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Supersedes	

Operating Manual
D-EOMAH03704-25_00EN

COMPACT T AIR HANDLING UNIT

ATB

Original Instructions

Table of Contents

1 ABOUT THIS DOCUMENT

1.1. Notice

MicroTech 4	From Daikin Applied Europe	
Before starting	This document refers to the following components:	
Application range	Microtech 4	Microtech 4
Users	Users of this document are intended to be:	
	- AHU users	
	- Sales staff	
Conventions	MicroTech 4 further in this document and when proper will be referred to as “MicroTech”	

2 SAFETY INFORMATION

Observe all safety directions and comply with the corresponding general safety regulations in order to preventpersonal injury and damage to property.

- Safety devices may not be removed, bypassed or taken out of operation.
- Apparatus and system components may only be used in a technically fault-free state. Faults that canaffect safety must be rectified immediately.
- Observe the required safety instructions against excessively high contact voltages.
- The plant may not be in operation if the standard safety devices are out of operation or if their effectsare influenced in some other way.
- All handling that affects the prescribed disconnection of the protective extra-low voltage (AC 24 V)must be avoided.
- **Disconnect the supply voltage before opening the apparatus cabinet. Never work when thepower is on!**
- Avoid electromagnetic and other interference voltages in signal and connection cables.
- Assembly and installation of system and plant components may only be performed in accordance withcorresponding installation instructions and instructions for use.
- Every electric part of the system must be protected against static charging: electronic components, open printed circuit boards, freely accessible connectors and apparatus components that are connected with the internal connection.
- All equipment that is connected to the system must be CE marked and comply with the Machine SafetyDirective.

3 INTRODUCTION

This operating manual provides basic information that allows the control of the Daikin Air Handling Unit (AHU).
Compact T AHUs are used for air conditioning and air handling in terms of pressure and temperature level control.

3.1 Basic Control System Diagnostic

Unit controllers, extension modules and communication modules are equipped with two status LED, BSP and BUS, to indicate the operational status of the devices. The “BUS” LED indicates the status of the communication with the controller. The meaning of the two status LED is indicated below.

MAIN CONTROLLER

BSP LED

LED Color	Mode
Solid Green	Application running.
Solid Yellow	Application loaded but not running (*) or BSP Upgrade mode active.
Solid Red	Hardware Error (*).
Flashing Green	BSP startup phase. The controller needs time for starting.
Flashing Yellow	Application not loaded (*).
Flashing Yellow/Red	Fail safe mode (in case the BSP upgrade was interrupted).
Flashing Red	BSP Error (software error*).
Flashing Red/Green	Application/BSP update or initialization.

(*) Contact Service.

EXTENSION MODULES

BSP LED

LED Color	Mode
Solid Green	BSP running
Solid Red	Hardware Error (*)
Flashing Red	BSP Error (*)
Flashing Red/Green	BSP upgrade mode

BUS LED

LED Color	Mode
Solid Green	Communication running, I/O working
Solid Yellow	Communication running but parameter from the application wrong ormissing, or incorrect factory calibration
Solid Red	Communication down (*)

3.2 Room Interface

Unit has 2 different human machine interfaces (HMI from here on), one is an POL822 default, the other is POL895 or POL871, these have a lcd that can be plugged in the HMI port on controller (Th).
Explanation of hot points on both is explained here down:

3.2.1 Room Unit Interface

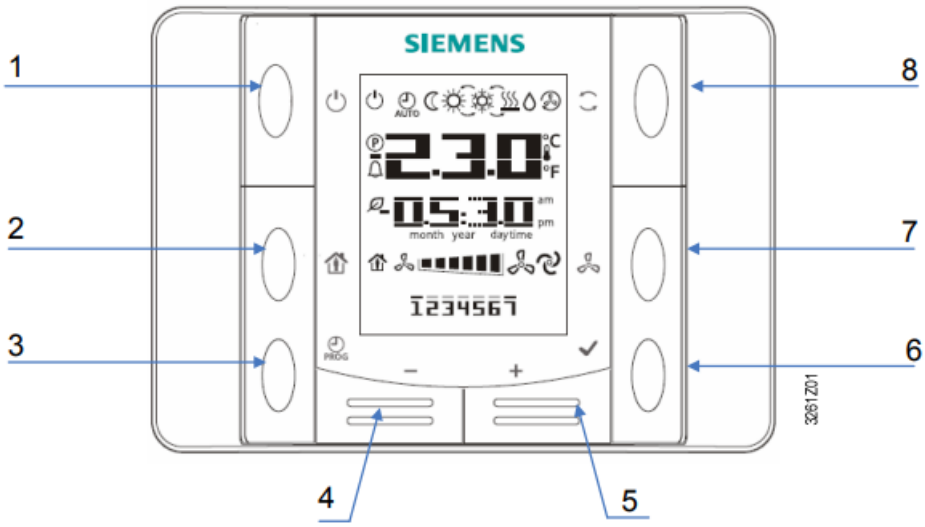


Figure 1 POL 822

Legend

No.	Icon	Name	Function
1	⏻	On/Off	Button for power on or power off
4	-	Minus	Button for set-point adjustment, each operation of the Minus (-) reduces the setpoint by 0.1°C/0.5°F or 0.5°C/1.0°F, which is defined in controller's settings.
5	+	Plus	Button for set-point adjustment, each operation of the Plus (+) increases the setpoint by 0.1°C/0.5°F or 0.5°C/1.0°F, which is defined in controller's settings.
6	✓	Ok	Button for confirmation of Date/Time and Scheduler settings (for POL822.60/XXX only)
8	⟳	Mode	Cooling/Heating mode

3.2.2 LCD

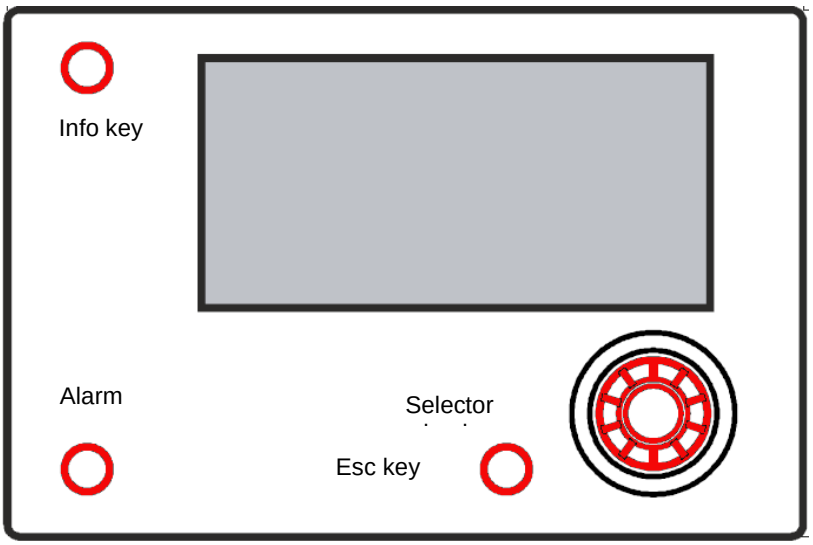


Figure 2 POL 895

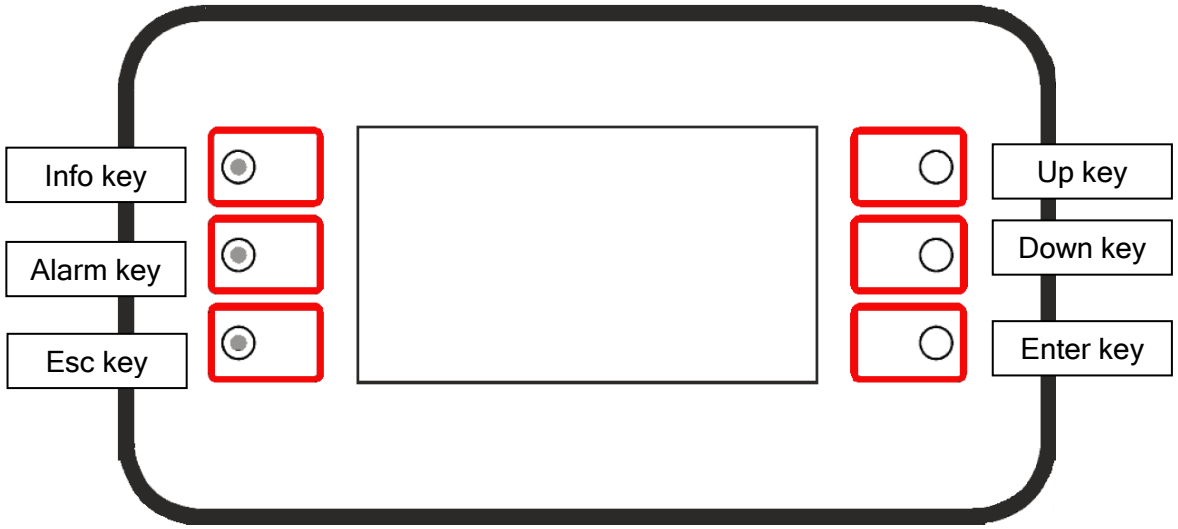


Figure 3 POL 871

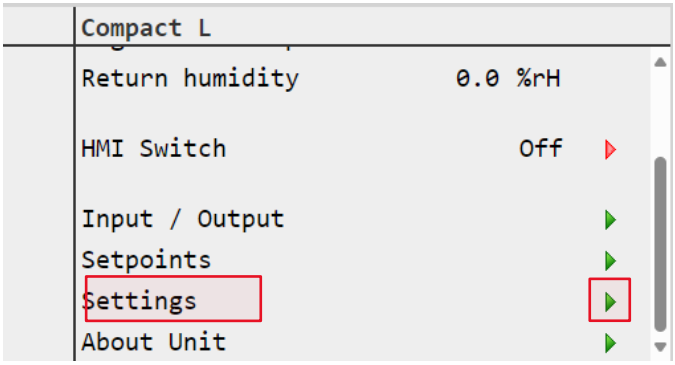
All HMIs except POL 822 allow navigation through the application pages, the available data can change, the LCD shows additional data to configure optional items such as BMS configuration, some of the additional values are protected with different level passwords to prevent wrong parameterizations to unauthorized users.
To select the voice the user must click on green triangle (web interface) or pushing knob POL895 or Enter key POL871.

3.3 Password

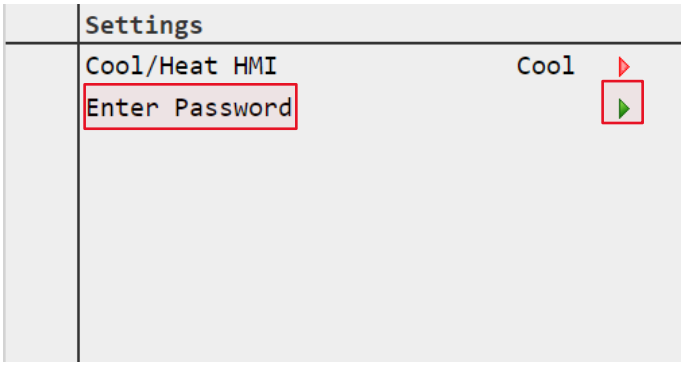
Different levels of password are available in the application, at each level different parameters are accessible. Summary of password and access level in the table below

Level name	Level index	Password
End user	--	--
User	6	5321
Maintenance	4	2526

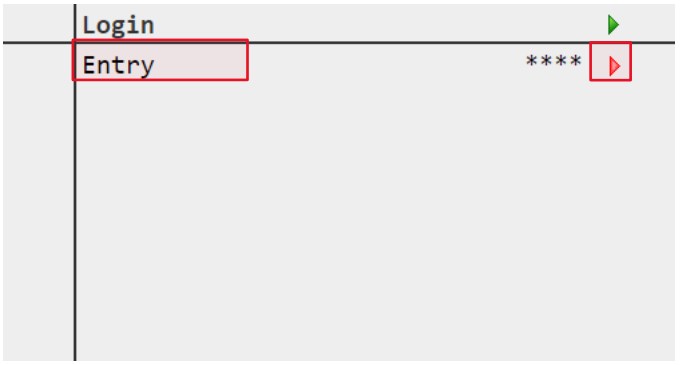
To access password input page, select "Settings" from main menu as shown below:



Select "Enter Password" to show menu with "Login"



Select "Entry" and use the needed value as reported in table at the beginning of the chapter.



4 CONTROL FUNCTIONS

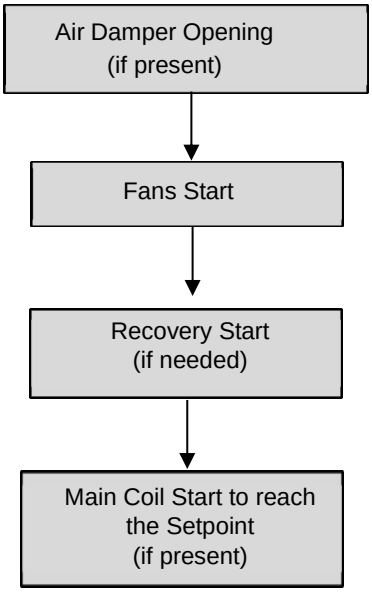
This section describes the main control functions available in Daikin Compact T Air Handling Units. The activation sequence of the devices installed in Daikin AHU for thermoregulation control is shown below.

- On the Base Unit the fans will be free to start immediately, while if you have dampers the fans will wait for the minimum opening before starting.

- Fan speed is monitored with an algorithm that evaluates the differential pressure by reading the pressure difference between the zone before the fan and the fan impeller. This placement allows us to control the machine in constant air flow, the system will adjust the fan speed to reach the setpoint and keep it as stable as possible.

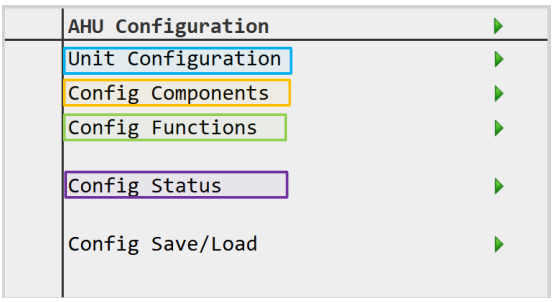
- While reaching the setpoint the system will start treating the air with the heat recovery unit by-pass.

