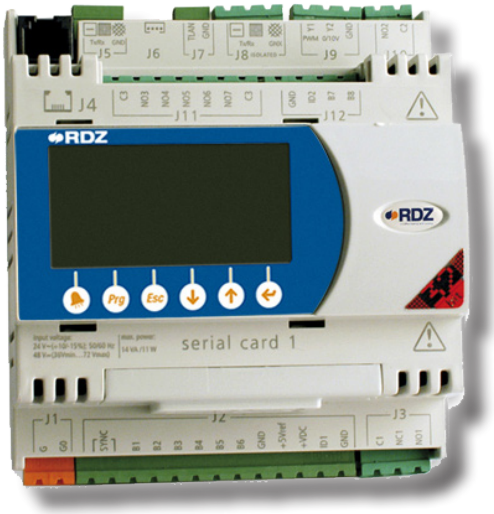
Regulation

RDZ
You Feel, We Care

WI-SA CONTROL UNIT TECHNICAL MENU

VERSIONE 2.4

Electronic regulation unit



TECHNICAL / INSTALLATION MANUAL

SAFETY WARNINGS

SAFETY WARNINGS

Carefully read this booklet before starting and/or using the appliance and keep it in an easily accessible place .

Contact the manufacturer's technical office at the numbers indicated at the back of this booklet for consultancy or special technical requests.

- **WARNING**
  Installation and maintenance must be carried out only by qualified personnel or else the guarantee will be void.

- Use only original spare parts: Failure to comply with this instruction will make the guarantee void

DISPOSAL

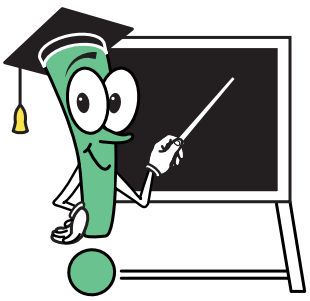
According to the provisions of the following European directives 2011/65/EU, 2012/19/EU, and 2003/108/CE, concerning the restriction of the use of certain hazardous substances in electrical and electronic equipment, as well as waste disposal.

The crossed out wheelie bins symbol on the equipment indicates that, at the end of its useful life, the product must be collected separately from general waste.
Therefore, at the end of its useful life, the user must take the equipment to a designated electrical and electronic waste collection point , or return it to the dealer that, against the purchase of an equivalent appliance, it is obliged to collect the product for disposal free of charge.
Appropriate differentiated waste collection for subsequent recycling, treatment and environment-friendly disposal of the discarded equipment helps preventing possible negative environmental and health effects and encourages recycling of the component materials of the equipment.
Illegal disposal of the product by the user entails the application of sanctions provided by the regulations in force.

CONTENTS

PRESENTATION

Electronic controller devised to manage heating and cooling with independent production.
At its maximum expansion it can manage:
8 mixing systems (with analog servo motor)
64 zones with temperature and humidity sensor
64 total calls for dehumidification and integration
8 air handling units with dehumidification
+ ventilation + air renewal + integration functions.
External contact for low-temperature request
External contact for high-temperature request



Moreover, it can be used in the following operating modes:

- **AUTONOMOUS MODE:** to be installed on systems with independent power production.
- **SLAVE MODE:** to be installed on systems with centralised power production. This configuration provides for the use of the MASTER.NET control unit.

Characterised by three values of the following meaning: **WI - SA xxyy - a**

Key:
xx: number of mixing systems **<=8**
yy: number of controlled zones: each one having independent temperature and humidity controls **<=64**
a.: number of controlled air handling units (dehumidification, ventilation, air renewal and, integration) **<=8**

The WI project includes 2 product families:
WI-SA: stand-alone controller
WI.NET:control system with centralised energy production (through "Bus.**NET**").

The illustrated manual describes all the possible operating modes.
NB: According to the configuration, the control unit can inhibit the display of some screens, since they do not have any meaning for that particular configuration.

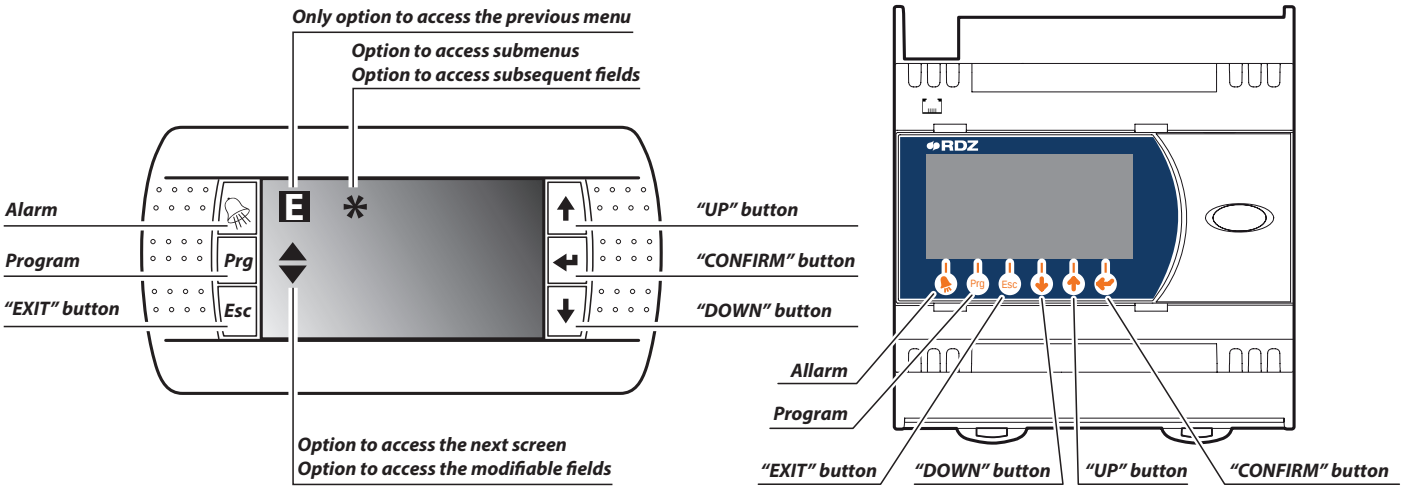
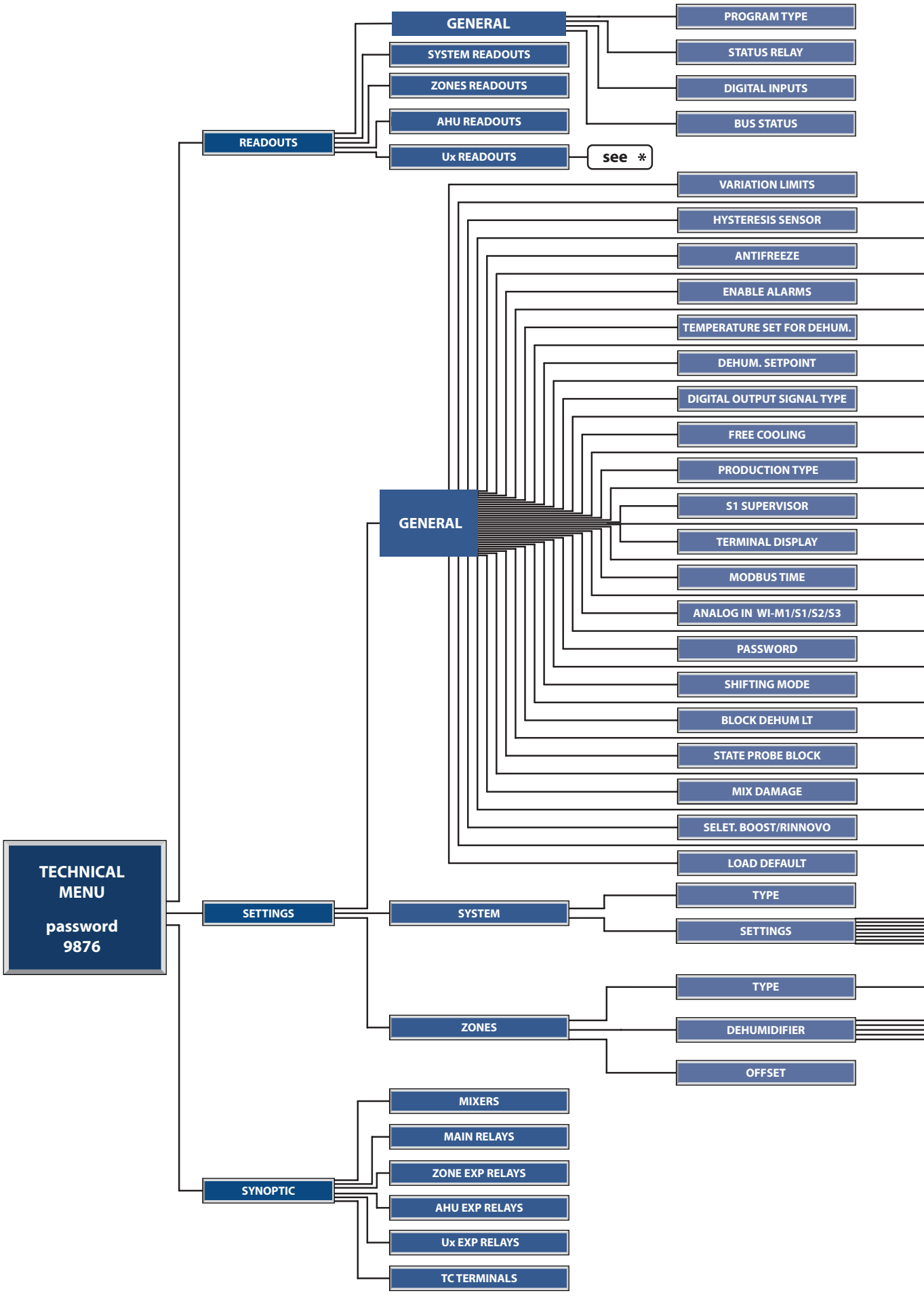


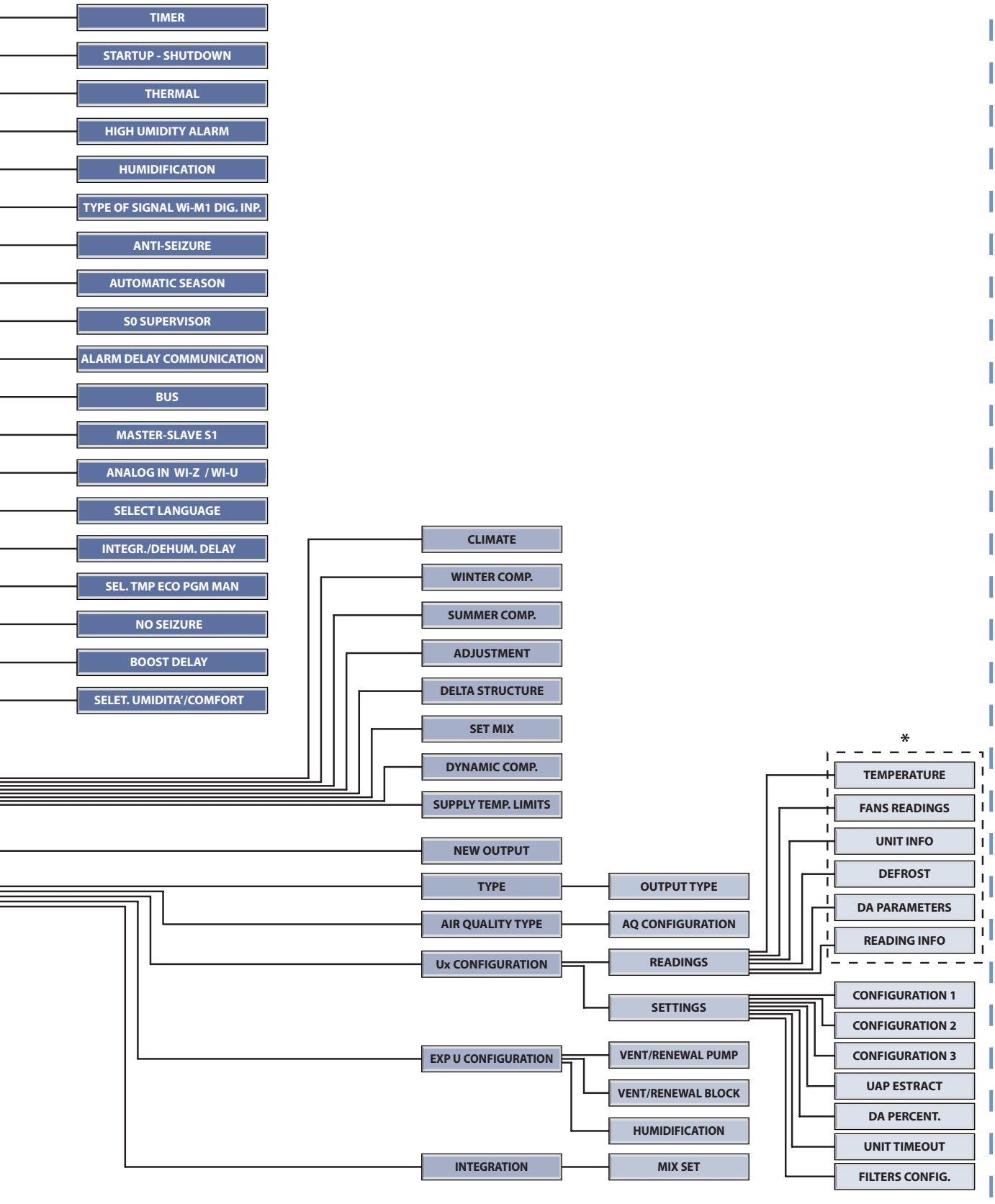
Table A - FLASHING SYMBOLS		
MOVING ICONS		
When the mouse cursor is blinking...	**Pressing the button...**	**What happens is...**
⇳	↓ or ↑	You can access the **previous or following** screen
	↵	you can access **modifiable fields** within the current screen
E	Esc	you can go back to the **previous** menu
✱	↓ or ↑	You can access the following field (where present)
	↵	you can access the **sub menus**
VALUE FIELDS		
example: 24°C	↓ or ↑	You can increase/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 - BUTTON FUNCTIONS			
Button	**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.		
	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		
	The "ESC" button takes you back to the previous menu without saving possible values that have been modified		
Button	**Moving icon function**	**Text field function (e.g.: ON/OFF)**	**Value field function (e.g.: 24.0°C)**
	When the cursor ✻ blinks, it allows accessing the subsequent fields (where present) When the cursor ▲▼ blinks, it takes you back 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 ✻ blinks, it allows accessing the submenus When the cursor ▲▼ blinks, it allows accessing the fields to be modified in the screen	It allows confirming the value expressed by the text and proceeding to the next field	It allows confirming the value and proceeding to the following field.
	When the cursor ✻ blinks, it allows accessing the subsequent fields (where present) When the cursor ▲▼ blinks, it takes you to the following 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 "23°C")

Table - BUTTON COMBINATION FUNCTION			
BUTTON COMBINATION	**ACTIVATION**	**FUNCTION**	**HARDWARE**
	Upon start-up and during operation	Backlight control (increases contrast)	UI/E
	Upon start-up and during operation	Backlight control (decreases contrast)	UI/E
	Upon start-up and during operation	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

SUMMARY OVERVIEW OF THE SCREENS



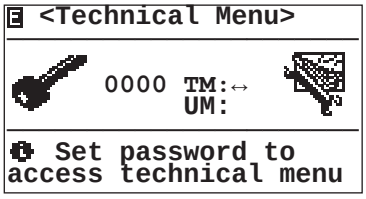

TIMER
STARTUP - SHUTDOWN
THERMAL
HIGH UMIDITY ALARM
HUMIDIFICATION
TYPE OF SIGNAL Wi-M1 DIG. INP.
ANTI-SEIZURE
AUTOMATIC SEASON
S0 SUPERVISOR
ALARM DELAY COMMUNICATION
BUS
MASTER-SLAVE S1
ANALOG IN WI-Z / WI-U
SELECT LANGUAGE
INTEGR./DEHUM. DELAY
SEL. TMP ECO PGM MAN
NO SEIZURE
BOOST DELAY
SELET. UMIDITA'/COMFORT
CLIMATE
WINTER COMP.
SUMMER COMP.
ADJUSTMENT
DELTA STRUCTURE
SET MIX
DYNAMIC COMP.
SUPPLY TEMP. LIMITS
NEW OUTPUT
TYPE
AIR QUALITY TYPE
Ux CONFIGURATION
EXP U CONFIGURATION
INTEGRATION
OUTPUT TYPE
AQ CONFIGURATION
READINGS
SETTINGS
VENT/RENEWAL PUMP
VENT/RENEWAL BLOCK
HUMIDIFICATION
MIX SET
*
TEMPERATURE
FANS READINGS
UNIT INFO
DEFROST
DA PARAMETERS
READING INFO
CONFIGURATION 1
CONFIGURATION 2
CONFIGURATION 3
UAP ESTRACT
DA PERCENT.
UNIT TIMEOUT
FILTERS CONFIG.

FUNCTIONAL OVERVIEW OF THE SCREENS

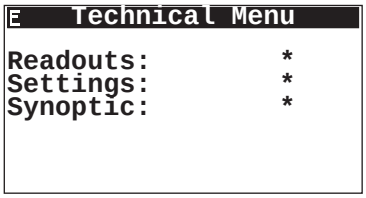
TECHNICAL MENU

TECHNICAL MENU

ACCESS THE PASSWORD PROTECTED MENU 9876
(READOUTS/SETTINGS/SYNOPTIC MENU)
Read set values
Change settings



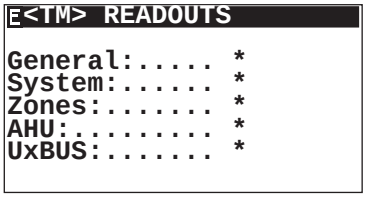
CHOOSE TO
Read set values
Change settings
Access the synoptic men



READOUTS

READOUTS

READ PARAMETERS PERTAINING TO GENERAL FEATURES, CONTROL UNIT, SYSTEM, ZONES, AHU



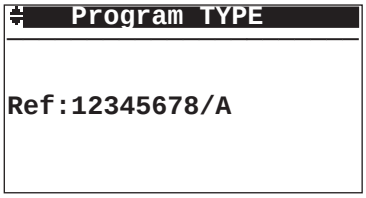
READOUTS \ GENERAL

READOUTS/GENERAL

GENERAL

PROGRAM TYPE

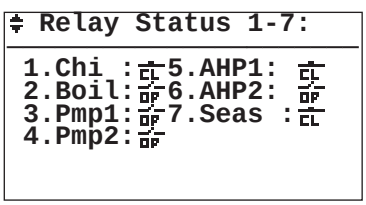
Read the type of control unit program and reference to the production order.



RELAY STATUS

Read the status of the digital outputs:
- **1. Chi:** Chiller
- **2. Boil:** Boiler
- **3. Pmp1:** System Pump 1
- **4. Pmp2:** System Pump 2
- **5. AHP1:** AHU Pump 1
- **6. AHP2:** AHU Pump 2
- **7. Seas.:** Season

OP means that the relay is "Open"
CL means that the relay is "Closed"



DIGITAL INPUTS

Read the status of the digital inputs.
These are numbered as referred to on the plastic chassis of the electronic board.
CL refers to closed digital input
OP refers to open digital input

```
DIGITAL INPUTS
 WI-M1      Exp WI-M1
 1:OP        5:CL
 2:OP        6:CL
 3:OP        7:CL
 4:OP        8:CL
```

BUS STATUS

Read the BUS status
Possible sensor offline alarms are shown in a single screen divided into 4 groups: The first 16 (1..16), the second 16 (17..32), the third 16 (33..48), the fourth 16 (49..64).
0 indicates the absence of alarms. The number 65280, for instance, corresponds to the binary sequence 1111111100000000 and indicates that sensors 9, 10, …, 16 (or 25, 26, …, 32) are in off-line alarm status.

```
BUS STATUS
  00000          00000
 AllOffLineZoneExp
1..16          17..32
00000          00000
33..48         49..64
00000          00000
```


READOUTS

SYSTEM READOUTS

Read the status of the system reading parameters pertaining to the mixing valve and production activation

```
SYS[1]››› SYS[8]
SYS[1]    Mix: 00.2V

Pmp:On    Ext: 27.6°C
Prd:On    Del: 20.8°C
Mix:On    Cal: 19.4°C

Max dew point: 14.6
         Zone: 01
```

ZONES READOUTS

Read the temperature/humidity measured through their respective dew point set values
T D P R : Activating the zone functionality
Tmp: Detected value - Calculated value (temperature)
Hum: Detected value - Calculated value (humidity)
DP: Dew Point

```
ZONE_1››› ZONE_64
ZONE 1    T D P R
 Wi-IHT
Tmp:24.2°C-24.0°C
Hum:55.0% -  75%
 DP:14.6
```

AHU READOUTS

Read the values pertaining to the AHU duct sensors
Start-up status [**D:** Dehumidification / **U:** Humidification / **V:** Ventilation / **R:** Air renewal]
: Activated/Deactivated system pump
: Activated/Deactivated integration
En.Mix: Enable mixing calculation
Man: Value detected by the duct sensor
Calc: Calculated mixing temperature
Out: Mixing output value
Mix: Opening % of the mixing valve
En.CO2: Air quality sensor
CO2: CO2 % value detected by the duct sensor
QA-Bad: Too much CO2 in the air
Set: Threshold for the quality of clean air

```
AHU[1]››› AHU[8]
AHU[1]  AHU Readouts
           D P R
En.Mix:No
 Del:53.7°C Out:00.0 V
 Cal:22.0°C Mix:000  %
En.CO2:No  QA-Bad:No
CO2:000 %  % Set:30.0%
```

READOUTS

UxBUS READOUTS

Read the UxBUS values

Readings: Log on to the reading windows of the selected UxBUS, for detailed info see: *[Technical Menu/Settings/Areas/Dehumidifier/Configure UxBUS/Readings].*
Settings: Log on to the settings windows of the selected UxBUS, for detailed info see: *[Technical Menu/Settings/Areas/Dehumidifier/Configure UxBUS/Settings].*
CO2: Displays the value of Co2 (with probe AQ present)

UxBUS_1 ››› UxBUS_8

```
UxBUS_01     UC11
Readings:     :  *
Settings:     :  *
CO2           : 26.8%
-             Id-01
Ver.: 000  Rev. 0000
```

SETTINGS

SETTINGS

CHANGE SETTINGS:
GENERAL, SYSTEM, ZONE SETTINGS

```
<TM> SETTINGS
General:      *
System:       *
Zones:        *
```

SETTINGS \ GENERAL

SETTINGS / GENERAL

GENERAL

VARIATION LIMITS

Set the temperature and humidity setpoint
Higher and lower margins, according to the season, within which the user can set the temperature and humidity setpoints.

