

Sense CX



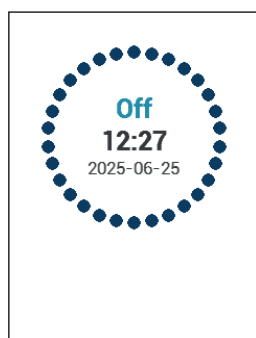


CONTROL

INITIAL COMMISSIONING

After connecting the unit , the display lights up and the data is loaded. Once it has fully loaded, the unit is ready for start-up. The remote control has a touch-screen – the unit is controlled touching the symbols on the screen.

Start-up:



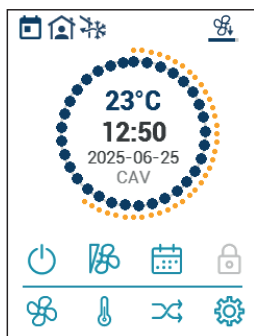
The unit is launched by pushing the circle symbol



INFORMATION ICONS



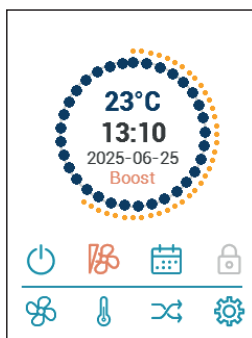
- Turn the unit ON/OFF
- BOOST mode activation
- Unit's time switch
- Password lock
- Ventilation mode settings
- Required temperature settings
- Detailed information of ventilation status
- Settings
- Display of current temperature, ventilation rate, CO2 concentration, ventilation mode and date



- Night cooling
- Occupancy mode active
- Time mode active
- Heater cooling in progress



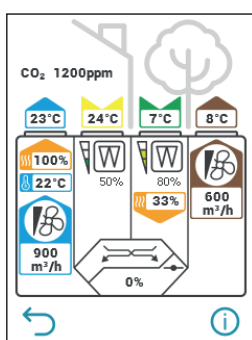
BOOST MODE



The BOOST mode is activated by touching symbol
BOOST regime is displayed in ventilation mode area



INFORMATION ON THE VENTILATION STATUS



This screen shows the status of the unit and the values of the sensors:

- Current air flow of both fans
- Inlet and exhaust air temperature
- Performance of the electric preheating and reheating
- Value of the connected air quality sensor



Back



Information about unit type



UNIT SETTINGS



Date and time



Display settings



Language settings



App pairing



QR code with contact details and technical sheet download link



Unit's service setting



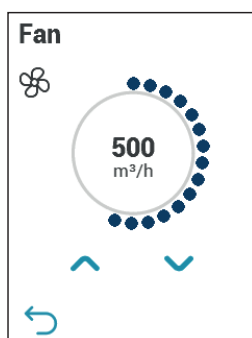
Back



Back to main screen



VENTILATION LEVEL SETTINGS



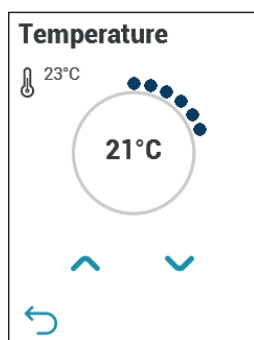
Increasing or reducing airflow



Display of required airflow



REQUIRED TEMPERATURE SETTINGS



Information about the current temperature (according selected sensor)



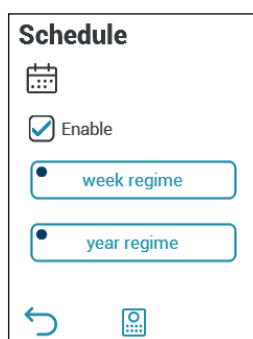
Display of required temperature



Reducing or increasing required temperature in the range from +15°C to +45°C



UNIT'S TIME SWITCH



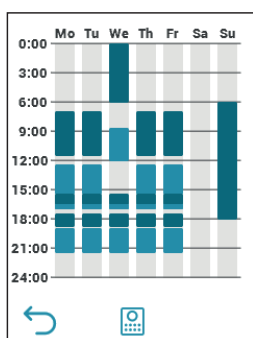
Actiavtion / deactivation of time switch