- If coils are present, the algorithm will start the control loops on Temperature and/or Humidity to meet the demand. Treatment control can be done on the supply temperature or the return temperature.

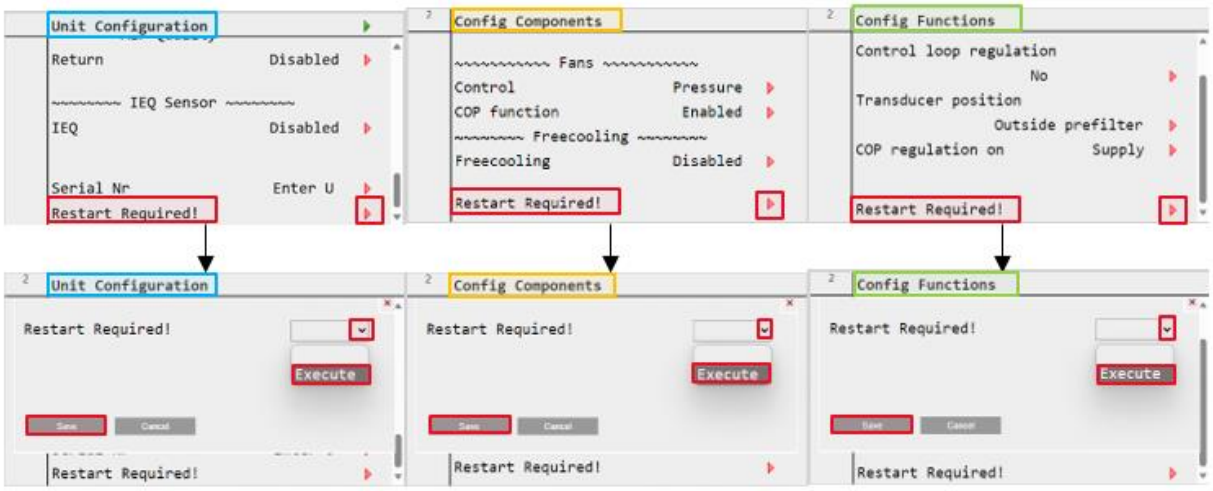


The start-up sequence is performed to meet the desired pressure/airflow and temperature setpoints as efficiently as, to keep energy consumption low.

The Compact T is sold in its standard configuration and is dedicated to air exchange with heat exchanger with By-pass and external air filter, but there are various possibilities for configuration by adding the various Optional.
For activation of the various components go, after putting the password in `Settings`, to the `AHU Configuration`, `Unit Configuration`, `Config Components` and `Config Function`.



Remember to go to the "`Restart required`!" item after you have made all the changes to each individual menu.



You can also restart with each individual change for each menu.

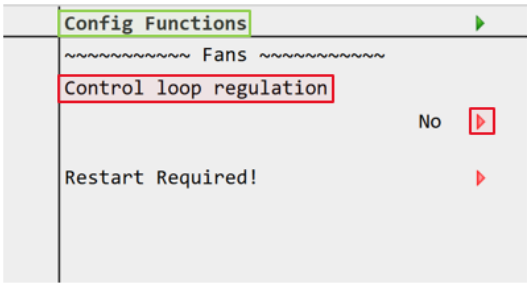
5 UNIT CONFIGURATION

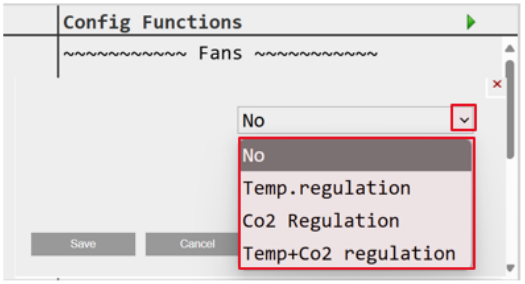
5.1 Fans

5.1.1 Control loop regulation

In the `Configuration Functions`, you can choose the regulation type for the fan control loop, which will adjust the minimum and maximum flow setpoint limits of the fans.
There are three modes:

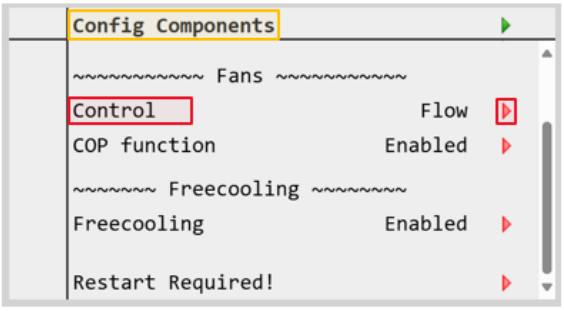
- `Temperature Regulation`: The fans will regulate within the new flow setpoint limits based on the temperature transducer.
- CO_2 `Regulation`: The fans will regulate within the new flow setpoint limits based on the air quality transducer.
- `Temperature +` CO_2 `Regulation`: The fans will regulate within the new flow setpoint limits based on both the temperature and air quality transducers.





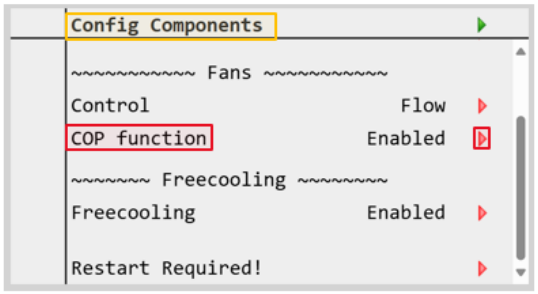
5.1.2 Configuration of components

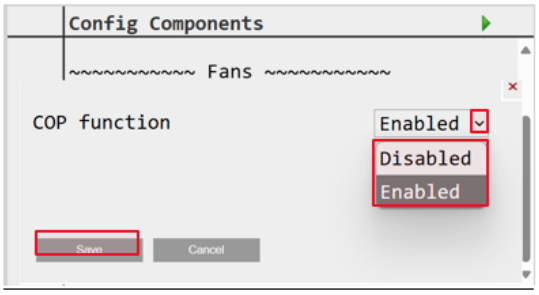
The user can choose the control regulation type for the fans which can be either on the flow or on the pressure.



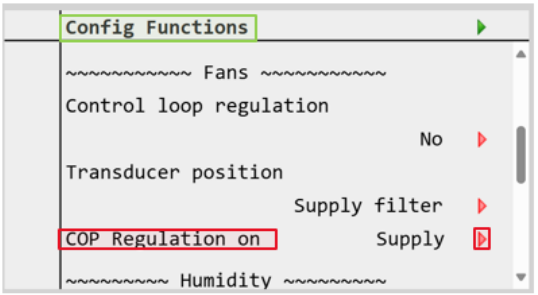
5.1.3 COP function

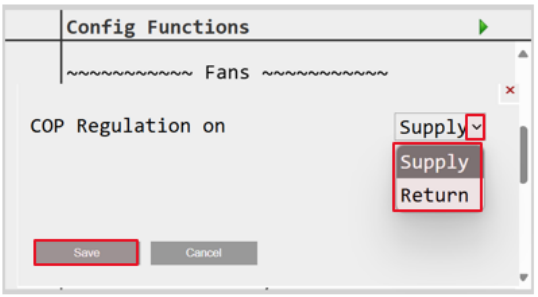
COP (Control of Pressure) function can be enabled in the `Configuration Components:`



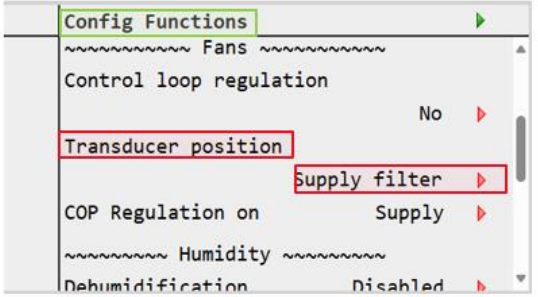


Once enabled in `Configuration Functions` the user can choose what the COP will regulate on (`Supply` or `Return`):



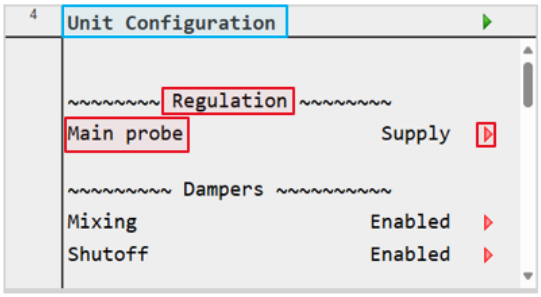


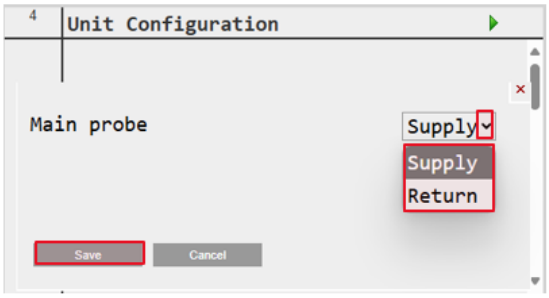
And the position of the transducer can be chosen to be on the (`Supply Filter` or `Outside PreFilter` or `None`).



5.2 Regulation

Indicate where the Main Probe is connected to: `Supply` or `Return.`

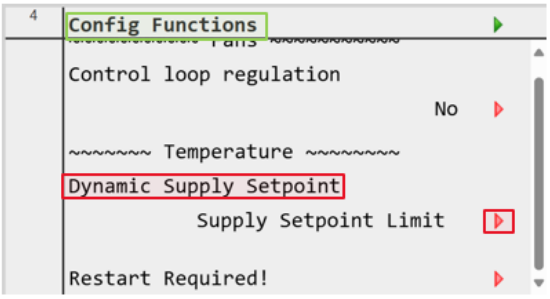


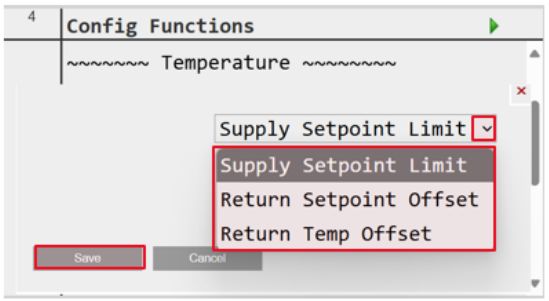


5.2.1 Supply temperature setpoint

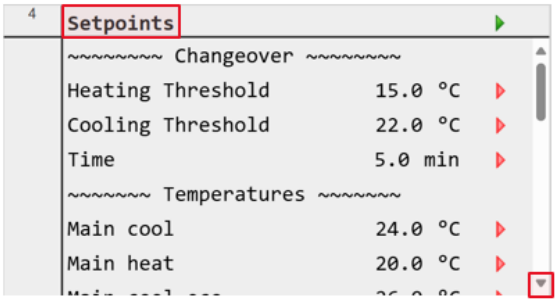
If the main probe is connected to the `Return` the user will have the possibility to change the dynamic setpoint of the supply temperature in the configuration function that can be selected from the following options

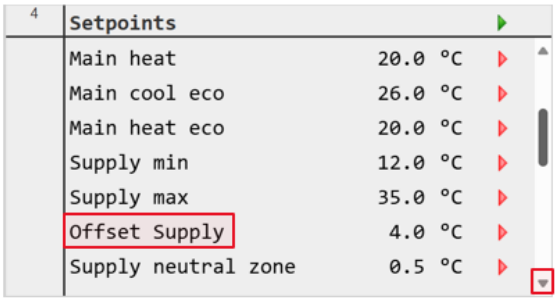
- `Supply setpoint limit`
- `Return setpoint offset`
- `Return Temperature offset`





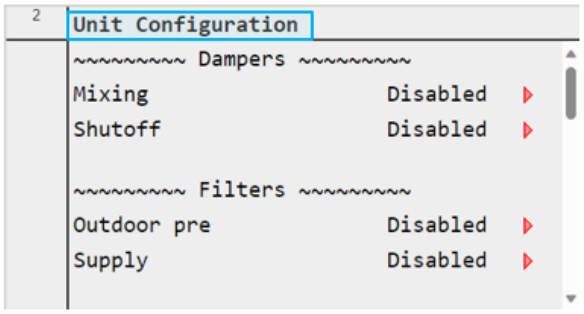
Note that the offset can be set in the setpoints page:



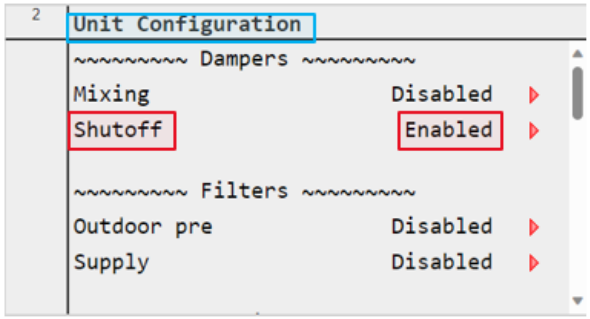


5.3 Dampers

5.3.1 Base Unit

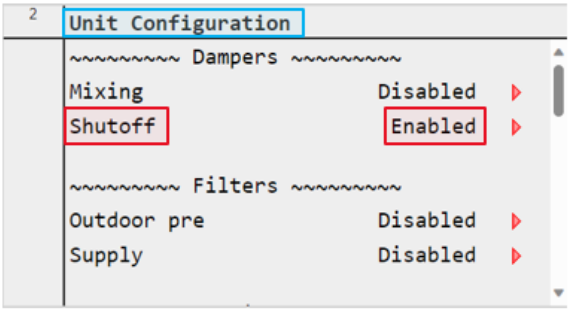


5.3.2 Outdoor and Exhaust air dampers



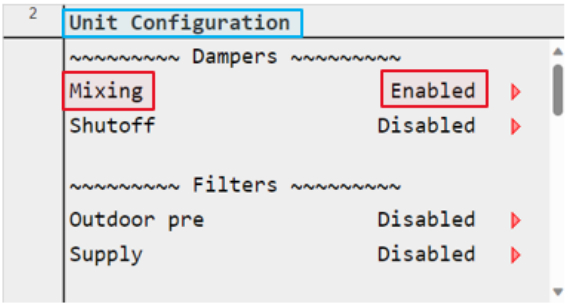
Which allows exclusion of AHU from direct and coming from outdoor ducts.
Connect Shutoff Damper wire on terminals 13-14 and 15-16.