SETPOINT LIMIT PARAMETERS
low: Lowest setpoint value (winter temperature and summer temperature/humidity).
high: Highest setpoint value (winter temperature and summer temperature/humidity).

```
VARIATION LIMITS
     winter summer
      tmp    tmp   Hum
low   12.0   14.0  40
up    30.0   30.0  75
max. and min. set
```

TIMER

Set the timer for returning to the main screen and turning off the backlight. These values represent the user inactivity time (no button pressed).

TIMER PARAMETERS
Back to Main: Minutes of user inactivity after which you return to the main starting screen.
Display off: Minutes of user inactivity after which the display backlight will turn off.

```
TIMER
Return main:005min.
Display Off:005min.
Display inactivity
```

HYSTERESIS SENSOR

Set the type of hysteresis (on and off) regarding temperature and dehumidification.

SENSOR HYSTERESIS PARAMETERS
These parameters configure the switch-on and switch-off modes of the zone outputs and the dehumidifier contact.
You can set the following parameters:
Hysteresis Tmp: Zone output switch-on and switch-off hysteresis according to the temperature setpoint.
DewPoint: Zone output switch-on and switch-off hysteresis according to the dewpoint.
Hysteresis Hum: Dehumidification switch-on and switch-off hysteresis according to the humidity setpoint.

```
SENSOR HYSTERESIS
Temperature:A.A  °C
   DewPoint:A.A  °C
   Humidity:  A  %
     Parameters
  Start/stop logics
```

STARTUP - SHUTDOWN

Set the activation time for production (PROD: Chiller, Boiler,Heat Pump) and for the activation and switch-off of the system PUMP.

START-UP AND SWITCH-OFF PARAMETERS

You can set the following parameters:

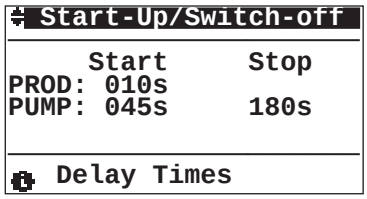
PROD:

Start-up: Seconds of delay upon start-up after production request.

PUMP:

Start-up: Seconds of delay upon start-up after production request.

Switch-off: Seconds of forced activation following the suspension of the production request.



ANTIFREEZE

Set activation temperature for the ANTIFREEZE function and the operating hysteresis.

Tmp: Minimum room temperature to activate zone input and energy generation.

Hys.: Minimum hysteresis minima to swith off the operation.

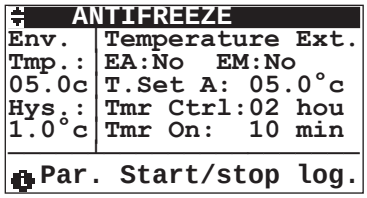
EA: enables/disables the defrost operation according to the outdoor temperature (it activates the energy generation).

EM: enables/disables the defrost operation also for the system pump and for the mixing valves.

T.Set A: selects the activation temperature for the defrosting mode according to the outside temperature.

Tmr Ctrl: time duration between two consecutive temperature control operations for the defrosting function.

Tmr ON: activation time for the generation controls and optionally for the pumps as well as the mixing valves to carry out the defrosting function. (between 1 and 15 minutes)



THERMAL

Vary the parameters of the "Thermal" function

Enable: enables the THERMAL function.

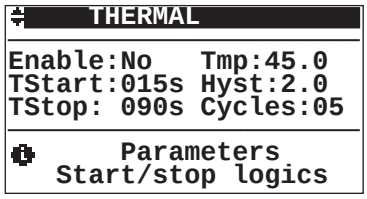
Tmp: Thermal function activation temperature.

Hyst: Start-up switch function hysteresis.

Tstart: System pump activation time.

Tstop : Delay between cycles.

Cycles: Number of cycles that can be activated before the alarm locks the function.



ENABLE ALARMS

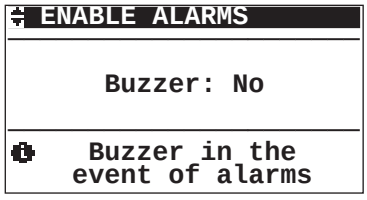
Enable the buzzer in the event of alarms

ALARM ENABLING PARAMETERS

Alarm buzzer enabling

No: the buzzer does not set off

Yes: The buzzer sets off in the event of an alarm



HIGH HUMIDITY ALARM

Enable the high humidity alarm

If the alarm is enabled, all sensors (which exceed the dewpoint set value during SUMMER for a period longer than the specified minutes of delay) are turned OFF while signalising the humidity alarm.

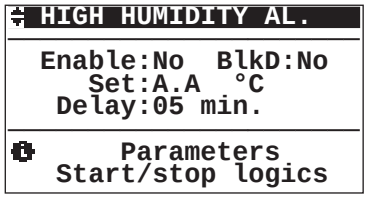
PARAMETERS HIGH HUMIDITY ALARM

Enable: Enabling the alarm (YES/NO).

BlkD: Enabling the dehumidifier shutdown in case of active alarm (YES/NO).

Set: besides the threshold which triggers the alarm.

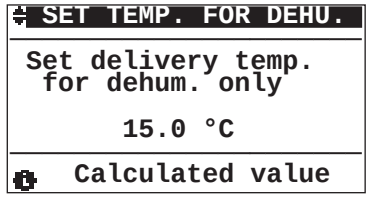
Delay: Minimum time to wait before signalising the alarm and turning off the zone.



SET TEMPERATURE FOR DEHUMIDIFICATION

Set the delivery temperature in "dehumidification only" mode

During SUMMER, in the event a system receives only dehumidification requests, the setpoint configured here will be used as the calculated system temperature value. The normal compensation line is excluded.

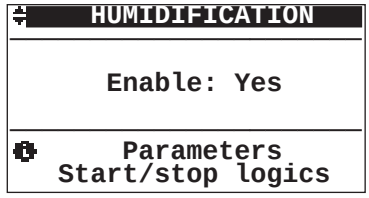


ENABLE HUMIDIFICATION

Enable the humidification function (winter)

HUMIDIFICATION PARAMETER

Enable humidification function

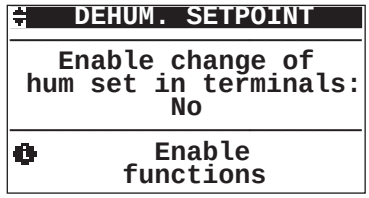


DEHUMIDIFICATION SETPOINT

Enable the option to change the humidity setpoint from BUS terminal

DEHUMIDIFICATION SETPOINT PARAMETER

Allows enabling/disabling the option to change the **Humidity Setpoint** from Wi-TT / Wi-TC.



TYPE OF SIGNAL Wi-M1 DIGITAL INPUT

Assign the function to the 4 WI-M1 digital inputs

It changes the digital inputs, their use and status identification of the contact with the stand-by component.

WI-M1 DIGITAL INPUT SIGNAL PARAMETERS

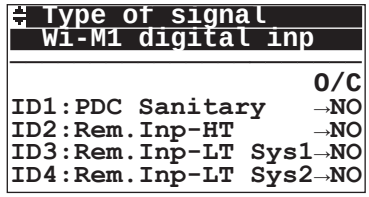
You can define the meaning of each of the 4 digital inputs on the WI-M1 board. The admitted values are:

- ----------
- **Chiller Alarm**
- **Boiler Alarm**
- **System 1 remote low-temperature thermostat**
- **System 2 remote low-temperature thermostat**
- **Remote high temperature thermostat**
- **General On-Off**
- **Season**
- **UCxx1 boost**
- **UCxx2 boost**
- **Economy/Comfort**
- **PDC Sanitary**

A value is allocated according to the chosen meaning

NO (=normally open)

NC (=normally closed)

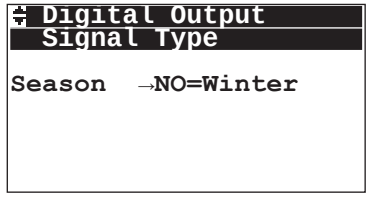


DIGITAL OUTPUT SIGNAL TYPE

Set the season status

Change the status of the digital output that identifies the season of the controller.

- **NO = Winter**, normally open contact in winter
- **NC = Winter**, normally closed contact in winter.



ANTI-SEIZURE

Enable pump anti-seizure function in the "Enable" field: You can enter the days of inactivity after which the control unit will make the pump work for a number of minutes set in the Operation field.

ANTI-SEIZURE PARAMETERS

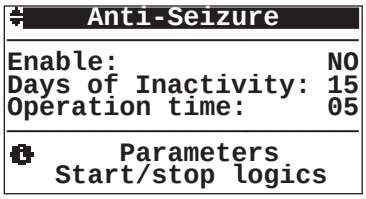
You can set the following parameters:

Enable:

- **Yes:** Anti-seizure function activation
- **No:** Anti-seizure function deactivation.

Days of Inactivity: Number of days when the system remains inactive after which the anti-seizure function starts.

Operation: Minutes of pump forced operation following the previously set days of inactivity.



FREE COOLING

Enable Free-Cooling in AHUs

En.Sum: Enabling the operation in summer

En.Win: Enabling the operation in winter

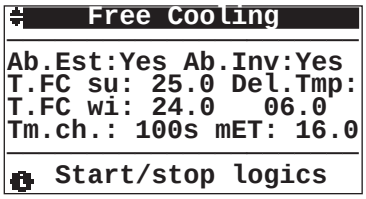
T.FC su: summer starting temperature, when the room temperature exceeds the set value.

T.FC wi: winter starting temperature, when the room temperature exceeds the set value.

Del.Tmp: difference between room temperature (zone) and outdoor temperature.

Time check: sample time to check if the activation of the function is convenient (control time to switch off the function once it has been enabled).

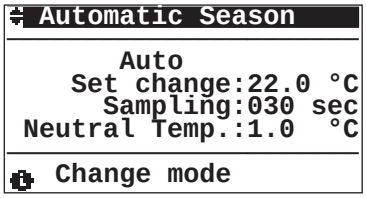
mET: Sets the minimum outdoor temperature limit for activating free-cooling



AUTOMATIC SEASON

Enable automatic change of season

when set to "Auto", the control unit automatically switches from summer/winter operation under appropriate conditions



PRODUCTION TYPE

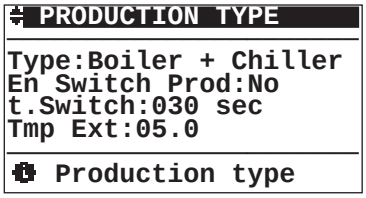
Set the parameters of the production type

Type: Boiler+Chiller / Heat pump, it represents the energy source feeding the system

En Switch Prod: (only with type = Heat pump) Yes/No, if "Yes" is set in the system, there is another heat generator (es. boiler) apart from the heat pump.

t. Switch: (default 30 sec) delay time before changing primary resource into secondary resource.

Tmp Ext: (default 5°C) set value for outside temperature below which the controller switches the energy production from the primary source (Heat pump) to the secondary one (boiler).



S0 SUPERVISOR

Set S0 Serial Bus Parameters (main BUS)

Identif No.: Communication board identification number
Spd: Transfer speed
Prot: Communication protocol

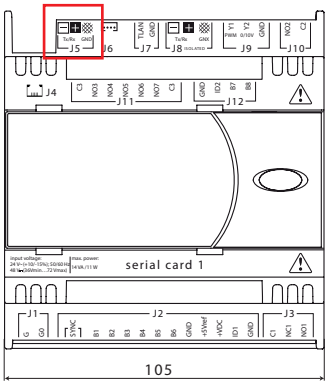
S0 Supervisor Parameters

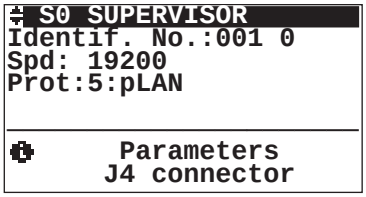
These parameters allow configuring the S0 serial port of the control unit in order to communicate with the user interface UI with external devices (e.g.: a PC).
You can set the following parameters:
Identif No.: Identification number **"address" (1..207)** to be used from an external device to communicate with the control unit
Spd: Communication speed of the external device with which to communicate.
Prot: Communication protocol of the external device with which to communicate.

- **pLan:** User interface connection.
- **MASTER RS485:** PC connection.

NB: Every time the control unit restarts, communication is set to pLan.

Setting the S0 configuration parameters		
Name	**Description**	**Default value**
Identif No.	Unit address if	1
Spd	Transmission speed	19200
Prot	Communication protocol	pLan





S1 SUPERVISOR

Set S1 Serial Bus Parameters (supervisor BUS)

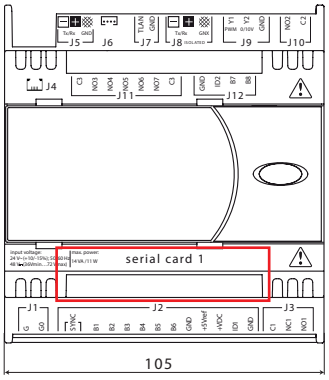
Identif. No.: Communication board identification number
Spd: Transfer speed
Prot: Communication protocol

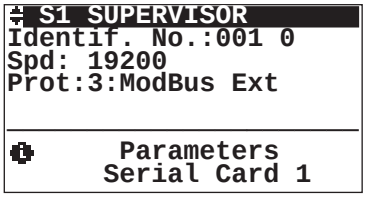
S1 Supervisor parameters

These parameters allow configuring the S1 serial port of the control unit in order to communicate with external devices.
You can set the following parameters:
Identif No.: Identification number **"address" (1..207)** to be used from an external device to communicate with the control unit
Spd: Communication speed of the external device with which to communicate.
Prot: Communication protocol of the external device with which to communicate.

Used protocols:
- NET Carel RS485
- Modbus Ext
- Konnex

SETTING THE CONFIGURATION PARAMETERS "MASTER—SLAVE"		
Name	**Description**	**Default value**
Identif No.	Unit address if	1
Spd	Transmission speed	19200
Prot	Communication protocol	ModBus Ext



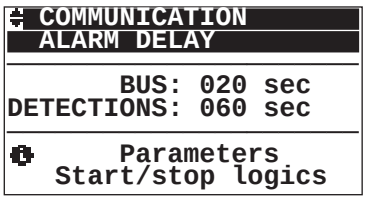


ALARM DELAY COMMUNICATION

Set the communication alarm delay

COMMUNICATION ALARM DELAY PARAMETERS

These parameters and general setting the BUS communication alarms.
BUS: alarm delay for units connected via BUS.
Detections: sensor detection delay due to BUS alarm.



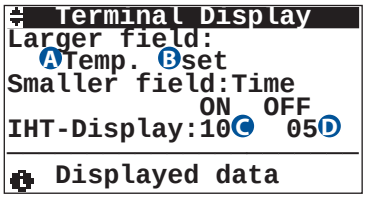
TERMINAL DISPLAY

Set the data displayed on the BUSES terminals

In the "larger field", set or detected temperature or humidity can be selected while in the smaller field, you can select time or humidity (for Wi-TT sensors)
For Wi-IHT sensors it is possible to set the brightness of the display when switched on and in standby mode.

TERMINAL DISPLAY PARAMETERS

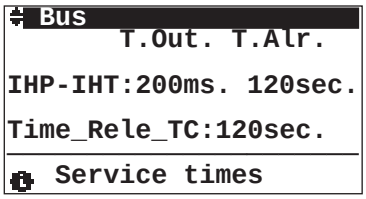
These parameters allow setting the values displayed on the WI-TT terminals.
LARGER FIELD:
A 1: Temperature (default)
2: Humidity
B 1: Set value (default)
2: Detected value
SMALLER FIELD:
1: Time (default)
2: Relative humidity
IHT-DISPLAY:
C : Brightness when the IHT sensor is enabled (0÷10)
D : Brightness when the IHT sensor is in stand-by mode (0÷10)



BUS

Set the communication parameters

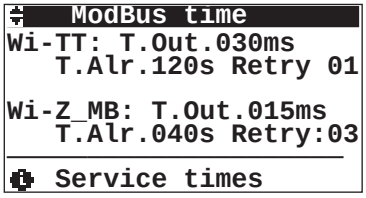
IHP-IHT: Settings on the communication timing and alarms signalising for Bus IHP and IHT sensors.
Time_Rele_TC: Time after which the relays of the TC sensors are switched off if the sensor does not interact with the Wi controller.



MODBUS TIME

Set the communication parameters

Wi-TT: Settings on the communication timing and alarms signalising for Wi-TT sensors.
Wi-Z_MB: Settings on the communication timing and alarms signalising for the Wi-Z zone expansion unit and Wi-U AHU expansion unit.



MASTER - SLAVE S1 SETTINGS

Set the S1 Series parameters, in MASTER-SLAVE mode

S1 MASTER SLAVE PARAMETERS

These parameters allow setting the control unit for .NET configuration.
The architecture must, therefore, provide for the presence of a MASTER connected to the S1 serial bus. You can set the following parameters:

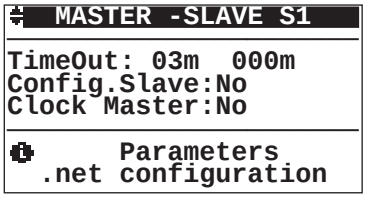
TimeOut: maximum time with absence of communication between the MASTER and the control unit.

Config Slave: • **No:** In this case, the control unit is independent and manages all the components of the system.

- **Master:** In this case the controller is connected with .NET system including 1 Master controller.
- **Master_PC:** In this case the controller is connected with .NET system including a PC as system supervisor and 1 Master controller.
- **MasterTCP:** IIn this case the controller is connected with .NET system including a TCP Master controller as system supervisor.

Clock Master: if the control unit is configured as SLAVE configuring:

- **YES:** The control units draws time-related information from the MASTER.
- **No:** The control unit is independent with its clock on board.



ANALOG IN Wi-M1 / Sx

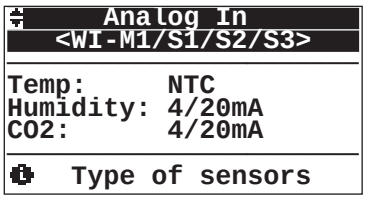
Type of Temperature, Humidity, Air Quality sensors

It shows the electrical type of Temperature, Humidity, Air Quality sensors, which must be connected to the WI-M1/Sx unit.

Temp: The values of the temperature sensor are: NTC (default), 0/1V, 0- 10V, 4/20mA,0/5V.

Humidity: The values of the humidity sensor are: NTC, 0/1V, 0-10V, 4/20mA (default),0/5V.

CO2: The values of the air quality sensor are: NTC, 0/1V, 4/20mA (default),0/5V.



ANALOG IN Wi-Z / Wi-U

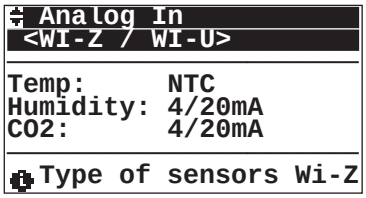
Type of Temperature, Humidity, Air Quality sensors

It shows the electrical type of Temperature, Humidity, Air Quality sensors, which must be connected to the WI-Z / WI-U unit.

Temp: The values of the temperature sensor are: NTC (default), 0/1V, 0- 10V, 4/20mA,0/5V.

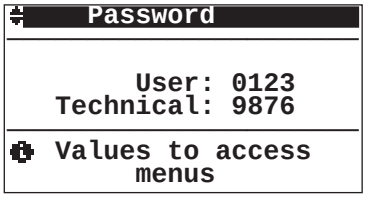
Humidity: The values of the humidity sensor are: NTC, 0/1V, 0-10V, 4/20mA (default),0/5V.

