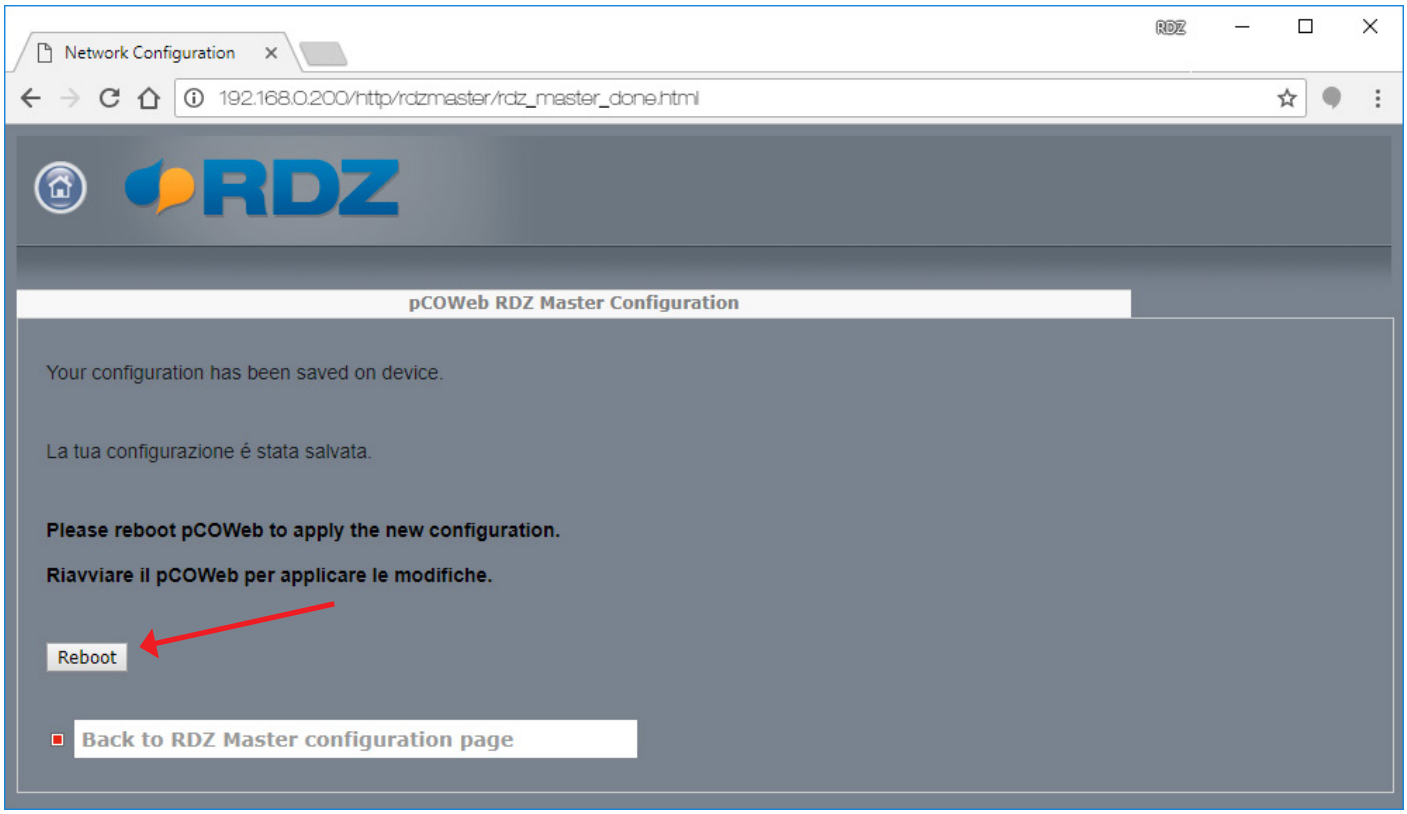


Fig. 3

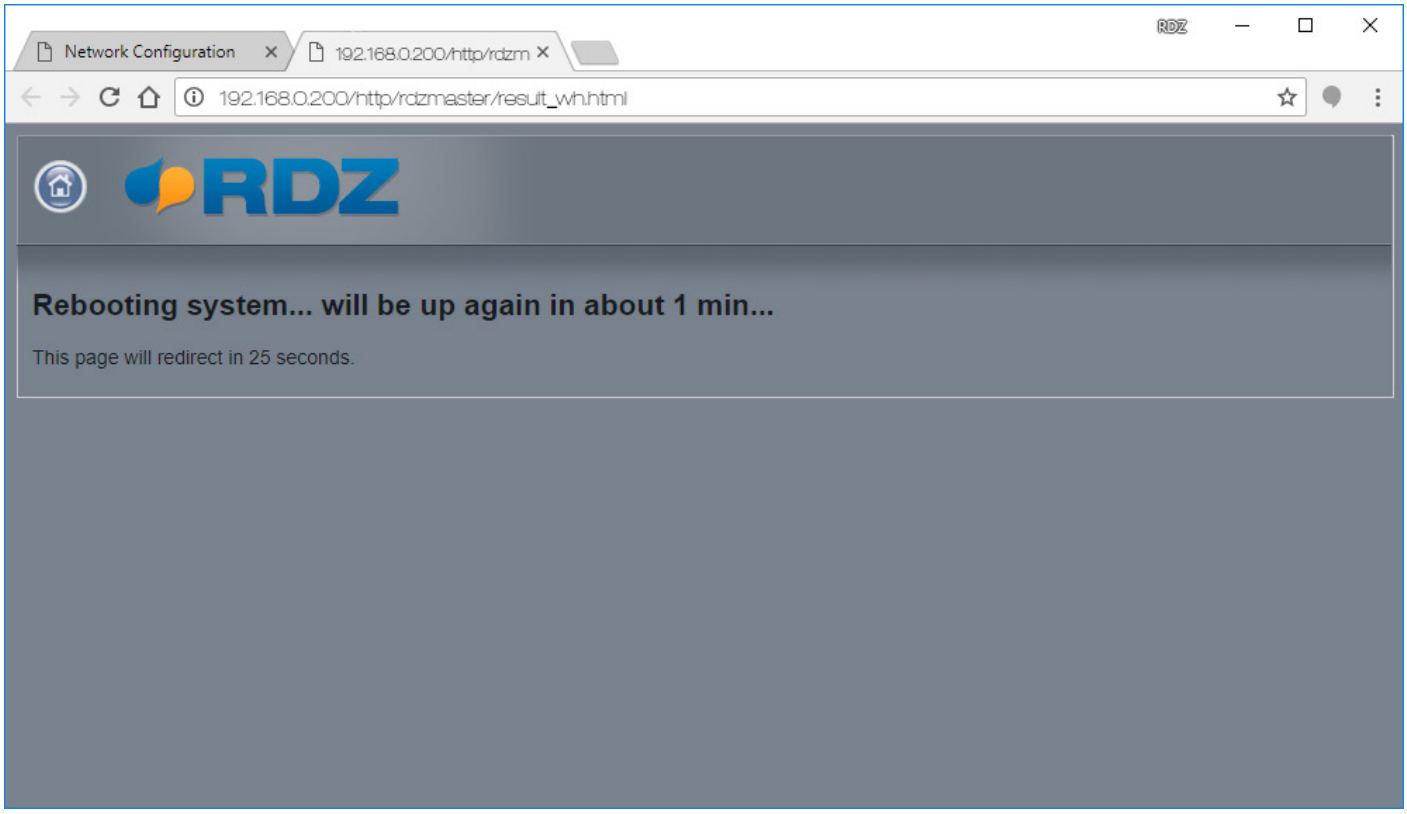
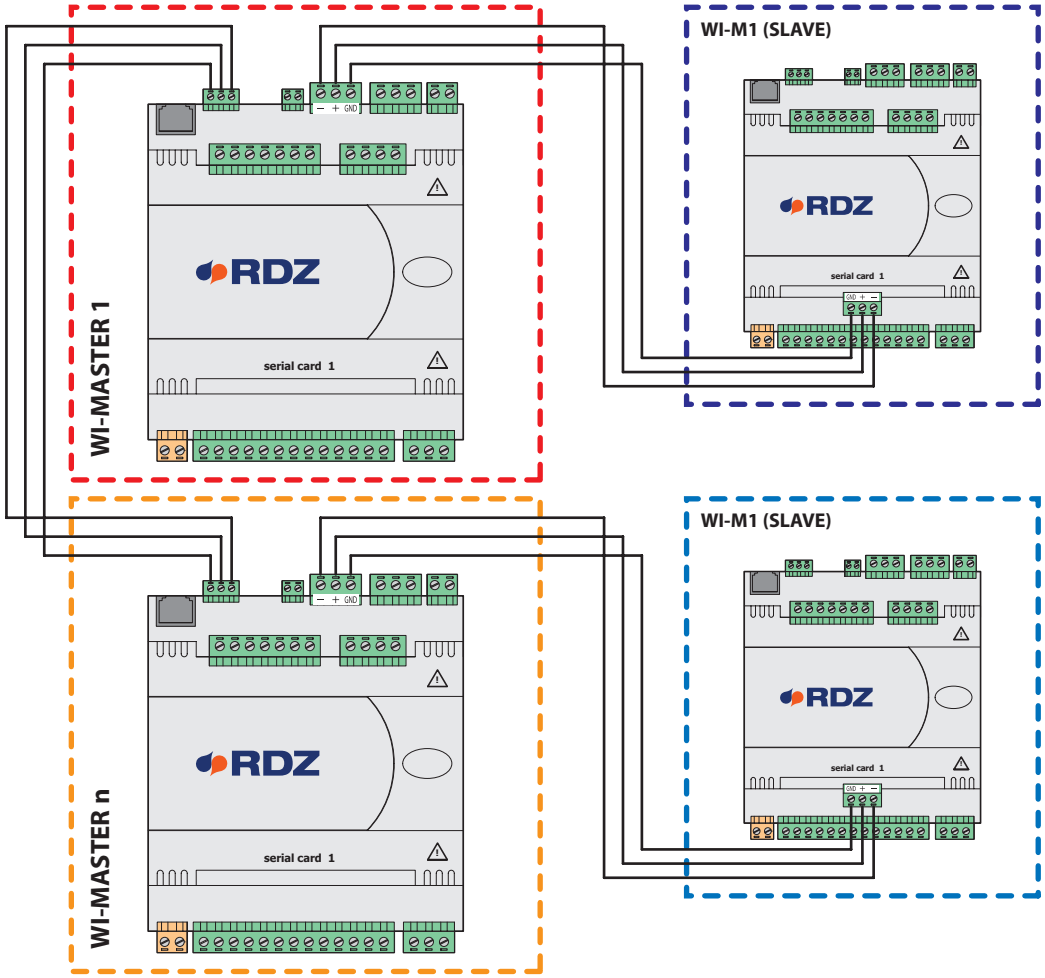