5.3.3 Supply and Return air dampers.



Which allows the exclusion of AHU from direct and coming from indoor ducts.
Shutoff Damper, wire on terminals 13-14 and 15-16.

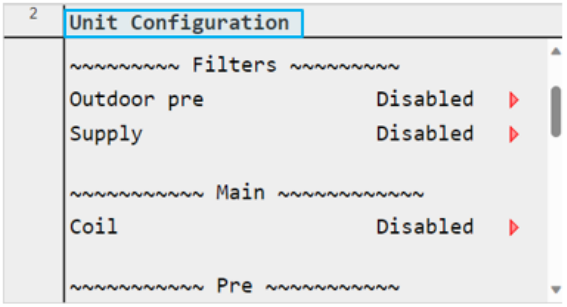
5.3.4 Mixing, Outside and Exhaust dampers



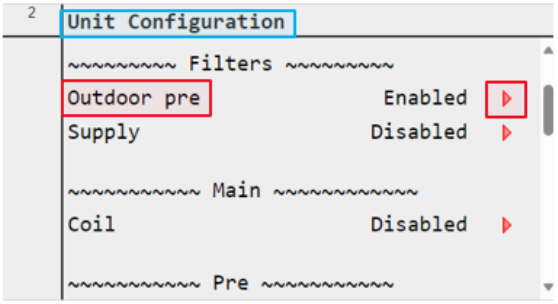
Which allows the software to determine whether it is convenient to use return air, outside air or mix the two. Outdoor and Exhaust modulating Dampers, wire on terminals 38-39-40 and 41-42-43.
`Mixing Damper`: 5, 6 or 7 size wire on blue three-way connector on `Node#1`, 3 or 4 size wire on blue three-way connector on `Node#2`.

5.4 Filters

5.4.1 Base unit

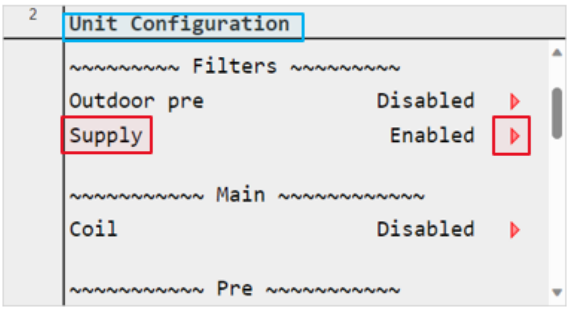


5.4.2 Outdoor air pre-filter



Connect using a flexible tube to the + and - of P1 of `Node#3`.

5.4.3 Supply air filter



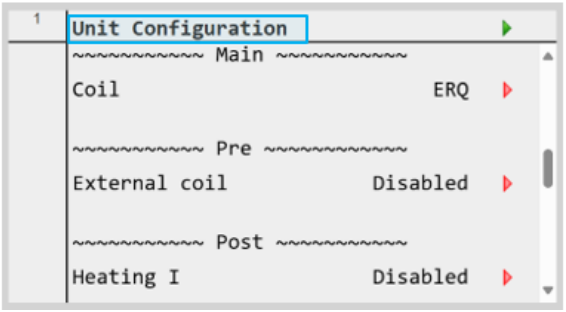
Connect using a flexible tube to the + and - of P2 of Node#3.

5.4.4 Return air and outdoor air filters

These filters are always active.

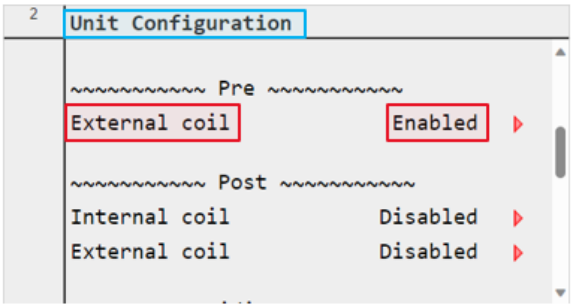
5.5 Coils

5.5.1 Base Unit

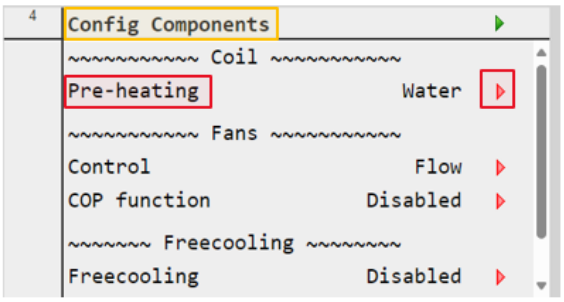


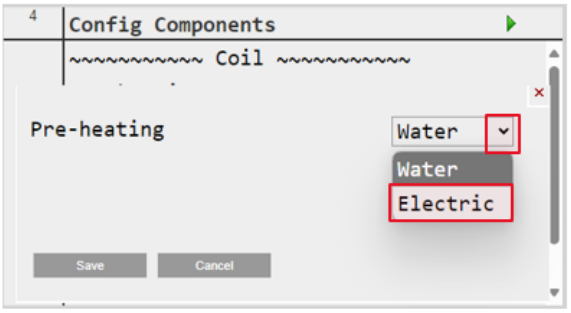
5.5.2 External Pre-heating coil

This Coil can be either Electric or Water, it is used to raise the inlet temperature of the AHU before the heat recovers. Enable coil in `Unit Configuration`, do not forget to restart:



Select coil type on `Config. Components:`

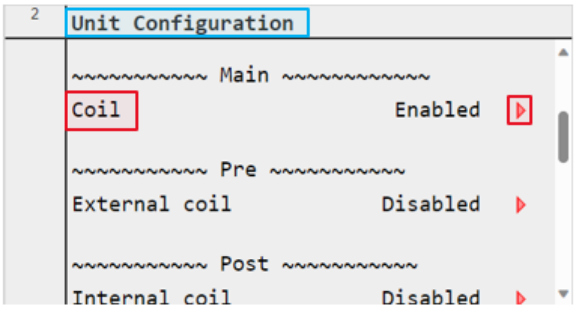




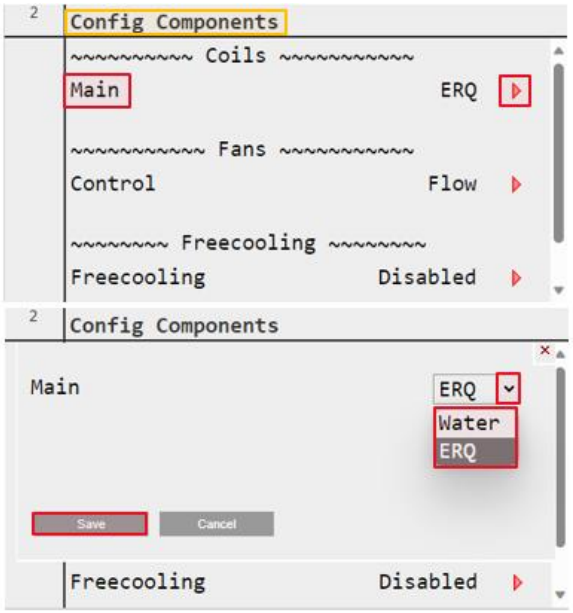
When selecting `Electric Pre-heat` you need to install the additional Outdoor temperature sensor on the duct before the Pre-heat coil and wire it to `Node#3` on the black three-way connector as shown in the wiring diagram.

5.5.3 External Pre-heating coil

Enable coil on `Unit Configuration:`



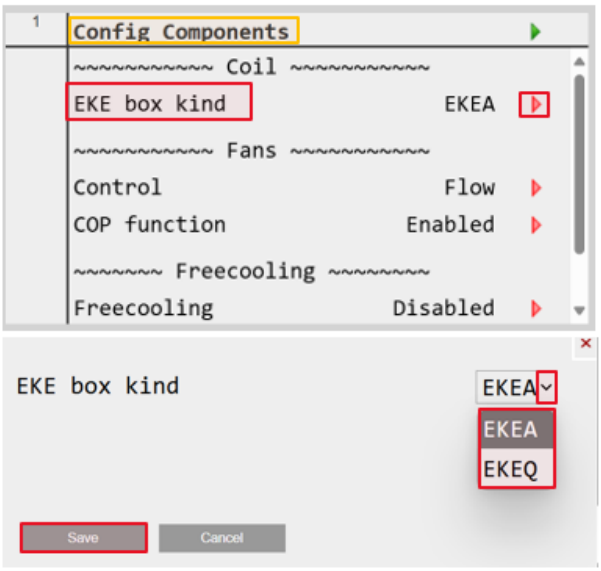
Select coil type on `Config. Components`.
For DX solution, it provides the installation of our ERQ, maximum one circuit.



5.5.4 ERQ Main coil

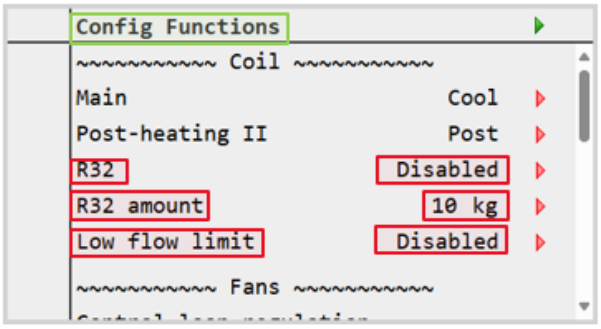
For the ERQ solution through the software, you can decide whether to have an EKEA or EKEQ.

If the main coil chosen is ERQ then in the `Configuration Components` after restarting, the possibility of choosing the EKE box kind between EKEA or EKEQ will appear.



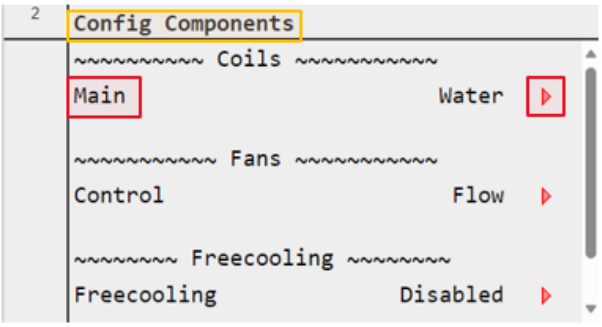
And in the Configuration Functions the user has the option to change the following settings

- R32 Enabling/ Disabling
- R32 Amount
- Low Flow Limit Enabling/Disabling

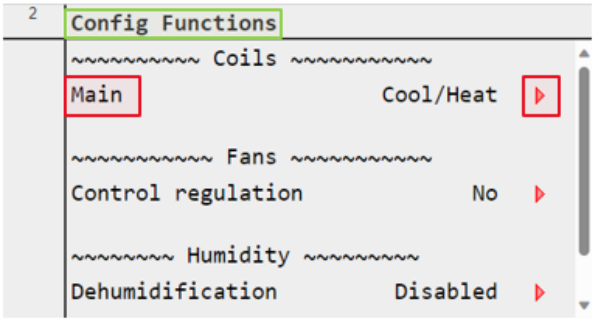


5.5.5 Water main coil

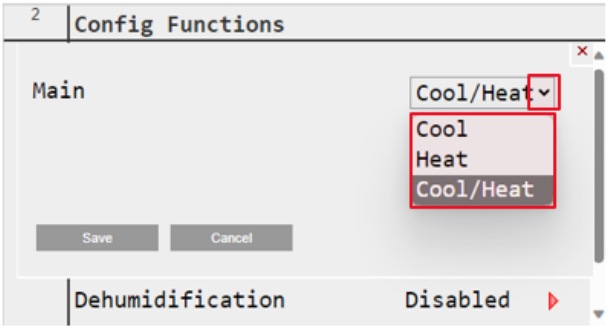
For the water solution through the software, you can decide whether to have a heat only, cool only or a combined water coil.
Select coil type in Config. Components:



Select Coil Function on Config. Function:



These coils are used to treat the air and reach the temperature setpoint:

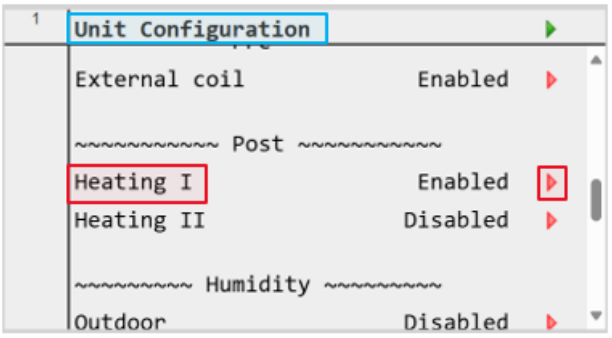


5.5.6 Post Heating Coil

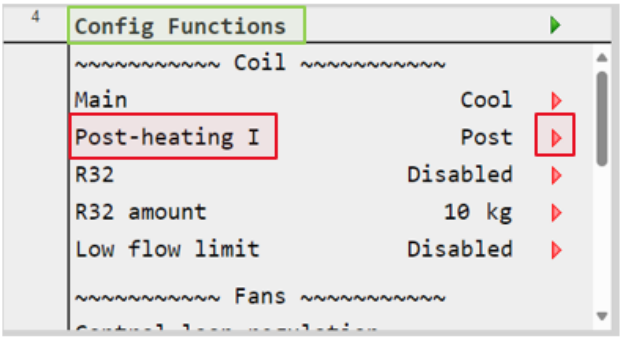
It can be either Electric or Water coil, the Electric one is a duct coil mounted externally to the AHU, while the Water coil is mounted internally to the unit on the slides just after the supply fan (Attention! If you install the water coil you cannot install the Supply filter) and can be used either as a Post or Heat water coil if you have provided a main cold water only coil.