Week regime

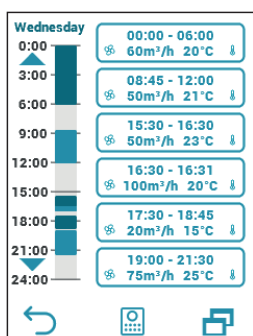
Year regime



WEEK MODE



Touch a day to set ventilation modes

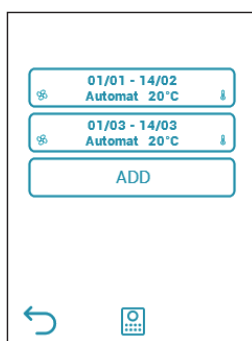


Touch to set individual intervals of ventilation (time ON/OFF, vent. mode, vent. level, temperature)

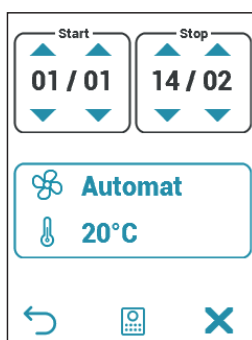


Touch for copying time interval

YEAR MODE



Add a time mode



In manual mode it is possible to set the desired temperature and fan power.

In automatic mode only the desired temperature may be set. Fan power is driven using AQS.

Start Beginning of time interval (Day/Month)

Stop End of time interval (Day/Month)

Values setting

Delete time interval

- When the time interval ends, the unit goes into stand-by mode.

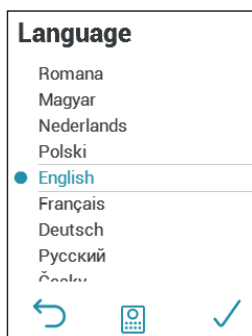


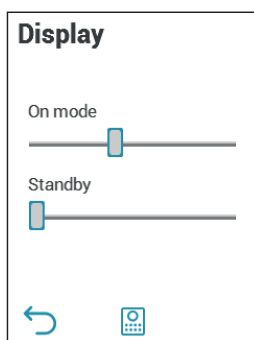
LANGUAGE SETTINGS



Select language menu

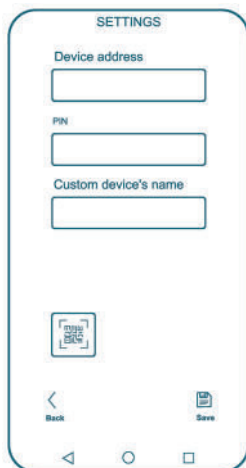
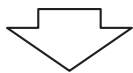
Confirm language selection





- Display brightness in active mode
- Display brightness in Standby mode

PAIRING DEVICES

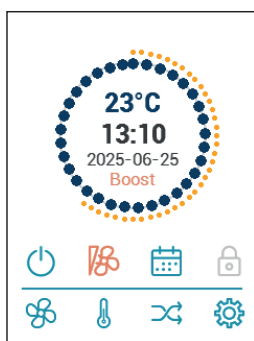


Pairing mobile device with unit using QR code

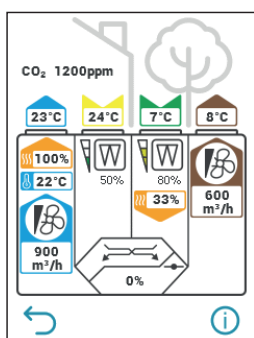
The IP address and PIN of the unit can be entered manually or by using a QR code for quick pairing of the unit.

Pairing smart device with the unit using QR code

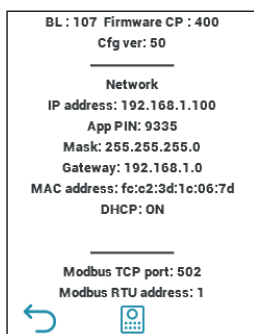
After scanning QR code from the controller press "Save" for saving the unit to the app.



 Smart device manual pairing with the unit



 Select information menu



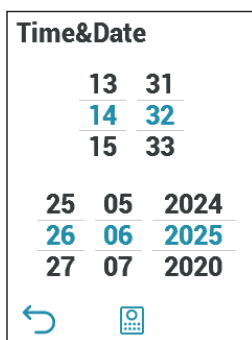
Scroll down to the Network section



- Enter the IP address from controller
- Enter the PIN from the controller
- Name the unit

 After entering all the information from the controller press “Save” for saving the unit to the app.