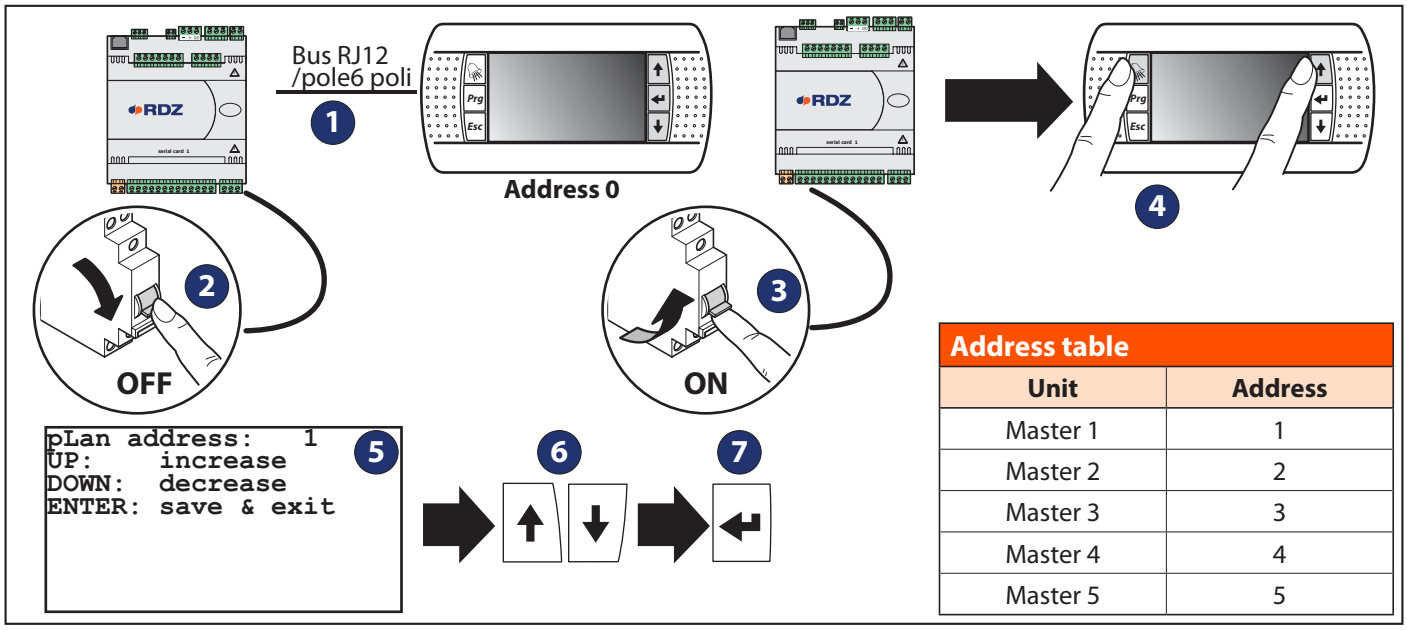
Fig. 4

MULTI - MASTER

BUS CONNECTION



CHANGE THE UNIT'S NETWORK ADDRESS

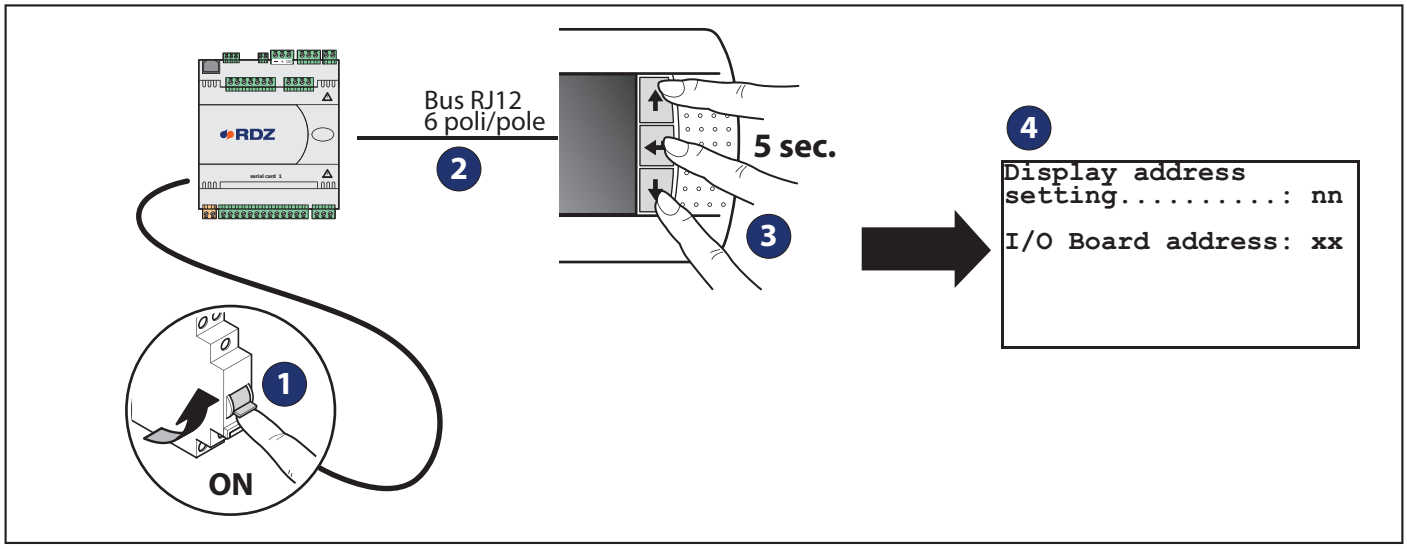


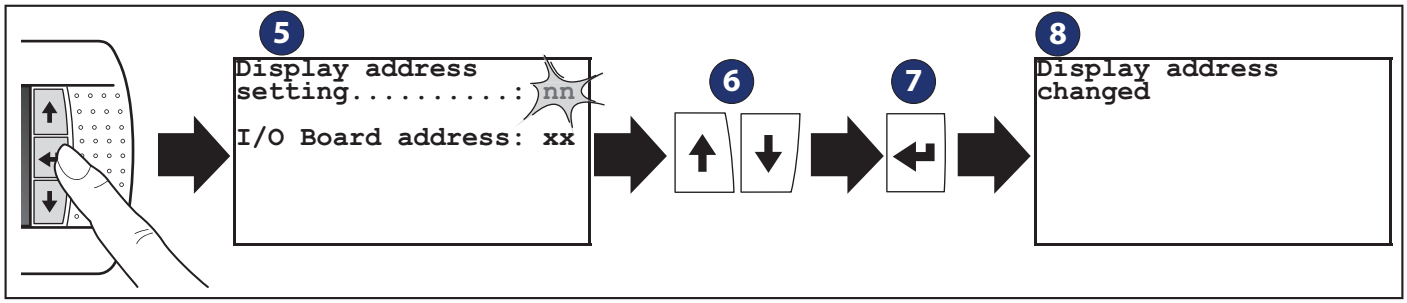
Address table	
Unit	**Address**
Master 1	1
Master 2	2
Master 3	3
Master 4	4
Master 5	5

Proceed as follows:

1) Prepare a UI/PRO terminal with address 0 and connect it to the central unit by means of an RJ12 cable
2) Disconnect the power supply from the WI-XX unit
3) Power the WI-M1/Sx unit
4) press the **Alarm** + **Up** buttons at the same time. After a few seconds you will see screen 5)
6) If you wish to change the address, use the **Up** **Down** buttons and then press **Enter** to confirm.

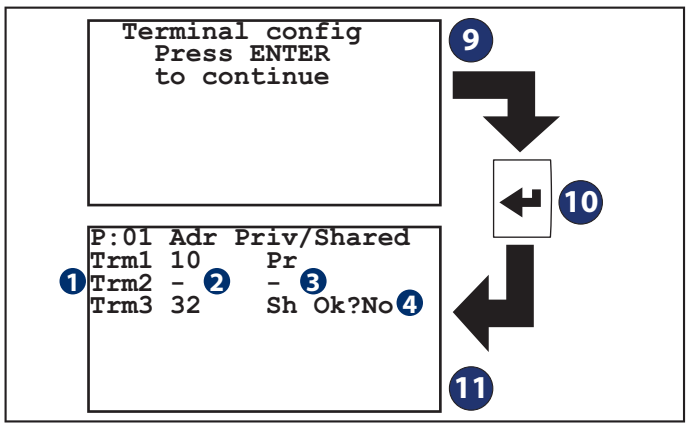
CONFIGURING THE IU-PRO ADDRESSES





Proceed as follows:

1) Power on;
2) Prepare a UI/PRO terminal with and connect it to the central unit by means of an RJ12 cable;
3) to enter configuration mode, hold down the **Up** **Enter** **Down** buttons at the same time for at least 5 seconds;
4) once this is complete, screen 4) will appear on the terminal.
5) To modify the terminal address, press the **Enter** button, the cursor will be positioned on the address field (nn).
6) Using the **Up** **Down** buttons, select the address desired.
7) Confirm the address using the **Enter** button. (Screen **"8"** appears if the parameters are modified, otherwise mask **"9"** appears).

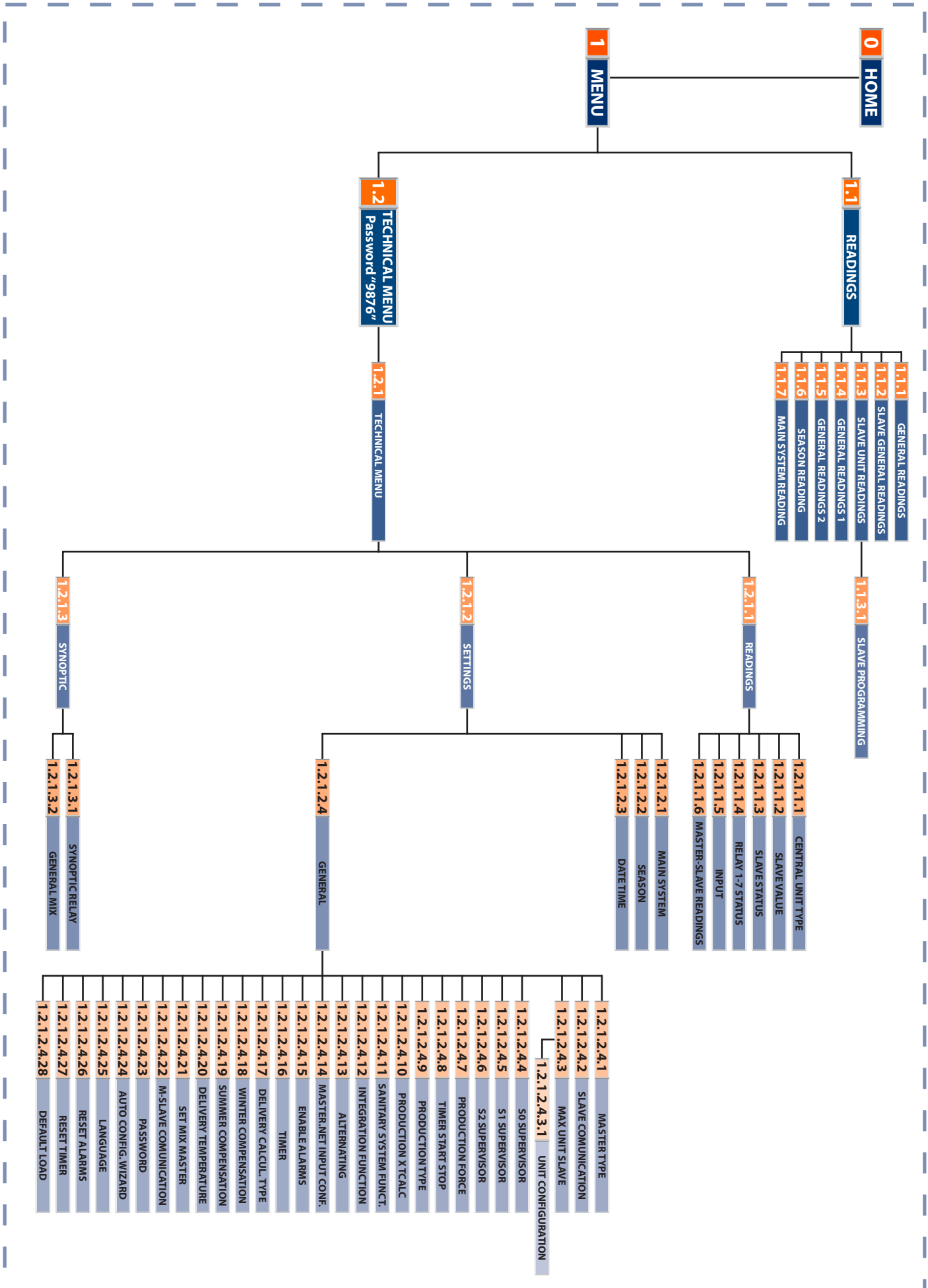


10) press **Enter** to access the network address change;
11) change the parameters as shown in the table;