5.5.7 Internal Coil Heating I (Water)

Enabled `Heating I` on `Unit Configuration`:

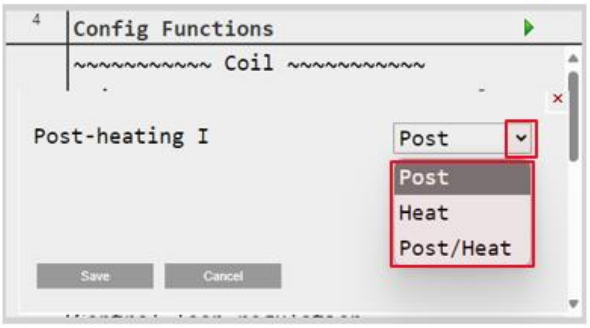


Select coil function on `Config. Function:`



The user can select the function to be

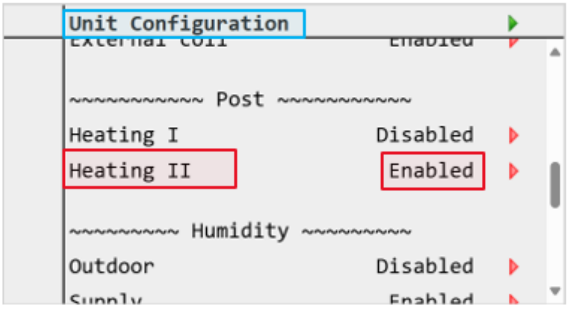
- `Post` → To let the heating occur after the dehumidification
- `Heat` → To let the heating occur if the main coil is not able to reach the set point
- `Post / Heat` → To have both functionality



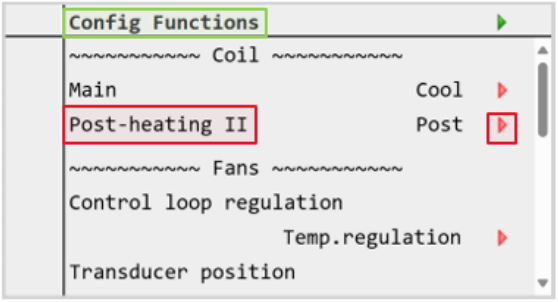
5.5.8 External coil Heating II (electric)

Enable `External` coil in `Unit Configuration`. This coil is used to supplement heat during heating when the main coil cannot reach in setpoint and/or for dehumidification

When you enable the external coil, you are selecting `Electric Post-heat`, when you make this choice, you need to install the additional supply temperature sensor on the duct after the `Post-heat` coil and wire it to `Node#3` on the green three-way connector as shown in the wiring diagram:

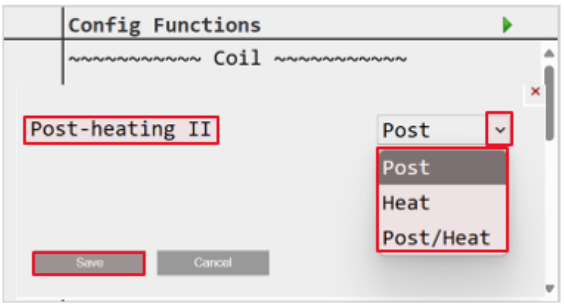


Select coil function in `Configuration Functions`:

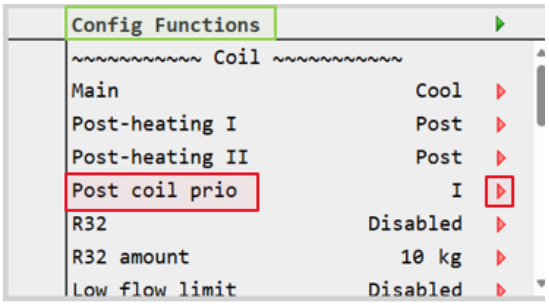


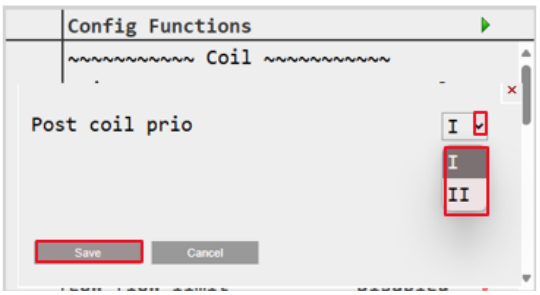
The user can select the function to be

- `Post` → To let the heating occur after the dehumidification.
- `Heat` → To let the heating occur if the main coil is not able to reach the set point.
- `Post / Heat` → To have both functionality.



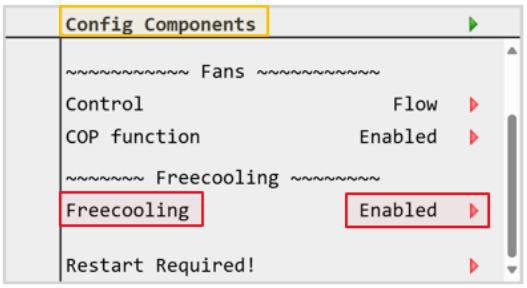
If both post heating coils are enabled an additional option is available in `Configuration Function` to choose the priority of these two coils.

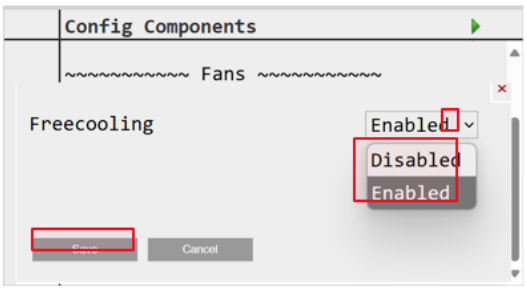




5.5.9 Free Cooling

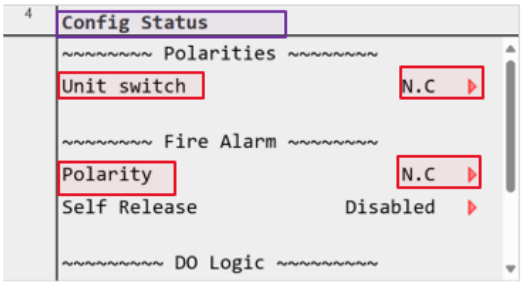
The user has the option to enable the `Free Cooling` in the `Configuration Components`.





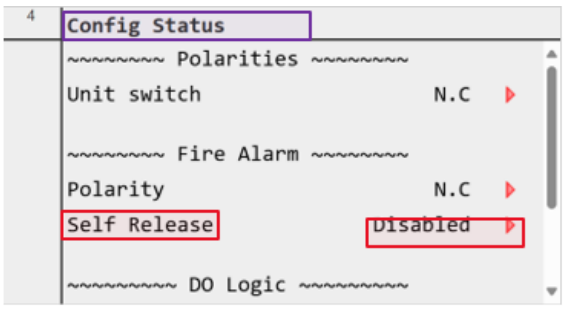
5.6 Polarities

Polarities of the Fire Alarm and the Unit Switch can be changed in `Configuration Status`. ((`N.C.`) Normally Closed // (`N.O.`) Normally Open).



5.7 Self Release

The self releasing of the Fire Alarm can be Enabled/Disabled in `Configuration Status`:

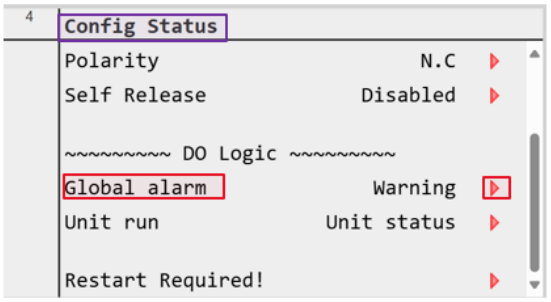


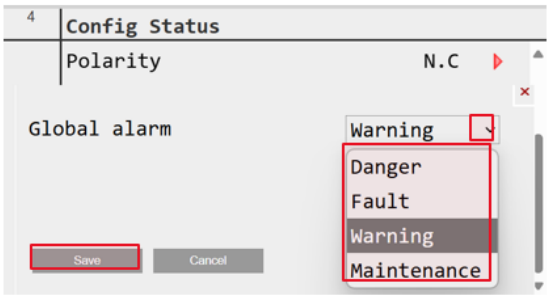
5.8 DO Logic

5.8.1 Global Alarm

The Global Alarm output activates when the user-selected alarm level is triggered:

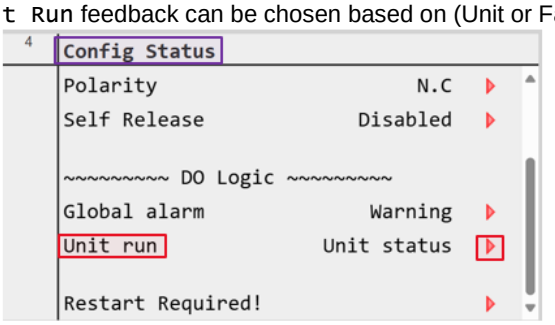
- Danger
- Fault
- Warning
- Maintenance

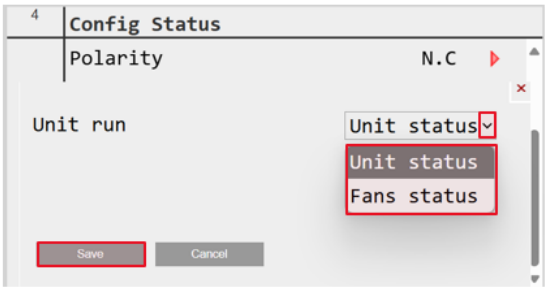




5.8.2 Unit Run

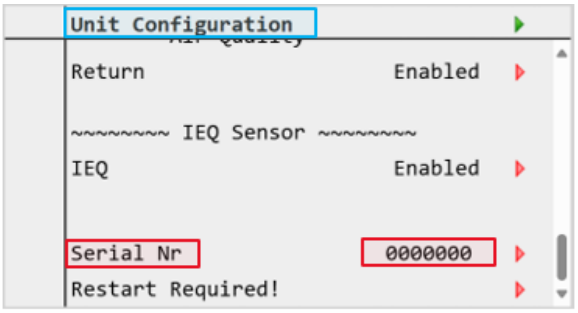
In Configuration Status, Unit Run feedback can be chosen based on (Unit or Fans) Status.





5.9 Serial Number

The user has the option to add the Serial Number in the `Unit Configuration`:



6 OPTIONAL NODE #3

The optional node is used to manage some components that can be added to the unit configuration. It is sold with its connecting cable, and it uses terminals 61 to 66 the following coloring:

- M-Black
- G-Red
- A-White
- B-Brown
- REF-Green
- SHLD-Black (shrink-wrap)

The Components are:

- Electrical pre-heating
- Electrical post-heating
- Supply Air humidity
- Additional outdoor air temperature probe
- Additional Supply air temperature probe
- Pressure transducer for outdoor air pre-filter
- Pressure transducer for supply air filter
- Pressure transducer for AHU pressure control on supply air duct

6.1 Electrical pre-heating

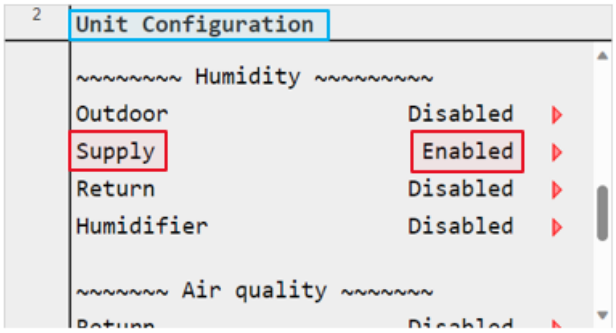
See “Pre-heating coil” section.

6.2 Electrical post-heating

See “Post-heating coil” section.

6.3 Supply air humidity

Wire the cables on green three-way connectors.



6.4 Additional outdoor air temperature probe

See “Pre-heating coil” section.

6.5 Additional supply air temperature probe

See “Post-heating coil” section.

6.6 Pressure transducer for outdoor air pre-filter

See “Filters” section.

6.7 Pressure transducer for supply air filter

See “Filters” section.

6.8 Pressure transducer for AHU pressure control on supply air duct

Install the pressure outlet on the duct after the supply fan and connect it using a flexible tube to the + of P1 or P2 of Node#3, select by the interface which transducer you have connected it to and change fan control type from Airflow to Pressure.

7 OPTIONAL ON THE ELECTRIC PANEL

Other components can be installed directly on the X1 terminal block of the control panel and can be enabled in Unit Configuration:

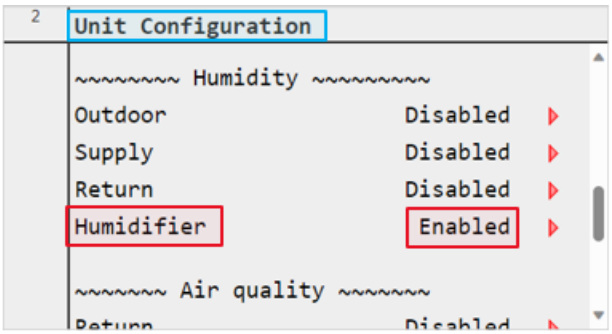
- ERQ
- Humidifier
- Outdoor, exhaust, supply, and return dampers
- Water coils pumps
- Frost switch
- POL902
- POL908
- POL822
- POL895
- Water coils valves
- Outdoor air humidity probe
- Return air humidity probe
- Co2 probe
- IEQ sensor

7.1.1 ERQ

Wire ON/OFF on 7-8 terminals, Alarm on 28-29, Signal on 34-35 and the Defrost on 55-56, follow the wiring diagram.

7.1.2 Humidifier

Wire ON/OFF on 9-10 terminals, Alarm on 30-31 and Signal on 36-37.



7.1.3 Outdoor, exhaust, supply, and return dampers

See “Dampers” section.

7.1.4 Water coils pumps

See “Coils” section.

7.1.5 Frost switch

It is always enabled. If you have a unit with a post and/or heat water coil just connect the component to terminals 22-23 of terminal block X1 to enable the function.

Terminals 22-23 have a voltage of 230V.

7.1.6 POL822

Wire component on terminals 24-25.