TIME AND DATE SETTINGS



Time&Date

13	31
14	32
15	33

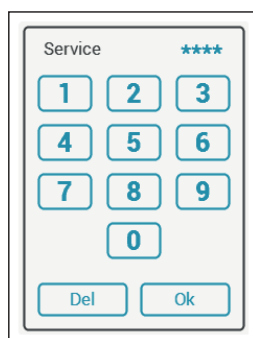
25	05	2024
26	06	2025
27	07	2020

← 

Scroll up and down on the numbers to set the date and time

SERVICE MENU

This MENU is intended primarily for service technicians or users who have experience with HVAC units. Changes in this MENU can lead to improper operation of the unit. If you are uncertain, first contact your supplier for more information.

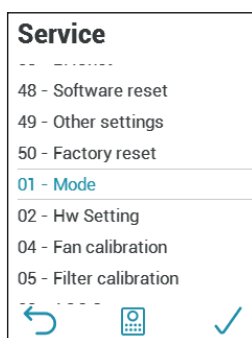


Service ****

1	2	3
4	5	6
7	8	9
0		

Del Ok

Enter code **1616** to access the service MENU



Service

48 - Software reset

49 - Other settings

50 - Factory reset

01 - Mode

02 - Hw Setting

04 - Fan calibration

05 - Filter calibration

←  ✓

Scroll up/down to select menu then tap on selected menu

01 Mode

Service

- 48 - Software reset
- 49 - Other settings
- 50 - Factory reset
- 01 - Mode**
- 02 - Hw Setting
- 04 - Fan calibration
- 05 - Filter calibration



01 Mode

- ☐ DCV
- ☒ CAV
- ☐ VAV

Select required ventilation mode

DCV - Ventilation according to the requirements of the air quality sensor (AQS)

- Unit ventilates at the air quality sensor (AQS) requirements, e.g. CO₂, RH (sensor control signal must range from 0-10V).

CAV - manual ventilation mode

- Unit ventilates at the selected power independent of the AQS

The Software reset (menu 48) must be performed to save the changes

02 HW Settings

Service

- 49 - Other settings
- 50 - Factory reset
- 01 - Mode
- 02 - Hw Setting**
- 04 - Fan calibration
- 05 - Filter calibration
- 08 - AQS Sensor



02 Hw Setting

- Digital input (15-16)
fire input
- Digital output RUN (7-8)
N.Close

In this menu you can set the logic of using the RUN contact and the logic of antifreeze protection

- RUN contact settings
This menu lets you select the logic using with the RUN output. Input (7-8) - The logic of the connected RUN contact can be set as follows: as N. close (normally closed) or N. Open (normally open)
Setting the logics of the behaviour of the exhaust fan during active antifreeze protection

04 Fan calibration

Service

50 - Factory reset

01 - Mode

02 - Hw Setting

04 - Fan calibration

05 - Filter calibration

08 - AQS Sensor

09 - Temperature sensor





04 Fan calibration

900m³/h

Start calibration



05 Filter calibration

Service

01 - Mode

02 - Hw Setting

04 - Fan calibration

05 - Filter calibration

08 - AQS Sensor

09 - Temperature sensor

10 - Supply Duct Limits



05 Filter calibration

Start only with clean filters!

Start calibration



Filter calibration has to be carried out during the first commissioning and after a filter class change.

Service

- 02 - Hw Setting
- 04 - Fan calibration
- 05 - Filter calibration
- 08 - AQS Sensor**
- 09 - Temperature sensor
- 10 - Supply Duct Limits
- 11 - Bypass Temperature



08 AQS Sensor

- ☐ None
- ☒ CO2 2000ppm
- ☐ CO2 1100ppm
- ☐ RH
- ☐ VOC
- ☐ Ext. 0-10V

AQS Limits

1000ppm

400ppm

Flow Limits

300m³/h

AQS = Air Quality Sensor

- Select air quality sensor
- Set the limit of the selected air quality sensor
- Required limits flow setting