CO2: The values of the air quality sensor are: NTC, 0/1V, 4/20mA (default),0/5V.



PASSWORD

Set additional passwords to access the user and technical setting menus.

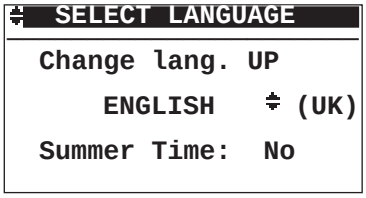


SELECT LANGUAGE

Select on-screen display language

Allows selecting the language in which the information is displayed on screen. (ITALIAN - ENGLISH - SPANISH)

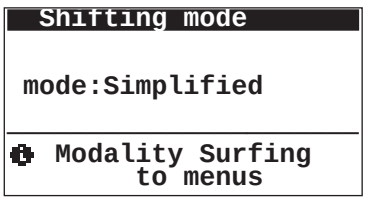
Summer Time: makes it possible to disable the summer time (YES/NO)



SHIFTING MODE

Change the shifting mode in the menus:

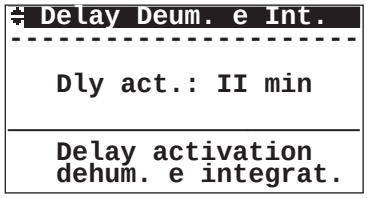
mode: Standard/Easy, in the "Easy" mode, from the main screen shot, clicking on "start", the screenshot of the SETTING for zone temperature and humidity is visible.



DEHUMIDIFICATION / INTEGRATION DELAY ACTIVATION

Set the delay time at the start of dehumidification or integration command.

NB: This delay is useful in combination with the heat pump input in sanitary mode in order to avoid alarms in the dehumidifiers due to high inlet water temperature.

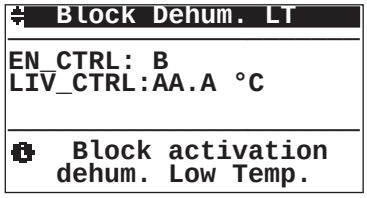


LOCKING THE LOW TEMPERATURE DEHUMIDIFICATION

Locking the dehumidification mode:

The dehumidification mode is locked if there are low temperature values and high humidity values. In this way too cold air is prevented from coming into the room. This is controlled through a threshold value based on DP (dew point).

The function is enabled by EN_CTRL parameter.



LOCKING THE ECONOMY SWITCH

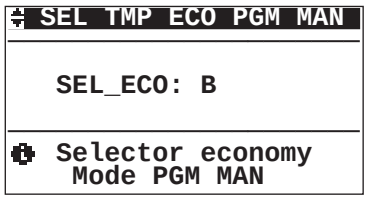
Select the temperature value to be used in the Economy operation mode.

On this window you can select the temperature value to be used in the PGM MAN operation in the Economy mode.

Two options are available, that is: **ATT.COM.** and **ECO.**

ATT.COM. uses the comfort temperature value minus the attenuation value (usually +/-2 °C).

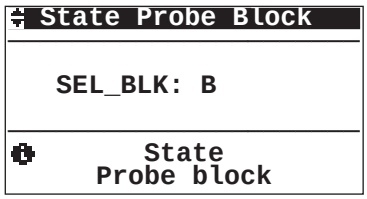
ECO uses the temperature value set in the time schedule in the economy mode.



STATE PROBE BLOCK

Set the status change lock by the probes.

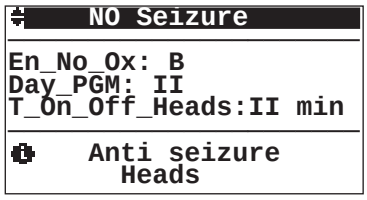
In this page the selector has been inserted that allows to block, when enabled, the change of status (off, man, prg ....) from the TT, IHT and ITD probes.



NO SEIZURE

Set and enable the anti seizure function for electro-thermal heads.

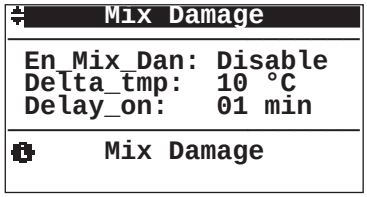
On this window you can enable the function by using the parameter En_anti_ox, while the parameter Day_PGM makes it possible to set the number of waiting days before the activation of the cycle. The parameter T_On_O_test establishes the duration of this cycle.



MIX DAMAGE

Set and enable the function linked to a damaged mixing valve.

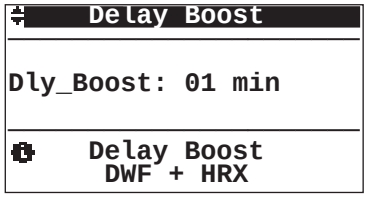
In case of malfunctioning in summer running, this function prevents the over-cooling of the zones. This operation can be enabled through the parameter En_mix_dan, while the parameter Delta_tmp makes it possible to set the temperature differential value to start the cycle. The parameter Delay_on establishes the time delay from the alarm.



BOOST DELAY

Set the boost command switch-off delay.

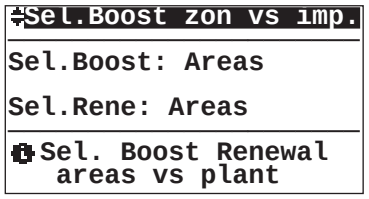
This page sets the boost command switch-off delay when it is activated on U expansions.



SETTINGS \ GENERAL

AREAS/PLANT BOOST and RENEWAL SELECTOR

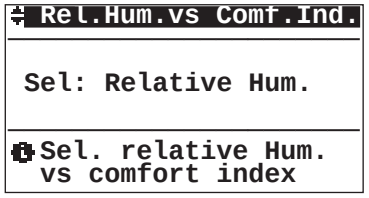
Set boost and renewal command activation parameter.
In this mask the parameter that sets whether the boost command and the renewal command are activated in the case of an active zone or in the case of an active plant regardless of the zone operating mode is set. The Zone or Plant parameter is displayed



HUMIDITY/COMFORT SELECTOR

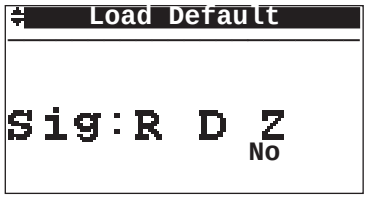
Set the selector to Relative Humidity or Comfort index.

Humidity Control Areas with Relative Humidity or Comfort Index (Specific humidity)



LOAD DEFAULT

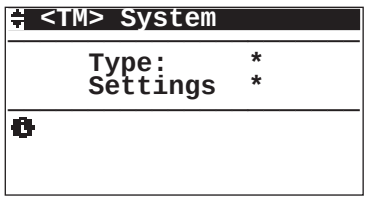
Set the control unit with default values and delete the current configuration.
NB: Upon completing the operation, you must proceed with the control unit configuration.



SETTINGS / SYSTEM

SYSTEM

CHANGE THE SYSTEM SETTINGS



SETTINGS / SYSTEM / TYPE

SETTINGS \ SYSTEM \ TYPE

SYSTEM CONFIGURATION

Modify the system configuration

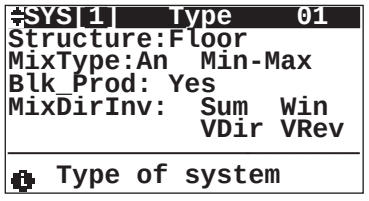
Structure: Type of system structure
- **Absent:** Non-configured system.
- **Floor:** Floor Structure.
- **Wall/Ceil.:** Wall/Ceiling Structure.
- **HT+Mix:** High temperature + mixing valve.
- **HT+Pmp:** High-temperature.
- **HTdir:** Direct High-temperature.

Mix Type: Type of mixing valve
- **An:** Analog Mixing Valve.
- **Min:** [0/10V] Voltage to supply the maximum power to the system.
- **Max:** [0/10V] Voltage to supply the maximum power to the system.

Blk_Prod: Production call block (example: electric radiators) (only for HTdir structure)

Mix DirInv: 0-10V output, direct or reverse to the **min**/**max** setpoint for summer mode (**Sum**) or winter mode (**Win**)
- **VDir:** 0-10V output following the set **min/max** direction.
- **VRev:** 0-10V output in the reverse direction to the set **min/max** one.

SYS[1]››› SYS[8]



SYSTEM CONFIGURATION

Choose the system whose settings you want to change (winter/ summer compensation, structure delta, mixing parameters, dynamic compensation)

SYS[1]››› SYS[8]

```
SYS 1                    01
    Settings
Definition of
mixing parameters
```

Modify the climate settings:

Type: Type of connected sensors.

External: The control unit operates adjusting to the external compensation line. Room temperature sensors are not included and external controls provide to the partial disconnections of the system by means of thermostats.

External + Room: With external and room sensors. In this case, you can also control room temperature.

Season: Seasonal operating mode selection:

Win: Winter season only.

Win+Sum: Both during winter and summer.

Sum: Summer season only.

```
SYS 1 Climate    01
Type:External/Room
Season:Win + Sum:
Operating climate
    and season
```

WINTER COMPENSATION

Modify the winter compensation line:

TExt –Min: Minimum External Temperature

TDel –Min: Minimum Delivery Temperature

TExt –Max: Maximum External Temperature

TDel –Max: Maximum Delivery Temperature

Off: Offset (parallel shifting of the compensation line).

```
SYS 1 WinComp    01
     Min   Max   Off
TExt:-05.0 20.0  0.0
TDel:45.0  22.0
Winter compensation
curve
```

SUMMER COMPENSATION

Modify the summer compensation line:

TExt –Min: Minimum External Temperature

TDel –Min: Minimum Delivery Temperature

TExt –Max: Maximum External Temperature

TDel –Max: Maximum Delivery Temperature

Off: Offset (parallel shifting of the compensation line).

```
SYS 1 SumComp    01
     Min   Max   Off
TExt:23.0  32.0  0.0
TDel:20.0  15.0
Summer compensation
curve
```

ADJUSTMENT

Mitigation:

Value to be subtracted from (winter) or added to (summer) the set value (temperatura and humidity), when the zone is running in economony mode.

```
SYS 1 Adjustment 01
<<Pgm/Man>> tmp  Hum
   Summer:  2.0   10
   Winter: -2.0  -10
Eco. adjustment
Manual program
```

DELTA STRUCTURE

Modify the system parameters:

Delta Structure: [0-9.9°C] surface structural coefficient.

This coefficient makes it possible to consider the thermal inertia of the structure on which the system is placed. This parameter affects the supply water temperature.

```
SYS 1 DELTA STR.01
Delta Structure: 2.0
Type of screed
```

MIXING PARAMETERS

Modify the mixing parameters: (See delivery temperature control)

PB: [2-10 °C]Proportional band.

IT: [0-500 sec] Integral Time.

DB: [0-2°C] Dead band.

K: [0-10] Approach speed coefficient.

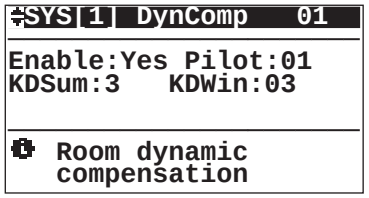
```
SYS 1 Set Mix    01
PB:05.0°C
IT:030s   K: 04
DB:0.4°C
Mixing valve
settings
```

SETTINGS / SYSTEM / SETTINGS

DYNAMIC COMPENSATION

Modifiy the dynamic compensation parameters

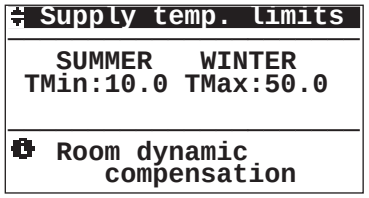
Enable: Yes/No. Enable dynamic compensation
Pilot No.: Pilote zone identification number, which affects the delivery temperature value obtained through the compensation line.
KDSum: [0-9] Summer multiplier coefficient.
KDWin: [0-9] Winter multiplier coefficient.



SUPPLY TEMPERATURE LIMITS

Supply water temperature limits of the system

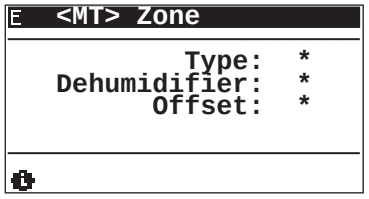
TMin: [5-15°C] Limit temperature for calculating the summer value.
TMax: [30-70°C] Limit temperature for calculating the winter value.



SETTINGS / ZONES

ZONES

CHANGE ZONE, DEHUMIDIFIER AND ROOM SENSOR SETTINGS



SETTINGS / ZONES / TYPE

ZONES \ TYPE

ZONE CONFIGURATION

Change the zone configuration

you can configure the presence of the sensor by means of the system type and association.

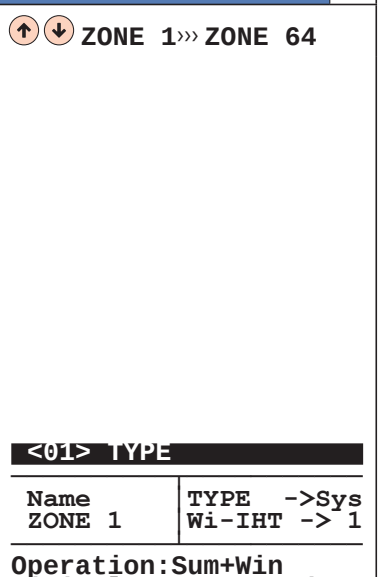
Type:
—: Absent Sensor.
HT: Temperature Sensor
HT/H Temperature and Humidity Sensor
Wi-TT: Temperature - Humidity Sensor with Bus connection.
WI-TC: Temperature - Humidity Sensor with Bus connection.
Wi-IHT: Temperature - Humidity Sensor with Bus connection.
Wi-IHP: Temperature - Humidity Sensor with Bus connection.
Wi-ITA: Temperature - Humidity Sensor with cable.
Wi-ITD: Temperature Sensor with Bus connection.

Function:
Win: Enable only winter sensor functions
Sum+Win: Enable both winter and summer functions

Digital In:
Not used
All. T+D: when activated locks both the temperature control that the dehumidification control.
Pres. T: When activated call in temperature alone (like a thermostat).
Pre. T, D man: when activated make the temperature called (like a thermostat) and enables the dehumidification with manual sets.
Pre. T + D man: when active call the temperature dehumidification with manual sets.
Alarm T: when active blocks only the temperature control, the dehumidifier continues with its logic of operation.

Replication: the sensor for that zone is physically installed if the replication item shows 00-value, otherwise there is no sensor, and the values used are the ones detected by the sensor installed in the zone with the same set value (e.g. **replication: 05** values of the sensor in **zone 05**).

Hum: enables humidification by zone.



ZONES \ TYPE

Prg

SETTINGS / ZONES / TYPE / NEW OUTPUT

NEW OUTPUT OF ZONE

Setting the new zone output:
(From the "ZONE Configuration" window by pressing the PRG button, you enter this window)
Identification of the new output assigned to the zone just configured:
Example: AREA <03> New Output: Wi-Z11- R1
It shows that the temperature input of the Zone 03 turns on the output on Z11-R1 expansion unit.

```
ZONE <03>
New Output:
---
```

SETTINGS / ZONES / DEHUMIDIFIER

DEHUMIDIFICATION PARAMETERS

Modify the dehumidification parameters
On the Dehumidifiers section the following submenus can be accessed:
- **Tipe:** Type of dehumidifier
- **Air Quality type:** Configuring air quality sensor
- **Configure Ux:** Dehumidifier configuration
- **Configure Exp U:** Exp U configuration
- **Integration:** Integration for Ux-xx unit or Wi-UXY AHU expansion units

```
E<MT>Deumidifiers
                Type:  *
Air quality type: *
Configure UxBUS   :  *
Configure Exp U:  *
    Integration:  *
```

ZONES \ DEHUMIDIFIER \ TYPE

SETTINGS / ZONES / DEHUMIDIFIER / TYPE

TYPE OF DEHUMIDIFIER

ZONE 1››› ZONE 64

Modify the type of dehumidifier:
Type: Dehumidifier version (*)
ExpD: It identifies which expansion unit receives the dehumidification input
SysPmp: It identifies the pump hydraulic connection
Alarm: It enables the dehumidifier alarm

(*) If the dehumidifier type = Deum D + I, the software will also display:
ExpI: It identifies which expansion unit receives the integration input
En.Win: It enables winter sensible heat integration
En.Sum: It enables summer sensible heat integration
Diff: Room differential/set to enable relevant operation

If the dehumidifier type = Deum D + V + R, the software will also display:
All.zone D: identifies which kind of operation shall be carried out on the dehumidification control in the area in case of dehumidifier alarm.
T: identifies which kind of operation shall be carried out on the temperature control in the area in case of dehumidifier alarm.

If the dehumidifier type = Deum D + R or = r , the software will also display:
ExpR: identifies the output for the fresh ventilation control in the Wi-Z expansion unit.
TMR: identifies which kind of schedule timer for the fresh air ventilation in the AHU.

If the dehumidifier type = V + R, the software will also display:
ExpR: identifies the output for the fresh ventilation control in the Wi-Z expansion unit.
ExpD and **SysPmp** will NOT be displayed.

```
ZONE 2  S.Dehu 02
Type:Deum D + I
ExpD:---
SysPmp:No  Alarm:No
Exp I:---
En.Win:Si Diff.:01.0.c
En.Sum:No Diff.:02.0.c
```

ZONES \ DEHUMIDIFIER \ TYPE

Prg

SETTINGS / ZONES / DEHUMIDIFIER / TYPE / OUTPUT TYPE

RELAY OUTPUT TYPE

Set the relay output type:

(On the screenshot "Type of dehumidifier" by pressing PRG key, you can access the following parameters)

Out. type: NO2 output relay setting

Recirculat.: set relay status as VENTILATION

Free-Cooling: set relay status as FREE COOLING

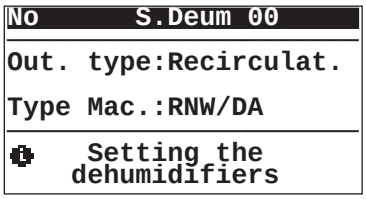
Type mac.: Relays setting to be activated in case of dehumidification input

RNW/DA: activaction of the dehumidification relay NO1 only

Dehum+Recirc: Dehum+Recirc: contemporary activation of the dehumidification relay NO1 and air recirculation relay NO2

DWF+HRX: simultaneous activation of the dehumidification relay NO1 and air fresh ventilation relay NO3

(*) visible window only for D + V + R type



ZONES \ DEHUMIDIFIER \ AIR QUALITY TYPE

SETTINGS / ZONES / DEHUMIDIFIER / AIR QUALITY TYPE

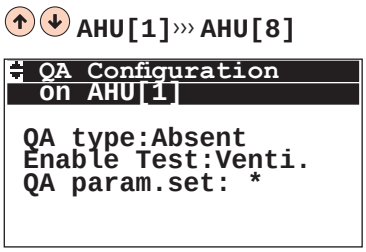
TIPE OF AIR QUALITY SENSOR

Set the type of air quality sensor:

QA type: Set the type of AQ sensor installed (Duct/Room/Absent)

Enable Test: Feature that must be enabled to test the air: (Renewal, Ventilation)

QA param.set: You log on to the parameters of the AQ sensor



*

SETTINGS / ZONES / DEHUMIDIFIER / AIR QUALITY TYPE / QA CONFIGURATION

SETTING QA PROBE PARAMETERES

Set the renewal operation:

CO_2: % threshold to control CO2.

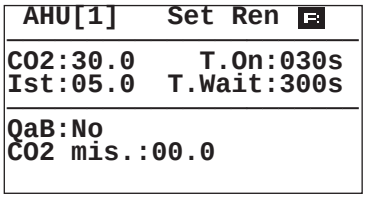
T.On: ON time status for renewal.

Ist: Hysteresis.

T.Wait: stand-by time before renewal restarts.

QaB: clean air quality.

CO_2 mis: Value detected by the duct sensor.



ZONES \DEHUMIDIFIER

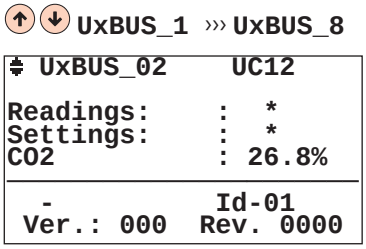
SETTINGS / ZONES / DEHUMIDIFIER / CONFIGURE UxBUS

CONFIGURE UxBUS

UxBUS readings/settings:

The window shows the type of the selected unit and the identifier.