7.1.7 POL895

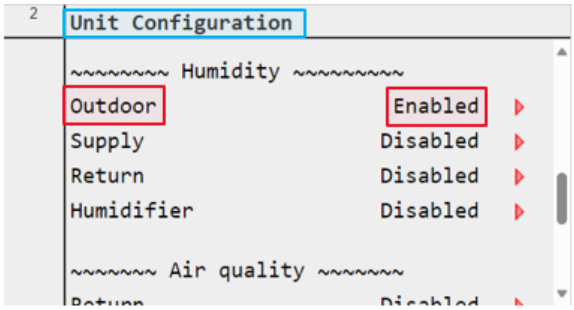
Wire component on terminals 24-25.

7.1.8 Water coils valve

See “Coils” section.

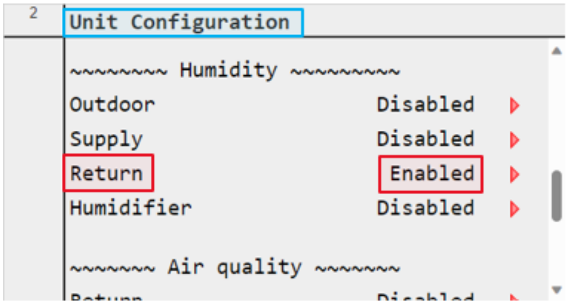
7.1.9 Outdoor air humidity probe

Wire component on terminals 44-45-46.

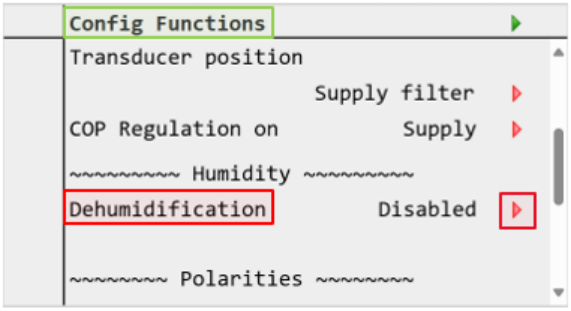


7.1.10 Return air humidity probe

Wire component on terminals 47-48-49.

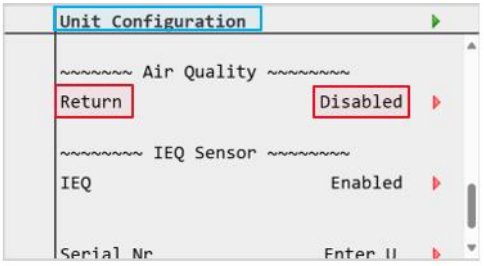


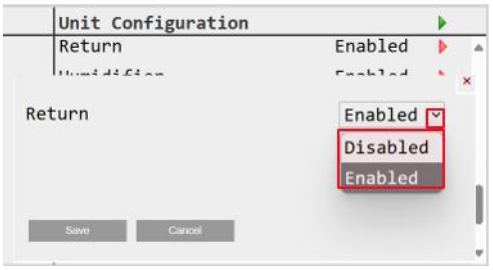
Once the `Return air humidity` is enabled you can choose to enable the `Dehumidification` in `Configuration Functions`.



7.1.11 Co2 probe

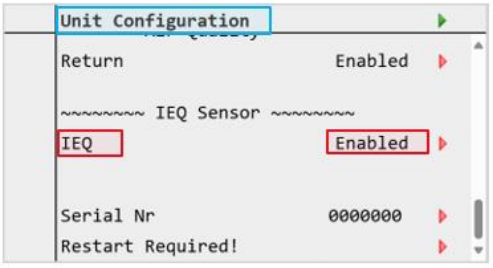
Wire component on terminals 50-51-52.

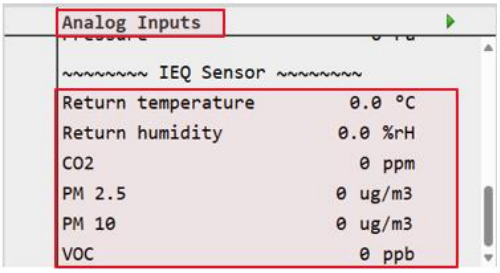




7.1.12 IEQ sensor

Enabling the IEQ Sensor in `Configuration Unit` shows its parameters in `Analog Inputs Interface`:





7.2 Other functions

7.2.1 AHU general alarm

Free changeover contact to remote the alarm status of the unit.

7.2.2 AHU run

Free changeover contact to have an enabling.

7.2.3 Cool/heat status (output)

Free contact that changes depending on the type of treatment of the unit.

7.2.4 Fire alarm

Connection for a possible fire detection component.

7.2.5 Comfort/economy

Provision for a switch to change all set points (must have set comfort set points).

7.2.6 Unit enable switch

Provision for a remote switch to enable the unit.

7.2.7 Supply temperature options

Provision for a remote switch to enable the unit.

7.3 Optional POL955 A/B (OPTIONs)

Having the `Supply Temperature Optional` with main and `Post heating II`, the regulation will be a supply temperature optional:

- Main optional:
- `Heating` → Supply Temperature Optional
- `Cooling` → Supply Temperature Optional
- `Heating/Cooling` → Supply Temperature Optional

- `Post I` → Supply Temperature Optional
- `Post II` → Supply Temperature Optional
- However, if the Supply Temperature Optional is in alarming, then:

- Main optional:
- `Heating` → Supply Temperature
- `Cooling` → Supply Temperature
- `Heating/Cooling` → Supply Temperature

- `Post I` → Supply Temperature
- `Post II` → OFF

7.3.1 Cool/heat status (input)

Provision for a switch to change the type of treatment of the unit.

8 MAIN MENU SCREEN

The unit is sold without its own on-board interface. The parameters can be accessed in various ways, via web interface if the unit is connected to the network, via Pol 895 with which you have the possibility to access the various menus of the AHU depending on the password entered, and via Pol 822 which allows you to read the temperature of the environment where it is installed, turn the AHU ON/OFF, change the temperature set point, and change the hot/cold status of the unit (if set by the HMI on the control).

8.1 LCD/Web interface

Through `Main Menu` screen the user can read the main important information necessary for monitoring the AHU status. In particular, the user can:

- Control the AHU status
- Read main values
- Switch unit Off/On
- Change the AHU Setpoint
- Access to the I/O overview menu
- Access settings
- About Unit
- Restore alarm conditions

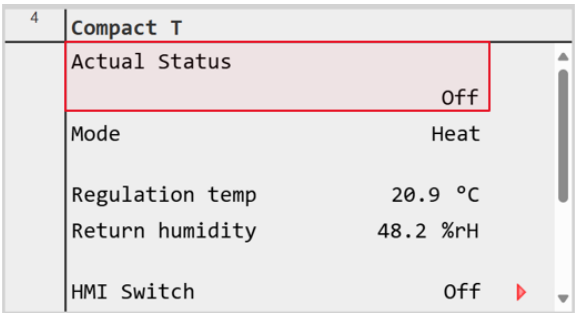
Next chapters will describe any item of the main menu. In the following table the user can find all the items of the main menu screen and the section where it is described.

Main Menu item	Section
`Actual status`	Displays the actual status of the AHU.
`Mode`	Displays the type of treatment Cool or Heat
`Regulation Temperature/Return Humidity`	Displays actual supply, return temperature used to regulate treatment system.
`HMI switch`	Change the unit status from OFF to On and vice versa.
`Input/Output`	Allow users to access the menu that shows all the input/output values of the AHU.
`Setpoints`	Allow user to access the menu that shows unit setpoints.
`Settings`	Allow users to access the menu that shows all unit settings (up to the password input).
`About unit`	Allow users to access information about the control system of the AHU.
`Restore alarm condition`	Allow users to reset alarms once the problem is fixed.

9 ACTUAL STATUS

This item displays the actual status of the AHU. All possible statuses are reported in the table below.

HMI path: `Main Page → Actual Status`



Main Menu item	Value	Description
`Actual status`	- `Off by fire alarm` - `Off by alarm` - `Off by Recovery Frost` - `Off by Scheduler` - `Off by DI switch` - `Off by BMS` - `Off` - `On` - `On by Scheduler` - `Ventilation` - `Economy`	– ***Off by fire alarm:*** Highest priority alarm, the unit is switched off immediately. – ***Off by alarm*** The unit is switched off due to alarms which doesn't allow the system to work in safety condition. – ***Off by Recovery Frost*** The unit has been temporarily switched off to ensure effective defrosting during the Frost Recovery process. – ***Off by Scheduler*** The unit has been switched off as per the scheduled shutdown. – ***Off by DI switch*** The unit is switched off by the selector on the electrical panel. – ***Off by BMS*** The unit is switched off by BMS command. – ***Off*** The unit is switched off by HMI command. – ***On*** The unit is switched on and operational. – ***On by Scheduler*** The unit has been switched on as per the scheduled turning on. – ***Ventilation*** The unit is in Ventilation mode. – ***Economy*** The unit is in Economy mode.

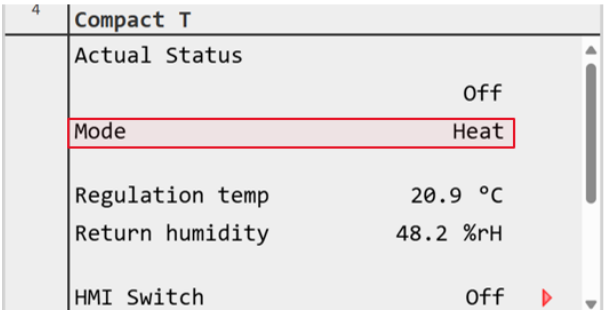
On status follows a priority chain according to the following table:

HMI switch	Panel switch	BMS	Unit actual status
Off	X	X	Off
On	Off	X	Off
On	On	Off	Off (if BMS enabled) On (if BMS disabled)
On	On	On	On

The "X" value means that whichever state doesn't affect the unit actual status.

10 MODE

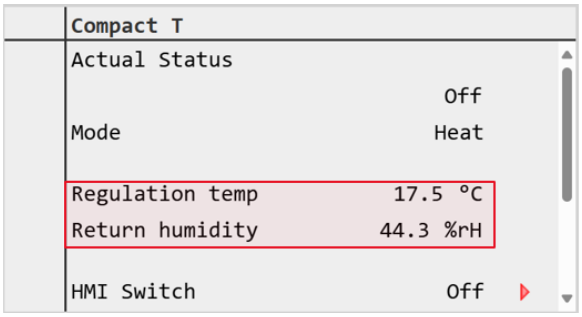
This item displays the mode of the AHU, the possible modes are cool or heat.



11 REGULATION TEMPERATURE/RETURN HUMIDITY

These items (read-only) display the actual air temperature value used to regulate the AHU and if enabled the Return Humidity.

HMI Path: Main page→Regulation temperature/return humidity

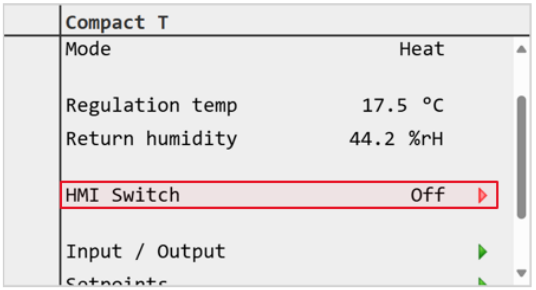


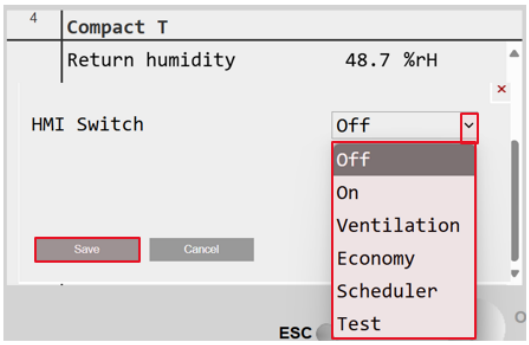
The probe will monitor the temperature value, and the system will use the temperature to ensure the setpoint is maintained.
The system will be able to provide optimized commands to correct any deviation from the temperature set point with all the treatment systems envisaged, increasing or decreasing the signal sent to the treatment system.
The same applies to the return probe if selected as the control temperature.

12 HMI SWITCH

This item displays and allows you to set the status of the AHU.

HMI path: Main Menu→ HMI Switch

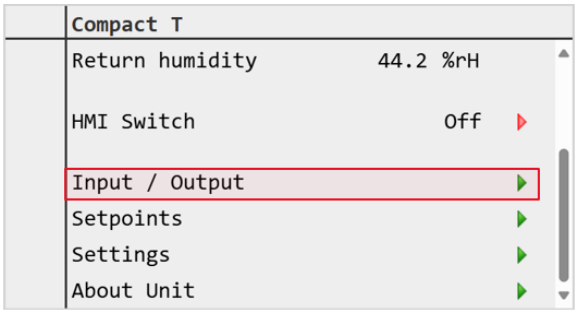




13 INPUT/OUTPUT

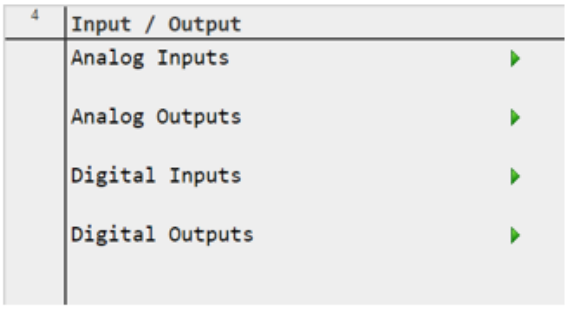
This menu (read-only) allows to access submenus of read values throughout the application.