08 AQS Limits

- ☐ Breathing

Max. 1000ppm

Min. 400ppm



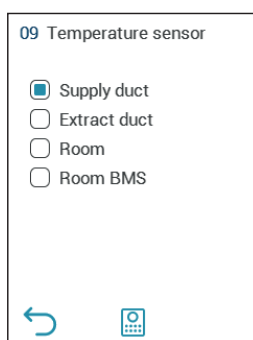
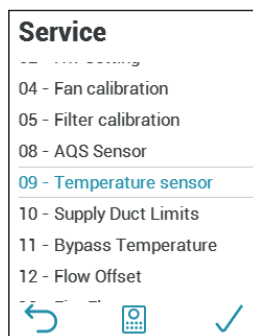
BREATHING

with the breathing mode enabled, the unit shuts down after reaching the minimum concentration if the concentration exceeds the maximum value, ventilation is reactivated.

The Software reset (menu 48) must be performed to save the changes

08 Flow Limits

Min. flow 400m³/h



A temperature sensor can be selected to control the air temperature. The values from the selected sensor will be used for temperature control and will be displayed on the main controller screen.

The Software reset (menu 48) must be performed to save the changes

Supply duct:

The unit will be controlled by the supply air temperature sensor to the object. Suitable for installations where the same supply air temperature is required to the rooms and in individual rooms is further adjusted as required. There is no local overheating. Suitable for multi-zone ventilation. The unit will respond quickly to temperature changes at this setting. ATTENTION: With this setting, the MAX and MIN channel limit values cannot be defined. The maximum limit in the channel is the desired temperature. The minimum temperature is set to 15 ° C. (for its adjustment it is possible to go to the sensor of the outlet channel, adjust the limit and change the sensor to the supply - the MIN value will be respected according to the settings).

Extract duct:

The unit will be controlled by the extract air temperature sensor from the object. Suitable for installations where it is necessary to monitor the average exhaust air temperature and adjust the supply air temperature to achieve comfort in the building. Suitable for mono-zone ventilation where supply air affects one room. The unit will respond more slowly to the temperature change at this setting. The supply air temperature is between the minimum and maximum supply air temperature.

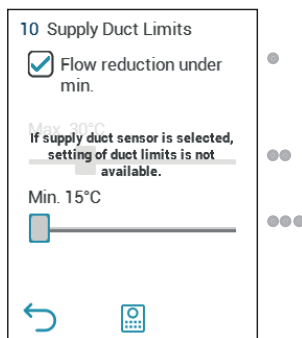
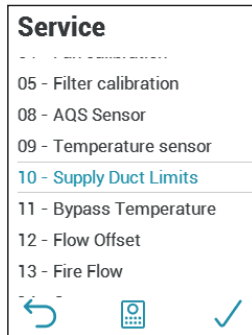
Room:

The unit will follow the temperature sensor installed in the room. Suitable for installations where it is necessary to monitor the local room temperature and adjust the supply air temperature to achieve room comfort. Suitable for monozone ventilation, where the supply air affects one space. The supply air temperature is between the minimum and maximum supply air temperature. According to the setting in the menu 10 - SUPPLY DUCT LIMITS.

Room BMS:

Temperature information provided by the building management system

10 Supply Duct Limits

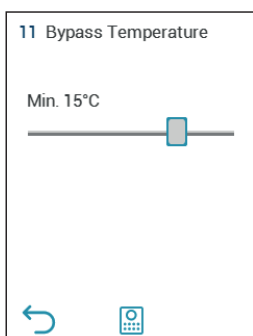
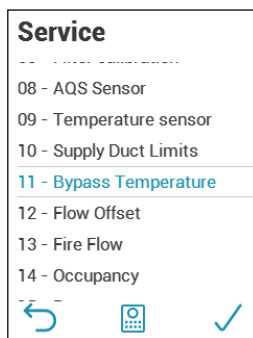


- Enable or disable the ventilation level reduction if canal minimum is not reached (enabled by default)
- Set maximum canal temperature range of +25 °C to +45°C.
- Set minimum canal temperature range of +15 °C to +20°C.

Due to possible condensation on the surface of the ventilation ductwork, it is recommended to leave enabled the reduction of flow if canal minimum is not reached.

