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Date	11/2025
Supersede	D-EOMOAH00903-21_01EN

**OPERATING MANUAL
D-EOMOAH00903-21_02EN**

Digital AHU

ADK

D-STREAM

Table of contents

1	About this document	5
1.1	<i>Revision History</i>	5
1.2	<i>Notice</i>	5
1.3	<i>Before starting</i>	5
2	Safety Information	6
3	Introduction	7
4	Basic Control System Diagnostic	8
5	Control Functions	9
6	Commissioning	10
6.1	<i>AHU configuration</i>	11
6.1.1	Configuration unit type	12
6.1.2	Configuration Components	15
6.1.3	Configuration functions	21
6.1.4	Modbus Node	32
6.1.5	Config fans	37
6.2	<i>Output test</i>	40
6.2.1	Digital outputs test	40
6.2.2	Analog outputs test	42
6.3	<i>Save/load</i>	43
6.4	<i>Communication</i>	44
6.5	<i>Daikin on site</i>	45
6.6	<i>HMI language</i>	45
7	Status/Settings	46
7.1	<i>AHU Device Monitor</i>	47
7.2	<i>Temperature Control</i>	48
7.3	<i>Air Quality Control</i>	50
7.4	<i>Humidity Control</i>	52
7.5	<i>Fans</i>	54
7.6	<i>Dampers</i>	61
7.7	<i>Recovery</i>	64
7.8	<i>Cooling</i>	65
7.9	<i>Heating</i>	66
7.10	<i>Pumps</i>	67
7.11	<i>ERQ</i>	68
7.11.1	ERQ Status	68
7.11.2	ERQ Settings	69
7.12	<i>Post heating</i>	70
7.13	<i>Pre- heating</i>	72
7.14	<i>Sintra</i>	74
7.15	<i>Sensor Settings</i>	75

8	Main Menu Screen	76
8.1	<i>Control Source</i>	77
8.1.1	Control Source Priority Chain	78
8.2	<i>Actual Mode</i>	78
8.3	<i>Unit State</i>	79
8.4	<i>Active Setpoint</i>	80
8.5	<i>Local Switch</i>	81
8.5.1	This item is used to control locally the operating mode of the AHU.....	81
8.6	<i>Summer/Winter state</i>	82
8.7	<i>Setpoints</i>	85
8.8	<i>I/O Overview</i>	90
8.8.1	Digital inputs	91
8.8.2	Analog inputs	92
8.8.3	Digital output	95
8.8.4	Analog outputs	96
8.9	<i>Time Scheduler</i>	98
8.9.1	Day Scheduler	100
8.9.2	Calendar exception and Calendar fix off	101
8.10	<i>Alarm handling</i>	103
8.10.1	Alarm classification	103
8.10.2	Alarm restore	104
8.10.3	Alarm list	104
8.11	<i>About Unit</i>	117
9	Modbus nodes diagnostic and alarms	119
9.1	<i>Modbus nodes troubleshooting</i>	120
9.1.1	Node#InOutErr interpretation	120
9.1.2	Node#CommErr behaviour	120
10	Appendix A: Room Unit Module - POL822.....	121
10.1	<i>Buttons Overview</i>	121
10.2	<i>Display Overview</i>	122
10.3	<i>AHU On-Off (1)</i>	123
10.4	<i>Occupancy On-Off (2)</i>	123
10.5	<i>Date and time (3)</i>	123
10.6	<i>Temperature Setpoint Offset (4 & 5)</i>	123
10.7	<i>Fan Speed Display (7)</i>	124
10.8	<i>Summer/Winter changeover (8)</i>	124
10.9	<i>Mounting instructions</i>	124

List of tables

Table 1	19
Table 2	20
Table 3	37
Table 4	41
Table 5	43
Table 6	73
Table 7	74
Table 8	82
Table 9	85

1 About this document

1.1 Revision History

Name	Revision	Date	Scope
D-EOMOAH00903-21_01EN	1	June 2021	Second edition <ul style="list-style-type: none">Modified table page 28 – Led yellow #5 of Modbus node doesn't represent a communication error. At present software versions, if blinking only indicates that at least once communication has been interrupted. The only indicator for communication state is the BLUE led.
D-EOMOAH00903-21EN	0	March 2021	First edition

1.2 Notice

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- MicroTech 4 from Daikin Applied Europe.

1.3 Before starting

Application range	This document refers to the following components: Microtech 4 Controller
Users	Users of this document are intended to be: <ul style="list-style-type: none">- AHU users- Sales staff- Commissioning and service- Factory
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 prevent personal 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 can affect 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 effects are 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 the power 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 with corresponding 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 Safety Directive.

3 Introduction

This operating manual provides the basic information that allows the control of the Daikin Air Handling Unit (AHU). AHUs are used for air conditioning and air handling in terms of temperature, humidity and CO₂ level control. There are four types of AHU, based on the external devices used to produce cooling or heating:

1. AH-ERQ-U
The AH-(ERQ)-U is connected with the Daikin ERQ condensing unit.
2. AH-W-U
The AH-(Water)-U is connected with an external device that provides hot water or cold water used in a water heat exchanger.
3. AH-DX-U
The AH-(Direct eXpansion)-U is connected with an external condenser less unit;
4. AH-WDX-U
This type of AH-(Water Direct eXpansion)-U can be connected to both water and direct expansion devices.
5. AH-X-U
This type of AHU is not connected to a principal treatment device, but only with electric /post water type.

4 Basic Control System Diagnostic

Unit controller, 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 that 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***

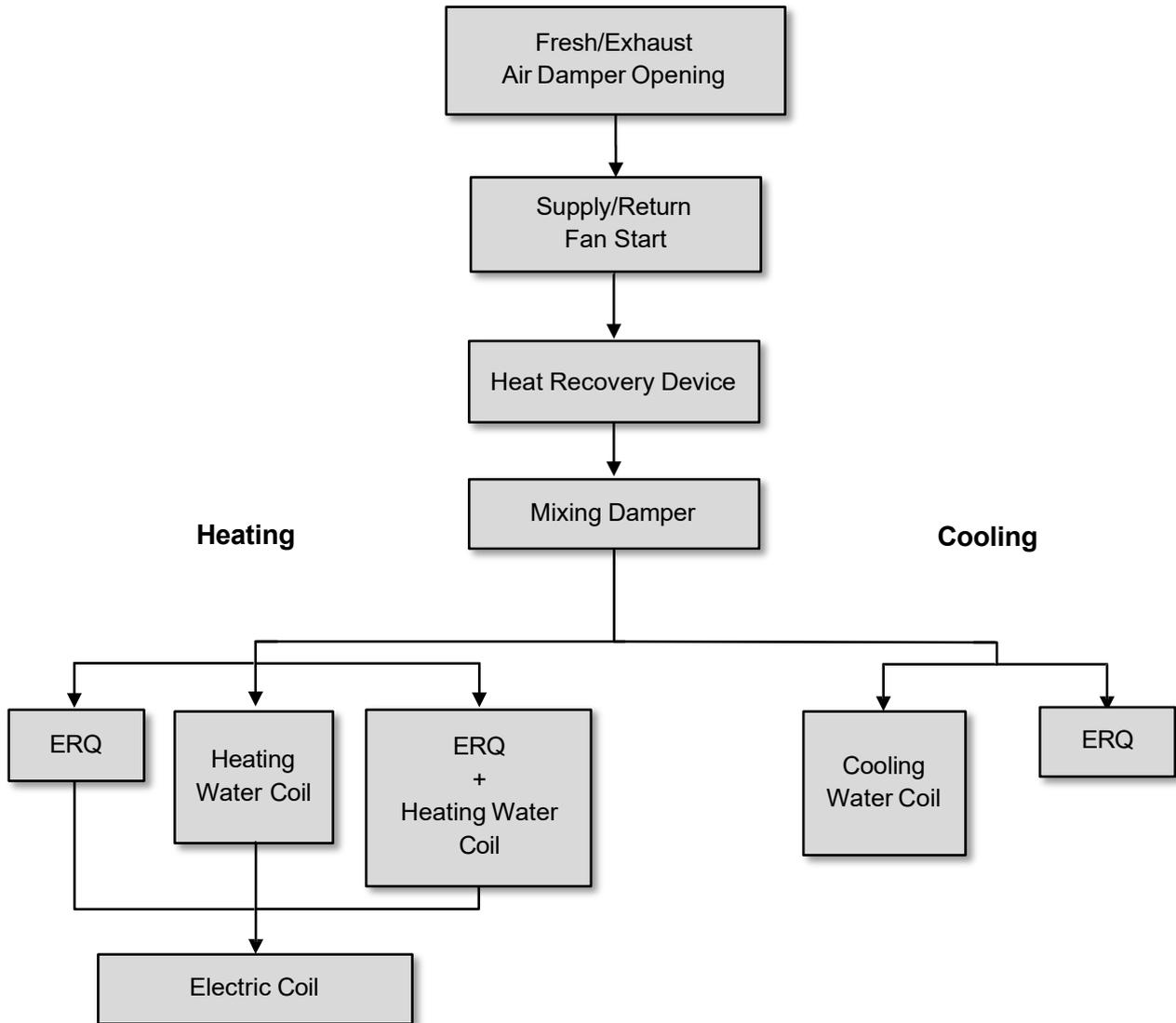
LED Color	Mode
Solid Green	BSP running
Solid Red	Hardware Error (*)
Flashing Red	BSP Error (*)
Flashing Red/Green	BSP upgrade mode

- ***BUS LED***

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

5 Control Functions

This section describes the main control functions available in Daikin Air Handling Units. A typical activation sequence of the devices installed in Daikin AHU for thermoregulation control is showed below.



The starting sequence is performed according to an energy saving management logic, in order to satisfy the desired temperature setpoint.

As soon as a device is fully operational (i.e. operates at 100%), the next device starts according to the sequence shown in the figure above. The same sequence describes also the devices turn-off order by following the opposite direction, ensuring that the upper devices are directly controlled only when the lowest ones are not working. This ensure that the temperature setpoint is always satisfied with the lowest energy consumption.

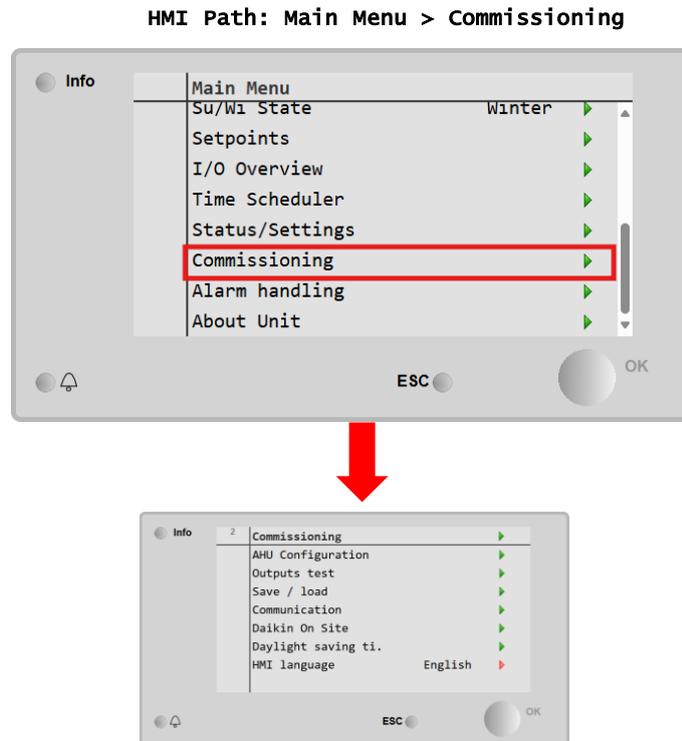


The activation sequence strictly depends on the devices actually installed in your AHU, so it may changes accordingly.

6 Commissioning

This chapter is dedicated to the configuration of the AHU, providing all the necessary parameters required for setting up the AHU and their impact on the control system. It covers the manual testing of AHU outputs, instructions on how to save the AHU configuration to an SD card, and how to reload it when needed. Additionally, the chapter outlines the communication settings for modules (such as BACnet and Modbus), as well as integration with Daikin on Site (DOS). Furthermore, it includes guidance on selecting the HMI language for the system.

Note: This page appears only when a commissioning or service-level password [\[2\]](#) or higher is used.



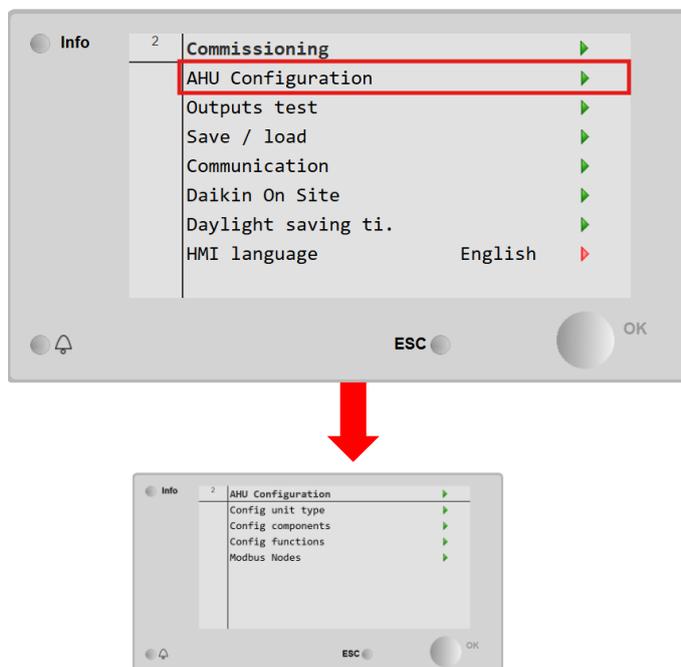
6.1 AHU configuration

In this sub-chapter, you can configure the AHU and identify the parameters that determine the correct behavior of the AHU based on its physical build. This section allows for the selection and activation of various components available in the AHU. Additionally, it covers optional functions that, although not always required, are essential for ensuring the proper operation and performance of the AHU. The following subheadings provide detailed guidance on these configurations and functions.

- *Configuration unit type*
- *Configuration components*
- *Configuration functions*
- *Modbus nodes*

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > AHU Configuration

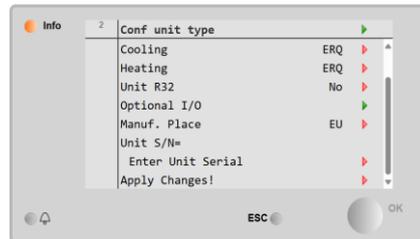
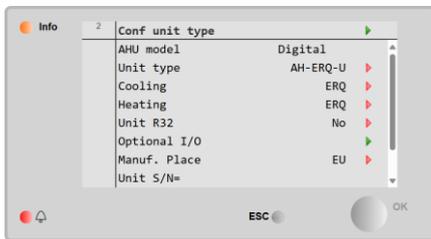
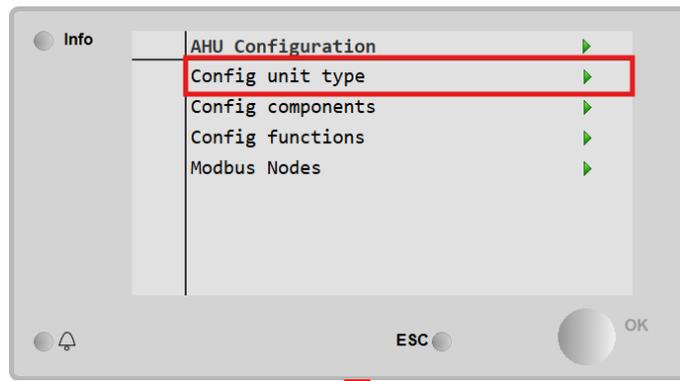


6.1.1 Configuration unit type

This is typically the first step in configuring the AHU, where the type of the main heating and cooling devices is selected. This selection defines the AHU fundamental operating principles and ensures that the system is set up to meet the required heating and cooling needs.

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > AHU Configuration > Config unit type



ID	Parameters	Value	Description	R/W
6.1.1.1	AHU model	Digital	AHU model type	R
6.1.1.2	Unit type	0: AH-X-U 1: AH-W-U 2: AH-WDX-U 3: AH-DX-U 4: AH-ERQ-U	AH-X-U: AHU is not connected to principal treatment device, however, if only electric or water post heating is connected. AH-W-U: AHU is connected to external device that provides hot water or cold water which is used in water heat exchangers. AH-WDX-U: AHU is connected to both water and direct expansion device. AH-DX-U: AHU is connected to direct expansion device. AH-ERQ-U: AHU is connected to Daikin ERQ condensing unit.	R/W
6.1.1.3	Cooling	0: No 1: Water 2: ERQ 3: DX 4: ERQ+water	No: AHU is not connected to any external device that can provide cooling. Water: AHU is connected to external device that provides hot water which is used in water heat exchangers. ERQ: Cooling is provided by Daikin ERQ condensing unit. DX: Cooling is provided by direct expansion device. ERQ+water: Cooling is provided by Daikin ERQ condensing unit and hot water. (Release 1.40.X_00)	R/W

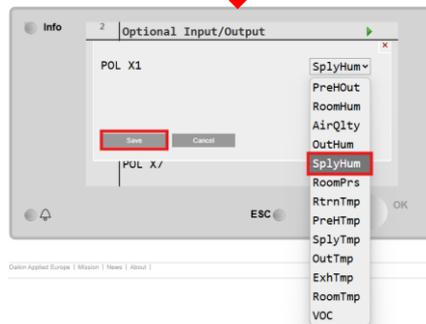
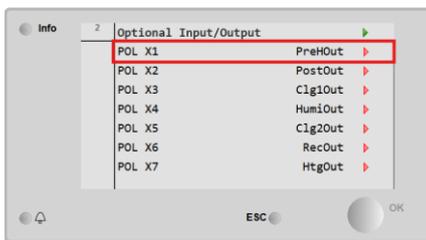
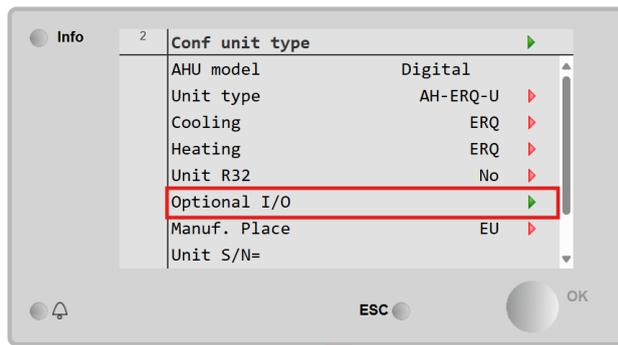
6.1.1.4	Heating	0: No 1: Water 2: ERQ 3: ERQ+Water 4: DX 5: DX+Water	No: AHU is not connected to any external device that can provide cooling. Water: AHU is connected to external device that provides hot water which is used in water heat exchangers. ERQ: Heating is provided by Daikin ERQ condensing unit. ERQ + water: Heating is provided by Daikin ERQ condensing unit and hot water. DX: Cooling is provided by direct expansion device. DX+water: Cooling is provided by direct expansion device and hot water.	R/W
6.1.1.5	Unit R32	0: No 1: Yes	Yes: Only if the ERQ circuit has R32 as Refrigerant. (Applicable only if [6.1.1.3] = 2 or, [6.1.1.4] = 2 or 3) & EKE box type is EKEA ([6.1.2.08] = 1) <i>Note: If ERQ is charged with R32, make sure to enable Low flow alarm [6.1.3.54].</i>	R/W
6.1.1.6	Enter Unit Serial	-	Enter serial number of the AHU.	R/W
6.1.1.7	Supply Fan type	0: Analog 1: MB_EBM 2: MB_Ziehl 3: MB_Delta	Analog: Fan control is via 0-10V from Nodes. MB_EBM: Fan control is via Modbus; fan type is EBM. MB_Ziehl: Fan control is via Modbus; fan type is Ziehl. MB_Delta: Fan control is via Modbus; fan type is Delta.	R/W
6.1.1.8	Return Fan Type	0: Analog 1: MB_EBM 2: MB_Ziehl 3: MB_Delta	Note <ul style="list-style-type: none"> For single fan Modbus per channel, only this parameter is required to change. For multi fan Modbus fan per channel is required to define the following: <ul style="list-style-type: none"> Number of fans [6.1.2.03] , [6.1.2.06] , maximum of 8 fans per channel. Select Modbus Array [6.1.3.06] , [6.1.3.07] Then on config fan page, do settings for multi fan [6.1.5.02] 	
	Configuration	- Done - Not Done	Done, once all the selection is made in this page.	R/W
	Apply Changes	- - Execute	Execute, once you have made changes as desired and restart.	R/W
6.1.1.10 0	Optional I/o	- Page	Optional I/O, [6.1.1.1.01] .	Enter

Table 6.1.1

6.1.1.1 Optional I/O

On POI 688, terminal X1 to X7 can be used as multipurpose Input/Output. By default, these are configured as analog outputs, typically used for controlling pre/post heating, humidifiers, heating/cooling coils, and water heat recovery. However, they can also be reconfigured as analog inputs (0-10V) to accommodate various sensors, such as humidity, temperature, and pressure transducers. For more detailed information, refer to [\[6.1.1.1.01\]](#) where these configurations are explained extensively.

HMI Path: Main Menu > Commissioning > AHU Configuration > Config unit type > Optional I/O



ID	Parameters	Value	Description	R/W
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>				
6.1.1.1.01	<p>POL X1 POL X2 POL X7</p>	<p>0. Default 1. RoomHum 2. AirQlty 3. OutHum 4. SpLyHum 5. RoomPrs 6. RtrnTmp 7. PreHTmp or PreTmp 8. SpLyTmp 9. OutTmp 10. ExhTmp 11. RoomTmp 12. VOC</p>	<p>POL 688, X1 to X7 are used as output by "Default" as mentioned below: -</p> <ul style="list-style-type: none"> - POL X1: Water preheating/Pre cooling output - POL X2: Water post heating output - POL X3: Cooling coil 1 output - POL X4: Humidifier output - POL X5: Cooling coil 2 output - POL X6: Heat recovery output (RAR / Water recovery) - POL X7: Heating coil output <p>However, If AHU do not have any of above component/output, these terminals can be used as inputs with following optional probes: -</p> <ul style="list-style-type: none"> 1. RoomHum: Room humidity 2. AirQlty: Air quality (Co2) 3. OutHum: Outside humidity 4. SpLyHum: Supply humidity 5. RoomPrs: Room pressure transducer 6. RtrnTmp: Return temperature 7. PreHTmp or Pre Tmp: Pre heating/Pre cooling/Pre coil temperature 8. SpLyTmp: Supply temperature 9. OutTmp: Outside temperature 	R/W

			<p>10 . ExhTmp: Exhaust temperature 11 . RoomTmp: Room temperature 12 . VOC - Volatile organic compound sensor</p> <p>Note:</p> <ul style="list-style-type: none"> • Probe input type: 0-10 V. • All these probes can be used as Main or Read only and selection can be made at [6.1.2.1.01]. <p>Example: Let say AHU do not have water pre heating, and want to have supply humidity probe instead, this example is elaborated in pictures above. go out of the page and "Apply changes"/ restart from the "Config unit type" page.</p>	
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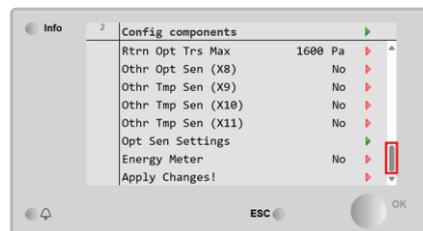
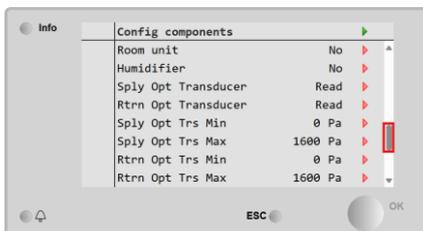
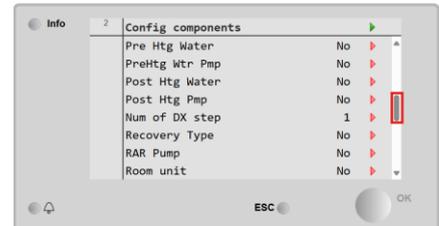
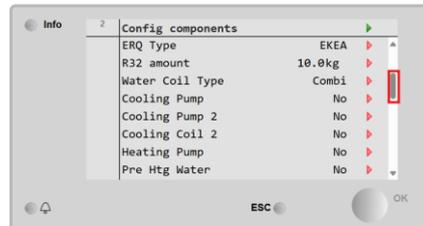
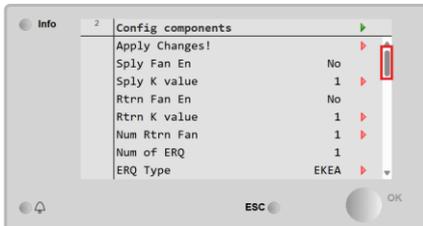
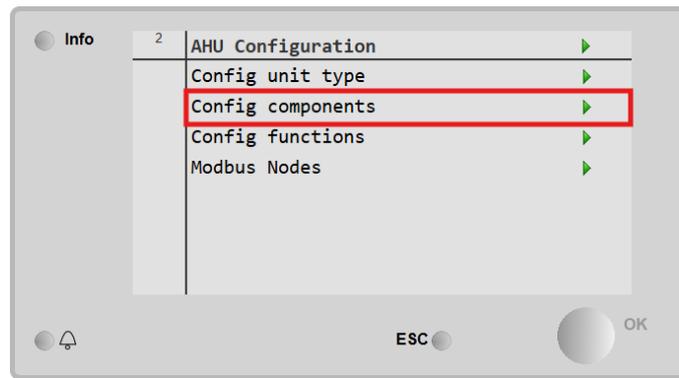
Table 6.1.1.1

6.1.2 Configuration Components

In the component configuration section, you can view all the components that are already configured, as well as those that still need to be configured.

Note: This page appears only when a commissioning or service-level password [\[2\]](#) or higher is used.

HMI Path: Main Menu > Commissioning > AHU Configuration > Config Components



ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
	Apply Changes	- Execute	Execute, once you have made changes as desired and restart.	R/W
	Configuration	- Done - Not Done	Done, once all the selection is made in this page.	R/W
6.1.2.01	Rtrn Fan En	0: No 1: Yes	Yes, supply fan is present.	R
6.1.2.02	Sply K Value	0-2000	K values of supply fan.	R/W
6.1.2.03	Num Sply Fan	0-8	Number of fans on supply channel.	R/W
6.1.2.04	Rtrn Fan En	0: No 1: Yes	Yes, return fan is present.	R
6.1.2.05	Rtrn K Value	0-2000	K values of return fan.	R/W
6.1.2.06	Num Rtrn Fan	0-8	Number of fans on return channel.	R/W
6.1.2.07	Num Of ERQ	1-4	Number of ERQ. <i>(Available only if [6.1.1.3] = 2 or, [6.1.1.4]= 2 or 3) Note: Can only be defined by nodes configuration file.</i>	R
6.1.2.08	ERQ Type	0: EKEQ 1: EKEA	Type of EKE Box. <i>(Available only if [6.1.1.3] = 2 or, [6.1.1.4]= 2 or 3)</i>	R/W
6.1.2.09	R32 amount	0-10-50 [kg]	Insert amount of R32, if the ERQ circuit contains R32 refrigerant. <i>(Available only if R32 is enabled, [6.1.1.5] = 1) Note: To calculate the low flow limit with respect to amount of refrigerant, refer to Low Flow limit.</i>	R/W
6.1.2.10	water coil type	0: Separ 1: Combi	Select the type of coil (heat exchanger). Separ: If AHU has separate coils for heating and cooling. Combi: If AHU has only one coil which is used for both cooling and heating. <i>(Available and applicable only if [6.1.1.3] = 1 and, [6.1.1.4]= 1 or 3 or 5) (Available and applicable only if [6.1.1.3] = 4 and, [6.1.1.4]= 1 or 3 or 5) (Release 1.40.X_00)</i>	R/W
6.1.2.11	Cooling pump	0: No 1: Yes 2: Yes+Kick	Yes: To enable, cooling coil or combi coil ([6.1.2.10] = 1) pump. <i>(Available only if [6.1.1.3] = 1 or 4)</i>	R/W
6.1.2.12	Cooling pump 2	0: No 1: Yes	Yes: To enable, pump for cooling coil 2, only if AHU has two cooling coils and each have separate pump. <i>(Available only if [6.1.1.3] = 1 or 4)</i>	R/W
6.1.2.13	Cooling coil 2	0: No 1: Yes	Yes: To enable, cooling coil 2, only if AHU has two cooling coils. <i>(Available only if [6.1.1.3] = 1 or 4)</i>	R/W
6.1.2.14	Heating Pump	0: No 1: Yes 2: Yes+Kick	Yes: To enable, heating coil or combi coil ([6.1.2.10] = 1) has Pump. <i>(Available only if [6.1.1.4] = 1,3 or 5)</i>	R/W
6.1.2.15	Pre Htg water	0: No 1: Yes	Yes: To enable, pre heating water coil.	R/W
6.1.2.16	PreHtg Wtr Pmp	0: No 1: Yes	Yes: To enable, pre heating water coil pump. <i>(Applicable only if [6.1.2.15] = 1)</i>	R/W

6.1.2.16A	Pre Clg Water	0: No 1: Yes	Yes: To enable, pre cooling water coil. (Release 1.40.X_00) (Moreover, it is possible to use pre heating/cooling in combination, to do so enable both pre heating water and pre cooling water)	R/W
6.1.2.16B	Pre clg Water Pmp	0: No 1: Yes	Yes: To enable, pre cooling water coil pump. (Release 1.40.X_00)	R/W
6.1.2.17	Post Htg Water	0: No 1: Yes	Yes: To enable, post heating water coil.	R/W
6.1.2.18	Post Wtr Pmp	0: No 1: Yes	Yes: To enable, post heating water coil pump. (Applicable only if [6.1.2.17] = 1)	R/W
6.1.2.19	Num of Dx step	0-4	Number of Dx coils. (Applicable only if [6.1.1.3] = 4 or, [6.1.1.4] = 4 or 5) Note: Maximum of 2 Dx can be used.	R/W
6.1.2.20	Recovery type	0: No 1: wheel 2: Cube 3: Water	Select type of recovery device.	R/W
6.1.2.21	RAR Pump	0: No 1: Yes	Yes: To enable, water pump for heat recovery. (Applicable only if [6.1.2.20] = 3)	R/W
6.1.2.22	Room unit	0: No 1: Yes	Yes: To enable Room Unit Module - POL822.	R/W
6.1.2.23	Humidifier	0: No 1: On/Off 2: Modulating	Select type of humidification, On/Off or modulating, only if Humidifier is present.	R/W
6.1.2.24	Sply opt Transducer	0: Disable 1: Read 2: Main	Supply optional differential pressure transducer functionality. Read: Only pressure ready, no part in any control logic. Main: Supply fan control is done on based of the reading from this transducer and therefore, supply fan will work on constant pressure mode [6.1.3.04] . (Available only if supply optional transducer [6.1.4.58] is present)	R/W
6.1.2.25	Sply opt Trs Min	0-5000 [Pa]	Supply optional differential pressure transducer minimum range. (Available only if supply optional transducer [6.1.4.58] is present)	R/W
6.1.2.26	Sply opt Trs Max	0-1600-5000 [Pa]	Supply optional differential pressure transducer maximum range. (Available only if supply optional transducer [6.1.4.58] is present)	R/W
6.1.2.27	Rtrn opt Transducer	0: Disable 1: Read 2: Main	Return optional differential pressure transducer functionality. Read: Only pressure ready, no part in any logic. Main: Return fan control is done based of the reading from this transducer and therefore, return fan will work on constant pressure mode [6.1.3.05] . (Available only if return optional transducer [6.1.4.59] is present)	R/W
6.1.2.28	Rtrn opt Trs Min	0-5000 [Pa]	Return optional differential pressure transducer minimum range. (Available only if return optional transducer [6.1.4.59] is present)	R/W

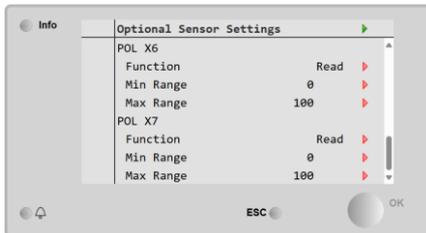
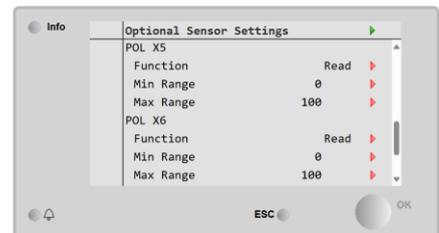
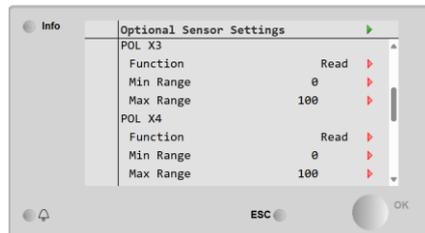
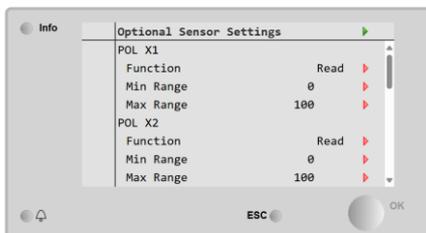
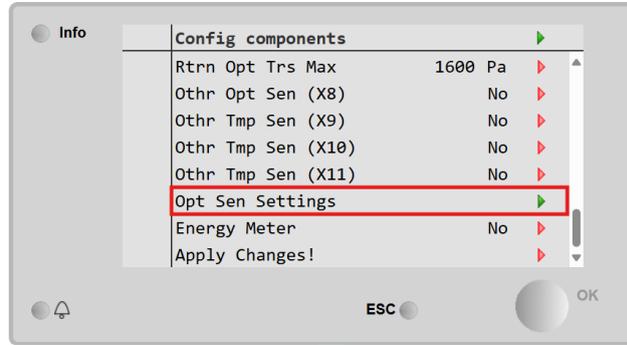
6.1.2.29	Rtrn opt Trs Max	0-1600-5000 [Pa]	Return optional differential pressure transducer maximum range. (Available only if return optional transducer [6.1.4.59] is present)	R/W
6.1.2.30	Other Opt sen(X8)	0: No 1: RoomHum 2: AirQlty 3: OutHum 4: SplyHum 5: RoomPrs 6: RtrnTmp 7: PreHTmp or PreTmp 8: SplyTmp 9: OutTmp 10: ExhTmp 11: RoomTmp 12: VOC 13: CustomTmp 14: CustomProbe 15: ChillerSpv	On POL 688, terminal X8 can be used a multi-purpose as below. 0: No 1: Room humidity 2: Air quality (Co2) 3: Outside humidity 4: Supply humidity 5: Room pressure transducer 6: Return temperature 7: Pre heating/Pre cooling/Pre coil temperature 8: Supply temperature 9: Outside temperature 10: Exhaust temperature 11: Room temperature 12: VOC - Volatile organic compound sensor 13: Custom name temperature (Display name can be customized as desired, it will be read only, no part in any logic) 14: Custom probe (display name can be customized as desired, it will be read only, no part in any logic) 15: Chiller setpoint reset Note: <ul style="list-style-type: none"> All temperature probe input type: NTC Chiller Setpoint reset output: 0-10 V All other probes input type: 0-10 V All probes except "CustomTmp" "CustonProbe" "ChillerSpv" have following functions, Main, Read, Mean, Maximum, Minimum To make selection refer to [6.1.3.1.01] to [6.1.3.1.09] . 	R/W
6.1.2.31 6.1.2.32 6.1.2.33	Other Tmp sen(X9) Other Tmp sen(X10) Other Tmp sen(X11)	0: No 1: Rtrn 2: PreH or Pre 3: Sply 4: Outs 5: Exh 6: Room 7: Custom	On POL 688, X9, X10, X11 terminals can be used as optional temperature probes as 0: No 1: Return temperature 2: Pre heating temperature 3: Supply temperature 4: Outside temperature 5: Exhaust temperature 6: Room temperature 7: Customized name temperature (Read only) Note: <ul style="list-style-type: none"> Probe input type: NTC All probes except "Custom" have following functions, Main, Read, Mean, Maximum, Minimum, To make selection refer to [6.1.3.1.10] [6.1.3.1.11] [6.1.3.1.12] for X9, X10, X11 respectively. 	R/W
6.1.2.34	En Sintra	0: No 1: Yes	Yes: To enable Sinta logic (Available and applicable only if plenum damper [6.1.4.73])	R/W

			<i>and plenum transducer [6.1.4.74] is present)</i>	
6.1.2.35	Modbus Room Probe	0: No 1: Yes	Room Modbus probe, once physical connection is made possibility to read temperature, humidity, Co2. For readings refer to [8.8.2.50] to [8.8.2.57] . Moreover, optional input NTC probe can be connected to read temperature once physical connection is made, simply to enabled refer to [6.1.3.1.20] .	R/W
6.1.2.36	Hum Spv type	0: Relative (%r.H.) 1: Absolute (g/kg)	Possibility to select humidification & dehumidification setpoint in relative humidity (%r.H.) or absolute humidity (g/kg) Note: <ul style="list-style-type: none"> Once absolute humidity is selected, make sure to change the desired setpoint value. 	R/W
6.1.2.37	Tmp Active Snsr Min	-80--50-80 [°C]	Temperature active sensor minimum and maximum range corresponds to 0-10 V signal. Check on the temperature sensor that is in use and insert the range accordingly. <i>(Available only if return optional transducer [6.1.4.75] is present)</i>	R/W
6.1.2.38	Tmp Active Snsr Max	-50-50-80 [°C]		
	Configuration	- Done - Not Done	Done, once all the selection is made in this page	R/W
	Apply Changes	- - Execute	Execute, once you have made changes as desired and restart.	R/W
6.1.2.100	Opt Sen Settings	Page	Dedicated page [6.1.2.1.01] for settings of optional probes (X1-X7) POL X1 to POL X7 in which following parameters can be found: - Function: Read or Main Min Range: Set the minimum range of the probes Max range: Set the minimum range of the probes <i>(Available and applicable only if X1-X7 is selected as optional probe [6.1.1.1.01])</i>	Enter

Table 1

If any of the optional I/O (X1-X7) is selected as an optional sensor/probe, this page allows you to configure settings such as designating it as Main or Read-only, as well as setting the minimum and maximum range corresponding to the 0-10V of the sensor/probe in use.