Legend	
Num	**Description**
1	Name of the terminals (Cannot be edited)
2	Address of the terminals
3	Terminal functions Pr: Private Sh: shared Sp: Print (not available)
4	NO: return to the address for terminal Trm1 YES: exit confirming the new configuration

IU-PRO address table			
Unit	**Terminal**	**Address**	**Priv/Shared**
Master 1	trm1	10	Pr
	trm2	-	-
	trm3	32	Sh
Master 2	trm1	11	Pr
	trm2	-	-
	trm3	32	Sh
Master 3	trm1	12	Pr
	trm2	-	-
	trm3	32	Sh
Master 4	trm1	13	Pr
	trm2	-	-
	trm3	32	Sh
Master 5	trm1	14	Pr
	trm2	-	-
	trm3	32	Sh

OVERVIEW OF THE SCREENS



SCREEN DESCRIPTIONS

0 MAIN SCREEN

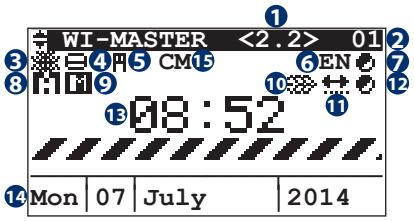


Table of variables	
Num	**Description**
❶	Software version
❷	Master ID
❸	Operating season: Summer Winter
❹	General activation status: Active Inactive

Table of variables	
Num	**Description**
❺	High temperature request
❻	Set language
❼	HT production status
❽	Anti-freeze
❾	M=master (address Plan=1) S=slave (address Plan≠1)
❿	It flashes each time there is data sent between the control unit and another device (PC, Slave or external Supervisor).
⓫	This icon indicates that a connection was made between the control unit and another device (PC, Slave or supervisor). If it is visibly flashing there is a communication error
⓬	LT production status
⓭	Current Time
⓮	Current Date
⓯	CM = Master; PC = MASTER-PC; TRIO = MASTER-TRIO; TCP = MASTER-TCP

1 MENU SCREEN

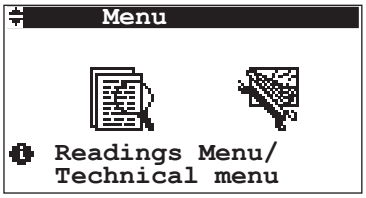


Table of movements		
Key	**Screen**	
Esc	0	MAIN
↑	0	MAIN
↵ + ↵	1.1.1	GENERAL READINGS
↵ + ↓ + ↵	1.2	TECHNICAL MENU - PASSWORD

ADDRESS 1 MENU / 1.1 READINGS /

1.1.1 GENERAL READINGS SCREEN

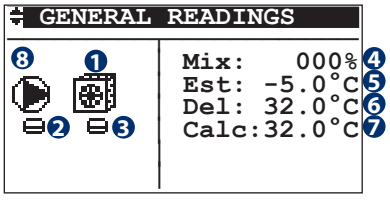


Table of movements		
Key	**Screen**	
Esc	1	MENU
↑	1.1.7	MAIN SYSTEM
↓	1.1.2	SLAVE GENERAL READINGS (In MASTER-PC mode data are not shown)
	1.1.3	SLAVE UNIT READINGS (If in MASTER or MASTER-TRIO mode)
	1.1.4	GENERAL READINGS 1

Table of variables	
Num	**Description**
❶	Type of generator used - chiller - boiler
❷	Activation status of the main pump: Activated Deactivated
❸	Activation status of production: Activated Deactivated
❹	Mixing valve opening percentage
❺	Exterior temperature detected
❻	Delivery temperature detected
❼	Delivery temperature calculated
❽	Slave index

1.1.2 Slave General Readings Screen

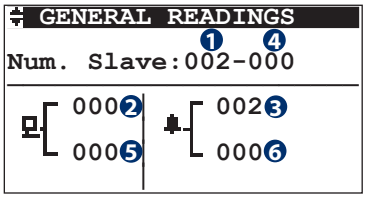


Table of movements		
Key	**Screen**	
Esc	1	MENU
↑	1.1.1	GENERAL READINGS
↓	1.1.3	SLAVE UNIT READINGS (If in MASTER or MASTER-TRIO mode)
	1.1.4	GENERAL READINGS 1

Table of variables	
Num	**Description**
❶	Number of flats involved in the configuration 000÷064 for MASTER ; 000÷040 for MASTER-PC ; 000÷026 for MASTER-TRIO; 000÷064 for MASTER -TCP
❷	Number of Online controller
❸	Number of Offline controller
* ❹	* visible only on MASTER-TRIO It shows the total number of Trio units to be controlled (000÷048)
* ❺	* visible only on MASTER-TRIO It shows the number of Online Trio units
* ❻	* visible only on MASTER-TRIO It shows the total number of Offline Trio units

N.B. In MASTER-PC mode data are not shown.

Address 1 Menu / 1.1 Readings /

1.1.3 Slave Unit Readings Screen

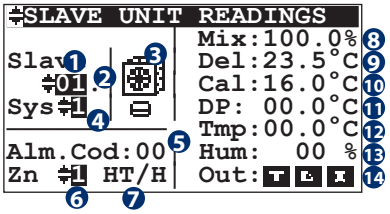


Table of movements		
Key	**Screen**	
Esc	1	MENU
Prg	1.1.3.1	SLAVE PROGRAMMING
↑	1.1.2	SLAVE GENERAL READINGS (In MASTER-PC mode data are not shown)
	1.1.1	GENERAL READINGS
↓	1.1.4	GENERAL READINGS 1

Table of variables	
Num	**Description**
❶	Index of slave control units
❷	. = Trio control units OFFLINE → = Trio control units ONLINE
❸	Type of generator used in the selected system chiller; boiler Related activation status of production: Activated ; Deactivated
❹	Index of the systems related to the selected slave unit
❺	Alarm code for the selected zone/system
❻	Index of the zone related to the selected system
❼	Type of sensor used in the selected zone
❽	Mixing valve opening percentage for the selected system If the mixing valve on the slave is ON
❾	Delivery temperature detected in the selected system If the mixing valve on the slave is ON
❿	Delivery temperature calculated in the selected system If the mixing valve on the slave is ON
⓫	Dew Point, it shows the temperature value for the dew point If configuration is in MASTER-TRIO mode
⓬	Room temperature detected on the SLAVE If the mixing valve on the slave is ON
⓭	Room humidity detected on the SLAVE If the mixing valve on the slave is ON
⓮	Zone output status T Temperature, H Humidity, I Integration If configuration is in MASTER-TRIO mode

Please Note: This screen is only displayed in MASTER or MASTER-TRIO mode.

Address 1 Menu / 1.1 Reading / 4 Slave Unit Readings /

1.1.3.1 Slave Programming Screen

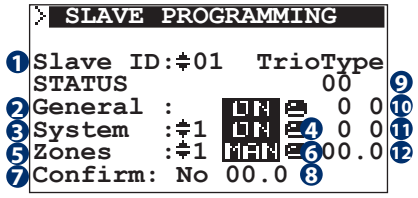


Table of movements		
Key	**Screen**	
Esc	1.1.3	SLAVE UNIT READINGS

Table of variables	
Num	**Description**
1	Index of slave control units
2	General status of the selected slave unit ON = Active OFF = Inactive
3	Index of the systems related to the selected slave unit
4	Status of the selected system ON = On OFF = Off
5	Index of the zone related to the selected system
6	Status of the selected zone OFF = Off MAN = Manual PGM = Programming PGM = Manual programming
7	Confirmation of data change
* Visible data only for MASTER-TRIO mode	
8 *	Dew point
9 *	Type TRIO (0 ÷ 5)
10 *	On/off system 1
11 *	On/off system 2
12 *	Zone humidity

Please Note: This screen is only displayed in MASTER or MASTER-TRIO mode.

Address 1 Menu / 1.1 Readings /

1.1.4 General Readings 1 Screen

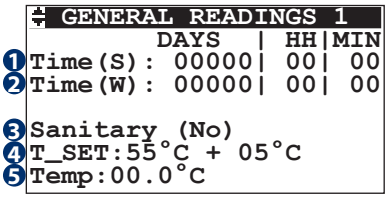


Table of movements		
Key	**Screen**	
Esc	1	MENU
↑	1.1.3	SLAVE UNIT READINGS (If in MASTER or MASTER-TRIO mode)
	1.1.2	SLAVE GENERAL READINGS (In MASTER-PC mode data are not shown)
	1.1.1	GENERAL READINGS
↓	1.1.5	GENERAL READINGS 2 (if integration or alternating enabled)
	1.1.6	SEASON READING

Table of variables	
Num	**Description**
1	Operation time of primary production during the summer period
2	Operation time of primary production during the winter period
3	Indicates whether the sanitary system function is enabled
4	Set temperature for the sanitary system function (+ temperature delta compared to the set for deactivation the function)
5	Temperature detected by the delivery sensor on the sanitary system circuit

1.1.5 GENERAL READINGS 2 SCREEN

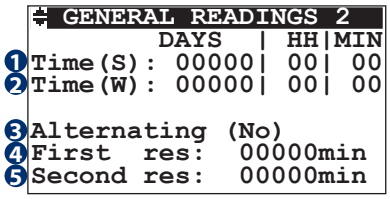


Table of movements		
Key	**Screen**	
Esc	1	MENU
↑	1.1.4	GENERAL READINGS 1
↓	1.1.6	SEASON READING

Table of variables	
Num	**Description**
❶	Operation time of secondary production during the summer period
❷	Operation time of secondary production during the winter period
❸	Indicates whether the alternating function is enabled
❹	Operation time of the primary source for the alternating function
❺	Operation time of the secondary source for the alternating function

Please Note: This screen is only displayed if integration or alternating is enabled.