CO2: Displays the value of Co2 (with probe AQ present)



TEMPERATURE READINGS

Temperature readings UxBUS_xy (xy = index of the unit)

Supply temp.: Air flow temperature reading.
Water temp.: Inlet water temperature reading.
Conden. temp.: Refrigerant circuit gas condensation temperature reading.
Evapor. temp: Reading of the gas evaporation temperature in the cooling circuit.
Extern. temp: Reading of the outside temperature
Extr. temp: Reading extract air temperature taken by the rooms
Expul. temp: Reading expulsion air temperature to the outside.
: the darkening of the square background indicates function is ON.
Dehumidification status: OFF, ON; Integration status: OFF, ON;
Renewal status: OFF, ON; Ventilation status: OFF, ON;
Free-cooling status: OFF, ON; Boost status: OFF, ON;
Economy status: OFF, ON

```
UxBUS_01    UC11
Temperature Reading
Supply temp.:000.0°c
Water temp.: 000.0°c
Conden.temp.:000.0°c
Evapor.temp :000.0°c
Extern. temp:000.0°c
```

(CHR / WHR)

```
UxBUS_01    UC11
Temperature Reading

Supply temp.:000.0°c
Extr. temp.: 000.0°c
Expul.temp.:000.0°c
Extern. temp:000.0°c
```

FAN READINGS

rpm Room: Rotation speed of the supply fan.
rpm Exhaust: Rotation speed of the expulsion fan.
Press Tran. A: Transducer A differential air pressure reading
Press Tran. B: Transducer B differential air pressure reading
H2O Pos. Valve: H2O Valve position.

```
UxBUS_01    UC11
Fans Readings

     rpm Room  :00000
    rpm Exhaust:00000
Press. Tran. A:0000.0
Press. Tran. B:0000.0
 H2O Pos. Valve:00000
```

CHR / WHR / UC 500-MHE (*) Only for: WHR / UC 500-MHE (**) Only for: UC 500-MHE
rpm Room: Rotation speed of the supply fan
rpm Exhaust: Rotation speed of the exhaust fan
Fluximeter 1: Air flow speed of the supply fan (*).
Fluximeter 2: Air flow speed of the exhaust fan (*).
Fluximeter 3: External air flow speed (**).

```
UxBUS_01    UC1
Fans Readings
rpm Room:00000
rpm Exhaust:00000
Fluximeter  1:0000.0
Fluximeter  2:0000.0
Fluximeter  3:0000.0
```

UC xxx3 READING (for UC 360-MHE, UC 500-MHE, UC 500-MVHE Unit)

Overheat. Tmp: Gas temperature reading after evaporating coil
Compres. Tmp: Gas temperature reading after the compressor
Supercoo. Tmp A: Gas temperature reading after condenser A
Supercoo. Tmp B: Gas temperature reading after condenser B

```
UxBUS_01    UC11
Fans Readings

 Overheat Tmp: 00.0°c
 Compres. Tmp: 00.0°c
Supercoo.Tmp A:00.0°c
Supercoo.Tmp B:00.0°c
```

DEFROST READING

Defrost ON/Off: It shows the defrosting status
Num. Defrost: It shows the number of defrosting cycles already performed

```
UxBUS_01    UC11
Reading defrost

Defrost ON/Off:    000
Num. Defrost:      000
```

PARAMETERES READINGS for DA Unit

Superheat Temp: Overheating temperature
H2O P Pos.Valv.: Position of the water valve for the pre-treatment coil
H2O C Pos.Valv.: Position of the water valve of the condensation coil

```
UxBUS_01    UC11
Parameters Readings

Superheat Temp: 00.0°c
H2O P Pos.Valv.: 100%
H2O C Pos.Valv.: 100%
```

UNIT INFO READINGS

Unit info readings:

Indication of the type with which the unit is configured for Free Cooling.
Pre: Free Cooling air inlet before the finned pack.
Post: Free Cooling air inlet after the finned pack

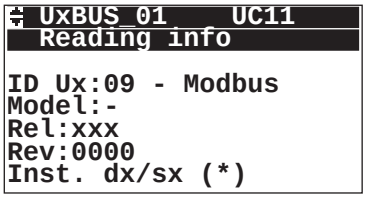
```
UxBUS_01    UC11
Unit Info

FreeCooling:  Pre
```

CONFIGURE UxBUS \ READINGS

INFO READINGS

General Information on the selected Ux:

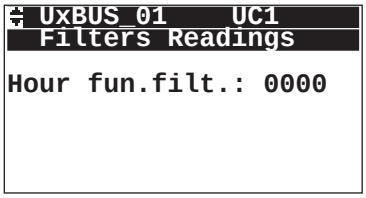
ID Ux: Index of Modbus network.
Model: UxBUS Model.
Rel: Software version installed on the unit.
Rev: Revision of the software installed on the unit.
Inst. dx/sx: Left / right installation (* Only for WHR units).



FILTER READINGS

General Information on the selected Ux:

Hour fun.filt.: Indicates the machine operating hours for the filters in use.
(* Only for WHR units).



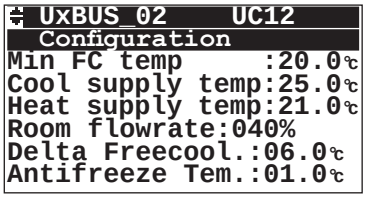
CONFIGURE UxBUS \ SETTINGS

SETTINGS / ZONES / DEHUMIDIFIER / CONFIGURE UxBUS / SETTINGS

CONFIGURATION SETTINGS 1

General configuration on the selected UxBUS:

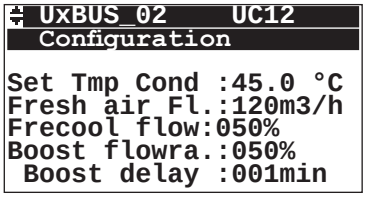
Min FC temp: Set the supply minimum temp. input in Free Cooling mode.
Cool supply temp: It sets the flow temperature for the summer season.
Heat supply temp: It sets the flow temperature for the winter season.
Room flowrate: It sets the room inlet air flow. (*) (* not for DA, UAP, CHR Unit)
Delta Freecool.: Set the Free Cooling Delta activation temperature.
Antifreeze Tem.: Set the external temperature reference for frost protection



CONFIGURATION SETTINGS 2

General configuration on the selected UxBUS:

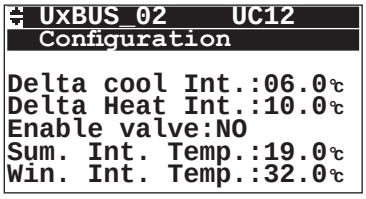
Set Tmp Cond: Set the condensation temperature limit.
Fresh air Fl.: It sets the fresh air ventilation flow.
Frecool flow: It sets the free cooling flow.
Boost flowra.: It sets the fresh flow in boost mode.
Boost delay: Time of delay for shutting down the boost feature after the input stops.



CONFIGURATION SETTINGS 3

General configuration on the selected UxBUS:

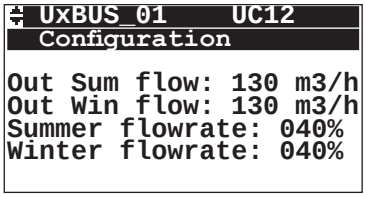
Delta cool Int.: It sets the delta temperature from the set flow for the summer integration.
Delta Heat Int.: It sets the delta temperature from the set flow for the winter integration.
Enable valve: It enables the 0-10 output to control the optional valve on the water circuit. (**) (** for UC 300-M and UC 300-MHE Unit)
Sum. Int. Temp: Summer integration temperature (only display).(*)
Win. Int. Temp: Summer integration temperature (only display).(*)
(*) only for UAP and DA Unit



EXHAUST / SUPPLY SETTINGS (Only for UAP Unit)

General configuration on the selected UxBUS:

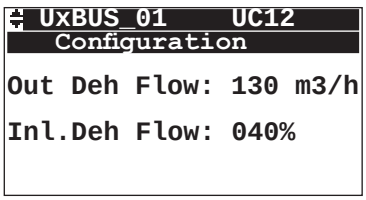
Output Summer Flow: It sets the flow rate of the exhaust fan in winter running.
Output Winter Flow: It sets the flow rate of the exhaust fan in summer running.
Summer flowrate: It sets the room inlet air flow.
Winter flowrate: It sets the room inlet air flow.



EXHAUST / SUPPLY SETTINGS (Only for CHR Unit)

General configuration on the selected UxBUS:

Out Deh Flow: Sets on the CHR unit the expulsion fan flow rate with dehumidification call.
Inl.Deh Flow: Sets on the CHR unit the supply fan flow rate with dehumidification call.

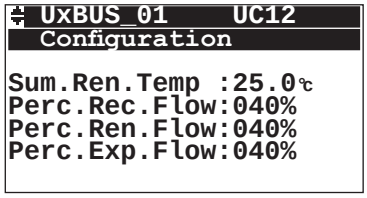


CONFIGURE UxBUS \ SETTINGS

PERCENTAGE SETTINGS (Only for DA Unit)

General configuration on the selected UxBUS:

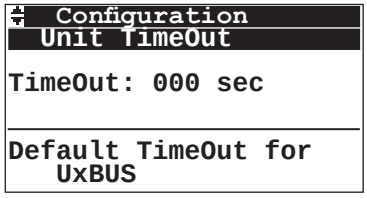
Sum.Ren.Temp: Summer fresh air ventilation temperature
Perc.Rec.Flow: Recirculation fan percentage .
Perc.Ren.Flow: Renewal fan percentage.
Perc.Exp.Flow: Exhaust fan percentage.



UNIT TIMEOUT

General configuration on the selected UxBUS:

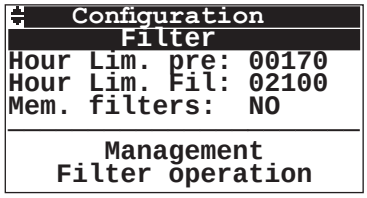
TimeOut: It sets the TimeOut of the unit communication. Time over for the unit to turn off its functionality if it does not communicate with the central unit any longer.



FILTER CONFIGURATION

General configuration on the selected UxBUS:

Hour Lim. pre: Set the warning hours for filter alarm signaling (WHR only)
Hour Lim. Fil: Set the operating hours before the filter alarm signal
Mem. filters: Stores fan speed (Only for CHR configured for speed filter control)
Num.Days.Warning: Sets the number of days of operation before the filter alarm signal (UC 300 V2, UC 360 V1, UAP 201-PDC)
Num.Days.Block: With filter alarm signal active, it sets the number of days of operation before the machine stops (UC 300 V2, UC 360 V1, UAP 201-PDC)

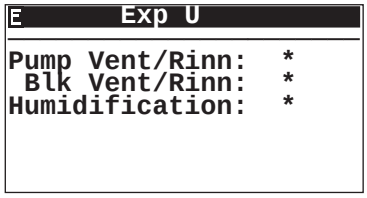


CONFIGURE EXP U

SETTINGS / ZONES / DEHUMIDIFIER / CONFIGURE EXP U

CONFIGURE WI-U EXPANSION UNIT

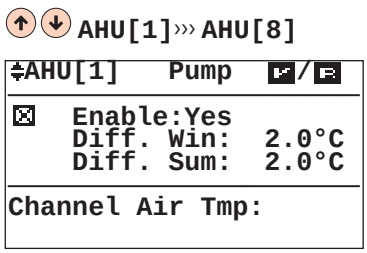
CONFIGURE WI-U EXPANSION UNIT:



SETTINGS / ZONES / DEHUMIDIFIER / CONFIGURE EXP U / PUMP VENT-RINN

VENTILATION / RENEWAL PUMP

Enables: Yes / No enables the pump block. This operation only acts on the pump related to the AHU.
Winter Diff.: temperature difference according to which the pump for winter ventilation / renewal is blocked.
Summer Diff.: temperature difference according to which the pump for summer ventilation / renewal is blocked.
Channel Air Tmp: it displays the inlet temperature if the duct sensor is installed.



WINTER			
function (*)	**fan**	**deum pump**	
		Room Temp <= Set + Diff	Room Temp > Set + Diff
ON	ON	ON	OFF Restarting on reaching the set values
OFF	OFF	OFF	OFF
SUMMER			
function (*)	**fan**	**deum pump**	
		Room Temp >= Set + Diff	Room Temp < Set + Diff
ON	ON	ON	OFF Restarting on reaching the set values
OFF	OFF	OFF	OFF

(*) = Status of the ventilation and renewal feature within the time range

CONFIGURE EXP U

SETTINGS / ZONES / DEHUMIDIFIER / CONFIGURE EXP U / BLK VENT-RINN

VENTILATION / RENEWAL BLOCK

Change the operation ventilation/renewal:

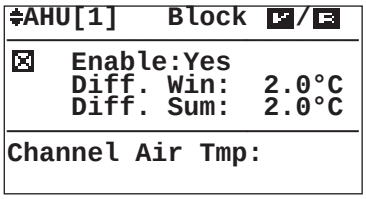
Enable: Yes/No. If the function is enabled, on reaching the Set+ Diff/2 the pump operation is blocked, exceeding the Set + Diff the ventilation/renewal feature is also blocked.

Winter Diff.: temperature difference according to which the ventilation / renewal in winter is blocked.

Summer Diff.: temperature difference according to which the ventilation / renewal in summer is blocked.

Channel Air Tmp: it displays the inlet temperature if the duct sensor is installed.

AHU[1]››› AHU[8]



WINTER						
function (*)	**fan**		**deum pump**		**fans + dampers forced renewal**	
	Room Temp <= Set + Diff	Room Temp > Set + Diff	Room Temp <= Set+ Diff/2	Room Temp > Set + Diff/2	Room Temp <= Set + Diff	Room Temp > Set + Diff & < Room Set
ON	ON	ON	ON	OFF Restarting on reaching the set values	OFF	ON Turning off on reaching the set values
OFF	OFF	OFF	OFF	OFF	OFF	OFF

SUMMER				
function (*)	**fan**		**deum pump**	
	Room Temp >= Set + Diff	Room Temp < Set - Diff	Room Temp >= Set - Diff/2	Room Temp < Set - Diff/2
ON	ON	ON	ON	OFF Restarting on reaching the set values
OFF	OFF	OFF	OFF	OFF

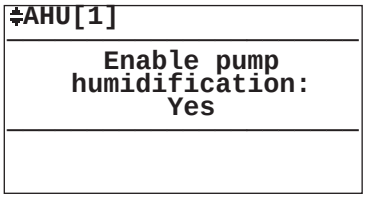
(*) = Status of the ventilation/ renewal feature within the time range.

CONFIGURE EXP U

SETTINGS / ZONES / DEHUMIDIFIER / CONFIGURE EXP U / HUMIDIFICATION

ENABLE AHU PUMP IN HUMIDIFICATION MODE

Yes / No: Enable/Disable the AHU pump in case of humidification input (winter season).



DEHUMIDIFIER / INTEGRATION

SETTINGS / ZONES / DEHUMIDIFIER / INTEGRATION

ENABLE AHU INTEGRATION

Change the integration features for AHU/UxBUS:

En.Inv: (Yes / No) ON / OFF for winter integration
Diff. : Differential value for winter switch-on
En.Sum: (Yes / No) ON / OFF for summer integration
Diff. : Differential for summer switch-off
Pump: The pump for integration is activated:
- both in summer and in winter - in summer only - in winter only

Duct Tmp: The temperature detected in the ducts is shown.

AHU[1]››› AHU[8]

```
AHU[1]    Integrat.
☒
En.Win:No Diff.:03.0°C
En.Sum:No Diff.:03.0°C
Pump:Winter+Summer
 Duct Tmp:00.0
```

Prg

SETTINGS / ZONES / DEHUMIDIFIER / INTEGRATION / SET MIX

AHU INTEGRATION PARAMETERES

Set the parameters for integration:

(Clicking on PRG key the screenshot "Enable AHU Integration" shows the following parameters)

PB: Proportional band.
K: Adjustment coefficient.
TI: Integral time.
DB: Dead band.
Win: Reference winter temperature.
Sum: Reference summer temperature.

```
AHU[1]    Set Mix
PB:05.0°c K: 04
TI:030S   Win   Sum
DB:0.4°C 22.0   25.0
```

ZONES/ OFFSET

SETTINGS / ZONES / OFFSET

ROOM SENSOR CALIBRATION

Modify the room sensor calibration

The temperature and humidity measurement correction values of the selected sensor are set.

```
        Offset  01
        Tmp     Hum
ZONE 1  0.0      0
Value calibration
  Room Sensor
```

SYNOPTIC

SYNOPTIC SETTINGS

CHANGE SETTINGS:
SYNOPTIC MENU

```
SYNOPTIC
Mixing valves    *
Main Relays      *
Exp Zone Relay   *
Exp AHU Relay    *
TC Terminals     *
```

MIXERS

SYNOPTIC / MIXERS

MIXERS SYNOPTIC

CHANGE THE MIXING VALVE SYNOPTIC MENU SETTINGS

SYS[1]››› SYS[8]

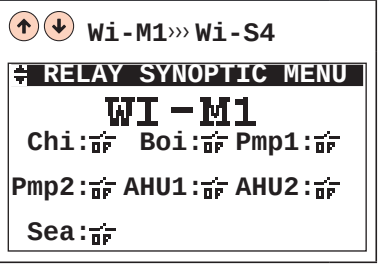
```
SYST[1] MIX An   01
Output 00.0
```

MAIN RELAYS

SYNOPTIC / MAIN RELAYS

MAIN RELAYS SYNOPTIC

Set the digital outputs status of the configured WI M1/S2/S3/S4 units.

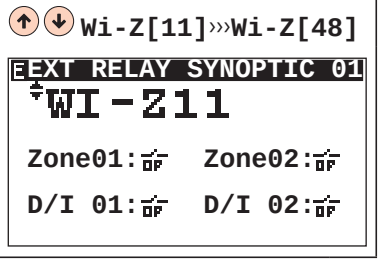


ZONE EXPANSION RELAYS

SYNOPTIC / ZONE EXP RELAYS

ZONE EXPANSION RELAYS SYNOPTIC

Set the digital output status of the configured WI Zxy units.

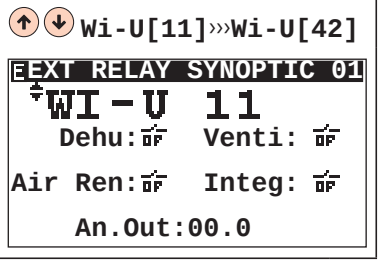


AHU EXPANSION RELAYS

SYNOPTIC / AHU EXP RELAYS

AHU EXPANSION RELAYS SYNOPTIC

Set the digital output status of the configured WI-U units and of the mixing valve.

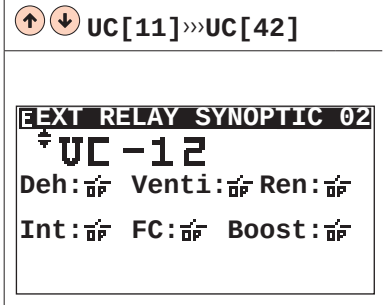


UxBUS EXPANSION RELAYS

SYNOPTIC / UxBUS EXP RELAYS

UxBUS EXPANSION RELAYS SYNOPTIC

Set the digital output status of UxBUS units.



TC TERMINALS

SYNOPTIC / TC TERMINALS

TC TERMINALS SYNOPTIC

Set a statut of digital output of TC terminals

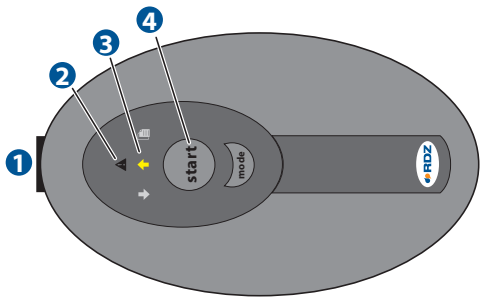
PROGRAMMING THE CONTROL BOARDS

The program is transferred, using the programming Smart Key or a PC with Service Manager software and RS485 connector.

Programming the boards, using the Smart Key

Operations for carrying out the transfer.
1) Disconnect the board power supply.
2) Insert the smart key RJ12 cable
3) Power the cable and wait for the **start button (1)** to light up.
4) Ensure that the lit arrow is the one that indicates the transfer from the smart key pointing outwards (2).
5) Press **start (1)**.
6) A buzzer indicates the end of the transfer.
7) Disconnect the power supply.

When the control unit is powered again, it will start with the previously uploaded program.
In the event of an error signal, repeat the operations described above.



Key	
No.	**Description**
1	RJ12 connector
2	Error indicator light
3	Smart Key-board transfer LED
4	Start button

USER INTERFACE FUNCTIONALITY [UI/E]

CONTRAST ADJUSTMENT

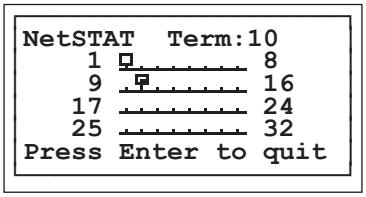
Contrast can be adjusted through button combinations that allow increasing or reducing it.
These button combinations are:

Prg + Alarm + ↑ **Up** to increase contrast;

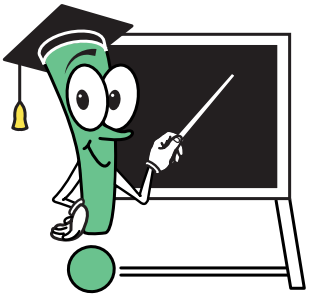
Prg + Alarm + ↓ **Down** to reduce contrast.