HMI Path: Main Menu > Commissioning > AHU Configuration > Config components > Opt Sen settings



ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
POL X1 POL X7				
6.1.2.1.01	Function	0: Read 1: Main	Sensor/probes functionality selection, Read: Only reading, no part in any logic whatsoever. Main: The control will be based on this probe.	R/W
6.1.2.1.02	Min Range	-100-2000 [°C,pa , %rH, ppm,ppb]	Insert the minimum and maximum range of probes/sensor, which is been used, by default is 0-100, therefore always manually change these ranges as per desire. The commonly used ranges are as follow, humidity 0-100%rH, Air quality 0-2000 ppm and VOC with 0-2000 ppb .	R/W
6.1.2.1.03	Max Range	-100-2000 [°C,pa , %rH, ppm,ppb]		

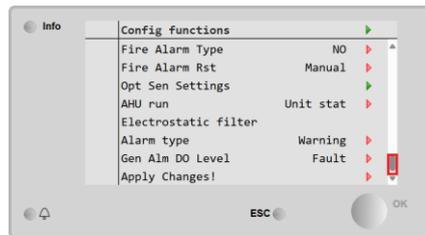
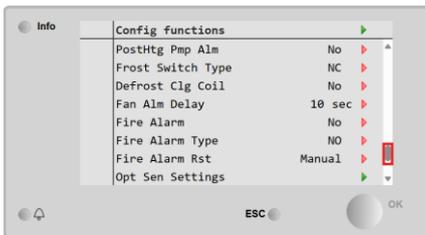
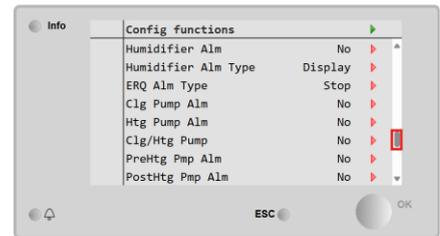
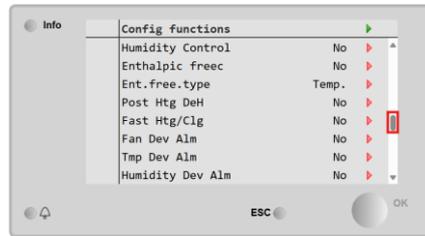
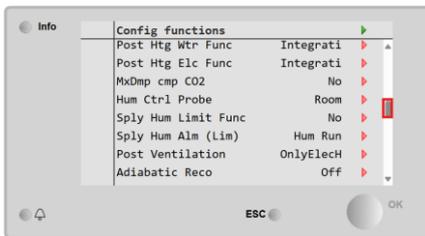
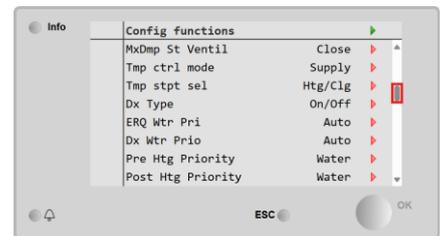
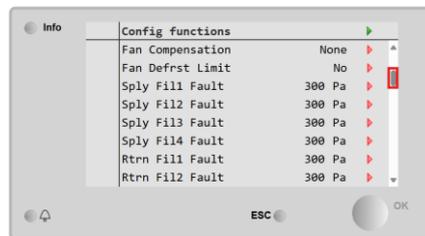
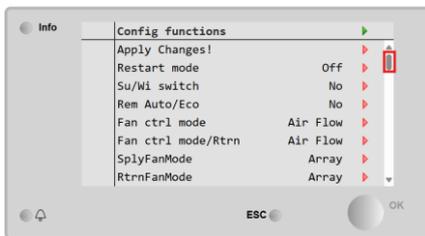
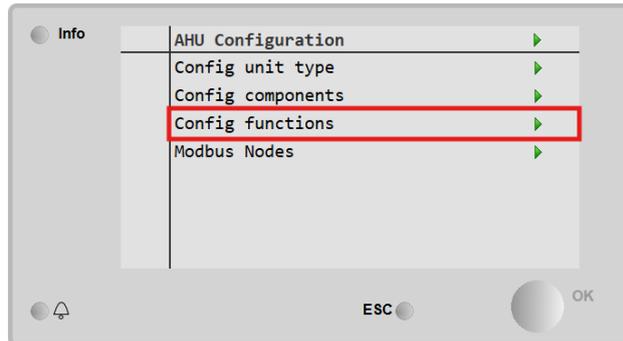
Table 2

6.1.3 Configuration functions

In the configuration functions section, you can select functionalities related to temperature control, humidity control, fan control, and the activation of various types of alarms and their types. These include fire alarms, deviation alarms, humidifier alarms, and cooling/heating coil alarms.

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > AHU Configuration > Config functions



ID	Parameters	Value	Description	R/W
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>				
	Apply Changes	- - Execute	Execute, once you have made changes as desired and restart.	R/W
	Configuration	- Done - Not Done	Done, once all the selection is made in this page.	R/W
6.1.3.01	Restart mode	0: AsPrev 1: Off	AHU restart mode after power failure/isolation. AsPrev: Resumes in the same mode as prior to the shutdown. Off: Starts in the Off state, requiring manual activation.	R/W
6.1.3.02	Su/wi switch	0: No 1: Yes	Yes: To enable the remote Summer/Winter switch, a digital input is provided to facilitate the summer/winter changeover. For more details, refer to the Summer/Winter Changeover section [8.6.04] .	R/W
6.1.3.03	Rem Auto/Eco	0: No 1: Yes	Yes: To enable remote mode switching between AHU Modes [8.5.01] The system allows switching between “Auto” mode and “Economy” mode using a digital input. Note: To activate this functionality, one of the modes (Auto or Economy) must first be selected using the local switch [8.5.01] . After that, the mode can be switched remotely between “Auto” and “Economy” by using the digital input contact.	R/W
6.1.3.04	Fan ctrl mode Or Fan ctrl mode/sply	0: Direct 1: Fixed Speed 2: Pressure 3: Air Flow	Supply fan / both fan control type. Fixed Speed: Fixed fan speed, fan speed in %. Pressure: Constant pressure control. Air Flow: Constant flow control. Note: If “Fan ctrl mode” is displayed that means, this control selection is also for return fan as well. However, if changes to “Fan ctrl mode/sply” then this selection will be only for supply fan. This change in String occurs if we have optional transducers [6.1.2.24] [6.1.2.27] , or room transducer is enabled [6.1.2.30] configured.	R/W
6.1.3.05	Fan ctrl mode/Rtrn	0: Direct 1: Fixed Speed 2: Pressure 3: Air Flow	Return fan control type. Fixed Speed: Fixed fan speed, fan speed in %. Pressure: Constant pressure control Air Flow: Constant flow control Note: Available only if we have optional transducers [6.1.2.24] [6.1.2.27] , or room transducer is enabled [6.1.2.30] .	R/W
6.1.3.06	Sply Fan Mode	0: Array 1: Busy/Stanby 2: N+1 3: MB_Array	If supply or return channel has more than two fans [6.1.2.03] , [6.1.2.6] respectively, following option to choose from:- Array: All fans will follow the one analog output/signal, and if any of the fan alarm is triggered, all fans will stop. Busy/Stanby: If one fan goes in alarm, the other fan will start, if both goes in alarm, AHU stops. Requirements on supply (for return is the same as below) <ul style="list-style-type: none"> • 2 Alarms for each fan (2 Digital input [6.1.4.07] [6.1.4.08]) • 2 On/Off for each fan (2 Digital output [6.1.4.40] [6.1.4.67]) • 2 signals for each fan (2 Analog signal [6.1.4.42] [6.1.4.71]) • Optional: 1 Damper output (1 digital output [6.1.4.69]), digital output is used to open one damper, close other, vice versa. If using the gravity dampers, this digital put to switch the open damper is not required. For settings, refer to duty standby section [7.5.04] . N+1:	R/W
6.1.3.07	Rtrn Fan Mode	0: Array 1: Busy/Stanby 2: N+1 3: MB_Array		R/W

			<p>MB_Array: Each fan has its own signal (Modbus) and the possibility to read its own alarm, therefore, it gives freedom to use different setups as explained in the dedicated page [6.1.5.02].</p> <ul style="list-style-type: none"> Note: Available & applicable only if multiple fans [6.1.2.03] and each is communicated Via Modbus [6.1.1.7]. <p>Upon selection, a dedicated page will appear for multi fan settings [6.1.5.02]. Always do the settings as per requirement.</p>	
6.1.3.08	Fan compensation	0: None 1: Temperature 2: Co2 3: Temp+Co2	System adjusts fan setpoints for CO2/temperature compensation. None: Logic not active, fans follow standard setpoints. Temperature: Increase in fans setpoint, if actual control temperature is far from setpoint. Co2: Increases in setpoints if air quality is poor, fans try to compensate the air quality by increasing. Temp+Co2: Combines both adjustments. For settings, refer to "Max force" setpoints [7.5.29] [7.5.49] for supply fan and return fan respectively.	R/W
6.1.3.09	Fan defrst limit	0: No 1: Yes	Yes: Enable to limit supply and return fan and to follow designated setpoints [8.7.24] [8.7.25] , if ERQ goes in defrost. <i>(Available & Applicable if [6.1.1.3] = 2 or, [6.1.1.4]= 2 or 3)</i>	R/W
6.1.3.10	Sply fil# Fault # = 1,2,3,4	0-1000 [Pa]	Insert the designed fault threshold for differential pressure for each filter. If the differential pressure exceeds the specified threshold, the AHU will automatically Stop to prevent damage or malfunction and as result, alarm is displayed. <i>(Available only if the filters are configured [6.1.4.03] to [6.1.4.06])</i>	R/W
6.1.3.11	Rtrn fil# Fault # = 1,2	0-1000 [Pa]		
6.1.3.12	MxDmp St Ventil	0: Open 1: Close	Mixing damper State in "Ventilation" Mode: Open: Full recirculation of air, no fresh air. Close: Full fresh air, no mixing of exhaust air with fresh air. <i>(Available only if the mixing damper is configured [6.1.4.46])</i>	R/W
6.1.3.13	Tmp ctrl mode	0: Supply 1: Room 2: Return	The temperature probe selection, upon which all temperature controls will be based.	R/W
6.1.3.14	Tmp stpt sel	0: -Htg+Dz 1: Htg/Clg 2: +1/-1/2Dz 3: Clg-Dz	The type of cooling heating setpoint. -Htg+Dz: Heating + Dead zone Htg/Clg: Heating + Cooling +1/-1/2Dz: Plus Clg-Dz : Cooling – Dead zone	R/W
6.1.3.15	Dx Type	0: On/off 1: Modulate	Type of Dx (Direct expansion). <i>(Available & Applicable only if [6.1.1.3] = 4 or, [6.1.1.4]= 4 or 5)</i>	R/W
6.1.3.16	ERQ wtr prio Htg	0: Auto 1: ERQfirst 2: waterFirst	The priority between ERQ and water coil for heating, if both are configured ([6.1.1.4] = 3) Auto: Once selected, the system compares the outside temperature with the switch temperature threshold [7.9.04] . If the outside temperature is less than or equal to the switch temperature, the water will start first. However, if the outside temperature is greater than the switch temperature, the ERQ will start first. ERQfirst: ERQ will start prior to water coil. waterfront: Water coil will start prior to ERQ. <i>(Available & Applicable only if [6.1.1.4]= 3)</i>	R/W

6.1.3.17	Dx wtr pri	0: Auto 1: Dxfirst 2: waterFirst	<p>The priority between Dx coil and water coil, if both are configured ([6.1.1.4] =5)</p> <p>Auto: Once selected, the system compares the outside temperature with the switch temperature threshold [7.9.04] . If the outside temperature is less than or equal to the switch temperature, the water will start first. However, if the outside temperature is greater than the switch temperature, the Dx will start first.</p> <p>Dxfirst: Dx will start prior to water coil. waterfirst: Water coil will start prior to Dx.</p> <p><i>(Available & Applicable only if [6.1.1.4] = 5)</i></p>	R/W
6.1.3.18	Pre Htg Priority	0: water 1: Electric	<p>The priority of water and electric preheating, if both are present.</p> <p>water: Water preheating coil will start prior to water preheating. Electric: Water preheating coil will start prior to water preheating.</p> <p><i>(Applicable only if, water heat pre heating ([6.1.2.15]= 1) and modulating pre heating electric [6.1.4.50] are configured)</i></p>	R/W
6.1.3.19	Post Htg Priority	0: water 1: Electric	<p>The priority of water and electric preheating, if both are present.</p> <p>water: Post heating coil will start prior to water post heating. Electric: Electric Post heating coil will start prior to water post heating.</p> <p><i>(Applicable only if, water heat post heating [6.1.2.17]= 1) and modulating post heating electric [6.1.4.51], are configured)</i></p>	R/W
6.1.3.20	Post Htg Wtr Func	0: Integration 1: Post 2: Both	<p>The function of water post heating can be selected as:</p> <p>Integration: Post heating coil work with main heating coil to maintain temperature setpoint. Post: Post heating only work to maintain temperature setpoint when dehumidification is active. Both: Post heating will be used in both of above scenario.</p> <p><i>(Applicable only if, water heat post heating [6.1.2.17]= 1)</i></p>	R/W
6.1.3.21	Post Htg elc Func	0: Integration 1: Post 2: Both	<p>The function of electrical heating /electric post heating can be selected as</p> <p>Integration: Post heating coil work with main heating coil to maintain temperature setpoint. Post: Post heating only work to maintain temperature setpoint when dehumidification is active. Both: Post heating will be used in both of above scenario.</p> <p><i>(Applicable only if, electrical / electrical post heating [6.1.4.51] is present)</i></p>	R/W
6.1.3.22	MxDmp cmp CO2	0: No 1: Yes	<p>If mixing damper and air quality/VOC sensor is configured, by enabling this parameter ensures proper air quality by forcing the fresh air damper to compensate for any variations in air quality, It will force the minimum fresh air threshold ,refer to mixing damper settings [7.6.20] .</p> <p>By enabling, possible to set air quality setpoint.</p>	R/W
6.1.3.23	Hum Ctr ¹ Probe	0: Room /Return 1: Supply	<p>The humidity probe selection upon which all controls will be based.</p>	R/W

6.1.3.24	Sply Hum Limit func	0: No 1: Yes	To limit of humidity on supply duct under certain level (setpoint) [7.4.04] ,if the control is based on “Room/Return” humidity probe. <i>(Applicable only if, control is based on room/return ([6.1.3.23] = 0) and supply humidity probes is configured)</i>	R/W
6.1.3.25	Sply Hum Alm (lim)	0: Hum Run 1: Hum Stop	In case of supply humidity probe goes in fault (alarm) and limitation of humidity on supply duct is enabled [6.1.3.24] , humidifier (loop/signal) can have following options Hum Run: Humidifier keep on running with respect to reading from room/return humidity probe. Hum Stop: Humidifier stops (0 Signal) once supply humidity probe goes in alarm. <i>(Applicable only if, control is based on room/return ([6.1.3.24] = 1) and supply humidity probes is present)</i>	R/W
6.1.3.26	Post Ventilation	0: OnlyElectg 1: Always	Post ventilation, in order to cool down the electrical heating coil, fans keep on running for [7.5.28] time, which is by default 3 minutes, once AHU is switched Off. OnlyElectHtg: Only if AHU is configured with any electrical heating (Pre or Post). Always: Always whenever AHU is switched Off.	R/W
6.1.3.28	Humidity Control	0: No 1: Hum 2: Dehum 3: Hum+Dehum	Types of humidity control No: No humidity control Hum: Humidification control only, Dehum: Dehumidification control only Hum +Dehum: Humidification and dehumidification both <i>(Humidification, applicable only if humidifier is [6.1.3.28] = 1 is present)</i> <i>(Dehumidification, applicable only if cooling device [6.1.1.3] = 1,2 or 3 is present)</i>	R/W
6.1.3.32	Fast Htg/Clg	0: No 1: Strtup 2: Alwys	The standard setpoint of supply fan is increased by %, by default is 25%, if the temperature difference between control temperature and temperature setpoint is more than active threshold, by default is 5 °C, and setpoint back to the standard if the deference become less then the deactivate threshold. by default, is 1°C. No: No part in any logic. Strtup: The above logic will be used only at start startup of the AHU, once the temperature difference become less then the deactivate threshold, the supply setpoint will not change. Always: Always active, whenever temperature difference become more then active threshold. <i>(Applicable only if temperature control is on return or room temperature probe [6.1.3.13] = 1 or 2)</i>	R/W
6.1.3.33	Fan Dev Alm	0: No 1: Supply 2: Return 3: Sply+Ret	Fan setpoint deviation alarm. No: Not active for any fan. Supply: Enable only for supply fan, for settings, refer to [7.5.31] . Return: Enable only for return fan, for settings, refer to [7.5.51] . Sply +Ret: Enable for both supply & return fan, for settings, refer to [7.5.31] & [7.5.51] respectively.	R/W
6.1.3.35	Tmp Dev Alm	0: No 1: Yes	Yes: Enable, Temperature setpoint deviation alarm. For settings, refer to [7.2.19] .	R/W

6.1.3.35	Humidity Dev Alm	0: No 1: Hum 2: Dehum 3: Hum+Dehum	Humidity setpoint deviation alarm. No: Not active. Hum: Enable only for humidification, for settings, refer to [7.4.13] . Dehum: Enable only for dehumidification, for settings, refer to [7.4.16] . Hum+Dehum: Enable for both humidification & dehumidification, for settings, refer to [7.4.13] & [7.4.16] respectively.	R/W
6.1.3.36	Humidifier	0: No 1: Yes	Yes: Enable humidifier alarm. (Available only if humidifier is present [6.1.2.28] = 1)	
6.1.3.37	Humidifier Alm type	0: Stop 1: Display	Humidifier alarm type selection Stop: AHU stops, if humidifier alarm is active. Display: AHU will not stop, but only alarm is displayed. (Available only if humidifier is present [6.1.2.28] = 1) (Applicable only if humidifier alarm is activated [6.1.3.35] = 1)	R/W
6.1.3.38	ERQ Alm Type	0: Stop 1: Display	ERQ alarm type selection Stop: AHU stops, once ERQ alarm is active and alarm is not self-release (do not reset itself), requires acknowledgement. Display: AHU will not stop, but alarm is displayed and self-release (reset itself). (Available & Applicable if [6.1.1.3] = 2 or, [6.1.1.4] = 2 or 3)	R/W
6.1.3.39	Clg Pump Alm	0: No 1: Yes	Yes: Enable cooling coil pump alarm (Available only if, [6.1.2.11] = 1)	R/W
6.1.3.40	Htg Pump Alm	0: No 1: Yes	Yes: Enable heating coil pump alarm (Available only if, [6.1.2.14] = 1)	R/W
6.1.3.41	CLg/Htg pump	0: No 1: Yes	Yes: Enable cooling/heating (Combi) coil pump alarm (Available only if, [6.1.2.10] = 1, [6.1.2.11] = 1 and [6.1.2.14] = 1)	R/W
6.1.3.42	PreHtg Pmp Alm	0: No 1: Yes	Yes: Enable water preheating coil pump alarm (Available only if, [6.1.2.15] = 1)	R/W
6.1.3.43	PostHtg Pmp Alm	0: No 1: Yes	Yes: Enable water post heating coil pump alarm (Available only if, [6.1.2.17] = 1)	R/W
6.1.3.44	Frost switch Type	0: NC 1: NO	Frost switch digital input type. NC: Normally closed, circuit is closed under normal conditions; opens to trigger the alarm. NO: Normally open, circuit is open under normal conditions; closes to trigger the alarm. (Available only if, frost switch is configured [6.1.4.18])	R/W
6.1.3.45	Defrost Clg Coil	0: No 1: Yes	Yes: If want to defrost the cooling coil in case of frost switch is active. (Available & Applicable only if, Unit is configured with frost switch [6.1.4.18] , water cooling coil [6.1.1.3] = 1 and it's a separate coil (not combi) [6.1.2.10])	R/W
6.1.3.46	Fan Alm Delay	0-10-180 [s]	By default, there is a 10-second fan alarm delay. This means that once the contact is open, the alarm triggers after this delay.	R/W

6.1.3.47	Fire Alarm	0: NO 1: Alarm 2: Tmp 3: Alarm+Tmp	Fire alarm type. NO: Fire alarm not active. Alarm: Triggered only by an external fire detection device (e.g. smoke or heat detectors). Tmp: Triggered only by temperature probes (Supply and Return) when the temperature exceeds a set threshold (Supply 70 °C, Return : 50 °C). Alarm+Tmp: Triggered by either the fire detection device or temperature probes, offering dual protection.	R/W
6.1.3.48	Fire Alarm Type	0: NO 1: NC	Fire alarm digital input type. NC: Normally closed, circuit is closed under normal conditions; opens to trigger the alarm. NO: Normally open, circuit is open under normal conditions; closes to trigger the alarm. (Applicable only if only if, [6.1.3.47] = 1 or 3)	R/W
6.1.3.49	Fire Alarm Rst	0: Manual 1: Auto	Fire alarm digital input type. Manual: Required acknowledgement /reset (Not Self-release) from HMI or BMS. Auto: The alarm reset itself automatically (Self-release) once the fire alarm passive (no fire alarm). (Applicable only if only if, [6.1.3.47] = 1 or 3)	R/W
6.1.3.51	AHU run	0: Unit Status 1: Fan status	A digital output is designated to indicate the status of AHU. Unit Status: Contact Close (Active) when, AHU is switched On. Fan Status: Contact Close (Active) when, whenever fans are switched On. Status can be checked from Digital outputs [8.8.3.02] .	R/W
6.1.3.52	Electrostatic filter Alarm type	0: Warning 1: Fault	Electrostatic filter alarm type Warning: AHU will not stop only display the alarm, once alarm is active. Fault: AHU will stop and display the alarm, once alarm is active. (Available only if, electrostatic filter alarm is configured [6.1.4.54])	R/W
6.1.3.53	Gen Alm DO Level	0: Danger 1: Fault 2: Warning 3: Maintenance	AHU general alarm, digital output [8.8.3.22] for the RED LED mounted on The Unit. Danger: The red light switched On, once any of the alarm is active which is classified as " Danger " Fault: The red light switched On, once any of the alarm is active which is classified as " Fault " or " Danger " Warning: The red light switched On, once any of the alarm is active which is classified as " warning ", " Fault " or " Danger " Maintenance: The red light switched On, once any of the alarm is active which is classified as "Maintenance" "Warning", "Fault" or "Danger"	R/W
6.1.3.54	En low flow Alarm	0: NO 1: Yes	Yes: Enable low flow alarm, always when R32 refrigerant is used in ERQ circuit. For settings, refer to [7.5.36] . (Available & Applicable only if R32 is enabled [6.1.1.5] and type of EKE box is EKEA [6.1.2.08])	
6.1.3.55	Htg Valve Type	0: Analog 1: MB_BelimoPIC	Analog: Coil/Valve is controlled by 0-10V signal. MB_BelimoPIC: Coil/Valve is controller via Modbus.	R/W

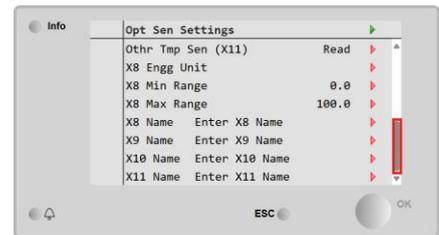
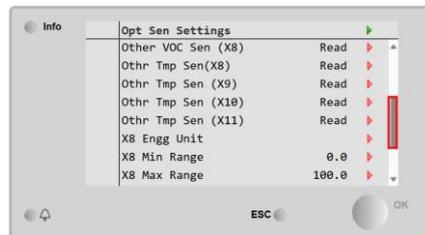
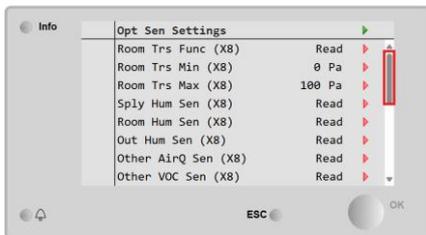
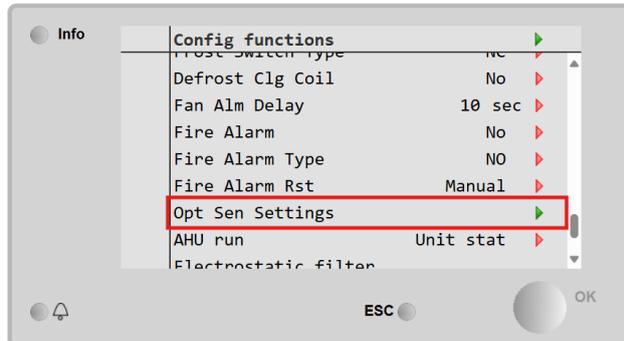
6.1.3.56	ClgHtg/Clg Valve Type	0: Analog 1: MB_BelimoPIC	For readings, refer to [8.8.2.1.01] to [8.8.2.1.08] .	
6.1.3.57	Clg 2 Valve Type	0: Analog 1: MB_BelimoPIC		
6.1.3.58	Pre Htg Valve Type , Pre coil valve type	0: Analog 1: MB_BelimoPIC		
6.1.3.59	Post Htg Valve Type	0: Analog 1: MB_BelimoPIC		
6.1.3.60	ERQ Wtr prio clg	0: ERQfirst 1: waterFirst	The priority between ERQ and water coil for cooling, if both are configured ([6.1.1.3] = 4) ERQfirst: ERQ will start prior to water coil. waterfront: Water coil will start prior to ERQ. <i>(Available & Applicable only if [6.1.1.3]= 4)</i>	R/W
6.1.3.60	Climatic Curve	0: No 1: 3 parameter curve	To enable the climatic curve, only available or applicable if outside temperature probe is present.	R/W
	Configuration	- Done - Not Done	Done, once all the selection is made in this page	R/W
	Apply Changes	- - Execute	Done, once all the selection is made in this page	
	Opt Sen Settings	Page	Dedicated page [6.1.3.1.01] for settings of optional probes (X8-X11) <i>(Available and applicable only if any X9-X10 is selected as optional probe [6.1.2.30] to [6.1.2.33])</i>	Enter
	Alarm enable/Settings	Page	Starting from software release 1.40.A_01 and in all subsequent releases, all alarm enabling and configuration settings have been relocated from the "Config Function" main page to a newly introduced dedicated page.	Enter

Table 6.1.3

6.1.3.1 Opt sen settings (X9-X11)

If any of the optional probes (X8-X11) is selected as an optional sensor/probe, this page allows you to configure settings such as designating it as Main or Read-only, minimum, maximum, average, as well as setting the minimum and maximum range corresponding to the 0-10V of the sensor/probe in use.

HMI Path: Main Menu > Commissioning > AHU Configuration > Config Functions > Opt Sen settings



ID	Parameters	Value	Description	R/W
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>				
POL X8 POL X11				
6.1.3.1.0 1	Room Trs Func (X8)	0:Disable 1:Read 2:Main	<p>The object is available only if, X8 [6.1.2.30] is selected as Room pressure.</p> <p>Read: The probe will only provide readings and will not contribute to any control logic.</p> <p>Main: The control will be based on this selected probe.</p> <p>Note:</p> <ul style="list-style-type: none"> This is the only input that can be used for Room/Ambient pressure, no possibility to have on nodes. Once selected Main, the room pressure control can be done based on this transducer. The return fan will modulate based on this reading. To control return fan based on this transducer, need to select Main and return fan control type [6.1.3.05] as pressure. Room/ambient transducer should be 0-10v, and minimum and maximum range should be inserted [6.1.3.1.02] [6.1.3.1.03] as per transducer in use. 	R/W
6.1.3.1.0 2	Room Trs Min (X8)	-100 - 100[Pa]	Insert minimum range of room transducer, possible to insert negative as well.	R/W
6.1.3.1.0 3	Room Trs Max (X8)	-100 - 100[Pa]	Insert maximum range of room transducer.	R/W

6.1.3.1.0 4	Sply Hum Sen (X8)	0:Main 1:Read 2:Mean 3:Max 4:Min	<p>These objects are available only if, X8 [6.1.2.30] is selected as supply humidity, room/return humidity, outside humidity, air quality or VOC, therefore possible to choose following functionalities</p> <p>Main: The control will be based on this selected probe. Any other probes, if available, will be in read-only mode.</p> <p>Read: The probe will only provide readings and will not contribute to any control logic.</p> <p>Mean: The probe will be used to take average with other probe (from nodes) reading and average values will be used in control logic.</p> <p>Max: Maximum values among all the possible probes (X8 & Nodes), will be used in control logic.</p> <p>Min: Minimum values among all the possible probes (X8 & Nodes), will be used in control logic.</p> <p>Note:</p> <ul style="list-style-type: none"> Maximum of 2 possible probes can be used for Mean, Max, Min, one from X8 and one probe from Nodes(nodes), Example , if supply humidity is configured [6.1.4.23] on nodes , and selected [6.1.2.30] as supply humidity. functionality [6.1.3.1.04] is selected as Mean, the averaged value from both probes will be used in the control logic. All these probes should be 0-10V, with range for humidity 0-100%rH, Air quality 0-2000 ppm and VOC with 0-2000 ppb . 	R/W
6.1.3.1.0 5	Room/Return Hum Sen (X8)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.0 6	Out Hum Sen (X8)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.0 7	Other AirQ Sen (X8)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.0 8	Other VOC Sen (X8)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.0 9	Other Tmp Sen (X8)	0:Main 1:Read 2:Mean 3:Max 4:Min	<p>These objects are available only if, X8 [6.1.2.30] X9[6.1.2.31],X10 [6.1.2.32] X11 [6.1.2.33] is selected as any kind of temperature , therefore possible to choose following functionalities</p> <p>Main: The control will be based on this selected probe. Any other probes, if available, will be in read-only mode.</p> <p>Read: The probe will only provide readings and will not contribute to any control logic.</p> <p>Mean: The probe will be used to take average with all other possible probe reading and average values will be used in control logic.</p> <p>Max: Maximum values among all the possible probes, will be used in control logic.</p> <p>Min: Minimum values among all the possible probes, will be used in control logic.</p> <p>Note:</p> <ul style="list-style-type: none"> Maximum of 5 temperature probes can be used for Mean, Max, Min, one from X8, X9, X10, X11 and one probe from Nodes(nodes). If any of the probe is selected Main, all other possible probes will be read-only. All these probes should be NTC. 	R/W
6.1.3.1.1 0	Other Tmp Sen (X9)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.1 1	Other Tmp Sen (X10)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.1 2	Other Tmp Sen (X11)	0:Main 1:Read 2:Mean 3:Max 4:Min		
6.1.3.1.1 3	X8 Engg Unit	0:None 1:%rH 2:ppm 3:pa		
			<p>Possible to select the engineering unit for customized probe</p> <p>(Available and applicable only if any X8 is selected as "CustomProbe" ([6.1.2.30] = 12))</p>	R/W

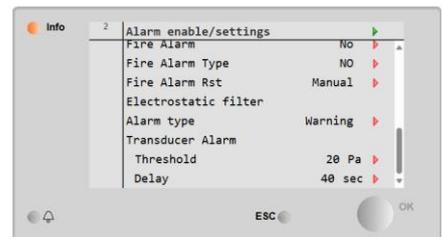
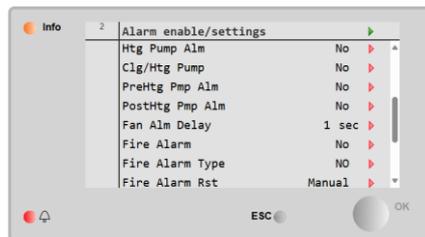
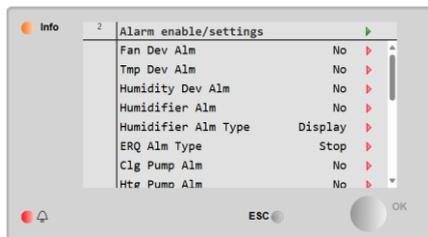
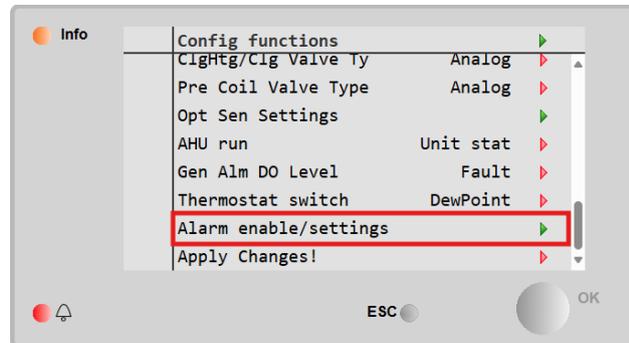
		4: ppb			
6.1.3.1.1 4	X8 Min Range	-100 5000	-	Insert the minimum range of sensor/probe (Available and applicable only if any X8 is selected as "CustomProbe" ([6.1.2.30] = 12))	R/W
6.1.3.1.1 5	X8 Max Range	-100 5000	-	Insert the maximum range of sensor/probe (Available and applicable only if any X8 is selected as "CustomProbe" ([6.1.2.30] = 12))	R/W
6.1.3.1.1 6	X8 Name			Type/insert any name for the probe, possible to define this probe any name as desired. (Available and applicable only if any X8 is selected as "CustomProbe" or "CustomTmp" ([6.1.2.30] = 13 or 14))	R/W
6.1.3.1.1 7	X9 Name			Type/insert any name for the temperature probe, possible to define this probe any name as desired. (Available and applicable only if any X9 is selected as "Custom" ([6.1.2.31] = 7))	R/W
6.1.3.1.1 8	X10 Name			Type/insert any name for the temperature probe, possible to define this probe any name as desired. (Available and applicable only if any X10 is selected as "Custom" ([6.1.2.31] = 7))	R/W
6.1.3.1.1 9	X11 Name			Type/insert any name for the temperature probe, possible to define this probe any name as desired. (Available and applicable only if any X11 is selected as "Custom" ([6.1.2.31] = 7))	R/W
6.1.3.1.2 0	Produal Opt Input	0: No 1: NTC10K		Possibility to connect external NTC probe with embedded produal probe. Once physical connection is made (refer to datasheet), simply enabled this option. (Available and applicable only Modbus probe is enabled [6.1.2.35])	R/W

Table 6.1.3.1

6.1.3.2 Alarm enable/Settings

Starting from software release 1.40.A_01 and in all subsequent releases, all alarm enabling and configuration settings have been relocated from the "Config Functions" main page to a newly introduced dedicated page, as shown below

HMI Path: Main Menu > Commissioning > AHU Configuration > Config Functions > Alarm enable/settings



ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
POL X8 POL X11				
6.1.3.1.0 1			Alarms that are moved from "Config Functions" main page, and can be found here are <ul style="list-style-type: none"> • Coils Pump alarms, humidifier alarm • ERQ alarm, Low flow alarm • Fire alarm, fire alarm reset, fire alarm type • Fan Alarm delay, heat wheel alarm • Temperature, fan, humidity deviation alarm. 	R/W
6.1.3.2.0 2	Transducer Alarm Threshold	20 [Pa]	An under-pressure alarm is triggered if the fans are running and the transducer value does not exceed the transducer alarm threshold within the transducer alarm delay time. these parameters are changeable as per requirement.	R/W
6.1.3.3.0 3	Transducer Alarm Delay	40 [s]		

6.1.4 Modbus Node

This chapter is dedicated to displaying the physical of input/output connections on the nodes (PCBs), offering a clear overview of the connections between each component and its corresponding input/output. It serves as a valuable tool for troubleshooting by helping to identify the location of all components and their physical connections. This information is particularly useful for determining which components are configured for each specific unit, as well as identifying which components are present and where they are located.