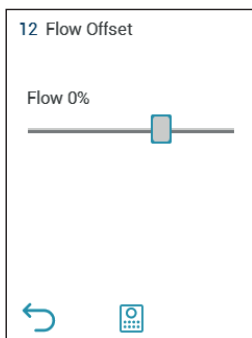
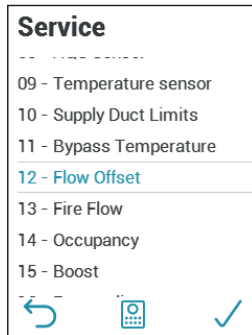
Selecting the sensor Supply duct (Menu 9) deactivates the maximum temperature limit.

11 Bypass Temperature



Setting of minimum outdoor temperature from which the bypass opening is allowed (range 0-20°C)

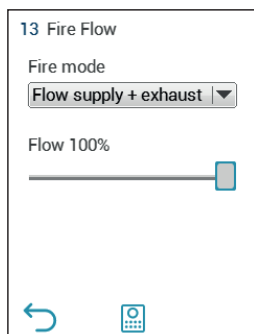
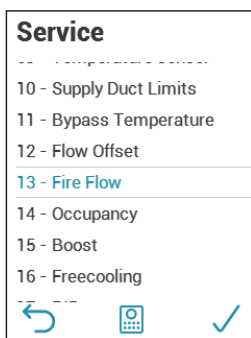
12 Flow Offset



Setting underpressure or overpressure

0% - equal pressure, positive value - overpressure, negative value - underpressure

13 Fire Flow



- Settings for how the unit in this mode should maintain:

Without flow - both motors deactivated

Flow intake + exhaust - both motors activated

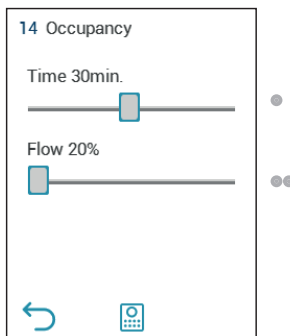
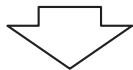
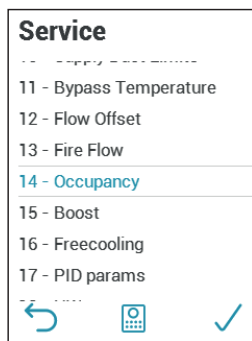
Intake only flow - only the motor for the intake branch will be activated

Exhaust only flow - only the motor for the exhaust branch will be activated

- Setting the airflow when the FIRE contact opens (input terminals 15/16)

FIRE VENTILATION input has highest priority (it deactivates all other modes, including anti-frost protection).

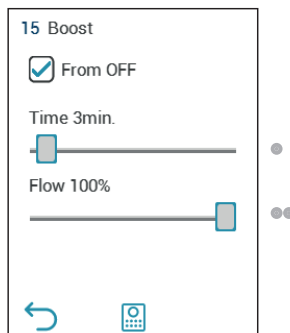
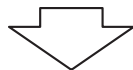
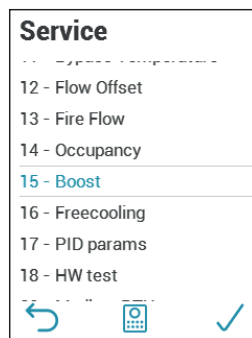
14 Occupancy



The FIRE and PERSONS PRESENT modes cannot be used at the same time. ONLY one of these modes may be selected in the HW SETTINGS menu.

- Setting the time interval after which the mode will be active after PIR sensor activation (input at terminals 15/16). Range 1 - 60 minutes
- Setting the required flow range of 20% to 50%

15 Boost



Boost can be activated with the button connected to the input 13/14, or with the Boost button (Fig. Boost) on main screen

Enabling BOOST mode activation from Standby state of the unit. Activation can be achieved solely using an external button. The unit is automatically engaged at the set time and power after activating the button.

Deactivation is possible from the control display panel or after the time for BOOST mode!

CAUTION: After this mode is over, the unit does not switch back into Standby mode but will remain active. The unit will work at the value set prior to its transition into Standby mode.