DISPLAYING THE NETWORK STATUS

Press ↑ **Up** ↵ **Enter** ↓ **Down** simultaneously for at least 10 seconds to access the network status display screen shown in the figure.
The boards whose addresses (1-32) are recognised within the network, are identified.
In this specific case, the address identification **1** for the WI-M1 board and address 10 for the user interface will be displayed.



ADDRESS CONFIGURATION



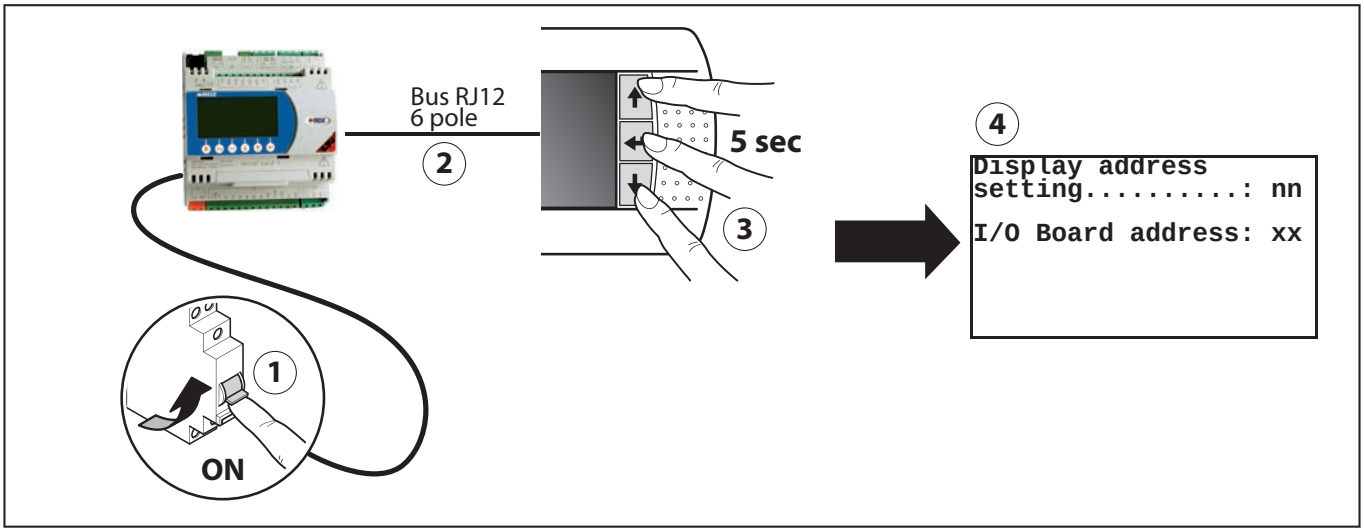
The control system consists of the **WI-M1 WI-S2 WI-S3 WI-S4** boards, the **WI-Zxx WI-Ux** expansion units and the **UI/PRO** user interface, which communicates via a data BUS on a 6-pin RJ12 cable.
To ensure proper system operation, the specific unit addresses must be set in order to identify them univocally.
Therefore, proceed with the unit address configuration.

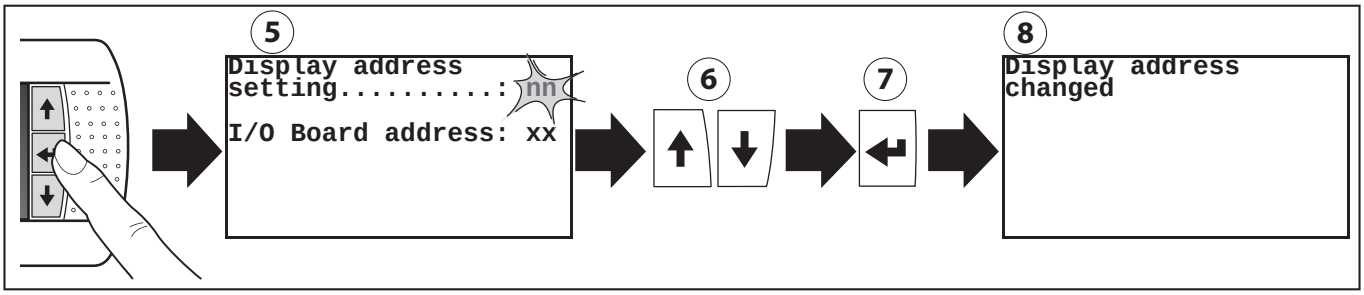
WI - M1
WI - S2
WI - S3
WI - S4

WI - Zxx

IU/PRO

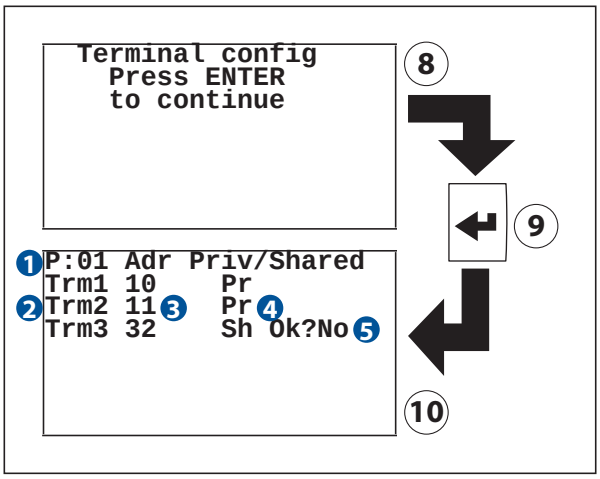
UI/E GRAPHICS TERMINAL ADDRESS CONFIGURATION





Proceed as follows:
1) power the unit;
2) prepare a UI/PRO terminal and connect it to the central unit by means of an RJ12 cable;
3) to enter configuration mode, press **Up** **Enter** **Down** simultaneously for at least 5 seconds;
4) once this operation has been carried out, screen 4 will appear on the terminal);
5) to modify the terminal address, press **Enter**. The cursor will place itself in the address field (nn);
6) use buttons **Up** **Down** to select the required address;
7) confirm the address by pressing **Enter**. Mask 8) will appear.

The possible address values that can be allocated to the UI/PRO graphics terminal range between **0-32** (available addresses to identify the network drives). If the value **0** is set, the terminal communicates only with the board connected directly to it and the **I/O Board address** field will disappear.
*NB: Address **10** is allocated to the terminal in its standard operation.*
*NB: Address **0** is allocated to the terminal when the latter must be used to configure the addresses of the WI-xx boards (see WI-M1/S2/S3/S4 address setting).*
To switch from one unit to other one change the field **I/O Board address**: 02 = Wi-S2 , 03 = Wi-S3

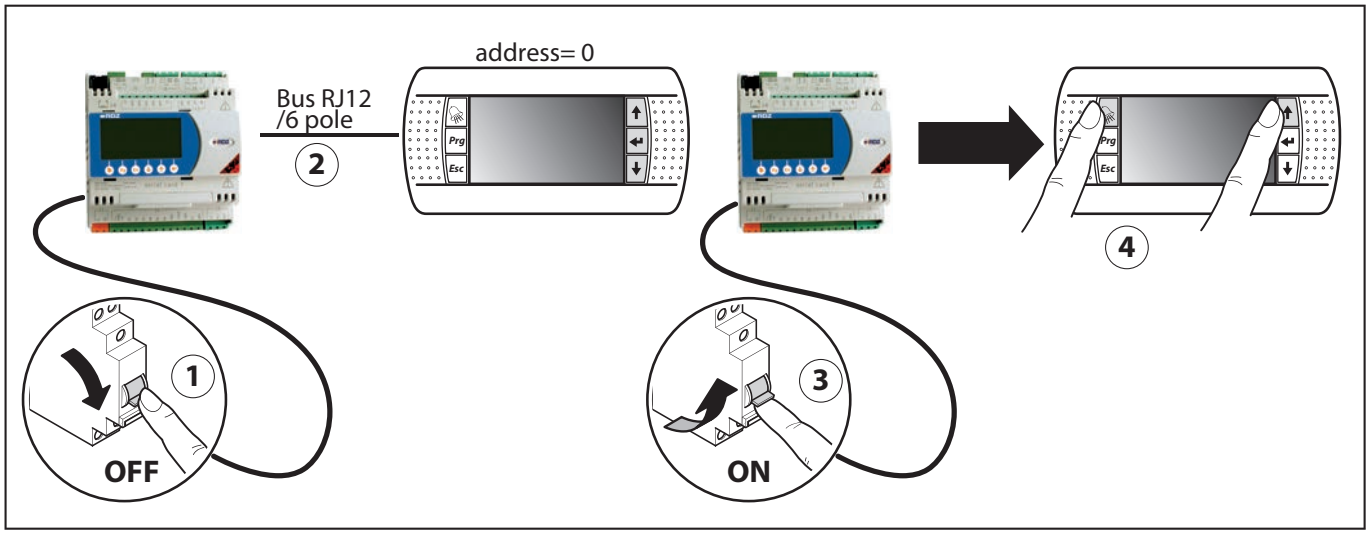


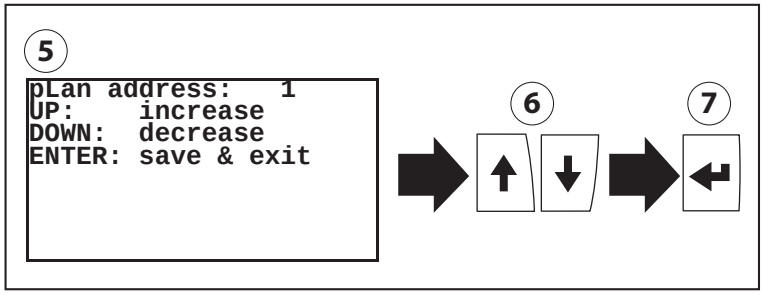
Keys	
Num	**Descrizione**
1	I/O Board Address P:01=Wi-M1, P:02=Wi-S2, P:03=Wi-S3
2	Terminal name (cannot be changed)
3	Terminal address
4	Terminal function: -- : None Pr: Private Sh: Shared Sp: Print (not available)
5	NO: back to the address of terminal Trm1 YES: new configuration is confirmed

2 IU-Pro configured					
P: 01			**P: 02**		
Wi-M1 (Display Add. 10)			**Wi-S2** (Display Add. 11)		
	3	4		3	4
Trm1	10	Pr	**Trm1**	--	None
Trm2	11	Pr	**Trm2**	--	None
Trm3	32	Sh	**Trm3**	32	Sh

3 IU-Pro configured								
P: 01			**P: 02**			**P: 03**		
Wi-M1 (Display Add. 10)			**Wi-S2** (Display Add. 11)			**Wi-S3** (Display Add. 12)		
	3	4		3	4		3	4
Trm1	10	Pr	**Trm1**	--	None	**Trm1**	--	None
Trm2	11	Pr	**Trm2**	--	None	**Trm2**	--	None
Trm3	12	Pr	**Trm3**	32	Sh	**Trm3**	32	Sh

WI-M1 / WI-S2 / WI-S3 / WI-S4 ADDRESS SETTING





Proceed as follows:

1) Disconnect the power supply from the WI-XX unit
2) Prepare a UI/PRO terminal with address 0 and connect it to the central unit by means of an RJ12 cable
3) Power the WI-M1/Sx unit
4) Press **Alarm** + **Up** simultaneously. After a few seconds, screen 5) will appear
6) To modify the address, all you have to do is use the **Up** **Down** buttons and then press **Enter** to confirm.

NB: *The address to be allocated to the WI-M1 unit in its standard operation must be **1**.*

WI-Zxx / WI-Ux ADDRESS SETTING

As for the expansion units, the address setting is carried out by means of the dip-switches located on the board.

OVERVIEW OF THE CONTROL UNIT

Table - Diagram key		
	Winter/Summer Production Management	*Digital Output* Boiler Chiller
TM	**Delivery Temperature Sensor**	*Analog Input* (NTC) *Digital Outputs* – System Pump *Analog Outputs* – Mixing Valve Signal

WI - SA xxyy - a

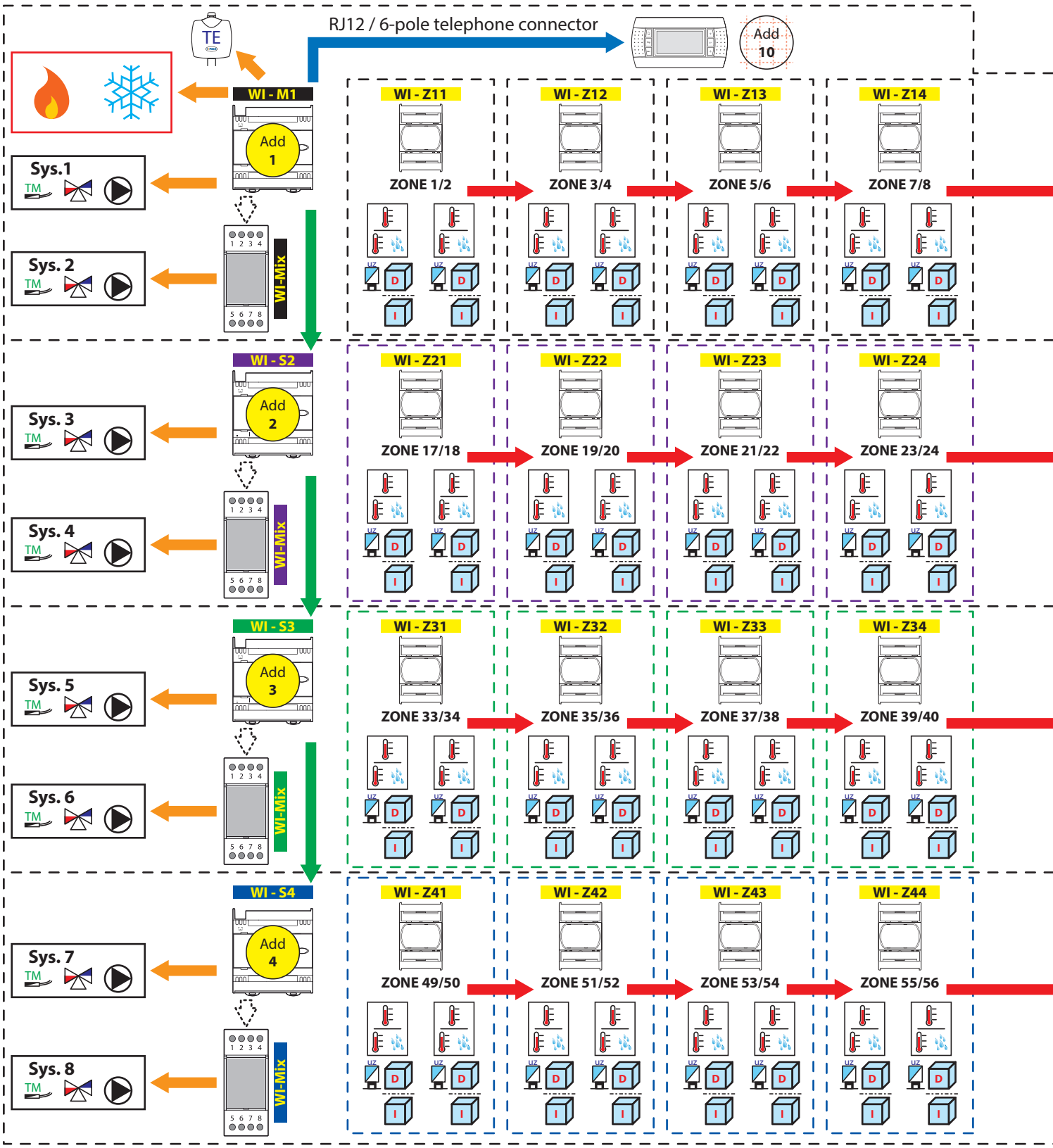
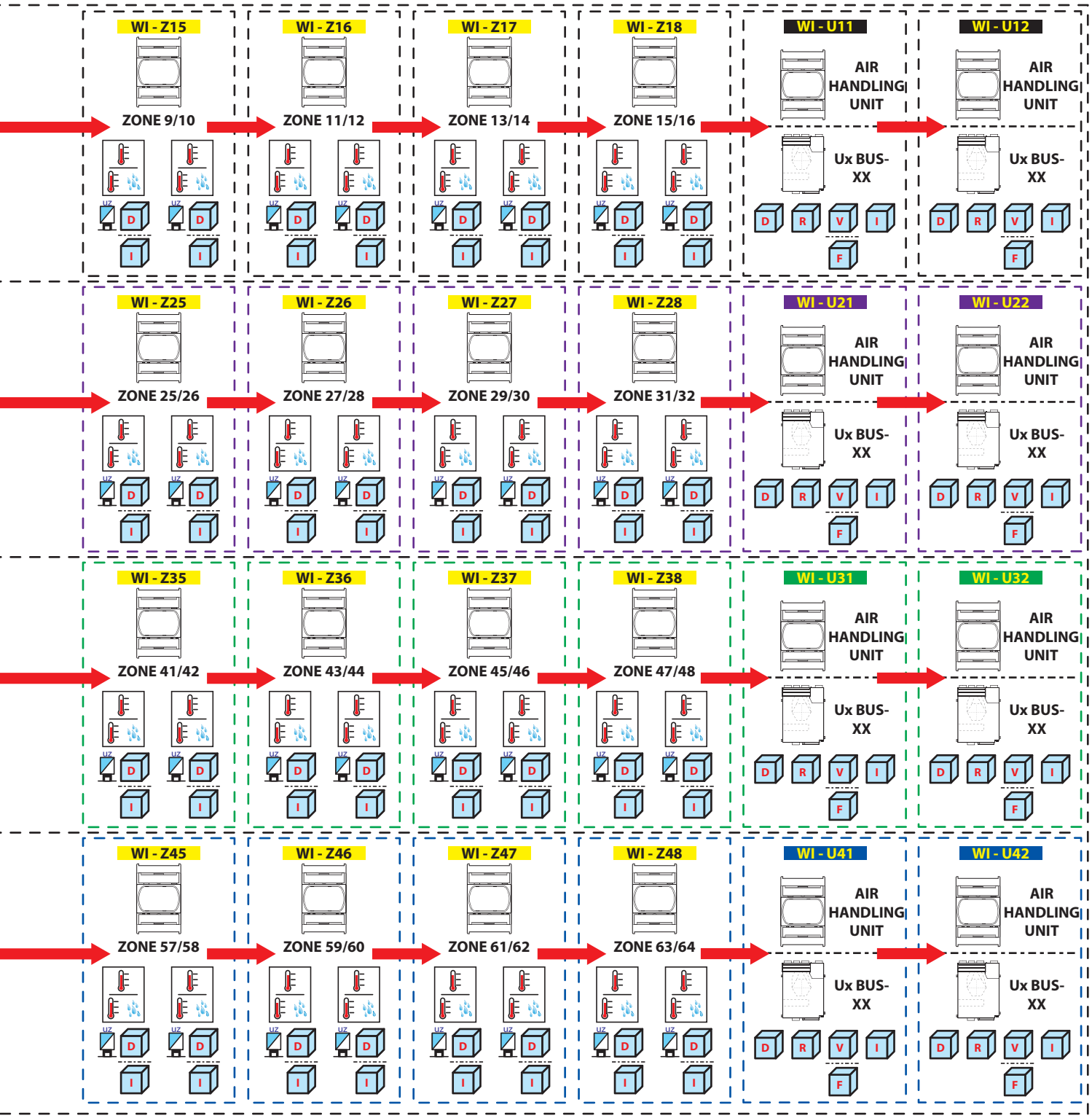
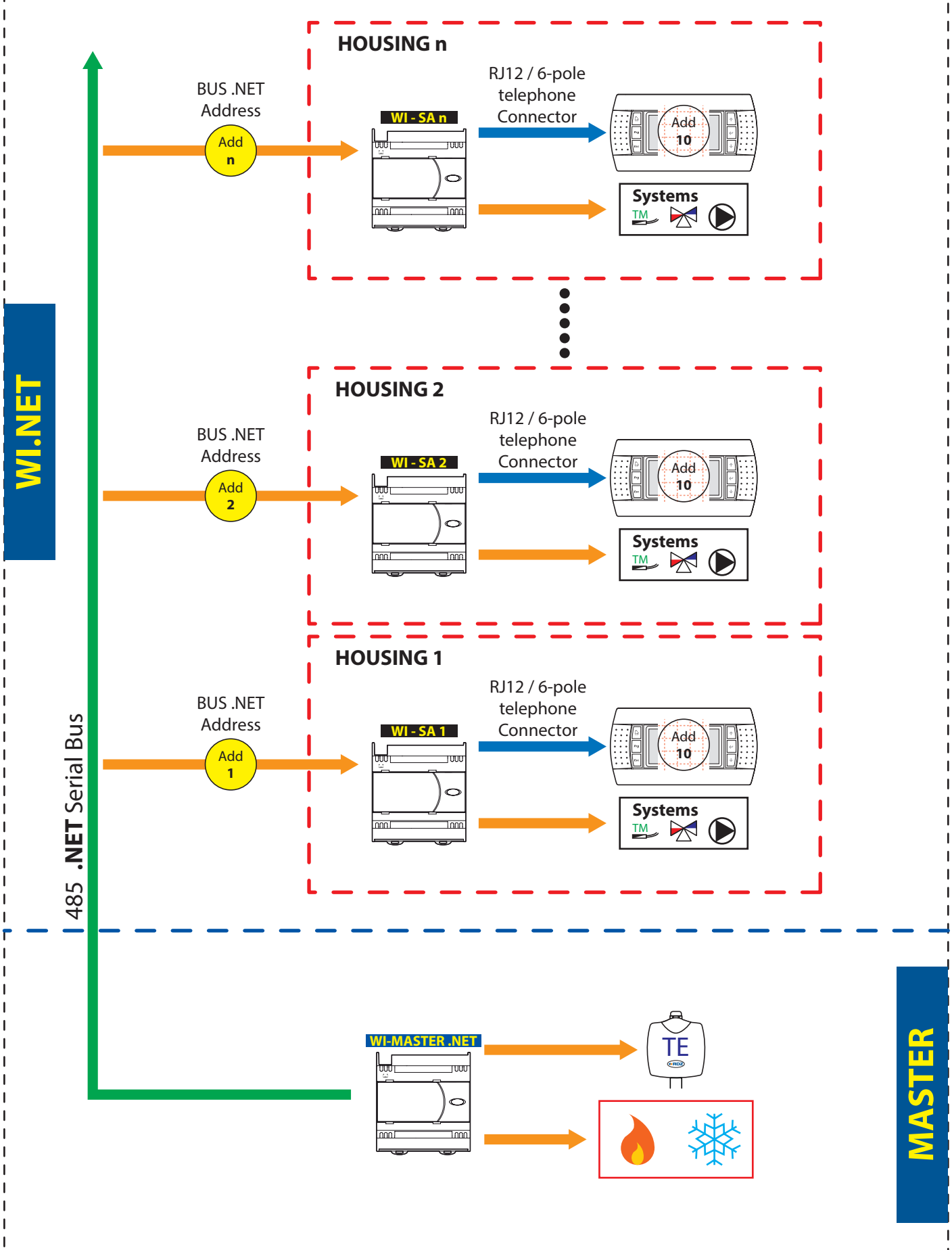


