SAVE VSR 200/B

CE   UK CA   ⊘   EAC

Table of contents

1 Introduction

1.1 Document description

This document contains instructions for service, configuration of the product and installation of accessories. The procedures must be done by approved personnel only.

Speak to Systemair for more information on how to install accessories that are not mentioned in this document.

1.2 Product overview
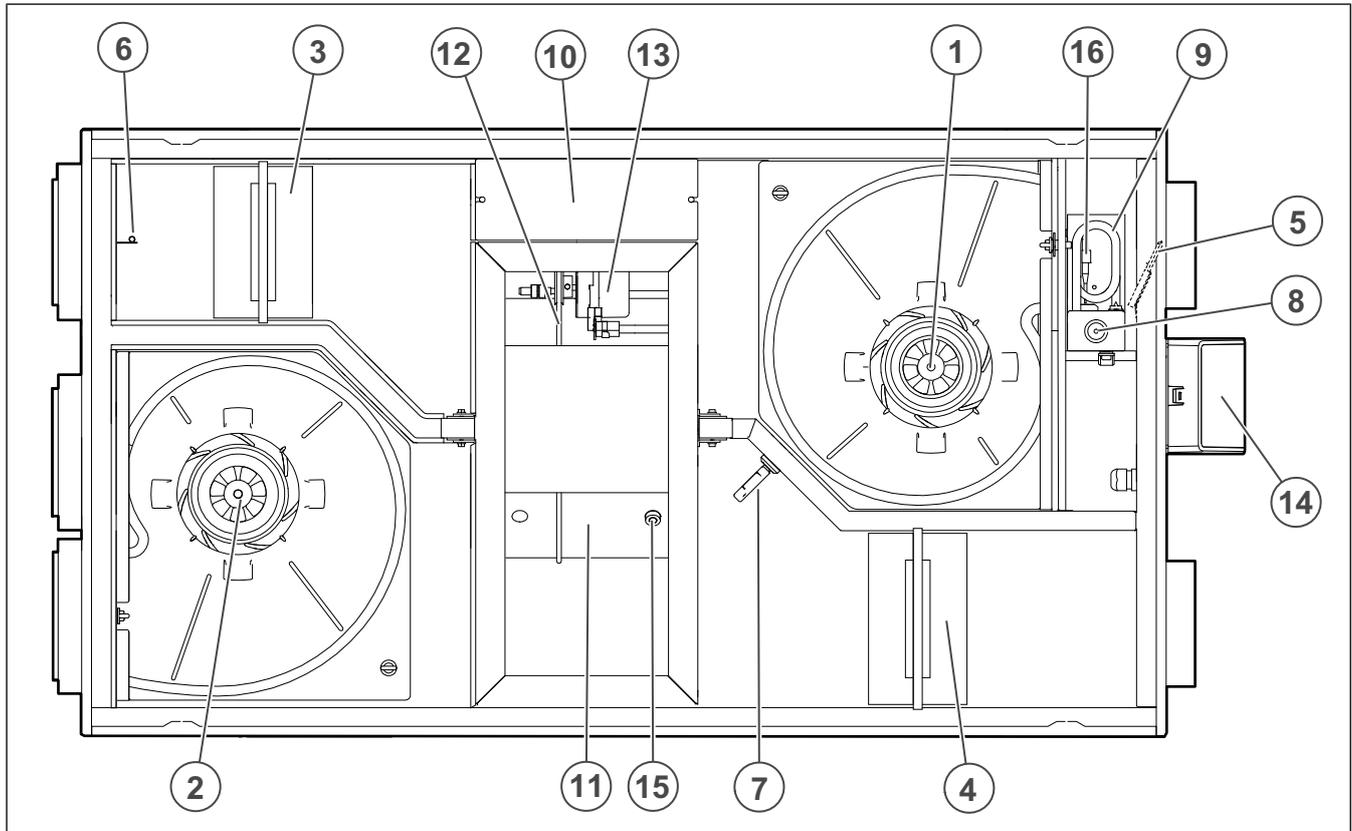
1. Supply air fan
2. Extract air fan
3. Supply air filter
4. Extract air filter
5. Supply air sensor
6. Outdoor air sensor
7. Relative humidity/Extract air temperature sensor
8. Manual overheat protection reset button
9. Electrical heater
10. Electrical connections
11. Rotary heat exchanger
12. Drive belt for rotary heat exchanger
13. Rotor motor
14. External connections for accessories
15. Rotor rotation sensor
16. Overheat protection sensor