HMI Path: `Main menu→Input/Output`

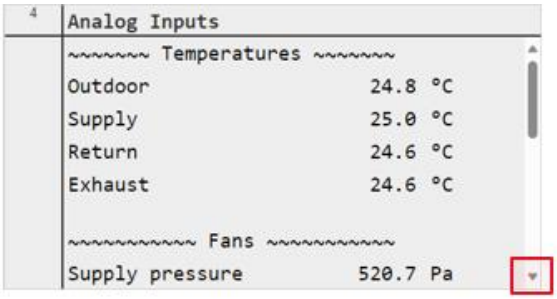


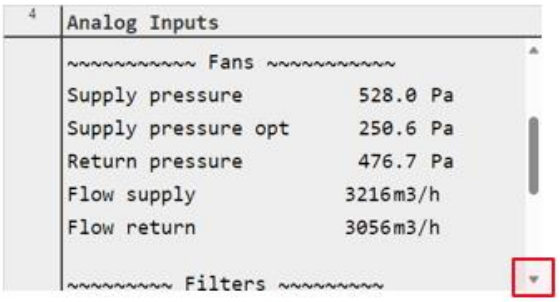
Selecting `Input/Output` a menu shows the access to sub menus dedicated to different signals of the system as explained below:

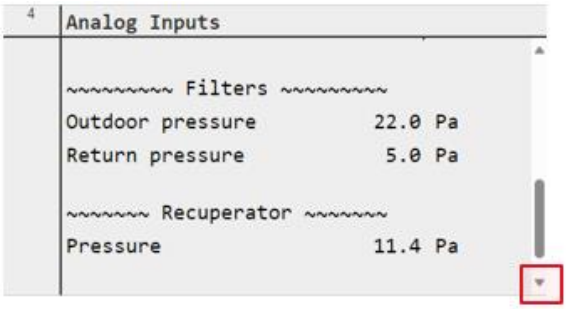
Select `Analog Inputs` to show probes and transducers values:

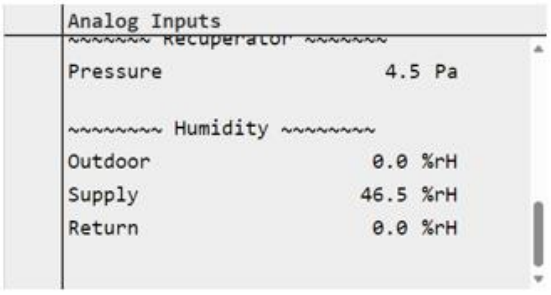


Scroll down to show remaining values:

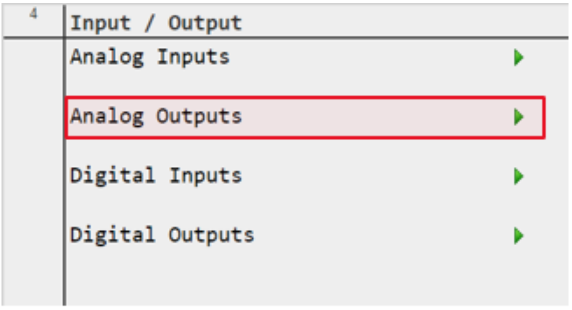




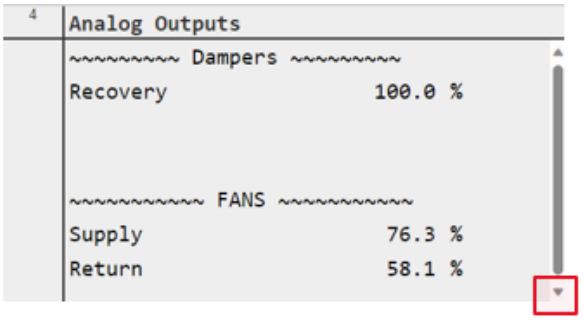




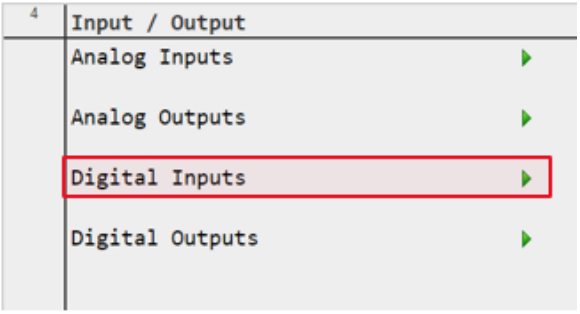
Select `Analog Outputs` to show coil and fans values:



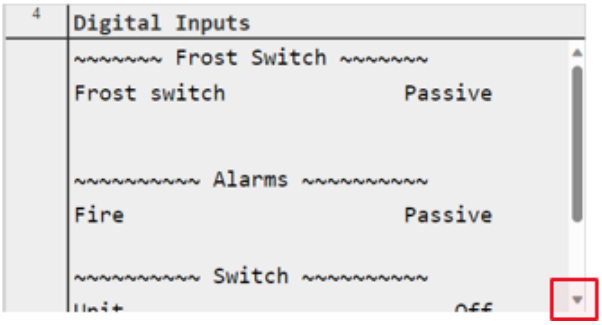
When you enable the components, the various sections will be created, scroll to view all:

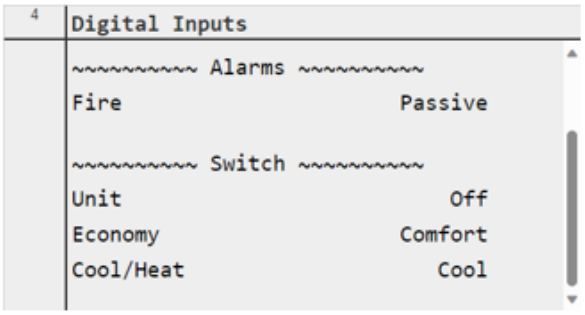


Select `Digital Inputs` to show alarms and switch status:

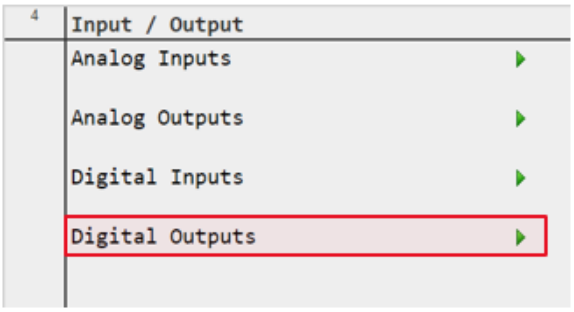


Scroll down to show remaining values.

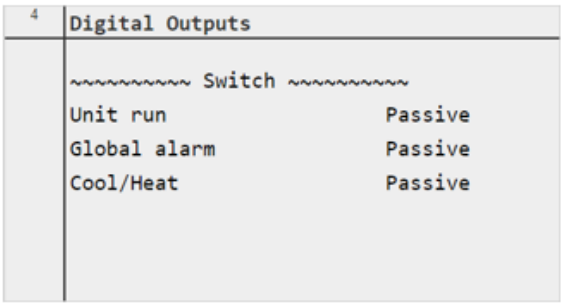




Select `Digital Outputs` to show command and switch:



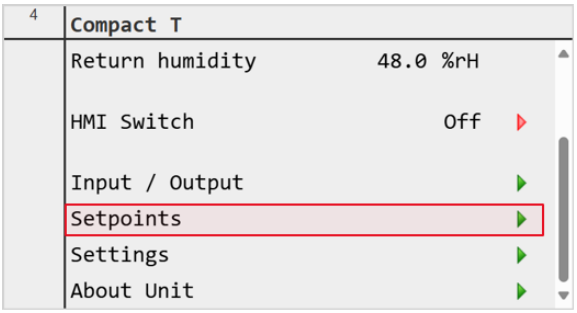
When you enable the components, the various sections will be created, scroll to view all:



14 SETPOINT

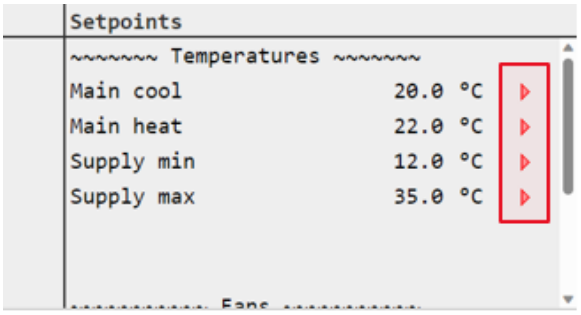
This menu allows the user to access all setpoints used to control AHU.

HMI Path: Main Menu→Setpoints



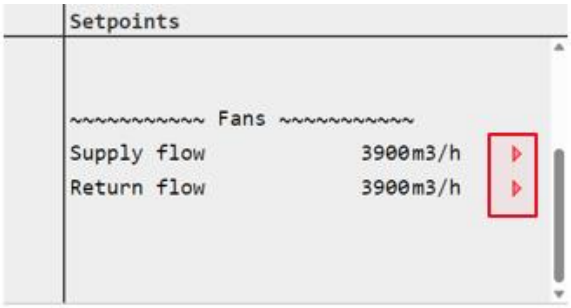
Selecting Setpoints a page allows to change all setpoints values, used by the system to target regulation algorithm.

These setpoints are used to regulate the treatment system modulation by a PI algo using supply/return temperature as feedback. If the regulation temperature is the return one you will have four setpoints (as in the image) if instead you regulate on the supply, you will only have the first two setpoints.



When adjusting on the return temperature, set the desired temperature on the Main cool or Main heat item after which it is necessary to set the minimum threshold in case of Cool (supply min) on the supply temperature and the maximum threshold in case of Heat (supply max) also on the supply temperature.
This allows to adjust the temperature within a range between the return and supply temperatures. This type of regulation is used to avoid excessive temperature changes and to have high energy savings.

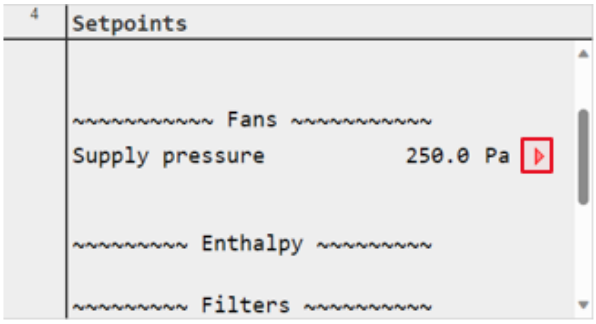
These setpoints are used to set the air flow or pressure you want for the environment and keep the fan as stable as possible.
Set both air flows:



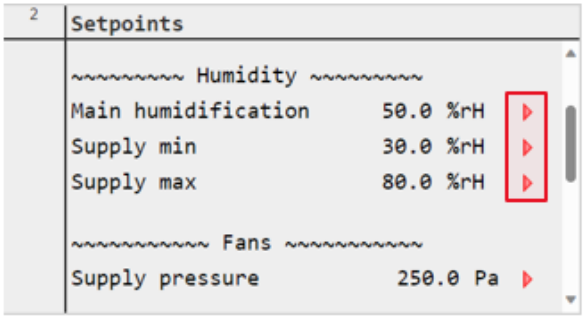
This setpoint is used to set the pressure you want for the environment and keep the fan as stable as possible.

To set the pressure you must change the tubes configuration on the supply and return Fans of base unit as per the instructions.

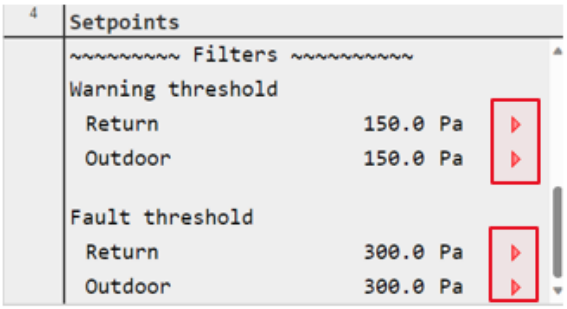
You can also enable the COP function if you have node#3 by connecting the + of DP1 or the of DP2, as required, to the pressure tap mounted on the supply duct. This function will adjust on the supply pressure and, thanks to the algorithm, manage the speed of the return fan. The setpoint displayed will be only that of the supply pressure.



If the humidifier and humidity probes are enabled, you can be set the humidification setpoint and the minimum and maximum supply humidity thresholds.
This control loop has the same operation as the temperature loop. this allows us to have high energy saving and excellent accuracy on the regulation.



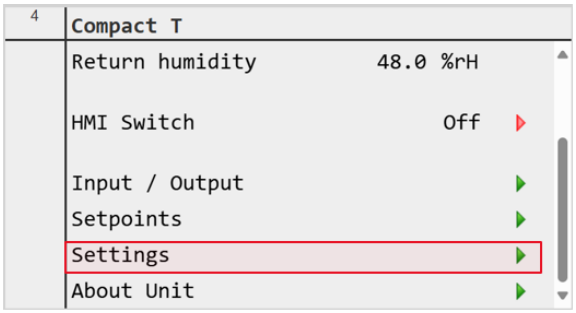
This setpoint is used to set the pressure difference you want to report on each activated filter. the first is just a warning, the second is a fault that stops the AHU.



15 SETTINGS

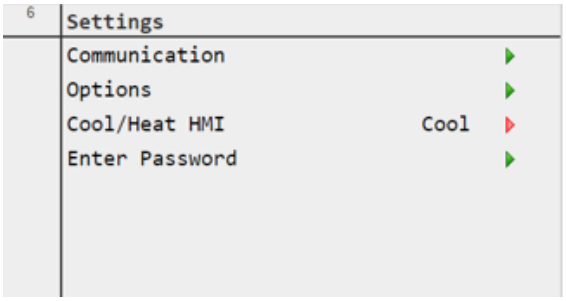
This menu, up to the password level, allows the user to access submenus for communication channels.