1.1.6 SEASON READING SCREEN

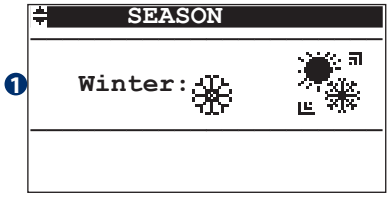


Table of variables	
Num	**Description**
❶	Indicates which season the control unit is set to - Summer - Winter

Table of movements		
Key	**Screen**	
Esc	1	MENU
↑	1.1.5	GENERAL READINGS 2 (if integration or alternating enabled)
	1.1.4	GENERAL READINGS 1
↓	1.1.7	MAIN SYSTEM

1.1.7 MAIN SYSTEM READING SCREEN

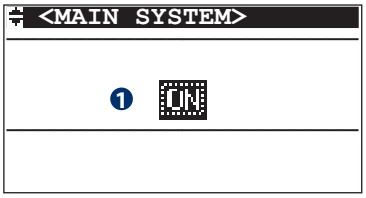


Table of variables	
Num	**Description**
❶	Indicates the general status of the master control unit - ON, the control unit operates according to standard logic - OFF, the control unit does not enable any digital output
	If there is a centralized MULTIMASTER - in the MASTER 1 control unit it indicates global On-Off - if the control units are MASTER ≠ 1, it indicates the On-Off of only the part related to the unit involved,

Table of movements		
Key	**Screen**	
Esc	1	MENU
↑	1.1.6	SEASON READING
↓	1.1.1	GENERAL READINGS

Address 1 Menu /

1.2 Technical Menu Screen - Password

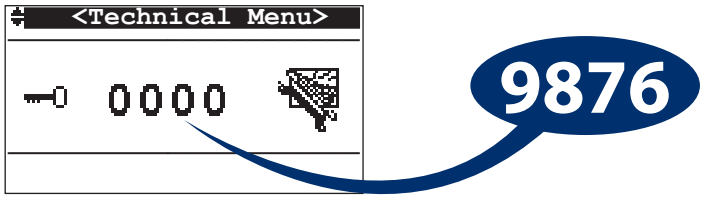


Table of movements		
Key	**Screen**	
Esc	1	MENU
↵	1.2.1	TECHNICAL MENU

To access the setting screens, enter the correct Password in the Technical Menu screen **[9876]**.
Upon entering the correct password, you can proceed with the subsequent operations.

Address 1 Menu / 1.2 Technical Menu - Password /

1.2.1 Technical Menu Screen

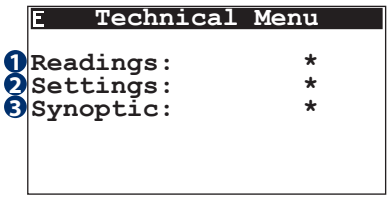


Table of variables	
Num	**Description**
1	Access to the advanced readings screen
2	Access to the settings menu
3	Access to the synoptics screens

Table of movements		
Key	**Screen**	
Esc	0	MAIN
↵	1.2.1.1.1	CENTRAL UNIT TYPE
↓ + ↵	1.2.1.2	SETTINGS
↓ + ↓ + ↵	1.2.1.3.1	SYNOPTIC RELAY

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.1 Readings

1.2.1.1.1 Central Unit Type Screen

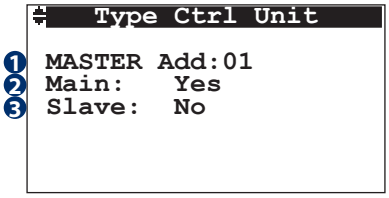


Table of variables	
Num	**Description**
1	Master unit address
2	Indicates if the unit is the master of the entire system (master add equal to 1) *
3	Indicates if the unit is master for a partial system and there is a main master (master add not 1)

Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑	1.2.1.1.6	MASTER-SLAVE READINGS
↓	1.2.1.1.2	SLAVE VALUE READINGS (if the master device is set to MASTER mode)
	1.2.1.1.3	SLAVE STATUS READINGS (if the master device is set to MASTER or MASTER-TRIO mode)
	1.2.1.1.4	RELAY 1-7 STATUS READINGS

(*) in the MASTER-PC type system, the master address **MUST** be 1

1.2.1.1.2 Slave Values Screen

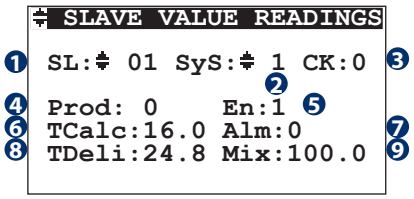


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑	1.2.1.1.1	CENTRAL UNIT TYPE
↓	1.2.1.1.3	SLAVE STATUS READINGS (if the master device is set to MASTER or MASTER-TRIO mode)
	1.2.1.1.4	RELAY 1-7 STATUS READINGS

Table of variables	
Num	**Description**
❶	Index of the queried slave
❷	Index of the system related to the queried slave
❸	Indicates if there is communication under way between the slave control unit and master
❹	Production request from the system 0 - no request 1 - active request
❺	Indicates the system status 0 - System OFF 1 - System ON
❻	Delivery temperature calculated for the selected system
❼	Alarms in the selected slave unit 0 - no alarm 1 - at least one alarm in progress
❽	Delivery temperature detected in the selected system
❾	Mixing valve opening percentage for the selected system

Please Note: This screen is only displayed in MASTER mode.

1.2.1.1.3 Slave Status Screen

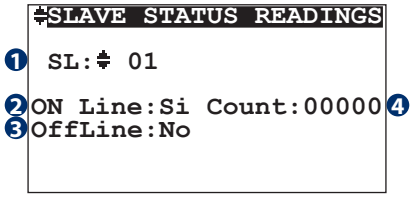


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑	1.2.1.1.1	CENTRAL UNIT TYPE
	1.2.1.1.2	SLAVE VALUE READINGS (if the master device is set to MASTER mode)
↓	1.2.1.1.4	RELAY 1-7 STATUS READINGS

Table of variables	
Num	**Description**
❶	Index of the queried slave
❷ / ❸	Indicates if the selected slave unit is in communication with the master unit
❹	Indicates the number of zones online for the selected slave unit

Please Note: This screen is only displayed in MASTER or MASTER-TRIO mode.

1.2.1.1.4 Relay Status Screen

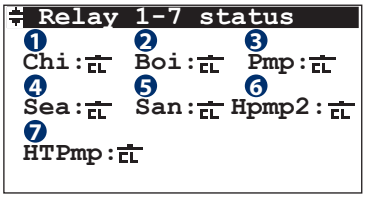


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑	1.2.1.1.1	CENTRAL UNIT TYPE
	1.2.1.1.2	SLAVE VALUE READINGS (if the master device is set to MASTER mode)
	1.2.1.1.3	SLAVE STATUS READINGS (if the master device is set to MASTER or MASTER-TRIO mode)
↓	1.2.1.1.5	INPUT

Table of variables	
Num	**Description**
1	Chiller relay / heat pump status
2	Boiler relay status
3	LT system pump relay status
4	Season relay status
5	Sanitary system relay status
6	Second energy source relay status
7	HT system pump relay status

For all statuses they can be:
CL = closed
OP = open

1.2.1.1.5 Input Screen

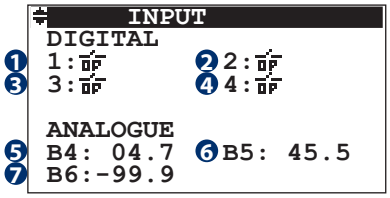


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑	1.2.1.1.4	RELAY 1-7 STATUS READINGS
↓	1.2.1.1.6	MASTER-SLAVE READINGS

Table of variables	
Num	**Description**
1	Digital input status (DI1)
2	Digital input status (DI2)
3	Digital input status (DI3)
4	Digital input status (DI4)
5	Analogue input value detected (B4)
6	Analogue input value detected (B5)
7	Analogue input value detected (B6)

For all digital statuses they can be:
CL = closed
OP = open

1.2.1.1.6 Master-Slave Readings Screen

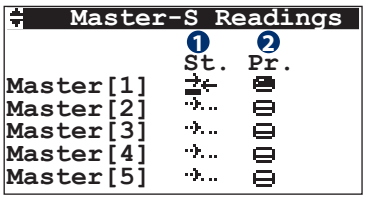


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑	1.2.1.1.5	INPUT
↓	1.2.1.1.1	CENTRAL UNIT TYPE

Table of variables	
Num	**Description**
1	Indicates the communication status between the various masters = communication present = no communication
2	Indicates the production request status for the various masters = production request active = no production request

ADDRESS 1 MENU / 1.2 TECHNICAL MENU - PASSWORD / 1.2.1 TECHNICAL MENU / 1.2.1.1 READINGS

1.2.1.2 SETTINGS SCREEN

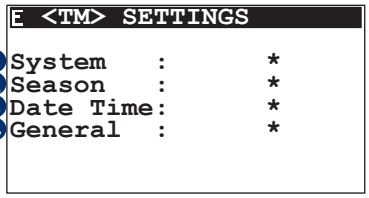


Table of movements

Key	Screen	
Esc	1.2.1	TECHNICAL MENU
↵	1.2.1.2.1	MAIN SYSTEM
↓ + ↵	1.2.1.2.2	SEASON
↓ + ↓ + ↵	1.2.1.2.3	DATE-TIME
↓ + ↓ + ↓ + ↵	1.2.1.2.4.1	MASTER TYPE

Table of variables

Num	Description
❶	Access to the screen to change the general system status
❷	Access to the screen to change the season
❸	Access to the screen to change the date/time
❹	Access to the general settings screen

ADDRESS 1 MENU / 1.2 TECHNICAL MENU - PASSWORD / 1.2.1 TECHNICAL MENU / 1.2.1.2 SETTINGS

1.2.1.2.1 MAIN SYSTEM SCREEN

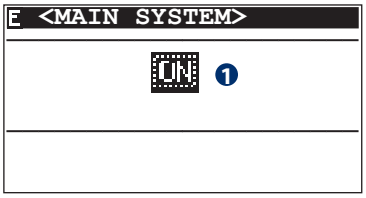


Table of movements

Key	Screen	
Esc	1.2.1.2	SETTINGS

Table of variables

Num	Description
❶	Sets the general status of the master control unit - ON, the control unit operates according to standard logic - OFF, the control unit does not enable any digital output
	If there is a centralized MULTIMASTER - in the MASTER 1 control unit it sets the global On-Off - if the control units are MASTER ≠ 1, it only sets the On-Off of the part related to the unit involved,

ADDRESS 1 MENU / 1.2 TECHNICAL MENU - PASSWORD / 1.2.1 TECHNICAL MENU / 1.2.1.2 SETTINGS

1.2.1.2.2 SEASON SCREEN

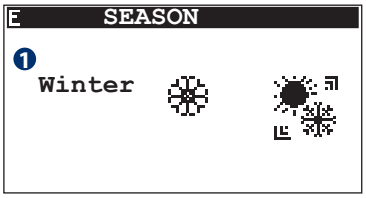


Table of variables

Num	Description
❶	Settable system season

Table of movements

Key	Screen	
Esc	1.2.1.2	SETTINGS

ADDRESS 1 MENU / 1.2 TECHNICAL MENU - PASSWORD / 1.2.1 TECHNICAL MENU / 1.2.1.2 SETTINGS

1.2.1.2.3 DATE-TIME SCREEN

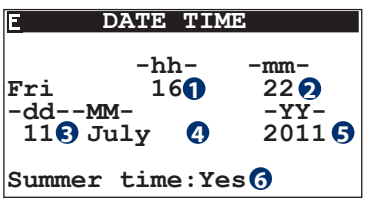


Table of movements

Key	Screen	
Esc	1.2.1.2	SETTINGS

Table of variables

Num	Description
❶	Hours
❷	minutes
❸	Day
❹	Month
❺	Year
❻	Enables the automatic time change between standard time and daylight savings time

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.1 Master Type Screen

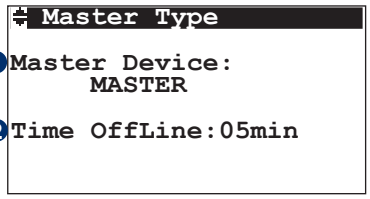


Table of variables	
Num	**Description**
1	Type of master device: - MASTER the WI control unit is the master for the system - MASTER-PC the PC is the master for the system - MASTER-TRIO the WI control unit is the master for the system - MASTER-TCP the WI control unit is the master for the system
2	Delay time before defining the PC-MASTER offline

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.28	LOAD DEFAULT
↓	1.2.1.2.4.2	SLAVE COMMUNICATION (If the master device is set to MASTER-PC or MASTER-TRIO mode)
	1.2.1.2.4.3	MAX SLAVE UNIT (If device is set to MASTER or MASTER-TRIO mode)
	1.2.1.2.4.4	S0 SUPERVISOR

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.2 Slave Communication Screen

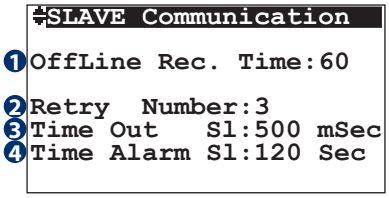


Table of variables	
Num	**Description**
1	Delay time before rechecking the connection
2	Number of attempts before indicating an offline error
3	Delay time between attempts
4	Delay time before activating the offline alarm

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.1	MASTER TYPE
↓	1.2.1.2.4.3	MAX SLAVE UNIT (If device is set to MASTER or MASTER-TRIO mode)
	1.2.1.2.4.4	S0 SUPERVISOR

Please Note: This screen is only displayed in MASTER or MASTER-TRIO mode.