1.3 Name plate
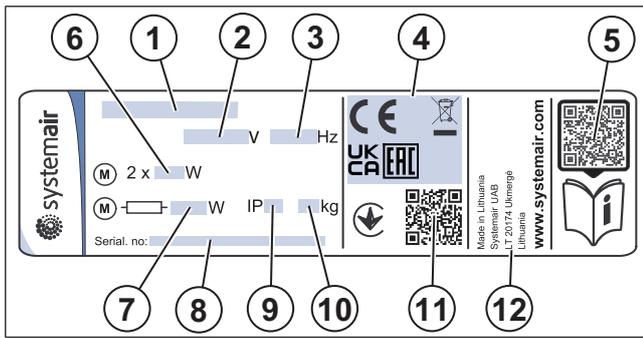
1. Product name
2. Voltage, V
3. Frequency, Hz
4. Certifications
5. Scannable code for the spare parts list and documentation [1]
6. Fans input power, W
7. Total input power, W
8. Serial number: part number/production number/production date
9. IP code, enclosure class
10. Weight, kg
11. Scannable code for manufacturing order number (MO) and software version
12. Country of production

1.4 Product liability

Systemair is not liable for damages that the product causes in these conditions:

- The product is incorrectly installed, operated or maintained.
- The product is repaired with parts that are not original spare parts from Systemair.
- The product is used together with accessories that are not original accessories from Systemair.

2 Safety

2.1 Safety definitions

Warnings, cautions and notes are used to point out specially important parts of the manual.

Warning

If you do not obey these instructions, there is a risk of death or injury.

Caution

If you do not obey these instructions, there is a risk of damage to the product, other materials or the adjacent area.

Note:

Information that is necessary in a given situation.

2.2 Safety instructions

Warning

Read the warning instructions that follow before you do work on the product.

- Read this manual and make sure that you understand the instructions before you do work on the product.
- Obey local conditions and laws.
- The ventilation contractor and the operator are responsible for correct installation and intended use.
- Do not remove or disconnect safety devices.
- Only permit approved personnel to work on the product and to be in the adjacent area during all work on the product.
- Use applicable safety devices and personal protective equipment during all work on the product.
- Before you do work on the product, stop the product and wait until the fan impeller stops.
- Always use spare parts from Systemair.

2.3 Personal protective equipment

Use personal protective equipment during all work on the product.

- Approved eye protection
- Approved protective helmet
- Approved hearing protection
- Approved protective gloves
- Approved protective shoes
- Approved work clothing

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1. Use a mobile device to scan the scannable code and go to the Systemair documentation portal for more documentation and document translations.

3   Maintenance

Warning

Make sure that the mains supply to the product is disconnected before performing any maintenance or electrical work.

- When you send an order for spare parts, include the serial number of the product. The serial number is found on the name plate.

- For more information about spare parts, contact technical support.

- Always use spare parts from Systemair.

- To find spare parts, refer to the scannable code on the name plate.

3.1   To open the door

Warning

Make sure that the door is held firmly with hands when screws are removed. Open the door slowly.
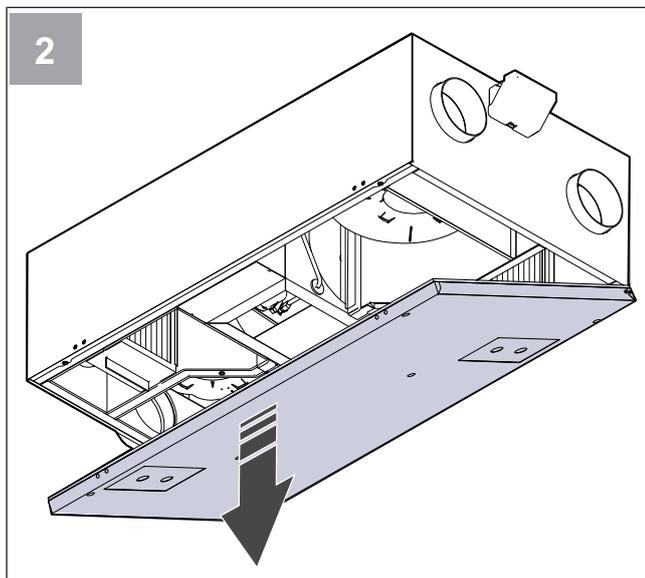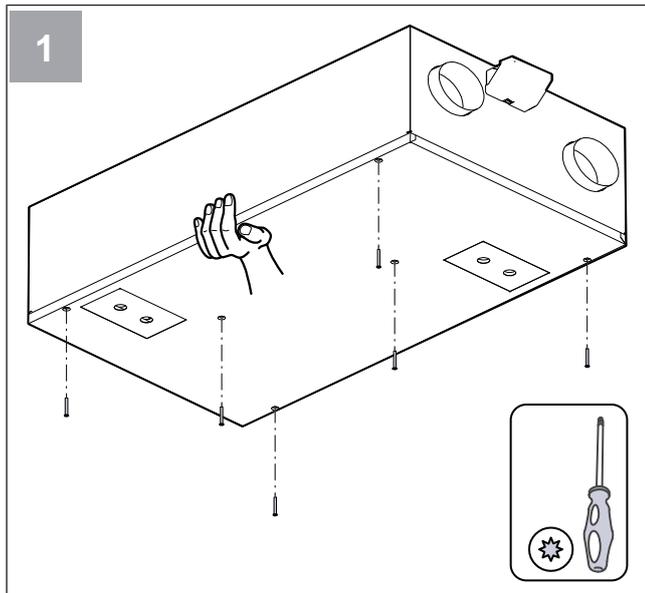
3.2   To change door postion
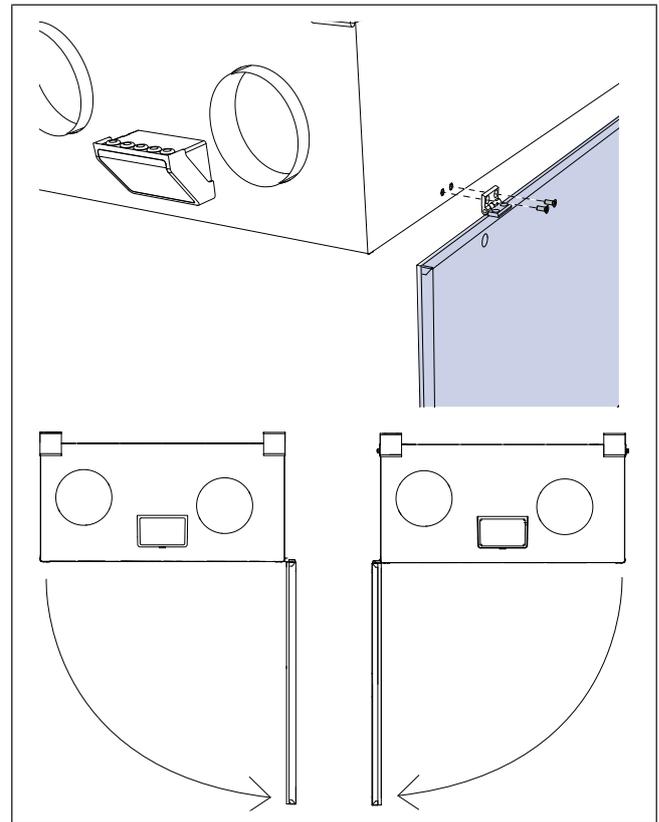
3.3   To repair the rotor belt