Rules to locate I/O of components connected to nodes as follows :-

N/C : Component not present

N#YX : Component present

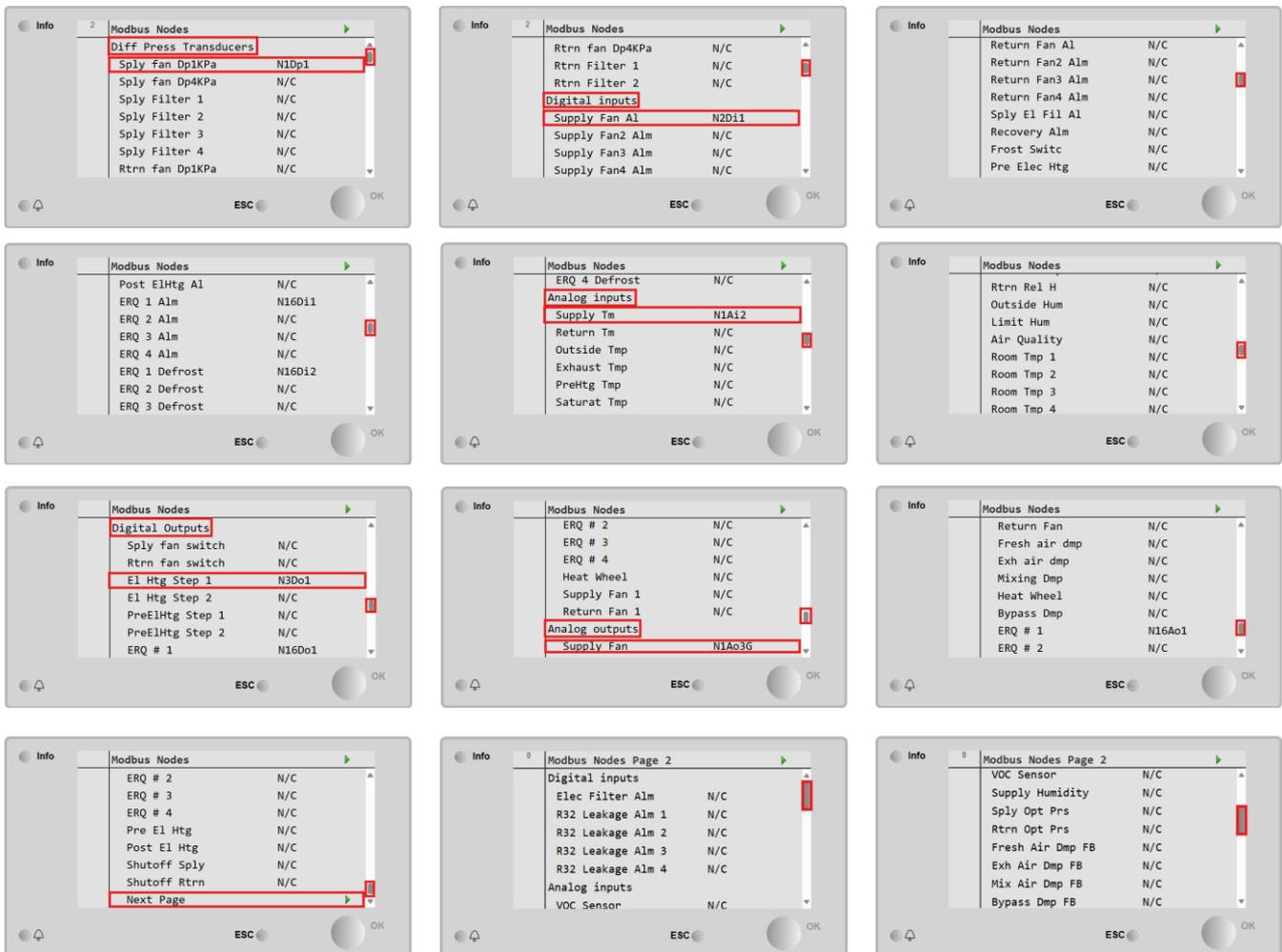
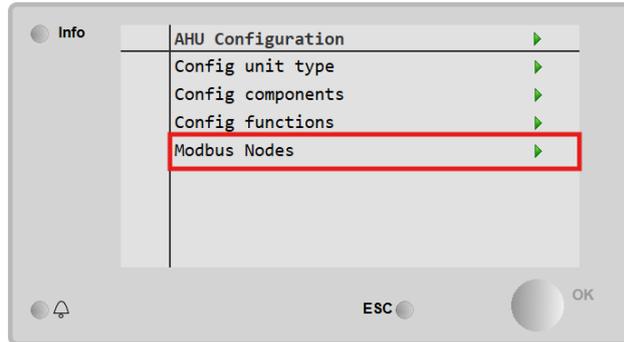
- # = 1,2.....20 (Nodes number)
- Y = Dp,Di,Ai,Do,Gp (I/O type)
- X = 1,2,3,4 (location of nodes)
- Dp: Differential pressure transducer

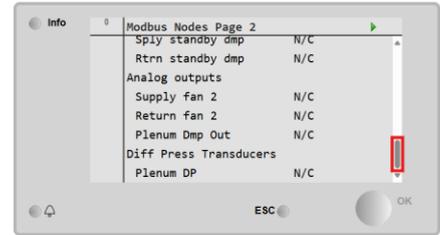
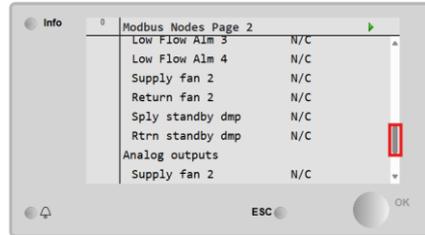
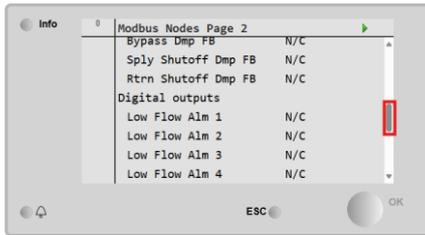
- Di: Digital input
- Ai: Analog input
- Do: Digital output
- Gp: General purpose

Example are displayed below in screenshots and table as well.

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > AHU Configuration > Modbus Nodes





ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
Diff Press transducers:				
6.1.4.01	Sply fan Dp1kpa	0: N/C 1: N1Dp1	Supply fan differential pressure transducer (0-1000 pa) If display is N1Dp1 : That means, supply fan transducer is at node 1, Dp 1.	R
6.1.4.02	Sply fan Dp4kpa	0: N/C 1:	Supply fan differential pressure transducer (0-4000 pa)	R
6.1.4.03	Sply filter 1 ... Sply filter 4	0: N/C 1:	Supply air filters #1,2,3,4	R
6.1.4.04	Rtrn fan Dp1kpa	0: N/C 1:	Return fan differential pressure transducer (0-1000 pa)	R
6.1.4.05	Rtrn fan Dp4kpa	0: N/C 1:	Return fan differential pressure transducer (0-4000 pa)	R
6.1.4.06	Sply filter 1 ... Sply filter 4	0: N/C 1:	Return air filters #1,2	R
Digital inputs:				
6.1.4.07	Supply Fan Alm	0: N/C 1: N1DI1	Supply fan 1 alarm If display is N1DI1 : That means, supply fan alarm is connected at node 2, DI 1 .	R
6.1.4.08	Supply Fan2 Alm	0: N/C 1:	Supply fan 2 alarm	R
6.1.4.09	Supply Fan3 Alm	0: N/C 1:	Supply fan 3 alarm	R
6.1.4.10	Supply Fan4 Alm	0: N/C 1:	Supply fan 4 alarm	R
6.1.4.11	Return Fan Alm	0: N/C 1:	Return fan 1 alarm	R
6.1.4.13	Return Fan2 Alm	0: N/C 1:	Return fan 2 alarm	R
6.1.4.14	Return Fan3 Alm	0: N/C 1:	Return fan 3 alarm	R
6.1.4.15	Supply Fan4 Alm	0: N/C 1:	Return fan 4 alarm	R
6.1.4.17	Recovery Alm	0: N/C 1:	Heat recovery alarm	R
6.1.4.18	Frost Switch	0: N/C 1:	Frost switch	R
6.1.4.19	Pre Elec Htg Alm	0: N/C 1:	Pre heating electrical alarm	R
6.1.4.20	Post E1Htg Alm	0: N/C 1:	Electrical/Post heating alarm	R
6.1.4.21	ERQ 1 Alm ... ERQ 4 Alm	0: N/C 1:	ERQ general alarm #1,2,3,4	R
6.1.4.22	ERQ 1 Defrost ... ERQ 4 Defrost	0: N/C 1:	ERQ defrost #1,2,3,4	R

Analog inputs:				
6.1.4.23	Supply Tmp	0: N/c 1: N1AI2	Supply temperature probe If display is N1AI2 : That means, supply temperature probe is connected at node 1, AI 2 .	R
6.1.4.24	Return Tmp	0: N/c 1:	Return temperature probe	R
6.1.4.25	Outside Tmp	0: N/c 1:	Outside temperature probe	R
6.1.4.26	Exhaust Tmp	0: N/c 1:	Exhaust temperature probe	R
6.1.4.27	PreHtg Tmp	0: N/c 1:	Preheating temperature probe	R
6.1.4.28	Rtrn Rel Hum	0: N/c 1:	Room/Return humidity probe	R
6.1.4.29	Outside Hum	0: N/c 1:	Outside humidity probe	R
6.1.4.30	Air quality	0: N/c 1:	Air quality (CO ₂) probe	R
6.1.4.31	Room Tmp 1 ... Room Tmp 4	0: N/c 1:	Room Temperature probes #1,2,3,4	R
Digital Outputs:				
6.1.4.34	E1 Htg Step 1	0: N/c 1:	Electrical/Post heating step 1 On/Off	R
6.1.4.35	E1 Htg Step 2	0: N/c 1:	Electrical/Post heating step 2 On/Off	R
6.1.4.36	PreE1Htg Step 1	0: N/c 1:	Electrical pre-heating step 1 On/Off	R
6.1.4.37	PreE1Htg Step 2	0: N/c 1:	Electrical Pre-heating step 2 On/Off	R
6.1.4.38	ERQ # 1 ... ERQ # 4	0: N/c 1:	ERQ On/Off #1,2,3,4	R
6.1.4.39	Heat wheel	0: N/c 1:	Heat wheel/recovery On/Off	R
6.1.4.40	Supply Fan 1	0: N/c 1:	Supply fan 1 On/Off	R
6.1.4.41	Return Fan 1	0: N/c 1:	Return fan 1 On/Off	R
Analog outputs:				
6.1.4.42	Supply Fan	0: N/c 1: N1AO3Gp	Supply fan 1 signal If display is N1AO3Gp : That means, supply fan signal is connected at node 1, AO3 (General purpose/Gp)	R
6.1.4.43	Return Fan	0: N/c 1:	Return fan 1 signal	R
6.1.4.44	Fresh air dmp	0: N/c 1:	Fresh air damper signal	R
6.1.4.45	Exh air dmp	0: N/c 1:	Exhaust air damper signal	R
6.1.4.46	Mixing Dmp	0: N/c 1:	Mixing air damper signal	R
6.1.4.47	Heat wheel	0: N/c 1:	Heat wheel/recovery signal	R
6.1.4.48	Bypass Dmp	0: N/c 1:	Bypass damper signal	R
6.1.4.49	ERQ # 1 ... ERQ # 4	0: N/c 1:	ERQ signal # 1,2,3,4	R
6.1.4.50	Pre E1 Htg	0: N/c 1:	Electrical pre-heating signal	R

6.1.4.51	Post El Htg	0: N/c 1:	Electrical/post heating signal	R
6.1.4.52	Shutoff Sply	0: N/c 1:	Supply shutoff damper signal	R
6.1.4.53	Shutoff Rtrn	0: N/c 1:	Return shutoff damper signal	R
Enter Next Page				
Digital inputs:				
6.1.4.54	Elec Filter Alm	0: N/c 1:	Electrostatic filter alarm	R
6.1.4.55	R32 Leakage Alm 1 ... R32 Leakage Alm 2	0: N/c 1:	ERQ R32 leakage alarm #1,2,3,4	R
Analog inputs:				
6.1.4.56	VOC Sensor	0: N/c 1:	Volatile organic compound sensors (VOC) probe	R
6.1.4.57	Supply Humidity	0: N/c 1:	Supply humidity probe	R
6.1.4.58	Sply Opt Prs	0: N/c 1:	Supply optional differential pressure transducer (0-10v)	R
6.1.4.59	Rtrn Opt Prs	0: N/c 1:	Return optional differential pressure transducer (0-10v)	R
6.1.4.60	Fresh Air Dmp FB	0: N/c 1:	Fresh air damper feedback	R
6.1.4.61	Exh Air Dmp FB	0: N/c 1:	Exhaust air damper feedback	R
6.1.4.62	Mix Air Dmp FB	0: N/c 1:	Mixing air damper feedback	R
6.1.4.63	Bypass Dmp FB	0: N/c 1:	Bypass air damper feedback	R
6.1.4.64	Sply Shutoff Dmp Fb	0: N/c 1:	Supply shutoff damper feedback	R
6.1.4.65	Rtrn Shutoff Dmp Fb	0: N/c 1:	Return shutoff damper feedback	R
6.1.4.75	Sply/Rtrn/Out/Exh/Pr eH/Pre Coil Tmp Active Snsr	0: N/c 1:	Temperature (supply, return, outdoor, exhaust, pre heating , pre coil) active sensor(0-10V) is configured.	R
6.1.4.76	Pre coil tmp	0: N/c 1:	Pre coil temperature (NTC) is configured, that can be used for pre cooling or pre heating and pre cooling combined.	R
Digital outputs:				
6.1.4.66	Low Flow Alm 1 ... Low flow Alm 4	0: N/c 1:	Low flow alarm # 1,2,3,4	R
6.1.4.67	Supply fan 2	0: N/c 1:	Supply fan 2 On/Off	R
6.1.4.68	Return fan 2	2: N/c 3:	Return fan 2 On/Off	R
6.1.4.69	Sply standby dmp	0: N/c 1:	Supply duty standby damper	R
6.1.4.70	Rtrn standby dmp	0: N/c 1:	Return duty standby damper	R
Analog outputs:				
6.1.4.71	Supply fan 2	0: N/c 1:	Supply fan 2 signal	R
6.1.4.72	Return fan 2	0: N/c 1:	Return fan 2 signal	R

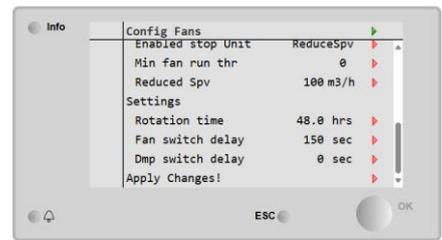
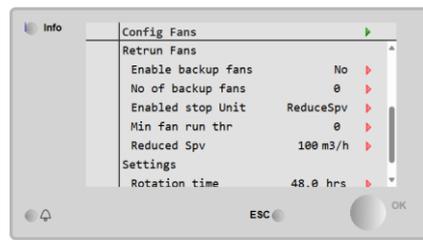
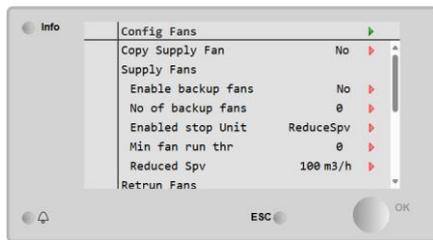
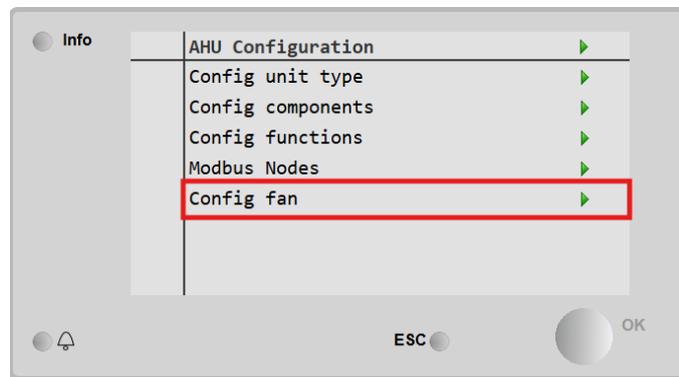
6.1.4.73	Plenum Dmp Out	0: N/c 1:	Plenum damper signal	R
Diff Press Transducers:				
6.1.4.74	Plenum DP	0: N/c 1:	Plenum differential pressure transducer (0-1000pa)	R

Table 3

6.1.5 Config fans

This page is dedicated page for Modbus multi fans, only available & applicable only if fan is more than 1 [\[6.1.2.03\]](#) or [\[6.1.2.06\]](#) and each fan is communicated via Modbus [\[6.1.1.7\]](#) or [\[6.1.1.8\]](#).

HMI Path: Main Menu > Commissioning > AHU Configuration > Config fans



ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
6.1.5.01	Copy Supply Fan	0: No 1: Copy	Copy: By selecting copy, supply multi fan settings will be copied for return fan.	R/W
Supply Fans				
6.1.5.02	Enable Backup Fans	0: No 1: Yes	Possibility to enable backup fans, define the number of backup fans. Example: Total fans: 8 Enable Backup fans: yes No of backup fans: 2 In this setup, 6 fans will operate under normal conditions, while 2 fans are designated as backups. If any of the active fans enter an alarm state, one or	R/W

6.1.5.03	No of backup fans	0-8	<p>more backup fans will automatically start to maintain the required operation.</p> <p>Moreover, when the backup fan function is enabled, the system monitors the total runtime of each fan. It uses this information to prioritize fan selection. The fans with lower total runtime are given priority to run, while those with higher runtime are designated as backups</p> <p>Check is performed: -</p> <ul style="list-style-type: none"> • At Unit startup. • In normal operation/running, after each "Rotation time". <p>Cases:</p> <ul style="list-style-type: none"> • If 1 or 2 active fans go into alarm, 1 or 2 backup fans will start accordingly, ensuring 6 fans continue to run. • If 3 active fans go into alarm, only 5 fans will remain operational (3 in alarm, 2 backups activated). No rotation possible. • If any of the backup is present (not in alarm) the fan tends to switch/rotate based on logic explained above. 	
6.1.5.04	Min fan run func	0: StopUnit 1: ReduceSpvSpLy 2: ReduceSpvBoth	<p>When the number of running fans (i.e., fans not in an alarm state) falls below the configured Minimum Fan Run Threshold (Min Fan Run Thr), the following actions can be triggered depending on the selection.</p> <p>StopUnit: Stop the Unit.</p> <p>ReduceSpvSpLy: Reduce the setpoint of only supply fan to "Reduce Spv"</p> <p>ReduceSpvBoth: Reduce the setpoint of only supply fan & return fan to "Reduce Spv".</p> <p>Note: If either "ReduceSpvSpLy" or "ReduceSpvBoth" is selected, a unit restart is required for the reduced setpoint to take effect and become visible.</p> <p>Example: Total fans: 8 Enable Backup fans: No No of backup fans: 0 StopUnit: Selected Minimum fan run threshold:6</p> <p>Cases:</p> <ul style="list-style-type: none"> • All 8 fans operate simultaneously under normal conditions. • If 2 fans enter an alarm state, the unit continues to run with the remaining 6 fans, which still meets the minimum threshold. • If a third fan goes into alarm, the number of running fans drops to 5, which is below the configured Minimum Fan Run Threshold and based on selection "StopUnit" unit will stop. 	R/W
6.1.5.05	Min fan run thr	0-8	<p>The Minimum Fan Run Threshold defines the minimum number of fans that must be running (i.e., not in an alarm state) at any given time.</p> <p>If the number of operational fans falls below this threshold, one of the following predefined actions [6.1.5.04] will be executed:</p>	R/W
6.1.5.06	Reduce Spv	0-160000 [pa/M3/h]	<p>The Reduced Setpoint (in Pa or m³/h) defines the fallback operating setpoint for the fans, when the number of running fans drops below the Minimum</p>	R/W

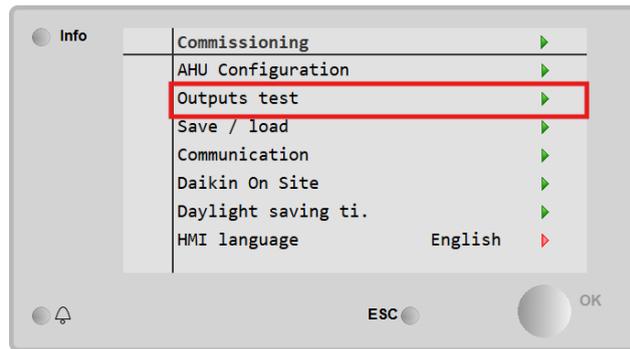
			Fan Run Threshold (Min Fan Run Thr). Note: The Reduced Setpoint parameter becomes visible only after selecting either “ ReduceSpvSp1y ” or “ ReduceSpvBoth ” and restarting the controller .	
Return Fans				
6.1.5.11	Enable Backup Fans	0: No 1: Yes	For explanation, refer to [6.1.5.02] , Return fan settings works in the same fashion as supply fan as explained above.	R/W
6.1.5.12	No of backup fans	0-8	For explanation, refer to [6.1.5.03]	R/W
6.1.5.13	Min fan run func	0: StopUnit 1: ReduceSpvRtrn 2: ReduceSpvBoth	For explanation, refer to [6.1.5.04]	R/W
6.1.5.14	Min fan run thr	0-8	For explanation, refer to [6.1.5.05]	R/W
6.1.5.15	Reduce Spv	0-160000 [pa/M3/h]	For explanation, refer to [6.1.5.06]	R/W
Settings				
6.1.5.21	Rotation time	0-48-900 [hr]	Rotation Time is a co parameter that defines the time interval after which the system evaluates and compares the total accumulated runtime of all fans. Only applicable if backup function is enabled.	R/W
6.1.5.22	Fan Switch delay	0-150-300 [s]	Fan damper opening time defines the time it takes for a fan damper to fully open. This parameter should be set to match the actual mechanical damper opening time to ensure smooth and synchronized operation of the fan system. Note: For smooth fan operation, please configure the “ Delay on Tm ” [7.5.27] parameter to match the fan damper opening time. Change it to the same as this time interval. Only adjust this value if the fan dampers are particularly slow (i.e., take more than 60 seconds to open). Otherwise, it is recommended not to change the default setting. Only available & applicable if Unit is configured with fan dampers.	R/W
6.1.5.23	Dmp Switch delay	0-900 [s]	This parameter defines the delay (in seconds) between when the fan stops, and the damper begins to close. <ul style="list-style-type: none"> Set to 0 seconds for slow-closing dampers. Set to 5 seconds for fast-closing dampers. This delay prevents mechanical stress on dampers caused by fan inertia. Only available & applicable if Unit is configured with fan dampers.	R/W

6.2 Output test

It is possible to manually test the digital outputs present for the respective AHU. This feature is extremely helpful for troubleshooting, as it allows testing each digital output that represents a specific component, one by one.

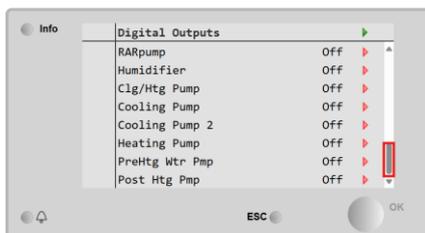
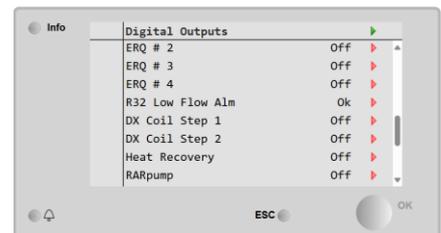
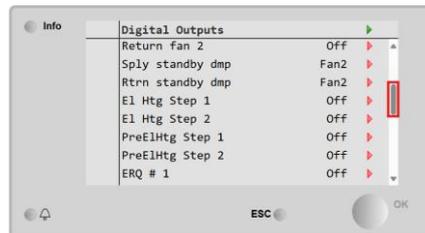
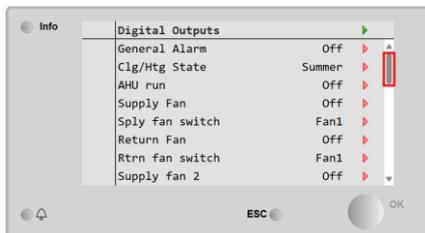
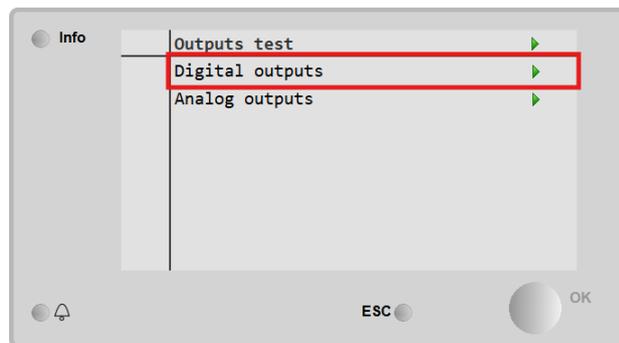
Note: This page appears only when a commissioning or service-level password [2] or higher is used

HMI Path: Main Menu > Commissioning > Outputs test



6.2.1 Digital outputs test

HMI Path: Main Menu > Commissioning > Output test > Digital outputs

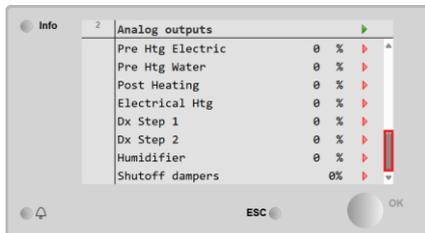
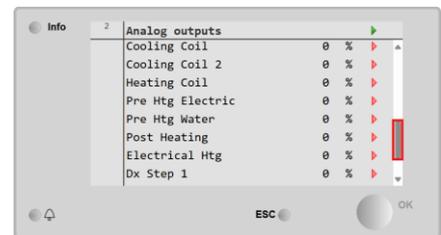
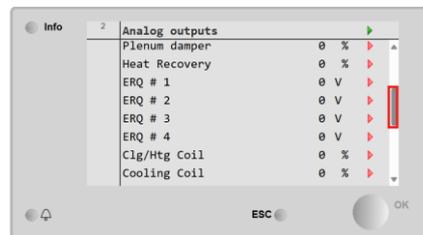
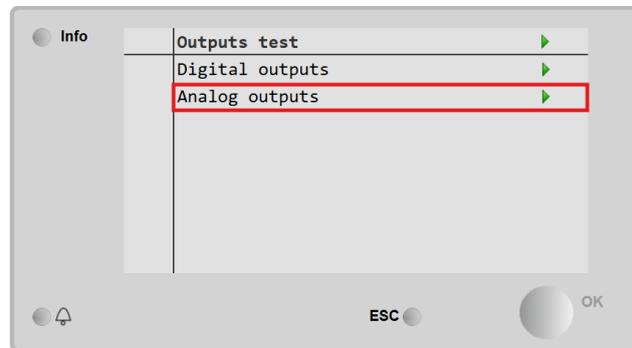


ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
6.2.1.01	General Alarm	0:Off 1:On	General alarm output test	R/W
6.2.1.02	Clg/Htg State	0:Summer 1:Winter	Summer/Winter changeover output test	R/W
6.2.1.03	AHU run	0:Off 1:On	AHU run	R/W
6.2.1.04	Supply Fan	0:Off 1:On	Supply fan	R/W
6.2.1.05	Return Fan	0:Off 1:On	Return fan	R/W
6.2.1.06	Supply Fan 2	0:Off 1:On	Supply fan 2	R/W
6.2.1.07	Return Fan 2	0:Off 1:On	Return fan 2	R/W
6.2.1.10	Sply standby dmp	0:Fan1 1:Fan2	Duty standby damper, it switched from on fan to other	R/W
6.2.1.11	Rtrn standby dmp	0:Fan1 1:Fan2	Duty standby damper, it switched from on fan to other	R/W
6.2.1.12	E1 Htg step 1	0:Off 1:On	Electrical /post heating step 1	R/W
6.2.1.13	E1 Htg step 2	2:Off 3:On	Electrical /post heating step 2	R/W
6.2.1.14	PreE1Htg step 1	0:Off 1:On	Electrical pre heating step 1	R/W
6.2.1.15	PreE1Htg step 2	0:Off 1:On	Electrical pre heating step 2	R/W
6.2.1.16	ERQ # 1 ... ERQ # 4	0:Off 1:On	ERQ On/Off	R/W
6.2.1.17	R32 Low Flow Alm	0:Ok 1:Fault	Low flow alarm	R/W
6.2.1.18	DX coil Step 1	0:Off 1:On	Dx 1 On/Off	R/W
6.2.1.19	DX coil Step 2	0:Off 1:On	Dx 2 On/Off	R/W
6.2.1.20	Heat Recovery	0:Off 1:On	Heat recovery	R/W
6.2.1.21	Humidifier	0:Off 1:On	Humidifier	R/W
6.2.1.22	Clg/Htg Pump	0:Off 1:On	Cooling/heating pump (combi)	R/W
6.2.1.23	Cooling Pump	0:Off 1:On	Cooling pump	R/W
6.2.1.24	Cooling Pump 2	0:Off 1:On	Cooling pump 2	R/W
6.2.1.25	Heating Pump	0:Off 1:On	Heating pump	R/W
6.2.1.26	PreHtg Wtr Pmp	0:Off 1:On	Pre heating water pump	R/W
6.2.1.27	Post Htg Pmp	0:Off 1:On	Post heating water pump	R/W
	Supply Fan 1 Air Valve ... Supply Fan 8 Air Valve	0:Off 1:On	Supply fan Air valve. (Applicable only if Modbus array is selected [6.1.3.06] =3)	R/W
	Return Fan 1 Air Valve ... Return Fan 8 Air Valve	0:Off 1:On	Return fan Air valve. (Applicable only if Modbus array is selected [6.1.3.07] =3)	R/W

Table 4

6.2.2 Analog outputs test

HMI Path: Main Menu > Commissioning > Output test



ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
6.2.2.0 1	Supply Fan	0-100 [%]	Supply Fan <i>Note: Make sure fresh, exhaust, or supply shutoff is open before forcing it.</i>	R/W
6.2.2.0 2	Return Fan	0-100 [%]	Return Fan <i>Note: Make sure fresh, exhaust, or Return shutoff is open before forcing it.</i>	R/W
6.2.2.0 3	Supply Fan 2	0-100 [%]	Supply Fan 2	R/W
6.2.2.04	Return Fan 2	0-100 [%]	Return Fan 2	R/W
6.2.2.05	Fresh air dmp	0-100 [%]	Fresh air damper	R/W
6.2.2.06	Exh air dmp	0-100 [%]	Exhaust air damper	R/W
6.2.2.07	Mixing dmp	0-100 [%]	Mixing damper	R/W
6.2.2.08	Plenum damper	0-100 [%]	Plenum damper	R/W
6.2.2.09	Heat Recovery	0-100 [%]	Heat recovery	R/W
6.2.2.10	ERQ # 1 .. ERQ # 4	0-10 [V]	ERQ signal	R/W
6.2.2.11	Clg/Htg coil	0-100 [%]	Cooling/heating pump (combi)	R/W
6.2.2.12	Cooling coil	0-100 [%]	Cooling pump	R/W

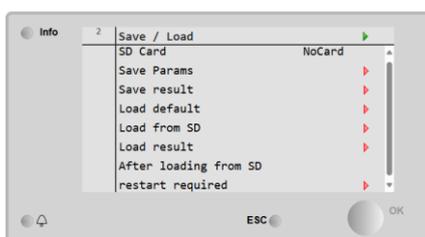
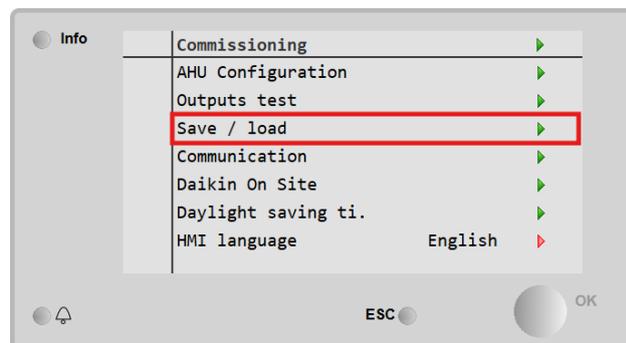
6.2.2.13	Cooling coil 2	0-100 [%]	Cooling pump 2	R/W
6.2.2.14	Heating coil	0-100 [%]	Heating pump	R/W
6.2.2.15	Pre Htg Electric	0-100 [%]	Electrical pre heating	R/W
6.2.2.16	Pre Htg Water	0-100 [%]	Water pre heating	R/W
6.2.2.17	Post Heating	0-100 [%]	Water post heating	R/W
6.2.2.18	Electrical Htg	0-100 [%]	Electrical/Post pre heating	R/W
6.2.2.19	DX Step 1 .. Dx Step 3	0-100 [%]	Dx coil signal	R/W
6.2.2.19	Shutoff dampers		Shutoff dampers (Supply & Return)	
6.2.2.21	Chiller Setpoint	0-100 [%]	Chiller setpoint reset	R/W
	Supply Fan 1 Dmp ... Supply Fan 8 Dmp	0-100[%]	Supply fan damper signal (Applicable only if Modbus array is selected [6.1.3.06] =3)	R/W
	Return Fan 1 Dmp ... Return Fan 8 Dmp	0-100[%]	Return fan damper signal (Applicable only if Modbus array is selected [6.1.3.07] =3)	R/W
	Supply Fan 3 ... Supply Fan 8	0-100[%]	Supply fan signal (Applicable only if Modbus array is selected [6.1.3.06] =3)	R/W
	Return Fan 3 ... Return Fan 8	0-100[%]	Return fan signal (Applicable only if Modbus array is selected [6.1.3.07] =3)	R/W

Table 5

6.3 Save/load

Note: This page appears only when a commissioning or service-level password [\[2\]](#) or higher is used.

HMI Path: Main Menu > Commissioning > Save/load



6.4 Communication

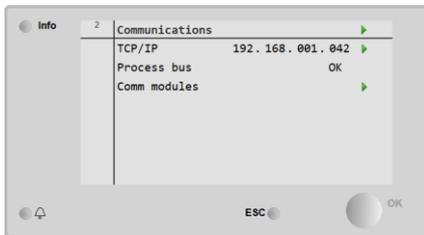
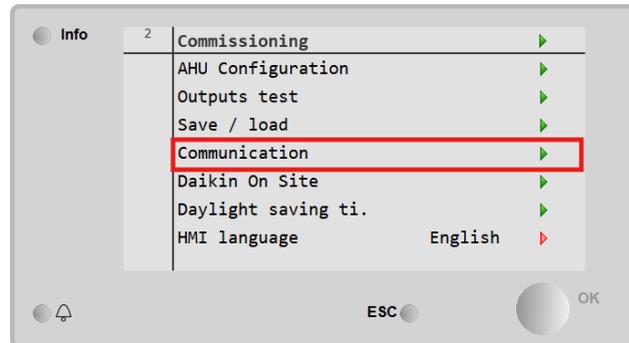
Under this heading, the communication settings of the controller are discussed, such as changing the IP address of the controller. Only the IP settings are covered here; for BACnet settings (POL902) and Modbus settings (POL904/POL908), please refer to their respective documents for detailed information.

Modbus: Refer to manual for more details.

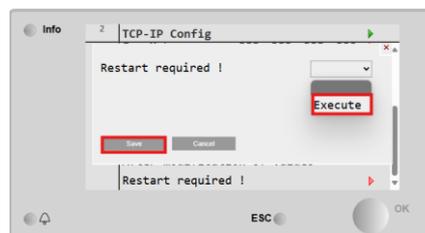
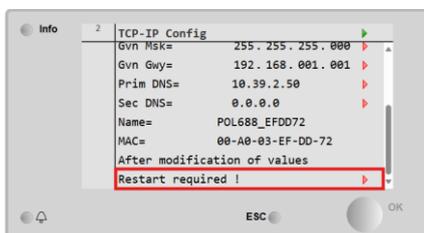
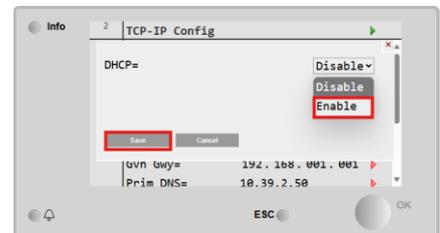
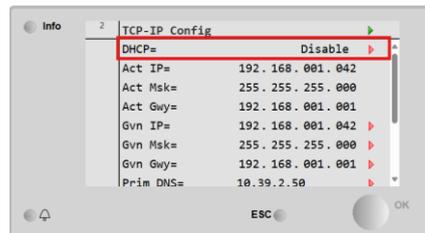
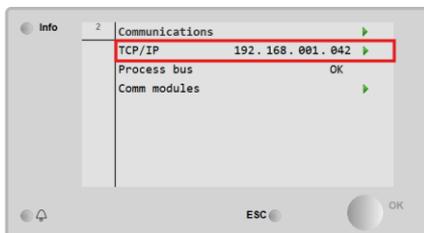
BACnet: Refer to manual for more details.