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.3 Max Slave Unit Screen

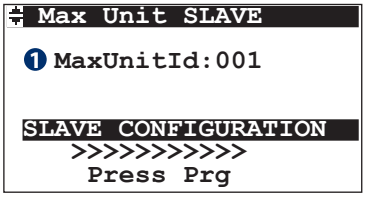


Table of variables	
Num	**Description**
1	Maximum index of connected slaves: 64 for MASTER and MASTER-TCP systems 40 for MASTER-PC systems 26 for MASTER-TRIO systems

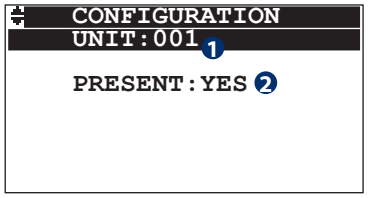
Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.1	MASTER TYPE
	1.2.1.2.4.2	SLAVE COMMUNICATION (If the master device is set to MASTER-PC or MASTER-TRIO mode)
Prg	1.2.1.2.4.3.1	UNIT CONFIGURATION
↓	1.2.1.2.4.4	S0 SUPERVISOR

Please Note: This screen is only displayed in MASTER or MASTER-TRIO mode.

Address *1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General 1.2.1.2.4.3 Max Slave Units*

1.2.1.2.4.3.1 Unit Configuration Screen

MASTER or MASTER-PC



MASTER-TRIO

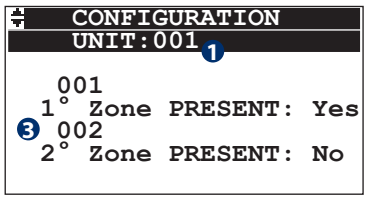


Table of variables	
Num	**Description**
1	ID Slave (MaxUnitID)
2	Sets the presence of the slave with the selected ID
3	(only for MASTER-TRIO) Set the presence of TRIO controller in the zones

Table of movements		
Key	**Screen**	
Esc	1.2.1.2.4.3	MAX SLAVE UNIT

Address *1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General*

1.2.1.2.4.4 S0 Supervisor Screen

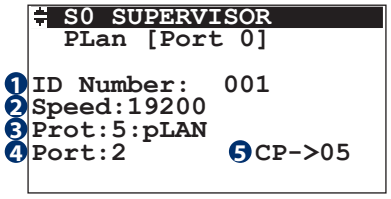


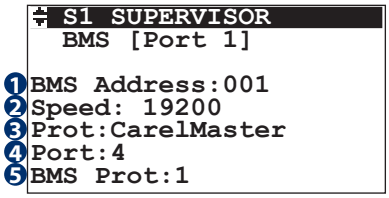
Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.1	MASTER TYPE
	1.2.1.2.4.2	SLAVE COMMUNICATION (If the master device is set to MASTER-PC or MASTER-TRIO mode)
	1.2.1.2.4.3	MAX SLAVE UNIT (If device is set to MASTER or MASTER-TRIO mode)
↓	1.2.1.2.4.5	S1 SUPERVISOR

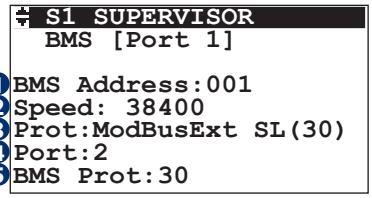
Table of variables	
Num	**Description**
1	Master control unit ID
2	Transmission speed
3	Transmission protocol
4	Communication port
5	Communication protocol code set

Address *1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General*

1.2.1.2.4.5 S1 Supervisor Screen

MASTER-PC





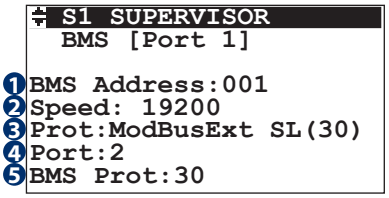


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.4	S0 SUPERVISOR
↓	1.2.1.2.4.6	S2 SUPERVISOR

Table of variables	
Num	**Description**
1	Device communication address
2	Transmission speed
3	Transmission protocol
4	Communication port
5	Type of protocol set on S1 supervisor

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.6 S2 Supervisor Screen

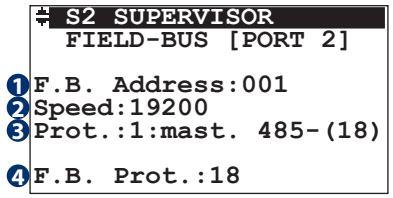


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.5	S1 SUPERVISOR
↓	1.2.1.2.4.7	PRODUCTION FORCE (If in MASTER-PC mode and with the PC offline.)
	1.2.1.2.4.8	TIMER START STOP

Table of variables	
Num	**Description**
1	Device communication address
2	Transmission speed
3	Transmission protocol
4	Type of protocol set on S2 supervisor

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.7 Production Force

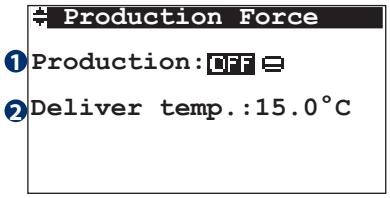


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.6	S2 SUPERVISOR
↓	1.2.1.2.4.8	TIMER START STOP

Table of variables	
Num	**Description**
1	Activates or deactivates the forced production of energy
2	Sets delivery temperature for forced production

Please Note: This screen is only displayed in PC master mode and with the PC offline.

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.8 Timer Start Stop Screen

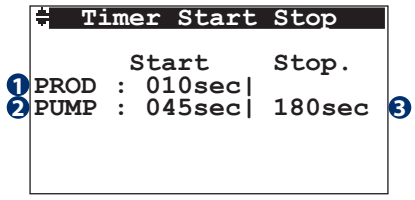
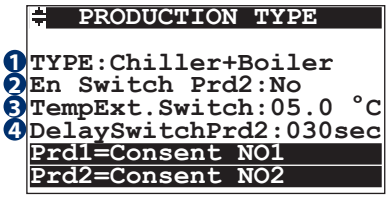


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.7	PRODUCTION FORCE (If in MASTER-PC mode and with the PC offline.)
	1.2.1.2.4.6	S2 SUPERVISOR
↓	1.2.1.2.4.9	PRODUCTION TYPE

Table of variables	
Num	**Description**
1	Delay before activating energy production
2	Daly before activating the system pump
3	Daly before turning off the system pump

1.2.1.2.4.9 Production Type



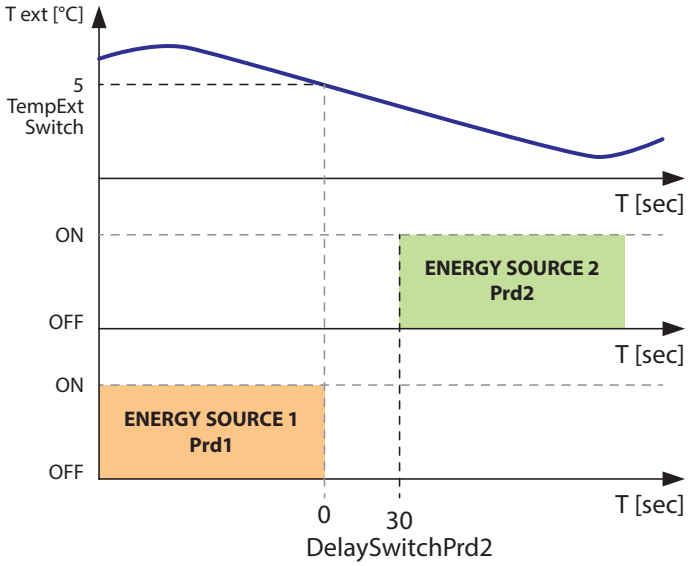


Table of variables	
Num	**Description**
1	Type of energy production: - Chiller + Boiler - Heat pump
2	Enables energy source change (from heat pump to boiler)
3	Outdoor temperature set point below which the energy source change is enabled
4	Delay before activating energy source change

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.8	TIMER START STOP
↓	1.2.1.2.4.10	PRODUCTION X TCALC (if TYPE = Chiller+Caldaia and DelaySwitchPrd2 = No)
	1.2.1.2.4.11	SANITARY FUNCTION

1.2.1.2.4.10 Production X TCalc

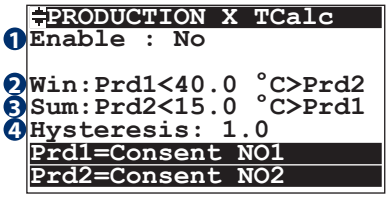
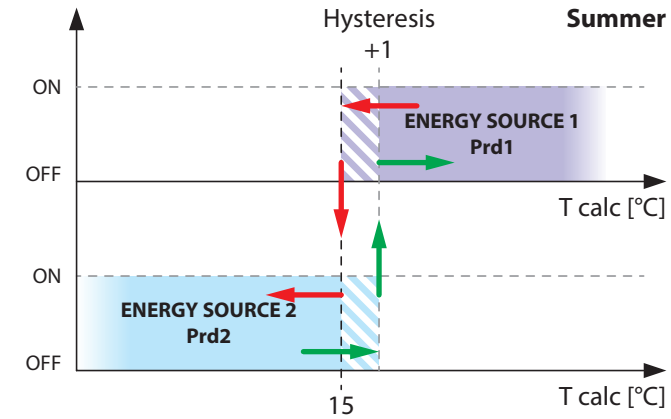
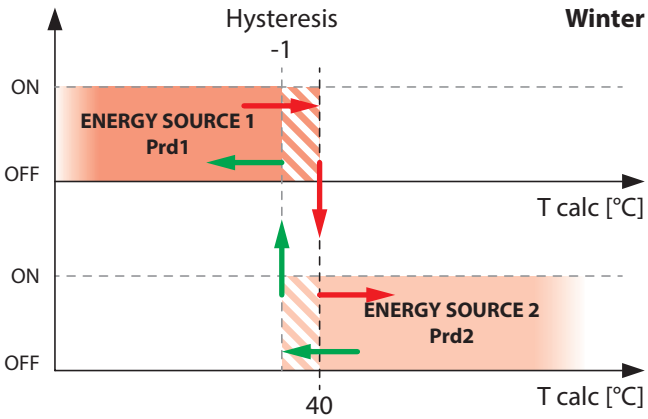