- ☒ Enable / Disable BOOST mode activation from STANDBY mode
- Setting the time interval for which the mode will be active after the BOOST contact is activated
- Setting the required airflow

16 Night ventilation

Service

- 13 - Fire Flow
- 14 - Occupancy
- 15 - Boost
- 16 - Freecooling
- 17 - PID params
- 18 - HW test
- 20 - Modbus RTU



16 Freecooling

☐ Enable

Airflow 100%

Temperature 20°C

Season

10/06 - 20/09

Time

21:10 - 06:50

NIGHT VENTILATION is evaluated even if the unit is in Standby mode (at the selected date and time the unit activates and evaluates where night ventilation can be activated - Prefreecooling)

NIGHT VENTILATION mode is suitable for night ventilation in summer. If the mode is enabled and all selected conditions are met this results in the complete opening of the bypass for directing cooler air into the structure (recuperation does not take place).

NIGHT VENTILATION does not replace an air conditioning unit. The primary purpose of the unit is to ventilate, not to cool.

- ✓ Enabling NIGHT VENTILATION mode
- A Setting the required flow range of 50% to 100%.
- T Setting desired temperature (measurement on Exhaust Channel sensor). Range of +12°C to +25°C.
- Date (for evaluating the activation of NIGHT VENTILATION)
- Setting the time (for evaluating the activation of NIGHT VENTILATION)

17 PID parameters

Service

- 14 - Occupancy
- 15 - Boost
- 16 - Freecooling
- 17 - PID params
- 18 - HW test
- 20 - Modbus RTU
- 21 - Network



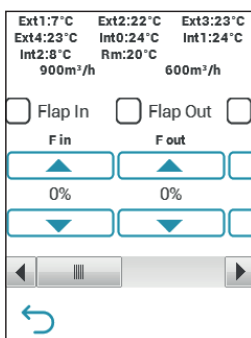
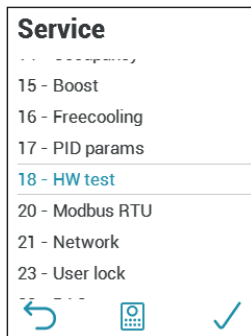
17 PID params

Preheater 1
0°C 0s 0min.

Exchanger 1
0°C 0s 0min.

Setting the regulation characteristics If regulation is variable or inconsistent. This setting may be carried out solely following consultation with the manufacturer.

18 HW test



The HW TEST menu is used to test all the connected components and accessories. These parameters are not saved.

F in - Intake fan speed configuration

F out - Exhaust fan speed configuration

Pre 1 - Electric preheating power configuration
(intake fan automatically activated)

H1 - Output signal control for post electric or water heater

By - Bypass setting (0% bypass closed, 100% bypass open)

Flap In - Control signal for servo of inlet FLAP (supply duct)

☒ - FLAP open ☐ - Flap closed

Flap Out - Control signal for servo of outlet FLAP (extract duct)

☒ - FLAP open ☐ - Flap closed

Ext1 - Intake air temperature sensor (fresh air supply)

Ext2 - Temperature sensor located in the supply duct behind the recuperator in front of the post-heater

Ext3 - Air intake temperature sensor (inlet to room)

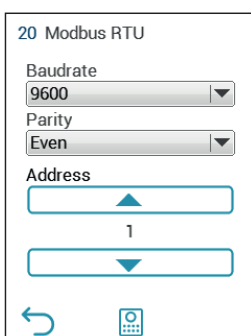
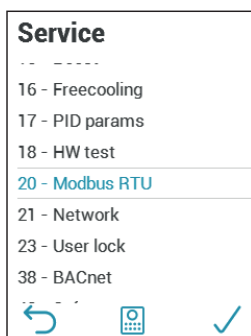
Int1 - Exhaust air temperature sensor (exhaust before core)

Int2 - Anti-freeze sensor of the heat exchanger
(exhaust behind core)

W1 - Temperature of supply water (only for water coil)

W2 - Temperature of return water (only for water coil)

20 Modbus RTU



The MODBUS menu is used to set the Modbus communication.

- Setting the speed at which data is transmitted over Modbus
- Setting Modbus parity
- Setting identifies devices

21 Network

Service

 17 - PID params
 18 - HW test
 20 - Modbus RTU
 21 - Network
 23 - User lock
 38 - BACnet
 48 - Software reset
 ↩ ⌨ ✓



21 Network
☐ DHCP
☐ DHCP server
 IP address

 Mask

 Gateway

 ↩ ⌨

The NETWORK menu serves for setting the network communications of the unit (TCP Modbus).

The Software reset (menu 48) must be performed to save the changes.