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > Communication



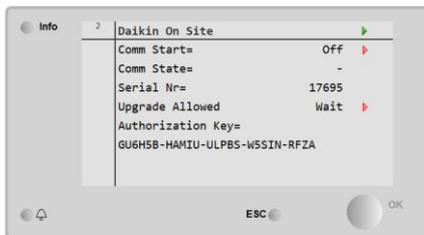
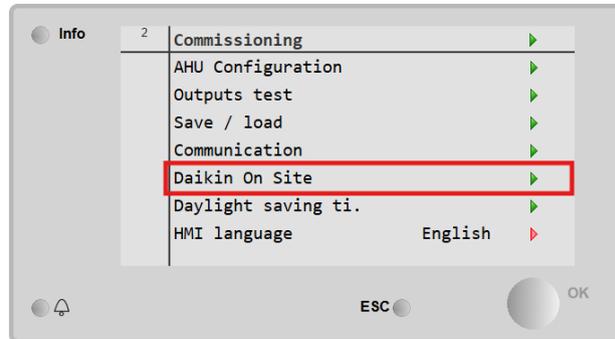
To change DHCP HMI Path: Main Menu > Commissioning > Communication > TCP/IP > DHCP



6.5 Daikin on site

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > Daikin On Site

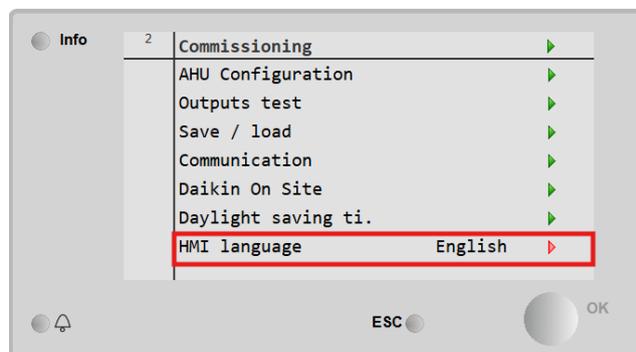


6.6 HMI language

Possibility to change HMI language in in three different languages, English, French, Deutch. HMI path is mentioned below.

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

HMI Path: Main Menu > Commissioning > HMI language

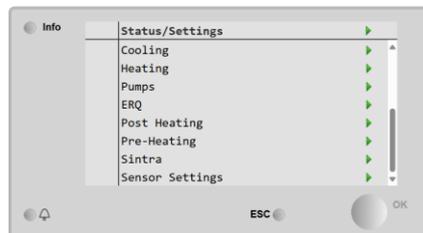
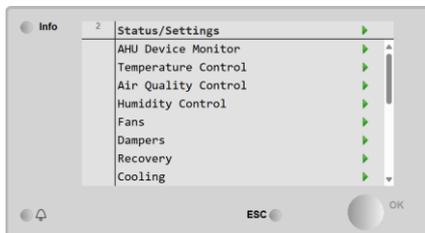
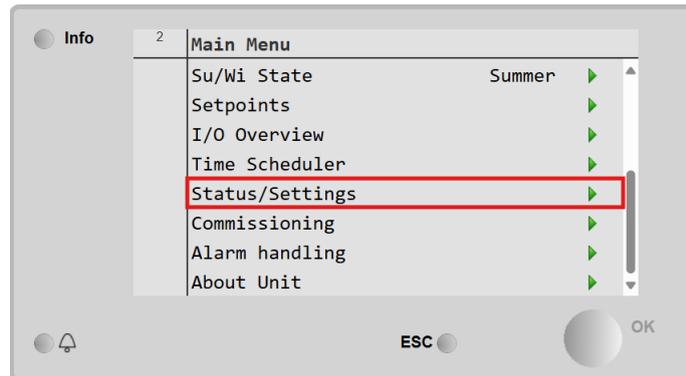


7 Status/Settings

This chapter is dedicated to adjusting the settings of various components. It covers the activation of specific features, configuration of control loop settings, enabling or disabling features, and setting values for sensor calibration.

Note: This page appears only when a commissioning or service-level password [2] or higher is used.

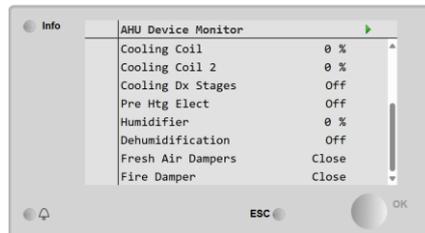
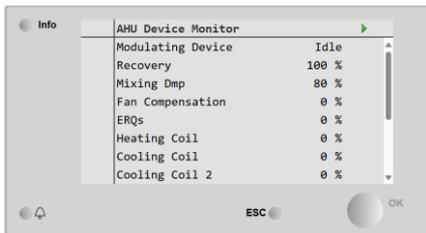
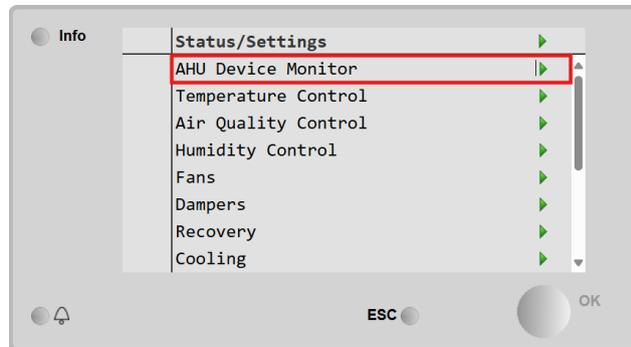
HMI Path: Main Menu > Status/Settings >



7.1 AHU Device Monitor

Here visualization all important signal/output in a page.

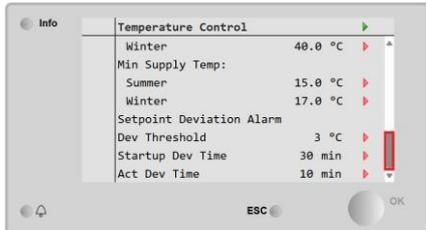
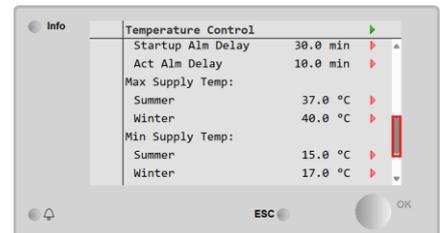
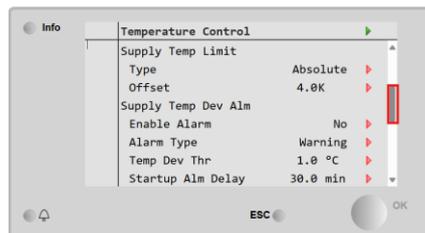
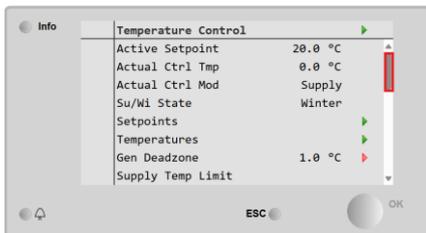
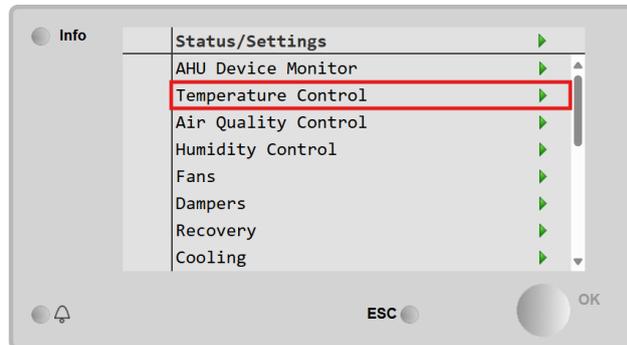
HMI Path: Main Menu > Status/Settings > Temperature Control



7.2 Temperature Control

In this subchapter, the settings for temperature control can be settled or displayed, including which probe the control is based on, supply temperature limitations, and the temperature setpoint deviation alarm. Please refer to the HMI screenshots and the table below for an explanation of each parameter.

HMI Path: Main Menu > Status/Settings > Temperature Control



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
Analog Inputs:					
7.2.0 1	Active Setpoint	-5-40 [°C]	The actual value temperature control setpoint.	R	[2]
7.2.0 2	Actual Ctrl Tmp	0-80 [°C]	The actual control temperature.	R	[2]
7.2.0 3	Actual Ctrl Mod	0: Room 1: Return 2: Supply	The display shows the temperature probe on which the control is based, depends on the selection made at [6.1.3.13] .	R	[2]
7.2.0 4	Su/wi state	0: winter 1: Summer	The summer /winter state display.	R	[2]
7.2.0 5	Gen Deadzone	0-1-10 [°C]	Dead zone.	R/W	[2]
7.2.0 6	Setpoints	Page	Display of all the temperature related setpoints.	Enter	[2]
7.2.0 7	Temperatures	Page	Display of all the configured temperature readings.	Enter	[2]
Supply Temp Limit:					

7.2.08	Type	0: Absolute 1: Relative to Spv 2: Relative to Tmp	<p>Absolute: Supply temperature maximum and minimum threshold from [7.2.15] to [7.2.18] are fixed.</p> <p>Relative to Spv : Supply temperature maximum and minimum threshold from [7.2.15] to [7.2.18] are relative to the Cool/Heat setpoints e.g, If setpoint is 20°C and offset [7.2.09] is 4 k , the supply maximum and minimum will be 24°C and 16°C respectively.</p> <p>Relative to Tmp : Supply temperature maximum and minimum threshold from [7.2.15] to [7.2.18] are relative to the Return/Room e.g., If Return/Room is 30°C and offset [7.2.09] is 4 k , the supply maximum and minimum will be 34°C and 26°C respectively.</p> <p><i>(Available & Applicable only if temperature control is on return or room temperature probe ([6.1.3.13] = 2 or 3)</i></p>	R/W	[2]
7.2.09	Offset	0-4-20 [K]	<p>Temperature offset used if [7.2.08] = 1 or 2.</p> <p><i>(Available & Applicable only if temperature control is on return or room temperature probe ([6.1.3.13] = 2 or 3)</i></p>	R/W	[2]
Supply Temp Dev Alm:					
7.2.10	Enable Alarm	0: No 1: Yes	Enabling the supply temperature deviation alarm: Once enabled, if the supply temperature falls outside the specified maximum and minimum thresholds [7.2.12] for more than these time periods ,either during startup at time [7.2.13] or during normal operation at time [7.2.14] , an alarm [7.2.11] will be triggered.	R/W	[2]
7.2.11	Alarm Type	0: Warning 1: Fault	Select type of alarm, Warning (display alarm), Fault (stop the Unit).	R/W	[2]
7.2.12	Temp Dev Thr	1-3-10 [°C]	Temperature deviation threshold, Alarm thresholds : [7.2.15] [7.2.16] [7.2.17] [7.2.18] ± “Temp Dev Thr”.	R/W	[2]
7.2.13	Startup Alm Delay	1-30-1000 [min]	Time delay for supply temperature deviation alarm, at startup as system needs time to get within temperature thresholds.	R/W	[2]
7.2.14	Act Alm Delay	1-10-1000 [min]	Time delay for supply temperature deviation alarm during normal operation (once Startup is finished)		[2]
Max Supply Temp:					
7.2.15	Summer	0-37-50 [°C]	Maximum supply temperature threshold in summer and Winter mode.	R/W	[2]
7.2.16	winter	0-40-50 [°C]	The system tries to reduce the temperature by cutting the loop temperature control loops (Cooling, heating, post), if supply goes beyond this limit.		
Min Supply Temp:					

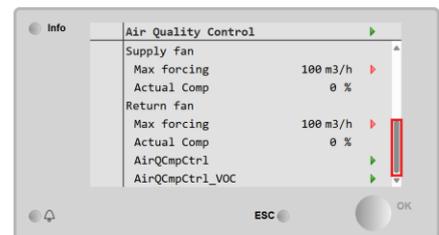
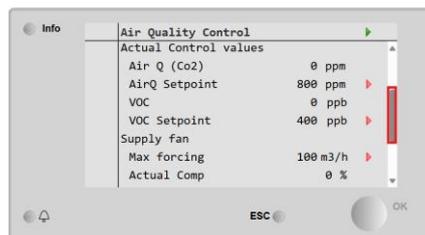
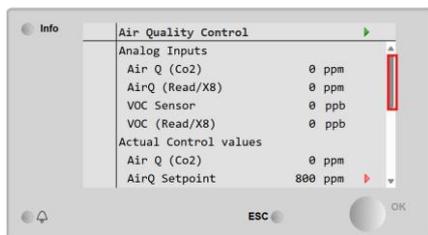
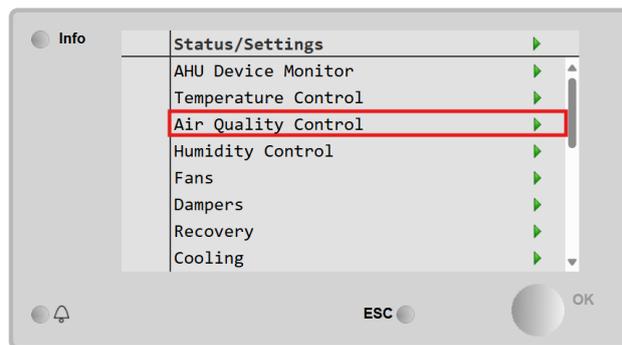
7.2.17	Summer	0-15-50 [°C]	Minimum supply temperature threshold in summer and winter mode. The system tries to increase the temperature by forcing the loop temperature control loops (Cooling, heating, post), if supply goes lower then this limit.	R/W	[2]
7.2.18	Winter	1-17-50 [°C]			
Setpoint Deviation Alarm:					
7.2.19	Dev Threshold	1-3-20 [°C]	If actual control temperature falls outside or fails to come within actual temperature setpoint [7.2.01] ± “Dev threshold” for more than these time periods ,either during startup at [7.2.20] or during normal operation at time [7.2.21] an alarm will be triggered Temp Spv Dev Alm .	R/W	[2]
7.2.20	Startup Dev Time	1-30-1000 [min]	Alarm Time delay at startup.	R/W	[2]
7.2.21	Act Dev Time	1-10-1000 [min]	Alarm Time delay during normal operation, after startup time.	R/W	[2]

Table 7.2

7.3 Air Quality Control

In this subchapter, all settings related to air quality control can be configured, including setpoints, actual control values, and loop control settings (PID).

HMI Path: Main Menu > Status/Settings > Air Quality Control



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
Analog Inputs:					
7.3.01	Air Q (Co2)	0-2000 [ppm]	Air quality reading from node [6.1.4.30] .	R	[2]

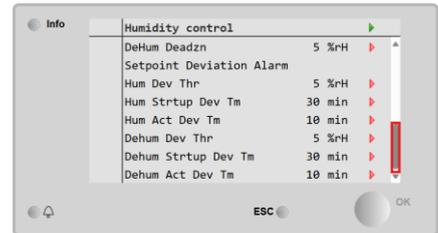
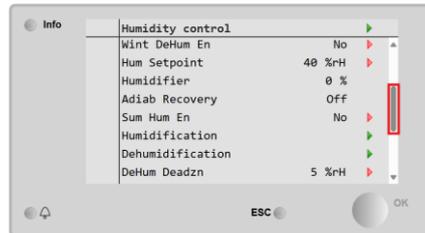
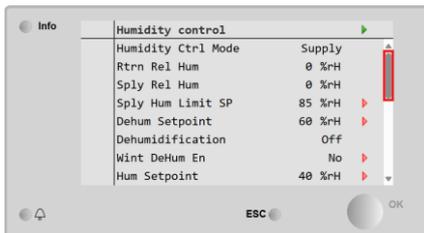
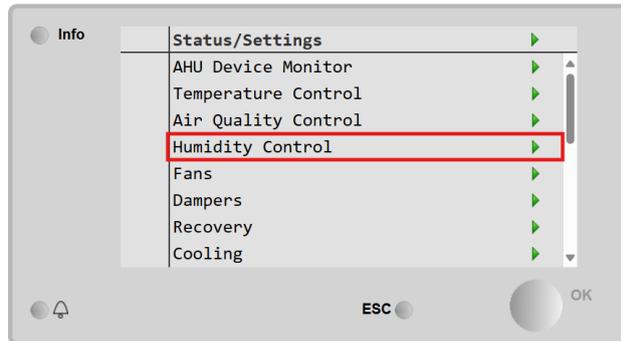
7.3.02	AirQ (Read/X8) or AirQ (Main/X8)	0-2000 [ppm]	Air quality reading from X8. (Available & applicable only if X8(Optional probe) as air quality [6.1.2.30] = 2)	R	[2]
7.3.03	VOC Sensor	0-2000 [ppb]	VOC sensor reading from node [6.1.4.56] .	R	[2]
7.3.04	VOC (Read/X8) Or VOC (Main/X8)	0-2000 [ppb]	VOC sensor reading from X8. (Available & applicable only if X8(Optional probe) is VOC configured as [6.1.2.30] = 12)	R	[2]
Actual Control Values:					
7.3.05	Air Q (Co2)	0-2000 [ppm]	The actual control air quality (Co2).	R	[2]
7.3.06	AirQ Setpoint	0- 800 -2000 [ppm]	Air quality setpoint (Co2).	R/W	[2]
7.3.07	VOC	0-2000 [ppb]	The actual control air quality VOC.	R	[2]
7.3.08	VOC Setpoint	0- 800 -2000 [ppb]	VOC setpoint.	R/W	[2]
7.3.10 0	AirQmpCtrl	Page	This page is dedicated to changing the Air quality (Co2) loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]
7.3.10 1	AirQmpCtrl_VOC	Page	This page is dedicated to changing the Air quality (VOC) loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]

Table 7.3

7.4 Humidity Control

This subchapter is dedicated to all the settings related to humidity control, including the probe on which control is based, supply humidity limitations, and the humidification and dehumidification control loop settings (PID). Please refer to the screenshots and table for detailed explanations.

HMI Path: Main Menu > Status/Settings > Humidity Control



ID	Parameters	Value Range	Description	R/W	Password
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>					
7.4.01	Humidity Ctrl Mode	0: Room/Rtrn 1: Supply	The display shows the humidity probe on which the control is based, depends on the selection made at [6.1.3.23] .	R	[2]
7.4.02	Rtrn Rel Hum	0-100 [%rH]	Room/return humidity.	R	[2]
7.4.03	Sply Rel Hum	0-100 [%rH]	Supply humidity.	R	[2]
7.4.04	Sply Hum Limit SP	0.85.100 [%rH]	The setpoint limits the supply air humidity when controlled is based a room/return humidity probe. If the humidity exceeds this setpoint, the humidification loop or humidifier signal is cut to prevent further increase. This helps avoid condensation in the duct caused by excessive humidity. <i>(Available & Applicable only if supply humidity limitation is enabled [6.1.3.24] =1)</i>	R/W	[2]
7.4.05	Dehum Setpoint	0.60.100 [%rH]	Dehumidification setpoint. <i>(Available & applicable only if dehumidification control is enabled 6.1.3.28 = 1 or 3)</i>	R/W	[2]
7.4.06	Dehumidification	0: Off 1: Active	Dehumidification active status, dehumidification is active once the dehumidification loop signal becomes greater than the cooling loop whichever is	R	[2]

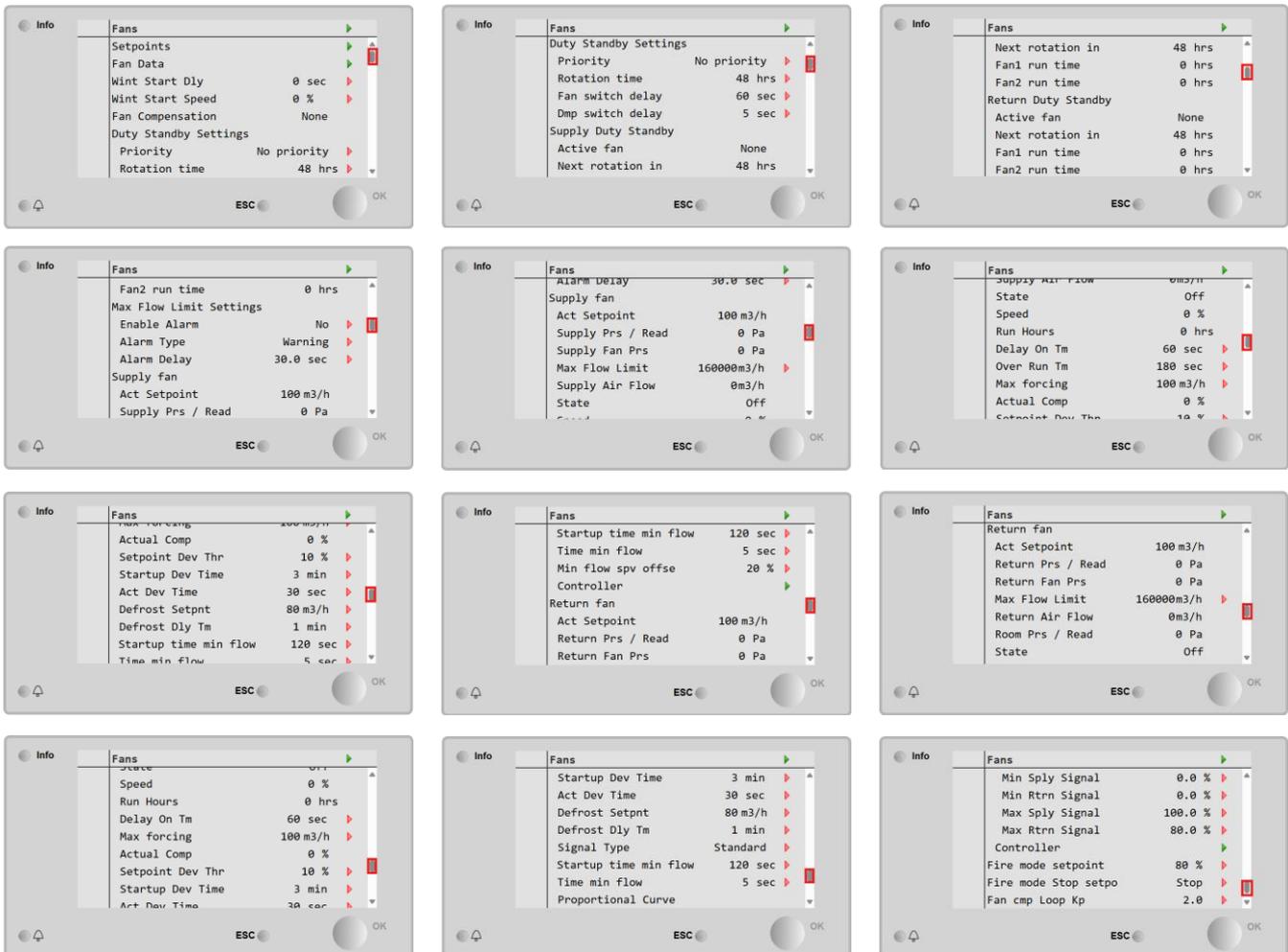
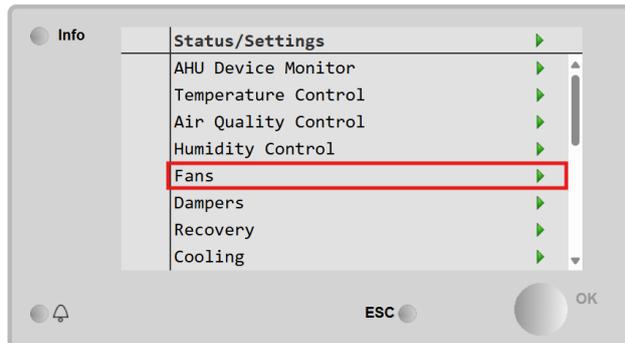
			available.		
7.4.07	Wint DeHum En	0: No 1: Yes	Enable the dehumidification in winter mode.	R/W	[2]
7.4.08	Hum Setpoint	0.40-100 [%rH]	Humidification setpoint. <i>(Available & applicable only if humidification control is enabled 6.1.3.28 = 1 or 3 and humidifier is enabled [6.1.3.36] = 1)</i>	R/W	[2]
7.4.09	Humidifier	0..100 [%]	Humidification loop / humidifier signal.	R	[2]
7.4.11	Sum Hum En	0: No 1: Yes	Enable the humidification in summer mode.	R/W	[2]
7.4.12	Dehum Deadzn	0-5-100 [%rH]	Dead zone for dehumidification, if dehumidification setpoint is 60%rH, and humidity goes above 65%rH, dehumidification is active. <i>(Only used for dehumidification done by ERQ [6.1.1.3] = 2)</i>	R/W	[0]
Setpoint Deviation Alarm:					
7.4.13	Hum Dev Thr	0-5-100 [%rH]	If actual control humidity falls outside or fails to come within actual humidification setpoint [7.4.08] ± “Hum Dev thr” for more than these time periods ,either during startup at [7.4.14] or during normal operation at time [7.4.15] , an alarm will be triggered Hum Dev Alm .	R/W	[2]
7.4.14	Hum Strtup Dev Tm	1-30-120 [min]	Alarm Time delay at startup.	R/W	[2]
7.4.15	Hum Act Dev Tm	1-10-120 [min]	Alarm Time delay during normal operation, after startup time.	R/W	[2]
7.4.16	Dehum Dev Thr	0.5-100 [%rH]	If actual control humidity falls outside or fails to come within actual humidification setpoint [7.4.05] ± “Dehum Dev thr “for more than these time periods ,either during startup at [7.4.17] or during normal operation at time [7.4.18] ,an alarm will be triggered. Dehum Dev Alm .	R/W	[2]
7.4.17	Dehum Strtup Dev Tm	1-30-120 [min]	Alarm Time delay at startup.	R/W	[2]
7.4.18	Dehum Act Dev Tm	1-10-120 [min]	Alarm Time delay during normal operation, after startup time.	R/W	[2]
7.4.100	Humidification	Page	This page is dedicated to changing the Humidification loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]
7.4.101	Dehumidification	Page	This page is dedicated to changing the Dehumidification loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]

Table 7.4

7.5 Fans

In this chapter, you will find all the necessary settings for fan control, including fan delay-on time, post ventilation time, winter start delay, actual control readings, duty/standby settings, maximum flow limits, fan defrost setpoint, fan setpoint deviation alarm, and fan control loop settings (PID). Please refer to the screenshots and table for a detailed explanation of each parameter.

HMI Path: Main Menu > Status/Settings > Fans



ID	Parameters	Value Range	Description	R/W	Password
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>					
7.5.01	Wint Start Dly	0-900[s]	The winter start delay is implemented to account for the time heating coils need to warm up to the	R/W	[2]

			<p>desired temperature.</p> <p>This delay helps prevent the supply of cold air when the AHU is switched on. During this delay, the fan will remain off until the heating coils are sufficiently heated.</p> <p>Note: If low flow alarm is enabled [6.1.3.54] = 1, delay is forced to zero.</p>		
7.5.02	Wint Start Speed	0-50[%]	Winter Start delay fan speed.	R/W	[2]
7.5.03	Fan Compensation	0: None 1: Temperature 2: Co2 3: Temp+Co2	Display of selection made at [6.1.3.08] .	R	[2]
Duty Standby Settings:					
7.5.04	Priority	0: No priority 1: Priority 2: Priority2	<p>No priority: The fan switched from one to another based-on logic</p> <ol style="list-style-type: none"> 1. The system checks the overall running time of Fan 1 and Fan 2. If there's a deficit in the running time (e.g. one fan has been running longer), the fan with the lower running hours will start first. 2. Once the running times of the two fans are balanced, Fan 1 will start. After the specified rotation time [7.5.05], Fan 2 will start, and the fans will continue alternating based on the rotation time. 3. The alternating operation continues until one of the following conditions occurs: <ul style="list-style-type: none"> ▪ AHU switched On/Off. ▪ Any of the fans goes into alarm or is reseted. ▪ A change occurs in the rotation time setting. 4. After any of above condition system compares the overall time again. <p>Priority1: Fan 1 operates continuously, switch to fan 2 only if fan 1 goes into alarm. Priority2: Fan 2 operates continuously switch to fan 1 only if fan 2 goes into alarm</p> <p><i>(Available & Applicable only if [6.1.3.06] = 1 or [6.1.3.07] = 1 or 3)</i></p>	R/W	[2]
7.5.05	Rotation time	0-48-900[hr]	The time for fans to switch from one to another in continuous operation.	R/W	[2]
7.5.06	Fan switch delay	0-60-900 [s]	The Fan Switch Delay refers to the time interval between when one fan is turned off and when the next fan starts. For example, if Fan 1 is switched off, Fan 2 will wait for this specified delay before starting. This delay is crucial when the duty standby damper has a slow response time. Typically, this delay should match the damper's response time to ensure smooth operation and avoid any potential issues.	R/W	[2]
7.5.07	Dmp switch delay	0-5-900 [s]	The Damper Switch Delay is the time delay for the damper to fully close after the fan is switched off. If the dampers are fast-acting, they	R/W	[2]

			may close immediately, but the fan might still be slowing down. This mismatch can cause damage to the damper if the fan is still trying to reach zero speed while the damper is already closed. Therefore, this delay ensures that the fan has enough time to decelerate before the damper fully shuts off, preventing any damage to the damper mechanism.		
Supply Duty Standby:					
7.5.08	Active fan	0: None 1: Fan1 2: Fan2	The current running fan on supply channel.	R	[2]
7.5.09	Next rotation in	[hr]	The approximate time for next rotation of supply fans	R	[2]
7.5.10	Fan1 run time	[hr]	Overall running time of supply fan 1	R	[2]
7.5.11	Fan2 run time	[hr]	Overall running time of supply fan 2	R	[2]
Return Duty Standby:					
7.5.12	Active fan	0: None 1: Fan1 2: Fan2	The current running fan on return channel.	R	[2]
7.5.13	Next rotation in	[hr]	The approximate time for next rotation of return fans	R	[2]
7.5.14	Fan1 run time	[hr]	Overall running time of return fan 1	R	[2]
7.5.15	Fan2 run time	[hr]	Overall running time of return fan 2	R	[2]
Max Flow Limit Settings:					
7.5.16	Enable Alarm	0: No 1: Yes	By enabling, alarm will activate when the flow goes beyond the defined threshold [7.5.23] or [7.5.44] for time [7.5.18] despite the control system's attempts to adjust the supply fan operation. The alarm will serve as a notification to indicate that the system is not maintaining the desired airflow control.	R/W	[2]
7.5.17	Alarm Type	0: Warning 1: Fault	Alarm type, "Warning" will only display the alarm, however "Fault" will stop the AHU.	R/W	[2]
7.5.18	Alarm Delay	0-30-180 [s]	Delay time to trigger the alarm	R/W	[2]
Supply fan:					
7.5.19	Act Setpoint	0-160000 [% , Pa, m ³ /h]	Actual supply fan setpoint	R	[2]
7.5.20	Supply Prs/Read or Supply Prs/Main	0-5000[pa]	Supply pressure/duct reading (supply optional pressure transducer) Supply Prs/Read: only reading Supply Prs/Main: Control is based on this reading To change to selection, refer to [6.1.2.24] .	R	[2]
7.5.21	Supply Fan Prs	0-5000[pa]	Supply fan transducer pressure reading	R	[2]
7.5.22	Supply Air Flow	0-160000[m ³ /h]	Supply fan flow reading	R	[2]
7.5.23	Max Flow Limit	0-160000[m ³ /h]	The maximum flow threshold is set to ensure that airflow does not exceed safe limits. If the flow surpasses this threshold, the system's control loop will attempt to adjust the supply fan operation, reducing the flow while keeping the fans running. This is only applicable when the fan control type is set to constant pressure ([6.1.2.23] = 2 and [6.1.3.04] = 2) and flow readings is available.	R/W	[2]

			If you want to set up an alarm to trigger when the control system fails to effectively manage the airflow and the flow exceeds the set limit, you can enable the alarm [7.5.16] .		
7.5.24	State	0: Off 1: On	Supply fan On/Off status	R	[2]
7.5.25	Speed	0-100[%]	Supply fan speed	R	[2]
7.5.26	Run Hours	0-240000[hrs]	Overall, AHU running time. If Modbus array is selected [6.1.3.06] =3, new page is displayed for each fan overall run time.	R	[2]
7.5.27	Delay On Tm	0-60-3600 [s]	When the unit is switched on, either locally or through the BMS, or it starts after an alarm reset. There is a delay before the fans start, providing time for the dampers to open properly.	R/W	[2]
7.5.28	Over Run Tm	0-180-3600 [s]	If the unit is equipped/configured with electrical heating coils, The fan stops after his delay once AHU is switched. This delay allows time for the electrical coils to cool down before the fans fully stop. Even without any electrical heating coil, unit can have post ventilation, if ([6.1.3.26] = 1)	R/W	[2]
7.5.29	Max forcing	0-100-160000 [%, Pa, m ³ /h]	Supply Fan Setpoint scales between the standard fan setpoint and a higher setpoint (Max forcing) to compensate for CO ₂ or temperature. Example: If the setpoint is 2000 m ³ /h and max forcing is 2500 m ³ /h, the fan setpoint will increase from 2000 m ³ /h up to 2500 m ³ /h based on air quality or temperature deviation from its setpoint. (Available & Applicable if fan compensation is enabled [6.1.3.08])	R/W	[2]
7.5.30	Actual Comp	0-100 [%]	Air quality or temperature compensation loop signal.	R	[2]
7.5.31	Setpoint Dev thr	0-10-100 [%]	Supply fan setpoint deviation alarm threshold, in percentage of actual setpoint [7.5.19] , e.g. Setpoint is 2000 (%Pa,m ³ /h), threshold is 10 % , then the threshold upper threshold is 2200 and lower threshold will be 1800 , if the actual control values goes above or below for [7.5.32] at startup or [7.5.33] during normal operation will results in alarm Supply Fan Deviation alarm (Available & Applicable only if [6.1.3.33] = 1 or 3)	R/W	[2]
7.5.32	Setpoint Dev Time	0-3-1000 [Min]	Supply fan setpoint deviation alarm delay at startup (Available & Applicable only if [6.1.3.33] = 1 or 3)	R/W	[2]
7.5.33	Act Dev Time	0-30-1000 [s]	Supply fan setpoint deviation alarm delay during normal operation. (Available & Applicable only if [6.1.3.33] = 1 or 3)	R/W	[2]

7.5.34	Defrost Setpnt	0-80-140000 [% , Pa , m ³ /h]	Supply fan follows this setpoint in case ERQ goes in defrost [8.8.1.19] (Available only if fan-defrost limitation control is enabled [6.1.3.09] = 1)	R/W	[2]
7.5.35	Defrost Dly Tm	0-1-5 [min]	Once the ERQ defrost is active [8.8.1.07] and passive again, it is the delay to switch the supply fan defrost setpoint [7.5.34] to normal setpoint. (Available only if fan-defrost limitation control is enabled [6.1.3.09] = 1)	R/W	[2]
7.5.36	Startup time min flow	0-120-100 [s]	If the low flow alarm [6.1.3.54] is enabled, once supply fan has started running, fan need to go beyond Low Flow limit before this time period otherwise goes in Low Flow Alarm	R/W	[2]
7.5.37	Time min flow	5 [s]	In normal operation, if supply fan goes less than the Low Flow limit for more than this time results in alarm Low Flow Alarm .	R/W	[2]
7.5.38	Min Flow Spv offset	20 %	If the unit is in constant flow control [6.1.3.04] =3 and low flow alarm is enabled [6.1.3.54] , there is lowest limit for supply fan setpoint (Low flow limit + 20 % of low flow limit). e.g. if 10 kg of refrigerant is used the low flow limit is 1945 m ³ /h, therefore lowest setpoint limit for supply fan will be 2334 m ³ /h (1945m ³ /h + 20 % of 1945m ³ /h) Low Flow limit = (Amount of R32 *60)/0.307 Amount of R32 refer to [6.1.2.09]	R/W	[2]
7.5.100	Controller	page	This page is dedicated to changing the supply fan loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]
Return fan:					
7.5.40	Act Setpoint	-100-160000 [% , Pa , m ³ /h]	Actual return fan setpoint.	R	[2]
7.5.41	Return Prs/Read or Return Prs/Main	0-5000[pa]	Return pressure/duct reading (Return optional pressure transducer). Return Prs/Read: Only reading. Return Prs/Main: Control is based on this reading. To change to selection, refer to [6.1.2.27] .	R	[2]
7.5.42	Return Fan Prs	0-5000[pa]	Return fan transducer pressure reading.	R	[2]
7.5.43	Return Air Flow	0-160000[m ³ /h]	Return fan flow reading.	R	[2]
7.5.44	Max Flow Limit	0-160000[m ³ /h]	The maximum flow threshold is set to ensure that airflow does not exceed safe limits. If the flow surpasses this threshold, the system's control loop will attempt to adjust the supply fan operation, reducing the flow while keeping the fans running. This is only applicable when the return fan control type is set to constant pressure ([6.1.2.24] = 2 and [6.1.3.05] = 2) and flow readings is available.	R/W	[2]