Table - Diagram key		
TE	**Outdoor temperature sensor**	*Analog Input* (NTC)
	Temperature Sensor or a combined Temperature/Humidity Sensor	*Analog Input* Temperature with TA, Wi-ITA sensors *Analog Input* Temperature and humidity with TA-H sensors *Serial Bus* Temperat. and humidity with WI-TT, Wi-TC, Wi-IHT, Wi-IHP sensors
Add 1 / Add 10	**Address**	WI-xx control unit UI-PRO User Interface
UZ	**Zone output**	*Digital Output* Zone Output, Zone Valve, Electro-thermal head
	Air Handling Unit / UxBUS-XX:	*Digital Outputs* for:
D/U	**Dehumidification / Humidification**	
R	**Air Renewal**	
V / F	**Ventilation or Free Cooling**	
I	**Integration**	

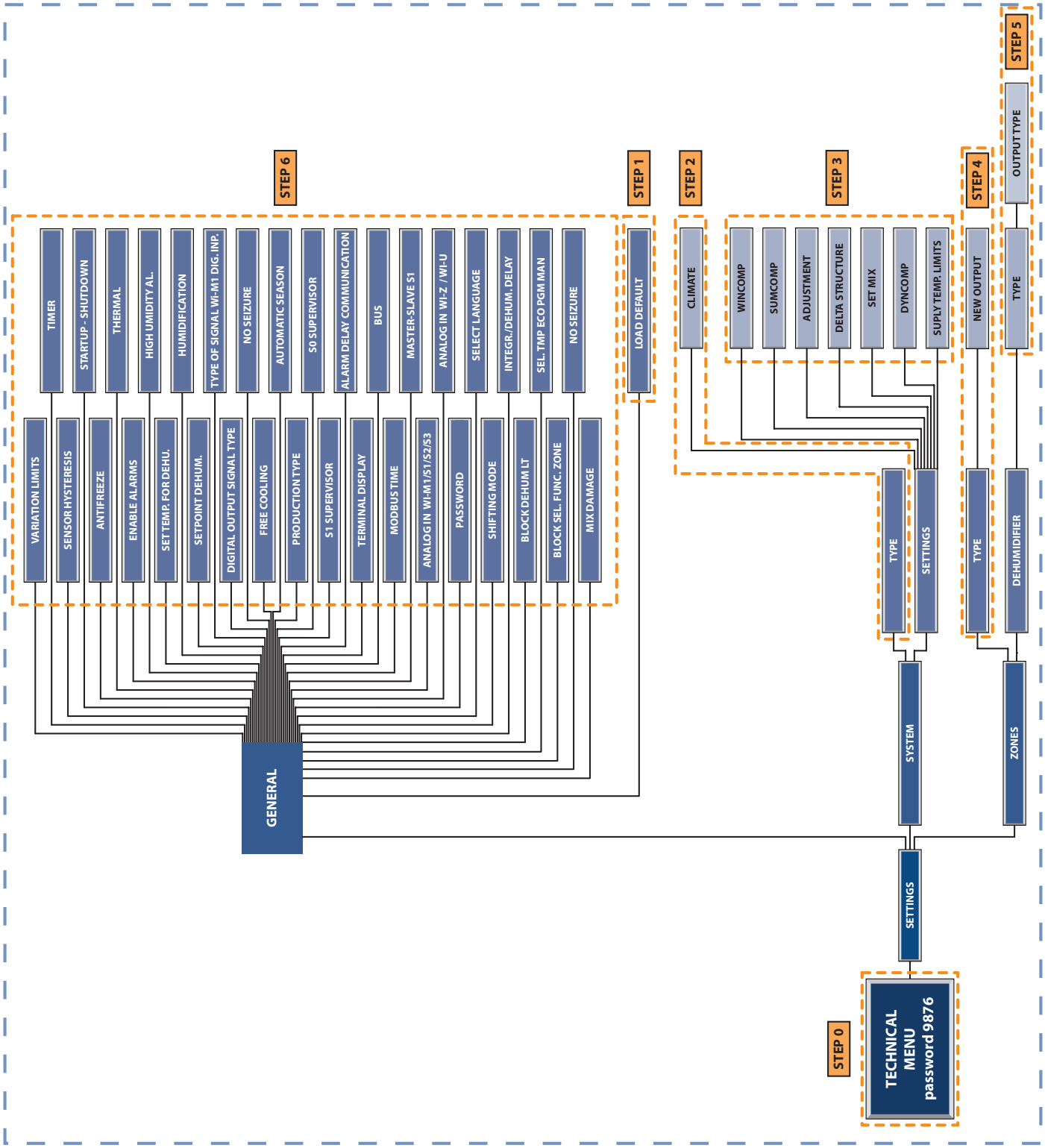


N.B. All WI .NET configurations between 02-02-0 and 08-64-8 are valid



PROCEDURE TO BE CARRIED OUT DURING CONFIGURATION

The configuration procedure consists of 6 steps that are described in detail below.
Accesses and procedures to scroll through all the screens are described in detail in the USER manual.



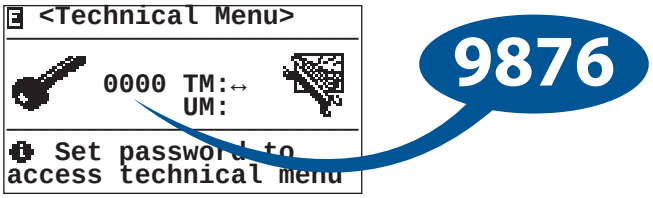
Summary of the configuration procedure.

The following table summarises the procedures to be carried out during configuration with reference to the steps defined in the technical menu listed below.

SYSTEM CONFIGURATION - STEP 2
Settings / System / Type
Settings / Systems /Settings / Climate
SYSTEM PARAMETER CONFIGURATION - STEP 3
Settings / Systems / Settings / Winter Comp.
Settings / Systems / Settings / Summer Comp.
Settings / Systems / Settings / Adjustment
Settings / Systems / Settings / DELTA STR.
Settings / Systems / Settings / Set Mix
Settings / Systems / Settings / Dynamic Comp.
Settings / Systems / Settings / Supply Temp. Limits
ZONE CONFIGURATION - STEP 4
Settings / Zone / Type
DEHUMIDIFIER CONFIGURATION - STEP 5
Settings / Zone / Dehumidifier
OFFSET SETTING
Settings / Zone / Offset

Step(0): technical menu

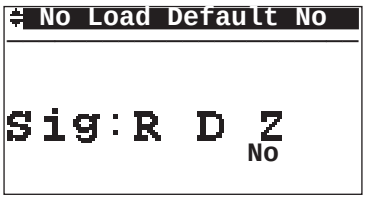
Below are listed the generic operations to set the basic functions of the WI control unit.
To access the setting screens, enter the correct Password **[9876]** in the Technical Menu screen.
Upon entering the correct password, you can proceed with the subsequent operations.



Step(1): deletion

Before proceeding with the configuration, we recommend carrying out the data deletion procedure through screen "Default load" .
This procedure is carried out automatically every time that, upon control unit start-up, there is an anomaly concerning the stored data.

Path:
Technical Menu \ Settings \ General \
Load Default

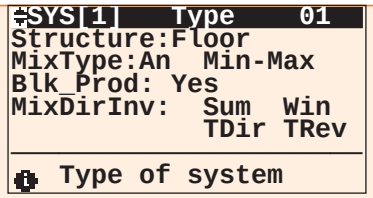


STEP(2): SYSTEM CONFIGURATION

Upon completing the deletion, the system restarts and the main screen appears.
We can now proceed with the configuration of the system: After entering the password, then technical menu Step (0), access the screen for entering the type of system.

STEP A: define the **type of system**.

Path:
TECHNICAL MENU \ SETTINGS \ SYSTEM \
TYPE



The possible settings are the following:
Structure: Type of system structure:
- **Absent**: Non-configured system.
- **Floor**: Floor Structure.
- **Wall/Ceil.**: Wall/Ceiling Structure.
- **HT + Mix:** High temperature + mixing valve.
- **HT:** High-temperature.
- **HTdir:** Direct High-temperature.

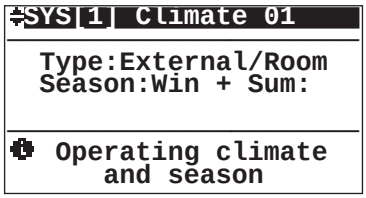
Mix Type: Type of mixing valve:
- **An**: Analog Mixing Valve:
- **Min:** [0/10V] Voltage to supply the maximum power to the system.
- **Max:** [0/10V] Voltage to supply the maximum power to the system.

Blk_Prod: Production call block (example: electric radiators)
Mix DirInv: 0-10V output, direct or reverse to the **min/max** setpoint for summer mode (**Sum**) or winter mode (**Win**)
- **TDir:** 0-10V output following the set **min/max** direction.
- **TRev:** 0-10V output in the reverse direction to the set min/max one.

NB: During this phase, you can define up to 8 mixing systems.

STEP B: configure the **type of system operation**.

Path:
TECHNICAL MENU \ SETTINGS \ SYSTEM \ SETTINGS \
CLIMATE



The possible settings are the following:

Climate with external sensor

Only the external sensor is installed in this type of configuration. Delivery temperatures calculated according to the external compensation curve. The system activates the boiler/chiller and the pump, adjusting the mixing valve to the required calculated temperature. Partial disconnection of the system is controlled by external controls by means of remote thermostats.
Season:
- **Winter:** Temperature control is activated only during the winter season.
- **Winter + Summer** Temperature control is activated during Winter + Summer.
- **Summer:** Temperature control is activated only during the summer season.

NB: Summer configuration requires extra caution on system external humidity control

Climate with External + Room sensor

This type of configuration requires the installation of an external sensor and of at least one HT/H or HT room sensor.
Season:
- **Winter:** Temperature control is activated only during the winter season. The control unit will deactivate all the summer functions, change of season (will no longer be enabled), dehumidifier control, etc. Compensation occurs considering the external temperature curve and (optional) room dynamic compensation.
- **Winter + Summer** Temperature control is activated inner Winter + Summer. Compensation occurs considering the seasonal external temperature curve and (optional) room dynamic compensation. During summer, in cooling mode, the logic will consider the limitation set by the room dew point.
- **Summer:** Temperature control is activated only during the summer season. The control unit will deactivate all the winter functions and the change of season will no longer be enabled. Compensation occurs considering the external temperature curve and (optional) room dynamic compensation. The logic will consider the limitation set by the room dew point.

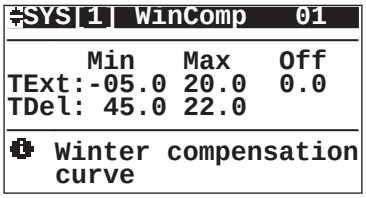
STEP(3): SYSTEM PARAMETER CONFIGURATION

Once type of system has been defined, you can now modify its operating parameters. In succession, you can set:
Winter compensation line
Summer compensation line
Delta structure coefficient
Mixing parameters
Dynamic compensation

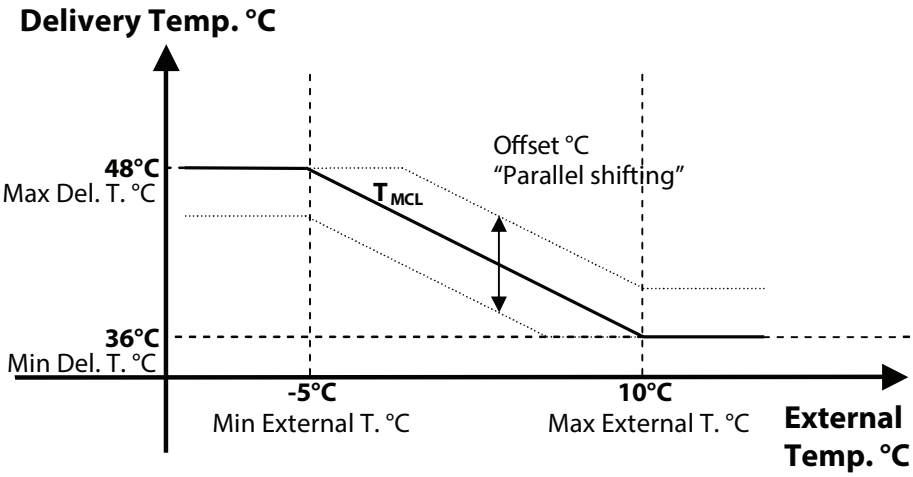
WINTER COMPENSATION LINE

The parameters to be entered in the screen represent the characterisation of the compensation curve shown in the figure below. The control unit, will adjust the water delivery temperature according to the outdoor temperature.

Path:
TECHNICAL MENU \ SETTINGS \ SYSTEM \ SETTINGS \
WINTER COMPENSATION



Heating Curve (winter compensation).



T_{MCL} = Temperature calculated through the compensation line

During the calculation phase, in winter operating mode, the control unit, given the measured outdoor temperature, will calculate a temperature that we will indicate as T_{MCL}, i.e., a temperature calculated through the compensation line.

Winter Compensation Line Reference Settings

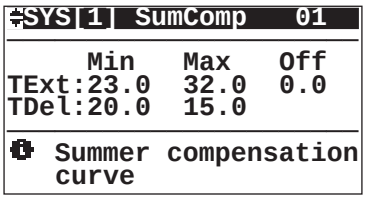
WALL/CEILING				
Name	Min	Max	Name	Val
TExt	-5°C	10°C	Off.	0
Del.T	48°C	36°C		

FLOOR				
Name	Min	Max	Name	Val
TExt	-5°C	20°C	Off.	0
Del.T	45°C	22°C		

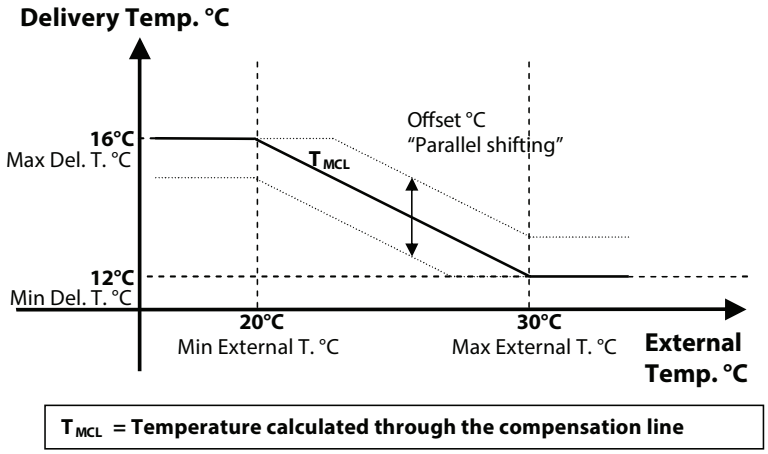
SUMMER COMPENSATION LINE

The parameters to be entered in the screen represent the characterisation of the compensation curve shown in the figure below. The control unit will adjust the water delivery temperature according to the outdoor temperature and to the dew point.

Path:
TECHNICAL MENU \ SETTINGS \ SYSTEM \ SETTINGS \
SUMMER COMPENSATION



Cooling Curve (Summer compensation).



T_{MCL} = Temperature calculated through the compensation line

During the calculation phase, in summer operating mode, the control unit, given the measured outdoor temperature, will calculate a temperature that we will indicate as T_{MCL}, i.e., a temperature calculated through the compensation line.

Summer Compensation Line Reference Settings

WALL/CEILING				
Name	Min	Max	Name	Val
TExt	20°C	30°C	Off.	0
Del.T	16°C	12°C		

FLOOR				
Name	Min	Max	Name	Val
TExt	23°C	32°C	Off.	0
Del.T	20°C	15°C		

Delta structure coefficient

Now let's take a look on how to set the thermal resistance properties of the materials used (plasterboard, wood, etc.). See table.

Path:
Technical Menu \ Settings \ System \ Settings \
Delta Structure

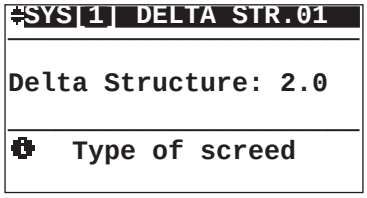
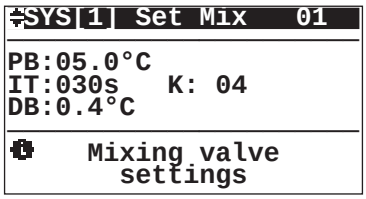


Table - Delta Structure Reference Settings

FLOOR			B!Klimax / CEILING / WALL
Thickness	Delta Structure with TILE	Delta Structure with WOOD	Delta Structure
Between 3 and 3.5 cm	2	3	2
Between 4 and 4,5 cm	3	4	
Between 5 and 6 cm	4	5	
Between 7 and 8 cm	5	6	

Mixing parameters

Path:
Technical Menu \ Settings \ System \ Settings \
Mixing valve setting



In this section, you can customise the mixing valve operating mode in order to adapt the mixing to the type of system and obtain correct delivery temperature control.
The parameters to be set are the following:

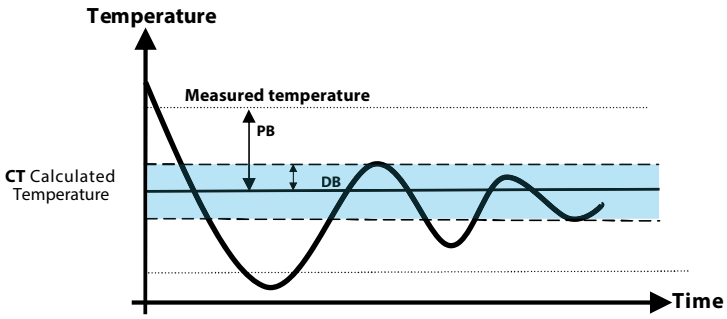
PB: (min 2 °C- max 10 °C) Proportional band in °C. This value represents the interval within which the mixing valve intervenes by means of a PID logic. Outside of the PB, the mixing valve performs an action equal to 20% of the motor stroke.

DB: (min 0 °C- max 2 °C) dead band in °C (band where the mixing valve performs no action).

IT: (min 10sec -max500 sec) Integral Time (PID calculation integration time).

K: (min 0- max 10) Approach speed towards the calculated temperature.

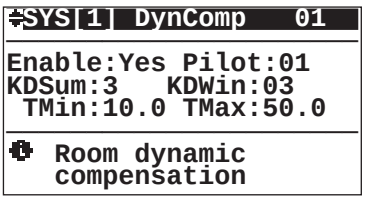
The general trend of the measured temperature is represented in the figure below.



Dynamic compensation

In this section you can enable the dynamic compensation to calculate the delivery temperature by means of the **Enable (Yes /No)** variable. Enabling the dynamic compensation provides for the allocation of a pilot zone, which affects the delivery temperature value obtained through the compensation line.
To identify this "Pilot Zone", the identification number of the zone in the room sensor configuration (see step 4: Zone configuration).
The dynamic compensation modifies the delivery temperature according to the difference between the sample room temperature and the set temperature setpoint. Its use helps reaching a pleasant temperature in the shortest time possible.

Path:
Technical Menu \ Settings \ System \ Settings \
Dynamic Compensation



STEP(4): ZONE CONFIGURATION

Upon completing the general definition of the system, you can proceed with the zone configuration.