HMI Path: `Main Menu` → `Settings`

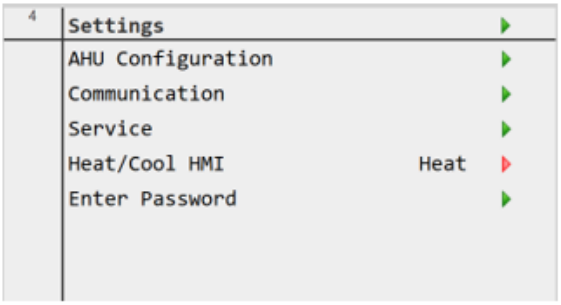


Selecting settings and logging with needed password to access different menus as shown below:

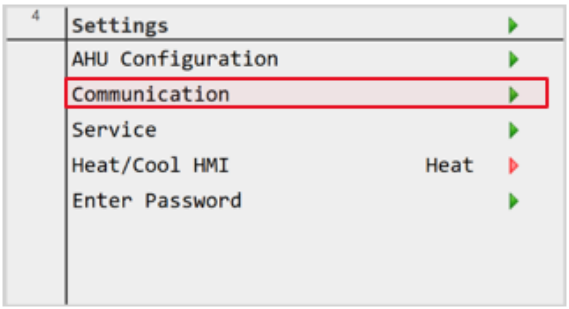
Menu with `User level` password:



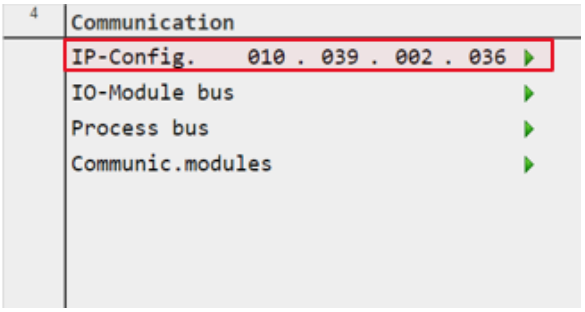
Menu with `Maintenance` level password:



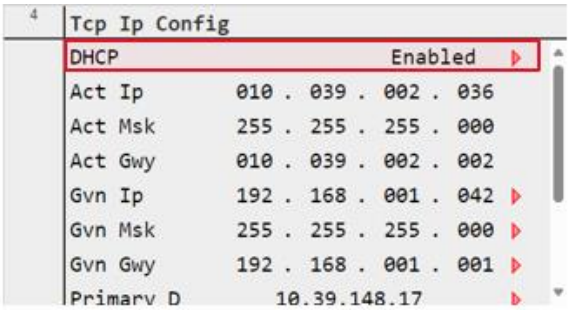
Select `Communication` to access different channel parametrization:



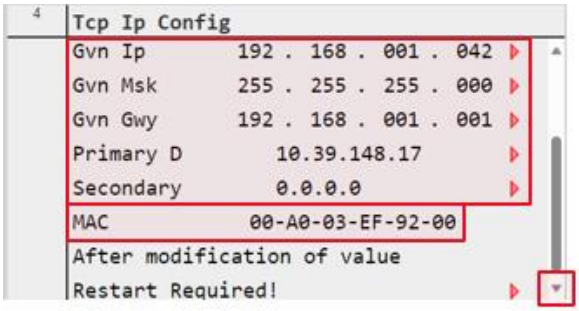
Select `IP-Config.` to access configuration of IP address of the control system:



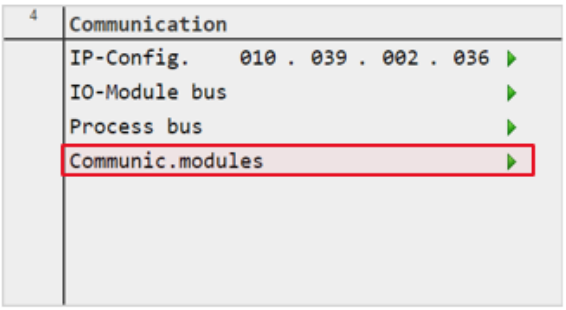
Select `DHCP` to enable or disable the service:



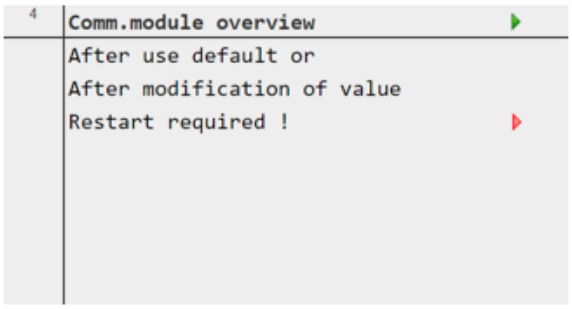
Scroll down to show remaining values.
In case of DHCP disabled use Gvn (given) fields to assign specific IP values to the control system.
MAC is the mac address of the POL688 (control system) of the unit.



Select `Communic. modules` to access configuration of additional communication modules if present:

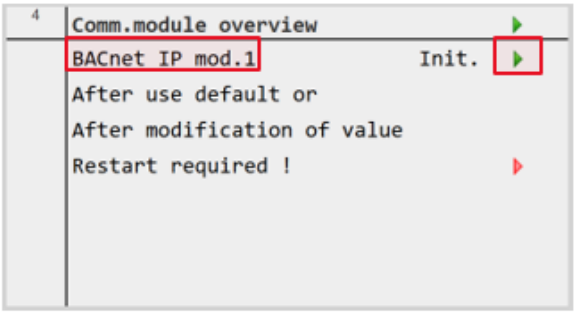


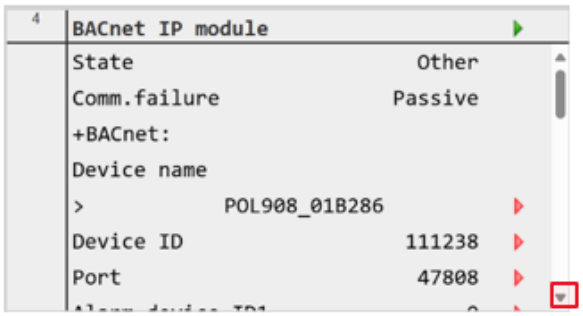
In the presence of a connected module, a specific menu will appear to allow parametrization (communication setting) of every single module installed:

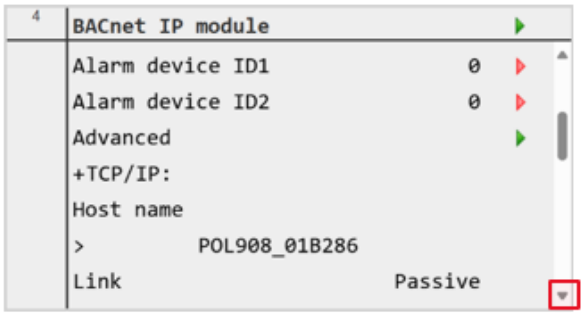


15.1 BACnet POL 908

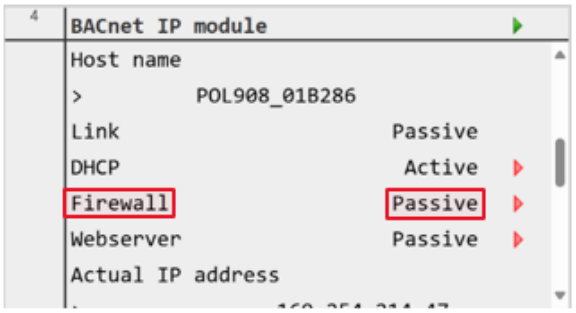
After connecting POL 908 to the main controller and restarting, a new menu appears (`BACnet IP mod. x`):



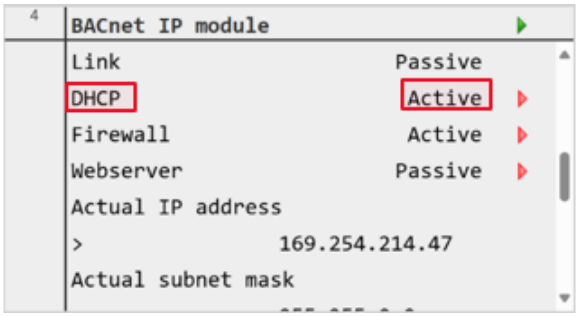




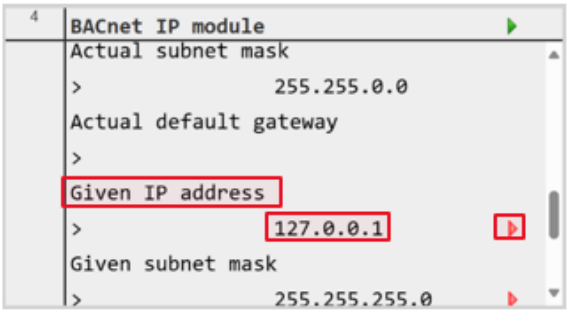
Firewall must be disactivated:



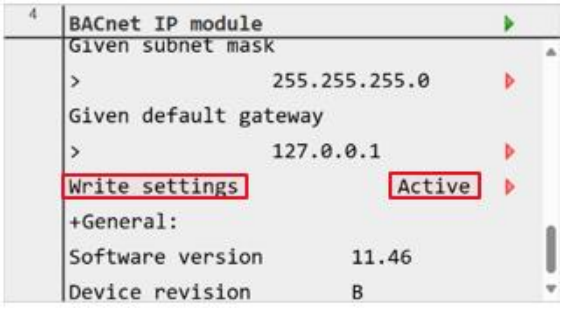
Be aware that the DHCP must be disactivated if POL908 is directly connected to a personal computer and activated if connected to the network:



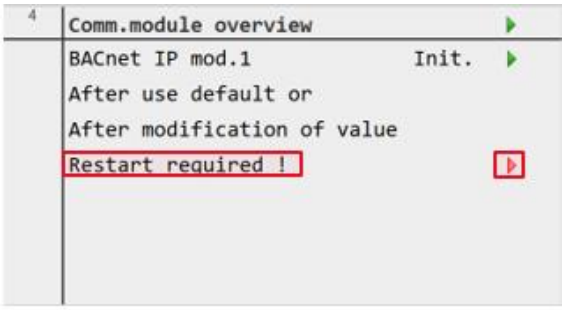
If the DHCP is passive (POL 908 connected point to point to a pc) a given IP address is required:



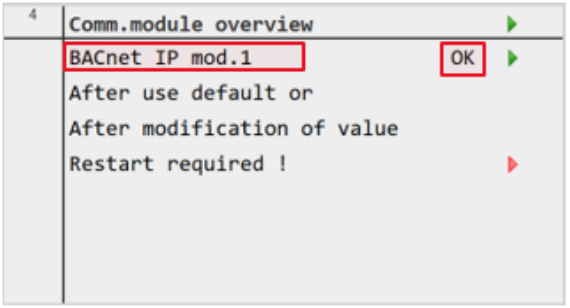
`Write Settings` must be activated:



Now a restart is required:

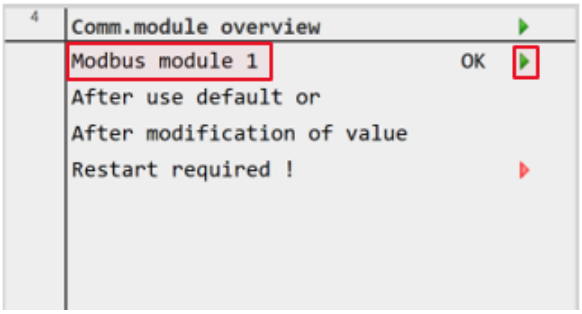


After restarting wait till seeing the OK message:

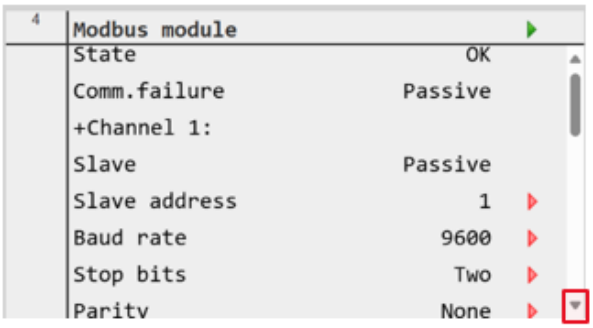


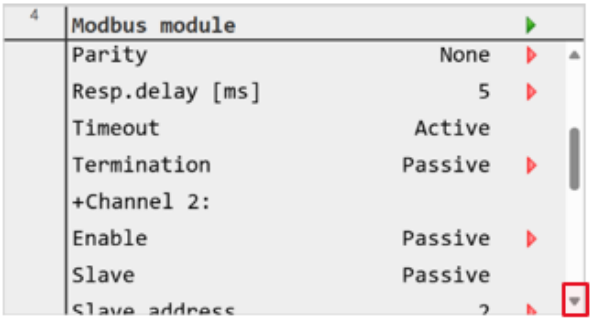
15.2 Modbus POL902

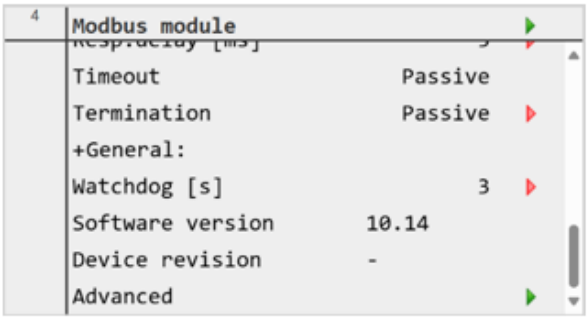
After connecting POL 902 to the main controller and restarting, a new menu appears (`Modbus module x`):



Modbus's settings can be modified as needed:



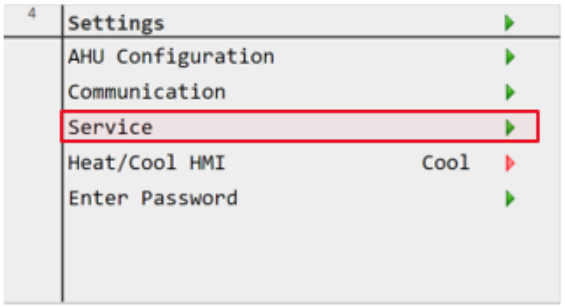




From Settings you can enter Service where you can access several services such as:

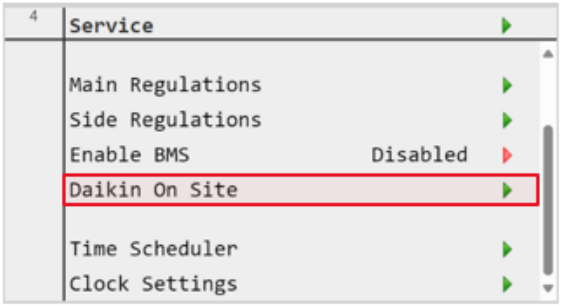
- Daikin On Site
- Main regulation (Main regulation)
- Language Selection (Language selection)
- Heat/Cool kind (Heat/Cool kind)
- Enabling BMS (Enabling BMS)
- Time Scheduler (Time scheduler)
- Clock Settings (Clock settings)