			If you want to set up an alarm to trigger when the control system fails to effectively manage the airflow and the flow exceeds the set limit, you can enable the alarm [7.5.16] .		
7.5.45	Room Prs/Read	-100-200[pa]	Room pressure/duct reading. Return Prs/Read: Only reading. Return Prs/Main: Control is based on this reading. To change to selection, refer to [6.1.3.1.01] .	R	[2]
7.5.46	State	0: Off 1: On	Return fan On/Off status.	R	[2]
7.5.47	Speed	[%]	Return fan speed.	R	[2]
7.5.48	Run Hours	[hrs]	Overall, return fan running time. If Modbus array is selected [6.1.3.07] =3, new page is displayed for each fan signal	R	[2]
7.5.49	Max forcing	0-100-160000 [% , Pa , m ³ /h]	Return Fan Setpoint scales between the standard fan setpoint and a higher setpoint (Max forcing) to compensate for CO ₂ or temperature. Example: If the setpoint is 2000 m ³ /h and max forcing is 2500 m ³ /h, the fan setpoint will increase from 2000 m ³ /h up to 2500 m ³ /h based on air quality or temperature deviation from its setpoint. (Available & Applicable if fan compensation is enabled [6.1.3.08])	R/W	[2]
7.5.50	Actual Comp		Air quality or temperature compensation loop signal.	R	[2]
7.5.51	Setpoint Dev Thr	0-10-100 [%]	Return fan setpoint deviation alarm threshold, in percentage of actual setpoint [7.5.40] , e.g. Setpoint is 2000 (% , Pa , m ³ /h), threshold is 10 % , then the threshold upper threshold is 2200 and lower threshold will be 1800 , if the actual control values goes above or below for [7.5.52] at startup or [7.5.53] during normal operation will results in alarm Return Fan Deviation alarm	R/W	[2]
7.5.52	Startup Dev Time	0-3-1000 [Min]	Return fan setpoint deviation alarm delay at startup. (Available & Applicable only if 6.1.3.33 = 2 or 3)	R/W	[2]
7.5.53	Act Dev Time	0-30-1000[s]	Return fan setpoint deviation alarm delay during normal operation. (Available & Applicable only if 6.1.3.33 = 2 or 3)	R/W	[2]
7.5.54	Defrost Setpnt	0-80-140000 [% , Pa , m ³ /h]	Return fan follows this setpoint in case ERQ goes in defrost [8.8.1.19] . (Available only if fan-defrost limitation control is enabled [6.1.3.09] = 1)	R/W	[2]
7.5.55	Defrost Dly Tm	0-1-5 [min]	Once the ERQ defrost is active and passive again, it is the delay to switch the supply fan defrost setpoint [7.5.54] to normal setpoint.	R/W	[2]

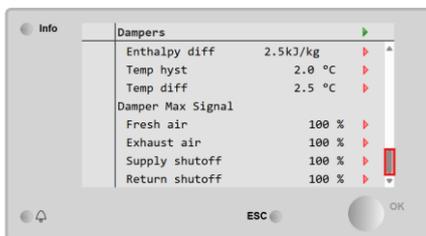
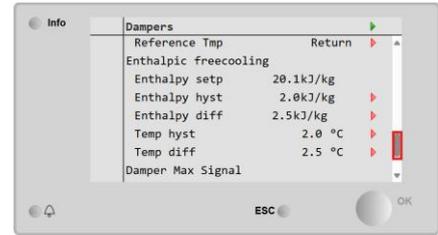
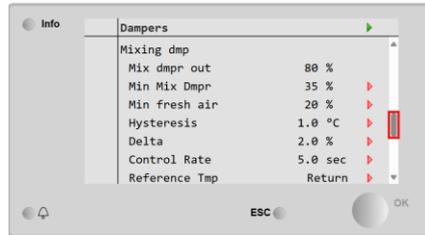
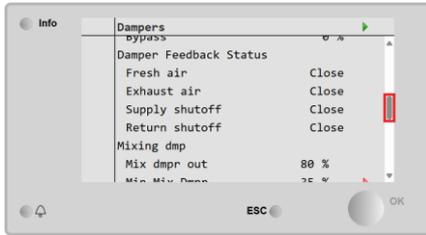
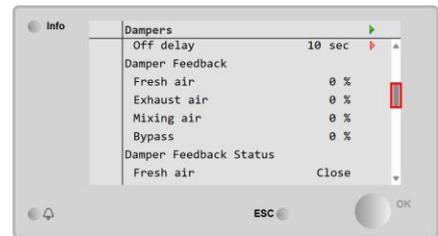
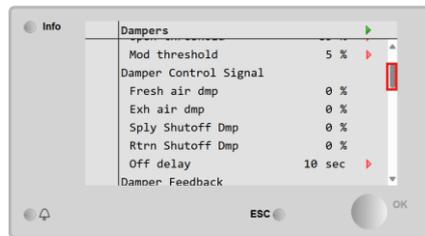
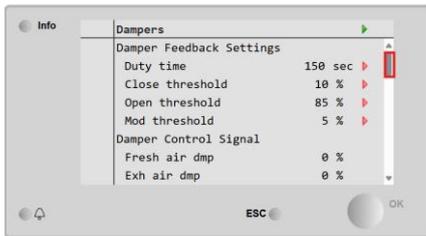
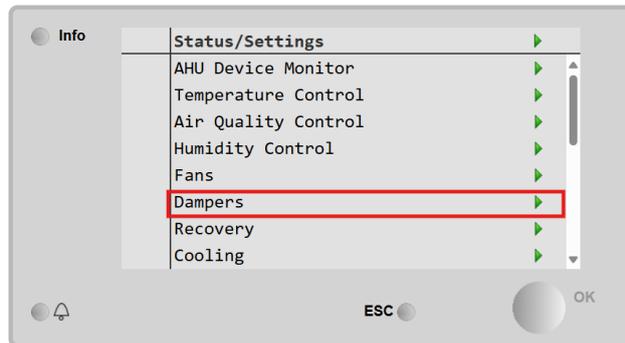
			(Available only if fan-defrost limitation control is enabled [6.1.3.09]= 1)		
7.5.56	Signal Type	0: Standard 1: Supply Slave	Standard: The return fan follows the readings from the controlled transducer value and operates based on the loop control. Supply Slave: The return fan does not operate based on its own loop but follows the supply fan signal, with some adjustments made using the parameters below [7.5.57] to [7.5.60]	R/W	[2]
Proportional Curve:					
7.5.57	Min Sply Signal	0 [%]	The return fan signal follows the supply fan signal by adjusting these parameters only if [7.5.56] is selected as "Supply Slave".	R/W	[2]
7.5.58	Min Rtrn Signal	0 [%]			
7.5.59	Max Sply Signal	100 [%]			
7.5.60	Max Rtrn Signal	80 [%]			
7.5.101	Controller	Page	This page is dedicated to changing the return fan loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]
7.5.62	Fire mode Setpoint	0- 80 -100 [%]	Fan speed setpoint when fire alarm triggered (Applicable only if [7.5.63] = 1, 2 or 3) (Available only if fire alarm is enabled [6.1.3.47])	R/W	[2]
7.5.63	Fire alarm mode	0: Stop 1: Run Sply 2: Run Exh 3: Run Both	When fire alarm triggered following option can be selected Stop: Stop the Unit Run Sply: Only run the supply fan at fire more setpoint Run Exh: Only run the return fan at fire more setpoint Run Both: Both fans run at fire mode setpoint (Fire more setpoint [7.5.62] or [8.7.26]) (Available only if fire alarm is enabled [6.1.3.47] =)	R/W	[2]

Table 7.5

7.6 Dampers

In this subchapter, you can configure settings related to dampers, including the mixing damper, feedback damper, adjusting the loop signal, and setting the maximum non-modulating signal for dampers. Please refer to the screenshots and table for a detailed explanation of each parameter.

HMI Path: Main Menu > Status/Settings > Dampers



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case- specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
Damper Feedback Settings:					
7.6.01	Duty time	0-150-300 [s]	Dampers duty time, the time actuator takes from 0% to 100 %, usually mentioned on data sheet of actuator.	R/W	[2]
7.6.02	Close threshold	0-10-100 [%]	The Close Threshold, if feedback of damper is lowered than this threshold, damper considered close. The Open Threshold, if feedback of damper is higher	R/W	[2]

7.6.03	Open Threshold	0-85-100 [%]	<p>than this threshold, damper considered open.</p> <p>Damper signal = 0 % Feedback signal < Close Threshold, Close</p> <p>Damper signal = 100 % Feedback signal > Open Threshold, Open</p> <p>If dampers feedback fails to reach Open/Close (within Open/Close thresholds) within Duty time [7.6.01] results in damper feedback deviation alarm for respective damper (only for those damper which are configured with feedback signal) Possible deviation alarms are Sply Shutoff FB Dev Alm , Rtrn Shutoff FB Dev Alm , Fresh Air Dmp FB Dev Alm , Exh Air Dmp FB Dev Alm</p> <p>Note:</p> <ul style="list-style-type: none"> • Only applicable to open/close type dampers (non-modulating) like supply shutoff, return shutoff, fresh, exhaust air dampers. • The fans will only start once the dampers are open beyond the specified "Open Threshold" and the fan start delay [7.5.27] (default 60 seconds) has passed. This delay ensures that the dampers are fully open and functioning correctly before the fans is switched On. 		
7.6.04	Mod threshold	0-5-100 [%]	<p>The modulating threshold, if the deference between feedback signal and damper signal is last then this threshold, considered normal operation.</p> <p>Feedback signal > Damper signal - Mod threshold, and Feedback signal < Damper signal + Mod threshold, In above cases, the feedback considered, positive, no activation of alarm.</p> <p>Feedback signal < Damper signal - Mod threshold, Or Feedback signal > Damper signal + Mod threshold, If damper fails to reach with above condition within duty time [7.6.01] , results in damper feedback deviation alarm. Example: If damper signal is 60 % , Mod threshold is 5 % , if the damper fails to reach between 55% - 65 % within duty time (150 s) results in deviation alarm. Possible deviation alarms are Mixing Dmp FB Dev Alm , Bypass FB Dev Alm , Fresh Air Dmp FB Dev Alm , Exh Air Dmp FB Dev Alm</p> <p>Note:</p> <ul style="list-style-type: none"> • Only applicable to modulating dampers like mixing, bypass, fresh or exhaust air damper. 	R/W	[2]
Damper Control Signal:					
7.6.05	Fresh air dmp	0-100 [%]	Fresh air damper signal.	R/W	[2]
7.6.06	Exh air dmp	0-100 [%]	Exhaust air damper signal.	R/W	[2]
7.6.07	Sply Shutoff Dmp	0-100 [%]	Supply shutoff damper signal.	R/W	[2]
7.6.08	Rtrn Shutoff Dmp	0-100 [%]	Return shutoff damper signal.	R/W	[2]
7.6.09	Off Delay	0-10-300 [s]	A delay is applied between when the fan stops and the damper closes. The damper closed after this delay once	R/W	[2]

			fans are stopped. This delay prevents, potential damage to the dampers, if damper are very fast to close.		
Damper Feedback:					
7.6.10	Fresh air	0-100 [%]	Fresh air damper feedback, if modulating.	R	[2]
7.6.11	Exhaust air	0-100 [%]	Exhaust air damper feedback, if modulating.	R	[2]
7.6.12	Mixing air	0-100 [%]	Mixing air damper feedback.	R	[2]
7.6.13	Bypass	0-100 [%]	Bypass air damper feedback.	R	[2]
Damper Feedback Status:					
7.6.14	Fresh air	0: Open 1: Close	Fresh air damper feedback, if not modulating (Open/Close).	R	[2]
7.6.15	Exhaust air	0: Open 1: Close	Exhaust air damper feedback, if not modulating (Open/Close).	R	[2]
7.6.16	Supply shutoff	0: Open 1: Close	Supply shutoff damper feedback.	R	[2]
7.6.17	Return shutoff	0: Open 1: Close	Return shutoff damper feedback.	R	[2]
Mixing dmp:					
7.6.18	Mix dmp out	0-100 [%]	Mixing damper signal.	R	[2]
7.6.19	Min Mix Dmpr	0-35-100 [%]	This sets the minimum limit for the mixing damper, meaning the mixing air cannot go below this 35% threshold.	R/W	[2]
7.6.20	Min fresh air	0-20-100 [%]	<p>This sets the minimum limit for the fresh air, meaning the fresh air intake will always be more then this threshold.</p> <p>Case 1: The mixing control loop modulated between “Min Mix Dmpr” and “100 % - Min fresh air”, and fresh air signal = 100 % - Mixing air signal.</p> <p>Example 1: Min Mix Dmpr = 35 %, Min fresh air = 20 % , Mixing air signal modulating range will be 35 % - 80 % As consequence fresh air range will be 20 % - 65%</p> <p>Example 2: Min Mix Dmpr = 45 % , Min fresh air = 10 % , Mixing air signal modulating range will be = 45 % - 90 % As consequence fresh air range will be = 10 % - 55%</p> <p>Case 2: If air quality compensation is enabled [6.1.3.22], in this case system consider the maximum value from air quality control signal or “Min fresh air”.</p> <p>Example 1: Min Mix Dmpr = 35 %, Min fresh air = 20 % , If the air quality loop signal is 30 % Mixing air signal modulating range will be = 35 % - 70 % As consequence fresh air range will be = 30 % - 65%</p> <p>Example 2: Min Mix Dmpr = 35 %, Min fresh air = 20 % , If the air quality loop signal is 40 % Mixing air signal modulating range will be = 35 % - 60 % As consequence fresh air range will be = 40 % - 65%</p>	R/W	[2]

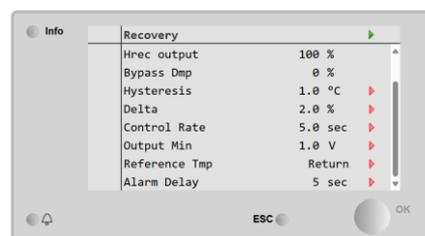
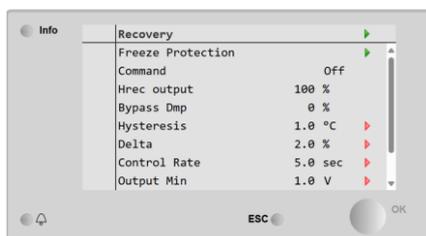
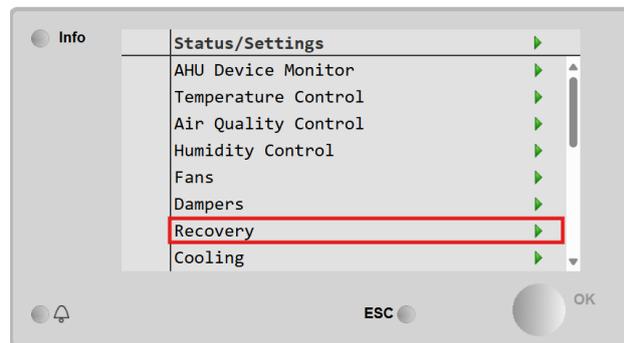
7.6.21	Hysteresis	0-1-10 [°C]	Heat recovery logic works, if there is a temperature difference between return temperature and outside temperature more than dead band (Hysteresis/2) .	R/W	[0]
7.6.22	Delta	0-2-30 [%]	Parameter to change rate of change of mixing damper signal. The heat recovery signal modulates up or down by taking steps. this parameter is the length of steps to take [7.6.23] in time period. e.g. 2 % up or down in 5s, if there is suitable temperature difference between return an outside temperature.	R/W	[2]
7.6.23	Control rate	0-5-120 [s]	Parameter to change rate of change of mixing damper. Time to take next step [7.6.22] .	R/W	[2]
7.6.24	Reference Tmp	0: Return 1: Room	The temperature probe to use for mixing damper logic.	R/W	[2]
Damper Max Signal:					
7.6.30	Fresh air	0-100 [%]	Maximum signal of fresh air damper, only if it is open/close (not modulating) damper.	R/W	[2]
7.6.31	Exhaust air	0-100 [%]	Maximum signal of exhaust air damper, only if it is open/close (not modulation) damper.	R/W	[2]
7.6.32	Supply shutoff	0-100 [%]	Maximum signal of supply shutoff damper.	R/W	[2]
7.6.33	Return shutoff	0-100 [%]	Maximum signal of return shutoff damper.	R/W	[2]

Table 7.6

7.7 Recovery

In this subchapter, you can find essential settings for heat recovery, including how to adjust the loop speed (faster or slower). Please refer to the screenshots and table below for detailed explanations of each parameter.

HMI Path: Main Menu > Status/Settings > Recovery



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					

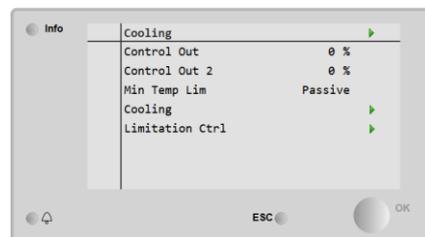
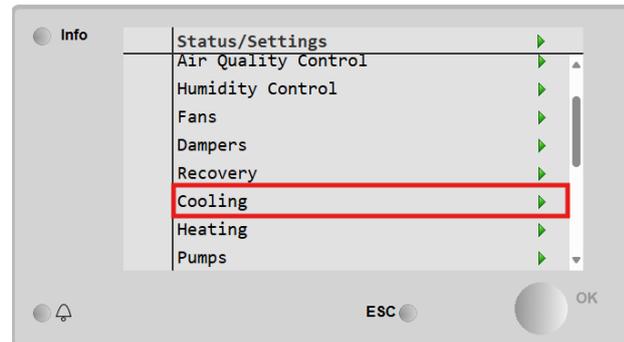
7.7.01	Command	0: On 1: Off	Heat recovery on/off status	R	[2]
7.7.02	Hrec output	0-100 [%]	Heat recovery signal	R	[2]
7.7.03	Bypass dmp	0-100 [%]	Bypass damper signal = 100 - Heat recovery signal	R	[2]
7.7.04	Hysteresis	0-1-10 [°C]	Heat recovery logic works, if there is a temperature difference between return temperature and outside temperature more than dead band (Hysteresis/2).	R/W	[0]
7.7.05	Delta	0-2-30 [%]	Parameter to change rate of change of heat recovery loop, The heat recovery signal modulates up or down by taking steps. this parameter is the length of steps to take [7.7.06] in time period. e.g. 2 % up or down in 5s, if there is suitable temperature difference between return an outside temperature.	R/W	[2]
7.7.06	Control Rate	0-5-120 [s]	Parameter to change rate of change of heat recovery loop. Time to take next step [7.7.05] .	R/W	[2]
7.7.08	Reference Tmp	0: Return 1: Room	The temperature probe to use for heat recovery logic.	R/W	[2]
7.7.09	Alarm Delay	0-5-120 [s]	Heat recovery alarm delay.	R/W	[0]

Table 7.7

7.8 Cooling

Cooling by water coil or Dx settings can be done in this page

HMI Path: Main Menu > Status/Settings > Cooling



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
7.8.01	Control Out	0-100 [%]	Cooling coil output/signal.	R/W	[2]
7.8.02	Control out 2	0-100 [%]	Cooling coil 2 output/signal.	R/W	[2]
7.8.03	Min Temp Lim	0: Active 1: Passive	Supply temperature limit status, if active ,the cooling cutting loop is adjusted to stay within the supply	R	[2]

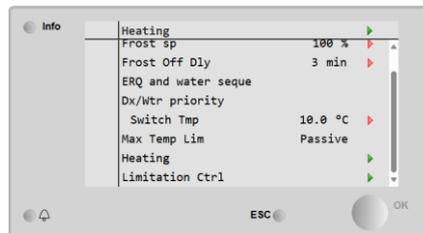
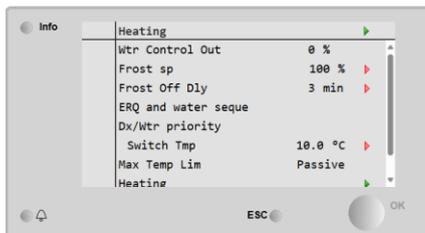
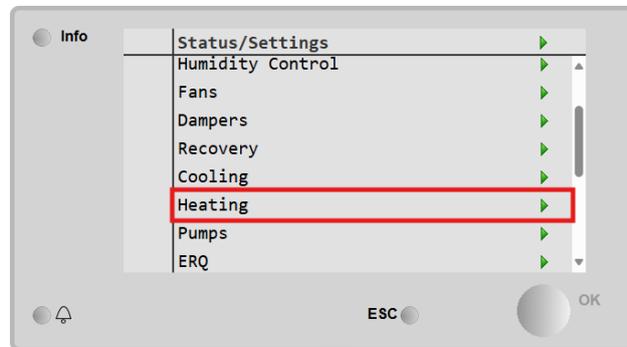
			temperature minimum and maximum thresholds [7.2.15] to [7.2.18] .		
7.8.100	Cooling >	Page	This page is dedicated to changing the cooling loop (Dx or Water) control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]
7.8.101	Limitation Ctrl >	page	This page is dedicated to changing the supply temperature cutting loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide . For more details refer to [7.2.15] to [7.2.18] .	Enter	[0]

Table 7.8

7.9 Heating

Cooling by water coil or Dx settings can be done in this page.

HMI Path: Main Menu > Status/Settings > Heating



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
7.9.01	Control Out	0-100 [%]	Heating coil output signal	R	[2]
7.9.02	Frost sp	0-100 [%]	Frost setpoint, once frost switch is active, normally, all water heating coils (pre, main, post) forced to this setpoint. However possible to force the cooling water coil as well, if functionality is enabled [6.1.3.45] .	R/W	[2]

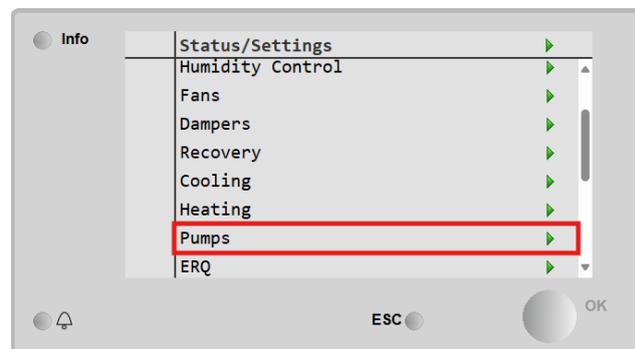
7.9.03	Frost Off Dly	0-3-30 [min]	The frost switch is triggered/active, and once the condition normalizes, this is the delay before the alarm resets to its normal state.	R/W	[2]
Dx/Wtr priority:					
7.9.04	Switch Tmp	-20-10-40 [°C]	Once Water+ ERQ or Water +DX heating system is configured and the priority is set to "Auto", refer to [6.1.3.16] [6.1.3.17] . The system compares the outside temperature with this temperature threshold. If the outside temperature is less than or equal to the switch temperature, the water will start first. However, if the outside temperature is greater than this temperature threshold, the ERQ/Dx will start first.	R	[2]
7.9.05	Max Temp Lim	0: Active 1: Passive	Supply temperature limit status, if active ,the heating cutting is adjusted to stay within the supply temperature minimum and maximum thresholds [7.2.15] to [7.2.18] .	R	[2]
7.9.100	Heating >	Page	This page is dedicated to changing the heating loop (Dx or Water) control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]
7.9.101	Limitation Ctr'l >	page	This page is dedicated to changing the supply temperature cutting (Water, DX) loop control parameters (PID) in winter mode, such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For more details refer to [7.2.15] to [7.2.18] .	Enter	[0]

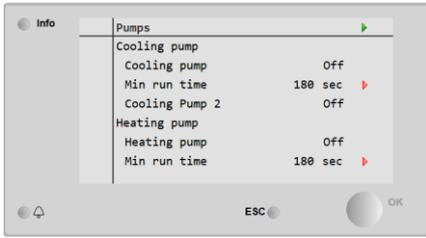
Table 7.9

7.10 Pumps

Heating and cooling coil pump settings can be done in this page.

HMI Path: Main Menu > Status/Settings > Pumps





ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
Cooling pump:					
7.10.01	Cooling pump	0: Off 1: On	Display of cooling pump On/Off.	R	[2]
7.10.02	Min run time	0-180-36000 [s]	Minimum time pump running time, once it is switched On.	R/W	[2]
7.10.03	Cooling pump 2	0: Off 1: On	Display of cooling pump 2 On/Off.	R	[2]
7.10.04	Min run time	0-180-36000 [s]	Minimum time pump running time, once it is switched On.	R	[2]
Heating pump:					
7.10.08	Heating pump	0: Off 1: On	Display of heating pump 2 On/Off	R	[2]
7.10.09	Min run time	0-180-36000 [s]	Minimum pump running time, once it is switched On.	R/W	[2]

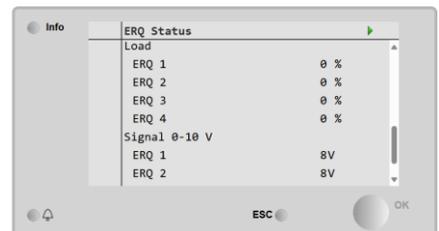
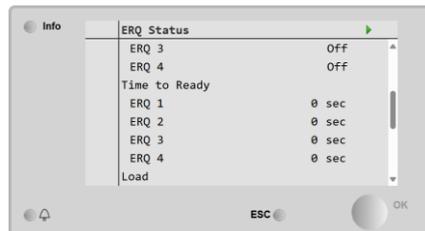
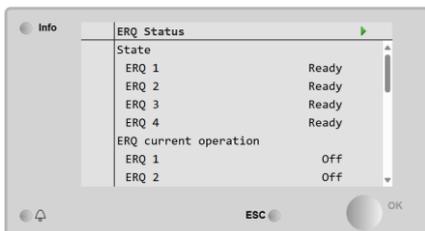
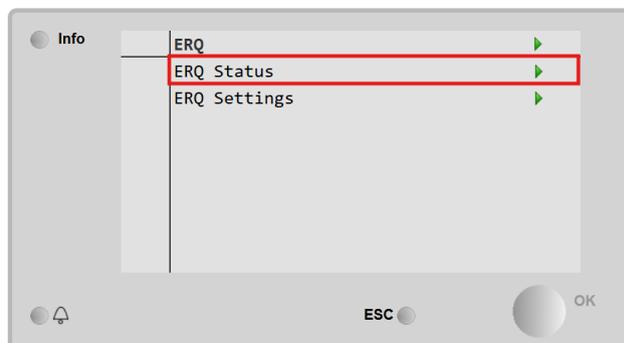
Table 7.10

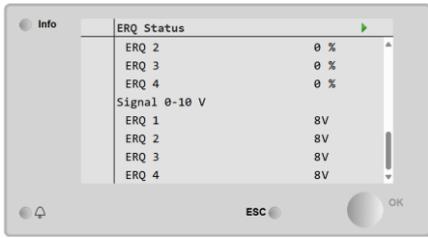
7.11 ERQ

7.11.1 ERQ Status

Display of ERQ Status, current state, On/Off , Signal and Load for respective ERQ as show in below pictures.

HMI Path: Main Menu > Status/Settings > ERQ > ERQ Status

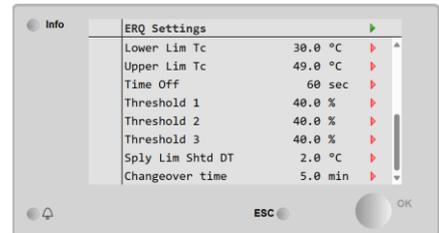
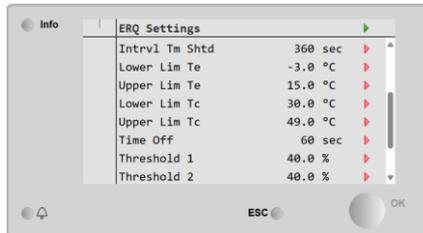
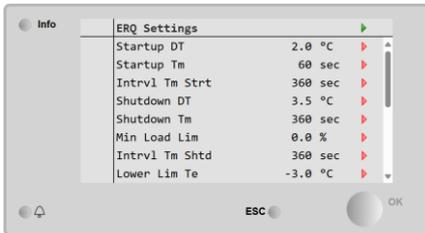
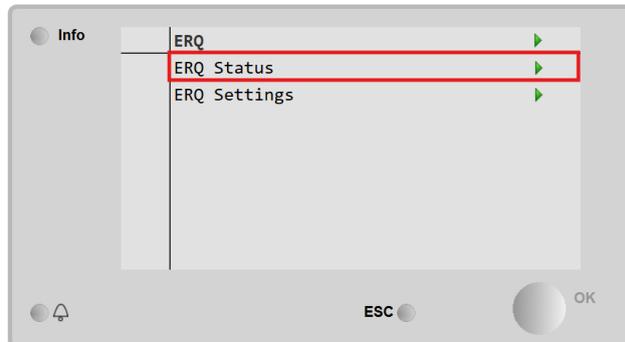




7.11.2 ERQ Settings

In the pictures below is shown all parameters for ERQ settings.

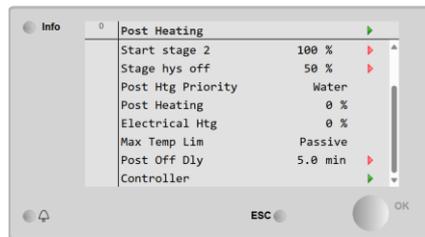
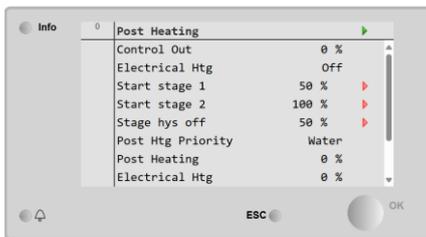
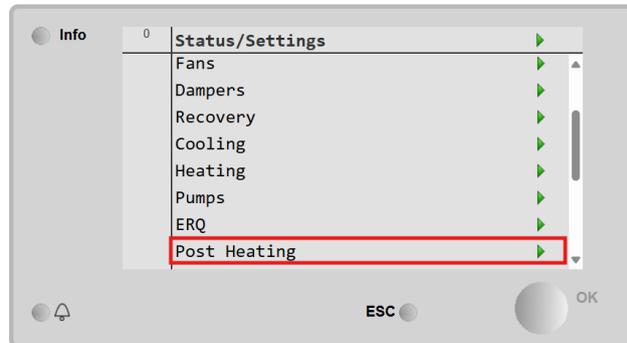
HMI Path: Main Menu > Status/Settings > ERQ > ERQ Settings



7.12 Post heating

Electrical or post heating can be done here in this page.

HMI Path: Main Menu > Status/Settings > Post Heating



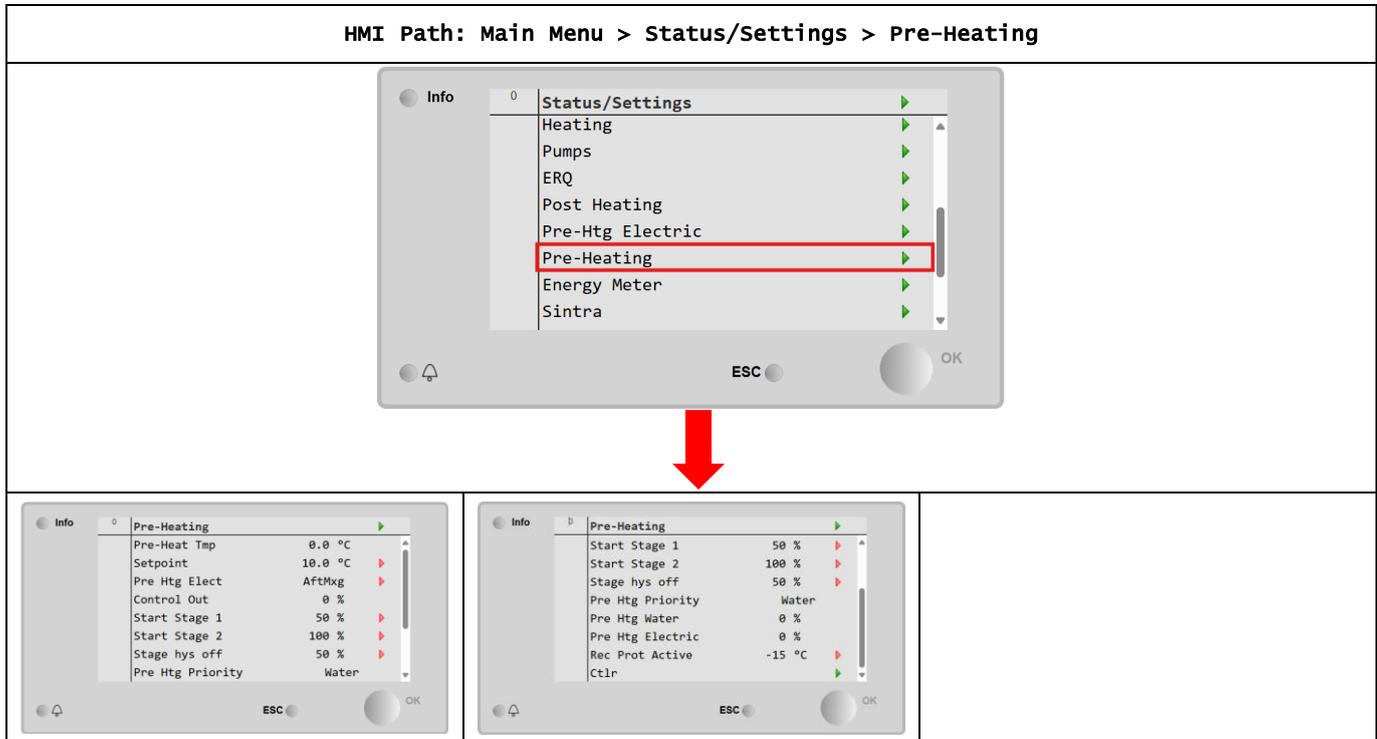
ID	Parameters	Value Range	Description	R/W	Password
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>					
7.12.01	Control Out	[%]	Post heating loop output	R	[2]
7.12.02	Electrical Htg	0: On 1: Off	Display of on/off status of electrical heating, if modulating electrical heating is configured.	R	[2]
7.12.03	Start Stage 1	0-100 [%] or 0-50-100 [%]	<p>Threshold to switch On stage/step 1, if post heating loop signal [7.12.01] is more than this threshold, Stage/Step 1 will switch On,</p> <p>The default value is if</p> <ul style="list-style-type: none"> Start Stage 1: 100 % Start Stage 2: 50 % <p>Stage 1: ON, once Control Out > Start Stage 1</p> <p><i>(Available & Applicable only if pre heating electrical stage 1 (non-modulating) is available. [6.1.4.36])</i></p>	R/W	[2]
7.12.04	Start Stage 2	0-100 [%]	<p>Threshold to Switch On Stage/Step 2, if preheating loop signal [7.12.01] is more than this threshold, Stage/Step 2 will switch On,</p> <p>Stage 2: ON, once control out > Start Stage 2</p> <p><i>(Available & Applicable only if pre heating electrical stage 1 and stage 2 (non-modulating) is available. [6.1.4.36] [6.1.4.37])</i></p>	R/W	[2]

7.12.05	Stage hys off	0-100 [%] or 0-50-100 [%]	<p>Once the stage 1 or stage 2 is switched On respecting the above thresholds, this parameter is refer to switch off.</p> <p>The default value is if</p> <ul style="list-style-type: none"> • Start Stage 1: 100 % • Start Stage 2: 50 % <p>Start stage 1 = 100 %</p> <p>Stage 1: ON, Control Out > Start Stage 1 Stage 2: ON, Control Out > Start Stage 2</p> <p>Stage 1: OFF, Control Out < Start Stage 1- Stage hys off Stage 2: OFF, Control Out < Start Stage 2- Stage hys off</p>	R/W	[2]
7.12.06	Post Htg priority	0: Water 1: Electric	<p>The display shows priority between water and electrical post heating, depends on the selection made at [6.1.3.19]</p> <p>Whichever is selected as first priority, that coil will start fist and flowered by the second one, depends on the control loop [7.12.01]</p> <p>If Priority selected is “water”,</p> <ul style="list-style-type: none"> • control loop is 25%, the water output signal will be 50 % and electrical 0% • control loop is 75%, the water output signal will be 100 % and electrical 50% • control loop is 100%, the water output signal will be 100 % and electrical 100% <p><i>(Available only if, water post heating [6.1.2.17] and modulating post heating electric [6.1.4.51], is present)</i></p>	R	[2]
7.12.07	Post Heating	0-100 [%]	The actual water post heating signal/output, if available.	R/W	[2]
7.12.08	Electrical Htg	0-100 [%]	The actual electrical post heating signal, if available.		[2]
7.12.09	Max off Dly	0-5-20 [Min]			[2]
7.12.100	Controller	Page	This page is dedicated to changing the electrical / post heating loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]

Table 7.12

7.13 Pre- heating

Pre heating by water or electrical control settings can be done in this page.