Table of variables	
Num	**Description**
1	Switch energy source according to the calculated supply temperature
2	Winter temperature set calculated for energy source switch
3	Summer temperature set calculated for energy source switch
4	Hysteresis on the set valuer for energy source switch

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.9	PRODUCTION TYPE
↓	1.2.1.2.4.11	SANITARY FUNCTION





1.2.1.2.4.11 SANITARY SYSTEM FUNCTION SCREEN

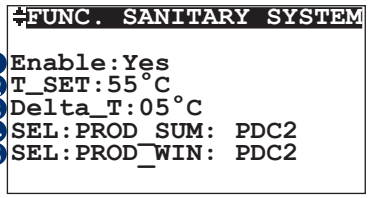


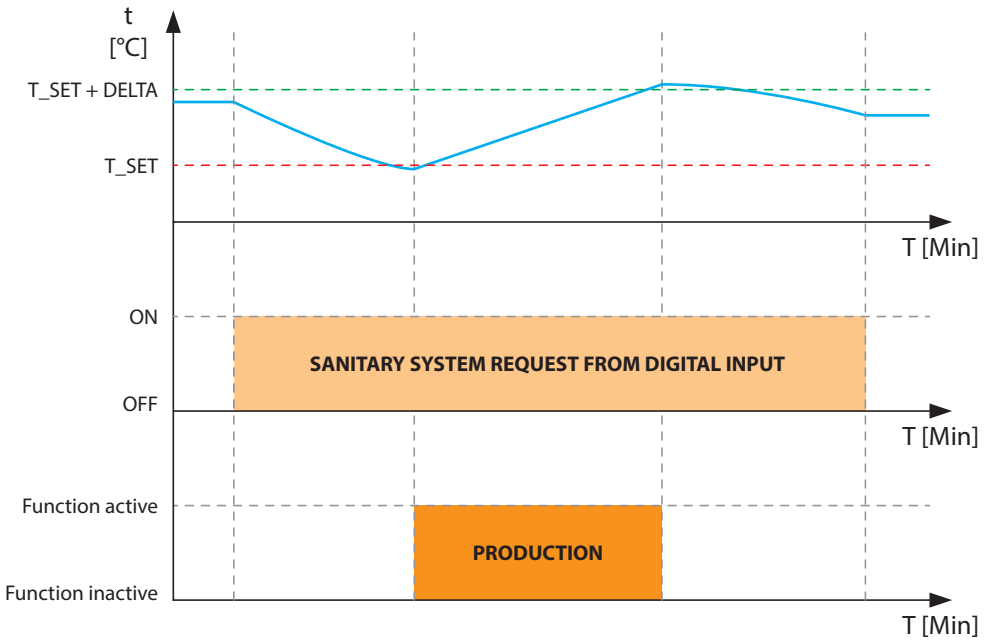
Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.10	PRODUCTION X TCALC (if TYPE = Chiller+Caldaia and DelaySwitchPrd2 = No)
	1.2.1.2.4.9	PRODUCTION TYPE
↓	1.2.1.2.4.12	INTEGRATION FUNCTION

Table of variables	
Num	**Description**
1	Enables sanitary system function
2	Set sanitary system temperature for production activation
3	Delta of temperature from the set point for production deactivation
4	Selects the energy source to start domestic water function in summer
5	Selects the energy source to start domestic water function in winter

This function allows the activation of an output on the master control unit (DO4) to activate a possible heat source (secondary boiler, electrical resistance, etc.). The output is enabled if:

- the function is enabled
- the accumulation temperature (read from the temperature sensor connected to the B4 analogue input) is less than the value set in the parameter T_SET
- there is an external request from a remote digital input (settable from the user interface)

The graph below shows the type of sanitary system function.



The parameters SEL_PROD_EST and SEL_PROD_INV control which type of energy sources can be selected and activated for the domestic water in summer and winter. Five different options are available:

1. N.U. (Not used),
2. Chiller/PDC1 (heat pump1) for N01 output,
3. Boiler for N02 output,
4. Prod (Production) for N01 output in case PDC (heat pump) is enabled with or without enabling production change when outdoor temperature is higher then the change set value. In case of lower temperature than the change set value, N02 output will be activated
5. PDC2 (heat pump2) for N05 output.

1.2.1.2.4.12 *Integration Function Screen*

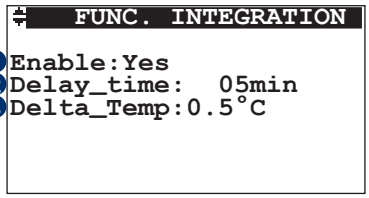


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.11	SANITARY FUNCTION
↓	1.2.1.2.4.13	ALTERNATING

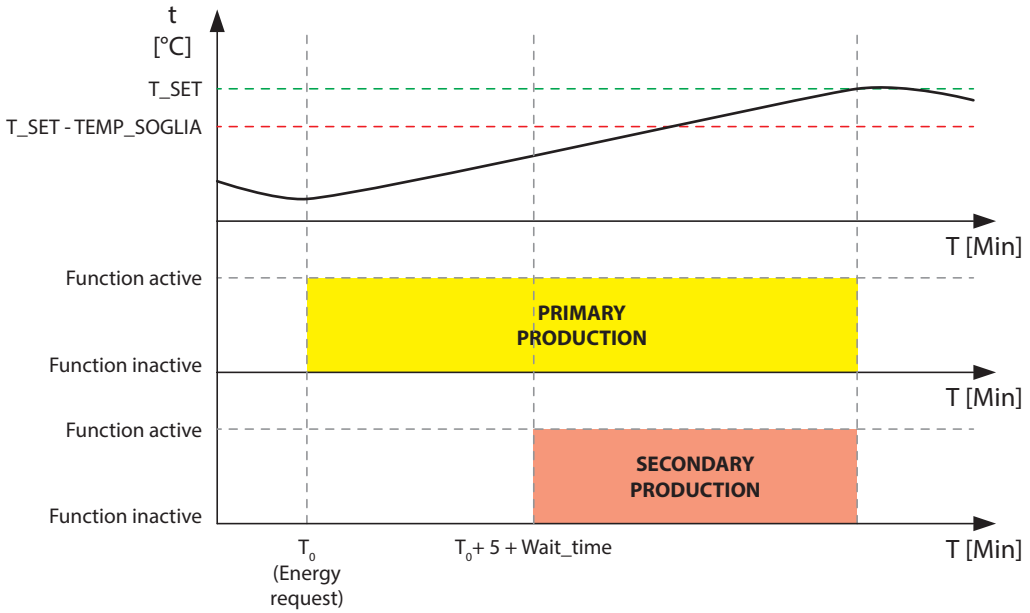
Table of variables	
Num	**Description**
❶	Enables integration function
❷	Delay time before starting production from the second energy source
❸	Temperature delta between the temperature detected and the set point for which the integration function is activated

This function allows a second heat pump to be activated if the first one does not satisfy the energy needs during the set period. The output is enabled if:

- the function is enabled
- the temperature detected does not reach at least the set threshold for the set temperature within a certain time period

Please Note: When the production request is activated, the system waits 5 minutes before performing the temperature check, after which, if conditions require energy from the second source, the countdown starts for the delay time set by the user. If after this further delay the temperature detected has not reached the range between the threshold delta and the set point, production is activated from the second energy source.

The graph below shows the type of integration function in the winter season.



1.2.1.2.4.13 ALTERNATING FUNCTION SCREEN

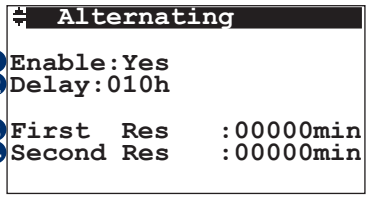


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.12	INTEGRATION FUNCTION
↓	1.2.1.2.4.14	MASTER.NET CONFIGURATION

Table of variables	
Num	**Description**
1	Enable alternating
2	Delay time for performing the energy source change
3	Operating time of the first source from the last change
4	Operating time of the second source from the last change

This function can only be used when there are 2 equal machines (2 chillers, 2 boilers or 2 heat pumps) that supply energy to the system. The objective is to alternate use of the machines during their operating period so that the wear is the same for both.
This usage "exchange" is activated if:

- the function is enabled
- The difference between the usage time of one machine and the usage time of another is greater than the "Timer delay" parameter.

EXAMPLE:

- 2 heat pumps
- Delay timer = 5 hours
- First res. = 20 hours (H_{HP1})
- Second res. = 20 hours (H_{HP2})

In this condition, at the first production request, Heat Pump "1" will be activated. Assuming that it runs for 6 hours we find:

- First res. = 26 hours
- Second res. = 20 hours

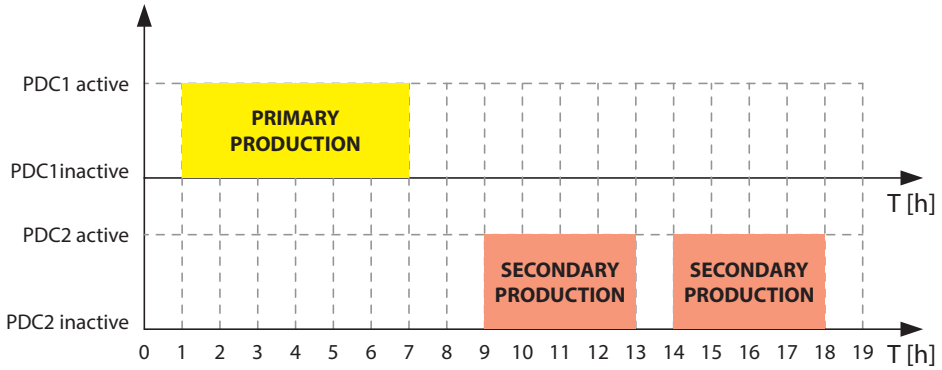
At the next energy request, Heat Pump "2" is activated since $|H_{HP1} - H_{HP2}| > 5$ or the "Timer delay" set point

Let's then assume that the second energy source operates for 4 hours and we find:

- First res. = 26 hours
- Second res. = 24 hours

At the next energy request, Heat Pump "2" is activated again since $|H_{HP1} - H_{HP2}| < 5$

The graph below shows an example of this



1.2.1.2.4.14 MASTER.NET DI CONFIGURATION SCREEN

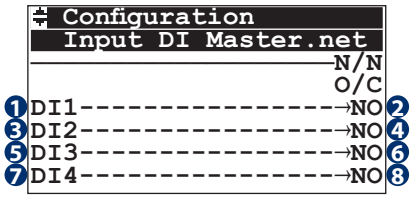


Table of variables	
Num	**Description**
1	Digital input type on DI1
2	DI1 Configuration
3	Digital input type on DI2
4	DI2 Configuration
5	Digital input type on DI3
6	DI3 Configuration
7	Digital input type on DI4
8	DI4 Configuration

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.13	ALTERNATING
↓	1.2.1.2.4.15	ALARM SETTINGS

All of the digital inputs can be set with the following functions:
- Boiler alarm
- Chiller alarm
- Sanitary System
- Remote LT input
- Remote HT input
- General On-Off
- Season

And can be defined as:
- NO - Contact normally open
- NC - Contact normally closed

1.2.1.2.4.15 ALARM SETTING SCREEN

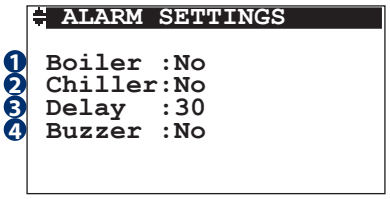


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.14	MASTER CONFIGURATION
↓	1.2.1.2.4.16	TIMER