HMI Path: Main Menu → Service



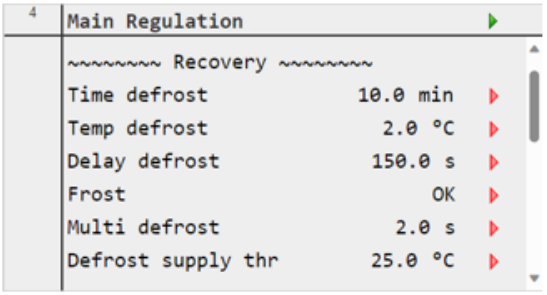
15.2.1 Daikin On Site

Select Daikin on Site to access cloud connection if available:

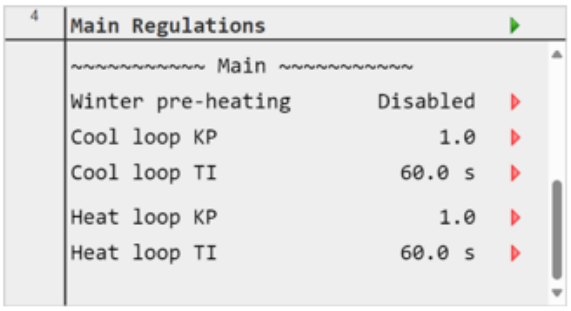


15.2.2 Main regulation

Select Main Regulation to adjust the loop timing of some features:



Enabling the `Winter pre-heating` feature gives the coils more time to heat before fans ventilate:

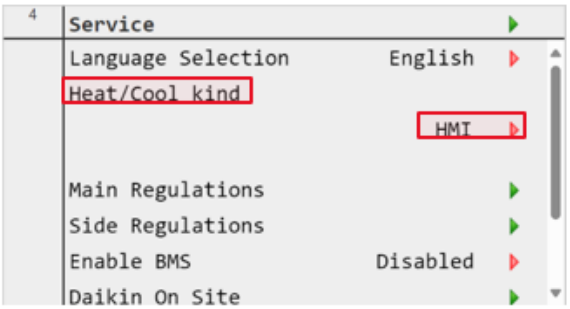


15.2.3 Language selection

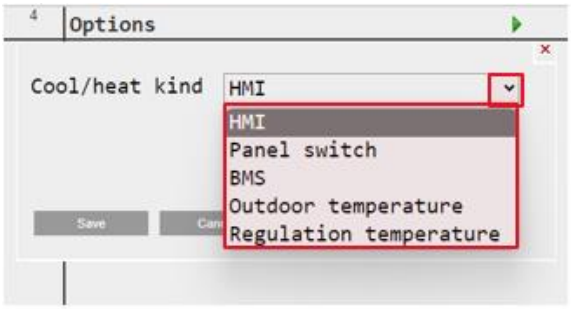
Select `Language Selection` to change language of HMI if available:

15.2.4 Cool/Heat kind

Select `Cool/Heat kind` to access menu:

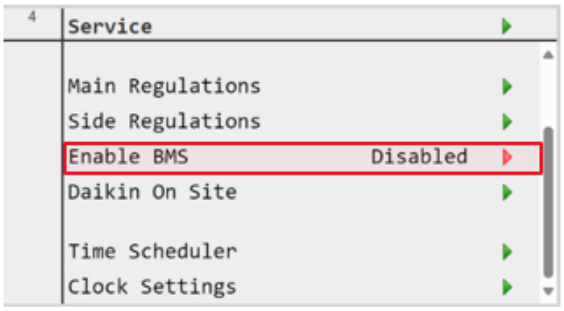


Select the season change input mode:



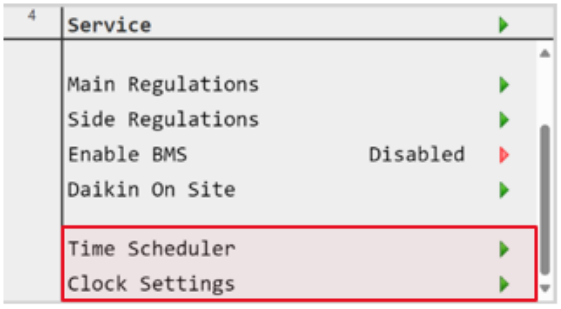
15.2.5 Enabling BMS

Select `Enable BMS` to access menu that allows to enable or disable BMS functionality (Off / On of the unit). from remote:



15.2.6 Time scheduler and Clock settings

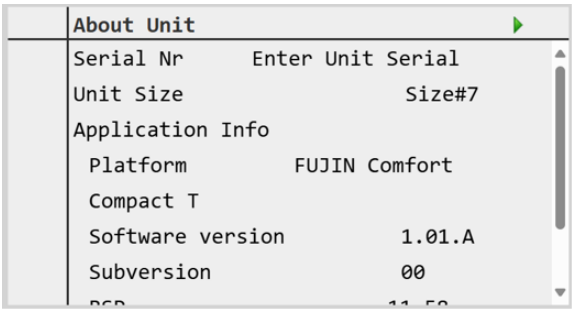
Select `Time Scheduler` and `Clock Settings` to program the start-up and shutdown of the unit by time slots and days of the week:



16 ABOUT UNIT

This menu allows the user to access information about unit software:

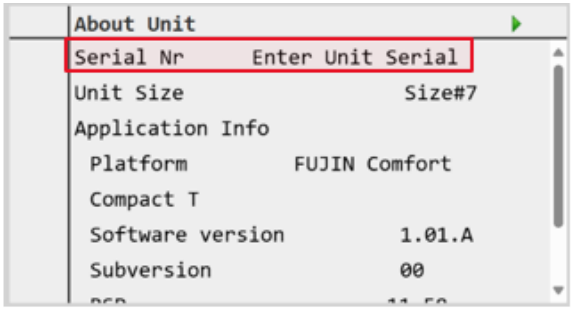
HMI Path: `Main Menu` → `About Unit`



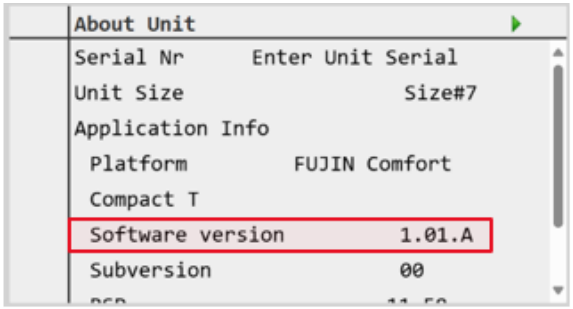
This page shows useful information to note while contacting service in case of need.

Single information is explained below:

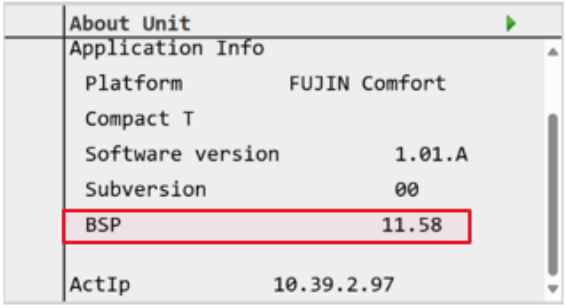
- `Serial number` shows the specific serial number of the unit:



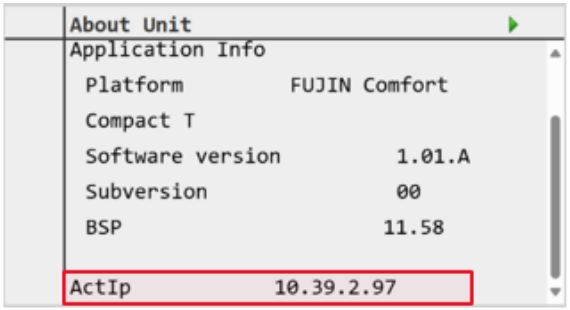
- `Software version` shows the application release running on the unit control system:



- `BSP` shows the release of the operating system running on the unit control system:



- `Act IP` shows the actual IP address of the control system board:



17 ALARMS

17.1 Alarm list

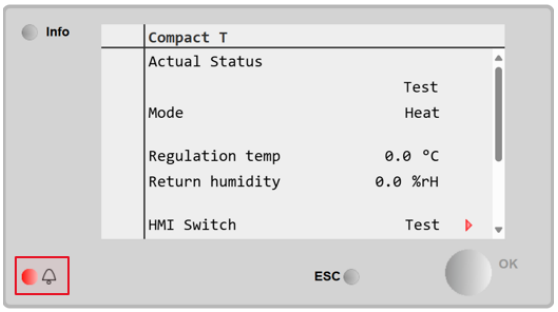
Alarms		Class	High Limit	Low Limit
Type	Name			
Digital Inputs	PreHeating electrical alarm	WA1		
	Combine pump alarm	WA1		
	ERQ alarm	WA1		
	Humidifier alarm	WA1		
	Fire alarm	FL1/WA1		
	Post heathing pump alarm	WA1		
	Post Heathing electrical alarm	WA1		
Analog inputs	Outdoor temperature	WA1	80 °C	- 20 °C
	Outdoor temperature optional	WA1	80 °C	- 20 °C
	Supply temperature	FL1	80 °C	- 20 °C
	Supply temperature optional	WA1	80 °C	- 20 °C
	Return temperature	WA1	80 °C	- 20 °C
	Exhaust temperature	WA1	1000 Pa	0 Pa
	Outdoor pre-filter optional pressure	WA1	1000 Pa	0 Pa
	Outdoor filter pressure	WA1	1000 Pa	0 Pa
	Supply fan pressure	FL1	1000 Pa	0 Pa
	Supply fan pressure optional	FL1	1000 Pa	0 Pa
	Return fan pressure optional	FL1	1000 Pa	0 Pa
	Supply filter pressure optional	WA1	1000 Pa	0 Pa
	Return filter pressure	WA1	1000 Pa	0 Pa
	Return fan pressure	FL1	1000 Pa	0 Pa
	Outdoor humidity	WA1	100 %r.H	0 %r.H
	Supply humidity	WA1	100 %r.H	0 %r.H
	Return humidity	WA1	100 %r.H	0 %r.H
	Return CO2	WA1	1950 ppb	0 ppb
Communication	FAN	FL1		
	Node#1	FL1		
	Node#2	FL1		
	Node#3	FL1		

Legend		
WA1 =	Warning	The unit will continue to work by reporting the alarm.
FL1 =	Fault	The unit will stop operation as it is a critical alarm.

17.2 Restore alarm

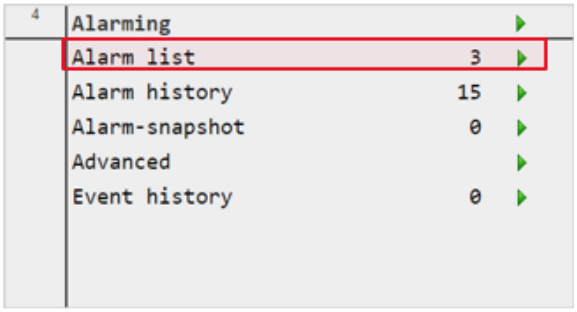
This menu allows the user to reset alarms once the problem is fixed:

HMI Path: Main Menu → Red blinking bell

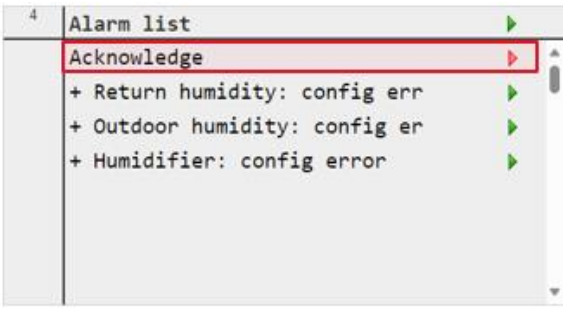


This page shows everything about the alarms and allows them to be reset once the problem is fixed.
To access the reset, you must enter one of the passwords described in the previous chapters.

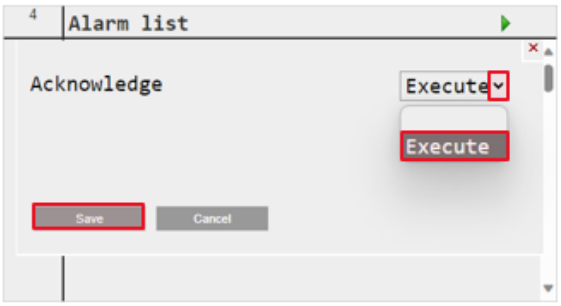
Select `Alarm list` to open the page where all the alarms are shown. The number next to the green triangle means the number of alarms present.



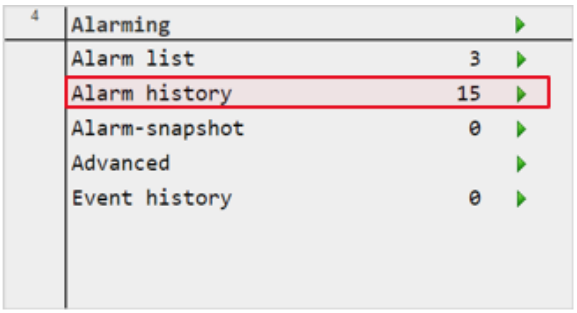
Select `Acknowledge` to open the page where you can execute the reset command, press `execute`, then press `save`.



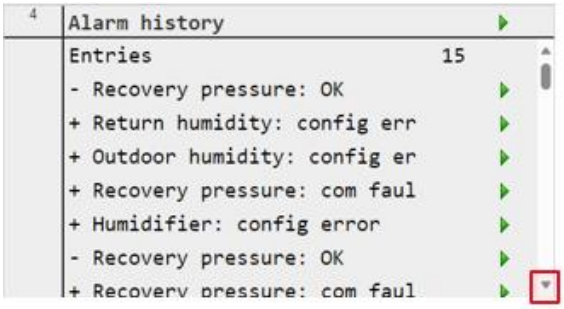
If the problem has been solved the alarm will disappear from the list:



Select `Alarm history` to view the list of actions taken for each alarm:



Scroll to view the list:



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