ID	Parameters	Value Range	Description	R/W	Password
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>					
7.13.01	Pre-Heat Tmp	[°C]	The actual control pre heating temperature.	R	[2]
7.13.02	Setpoint	[°C]	The pre heating setpoint.	R/W	[2]
7.13.03	Pre Htg Elect	0: BefMxg 1: AftMxg	BefMxg: Pre heating is before mixing. AftMxg: pre heating is done after the mixing.	R/W	[2]
7.13.04	Control out	[%]	Pre-heating loop output.	R/W	[2]
7.13.05	Start Stage 1	0-100 [%] or 0-50-100 [%]	Threshold to switch On Stage/Step 1, if preheating loop signal [7.13.04] is more than this threshold, Stage/Step 1 will switch On. The default value is if <ul style="list-style-type: none"> Start Stage 1: 100 % Start Stage 2: 50 % Stage 1: ON, once Control Out > Start Stage 1 <i>(Available & Applicable only if pre heating electrical stage 1 (non-modulating) is available. [6.1.4.36])</i>	R/W	[2]
7.13.06	Start Stage 2	0-100 [%]	Threshold to switch On Stage/Step 2, if preheating loop signal [7.13.04] is more than this threshold, Stage/Step 2 will switch On. Stage 2: ON, once control out > Start Stage 2	R/W	[2]

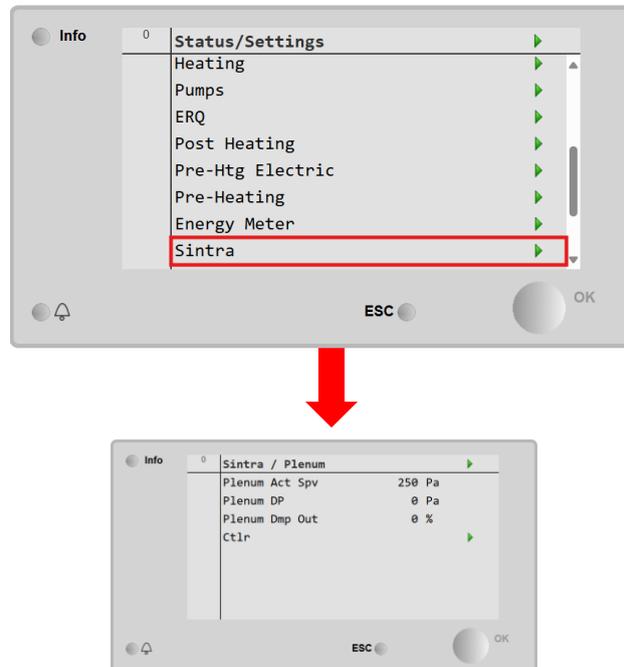
			<i>(Available & Applicable only if pre heating electrical stage 1 and stage 2(non-modulating) is available. [6.1.4.36] [6.1.4.37])</i>		
7.13.07	Stage hys off	0-100 [%] or 0-50-100 [%]	Once the stage 1 or stage 2 is switched on respecting the above thresholds, this parameter to switch off. The default value is if <ul style="list-style-type: none"> • Start Stage 1: 100 % • Start Stage 2: 50 % Start stage 1 = 100 % Stage 1: ON, Control out > Start stage 1 Stage 2: ON, Control out > Start stage 2 Stage 1: OFF, Control out < Start stage 1- Stage hys off Stage 2: OFF, Control out < Start stage 2- Stage hys off	R/W	[2]
7.13.08	Pre Htg priority	0: Water 1: Electric	The display shows priority between water and electrical post heating, depends on the selection made at [6.1.3.23] Whichever is selected as first priority, that coil will start first and followed by the second one, depends on the control loop [7.13.04] If Priority selected is “water”, <ul style="list-style-type: none"> • control loop is 25%, the water output signal will be 50 % and electrical 0% • control loop is 75%, the water output signal will be 100 % and electrical 50% • control loop is 100%, the water output signal will be 100 % and electrical 100% <i>(Available only if, water pre heating [6.1.2.15]) and modulating post heating electric [6.1.4.50], are configured)</i>	R	[2]
7.13.09	Pre Htg Water	0-100 [%]	The actual water post heating signal/output.	R	[2]
7.13.10	Pre Htg Electric	0-100 [%]	The actual electrical post heating signal.	R	[2]
7.13.11	Rec Prot Active	-30--15-20 [° C]	Heat recovery protection setpoint, if the outside temperature is less than this setpoint, the pre heating output will be forced to 100 %. <i>(Available & applicable only if any of heat recovery [6.1.2.20] device is present)</i>	R/W	[2]
7.13.100	Ctrl	page	This page is dedicated to changing the Pre heating loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable. For detailed tuning procedures, refer to the PID Control Loop Tuning Guide .	Enter	[0]

Table 6

7.14 Sintra

Sintra control settings can be done by page as shown below.

HMI Path: Main Menu > Status/Settings > Sintra



ID	Parameters	Value Range	Description	R/W	Password
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.					
7.14.01	Plenum Act Spv	0-1000 [Pa]	Plenum actual setpoint.	R/W	[2]
7.14.02	Plenum DP	0-1000 [Pa]	Plenum actual differential pressure.	R	[2]
7.14.03	Plenum Dmp Out	0-100 [%]	Plenum damper output signal.	R/W	[2]
7.14.100	Ctrl	Page	This page is dedicated to changing the plenum pressure loop control parameters (PID), such as Gain, Integral (Int), and Action Time, for proper tuning of the loop. These adjustments are especially useful if the loop appears to be unstable.	Enter	[0]

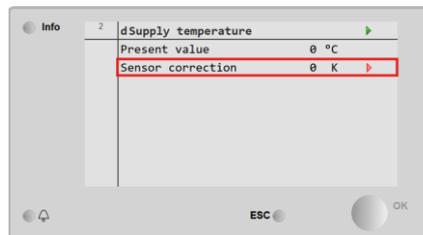
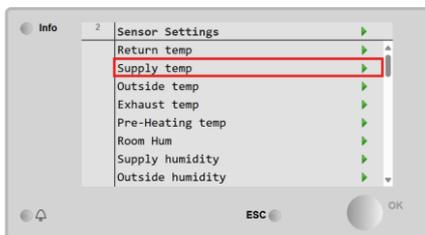
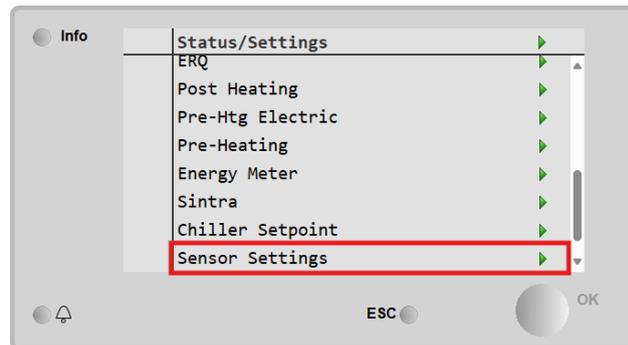
Table 7

7.15 Sensor Settings

In the sensor settings, all configured sensors are available for calibration if they are providing slightly different readings from the actual values. This can be done for all the analog inputs that the AHU is configured with by simply adjusting the "sensor correction" (\pm), which can be set to positive or negative values. It's important to note that sensor calibration should only be performed if you're certain that the sensor requires correction or calibration.

Below example is done for supply temperature, it can be done for other sensor values.

HMI Path: Main Menu > Status/Settings > Sensor Settings



PID Control Loop Turning Guide

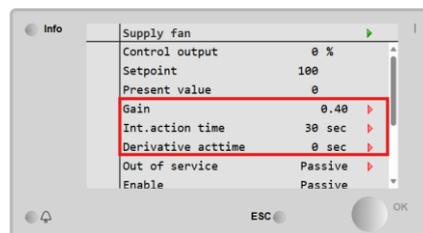
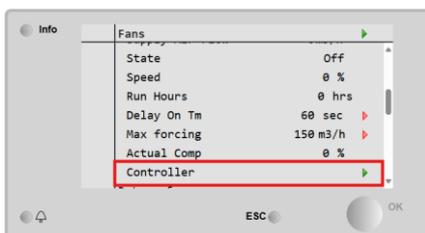
PID Control Loop Tuning Guide for AHU Components,

This guide explains how to tune the PID control loop for various AHU components. The example displayed is for the supply fan, but the same procedure applies to other loops such as return fan, heating, cooling, air quality, humidification, dehumidification, pre-heating, and post-heating. The tuning parameters are consistent across all loops.

Refer to the following HMI paths for each loop

- Supply fan [\[7.5.100\]](#)
- Return fan [\[7.5.101\]](#)
- Cooling [\[7.8.100\]](#)
- Heating [\[7.9.100\]](#)
- Air quality [\[7.3.100\]](#)
- Humidification [\[7.4.100\]](#)
- Dehumidification [\[7.4.101\]](#)
- Preheating [\[7.13.100\]](#)
- Post heating [\[7.12.100\]](#)

HMI Path: Main Menu > Status/Settings > Fans > Controller



8 Main Menu Screen

Through Main Menu screen the user can access to all the information necessary for monitoring the AHU status, in addition to managing the unit operative mode.

In particular, the user can:

- Control the AHU operative mode
- Change the AHU Setpoint
- Change the Summer/Winter state
- Access to the I/O overview menu
- Program the time scheduler
- Restore alarm conditions

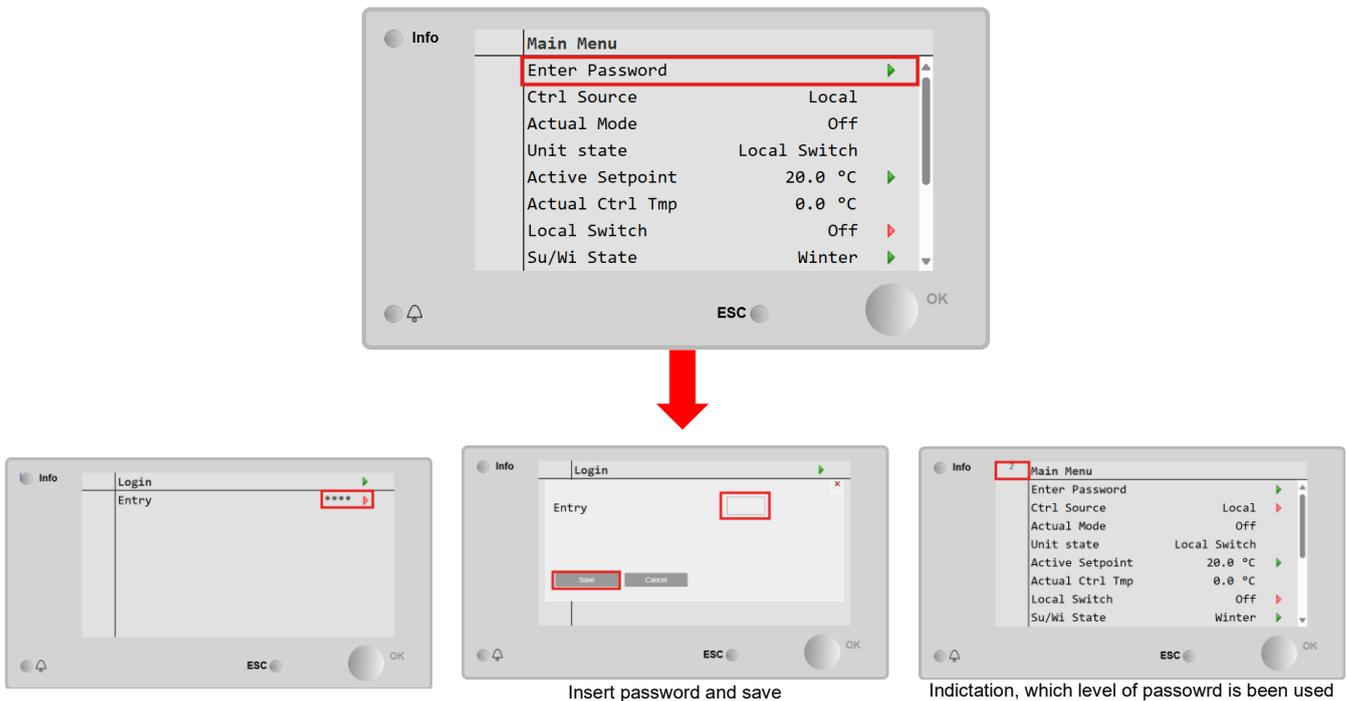
Password levels and how to change it

In HMI parameters are displayed, with respect to password inserted, Factor level (0) is the higher level, and the followed by commissioning/service (2) and then User level (6).

Password level	Password level code
Factory	<u>0</u>
Commissioning and service	<u>2</u>
User	<u>6</u>

HMI path and how to change the password is explained below:-

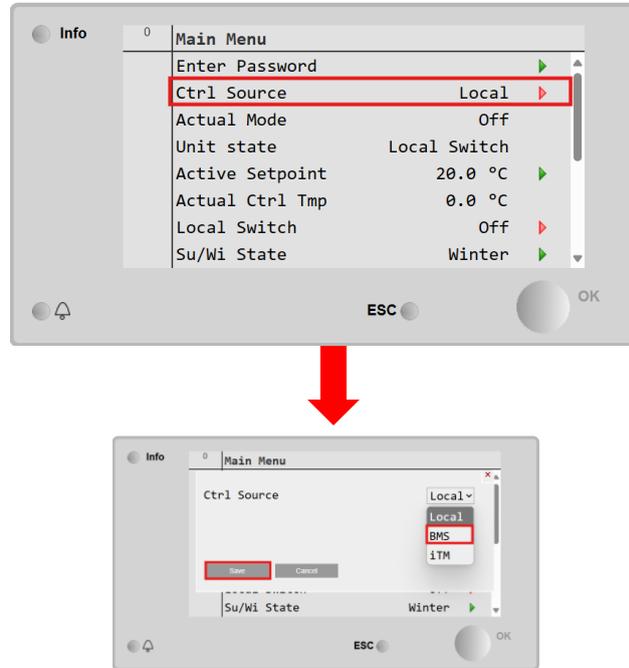
HMI Path: Main Menu > Enter Password > Entry > Insert Password > Save



8.1 Control Source

This item displays the actual control source of the AHU. All possible control source is reported in the table below.

HMI Path: Main Menu > Ctrl Source



ID	Parameter	Value	Description	R/W	Password
8.1.01	Control Source	0: Local 1: BMS 2: iTM	<p>– Local:</p> <ol style="list-style-type: none"> HMI: AHU control managed directly from the controller interface or automatically via time scheduler. Refer to Local Switch [8.5.01] page for more details. Room Unit: when Control Source is set to Local, the unit can be controlled also through the Room Unit device (POL822), if installed. Refer to Appendix A for more details on Room Unit control. <p>– BMS:</p> <ol style="list-style-type: none"> Modbus: the AHU can be controlled by a Modbus Master device through Modbus protocol, if the corresponding communication module is installed (POL902). Refer to D-EOMOCAH202-18EN for more details. BACnet: the unit can be controlled through BACnet communication if the corresponding communication module is installed (POL904/POL908). Refer to D-EOMOCAH10009 for more details. <p>– iTM</p> <ol style="list-style-type: none"> BACnet: the AHU can be controlled through BACnet communication by Daikin intelligent Touch Manager (iTM). <p>Note: To control from BMS or iTM, Unit should always be switched ON from Local switch [8.5.01] first. Afterwards, try to change the change mode from BMS or iTM and check the actual mode [8.2.1] changing.</p>	R/W	2

Table 8.1

8.1.1 Control Source Priority Chain

Value for “Ctrl Source” determines the priority chain among available control sources, included the Panel switch, according to the following table:

Relations among Control Source, Priority and Interlocks of all unit switches (Panel switch, HMI, BMS)				
Ctrl Source	Panel Switch (Electric Panel)	Local Switch (HMI)	BMS (MSV 24562)	Unit Actual Mode
Local	Off	X	X	Off
Local	On	Off	X	Off
Local	On		X	On
BMS	Off	X	X	Off
BMS	On	Off	X	Off
BMS	On	On	Off	Off
BMS	On	On	On	On

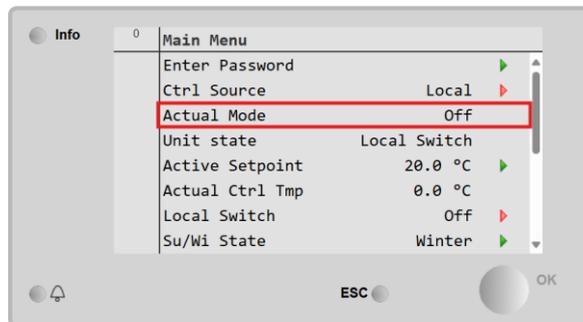
Note: the value X means that whichever state does not affect the unit Actual Mode.

As a consequence, for example, in order to set ON the unit Actual Mode when Ctrl Source is BMS, Panel Switch and Local Switch must stay ON.

8.2 Actual Mode

This item (read-only) displays the actual operating mode of the AHU. All possible operating mode are reported in the table below.

HMI Path: Main Menu > Actual Mode



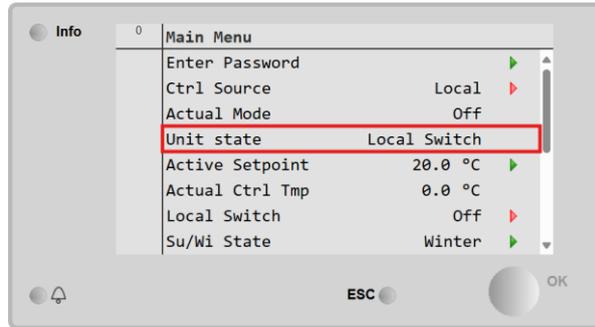
ID	Parameter	Value	Description	R/W
8.2.1	Actual Mode	0: Off 1: On 2: Ventilation 3: Economy 4: Boost	<p>Off: AHU in Off mode. All devices installed on the AHU (fans, cooling/heating coil, dampers, etc..) are Off.</p> <p>On: AHU in On mode. Normal functioning: all controls are active and following standard setpoints Cool/Heat setpoints [8.7.01] / [8.7.02] and fans setpoints [8.7.18] [8.7.19].</p> <p>Ventilation: AHU in Ventilation mode. In this mode only fans are running and following standard fan setpoints [8.7.18] [8.7.19].</p> <p>Economy: AHU in Economy mode. Normal functioning: all controls are active, but the AHU works referring to the Cool/Heat setpoints [8.7.03] / [8.7.04] and fans setpoints [8.7.20] [8.7.21].</p> <p>Boost: AHU in Economy mode. Normal functioning: all controls are active, but the AHU works referring to the Cool/Heat setpoints [8.7.05] / [8.7.06] and fans setpoints [8.7.22] [8.7.23].</p>	R

Table 8.2

8.3 Unit State

This item (read-only) displays the actual state of the AHU. All possible states are reported in the table below.

HMI Path: Main Menu > Unit State



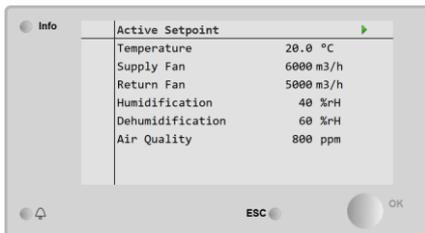
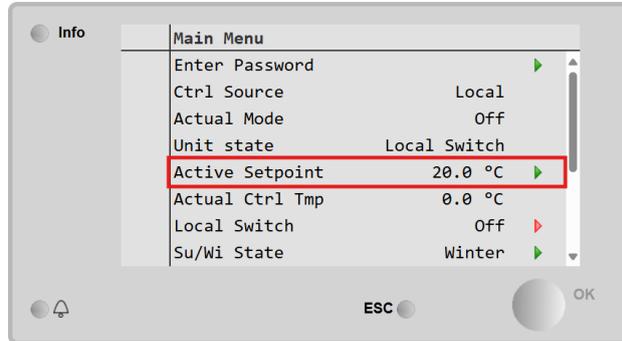
ID	Parameter	Value	Description	R/W
8.3.1	Unit State	0: Fire 1: Emergency 2: Alarm 3: Manual 4: Panel Switch 5: Local Switch 6: BMS 7: Scheduler 8: Ready 9: Occupancy	<p>Fire: AHU in Fire alarm state. The AHU is in this state when a Fire Alarm is detected.</p> <p>Emergency: AHU in Emergency state This state indicates that the Emergency button has been pressed.</p> <p>Alarm: AHU in alarm state. This state is displayed when an alarm has been detected.</p> <p>Manual: AHU in Test mode. The AHU is in this state when Local Switch ([8.5.01]= 6) is set to "Test"</p> <p>Panel Switch: Switch labeled "Enable Switch" located on the Electrical Box is set to zero.</p> <p>Local Switch: Unit actual control mode is controlled from local switch [8.5.01].</p> <p>BMS: Unit actual control mode is controlled from BMS or iTM , Control source ([8.1.01] = 1 or 2)</p> <p>Scheduler: AHU in Running with mode selected, state by Time Scheduler. Refer to Time Scheduler page for more details.</p> <p>Ready: AHU in Off state by Time Scheduler, if "Auto" is selected from local switch ([8.5.01] = 0) or from BMS. Refer to Time Scheduler page for more details.</p> <p>Occupancy: AHU in On state by Occupancy function. Refer to Room Unit page for more details. (Appendix A)</p>	R

Table 8.3

8.4 Active Setpoint

All actual setpoints used by the software to control AHU devices are reported in the Active Setpoint page. In the Main Menu screen is displayed the actual setpoint used for controlled temperature.

HMI Path: Main Menu > Active Setpoint



ID	Parameters	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.			
8.4.01	Temperature	Display the actual setpoint used for the controlled temperature.	R
8.4.02	Supply Fan	Display the actual setpoint value for the supply fan.	R
8.4.03	Return Fan	Display the actual setpoint value for the return fan.	R
8.4.04	Humidification	Display the actual humidification setpoint.	R
8.4.05	Dehumidification	Display the actual dehumidification setpoint.	R
8.4.06	Air Quality	Display the actual air quality setpoint.	R

Table 8.4

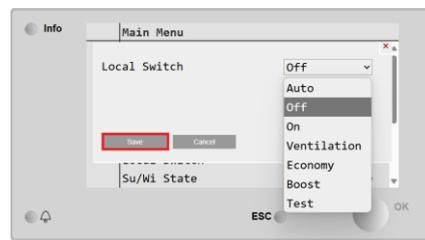
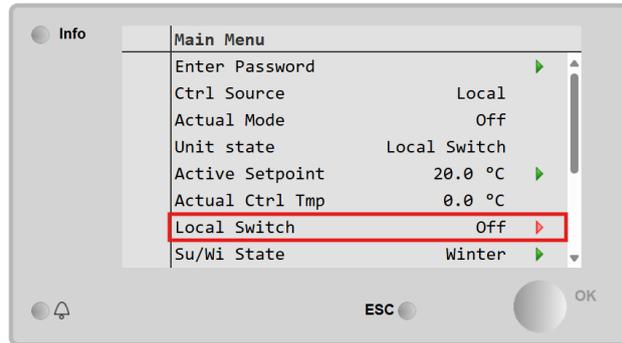
8.5 Local Switch

8.5.1 This item is used to control locally the operating mode of the AHU.



NOTE! Note: Local switch must set to a value not Off or Test in order the BMS to be able to turn unit ON provided that Control Source is set to BMS. (see [Control source priority chain](#)).

HMI Path: Main Menu > Active Setpoint



ID	Parameter	Value	Description	R/W
8.5.0 1	Local Switch	0: Auto 1: Off 2: On 3: Ventilation 4: Economy 5: Boost 6: Test	<p>Auto: AHU On-Off state is managed by the time scheduler. Refer to Time Scheduler page for more details.</p> <p>Off: Turn off the AHU. All devices installed on the AHU (fans, cooling/heating coil, dampers, etc..) will be turned off.</p> <p>On: Turn on the AHU. In this mode all controls are active and setpoints related to temperature regulation and fans control are the normal/standard setpoints. Cool/Heat setpoints [8.7.01] / [8.7.02] and fans setpoints [8.7.18] [8.7.19].</p> <p>Ventilation: Switch the AHU in ventilation mode. In this mode only fans are running. No temperature control is performed and fans, follows normal/standard setpoints [8.7.18] [8.7.19].</p> <p>Economy: Switch the AHU in economy mode. In this mode all controls are active, but the setpoints related to temperature regulation and fans control switch from normal setpoints to economy setpoints. Cool/Heat setpoints [8.7.03] / [8.7.04] and fans [8.7.20] [8.7.21].</p> <p>Boost: Switch the AHU in boost mode. In this mode all controls are active, but the setpoints related to temperature regulation and fans control switch from normal setpoints to boost setpoints. Cool/Heat setpoints [8.7.05] / [8.7.06] and fans [8.7.22] [8.7.23].</p>	R/W

		<p>Test: AHU in Test mode. In this mode every device of the AHU can be manually controlled.</p> <p> NOTE! <i>This function is only available with service password entered and the item is visible only if the AHU is OFF.</i></p>	
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Table 8

8.6 Summer/Winter state

The AHU software provides several options for summer/winter changeover control:

Auto Mode	The controller monitors one of the several temperatures available on the AHU (Room, Return, Outside, or Supply). The value of this temperature is compared with two limits (one for summer and one for winter) and, depending on the result of this comparison, the controller chooses the cool/heat state for the next period.
Manual Mode	The changeover is managed via controller interface or through the Room Unit device (if installed).
Pursuit Mode	This logic can be used when it is desired to follow a temperature setpoint, regardless of the actual heating/cooling mode of the unit. The unit will automatically switch to Summer/Winter state when the actual controlled temperature has passed respectively the to Summer/to Winter thresholds, which are calculated based on the actual temperature setpoint selected.
BMS	The changeover is managed via a Building Management System (BMS) through BACnet or Modbus protocol communication.

For additional information on summer/winter changeover logics and settings refer to Summer/winter state section.



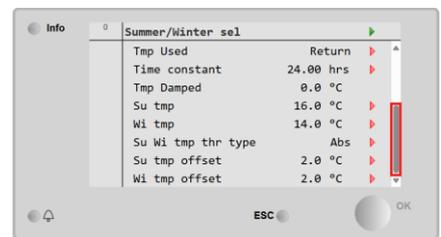
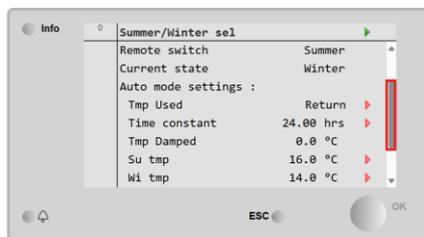
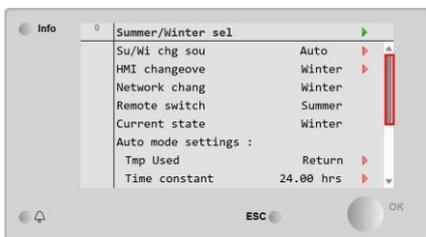
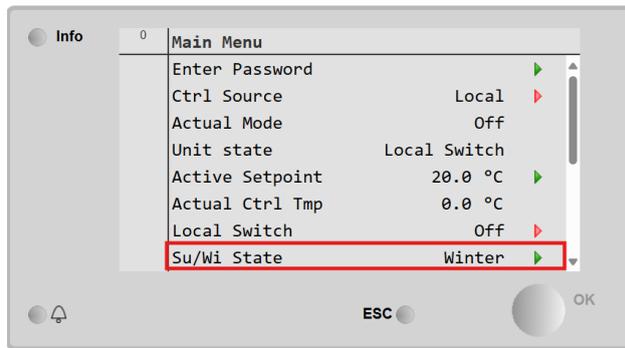
The available summer/winter changeover modes depend on the components and functions configured in the AHU, so the number and configuration may change accordingly.

The AHU software provides three different options for summer/winter changeover control:

- Automatic changeover based on temperature.
The controller monitors one of the several temperatures available on the AHU (Room, Return, Outside or Supply). The value of this temperature is after compared with two limits (one for summer and one for winter) and, depending on the result of this comparison, the controller chooses the cool/heat state for the next period.
- Manually changeover via HMI or Room Unit.
- Changeover managed via BMS.

All information and settings for this control are available in the following HMI page:

HMI Path: Main Menu > Su/Wi State



The following table explains all items present in the Su/Wi state page and how configure them to obtain the desired control.

ID	Parameters	Value	Description	R/W	Password
8.6.01	Su/wi chg source	0: Auto 1: HMI 2: BMS 3: Pursuit*	This parameter defines which mode is used to control the Summer/Winter switch: 0: Auto: changeover is done automatically by the AHU based on the auto mode configuration 1: HMI: Summer/Winter state is set manually by the HMI 2: BMS: Summer/Winter state is set via BMS communication. 3: Pursuit*: changeover is performed automatically in order to reach and maintain the desired temperature setpoint. Refer to "Setpoints" page to change Pursuit mode setpoints.	R/W	2
8.6.02	HMI changeover	0: Summer 1: Winter	Possible to change the AHU summer/winter state. If summer/winter changeover is selected as "HMI" ([8.6.01] = 1)	R/W	6
8.6.03	Network changeover	0: Summer 1: Winter	Display the mode set via BMS. If summer/winter changeover is selected as "BMS" ([8.6.01] = 2), this value is the current state of the AHU.	R	6
8.6.04	Remote switch	0: Summer 1: Winter	If remote switch is enabled [6.1.3.02] , a digital input is used for summer/winter changeover, the terminal can be found on wiring diagram and the behaviors is: - Summer: Open Winter: Close Note: Once this function is enabled [6.1.3.02] not possible to change summer/winter state either from HMI or BMS.		6
8.6.05	Current State	0: Summer 1: Winter	Display the current state in which the AHU is operating.	R	6
Auto mode settings:					
8.6.06	Tmp Used	0: Return 1: Room 2: Outside 3: Supply	Select the temperature monitored to determine the Summer/Winter state changeover. (This section only applicable if summer/winter changeover is selected as "Auto" ([8.6.01] = 0))	R/W	6
8.6.07	Time constant	0.00...36000.00 [h]	Define the frequency at which the check is being performed for the Summer/Winter changeover in Auto Mode. <i>Example:</i> <i>If this parameter is set equal to 6 hours, the controller maintains the same state (Summer or Winter) for six hours. After six hours, the controller performs again the check to determine the next state that will be maintained for next six hours.</i>	R/W	6
8.6.08	Tmp Damped	-64...64 [°C]	Display the value of temperature stored when automatic changeover happened.	R	6
8.6.09	Su tmp	-64...64 [°C]	Changes over to summer operation when the selected temperature is greater than this value/threshold.	R/W	6
8.6.10	wi tmp	-64...64 [°C]	Changes over to winter operation when the selected temperature is less than this value/ threshold.	R/W	6

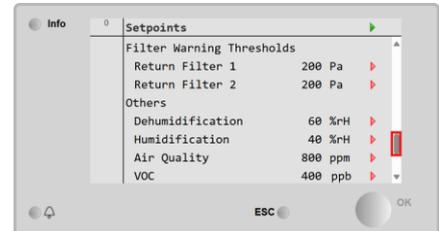
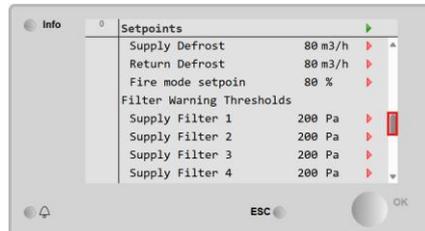
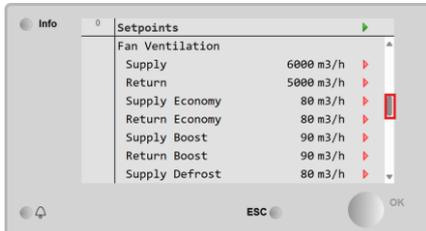
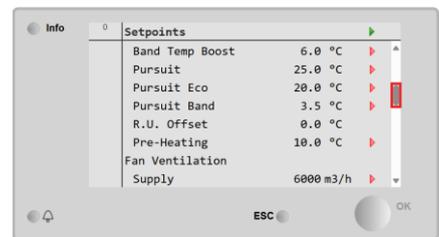
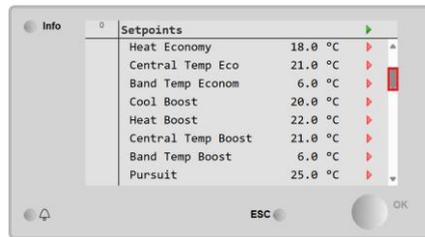
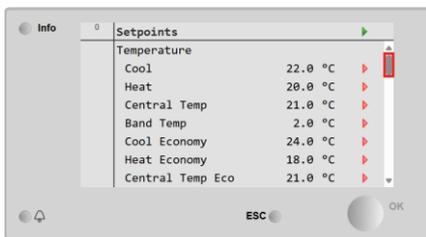
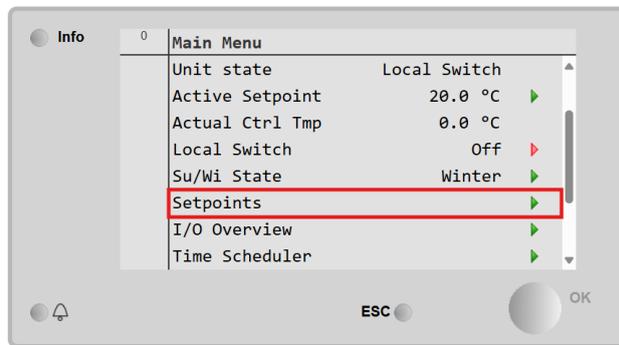
8.6.11	Su wi tmp thr type	0: Abs 1: RelToSpv	<p>Abs: The summer/winter temperature thresholds (Su tmp [8.6.09] & Wi tmp [8.6.10]) are absolute, can only be changed from HMI.</p> <p>RelToSpv : The Summer/winter temperature thresholds (Su tmp [8.6.09] & Wi tmp [8.6.10]) are relative to Cool/heat setpoint, these thresholds are changed by the relation below</p> <p>Su Tmp = Cool Setpoint + Su tmp offset) Wi Tmp = Heat Setpoint - Wi tmp offset)</p>	R/W	6
8.6.12	Su tmp offset	-64...64 [°C]	The offset used for summer changeover threshold and Cool setpoint.	R/W	6
8.6.13	Wi tmp offset	-64...64 [°C]	The offset used for winter changeover threshold and Heat setpoint.	R/W	6

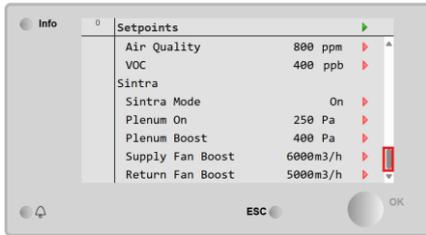
Table 9

8.7 Setpoints

All setpoints of the AHU can be set from the HMI. Depending on the AHU configuration some setpoints can be available or not.