Path:

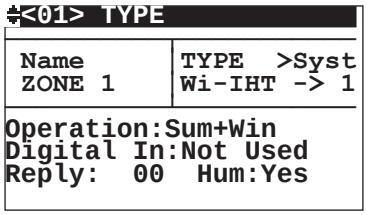
TECHNICAL MENU \ SETTINGS \ ZONE \

TYPE

"WI" Multi-system and multi-zone control units

Type:

- —: Absent Sensor.
- **HT:** Temperature Sensor.
- **HT/H** Temperature and Humidity Sensor.
- **Wi-TT:** Temperature - Humidity Sensor with Bus connection.
- **WI-TC:** Temperature - Humidity Sensor with Bus connection.
- **Wi-IHT:** Temperature - Humidity Sensor with Bus connection.
- **Wi-IHP:** Temperature - Humidity Sensor with Bus connection.
- **Wi-ITA:** Temperature - Humidity Sensor with cable.
- **Wi-ITD:** Temperature Sensor with Bus connection.



System: System index associated to the zone.

Function:

- **Win:** Activates only winter functions.
- **Win + Sum:** Activate both winter and summer functions.

NB: During this phase, you can define up to 64 climate zones.

Hum: enables humidification by zone. **N.B. It can be set only when enabled through screen "Humidification"**

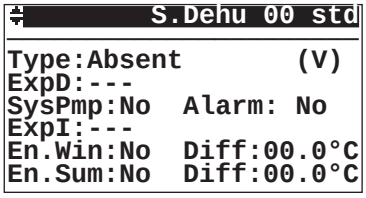
- **Yes:** Activated humidification.
- **No:** Deactivated humidification.

STEP(5): DEHUMIDIFIER CONFIGURATION

Path:

TECHNICAL MENU \ SETTINGS \ ZONE \ DEHUMIDIFIER

TYPE



If the system has a summer operating mode, the dehumidifier must be configured, as well as the HT/H sensor that pilots it in step 4.
The parameters to be set are the following:

Type:

- **Absent** (only if dehumidification management is external to the controller)
- **Deh D** (dehumidifier with only dehumidification functions)
- **Deh D+V** (AHU with dehumidification and ventilation functions)
- **Deh D+V+R** (AHU with dehumidification, ventilation and air renewal function
- **D+I** (Dehumidifier functioning as dehumidification and integration unit)

(V): Visual display for the configuration of the relay for Free Cooling (f) or Ventilation (V)

ExpD:

The use of this parameter allows associating a dehumidifier/AHU to every zone.
As for the dehumidifiers you can choose between: WI-Z11- d 1 / WI-Z11- d 2 …WI-Z48- d 63 / WI-Z48- d 64
As for the AHUs you can choose between: WI-U11 / WI-U12 ... WI-U41 / WI-U42
As for the UC410HE you can choose between: UC-11 / UC-12 ... UC-41 / UC-42

SysPmp

- **Yes** dehumidifier/AHU hydraulic coupling downstream the mixing valve.
- **No** dehumidifier/AHU hydraulic coupling upstream the mixing valve

Alarm:

- **Yes** Dehumidifier/AHU alarm enabled.
- **No** Dehumidifier/AHU alarm disabled.

ExpI:

This parameter makes it possible to associate in each area the dehumidifier/UTA with the relevant expansion unit WI-Z11- i 1 / WI-Z11- i 2 …WI-Z48- i 63 / WI-Z48- i 64

En.Win: It enables winter sensible heat integration

Diff: Room differential/set to enable relevant operation

En.Sum: It enables summer sensible heat integration

Diff: Room differential/set to enable relevant operation

All.zone D: identifies which kind of operation shall be carried out on the dehumidification control in the area in case of dehumidifier alarm.

T: identifies which is the operation to be carried out in the zone temperature control in case of dehumidifier alarm.

Four possible options:

D off, T on : Dehumidification control is OFF, while temperature control is ON.

D on, T off : Dehumidification control is ON, , while temperature control is OFF.

D on, T on : Both dehumidification and temperature controls are ON.

D off, T off : Both dehumidification and temperature controls are OFF.

ExpR: identifies the output for the fresh ventilation control in the Wi-Z expansion unit.

TMR: identifies which kind of schedule timer for the fresh air ventilation in the AHU. 8 possible options. These schedules are shared with Wi-U units.

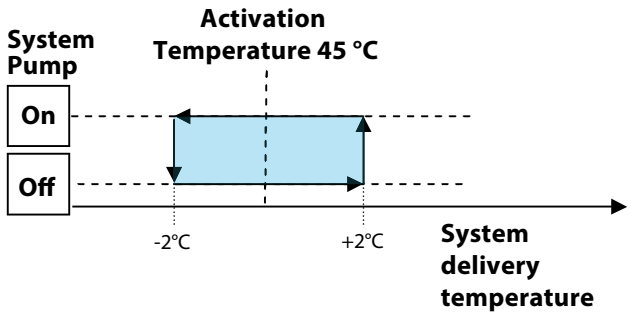
STEP(6): GENERAL CONFIGURATIONS

Once the system - zones - dehumidifiers have been defined, you can proceed with the general configurations.

THERMAL PARAMETERS

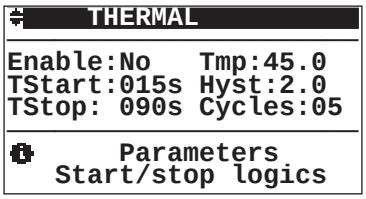
The "thermal" function activates an automatic heat dissipation algorithm. This logic is available only in Winter operating mode and is activated only when there is no system low temperature request.
You can set the following parameters:
Enable: Yes/No Enable/Disable function.
Tmp: Function activation system delivery temperature.
Hyst: Operating hysteresis.
Tstart: Pump operation time.
Tstop: Delay between dissipation cycles.
Cycles: Number of dissipation cycles before the alarm locks the function.

Below are listed the default values and the pump activation scheme according to the delivery temperature.



THERMAL OPERATING LOGIC:
The starting condition is that the system must be on standby (no production request, recirculating mixing valves, pump off). If, for any reason, the delivery temperature rises above 45+2°C, then the thermal function will be activated. This will simply activate the system pump (15 sec) and the zone output. If this operation does not bring the temperature back to 45-2°C, the function will be reactivated after a 90 sec delay for the number of dissipation cycles (5 cycles). At the end of all the cycles, if the temperature has not decreased, the thermal alarm will set off.

Path:
TECHNICAL MENU \ SETTINGS \ GENERAL \
THERMAL

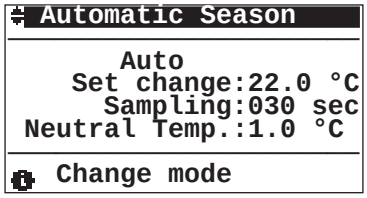


Name	Description	Default value
Enable	Enable function	Yes
Tmp	Activation temperature	45°C
Hyst	Operating hysteresis	2.0°C
TStart	Pump activation time	15 s
TStop	Delay	90 s
Cycles	Number of cycles	5

Automatic Season Parameters

Managing the season in manual/automatic mode.

Path:
Technical Menu \ Settings \ General \
Automatic Season

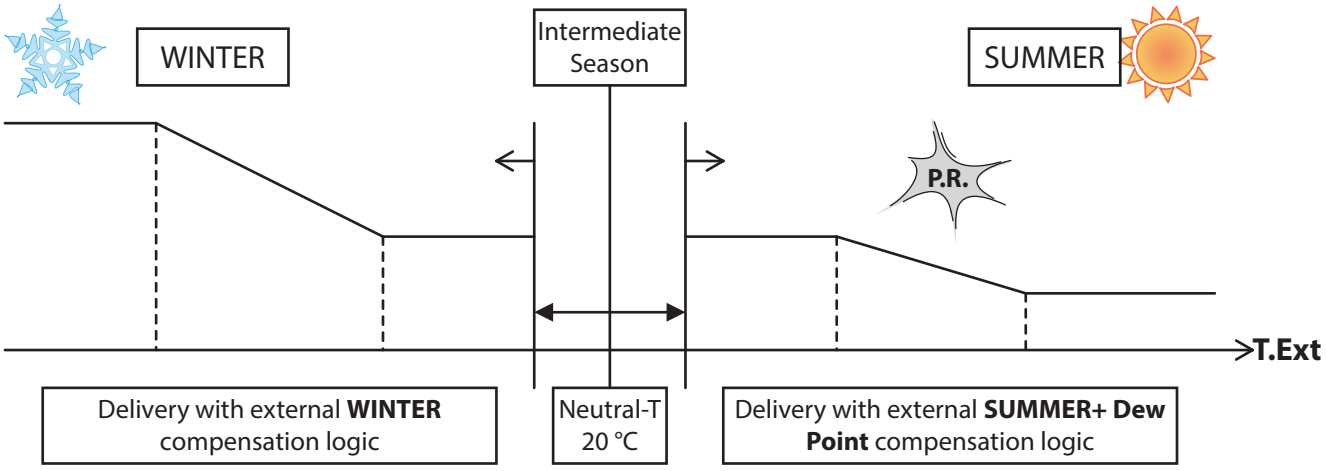


AUTOMATIC SEASON LOGIC

Outdoor conditions
Every zone has two sets of temperatures, one for each season. According to the outdoor weather conditions, the control unit will automatically change the season.

Indoor conditions
Given a set range equal to **Change Set** ± **Neutral Temp.** , if there is an active zone where the measured temperature is higher or lower, for a set **sampling** time and in all the other active zones the measured temperature falls within the set range, then the reference season will be determined by the zone.

WARNING: This function is activated only for systems that can be hydraulically set to the automatic heating/cooling mode.

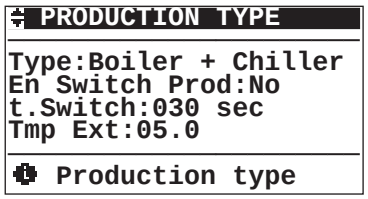


Production Type Setting

Set the parameters of the production type

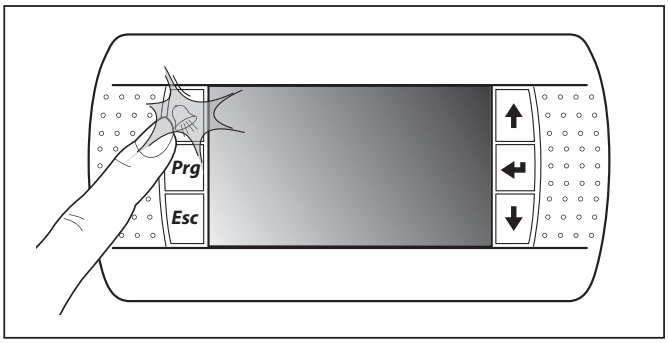
Type: Boiler+Chiller / Heat pump, it represents the energy source feeding the system
En Switch Prod: (only with type = Heat pump) Yes/No, if "Yes" is set in the system, there is another heat generator (es. boiler) apart from the heat pump.
t. Switch: (default 30 sec) Delay time before changing primary resource into secondary resource.
Tmp Ext: (default 5°C) set value for outside temperature below which the controller switches the energy production from the primary source (Heat pump) to the secondary one (boiler).

Path:
Technical Menu \ Settings \ General \
Production Type



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 once again.



NB: When the problem is solved, 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 shall appear.

Below are described the possible screens explaining each error.

Table - Alarms

1) BOILER / HEAT PUMP ALARM

BOILER ALARM OR HEAT PUMP ALARM	Boiler / Heat pump lock (Winter season). All the systems are disabled.

2) CHILLER / HEAT PUMP ALARM:

CHILLER ALARM OR HEAT PUMP ALARM	Chiller / Heat pump lock (Summer season). All the systems are disabled.

3) ROOM SENSOR ALARM:

ZONE ALARM ROOM PROBE Enter to view	ZONE 1 Off Line:Yes Temp.:! Humidity:- Deh:-	The presence of an error is indicated with !, while its absence with -. When the sensor is communicating, errors in detecting **Temperature** (Temperature)/**Humidity** may occur. The **Deh** (Dehumidifier) session indicates the presence of an alarm concerning the dehumidifier serving the zone. NB: All the functions corresponding to the type of error are deactivated.

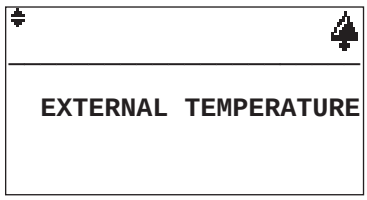
4) SYSTEM ALARM — ROOM TEMPERATURE SENSOR/S:

Temperature Sensor/s Faulty-Disconnected Enter Display ALARM	NO ROOM TEMPERATURE SYSTEM:SYST[1]	This error occurs during winter when there is no temperature detection in the system, i.e., all the temperature sensors connected to the system are malfunctioning or disconnected. NB: system **Syst[1]** is deactivated.

5) SYSTEM ALARM — ROOM TEMPERATURE/HUMIDITY SENSOR/S:

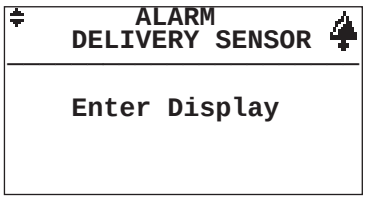
Humidity Sensor/s Faulty-Disconnected Enter Display ALARM	DEW POINT SYSTEM:SYST[1]	This error occurs during summer when there is no temperature/humidity detection in the system, i.e., all the temperature/humidity sensors connected to the system are malfunctioning or disconnected. NB: system **Syst[1]** is deactivated.

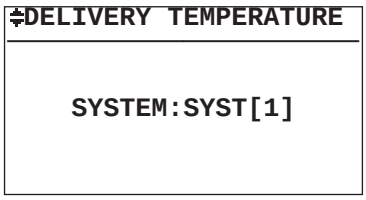
6) SYSTEM ALARM — EXTERNAL SENSOR:



This error occurs when the control unit does not detect the external temperature signal. NB: all the systems continue to operate, considering, during winter mode, the external temperature value set to +5°C and the maximum set to +30°C.

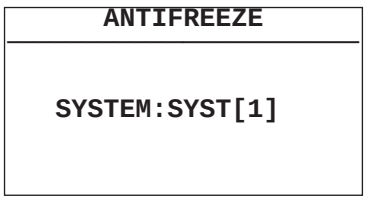
7) SYSTEM ALARM — DELIVERY SENSOR:





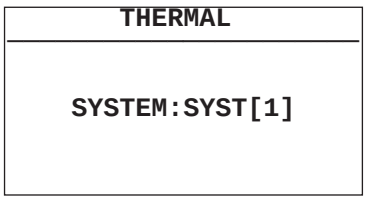
This error occurs when the control unit does not detect the delivery temperature signal.
NB: system **Syst[1]** is deactivated.

8) ROOM ANTIFREEZE:



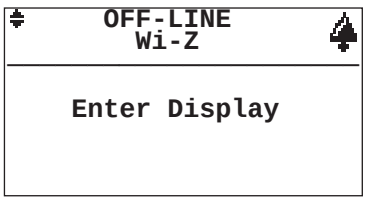
This error occurs when, during winter, the temperature of a zone drops below 5°C (settable). All the zones are activated. The alarm is reset when the temperature in all the zones exceeds 6°C (settable).

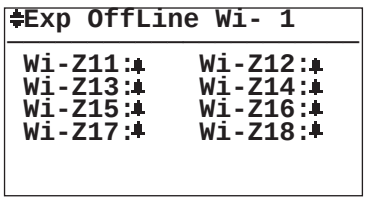
9) THERMAL ALARM:



This occurs when, during winter, the delivery sensor detects a temperature of 45°C (settable) for a certain amount of time while the system is off.

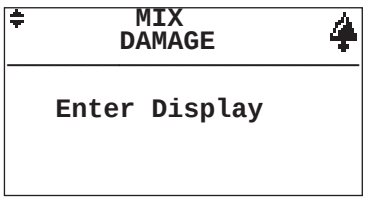
10) WI-Z UNIT ALARM:

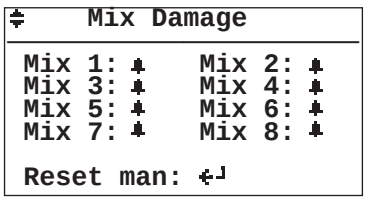




In the event of failed communication, a bell will appear next to the expansion.

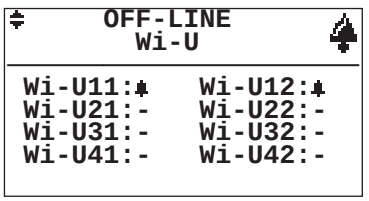
11) MIX DAMAGE ALARM:





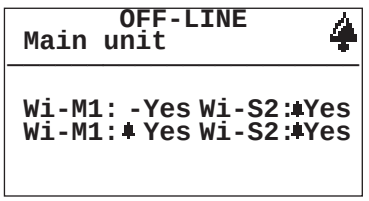
In case of alarm the symbol of a bell appears next to the damaged mixer.
The control Reset man. makes it possible to reset the alarm manually.

12) WI-U UNIT ALARM:



In the event of failed communication, a bell will appear next to the expansion.

13) MAIN UNIT ALARM:



In the event of failed communication, a bell will appear next to the control unit (provided that it is configured)
YES = Main unit OFFLINE
-YES = Main unit ONLINE
-NO = Main unit not configured

14) MASTER UNIT ALARM:

MASTER OFFLINE	This alarm occurs only in the WI.NET control units in the event there is no communication with the WI.MASTER.NET board

15) Ux-xx UNIT ALARM:

OFF-LINE Ux-xx UC-11:-No UC-31:-No UC-12:-No UC-32:-No UC-21:-No UC-41:Yes UC-22:-No UC-42:-No	In the event of failed communication, a bell will appear next to the UC-410 unit (provided that it is configured) YES = Ux-xx OFFLINE - YES = Ux-xx ONLINE - NO = Ux-xx not configured

16) MANUAL INTEGRATION RESET:

Manual Reset:No Integration U-1 U-2 U-3 U-4 Yes No No No U-5 U-6 U-7 U-8 No No No No	In the event of a Ventilation/Air Renewal block in one of the AHUs, it allows resetting the integration function without waiting for restoring the conditions.

17) ALARM UxBUS:

Errors/Faults UxBUS Enter Display	Alarms UC- 0 Gas low pressure:- Gas high press. :- Compr.high temp.:- Bus communicat. :- Pres. ↵ next Alm	**Gas low pressure:** Low pressure alarm on the refrigerating circuit (Unit of coolant discharge).(*) (*)**Gas Missing** in case of UAP 200 **Gas high press.:** High pressure alarm on the refrigerating circuit. **Compr. high temp:** High temperature alarm on compressor. **Bus communicat.:** BUS communication alarm.
	Alarms UC- 0 Defrosting: - High Temp.water: - Fan 1: - Fan 2: - Pres. ↵ next Alm	**Defrosting:** Ice presence alarm. **High Temp. water:** High temperature alarm on water.(*) (*)**Water Low Temp** in case of UAP 200 **Fan 1:** Fan input alarm. **Fan 2:** Fan expulsion alarm.
	Alarms UC- 0 Overload Evap.:b Pres. ↵ next Alm	**Overload Evap.:** It shows the alarm for the evaporator overload in DA units. (*) (*) on DA unit
	Alarms UC- 0 Gas Low Pressure.:b Pres. ↵ next Alm	**Gas Low Pressure:** It shows the gas low pressure due to lack of ventilation.(*) (*) on UAP 200 unit
	Alarms UC-i B Inlet Filter.:b Expulsion Filter.:b Machine Block:b	The dirty filters alarm is displayed when the set limit values are reached. (*) (*) CHR, WHR, UC xxx RDZ unit, UAP 201-PDC

Errors/Faults UxBUS Enter Display	Res.All. UC-i B U-1 U-2 U-3 U-4 I I I I U-5 U-6 U-7 U-8 I I I I	On this window you can reset the alarms of the DA units, or CHR dirty filter alarm, by enabling the function on the top right. The input is sent by changing the value for each unit. (*) on DA, CHR, UC xxx RDZ unit, UAP 201-PDC

18) ERRORS-FAILURES UxBUS:

Block Alarm
UxBUS

Enter to view

Errors/Faults UC- 0

Supply sensor:-
Evaporation sensor:-
Undercool. sensor:-
Overheating sensor:-

Pres. ↵ next Alm

Supply sensor: Failure of the flow sensor (NTC1 sensor).
Evaporation sensor: Failure of the evaporator sensor (NTC2 sensor).
Undercool. sensor: Failure of the subcooling sensor C2 (NTC6 sensor).
Overheating sensor: Failure of the overheating sensor (NTC4 sensor).