Table of variables	
Num	**Description**
1	Indicates if the boiler alarm was enabled
2	Indicates if the chiller alarm was enabled
3	Delay time before the first alarm is set off
4	Enables the buzzer in the event of an alarm

1.2.1.2.4.16 TIMER SCREEN

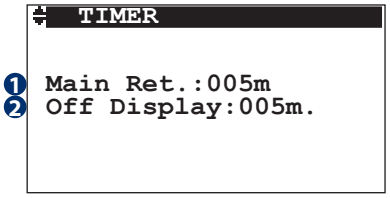


Table of variables	
Num	**Description**
1	Time of non-use of the user interface for automatic return to the main screen
2	Time of non-use of the user interface for automatic shut-off of the backlighting

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.15	ALARM SETTINGS
↓	1.2.1.2.4.17	DELIVERY CALCUL. TYPE (If in MASTER or MASTER-TRIO mode)
	1.2.1.2.4.18	WINTER COMPENSATION

1.2.1.2.4.17 Delivery Calculation Type Screen

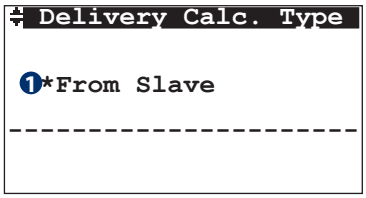


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.16	TIMER
↓	1.2.1.2.4.18	WINTER COMPENSATION

Table of variables	
Num	**Description**
1	Calculation typer for supply water temperature: - FROM SLAVE, the temperatura calculated by the master unit depends on the temperature calculated by the slave unit - OUT.TMP.COMP., the temperatura calculated by the master unit depends on the climatic curve

Please Note: This screen is only displayed in MASTER or MASTER-TRIO mode.

1.2.1.2.4.18 Winter Compensation Screen

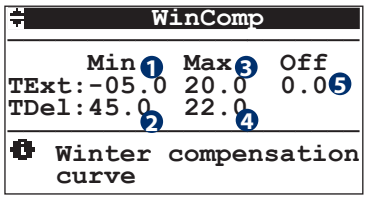


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.17	DELIVERY CALCUL. TYPE (If in MASTER or MASTER-TRIO mode)
	1.2.1.2.4.16	TIMER
↓	1.2.1.2.4.19	SUMMER COMPENSATION

Table of variables	
Num	**Description**
Change the winter compensation curve:	
1	TExt –Min: Min. Outdoor temperature
2	TDel –Min: Min. Supply Water temperature
3	TExt –Max: Max. Outdoor temperature
4	TDel–Max: Max Supply Water temperature
5	Off: Offset (parallel shift for the compensation curve).

1.2.1.2.4.19 Summer Compensation Screen

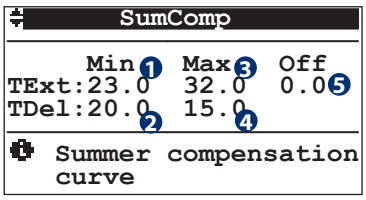


Table of variables	
Num	**Description**
Change the summer compensation curve:	
1	TExt –Min: Min. Outdoor temperature
2	TDel –Min: Min. Supply Water temperature
3	TExt –Max: Max. Outdoor temperature
4	TDel–Max: Max Supply Water temperature
5	Off: Offset (parallel shift for the compensation curve).

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.18	WINTER COMPENSATION
↓	1.2.1.2.4.20	DELIVERY TEMPERATURE (If there is a delivery sensor)
	1.2.1.2.4.22	M-SLAVE COMMUNICATION (Only if in MULTI-MASTER mode)
	1.2.1.2.4.23	PASSWORD

1.2.1.2.4.20 Delivery Temperature Screen

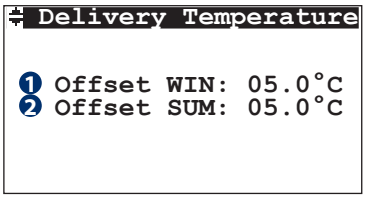


Table of variables	
Num	**Description**
❶	Delivery temperature offset from the maximum requested between all the slave units in the winter season
❷	Delivery temperature offset from the minimum requested between all the slave units in the summer season

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.19	SUMMER COMPENSATION
↓	1.2.1.2.4.21	SET MIX MASTER

Please Note: This screen is only displayed if there is a delivery sensor

1.2.1.2.4.21 Set Mix Master Screen

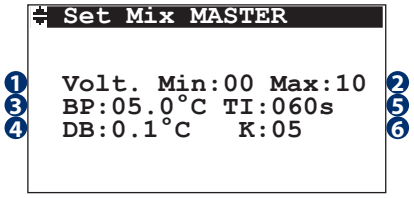


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.20	DELIVERY TEMPERATURE
↓	1.2.1.2.4.22	M-SLAVE COMMUNICATION (Only if in MULTI-MASTER mode)
	1.2.1.2.4.23	PASSWORD

Table of variables	
Num	**Description**
❶	Minimum voltage to supply to the servomotor
❷	Maximum voltage to supply to the servomotor
❸	(min 2 °C- max 10 °C) Proportional band in °C. This value represents the interval within which the mixing valve intervenes by means of a PID logic. Outside of the PB, the mixing valve performs an action equal to 20% of the voltage from signal 0-10.
❹	(min 0 °C- max 2 °C) dead band in °C (band where the mixing valve performs no action).
❺	(min 10sec -max500 sec) Integral Time (PID calculation integration time).
❻	(min 0- max 10) Approach speed towards the calculated temperature.

Please Note: This screen is only displayed if there is a delivery sensor

1.2.1.2.4.22 M-Slave Communication Screen

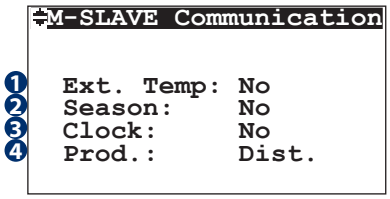


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.19	SUMMER COMPENSATION
	1.2.1.2.4.21	SET MIX MASTER (If there is a delivery sensor)
↓	1.2.1.2.4.23	PASSWORD

Table of variables	
Num	**Description**
❶	Sets the outdoor temperature reading from the sensor on the primary master unit.
❷	Sets the season from the set point on the primary master unit.
❸	Sets the clock on the primary master unit as reference for the secondary master
❹	Sets the production type Dist = Each master unit manages its own production Cent = Production is managed only by the primary master control unit

Please Note:
This screen is only displayed in MULTI-MASTER mode.

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.23 Password Screen

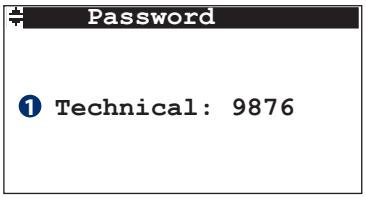


Table of variables	
Num	**Description**
1	Sets the password to access the technical menu

Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.22	M-SLAVE COMMUNICATION (Only if in MULTI-MASTER mode)
	1.2.1.2.4.21	SET MIX MASTER (If there is a delivery sensor)
	1.2.1.2.4.19	SUMMER COMPENSATION
↓	1.2.1.2.4.24	AUTOCONFIGURATION WIZARD (visible if the master type is set on MASTER)
	1.2.1.2.4.25	LANGUAGE

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.24 Autoconfiguration Wizard Screen

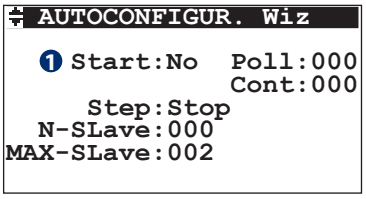


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.23	PASSWORD
↓	1.2.1.2.4.25	LANGUAGE

Table of variables	
Num	**Description**
1	Activates the automatic research of the slave control unit connected to the master

Please Note: This screen is only displayed in MASTER mode.

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.25 Language Screen

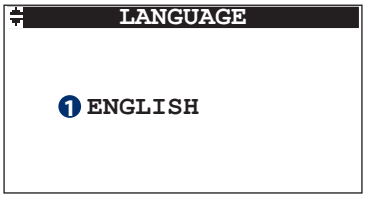


Table of movements		
Key	**Screen**	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.24	AUTOCONFIGURATION WIZARD (visible if the master type is set on MASTER)
	1.2.1.2.4.23	PASSWORD
↓	1.2.1.2.4.26	RESET ALARMS

Table of variables	
Num	**Description**
1	Sets the control unit language

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.26 Reset Alarms Screen

Table of movements		
Key	Screen	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.25	LANGUAGE
↓	1.2.1.2.4.27	RESET TIMER

Table of variables	
Num	Description
1	Resets the alarms on all of the slave units
2	Resets the alarms on the master unit

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.27 Reset Timer Screen

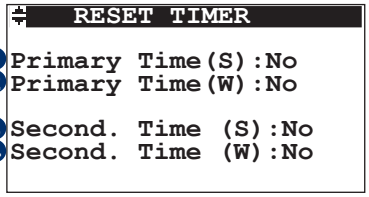


Table of movements		
Key	Screen	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.26	RESET ALARMS
↓	1.2.1.2.4.28	DEFAULT LOAD

Table of variables	
Num	Description
1	Resets the primary source timer in summer operation
2	Resets the primary source timer in winter operation
3	Resets the secondary source timer in summer operation
4	Resets the secondary source timer in winter operation

Address 1 Menu / 1.2 Technical Menu - Password / 1.2.1 Technical Menu / 1.2.1.2 Settings / 1.2.1.2.4 General

1.2.1.2.4.28 Default Load Screen

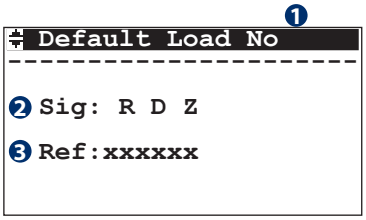


Table of variables	
Num	Description
1	Activates the loading of the default data
2	Manufacturer Name
3	Control unit reference order

Table of movements		
Key	Screen	
Esc	1.2.1.2	SETTINGS
↑	1.2.1.2.4.27	RESET TIMER
↓	1.2.1.2.4.1	MASTER TYPE

1.2.1.3.1 Synoptics Relay Screen

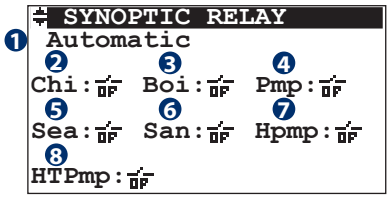


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑ / ↓	1.2.1.3.2	GENERAL MIX

Table of variables	
Num	**Description**
1	Enables or disables synoptics management by the user
2	Chiller relay
3	Boiler relay
4	System pump relay
5	Season relay
6	Sanitary relay
7	Secondary heat source relay
8	High temperature pump relay

1.2.1.3.2 General Mix Screen

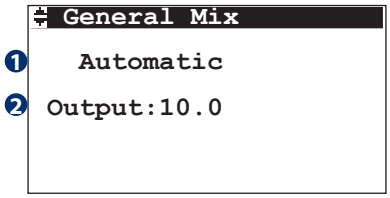
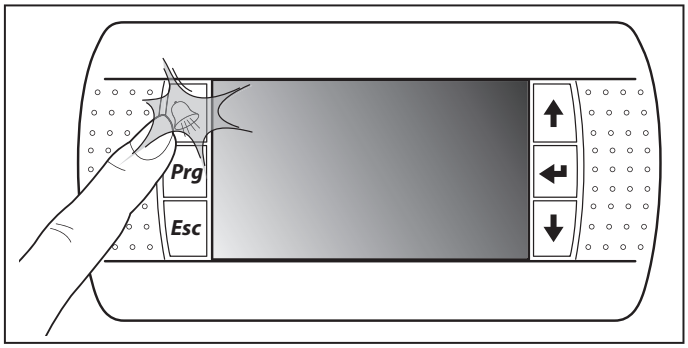


Table of movements		
Key	**Screen**	
Esc	1.2.1	TECHNICAL MENU
↑ / ↓	1.2.1.3.1	SYNOPTIC RELAY

Table of variables	
Num	**Description**
1	Enables or disables synoptics management by the user
2	Analogue output voltage 0-10

Troubleshooting

The red backlight on the **"Alarm"** button indicates that the control unit has detected a system failure or malfunction.
To display them, press the **"Alarm"** button: once pressed, the screen will display all the information regarding the error.
In the event of several errors, you can scroll through them using the **UP-DOWN** buttons.
To return to the control unit menu, press the **"Alarm"** button again.