HMI Path: Main Menu > Setpoints





ID	Parameters	Value Range	Description	R/W
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>				
Temperature:				
8.7.01	Cool	10-22-40 [°C]	Cooling temperature setpoint. <i>(Available when direct Htg/Clg setpoint control selected [6.1.3.14] =1)</i>	R/W
8.7.02	Heat	-5-20-40 [°C]	Heating temperature setpoint. <i>(Available when direct Htg/Clg setpoint control selected [6.1.3.14] =1)</i>	R/W
8.7.03	Cool Economy	10-24-40 [°C]	Cooling temperature setpoint in Economy mode. <i>(Available when direct Htg/Clg setpoint control selected [6.1.3.14] =1)</i>	R/W
8.7.04	Heat Economy	-5-18-40 [°C]	Heating temperature setpoint in Economy mode. <i>(Available when direct Htg/Clg setpoint control selected [6.1.3.14] =1)</i>	R/W
8.7.05	Cool Boost	10-20-40 [°C]	Cooling temperature setpoint in Boost mode. <i>(Available when direct Htg/Clg setpoint control selected [6.1.3.14] =1)</i>	R/W
8.7.06	Heat Boost	-5-22-40 [°C]	Heating temperature setpoint in Boost mode. <i>(Available when direct Htg/Clg setpoint control selected [6.1.3.14] =1)</i>	R/W
8.7.07	Central Temp	10-21-40 [°C]	Central temperature setpoint. <i>(Available when dead zone setpoint control selected [6.1.3.14] =2)</i>	R/W
8.7.08	Band Temp	0-2-20 [°C]	Dead zone temperature setpoint. <i>(Available when dead zone setpoint control selected [6.1.3.14] =2)</i>	R/W
8.7.09	Central Temp Economy	-5-21-40 [°C]	Central temperature setpoint in Economy mode. <i>(Available when dead zone setpoint control selected [6.1.3.14] =2)</i>	R/W
8.7.10	Band Temp Economy	0-6-20 [°C]	Dead zone temperature setpoint in Economy mode. <i>(Available when dead zone setpoint control selected [6.1.3.14] =2)</i>	R/W
8.7.11	Central Temp Boost	-5-21-40 [°C]	Central temperature setpoint in Boost mode. <i>(Available when dead zone setpoint control selected [6.1.3.14] =2)</i>	R/W

8.7.12	Band Temp Boost	0-6-20 [°C]	Dead zone temperature setpoint in Boost mode. <i>(Available when dead zone setpoint control selected [6.1.3.14] =2)</i>	R/W
8.7.13	Pursuit	10-25-40 [°C]	Pursuit mode temperature setpoint. Refer to Summer/Winter state for more details.	R/W
8.7.14	Pursuit Eco	10-20-40 [°C]	Pursuit mode temperature economy setpoint. Refer to Summer/Winter state for more details.	R/W
8.7.15	Pursuit Band	1-3.5-10 [°C]	Pursuit mode offset temperature setpoint. This value is added/subtracted from actual Pursuit setpoint in order to estimate Summer/Winter changeover thresholds. Refer to Summer/Winter state for more details.	R/W
8.7.16	R.U. Offset	-6-6 [°C]	Display the actual offset set through the room unit. <i>(Available only with room unit is enabled [6.1.2.22])</i>	R/W
8.7.17	Pre-Heating	0-10-30 [°C]	Temperature threshold for pre-Heating control activation. <i>(Available only if pre-heating control enabled)</i>	R/W
8.7.17	Pre-Cooling	0-30-50 [°C]	Temperature threshold for pre-cooling control activation. <i>(Available only if pre-cooling control enabled)</i>	R/W

Fan Ventilation:						
8.7.18	Supply	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]	Fans setpoints. Depending on the control type of the fan, the setpoint can be expressed in Percentage [%] , Pascal [Pa] , Cube meter per hour [m³/h] . (Refer to control type [6.1.3.04] and [6.1.3.05] respectively for supply and return fan)	R/W
8.7.19	Return	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]		
8.7.20	Supply Economy	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]		
8.7.21	Return Economy	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]		
8.7.22	Return Boost	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]		
8.7.23	Return Boost	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]		
8.7.24	Supply Defrost	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]	Return fan follows this setpoint in case, ERQ goes in defrost [8.8.1.19] (Available only if fan-defrost limitation control is enabled [6.1.3.09] = 1)	R/W
8.7.25	Return Defrost	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]	Return fan follows this setpoint in case, ERQ goes in defrost [8.8.1.19] (Available only if fan-defrost limitation control is enabled [6.1.3.09] = 1)	R/W
8.7.26	Fan fire setpoint	0-100 [%]			Fan speed setpoints when fire alarm is detected [8.8.1.21] (Applicable only if fire detection device is present ([6.1.3.47] = 1,3), and ([7.5.63] = 1,2 or3) fans will follow this setpoint)	R/W
8.7.40	Supply reduced	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]	Supply fan follows this setpoint if reduced setpoint function is enabled [6.1.5.04] .	R/W
8.7.41	Return reduced	0-100 [%]	0-4000[Pa]	0-160000[m ³ /h]	Return fan follows this setpoint if reduced setpoint function is enabled [6.1.5.13] .	R/W
Filter warning Thresholds:						
8.7.27	Supply filter # # = 1,2,3,4	0-1000 Pa			Differential Pressure threshold for Warning on supply filter # Alarm	R/W
8.7.28	Return filter # # = 1,2	0-1000 Pa			Differential Pressure threshold for Warning on return filter # Alarm	R/W
Others:						
8.7.29	Dehumidification	0-60-100 [%rH / g/kg]			Dehumidification setpoint (Available & applicable only if dehumidification control is enabled [6.1.3.28]) (Setpoint, can he change to absolute (g/kg), refer to [6.1.2.35])	R/W

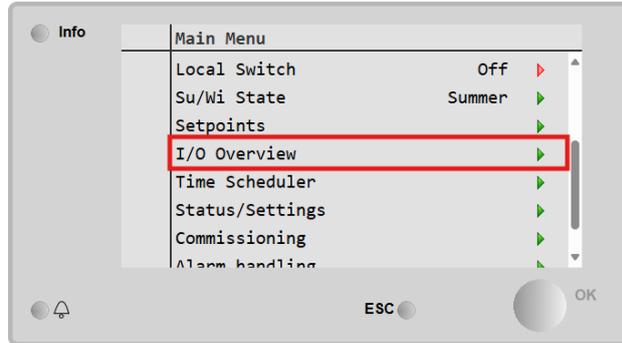
8.7.30	Humidification	0-40-100 [%rH / g/kg]	Humidification setpoint. <i>(Available & applicable only if humidification control is enabled [6.1.3.28] and humidifier is enabled [6.1.3.36])</i> <i>(Setpoint, can he change to absolute (g/kg), refer to [6.1.2.36].</i>	R/W
8.7.31	Air Quality	0-800-3000 [ppm]	Air control quality setpoint (CO ₂) <i>(Available & applicable only if is mixing damper air quality compensation function is enabled [6.1.3.22])</i>	R/W
8.7.32	VOC	0-400-3000 [ppb]	Air control quality setpoint (Volatile organic compounds (VOC)) <i>(Available & applicable only if is mixing damper air quality compensation function is enabled [6.1.3.22])</i>	R/W
Sintra:				
8.7.33	Sintra Mode	0: Off 1: On 2: Boost	ON: Plenum setpoint will be 8.7.34 and fan setpoint will be standard setpoint Boost: Plenum setpoint will be 8.7.35 fans will follow 8.7.36 & 8.7.37 respectively.	R/W
8.7.34	Plenum On	0-250-1000 [Pa]	Plenum pressure setpoint, when Sintra Mode is selected "On" <i>(Available only if Sintra mode is enable [6.1.2.34]=1)</i> <i>(Applicable only if Sintra mode "On" is enable [8.7.33]=1)</i>	R/W
8.7.35	Plenum Boost	0-400-3000 [Pa]	Plenum pressure setpoint, when Sintra Mode is selected "Boost" <i>(Available only if Sintra mode is enable [6.1.2.34]=1)</i> <i>(Applicable only if Sintra mode "Boost" is enable [8.7.33]=2)</i>	R/W
8.7.36	Supply Fan Boost	0-2000-160000 [m ³ /h]	The supply fan will follow this setpoint if, Sintra Mode is "Boost" <i>(Available only if Sintra mode is enable [6.1.2.34]=1)</i> <i>(Applicable only if Sintra mode "On" is enable [8.7.33]=2)</i>	R/W
8.7.37	Return Fan Boost	0-2000-160000 [m ³ /h]	The return fan will follow this setpoint if, Sintra Mode is "Boost" <i>(Available only if Sintra mode is enable [6.1.2.34]=1)</i> <i>(Applicable only if Sintra mode "Boost" is enable [8.7.33]=2)</i>	R/W

Table 8.7

8.8 I/O Overview

This menu allows the user to monitor all analog/digital inputs and outputs of the controller. The list can be different for each specific AHU as it depends on the installed components of the unit which are activated during the commissioning.

HMI Path: Main Menu > I/O Overview



Pages	Description
Digital inputs	Monitor all digital inputs of the controller. Digital inputs can be connected to alarm signals coming from different installed devices in the AHU (Fan, Damper, Pressure Switch, Water Pump, etc...), or to external switches (Emergency stop, Unit enable).
Analog inputs	Contains the values of all installed sensors: temperature, pressure, air flow, CO2, humidity.
Digital outputs	Contains the values of all digital outputs used to command the several devices of the AHU (ERQ on/off, Pump on/off, Fan on/off, etc...).
Analog outputs	Contains the values of all analog outputs used to command different devices of the AHU (Fan speed, damper opening, percentage of heat recovery, etc...).

8.8.1 Digital inputs

All the possible digital inputs configured for the AHU during the commissioning.

ID	Parameters	Value	Description	R/W
<p>NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.</p>				
8.8.1.01	Unit enable	0: On 1: Off	Unit panel switch state.	R
8.8.1.02	Supply Fan Alm	0: Ok 1: Fault	Supply fan 1 alarm. (Available only if it is configured [6.1.4.07])	R
8.8.1.03	Supply Fan2 Alm	0: Ok 1: Fault	Return fan 2 alarm. (Available only if it is configured [6.1.4.08])	R
8.8.1.04	Return Fan Alm	0: Ok 1: Fault	Return fan 1 alarm. (Available only if it is configured [6.1.4.11])	R
8.8.1.05	Return Fan2 Alm	0: Ok 1: Fault	Return fan 2 alarm. (Available only if it is configured [6.1.4.13])	R
8.8.1.06	Recovery Alm	0: Ok 1: Fault	Recovery alarm. (Available only if it is configured [6.1.4.17])	R
8.8.1.07	Frost Switch	0: Ok 1: Fault	<p>Frost switch is active/triggered.</p> <p>Once Frost switch is active/triggered, it will force following components to frost setpoint [7.9.19], by default is 100 %.</p> <ol style="list-style-type: none"> 1. Preheating water signal 2. Post heating water signal 3. Heating water coil signal 4. Cooling/Heating water coil signal (Combi) 5. Cooling water coil signal, if defrost cooling coil function is enabled [6.1.3.45] <p>Once the contact is passive, the alarm is removed after a time delay [7.9.20] , by default is 3 minutes.</p> <p>(Available only if frost switch is present [6.1.4.18] = 1)</p>	R
8.8.1.08	Htg Pump Alm	0: Ok 1: Fault	Heating coil pump alarm. (Available only if, it is enabled [6.1.3.40])	R
8.8.1.09	Clg/Htg Pump Al	0: Ok 1: Fault	Cooling/Heating pump alarm. (Available only if, it is enabled [6.1.3.41])	R
8.8.1.10	Clg Pump Alm	0: Ok 1: Fault	Cooling coil pump alarm. (Available only if, it is enabled [6.1.3.39] = 1)	R
8.8.1.11	Clg Pump 2 Alm	0: Ok 1: Fault	Cooling coil 2 pump alarm.	R
8.8.1.12	Pre Htg Pump Alm	0: Ok 1: Fault	Water pre heating pump alarm. (Available only if, it is enabled [6.1.3.42] = 1)	R
8.8.1.13	Post Htg Pump Alm	0: Ok 1: Fault	Water post heating pump alarm. (Available only if, it is enabled [6.1.3.43] = 1)	R
8.8.1.14	RAR Pmp Alm	0: Ok 1: Fault	Water heat recovery pump alarm. (Available only if, it is enabled [6.1.2.21] = 1)	R
8.8.1.15	Elec Htg Alm	0: Ok 1: Fault	Electrical / post heating alarm. (Available only if its configured [6.1.4.20])	R

8.8.1.16	Pre Elec Htg Alm	0: Ok 1: Fault	Electrical pre heating alarm. (Available only if its configured [6.1.4.19])	R
8.8.1.17	Humidifier Alm	0: Ok 1: Fault	Humidifier alarm. (Available only if [6.1.3.36] = 1)	R
8.8.1.18	ERQ 1 Alm ... ERQ 4 Alm	0: Ok 1: Fault	ERQ 1 to 4 general alarm. (Available only if [6.1.1.3] = 2 or, [6.1.1.4] = 2 or 3)	R
8.8.1.19	ERQ 1 Defrost ... ERQ 4 Defrost	0: Ok 1: Fault	ERQ 1 to 4 defrost. (Available only if [6.1.1.3] = 2 or, [6.1.1.4] = 2 or 3)	R
8.8.1.20	R32 Leakage Alm 1 ... R32 Leakage Alm 4	0: Ok 1: Fault	R32 leakage alarm for ERQ 1 up to ERQ4 (Available only if [6.1.1.5] =1)	R
8.8.1.21	Fire Alm	0: Ok 1: Fault	Fire detection alarm. (Available only if [6.1.3.47] = 1)	R
8.8.1.22	Dx 1 state ... Dx 3 state	0: Ok 0: Fault	Dx alarm.	R

Table 8.8.1

8.8.2 Analog inputs

All the possible analog inputs configured for the AHU during the commissioning.

ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
8.8.2.01	Supply Tmp	-20-80 [°C]	Supply temperature.	R
8.8.2.02	Return Tmp	-20-80 [°C]	Return temperature.	R
8.8.2.03	Outside Tmp	-20-80 [°C]	Outside temperature.	R
8.8.2.04	Pre-Heat Tmp, Pre clg Tmp, Pre clg/Htg Tmp	-20-80 [°C]	Preheating / Precooling/ Pre coil temperature.	R
8.8.2.05	Exhaust Tmp	-20-80 [°C]	Exhaust temperature.	R
8.8.2.06	Room Unit Tmp	-20-80 [°C]	Room temperature.	R
8.8.2.07	Tmp Sply / Tmp Rtrn / Tmp Out / Tmp Exh / Tmp Pre / Tmp Rm (Read/X8)	-20-80 [°C]	Optional temperature probe connected on X8, display of type (Tmp Sply) followed by functional selected [6.1.3.1.09] and probe (Read/X8) Same goes for optional temperature probes on X9-X11.	
8.8.2.08	Supply Prs / Read Or Supply Prs / Main	-100-5000 [pa]	Supply pressure/duct reading (supply optional pressure transducer) Supply Prs/Read: only reading Supply Prs/Main: Control is based on this reading To change to selection, refer to [6.1.2.24] .	R
8.8.2.09	Supply Prs / Read Or Supply Prs / Main	-100-5000 [pa]	Return pressure/duct reading (Return optional pressure transducer) Return Prs/Read: Only reading Return Prs/Main: Control is based on this reading To change to selection, refer to [6.1.2.27] .	R
8.8.2.10	Supply Fan Prs	-100-5000 [pa]	Supply fan pressure.	R

8.8.2.11	Return Fan Prs	-100-5000 [pa]	Return fan pressure.	R
8.8.2.12	Supply Air Flow	0-160000 [m ³ /h]	Supply air flow.	R
8.8.2.13	Return Air Flow	0-160000 [m ³ /h]	Supply air flow.	R
8.8.2.14	Room Prs/ Read Or Room Prs/Main	-100-200 [pa]	Room pressure/duct reading. Return Prs/Read: Only reading. Return Prs/Main: Control is based on this reading. To change to selection, refer to [6.1.3.1.01] .	R
8.8.2.15	Sply Filter 1 Dp ... Sply Filter 4 Dp	0-1000 [pa]	Supply filter differential pressure value.	R
8.8.2.16	Rtrn Filter 1 Dp ... Rtrn Filter 4 Dp	0-1000 [pa]	Return filter differential pressure value.	R
8.8.2.17	Plenum DP	0-1000 [%]	Plenum differential pressure.	R
8.8.2.18	Rtrn Rel Hum	0-100 [%r.H.]	Return/room relative humidity	R
8.8.2.19	Rtrn Abs Hum	0-99.9 [g/kg]	Return/room absolute humidity.	R
8.8.2.20	Rtrn Enthaply	0-999.9 [kJ/kg]	Return/room enthalpy.	R
8.8.2.21	Outside Rel Hum	0-100 [%r.H.]	Outside relative humidity	R
8.8.2.22	Outs Abs Hum	0-99.9 [g/kg]	Outside absolute humidity.	R
8.8.2.23	Outs Enthaply	0-999.9 [kJ/kg]	Outside enthalpy.	R
8.8.2.24	Sply Rel Hum	0-100 [%r.H.]	Supply relative humidity	R
8.8.2.25	Sply Abs Hum	0-99.9 [g/kg]	Supply absolute humidity.	R
8.8.2.26	Sply Enthaply	0-999.9 [kJ/kg]	Supply enthalpy.	R
8.8.2.27	Sply Hum / Room Hum / Out hum (Read/X8)	0-100 [%r.H.]	Supply, outside, room/return humidity optional probe on X8, and display of functionally selected [6.1.3.1.04] – [6.1.3.1.06] .	
8.8.2.28	Air quality	0-2000 [ppm]	Air quality (CO ₂).	R
8.8.2.29	AirQ (Read/X8)	0-2000 [ppm]	Air quality optional probe connected on X8, and display of functionally selected [6.1.3.1.08]	R
8.8.2.30	VOC sensor	0-2000 [ppb]	Air quality (VOC).	R
8.8.2.31	VOC (Read/X8)	0-2000 [ppb]	Air quality optional probe connected on X8, and display of functionally selected [6.1.3.1.08] .	R
8.8.2.32	Fresh Air Dmp FB	0-100 [%]	Fresh air damper feedback signal.	R
8.8.2.33	Exh Air Dmp FB	0-100 [%]	Exhaust air damper feedback signal.	R
8.8.2.34	Sply Shutoff Dmp FB	0-100 [%]	Supply shutoff damper feedback signal.	R
8.8.2.35	Rtrn Shutoff Dmp FB	0-100 [%]	Return shutoff damper feedback signal.	R
8.8.2.36	Mix Air Dmp FB	0-100 [%]	Mixing air damper feedback signal.	R
8.8.2.37	Bypass Dmp FB	0-100 [%]	Bypass damper feedback signal.	R
Modbus Room Probe				
8.8.2.50	Temperature	-20-80 [°C]	Room temperature (Embedded probe)	R

8.8.2.51	Ext/Input temp	-20-80 [°C]	Optional input room temperature, external NTC probe connected to the embedded probe <i>(Available and applicable only Modbus room probe is enabled [6.1.2.35] & NTC probe is enabled [6.1.3.1.20] as well)</i>	R
8.8.2.52	Average temp	-20-80 [°C]	Average temperature between the above two probes.	R
8.8.2.53	Air quality(co2)	0-2000 [ppm]	Room Air quality.	R
8.8.2.54	Relative humidity	0-100 [%r.h.]	Room relative humidity.	R
8.8.2.55	Absolute humidity	0-99.9 [g/kg]	Room absolute humidity in g/kg.	R
8.8.2.56	Absolute humidity	0-99.9 [g/m3]	Room absolute humidity in g/m3.	R
8.8.2.57	Enthalpy	0-999.9 [kJ/kg]	Room Ethalpy.	R

Table 8.8.2

8.8.2.1 Modbus valve

This page is available and applicable only if any of water coil/valves are controlled via Modbus ([\[6.1.3.55\]](#) to [\[6.1.3.59\]](#)).

ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
Heating Valve				
8.8.2.1.0 1	Setpoint	0-100 [%]	Valve signal.	R
8.8.2.1.0 2	Absolute position	0-90 [°]	Valve absolute position. Only visible under password [2] or above	R
8.8.2.1.0 3	Relative position	0-100 [%]	Valve absolute position.	R
8.8.2.1.0 4	Flow Eng unit	0: m3/h 1: l/s 2: l/min 3: l/hr 4: gpm 5: cfm	Flow engineering unit. Only changeable under password [0] , recommended to ask technical department before changing the engineering units.	R/W
8.8.2.1.0 5	Absolute flow		Valve absolute flow in selected unit.	R
8.8.2.1.0 6	Maximum flow		Valve maximum flow in selected unit. Only visible under password [2] or above.	R
8.8.2.1.0 7	Nominal flow		Valve nominal flow in selected unit. Only visible under password [2] or above.	R
8.8.2.1.0 8	Fluid temp	-20-80 [°C]	Valve fluid temperature.	R
Note: All these above parameters are displayed in this page for Cooling/heating, Cooling, Cooling valve 2, pre heating and post heating.				

8.8.2.2 Supply Fan Data

This page is available and applicable only if fans are controlled via Modbus ([\[6.1.1.7\]](#)=1, 2, 3).

ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
Speed				
8.8.2.2.0.1	Fan 1 ... Fan 8	0- 1000[RPM]	Fan speed of each fan.	R
Power				
8.8.2.2.0.2	Fan 1 ... Fan 8	0- 100[watt]	Power of each fan	R

8.8.2.3 Return Fan Data

This page is available and applicable only if fans are controlled via Modbus ([\[6.1.1.8\]](#)=1, 2, 3).

ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
Speed				
8.8.2.3.0.1	Fan 1 ... Fan 8	0- 1000[RPM]	Fan speed of each fan.	R
Power				
8.8.2.3.0.2	Fan 1 ... Fan 8	0- 100[watt]	Power of each fan.	R

8.8.3 Digital output

All the possible digital outputs configured for the AHU during the commissioning.

ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
8.8.3.01	Summer/winter	0: winter 1: Summer	Summer/winter switch that will be used for external device.	R
8.8.3.02	AHU run	0: Off 1: Run	AHU run status.	R
8.8.3.05	Supply Fan	0: Off 1: On	Supply fan on/off.	R
8.8.3.06	Supply Fan 2	0: Off 1: On	Supply fan 2 on/off.	R
8.8.3.07	Supply standby dmp	0: Fan2 1: Fan1	Supply standby damper.	R
8.8.3.08	Return Fan	0: Off 1: On	Return fan on/off.	R
8.8.3.09	Return Fan 2	0: Off 1: On	Return fan 2 on/off.	R
	Rtrn standby dmp	0: Fan2	Return standby damper.	R

8.8.3.10		1: Fan1		
8.8.3.11	Heating Pump	0: Off 1: On	Heating coil pump on/off.	R
8.8.3.12	Cooling Pump	0: Off 1: On	Cooling coil pump on/off.	R
8.8.3.13	Clg/Htg Pump	0: Off 1: On	Cooling/Heating (combi) pump on/off.	R
8.8.3.14	Pre Htg Pump , Pre Clg pump , Pre clg/htg pump	0: Off 1: On	Preheating water , pre cooling water, pre cooling/heating pump on/off.	R
8.8.3.15	Post Htg Pump	0: Off 1: On	Post heating water pump on/off.	R
8.8.3.16	Electrical Htg	0: Off 1: Step 1 2: Step 2	Stage/step Electrical / post heating status.	R
8.8.3.17	Pre Htg Elect	0: Off 1: Step 1 2: Step 2	Stage/step electrical pre heating status. Forcing conditions 1. All stage/steps On, if any of ERQ is in defrost [8.8.1.19] ,while fans are running. 2. All stage/steps On, if outside temperature is less then heat recovery protection setpoint [7.12.11] ,by default is -15°C. 3. All stage/steps On, <i>ant freezing logic is active</i>	R
8.8.3.18	Humidifier	0: Off 1: On	Humidifier on/off.	R
8.8.3.19	ERQ 1 ... ERQ 4	0: Off 1: On	ERQ 1 to 4 general alarm. <i>(Available only if [6.1.1.3] = 2 or, [6.1.1.4]= 2 or 3)</i>	R
8.8.3.20	R32 Low Flow Alm	0: Ok 1: Fault	R32 low flow alarm. <i>(Available only if low flow alarm is enabled [6.1.3.54] = 1)</i>	R
8.8.3.21	Recovery	0: Off 1: On	Heat recovery on/off.	R
8.8.3.22	Alarm output	0: Normal 1: Alarm	General alarm output, the output depends on the AHU general alarm level selection [6.1.3.53]	R
8.8.3.23	Dx 1 state ... Dx 3 state	0: Off 1: On	Dx Off/On.	R

Table 8.8.3

8.8.4 Analog outputs

All the possible analog outputs configured for the AHU during the commissioning.

ID	Parameters	Value	Description	R/W
NOTE: Not necessarily all the parameters displayed in the table will be present in every AHU. The displayed parameters are case-specific and depend on the configuration of the AHU. The table includes all possible parameters for informational purposes.				
8.8.4.01	Supply Fan	0-100[%]	Supply fan signal / output If Modbus array is selected [6.1.3.06] =3, new page is displayed for each fan signal	R
8.8.4.02	Return Fan	0-100[%]	Return fan signal / output If Modbus array is selected [6.1.3.07] =3, new page is displayed for each fan signal	R
8.8.4.03	Mixing Dmp	0-100[%]	Mixing damper signal /output	R

8.8.4.04	Fresh Air Dmp	0-100[%]	Fresh/Outdoor air damper signal /output	R
8.8.4.05	Exh air dmp	0-100[%]	Exhaust/Return air damper signal /output	R
8.8.4.06	Plenum damper	0-100[%]	Plenum damper signal /output	R
8.8.4.07	Clg/Htg Coil	0-100[%]	Cooling/Heating coil signal /output Forcing conditions 1. 100 %, if frost switch is active/triggered [8.8.1.07]	R
8.8.4.08	Heating coil	0-100[%]	Heating coil signal /output Forcing conditions 1. 100 %, if frost switch is active/triggered [8.8.1.07]	R
8.8.4.09	Cooling Coil	0-100[%]	Cooling coil signal /output Forcing conditions 1. 100 %, if function is enabled [6.1.3.45] , that allow to defrost the cooling coil, and frost switch is active/triggered [8.8.1.07] .	R
8.8.4.10	Cooling coil 2	0-100[%]	Cooling coil 2 signal /output Forcing conditions 1. 100 %, if function is enabled [6.1.3.45] , that allow to defrost the cooling coil, and frost switch is active/triggered [8.8.1.07] .	R
8.8.4.11	Recovery	0-100[%]	Recovery signal /output.	R
8.8.4.12	Pre Htg water, Pre clg water, Pre clg/htg water	0-100[%]	Water pre heating signal or pre cooling/heating (combi) output Forcing conditions 1. 100 %, if any of ERQ is in defrost [8.8.1.19] , while fans are running. 2. 100 %, if outside temperature is less then heat recovery protection setpoint [7.12.11] by default is -15°C. 3. 100 %, ant freezing logic is active 4. 100 %, if frost switch is active/triggered [8.8.1.07] . Water pre cooling signal / output Forcing conditions 1. 100 %, if frost switch is active/ triggered [8.8.1.07] .	R
8.8.4.13	Pre Htg Electric	0-100[%]	Electrical pre heating signal / output Forcing conditions 1. 100 %, if any of ERQ is in defrost [8.8.1.19] , while fans are running. 2. 100 %, if outside temperature is less then heat recovery protection setpoint [7.12.11] by default is -15°C.	R
8.8.4.14	Post Heating	0-100[%]	Water post heating signal Forcing conditions 1. 100 %, if frost switch is active/triggered [8.8.1.07]	R
8.8.4.15	Electrical Htg	0-100[%]	Electrical post heating signal / output	R

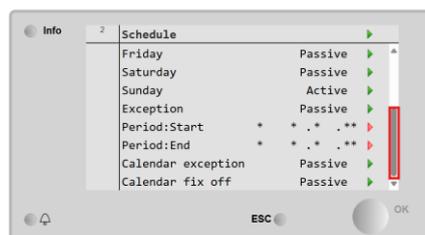
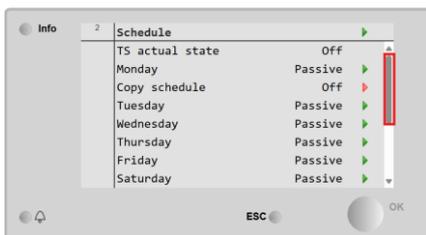
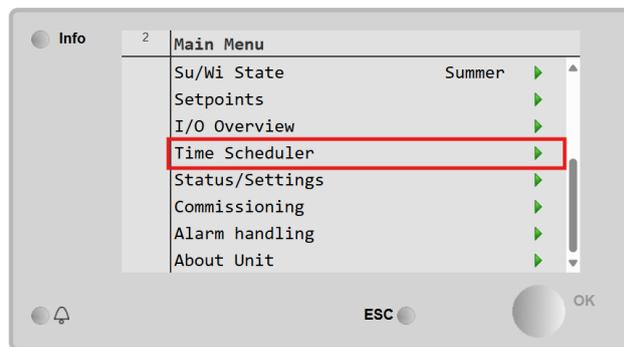
8.8.4.16	ERQ 1 ... ERQ 4	0-10[V]	ERQ signal / output.	R
8.8.4.17	Humidifier	0-100[%]	Humidifier signal / output.	R
8.8.4.18	Dx 1 ... Dx 3	0-100[%]	Dx signal /output.	R
8.8.4.19	Sply shutoff Dmp	0-100[%]	Supply shutoff damper signal / output. By default, 0% or 100%, however can set maximum opening [7.6.32] .	R
8.8.4.20	Rtrn shutoff Dmp	0-100[%]	Supply shutoff damper signal / output. By default, 0% or 100%, however can set maximum opening [7.6.33] .	R
8.8.4.21	Chiller Setpoint	0-100[%]	Chiller setpoint reset signal / output.	R
8.8.4.22	Supply Fan 1 Dmp ... Supply Fan 8 Dmp	0-100[%]	Supply fan damper signal (Applicable only if Modbus array is selected [6.1.3.06] =3)	R
8.8.4.23	Return Fan 1 Dmp ... Return Fan 8 Dmp	0-100[%]	Return fan damper signal (Applicable only if Modbus array is selected [6.1.3.07] =3)	R

Table 8.8.4

8.9 Time Scheduler

The time scheduler is a function that allows the user to set the time slots at which the AHU can be turned ON or OFF. If the scheduler is set, the AHU will be turned On/Off or other operating mode automatically by following the time slot configuration. In the next tables are reported the items of the time scheduler menu and their description. The time scheduler page contains also the configuration pages for single day time scheduling.

HMI Path: Main Menu > Time Scheduler

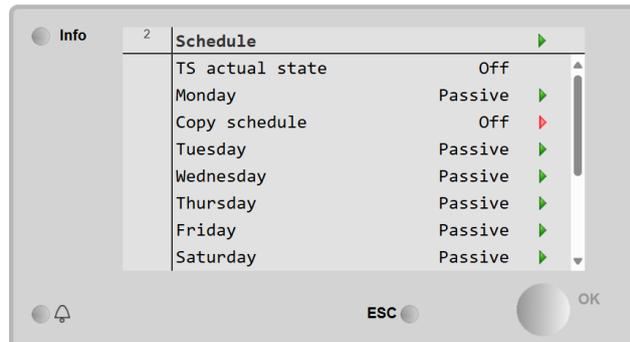


Parameter	Value	Function
TS actual state	0: Off 1: On 2: Ventilation 3: Economy 4: Boost	Actual operating mode from time scheduler function.
Monday	0: Active 1: Passive	Active if the present day is Monday. Refer to Day Scheduler for more details.
Copy schedule	0: Off 1: On	Copy Monday schedule to all weekdays.
Tuesday	0: Active 1: Passive	Active if the present day is Tuesday. Refer to Day Scheduler for more details.
...
Sunday	0: Active 1: Passive	Active if the present day is Sunday. Refer to Day Scheduler for more details.
Exception	0: Passive 1: Active	Active if the present day is an exception day. Refer to both Day Scheduler and Calendar Exception and Calendar Fix off for more details.
Period: Start		Start date for the weekly schedule. If equals to *,* *.00, weekly schedules is always enabled.
Period: End		End date for the weekly schedule. If equals to *,* *.00, weekly schedules is never disabled.
Calendar exception	0: Passive 1: Active	Active if the present day is an exception day. Refer to Calendar Exception/Fix off for more details.
Calendar fix off	0: Passive 1: Active	Active if the present day is a fix off day. Refer to Calendar Exception/Fix off for more details.

8.9.1 Day Scheduler

By entering in each day page, normal or exception, it is possible to set up to 6 time slots.

HMI Path: Main Menu > Time Scheduler > Monday



Parameter	Range	Function
Time 1	00:00	SPECIAL CASE: this entry must always be set to 00:00!
Value 1	0: Off 1: On 2: Ventilation 3: Economy 4: Boost	Switching command for Time 1.
Time 2	00:00 - 23:59	Switching time 2 (*:.*-> Entry disabled)
Value 2	0: Off 1: On 2: Ventilation 3: Economy 4: Boost	Switching command for Time 2.
...		
Time 6	00:00 - 23:59	Switching time 6 (*:.*-> Entry disabled)
Value 6	0: Off 1: On 2: Ventilation 3: Economy 4: Boost	Switching command for Time 6

Below is an example of a day scheduler setting. In this case the AHU will be turned ON from 9.30 until 13.00 and in Economy mode from 14:00 until to 18:40.

Parameter	Value
Time 1	00:00
Value 1	Off
Time 2	09:30
Value 2	On
Time 3	13:00
Value 3	Off
Time 4	14:00
Value 4	Economy
Time 5	18:40
Value 5	Off
Time 6	*:*
Value 6	Off

ATTENTION! If a time value is set incorrectly (i.e. it is less than the previous) the AHU will not work properly and it could be always keep ON or OFF.

8.9.2 Calendar exception and Calendar fix off

Exception days are defined in the calendar items. These may include a specific date, periods or certain days of the week.

When an exception day occurs, the “Exception” day scheduler configuration overrides the weekly schedule. The time slots at which occurs the exception days can be configured in the “Calendar exception” page. The “Calendar fix Off” page is a special exception day configuration that allows to switch off the plant at specific time slots.

Entering in the “Calendar exception” or “Calendar fix off” page allows the user to find the items reported in the table below.

Parameter	Range	Function
Present value	- Passive - Active	Displays whether a calendar entry is currently enabled: - No calendar entry is currently enabled. - A calendar entry is currently enabled.
Choice-x	- Date - Range - week Day - Passive	Specifies the entry for the exception: - Date: a certain day (e.g. Friday). - Range: a period (e.g. vacation). - week Day: a certain day of the week (e.g. every Monday). - Passive: entries are ignored. This value should be set last, after the date is entered.
(Start) date		If Choice-x = date -> Enter data for a single day. If Choice-x = range -> Enter start date for the period.
End date		For Choice-x = range only -> Enter end date for the period. End date must always be after the start date.
Weekday		For Choice-x = weekday only -> Enter the day of the week.

8.9.2.1 Example 1: Choice = Date

Only the entry in (start) is relevant:

- (start) date = *,01.01.09

Result: January 1, 2009 is an exception date.

- (Start) date = Mo,*,*.00

Every Monday is an exception day.

- (Start) date = *,*.Evn.00

The days for the entire month are exception day for each even month (February, April, June, August, etc.).

8.9.2.2 Example 2: Choice = Range

The entries in (start) date and end date are relevant:

- (start) date = *,23.06.09 / end date = *,12.07.09.

June 23, 2009 through July 12, 2009 are exception days (e.g. vacation).

- (start) date = *,23.12.00 / end date = *,31.12.00.

December 23 through 31 are exceptions for each year. The entry end date =*,01.01.00 does not work here, since January 1 is before December 23.

- (start) date = *,23.12.09 / end date = *,01.01.10.

23. December 23, 2009 through January 1, 2010 are exception days.

- (Start) date = *,*.00 / -End date = *,*.00

Attention! This entry is always enabled! The plant is continuously on exception or off.

8.9.2.3 Example 3: Choice = Weekday

The entries for week day are relevant.

- Week day = *,Fr,*

Every Friday is an exception day.

- Week day = *,Fr,Evn

Each Friday in even months (February, April, June, August, etc.) is an exception day.

- Week day = *,*,*

Attention! This settings always enables "calendar exception" or "calendar off" days.

8.10 Alarm handling

This menu can be used to visualize and manage every alarm occurrence.

HMI Path: Main Menu > Alarm handling

The sequence of screenshots illustrates the HMI navigation path for alarm handling:

- Main Menu:** Shows the main menu with 'Alarm handling' highlighted in red.
- Alarm handling menu:** Shows the 'Alarm handling' sub-menu with 'Alarm list' highlighted in red.
- Active alarm:** Shows the 'Alarm list' screen with a list of active alarms, including 'Electrostatic filter alm: F', 'CustomXBValue: under range', 'Exh air Dmp FB: under range', 'Mix Dmp FB: under range', 'Bypass Dmp FB: under range', 'Rtrn shutoff Dmp FB: under', and 'Fresh air Dmp FB: under ran'.
- Alarm history:** Shows the 'Alarm history' screen with a list of historical alarms, including 'ERQ 4 R32 leakage: Fault', 'ERQ 3 R32 leakage: Fault', 'ERQ 2 R32 leakage: Fault', 'ERQ 1 R32 leakage: Fault', 'Return fan 2 alarm: Fault', 'Return fan alarm: Alarm', and 'Supply fan 2 alarm: Fault'.
- Acknowledge:** Shows the 'Alarm list' screen with 'Acknowledge' highlighted in red.
- Acknowledge dialog:** Shows the 'Acknowledge' dialog box with 'Execute' highlighted in red.

Alarm acknowledgement HMI Path: Main Menu -> Alarm handling -> Alarm list -> Acknowledge = Execute

8.10.1 Alarm classification

The alarms are categorized by type (Danger, Fault, Warning) based on their severity, as well as whether they require acknowledgment (self-release or non-self-release).

Alarm type	Criticality	Action
Danger	Critical	The AHU switches to OFF state and controls remain locked until the alarm condition is restored. An example of critical alarm (Danger) is fire alarm.
Fault	Critical	The AHU switches to OFF state and controls remain locked until the alarm condition is restored. An example of critical alarm (Fault) is a fan fault.
Warning	Not critical	The AHU normal functioning is not affected, reporting only on the interface the alarm condition. An example of not critical alarm is the indication of a dirty filter.

Acknowledgement type	Action
Self-release (Auto-reset/Not manual)	Acknowledgment is not required from HMI or BMS, the alarm display string will be removed once the alarm has been removed, automatically.
Not self-release (not auto-reset/Manual)	Required acknowledgment from HMI or BMS, whenever alarm is triggered.