23 User lock

Service

 18 - HW test
 20 - Modbus RTU
 21 - Network
 23 - User lock
 38 - BACnet
 48 - Software reset
 49 - Other settings
 ↩ ⌨ ✓



23 User lock
 Protection level

 Change PIN

 ↩ ⌨

- Several security levels can be chosen for possible password-free operation:

Activate/Deactivate - Enables activation and deactivation of the unit without password

Activate/Deactivate, Temperature, Flow - Enables activation and deactivation of the unit, setting required temperature, and ventilation power without password

Temperature, Flow - Enables setting the desired temperature and ventilation power without password

Full - Does not enable any settings without entering password

User mode - Enables the unit to be operated per the following screen

- Numeric password to unlock

After entering the password, the unit can be fully operated and set

38 BACnet

Service

20 - Modbus RTU

21 - Network

23 - User lock

38 - BACnet

48 - Software reset

49 - Other settings

50 - Factory reset

← [Icon] ✓



38 BACnet

Port

0x0000

Unit id

0

Local broadcast

0.0.0.0

← [Icon]

The BACnet menu is used to set the unit's network communication (ModBus TCP).

48 Software reset

Service

21 - Network

23 - User lock

38 - BACnet

48 - Software reset

49 - Other settings

50 - Factory reset

01 - Mode

← [Icon] ✓



48 Software reset

Set unit to power up state !

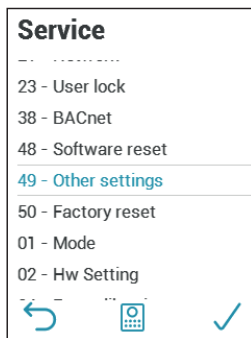
SW RESET

← [Icon]

The power supply must be reset after setting the AQS sensor, changing the temperature sensors or network settings.

After completing the settings or changes, it is recommended to reset the device.

49 Other settings



Service

23 - User lock

38 - BACnet

48 - Software reset

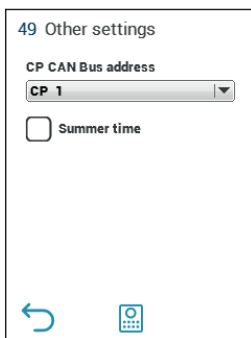
49 - Other settings

50 - Factory reset

01 - Mode

02 - Hw Setting

Navigation icons: back, home, and confirm.



49 Other settings

CP CAN Bus address

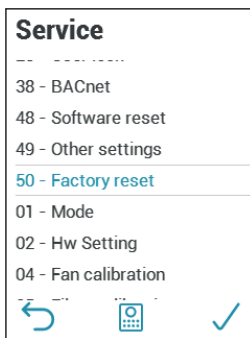
CP 1

☐ Summer time

Navigation icons: back and home.

- **Controller address - only if two controllers connected. This setting is saved in each controller separately. CP1 - Address 1, CP2 - Address 2**
- Summer time enabled/disabled

50 Factory reset



Service

38 - BACnet

48 - Software reset

49 - Other settings

50 - Factory reset

01 - Mode

02 - Hw Setting

04 - Fan calibration

Navigation icons: back, home, and confirm.



50 Factory reset

Set unit to factory default setting!

FACTORY RESET

Navigation icons: back and home.

Pressing FACTORY RESET resets the unit to its factory settings

does not change

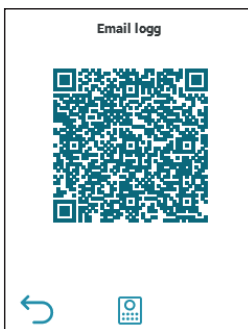
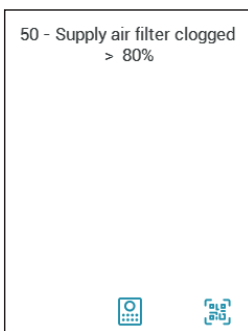
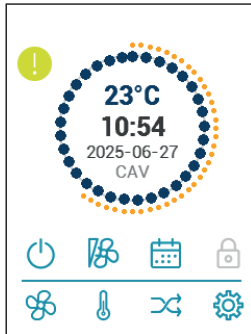
- the configuration AQS
- ventilation mode
- HW settings
- temperature settings
- Modbus settings



MAINTENANCE



Filter change



Filter clogging indicator is located on the control display pane

The clogging of the filters is automatically assessed. The unit will automatically recognize that a new filter has been installed.