(CHR/WHR)

Errors/Faults UC- 0

Supply sensor:-
Expulsion sensor:-
Extraction sensor:-
Overheating sensor:-

Pres. ↵ next Alm

CHR	WHR
Supply Sensor: Supply probe failure **Explusion Sensor:** Expulsion probe failure **Extraction Sensor:** Extraction probe failure	**NTC1:** NTC1 sensor failure **NTC4:** NTC4 sensor failure **NTC2:** NTC2 sensor failure

Errors/Faults UC-0

Undercooling sens.:-
Water temp. sensor:-
Compr.temp.sensor :-
Outdoor.temp.sens.:-

Pres. ↵ next Alm

Undercooling sens. Failure of the subcooling sensor C1 (NTC5 sensor).
Water temp. sensor: Failure of the water temperature sensor (NTC7 sensor).
Compr. temp. sensor: Failure of the compressor temperature sensor (NTC3 sensor).
Outdoor. temp. sens.: Failure of the external temperature sensor (NTC8 sensor).

(CHR/WHR)

Errors/Faults UC-0

Undercooling sens.:-
Water temp. sensor:-
Compr.temp.sensor :-
Outdoor.temp.sens.:-

Pres. ↵ next Alm

CHR	WHR
Outdoor.temp.sens.: Failure of the CHR external temperature sensor	**NTC3:** NTC3 sensor failure

Errors/Faults UC-0

Pressure transduc.:-
Press. transduc.A:-
Press. transduc.B:-

Pres. ↵ next Alm

Pressure transduc.: Failure of cooling transducer pressure.(*)
(*) **Capacitor probe** (in case of UAP 200)
Press. transduc.A: Failure of differential pressure sensor in the renewal area.
Press. transduc.B: Failure of differential pressure sensor in the expulsion area.

WHR/ UC 500-MHE

Errors/Faults UC-0

Pressure transduc.:-
Fluximeter 1:-
Fluximeter 2:-
Fluximeter 3:-

Pres. ↵ next Alm

WHR/ UC 500-MHE
Fluximeter 1: Fluximeter 1 sensor failure
Fluximeter 2: Fluximeter 2 sensor failure
Fluximeter 3: Fluximeter 3 sensor failure (*)
(*) Only for UC 500-MHE

19) FAILURE AQ SENSOR ALARM:

QA out of order

QA-1:- QA-5:-
QA-2:- QA-6:-
QA-3:- QA-7:-
QA-4:- QA-8:-

In this screen through the display of the alarm, you can see if the (configured) AQ sensor, not noticing a correct value, shows an error.

= Error
– = Configured sensor is running or the sensor is not configured

DATA TABLES

Default values

TYPE OF SYSTEM		
NAME	**TYPE**	
Structure	Type of heating	Wall/Ceiling
Mix type	Type of mixing valve	An
Volt	Min - Max Voltage	0 - 10 V

CLIMATE		
NAME	**CLIMATE**	**SEASON**
Type	External + room	Summer/Winter

B!KLIMAX COMPENSATION LINE SETTINGS				
WINTER parameters				
NAME	**Min**	**Max**	**Name**	**Value**
T.Ext	-5°C	10°C	Off set	0
T.Del	48°C	36°C		
SUMMER parameters				
NAME	**Min**	**Max**	**Name**	**Value**
T.Ext	20°C	30°C	Off set	0
T.Del	16°C	12°C		
STRUCTURAL/ATTENUATION parameters				
NAME	**Type**	**Value**		
Delta	Delta structure	2.0°C		
Win Attenuation	WINTER Attenuation	2.0°C		
Sum Attenuation	SUMMER attenuation	2.0°C		

FLOOR COMPENSATION LINE SETTINGS				
WINTER parameters				
NAME	**Min**	**Max**	**Name**	**Value**
T.Ext	-5°C	20°C	Off set	0
T.Del	45°C	22°C		
SUMMER parameters				
NAME	**Min**	**Max**	**Name**	**Value**
T.Ext	23°C	32°C	Off set	0
T.Del	20°C	15°C		
Dynamic compensation				
NAME	**Type**	**Value**		
Enable	Enable function	No		
KDSum	Summer multiplier coefficient	3		
Tmin	Minimum summer temperature	10°C		
KDWin	Winter multiplier coefficient	3		
Tmax	Maximum winter temperature	50°C		

MIXING VALVE parameters		
NAME	**Type**	**Value**
PB	Proportional band	5.0°C
IT	Integral time	30 seconds
DB	Dead band	0.4°C
K	Approach sensitivity	5

STRUCTURAL/ATTENUATION parameters		
NAME	**Type**	**Value**
Delta	Delta structure	4.0°C
Win Attenuation	WINTER attenuation	2.0°C
Sum Attenuation	SUMMER attenuation	2.0°C

GENERAL		
Winter Set user limitations		
NAME	**Description**	**Value**
low	Lower winter limit	12°C
Up	Upper winter limit	30°C
Summer Set user limitations		
NAME	**Description**	**Value**
low	Lower summer limit	14°C - 40% RH
Up	Upper summer limit	30°C - 75% RH

Timer		
NAME	**Description**	**Value**
Back to Main	Back to main menu	5 min
Switch-off Display	Switch off display	5 min
Enable Dehumidifier Alarms		
NAME	**Description**	**Value**
01:	Dehumidifier 1 alarm	no
02:	Dehumidifier 2 alarm	no
Enable pump anti-seizure		
NAME	**Description**	**Value**
Enable	Enable function	no
Days of inactivity	Days of inactivity	7 days
Operation	Minutes of operation	5 min

I/O BOARD SUMMARISING CONFIGURATION

These tables summarise the descriptions of the inputs and outputs.

SYSTEM UNIT

WI-M1 BOARD INPUTS/OUTPUTS

CONNECTOR	DEFAULT CONTACT	POSSIBLE CONFIGURATIONS
Digital inputs		
IDC1-ID1	Boiler Alarm	• Boost 1, Boost 2 • Chiller Alarm • Boiler Alarm • General On/Off input • Season Input • Signal On/Off Low Temperature Zone External Consent Low temperature production upstream the mixing valve (room thermostats On-Off) • Signal On/Off High Temperature Zone External Consent High temperature production upstream the mixing valve (room thermostats On-Off)
IDC1-ID2	Chiller Alarm	
GND-B7	Signal On/Off Zone 1 Low Temperature Zone External Consent Low temperature production upstream the mixing valve (room thermostats On-Off)	
GND-B8	Signal On/Off Zone 2 Low Temperature Zone External Consent Low temperature production upstream the mixing valve (room thermostats On-Off)	
CONNECTOR	**CONTACT**	**DESCRIPTION**
Analog inputs		
GND-B1	QA / QA-A probe Ux-xx nr. 1	***2 Delivery temperature sensor (TDel)***
GND-B2	QA / QA-A probe Ux-xx nr. 2	
GND-B3	Not Used	
GND-B4	Delivery Temperature 2	
GND-B5	Delivery Temperature 1	
GND-B6	External temperature	
Digital outputs		
C1-NO1 8A	CHILLER / HEAT PUMP	***ENERGY PRODUCTION***
C2-NO2 8A	BOILER / SECONDARY SOURCE	
C3-NO3 5A	Syst. pump 1	***SYSTEM PUMP 1***
C3-NO4 5A	Syst. pump 2	***SYSTEM PUMP 2***
C3-NO5 5A	AHU Pump 1	***AHU PUMP 1***
C3-NO6 5A	AHU Pump 2	***AHU PUMP 2***
C3-NO7 5A	Season	***Season contact (0ff WIN On SUM)***
Analog outputs		
Y2 – Gnd	System mixing valve analog signal	***MIXING VALVE 1***
Y1 – Gnd	PWM + Conv 0-10V signal	***MIXING VALVE 2***

WI-S2 BOARD INPUTS/OUTPUTS

CONNECTOR	CONTACT	DESCRIPTION
Digital inputs		
IDC1-ID1	ID1 not used	
IDC1-ID2	ID2 external consent LT System 3	***LOW-TEMPERATURE CONSENTS***
GND-B7	B7 external consent LT System 4	
GND-B8	B8 external HT consent	***HIGH TEMPERATURE CONSENT***
Analog inputs		
GND-B1	QA / QA-A probe Ux-xx nr. 3	***2 Delivery temp. sensors (TDel)***
GND-B2	QA / QA-A probe Ux-xx nr. 4	
GND-B3	Ux-xx Boost nr. 3	
GND-B4	Delivery Temperature 4	
GND-B5	Delivery Temperature 3	
GND-B6	Ux-xx Boost nr. 4	
Digital outputs		
C1-NO1 8A	CHILLER / HEAT PUMP	***ENERGY PRODUCTION***
C2-NO2 8A	BOILER / HEAT PUMP	
C3-NO3 5A	Syst. pump 3	***SYSTEM PUMP 3***
C3-NO4 5A	Syst. pump 4	***SYSTEM PUMP 4***
C3-NO5 5A	AHU Pump 3	***AHU PUMP 3***
C3-NO6 5A	AHU Pump 4	***AHU PUMP 4***
C3-NO7 5A	Season	***Season contact (0ff WIN On SUM)***
Analog outputs		
Y2 – Gnd	System mixing valve analog signal	***MIXING VALVE 3***
Y1 – Gnd	PWM + Conv 0-10V signal	***MIXING VALVE 4***

WI-S3 BOARD INPUTS/OUTPUTS

CONNECTOR	CONTACT	DESCRIPTION
Digital inputs		
IDC1-ID1	ID1 not used	
IDC1-ID2	ID2 external consent LT System 5	***LOW-TEMPERATURE CONSENTS***
GND-B7	B7 external consent LT System 6	
GND-B8	B8 external HT consent	***HIGH TEMPERATURE CONSENT***
Analog inputs		
GND-B1	QA / QA-A probe Ux-xx nr. 5	***2 Delivery temp. sensors (TM)***
GND-B2	QA / QA-A probe Ux-xx nr. 6	
GND-B3	Ux-xx Boost nr. 5	
GND-B4	Delivery Temperature 6	
GND-B5	Delivery Temperature 5	
GND-B6	Ux-xx Boost nr. 6	
Digital outputs		
C1-NO1 8A	CHILLER / HEAT PUMP	***ENERGY PRODUCTION***
C2-NO2 8A	BOILER / HEAT PUMP	
C3-NO3 5A	Syst. pump 5	***SYSTEM PUMP 5***
C3-NO4 5A	Syst. pump 6	***SYSTEM PUMP 6***
C3-NO5 5A	AHU Pump 5	***AHU PUMP 5***
C3-NO6 5A	AHU Pump 6	***AHU PUMP 6***
C3-NO7 5A	Season	***Season contact (0ff WIN On SUM)***
Analog outputs		
Y2 – Gnd	System mixing valve analog signal	***MIXING VALVE 5***
Y1 – Gnd	PWM + Conv 0-10V signal	***MIXING VALVE 6***

WI-S4 BOARD INPUTS/OUTPUTS

CONNECTOR	CONTACT	DESCRIPTION
Digital inputs		
IDC1-ID1	ID1 not used	
IDC1-ID2	ID2 external consent LT System 7	***LOW-TEMPERATURE CONSENTS***
GND-B7	B7 external consent LT System 8	
GND-B8	B8 external HT consent	***HIGH TEMPERATURE CONSENT***
Analog inputs		
GND-B1	QA / QA-A probe Ux-xx nr. 7	***2 Delivery temp. sensor (TM)***
GND-B2	QA / QA-A probe Ux-xx nr. 8	
GND-B3	Ux-xx Boost nr. 7	
GND-B4	Delivery Temperature 8	
GND-B5	Delivery Temperature 7	
GND-B6	Ux-xx Boost nr. 8	
Digital outputs		
C1-NO1 8A	CHILLER / HEAT PUMP	***ENERGY PRODUCTION***
C2-NO2 8A	BOILER / HEAT PUMP	
C3-NO3 5A	Syst. pump 7	***SYSTEM PUMP 7***
C3-NO4 5A	Syst. pump 8	***SYSTEM PUMP 8***
C3-NO5 5A	AHU Pump 7	***AHU PUMP 7***
C3-NO6 5A	AHU Pump 8	***AHU PUMP 8***
C3-NO7 5A	Season	***Season contact (0ff WIN On SUM)***
Analog outputs		
Y2 – Gnd	System mixing valve analog signal	***MIXING VALVE 7***
Y1 – Gnd	PWM + Conv 0-10V signal	***MIXING VALVE 8***

ZONE UNIT

The WI configuration manages up to16 zone expansions generically called WI-Zxy.
Every expansion can manage 2 temperature and humidity climate zones **[ZONE A] [ZONE B]** with two independent dehumidifiers **[dehumidifier C] [dehumidifier D]**.
The table below summarises the generic correspondence between the WI-Zxy expansions and the physical inputs/outputs.

WI-Z xy BOARD INPUTS/OUTPUTS

CONNECTOR	CONTACT	DESCRIPTION
Digital inputs		
IDC1-ID1	Signal On/Off [Zone A]	***ALARM/PRESENCE [Zone A]***
IDC1-ID2	Signal On/Off [Zone B]	***ALARM/PRESENCE [Zone B]***
IDC1-ID3	Alarm [dehumidifier C]	***ALARM/DEHUMIDIFIER [Zone C]***
IDC1-ID4	Alarm [dehumidifier D]	***ALARM/DEHUMIDIFIER [Zone D]***
Analog inputs		
+VDC-B1	Humidity [Zone A]	***2 temperature and humidity sensors (TM)***
+VDC-B2	Humidity [Zone B]	
GND-B3	Temperature [Zone A]	
GND-B4	Temperature [Zone B]	
Digital outputs		
C1 - NO1	Humidity [Zone A]	***HUMIDITY [Zone A]***
C2 - NO2	Humidity [Zone B]	***HUMIDITY [Zone B]***
C3 - NO3	Humidity [dehumidifier C]	***HUMIDITY [Dehumidifier C]***
C4 - NO4	Humidity [dehumidifier D]	***HUMIDITY [Dehumidifier D]***

Below is the correspondence between the WI-Zxy expansions and the inputs and outputs.
•analog inputs and digital inputs/outputs from ZONE 1 to ZONE 64.
•dehumidifier digital inputs/outputs WI-Z 11 d1 WI-Z 48 d64.

Starting unit 	ZONE expansion unit 	X	Y	[Zone] [A]	[Zone] [B]	[Configurable Output] [C]	[Configurable Output] [D]
WI-M1	WI-Z	1	1	Zone 1	Zone 2	WI-Z11 d1 / i1 / r1	WI-Z 11 d2 / i2 / r2
	WI-Z	1	2	Zone 3	Zone 4	WI-Z12 d3 / i3 / r3	WI-Z 12 d4 / i4 / r4
	WI-Z	1	3	Zone 5	Zone 6	WI-Z13 d5 / i5 / r5	WI-Z 13 d6 / i6 / r6
	WI-Z	1	4	Zone 7	Zone 8	WI-Z14 d7 / i7 / r7	WI-Z 14 d8 / i8 / r8
	WI-Z	1	5	Zone 9	Zone 10	WI-Z15 d9 / i9 / r9	WI-Z15 d10 / i10 / r10
	WI-Z	1	6	Zone 11	Zone 12	WI-Z16 d11 / i11 / r11	WI-Z16 d12 / i12 / r12
	WI-Z	1	7	Zone 13	Zone 14	WI-Z17 d13 / i13 / r13	WI-Z17 d14 / i14 / r14
	WI-Z	1	8	Zone 15	Zone 16	WI-Z18 d15 / i15 / r15	WI-Z18 d16 / i16 / r16
WI-S2	WI-Z	2	1	Zone 17	Zone 18	WI-Z21 d17 / i17 / r17	WI-Z21 d18 / i18 / r18
	WI-Z	2	2	Zone 19	Zone 20	WI-Z22 d19 / i19 / r19	WI-Z22 d20 / i20 / r20
	WI-Z	2	3	Zone 21	Zone 22	WI-Z23 d21 / i21 / r21	WI-Z23 d22 / i22 / r22
	WI-Z	2	4	Zone 23	Zone 24	WI-Z24 d23 / i23 / r23	WI-Z24 d24 / i24 / r24
	WI-Z	2	5	Zone 25	Zone 26	WI-Z25 d25 / i25 / r25	WI-Z25 d26 / i26 / r26
	WI-Z	2	6	Zone 27	Zone 28	WI-Z26 d27 / i27 / r27	WI-Z26 d28 / i28 / r28
	WI-Z	2	7	Zone 29	Zone 30	WI-Z27 d29 / i29 / r29	WI-Z27 d30 / i30 / r30
	WI-Z	2	8	Zone 31	Zone 32	WI-Z28 d31 / i31 / r31	WI-Z28 d32 / i32 / r32
WI-S3	WI-Z	3	1	Zone 33	Zone 34	WI-Z31 d33 / i33 / r33	WI-Z31 d34 / i34 / r34
	WI-Z	3	2	Zone 35	Zone 36	WI-Z32 d35 / i35 / r35	WI-Z32 d36 / i36 / r36
	WI-Z	3	3	Zone 37	Zone 38	WI-Z33 d37 / i37 / r37	WI-Z33 d38 / i38 / r38
	WI-Z	3	4	Zone 39	Zone 40	WI-Z34 d39 / i39 / r39	WI-Z34 d40 / i40 / r40
	WI-Z	3	5	Zone 41	Zone 42	WI-Z35 d41 / i41 / r41	WI-Z35 d42 / i42 / r42
	WI-Z	3	6	Zone 43	Zone 44	WI-Z36 d43 / i43 / r43	WI-Z36 d44 / i44 / r44
	WI-Z	3	7	Zone 45	Zone 46	WI-Z37 d45 / i45 / r45	WI-Z37 d46 / i46 / r46
	WI-Z	3	8	Zone 47	Zone 48	WI-Z38 d47 / i47 / r47	WI-Z38 d48 / i48 / r48
WI-S4	WI-Z	4	1	Zone 49	Zone 50	WI-Z41 d49 / i49 / r49	WI-Z41 d50 / i50 / r50
	WI-Z	4	2	Zone 51	Zone 52	WI-Z42 d51 / i51 / r51	WI-Z42 d52 / i52 / r52
	WI-Z	4	3	Zone 53	Zone 54	WI-Z43 d53 / i53 / r53	WI-Z43 d54 / i54 / r54
	WI-Z	4	4	Zone 55	Zone 56	WI-Z44 d55 / i55 / r55	WI-Z44 d56 / i56 / r56
	WI-Z	4	5	Zone 57	Zone58	WI-Z45 d57 / i57 / r57	WI-Z45 d58 / i58 / r58
	WI-Z	4	6	Zone 59	Zone 60	WI-Z46 d59 / i59 / r59	WI-Z46 d60 / i60 / r60
	WI-Z	4	7	Zone 61	Zone 62	WI-Z47 d61 / i61 / r61	WI-Z47 d62 / i62 / r62
	WI-Z	4	8	Zone 63	Zone 64	WI-Z48 d63 / i63 / r63	WI-Z48 d64 / i64 / r64

"AHU" AIR HANDLING UNIT

The WI configuration manages up to **8** in handling expansions generically called WI-Uxy.
Each expansion shall now be indicated generically as **[E]** and will manage an air handling unit "AHU" with dehumidification, ventilation, air renewal, and integration functions.
The table below summarises the generic correspondence between the WI-Uxy expansions and the physical inputs/outputs.

WI-Uxy BOARD INPUTS/OUTPUTS

CONNECTOR	CONTACT	DESCRIPTION
Digital inputs		
IDC1-ID1		***Air Handling Unit ALARM [E]***
Analog inputs		
GND-B1	Air quality sensor	***2 Duct temperature sensor 1 Air quality sensor***
GND-B3	Air delivery temperature	
GND-B4	Air Intake Temperature	
Digital outputs		
C1 - NO1	Dehumidifier output	***Air Handling Unit DEHUMIDIFIER output [E]***
C2 - NO2	Ventilation Output	***Air Handling Unit VENTILATION (or Free Cooling) output [E]***
C3 - NO3	Air Renewal Output	***Air Handling Unit AIR RENEWAL output [E]***
C4 - NO4	Integration Output	***Air Handling Unit INTEGRATION output [E]***
Analog inputs		
Y1 - Gnd	Mixing valve dehumidification analog signal	***MIXING VALVE on the POST Air Handling Unit coil circuit [E]***

Below is the correspondence between the WI-Uxy expansions with:
- Air handling unit analog I/O and digital I/O:
- UTA1 UTA2 UTA3 UTA4 UTA5 UTA6 UTA7 UTA8.

Starting unit	A.H.U. / UxBUS-xx	X	Y	**A.H.U. / UxBUS-xx [E]**
WI-M1	**WI-U**	**x**	**y**	Air Handling Unit **AHU 1 / UxBUS-xx 1**
	WI-U	**x**	**y**	Air Handling Unit **AHU 2 / UxBUS-xx 2**
WI-S2	**WI-U**	**x**	**y**	Air Handling Unit **AHU 3 / UxBUS-xx 3**
	WI-U	**x**	**y**	Air Handling Unit **AHU 4 / UxBUS-xx 4**
WI-S3	**WI-U**	**x**	**y**	Air Handling Unit **AHU 5 / UxBUS-xx 5**
	WI-U	**x**	**y**	Air Handling Unit **AHU 6 / UxBUS-xx 6**
WI-S4	**WI-U**	**x**	**y**	Air Handling Unit **AHU 7 / UxBUS-xx 7**
	WI-U	**x**	**y**	Air Handling Unit **AHU 8 / UxBUS-xx 8**

NOTES

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