8.10.2 Alarm restore

Refer to “[Alarm list](#)” for an explanation of the alarm and for the indication about resolving the alarm condition.

When the alarm condition is restored, an alarm acknowledge command is needed on the controller, as shown above in screenshots, If the alarm condition is correctly restored after the “Execute” command, the AHU goes back to normal functioning.

8.10.3 Alarm list

Next table shows all alarm strings that appears on screen when an alarm occurs, with the respective causes and solutions list.

Alarm String	Description	Alarm type	Possible causes & solutions		
Outside temp: -no sensor -over range -under range -shortd loop	Error condition on the outside temperature sensor: measured temperature out of the allowable range or error condition on the sensor.	Alarm type ➤ Fault ➤ Self-release	no sensor.	Sensor not connected.	Check the wiring connection of the temperature sensor with the controller or (if it is powered) with the electrical power.
		over range	Measured value over max limit.	If the measured value is wrong replace the sensor.	
		under range	Measured value under range.	If the measured value is wrong replace the sensor.	
		shortd loop	The sensor could be broken.	Disconnect the temperature sensor from the controller and measure the resistance value of the sensor. Refer to the datasheet of the sensor for the resistance nominal value of sensor.	
Room temp: -no sensor -over range -under range -shortd loop	Error condition on the room air temperature sensor: measured temperature out of the allowable range or error condition on the sensor.	Alarm type ➤ Fault ➤ Self-release	no sensor	Sensor not connected.	Check the wiring connection of the temperature sensor with the controller or (if it is powered) with the electrical power.
		over range	Measured value over max limit.	If the measured value is wrong replace the sensor.	
		under range	Measured value under range.	If the measured value is wrong replace the sensor.	
		shortd loop	The sensor could be broken.	Disconnect the temperature sensor from the controller and measure the resistance value of the sensor. Refer to the datasheet of the sensor for the nominal resistance.	
Return temp:	Error condition on the	Alarm type	Error	Causes	Solutions

-no sensor -over range -under range -shortd loop	return air temperature sensor: measured temperature out of the allowable range or error condition on the sensor.	➤ Fault ➤ Self-release	no sensor	Sensor not connected.	Check the wiring connection of the temperature sensor with the controller or (if it is powered) with the electrical power.
			over range	Measured value over max limit.	If the measured value is wrong replace the sensor.
Alarm String	Description		Possible causes & solutions		
			under range	Measured value under range.	If the measured value is wrong replace the sensor.
			shortd loop	The sensor could be broken.	Disconnect the temperature sensor from the controller and measure the resistance value of the sensor. Refer to the datasheet of the sensor for the resistance nominal value of sensor.
Supply temp:	Error condition on the supply air temperature sensor: measured temperature out of the allowable range or error condition on the sensor.	Alarm type	Error	Causes	Solutions
-no sensor -over range -under range -shortd loop		➤ Fault ➤ Self-release	no sensor	Sensor not connected.	Check the wiring connection of the temperature sensor with the controller or (if it is powered) with the electrical power.
			over range	Measured value over max limit.	If the measured value is wrong replace the sensor.
			under range	Measured value under range.	If the measured value is wrong replace the sensor.
			shortd loop	The sensor could be broken.	Disconnect the temperature sensor from the controller and measure the resistance value of the sensor. Refer to the datasheet of the sensor for the resistance nominal value of sensor.
Pre-Heating temp: Or Pre coil temp:	Error condition on the pre- heating air temperature sensor: measured temperature out of the allowable range or error condition on the sensor.	Alarm type	Error	Causes	Solutions
-no sensor -over range -under range -shortd loop		➤ Fault ➤ Self-release	no sensor	Sensor not connected.	Check the wiring connection of the temperature sensor with the controller or (if it is powered) with the electrical power.
	over range		Measured value over max limit.	If the measured value is wrong, replace the sensor.	

			under range	Measured value under range.	If the measured value is wrong, replace the sensor.
			shortd loop	The sensor could be broken.	Disconnect the temperature sensor from the controller and measure the resistance value of the sensor. Refer to the datasheet of the sensor for the resistance nominal value of sensor.
		Alarm type	Causes	Solutions	
Alarm String	Description		Possible causes & solutions		
Heating Pump: Alarm	Heating pump possible malfunction. This alarm occurs when the water pump communicates to the controller an alarm condition.	<ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	The alarm signal of the water pump is not connected to the controller.	Check the wiring connection between the input “Heating coil pump alarm” of the controller and alarm output of the pump.	
			The pump is in a fault state	Refer to troubleshooting of the water pump. Check the electrical connection of the pump. Replace the pump if broken.	
Cooling Pump: Alarm	Cooling pump possible malfunction. This alarm occurs when the water pump communicates to the controller an alarm condition.	<ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	The alarm signal of the water pump is not connected to the controller.	Check the wiring connection between the input “Cooling coil pump alarm” of the controller and alarm output of the pump.	
			The pump is in a fault state.	Refer to troubleshooting of the water pump. Check the electrical connection of the pump. Replace the pump if broken.	
C1gHtgPmpAlm : Alarm	Cooling/Heating pump alarm possible malfunction. This alarm occurs when the water pump communicates to the controller an alarm condition. [8.8.1.09]	<ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	The alarm signal of the water pump is not connected to the controller.	Check the wiring connection between the input “Cooling/Heating coil pump alarm” of the controller and alarm output of the pump.	
			The pump is in a fault state.	Refer to troubleshooting of the water pump Check the electrical connection of the pump Replace the pump if broken.	
PreHtgWtrPmp Alm: Fault	Pre heating water pump possible malfunction.	<ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	Alarm type	Causes	Solutions
			The alarm signal of the water pump is not connected to	Check the wiring connection between the input “pre heating water pump alarm” of the controller and alarm output of the pump.	

	This alarm occurs when the water pump communicates to the controller an alarm condition.		the controller.	
			The pump is in a fault state.	Refer to troubleshooting of the water pump. Check the electrical connection of the pump. Replace the pump if broken.
PostHtgWtrPmpAlm: Fault	Post heating water pump possible malfunction. This alarm occurs when the water pump communicates to the controller an alarm condition.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	The alarm signal of the water pump is not connected to the controller.	Check the wiring connection between the input “post heating water pump” of the controller and alarm output of the pump.
			The pump is in a fault state.	Refer to troubleshooting of the water pump. Check the electrical connection of the pump. Replace the pump if broken.
RarPmpAl: Fault	Post heating water pump possible malfunction. This alarm occurs when the water pump communicates to the controller an alarm condition.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Danger ➤ Not self-release 	The alarm signal of the water pump is not connected to the controller.	Check the wiring connection between the input “Rar pump alarm” of the controller and alarm output of the pump.
			The pump is in a fault state.	Refer to troubleshooting of the water pump. Check the electrical connection of the pump. Replace the pump if broken.
Humidifier pump alarm: Alarm	Post heating water pump possible malfunction. This alarm occurs when the water pump communicates to the controller an alarm condition.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or Warning Depend on the selection made [6.1.3.37] <ul style="list-style-type: none"> ➤ Not self-release 	The alarm signal of the water pump is not connected to the controller.	Check the wiring connection between the input “Humidifier pump” alarm” of the controller and alarm output of the pump.
			The pump is in a fault state.	Refer to troubleshooting of the water pump. Check the electrical connection of the pump. Replace the pump if broken.
Supply # filter warning # = 1,2,3,4	Supply # filter warning. Filter is dirty, the warning is notified in the HMI, but unit can still run. It occurs when the measured differential pressure is greater than the warning threshold set in	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Warning ➤ Not self-release 	The filter is dirty.	Plan to change the filter.

	Setpoints [8.7.27]			
Return # filter warning # = 1,2	<p>Return # filter warning.</p> <p>Filter is dirty, the warning is notified in the HMI, but unit can still run.</p> <p>It occurs when the measured differential pressure is greater than the warning threshold set in Setpoints [8.7.28]</p>	<p>Alarm type</p> <ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	<p>Causes</p> <p>The filter is dirty.</p>	<p>Solutions</p> <p>Plan to change the filter.</p>
		Alarm type	Causes	Solutions

Alarm String	Description		Possible causes & solutions	
Supply # filter Fault # = 1,2,3,4	Supply # filter Fault. Filter dirty. Filter is dirty, the fault is notified in the HMI, unit is stopped. It occurs when the measured differential pressure is greater than the fault threshold set in [6.1.3.10]	➤Fault ➤Not self-release	The filter is dirty.	Change the filter.
Return # filter Fault # = 1,2	Return # filter Fault. Filter dirty. Filter is dirty, the fault is notified in the HMI, unit is stopped. It occurs when the measured differential pressure is greater than the fault threshold set in [6.1.3.11]	Alarm type ➤Fault ➤Not self-release	Causes The filter is dirty.	Solutions Change the filter.
Cooling DX: Alarm	This alarm occurs when the alarm signal from the external condensing unit is active	Alarm type	Causes The alarm signal of the condensing unit is not connected to the controller. The condensing unit is in a fault state.	Solutions Check the wiring connection between the input “DX Coil step #1 (#2, or #3) Alarm” of the controller and alarm output of the condensing unit. Refer to troubleshooting of the condensing unit. Check the electrical connection of the condensing unit.
Supply fan alarm: Alarm	Supply fan alarm, communicated by fan to controller by digital input [8.8.1.02]	Alarm type ➤Fault ➤Self-release Only exception for Duty standby AHU [6.1.3.06] , in which first alarm is Warning and Self-release, however once second fan goes in alarm, it become Fault and not self-release.	Causes Broken wire. Power isolation. The fan is in overload.	Solutions Make sure the wiring is correct, and contact is normally closed. Check the manual of fan in use to verify type of alarm.
Alarm String	Description	Alarm type	Possible causes & solutions	
Return fan	Return fan alarm,	Alarm type	Causes	Solutions

alarm: Alarm	communicated by fan to controller by digital input [8.8.1.04]	<p>➤Fault ➤Self-release</p> <p>Only exception for Duty standby AHU [6.1.3.07], in which first alarm is Warning and Self-release, however once second fan goes in alarm, it become Fault and not self-release.</p>	Broken wire. Power isolation. The fan is in overload.	Make sure the wiring is correct, and contact is normally closed. Check the manual of fan in use to verify type of alarm.
Supply Fan 2 alarm: Alarm	Supply fan alarm, communicated by fan to controller by digital input [8.8.1.03]	Alarm type	Causes	Solutions
		Only available for Duty standby AHU [6.1.3.06] , in which first alarm is Warning and Self-release, however once second fan goes in alarm, it become Fault and not self-release.	Broken wire. Power isolation. The fan is in overload.	Make sure the wiring is correct, and contact is normally closed. Check the manual of fan in use to verify type of alarm.
Return Fan 2 alarm: Alarm	Return fan alarm, communicated by fan to controller by digital input [8.8.1.05]	Alarm type	Causes	Solutions
		Only available for Duty standby AHU [6.1.3.07] , in which first alarm is Warning and Self-release, however once second fan goes in alarm, it become Fault and not self-release.	Broken wire. Power isolation. The fan is in overload.	Make sure the wiring is correct, and contact is normally closed. Check the manual of fan in use to verify type of alarm.
Room Humidity rel: under range	Return/Room air humidity alarm	Alarm type	Causes	Solutions
		<p>➤warning ➤Self-release</p>	The humidity sensor is not connected. The humidity sensor is broken.	Check the wiring connection of the humidity sensor. Replace the humidity sensor.
Supply Humidity rel: no sensor	Supply air humidity alarm	Alarm type	Causes	Solutions
		<p>➤warning ➤Self-release</p>	The humidity sensor is not connected. The humidity sensor is broken.	Check the wiring connection of the humidity sensor. Replace the humidity sensor.
Outside Humidity rel: no sensor	Supply air humidity alarm	Alarm type	Causes	Solutions
		<p>➤warning ➤Self-release</p>	The humidity sensor is not connected. The humidity sensor is broken.	Check the wiring connection of the humidity sensor. Replace the humidity sensor.
Air	Air quality alarm	Alarm type	Causes	Solutions

quality: no sensor		<ul style="list-style-type: none"> ➤ Warning ➤ Self-release 	The air quality sensor is not connected.	Check the wiring connection of the air quality sensor.
			The air quality sensor is broken.	Replace the air quality sensor.
VOC sensor: no sensor	VOC sensor alarm	Alarm type <ul style="list-style-type: none"> ➤ Warning ➤ Self-release 	Causes	Solutions
			The VOC sensor is not connected.	Check the wiring connection of the sensor.
Electrical Heating: Alarm	Electrical heating device possible malfunction. This alarm occurs when the electrical heating device communicate to the controller an alarm condition through digital input.	Alarm type <ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	The VOC sensor is broken.	Replace the sensor.
			The Electrical heating device is broken.	Replace the Electrical heating device.
Pre Elc Htg Alm: Fault	Electrical heating device possible malfunction. This alarm occurs when the electrical heating device communicate to the controller an alarm condition through digital input.	Alarm type <ul style="list-style-type: none"> ➤ Fault ➤ Self-release 	The Electrical heating device is not connected.	Check the wiring connection of the Electrical heating device.
			The Electrical heating device is broken.	Replace the Electrical heating device.
	the digital input "Electric Heaters Overload."		The Electrical heating device is in over temperature.	Check if there are some airflow problems before resetting the alarm.
Supply press: under range	Problem with the supply air pressure sensor	Alarm type <ul style="list-style-type: none"> ➤ Fault or warning If supply side is in constant flow control "Fault", if Pressure "Warning" as in this case control will be on optional transducer <ul style="list-style-type: none"> ➤ Self-release ➤ The alarm pressure threshold and delay can be changed from [6.1.3.2.02]	Causes	Solutions
			Wiring broken or not connected. Pipes/tubes are broken, loose or not connected. Supply fan is not working.	Check the wiring connection of the transducer Check the electrical power of the device. Seal the pipes/tubes and make correct connection. Check fan is running or not
Return press: under range	Problem with the return air pressure sensor	Alarm type <ul style="list-style-type: none"> ➤ Fault or warning If return side is in constant flow control "Fault", if Constant pressure control "Warning" as in this case control will be on optional transducer or room transducer. <ul style="list-style-type: none"> ➤ Self-release ➤ The alarm pressure	Broken transducer.	Replace the transducer.
			Wiring broken or not connected. Pipes/tubes are broken, loose or not connected. Return fan is not working.	Check the wiring connection of the transducer Check the electrical power of the device. Seal the pipes/tubes and make correct connection. Check fan is running or not.

		threshold and delay can be changed from [6.1.3.2.02]		
Sply Opt transducer: under range	Problem with the return optional differential pressure transducer.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or warning Depends on the selection [6.1.2.24] , if selected as “Main” fault, if “Read” warning ➤ Self-release ➤ The alarm pressure threshold and delay can be changed from [6.1.3.2.02] 	<ul style="list-style-type: none"> Wiring broken or not connected. Pipes/tubes are broken, loose or not connected. Supply fan is not working. 	<ul style="list-style-type: none"> Check the wiring connection of the transducer Check the electrical power of the device. Seal the pipes/tubes and make correct connection. Check fan is running or not.
Rtrn Opt transducer: under range	Problem with the return optional differential pressure transducer.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or warning Depends on the selection [6.1.2.27] , if selected as “Main” fault, if “Read” warning ➤ Self-release ➤ The alarm pressure threshold and delay can be changed from [6.1.3.2.02] 	<ul style="list-style-type: none"> Wiring broken or not connected. Pipes/tubes are broken, loose or not connected. Return fan is not working. 	<ul style="list-style-type: none"> Check the wiring connection of the transducer Check the electrical power of the device. Seal the pipes/tubes and make correct connection. Check fan is running or not.
Room Prs: under range	Problem with room differential pressure transducer.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or warning Depends on the selection [6.1.3.1.01] , if selected as “Main” fault, if “Read” warning ➤ Self-release 	<ul style="list-style-type: none"> Wiring broken or not connected. Pipes/tubes are broken, loose or not connected. Return fan is not working. 	<ul style="list-style-type: none"> Check the wiring connection of the transducer Check the electrical power of the device. Seal the pipes/tubes and make correct connection. Check fan is running or not.
Rtrn tmp fire alarm: Alarm	Return air temperature too high, possible presence of fire	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Danger ➤ Not self-release 	<ul style="list-style-type: none"> Presence of fire. Return temperature sensor broken. 	<ul style="list-style-type: none"> Extinguish the fire. Verify if in the alarm list there is some alarm related to the return temperature sensor and in this case refer to it.
Supply tmp fire alm:	Supply air temperature too	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Danger 	<ul style="list-style-type: none"> Presence of fire. 	<ul style="list-style-type: none"> Extinguish the fire.

Alarm	high, possible presence of fire	➤ Not self-release	Supply temperature sensor broken.	Verify if in the alarm list there is some alarm related to the supply temperature sensor and in this case refer to it.
Fire alarm: Alarm	Fire alarm active. This alarm occurs when the fire detector device detects the presence of fire	Alarm type	Causes	Solutions
		➤ Danger ➤ Self-release or Not self-release Depends on the selection made [6.1.3.49] .	Presence of fire. If no fire is present, the fire alarm system could be broken.	Extinguish the fire. Check the Fire alarm system.
Heating Frost: Frost	This alarm occurs when the external unit communicate to the controller (through the digital input “ [8.8.1.07] ”) that there could be ice on the exchanger of the external unit	Alarm type	Causes	Solutions
		➤ Fault ➤ Self-release When Unit is Off .Not self-release when Unit is On.	No heating from the exchanger. Outside temperature very low.	Check hydraulic circuits and his temperature, 3way valve, external unit. The alarm will auto-reset (Self-release) when the “Frost Switch” deactivates while the unit is off. However, during AHU operation, the alarm requires acknowledgement (Not self-release) from the HMI or BMS, as frost may indicate a heating device failure. If the alarm occurs frequently, consider increasing the Forst setpoint [7.9.02] or “ [7.9.03] ” settings before resetting.
Recovery Alarm		Alarm type	Causes	Solutions
	This alarm occurs when the Heat Wheel recovery device communicate to the controller (through the digital input “Heat Wheel Alarm”) that an alarm state has been detected	➤ Fault ➤ Not self-release	Error on the Heat Wheel.	Check the operating manual of the Heat Wheel.
I/O Extension module: Alarm	Communication malfunction between the controller and an expansion module	Alarm type	Causes	Solutions
			One or more expansion modules are not connected to the controller. One or more expansion modules are broken.	Check the wiring connection between the expansion modules and the controller. Change the expansion module

			One or more expansion modules are not configured properly.	Change the DIP switch value. (refer to the wiring diagram)
ERQ 1 alarm: Alarm	Digital input related to the ERQ 1 [8.8.1.18]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or Warning ➤ Self-release or Not self-release <p>If only 1 ERQ is configured Depends on the section [6.1.3.38] However, if more than 1 ERQ [6.1.2.7] are configured, it will be Warning and Self-release. Once all ERQ alarm is active and [6.1.3.38] = 1, Unit will stop</p>	Error on the ERQ.	Check the operating manual of the ERQ.
ERQ 2 alarm: Alarm	Digital input related to the ERQ 2 is closed	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Self-release 	Error on the ERQ.	Check the operating manual of the ERQ.
ERQ 3 alarm: Alarm	Digital input related to the ERQ 3 is closed	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Self-release 	Error on the ERQ.	Check the operating manual of the ERQ.
ERQ 4 alarm: Alarm	Digital input related to the ERQ 4 is closed	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Self-release 	Error on the ERQ.	Check the operating manual of the ERQ.
All ERQ alarm: Alarm	This alarm is not triggered by digital input, however if all the ERQ alarm are in alarm and (Available and active only if [6.1.3.38] = 1)	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault ➤ Not self-release 	Error on the all the configured ERQ's.	Check the operating manual of the ERQ.
ERQ 1 R32 Leakage: Fault ... ERQ 4 R32 Leakage: Fault	ERQ 1 to ERQ 4, R32 leakage alarm (Available and active only if R32 is enabled [6.1.1.5])	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault ➤ Not self-release 	R32 gas is detected if R32 detector is connected to nodes. If the R32 detector is not wired but the contact is closed by bridge.	Check The I/O on nodes [6.1.4.55] , if R32 leakage detector is not wired make sure the contact is OPEN.
Low Flow Alarm: Fault	Low flow alarm is enabled when using R32 in ERQ circuit as refrigerant, if the flow goes less than Low Flow limit for certain period of time, results in alarm, it is a digital output connected to EKEA Box.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault ➤ Not self-release 	False transducer reading. Setpoint is very low. Amount of R32 [6.1.2.9] is not inserted or inserted more than AHU required.	Check the flow reading with respect to fan signal, if reading is way low, that indicate transducer false reading. Charge the correct amount of R32, insert the correct value [6.1.2.9]
Sply	If the supply shutoff	Alarm type	Causes	Solutions

Shutoff Dmp FB: under range	damper feedback (2-10V) reading from the actuator is less than 2V, it will be considered an alarm.	<ul style="list-style-type: none"> ➤ Fault ➤ Not self-release 	Broken wiring. No power to damper. Broken actuator.	Check the wiring connection. Check the power to damper actuator. Change the actuator.
Return Shutoff Dmp FB: under range	If the return shutoff damper feedback (2-10V) reading from the actuator is less than 2V, it will be considered an alarm.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault ➤ Not self-release 	Broken wiring. No power to damper. Broken actuator.	Check the wiring connection. Check the power to damper actuator. Change the actuator.
Fresh Air Dmp FB: under range	If the fresh air damper feedback (2-10V) reading from the actuator is less than 2V, it will be considered an alarm.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or warning Fault, if damper is open/close, Warning if modulation (Mixing damper is configured) ➤ Not self-release 	Broken wiring. No power to damper. Broken actuator.	Check the wiring connection. Check the power to damper actuator. Change the actuator.
Exh Air Dmp FB: under range	If the exhaust air damper feedback (2-10V) reading from the actuator is less than 2V, it will be considered an alarm.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ Fault or warning Fault, if damper is open/close, Warning if modulation (Mixing damper is configured) ➤ Not self-release 	Broken wiring. No power to damper. Broken actuator.	Check the wiring connection. Check the power to damper actuator. Change the actuator.
Mixing Dmp FB: under range	If the fresh air damper feedback (2-10V) reading from the actuator is less than 2V, it will be considered an alarm.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	Broken wiring. No power to damper. Broken actuator.	Check the wiring connection. Check the power to damper actuator. Change the actuator.
Bypass Dmp FB: under range	If the fresh air damper feedback (2-10V) reading from the actuator is less than 2V, it will be considered an alarm.	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	Broken wiring. No power to damper. Broken actuator.	Check the wiring connection. Check the power to damper actuator. Change the actuator.
Sply Shutoff FB Dev Alm: Fault	Supply shutoff damper feedback deviation alarm It's a logic-based alarm, so it operates based on the working principle, refer to [7.6.02]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	Broken wiring. Mechanical issue, damper blocked, something stuck in the damper.	Check the wiring connection. Inspection of damper, actuator.
Rtrn Shutoff FB Dev Alm: Fault	Return shutoff damper feedback deviation alarm It's a logic-based alarm, so it operates based on the working principle, refer to [7.6.02]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	Broken wiring. Mechanical issue, damper blocked, something stuck in the damper.	Check the wiring connection. Inspection of damper, actuator.
Fresh Air	Fresh air damper	Alarm type	Causes	Solutions

Dmp FB Dev Alm : Fault	feedback deviation alarm It's a logic-based alarm, so it operates based on the working principle, refer to [7.6.02]	<ul style="list-style-type: none"> ➤warning ➤Not self-release 	Broken wiring. Mechanical issue, damper blocked, something stuck in the damper.	Check the wiring connection. Inspection of damper, actuator.
Exh Air Dmp FB Dev Alm : Fault	Exhaust air damper feedback deviation alarm It's a logic-based alarm, so it operates based on the working principle, refer to [7.6.02]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤warning ➤Not self-release 	Broken wiring. Mechanical issue, damper blocked, something stuck in the damper.	Check the wiring connection. Inspection of damper, actuator.
Mixing Dmp FB Dev Alm : Fault	Exhaust damper feedback deviation alarm It's a logic-based alarm, so it operates based on the working principle, refer to [7.6.04]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤warning ➤Not self-release 	Broken wiring. Mechanical issue, damper blocked, something stuck in the damper.	Check the wiring connection. Inspection of damper, actuator.
Bypass FB Dev Alm : Fault	Bypass damper feedback deviation alarm It's a logic-based alarm, so it operates based on the working principle, refer to [7.6.04]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤warning ➤Not self-release 	Broken wiring. Mechanical issue, damper blocked, something stuck in the damper.	Check the wiring connection. Inspection of damper, actuator.
Supply Fan Dev alarm : under range	Setpoint deviation alarm on the supply fan. This alarm occurs when fan actual controlled value (Pa or m3/h) differs from the setpoint by threshold [7.5.31] for predefined period [7.5.33]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤warning ➤Not self-release 	Supply fan is far from the set point for a predefined period.	Check supply fan condition.
Return Fan Dev alarm : under range	Setpoint deviation alarm on the return fan. This alarm occurs when fan actual controlled value (Pa or m3/h) differs from the setpoint by threshold [7.5.51] for predefined period [7.5.53]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤warning or ➤Not self-release 	Return fan is far from the set point for a predefined period.	Check return fan condition.
Temp Spv Dev Alm : under range	Temperature setpoint deviation alarm This alarm occurs when actual control temperature differs from the setpoint by threshold [7.2.19] for predefined period [7.2.21]	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤warning ➤Not self-release 	Control temperature is far from the set point for a predefined period because of following Wiring issue, pump failure, heating or cooling device malfunction.	Check wiring of the outputs (Signal, On/Off), Heating/cooling device status.
Hum Dev	Humidification setpoint	Alarm type	Causes	Solutions

Alm: under range	deviation alarm This alarm occurs when actual control humidity differs from the setpoint by threshold [7.4.13] for predefined period [7.4.15]	<ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	Control humidity is far from the set point for a predefined period because of following Wiring issue, pump failure, heating or cooling device malfunction.	Check wiring outputs (Signal, On/Off) of humidifier.
Dehum Dev Alm: under range	Dehumidification setpoint deviation alarm This alarm occurs when actual control humidity differs from the setpoint by threshold [7.4.16] for predefined period [7.4.18].	Alarm type <ul style="list-style-type: none"> ➤ warning ➤ Not self-release 	Causes Control humidity is far from the setpoint for a predefined period because of following Wiring issue, pump failure, heating or cooling device malfunction.	Solutions Check wiring, outputs (Signal, On/Off), cooling device or cooling device status.
Electrostatic filter alarm: Fault	Electrostatic filter alarm	Alarm type	Causes	Solutions
		<ul style="list-style-type: none"> ➤ warning or Fault depend on the selection made [6.1.3.52]. ➤ Not self-release 	Door is open near the filter if Microswitch is present at the door. DP switch, loose connection.	Make sure the door is closed. DP switch pipe connection is well sealed and attached.
Emergency Stop: Alarm	Digital input related to Emergency stop button is open.	Alarm type	Causes	Solutions
			Emergency stop button pressed.	Release the emergency stop button.

8.11 About Unit

About Unit is the last item of the controller main menu and gives general information about the AHU controller.

HMI Path: Main Menu > About Unit

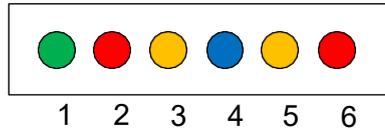
The image illustrates the navigation path to the 'About Unit' screen. It starts with the 'Main Menu' where 'About Unit' is selected. This leads to a screen displaying 'Application info' and 'Target info' for the AHU controller.

Section	Item	Value
Application info:	AHU Digital	
	DStream	
	Version	1.31.A
	Subversion	00
	Enter Unit Serial	
Target info:	IP	192.168.001.042
	BSP	11.64

Parameter	Function	R/W
Date and time	Visualize and modify date and time.	R/W
Application info:		
AHU Digital	AHU Type	R
DStream	Software Name	R
Version	Software Version	R
Subversion	Software Subversion	R
XXXXXXXXXX	Serial number of AHU	R/W
Target info:		
IP	Controller acting IP	R
BSP	Installed firmware version	R

Table 8.11

9 Modbus nodes diagnostic and alarms



Led #	Color	Manager	State	Meaning
1	Green	Board firmware	Alive	Node is powered on
2	Red	Board firmware	Hardware Error	The firmware has detected an EEPROM error. If this error occurs the Node must be removed and replaced. Contact factory.
3	Yellow	Board firmware	I/O Error	The firmware has detected an error in the I/O of the Node.
4	Blue	MT4 / DStream	Communication OK	Modbus communication is established and is properly operating
5	Yellow	MT4 / DStream	Not Used	Not Used
6	Red	MT4 / DStream	Not Used	Not Used

7.1 Node#HardwareErr	
Description	The firmware has detected an EEPROM error.
Notification	MT4, LED 2 (Red)
Delay	No
Reset type	Automatic
Countermeasure	Replacement, contact factory.

7.2 Node#CommErr	
Description	The node # is offline from the Modbus communication
Notification	MT4, LED 5 (Yellow)
Delay	10sec
Reset type	Automatic
Countermeasure	Node# could be offline because of a Hardware Error or because is not powered on (Led alive off). If not in the preceding cases, check Modbus cable connection to the node. If all nodes are in communication error state, check integrity of root connection to MT4.

7.3 Node#InOutErr	
Description	On node # an I/O error has occurred. This could mean: <ul style="list-style-type: none"> • AIN1 fault - Open Loop/ Short Circuit • AIN2 fault - Open Loop/ Short Circuit • AIN3 fault - Open Loop/ Short Circuit • I/O general purpose fault - Open Loop/ Short Circuit • AO1 fault • AO2 fault • AO3 (I/O general purpose) FAULT
Notification	MT4, LED 3 (Yellow)
Delay	No
Reset type	Automatic
Countermeasure	Check connection/integrity of probes/actuators

7.4 Node#DP1Err	
Description	Differential pressure transducer #1
Notification	MT4
Delay	No
Reset type	Automatic

Countermeasure	Check polarity of flow tubes (+/-). Check connection/integrity of transducer board
7.5 Node#DP2Err	
Description	Differential pressure transducer #2
Notification	MT4
Delay	No
Reset type	Automatic
Countermeasure	Check polarity of flow tubes (+/-). Check connection/integrity of transducer board

9.1 Modbus nodes troubleshooting

9.1.1 Node#InOutErr interpretation

Alarms Node#InOutErr on MT4 will be notified together with the specific device alarm. Below some examples of combined notification.

1. Supply temperature sensor, connected to Node4, is broken or not connected.

Node4InOutErr
SpIyTmpSenf

2. Return temperature sensor and return fan differential pressure transducer are broken or not connected

Node2InOutErr
Node7InOutErr
RtrnTmpSenf
RtrnFanPressSenf

In order to associate Node#InOutErr with each sensor fault it is necessary to browse the I/O section in the HMI or examine the wiring diagram.

9.1.2 Node#CommErr behaviour

A whatever node offline error causes AHU Stop.

If a Node must be disabled it has to be physically excluded by the network, disconnecting power and communication in-out cables. This action is allowed provided that devices on the specific Node are not absolutely essential to the AHU operation.

This would be the case, for example, of filters.

Note that all Nodes I/O arrangement is the result of an optimization algorithm. In most cases, filters differential pressure transducers will be placed on the same Node of those of fans. This arrangement doesn't allow exclusion of filters Node.

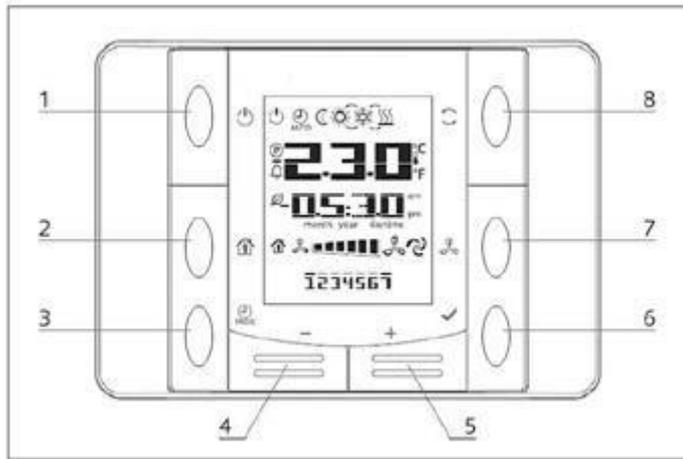


Never modify I/O arrangement of a Node. This will compromise AHU operation!

10 Appendix A: Room Unit Module - POL822

This chapter explains the functionality of the Room Unit module (POL822) that is used to measure the room temperature and to manage basic control of the AHU, like:

- AHU state changeover
- Summer/Winter mode changeover
- Offset on the temperature setpoint
- Enabling and disabling of the "Occupancy" function
- Set date and time
- View actual fan speed



10.1 Buttons Overview

(1) On/Off 

- AHU state changeover.

(2) Home 

- Return button & Enabling/Disabling Occupancy mode.

(3) Program 
PROG

- Set date/time.

(4) Minus  and (5) Plus 

- Adjust temperature setpoint and menu navigation.

(6) OK 

- Confirm button.

(7) Fan Speed 

- Display the actual percentage speed of supply and return fans

(8) Summer/Winter Mode 

- Switch between Cooling (Summer) and Heating (Winter) mode.

10.2 Display Overview

The table below explains all the symbols available on the display:

Display	Meaning
	Room Temperature
	Time
	Actual speed of the AHU fans
	Day of the week 1= Monday 2= Tuesday etc...
	On/Off This icon is: 1. On - when the unit is in On, Ventilation or Economy state. 2. Off - when the unit is Off. 3. Blinking - when the unit is in Test mode or in off state by Panel Switch.
	This icon is On when the AHU is in Auto mode. The actual AHU state and the relative icon (On/Off, Ventilation or Economy) are based on Time Scheduler settings.
	Heating
	Cooling
	This icon is On when the AHU is in Ventilation mode
	This icon is On when the dehumidification control is active
	Occupancy mode active
	Economy mode active
	Blinking when the AHU is in Alarm state
	This icon is On when the AHU Summer/Winter changeover is set to Auto or Pursuit mode (if available) on the main controller (POL638/687). For more details see Summer/Winter state.

Two examples of main screen display:

Economy mode, cooling



Ventilation mode, heating



10.3 AHU On-Off (1)

This button allows the user to change AHU actual operating state. The user can cycle and choose all available AHU states (Auto, On, Off, Ventilation, Economy) through this menu.

To change the AHU state follow these steps:

1. Press the On-Off button 
2. Navigate through the different available states by pressing + or – buttons
3. Confirm the change of state by pressing for at least 1 second the Confirm button 
4. To return to the main screen page without taking any action, either press the Home button  or wait for 5 seconds

10.4 Occupancy On-Off (2)

The Occupancy is a function that allows to run the AHU for fixed period (defined on the main controller under “Status/Settings -> Occupancy Tm”) when it is Off via time scheduler.

This means that the Occupancy function can only work when the AHU is controlled via time scheduler

HMI Path: Main Page → Ctrl Source = Local
HMI Path: Main Page → Local Switch = Auto

To activate/deactivate the Occupancy function follow these steps:

1. Press the Home button 
2. Navigate through the different available states by pressing + or – buttons
3. Confirm the change of state by pressing for at least 1 second the Confirm button 
4. To return to the main screen page without taking any action, either press the Home button  again or wait for 5 seconds

10.5 Date and time (3)

To change the date and time displayed on the main screen follow these steps:

1. Press PROG button for less than 1 second (hours blinks), then set the hour with the + and –
2. Press OK button (the hour is saved and the minutes blink), then set minutes with + and –
3. Press OK button (minutes are saved and the entire time blinks), then set the time display format (12/24 hour) with + or –
4. Press OK (the display format is saved and the year blink), set the desired year with + and –
5. Press OK (the year is saved and the display shows the month/day, the month blinks) set the month with the + and –
6. Press OK (the month is saved and the day blinks), set the day with the + and –
7. Press OK (month and day are saved, display returns to the time)
8. Press PROG (the display returns to normal view)

The display automatically returns to normal view when the PROG button is not pressed within one minute.

10.6 Temperature Setpoint Offset (4 & 5)

The buttons + or - are used to define an offset from the Heat/Cool setpoint set on the main controller.

By single pressing the + or - buttons on the main screen, the actual setpoint is being displayed. Every other press increases/decreases the temperature set point of 0.1 °C.

A long press of the + or - buttons display the actual temperature offset determined with the room unit respect the main setpoint.

- The unit should not be mounted in recesses, shelving, behind curtains or doors or above or near direct heat sources.
- Avoid direct sun and draught.
- The conduit must be sealed on the device side, as currents of air in the conduit can affect the sensor reading.
- The admissible ambient conditions must be observed.
- Local installation regulations must be observed.
- After an interruption of the connection to the 2-wire interface, parameter initialization will restart.



NOTE! The equipment is not protected against accidental connection to AC 230 V.

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