ATTENTION!

In case that filters will not be replaced properly, functionality of the unit may be reduced the preheater can overheat and ventilator can be damaged.

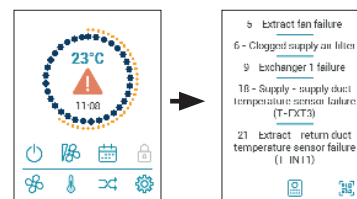
Scan the QR code to send your question to the support team.



Scan the QR code to send your question to the support team.

? TROUBLESHOOTING

The unit error is indicated with a red exclamation mark in the middle of the control display. Pressing the exclamation mark shows the information on the error, see table below.



Reports on the display	Unit's behavior	Likely problem	SOLUTION
1 – Exchanger 1 overheated	Unit is working	Preheated electric exchanger or damaged sensor	Check that the air is flowing freely through the unit, that the electric exchanger cools down sufficiently, or that the safety thermostat of the el. reheating isn't damaged.
3 – Overheated preheating	Unit is working	Preheated electric preheater or damaged sensor	Check that the air is flowing freely through the unit, that the electric exchanger cools down sufficiently, or that the safety thermostat of the el. reheating isn't damaged.
4 – Supply fan error	Unit is not working	Overheated fan or defect on thermal contact of inlet fan	Determine the cause of the overheating: defective bearing, short-circuit...
5 – Exhaust fan error	Unit is not working	Overheated fan or defect on thermal contact of inlet fan	Determine the cause of the overheating: defective bearing, short-circuit...
6 – Inlet filter clogged	Unit is working	Check clogged filter	If the filter has been replaced or if it does not need to be replaced, reset the filter clogging
7 – Exhaust filter clogged	Unit is working	Check clogged filter	If the filter has been replaced or if it does not need to be replaced, reset the filter clogging
12 – CO2 sensor failure	Unit is working	Defective air quality sensor	Control the air quality sensor and its connection to the unit
16 – Inlet – External temperature sensor failure (T-EXT1)	Unit is working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
17 – Inlet – Failure of the temperature sensor behind the exchanger (T-EXT2)	Unit is working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
18 – Inlet – Temperature sensor failure in the supply canal (T-EXT3)	Unit is working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
21 – Exhaust – Temperature sensor failure in the exhaust canal (T-INT1)	Unit is working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
22 – Exhaust – Failure of the temperature sensor of the exchanger's anti-freeze protection (T-INT2)	Unit is working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
23 - Temperature sensor failure of the exchanger's water supply (T_WATER_IN)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
24 - Failure in the return water sensor of exchanger (T_WATER_OUT)	Unit is not working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
25 – Room temperature sensor failure (T_Room)	Unit is working	Temperature sensor failure	Check that the sensor is correctly connected to the electronics or test it measuring its resistance
70 - Anti-freeze protection of the water heat exchanger	Unit is ventilating	The anti-freeze protection of the water heat exchanger is active	The automatic protection of the water exchanger has been activated in order to prevent damages due to low air temperature. This is an autonomous function and will be terminated once the risk of frost disappears.
73 - WCO detects temperature of the water supply (cold / hot)	Unit is ventilating	The unit controls the temperature of the liquid in the exchanger	The automatic process that assess the water temperature in the exchanger to activate the next steps is in progress
74 – Flow reduction, minimum temperature in the canal not reached	Limited operation of the unit	The minimum temperature in the canal was not reached	The temperature of the inlet and exhaust air is too low. Risk of undercooling of the building or condensation in the ventilation ductwork. Possible failure of temperature sensor T-EXT3
Condensation fault	Unit is working	High level of condensate in the unit	Check if the sink is connected to the outlet of the condensate tank, the condition of the connection, and whether the sink is full of water. Check the flow of the pipes and whether the position of the unit allows runoff.
The unit ventilates insufficiently or is noisy	Unit is working	Clogged filter or ductwork.	Check the filters and whether the ductwork is not clogged

CONCLUSION

Once it has been installed, read carefully the safe operation manual of the unit. That manual includes examples of possible problems and recommended solutions. In case of any requests or inquiries, contact our sales or technical department.



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