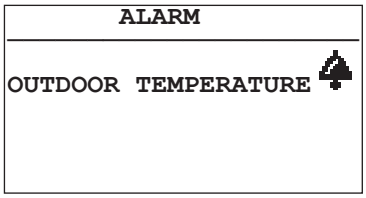


The following page lists the possible alarms:

PLEASE NOTE: If the problem is resolved, the error will no longer be displayed when you access the alarm screens again. If everything in the control unit is working properly and you press the "Alarm" button, the screen indicating that there is no ongoing alarm will appear.

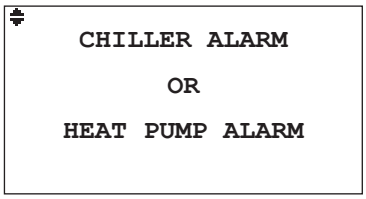
Table F - Alarms

1) OUTDOOR SENSOR ALARM



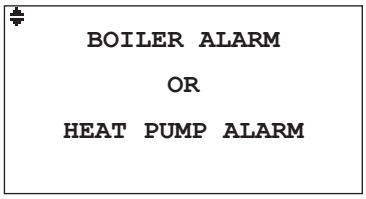
The outdoor temperature sensor is faulty or disconnected
PLEASE NOTE: the system will continue to function, simulating an outdoor temperature of 5°C during the winter and 30 °C during the summer.

2) CHILLER / HEAT PUMP ALARM:



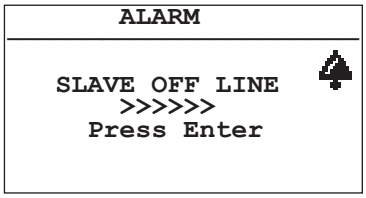
Chiller / Heat pump lock (Summer season).
All the systems are disabled.

3) BOILER / HEAT PUMP ALARM

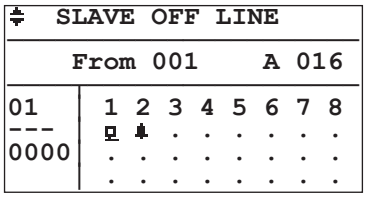


Boiler / Heat pump lock (Winter season).
All the systems are disabled.

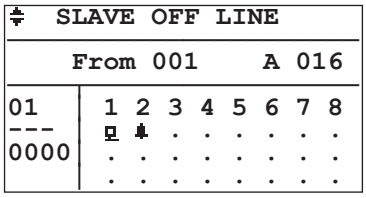
4) SLAVE OFFLINE ALARM



This screen shows that at least one slave control unit is offline (is no longer communicating with the master)

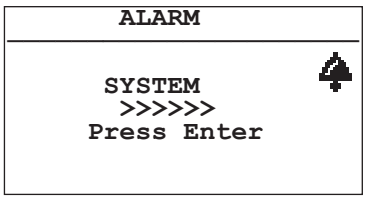


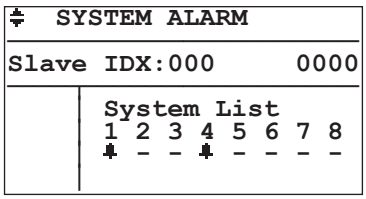
MASTER or MASTER-PC
This screen displays the status of the slave control unit in comparison to the master:
- ▣ = Online
- ♟ = Offline
- . = Not present / not configured



MASTER-TRIO
This screen displays the status of the slave control unit in comparison to the master:
- ▣ = Online
- ♟ = Offline
- . = Not present / not configured

5) SYSTEM OFFLINE ALARM

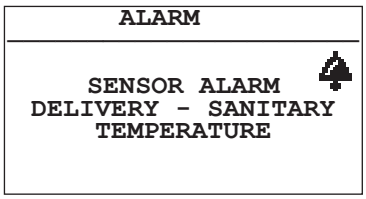




The left screen shows that at least one system is alarming (faulty delivery sensor)

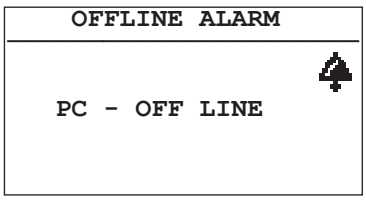
The right screen shows which system of the selected slave is faulty.
♟ = System is in alarm status

6) SANITARY DELIVERY SENSOR ALARM



Indicates that the sanitary delivery temperature sensor is faulty or disconnected

7) PC OFFLINE ALARM



Indicates that the PC (MASTER-PC mode) is offline in relation to the master control unit

DATA TABLES

DEFAULT VALUES

GENERAL CT			
NAME	**Description**	**Value**	**U.M.**
Main System	General: If OFF, no function is activated	OFF	-

SEASON			
NAME	**Description**	**Value**	**U.M.**
Season	Control unit operation for summer or winter logic	Winter	-

COMMUNICATION			
NAME	**Description**	**Value**	**U.M.**
OffLine Rec. Time	Delay time between attempts	60	msec
Retry Number	Number of attempts	3	-
Time Out SL	Requested delay time	500	msec
Time Alarm SL	Alarm delay time	120	sec

SLAVE UNIT			
NAME	**Description**	**Value**	**U.M.**
Max Ui	Maximum number of slave control units configured	2	No.
Present	Primary control unit/slave active	Yes	-
Present	Secondary control unit/slave active	Yes	-

S0 SUPERVISOR			
NAME	**Description**	**Value**	**U.M.**
Ident. No.	Master unit address	1	No.
Speed	Data transmission speed	19200	bps
Prot	Communication protocol used	pLan	-

S1 SUPERVISOR			
NAME	**Description**	**Value**	**U.M.**
Ident. No.	Master unit address	1	No.
Speed	Data transmission speed	19200	bps
Prot	Communication protocol used	ModBusExt	-

S2 SUPERVISOR			
NAME	**Description**	**Value**	**U.M.**
Ident. No.	Master unit address	1	No.
Speed	Data transmission speed	19200	bps
Prot	Communication protocol used	MASTER 485	-

MASTER TYPE			
NAME	**Description**	**Value**	**U.M.**
Master Device	Indicates the configuration of the control unit	WI-Master	-
T.M.	T.M. communication parameter: Old / New. IT MUST NOT BE MODIFIED	-	-
Time OffLine	Delay time before declaring the PC offline	5	min

PRODUCTION			
NAME	**Description**	**Value**	**U.M.**
Type	Heat source type (Chiller + Boiler or Heat pump)	Chiller + Boiler	-
En.SwitchProd	Enable heat source change (if present) for low outdoor temperatures	NO	-
Temp. Switch	Minimum temperature for activating the switch with the secondary energy source	10	°C
Start Prod	Production start time after the energy request	10	sec
Start Pump	Pump start time after the energy request	45	sec
Shut-off Pump	Pump shut-off time after have fulfilled the energy request	180	sec

SANITARY FUNCTION			
NAME	**Description**	**Value**	**U.M.**
Enable	Enable function	NO	
T_set	Setpoint temperature	55	°C
delta_T	Temperature variation		
SEL:PROD_SUM	Selects the energy source to start domestic water function in summer		
SEL:PROD_WIN	Selects the energy source to start domestic water function in winter	5	°C

INTEGRATION FUNCTION			
NAME	**Description**	**Value**	**U.M.**
Enable	Enable function	NO	
Delay	Delay	5	min
Temp. Threshold	Threshold temperature	0,5	°C

ALTERNATING FUNCTION			
NAME	**Description**	**Value**	**U.M.**
Enable	Enable function	NO	
Delay timer	time beyond with the production source change is performed	10	hours

DIGITAL INPUTS			
NAME	**Description**	**Value**	**U.M.**
DI1	Digital input 1	-	-
DI2	Digital input 2	-	-
DI3	Digital input 3	-	-
DI4	Digital input 4	-	-

ENABLE ALARMS			
NAME	**Description**	**Value**	**U.M.**
Delay	Delay time before setting off the alarms	30	sec
Buzzer	Enable buzzer	NO	-

TIMER			
NAME	**Description**	**Value**	**U.M.**
Main Delay	Delay time before automatically returning to the main screen	5	min
Switch-off Display	Delay time before the display lighting turns off	5	min

DELIVERY TEMPERATURE			
NAME	**Description**	**Value**	**U.M.**
Offset Win	Delivery temperature offset in winter	5	°C
Offset Sum	Delivery temperature offset in summer	5	°C

MIXING VALVE			
NAME	**Description**	**Value**	**U.M.**
Minimum Volt.	Minimum voltage for the mixing valve	0	V
Max volt.	Maximum voltage for the mixing valve	10	V
PB	Proportional band	5	°C
IT	Integration time	30	sec
DB	Dead band	0,4	°C
K	Approach sensitivity	5	-

PASSWORD			
NAME	**Description**	**Value**	**U.M.**
Technical	Password configuration	9876	-

LANGUAGE			
NAME	**Description**	**Value**	**U.M.**
Language	Language configuration	Italian	-

I/O BOARD SUMMARISING CONFIGURATION

This table summarises the descriptions of the inputs and outputs and includes a brief description of their function.

INPUT/OUTPUT BOARD **WI-Master**

CONNECTOR	DEFAULT CONTACT	DESCRIPTION
Digital inputs		
DI1 - GND	Configurable	• ***Chiller alarm*** • ***Boiler alarm*** • ***LT request*** • ***HT request*** • ***Sanitary System*** • ***General On-Off*** • ***Season***
DI2 - GND	Configurable	
B7- GND	Configurable	
B8- GND	Configurable	
Analogue inputs		
B6- GND	Outdoor temperature	***Outdoor temperature sensor***
B5- GND	Delivery temperature	***Delivery temperature sensor***
B4- GND	Sanitary temperature	***Sanitary system delivery temperature sensor***
Digital outputs		
NO1 - C1	Chiller or Heat pump	***Energy production activation***
NO2 - C2	Boiler or second energy source	***Energy production activation***
NO3 - C3	Main pump	***Main pump activation***
NO4 - C3	Sanitary System	***Sanitary system pump activation***
NO5 - C3	HP2	***Secondary heat pump activation***
NO6 - C3	HT Pump	***High temperature pump activation***
NO7 - C3	Season	***Contact by season:*** ***- open = winter*** ***- closed = summer***
Analogue outputs		
Y2 - GND	Mixing valve	***Analogue output for 0-10V mixing valve***

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