Warning

Use protective gloves during installation and maintenance. Sharp edges can cause injury.

Note:

Remove the heat exchanger if the belt pulley is at the back.

The alarm **Rotor guard** shows when the rotor belt is broken.
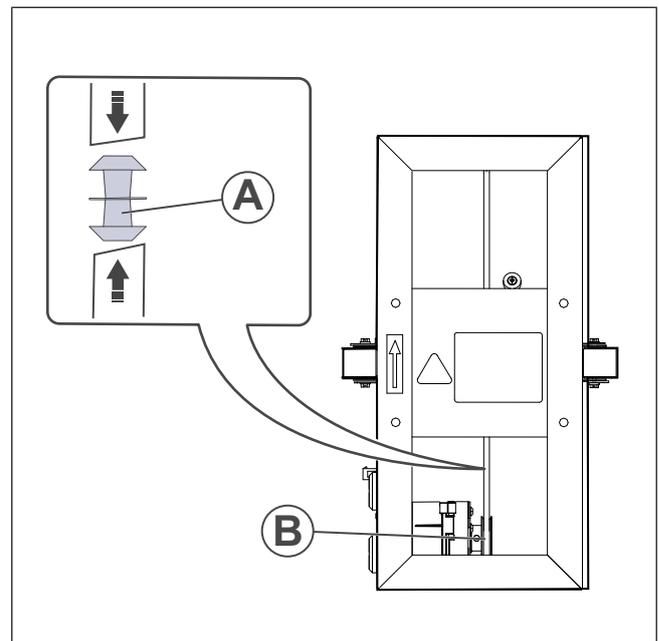
1. Disconnect the product from the power supply.

2. Open the door.

3. Use a strip of adhesive tape to attach one end of the broken belt to the rotor.

4. Turn the rotor by hand to get hold of the other end of the broken belt.

5. Use the included joint nipple (A) to connect both ends of the broken belt.

6. Pull down the repaired belt on the belt pulley (B).

7. Turn the rotor by hand to see if the belt is correctly installed and belt pulley turns.

Note:

If the motor pulley does not turn, the repaired belt is possibly too long. Decrease the belt length by 5 mm and try again.

8. Close and lock the door and connect the product to the power supply.

3.4   To replace the rotor belt

Warning

Use protective gloves during installation and maintenance. Sharp edges can cause injury.

The alarm **Rotor guard** shows when the rotor belt is broken.

Note:

The product has a spare belt attached on the rotor. Release the spare belt and pull the spare belt on the belt pulley.

1. Disconnect the product from the power supply.

2. Open the door (refer to 3.1 To open the door).

3. Disconnect the heat exchanger cable and the rotation sensor.

   Remove the knob that holds the heat exchanger.
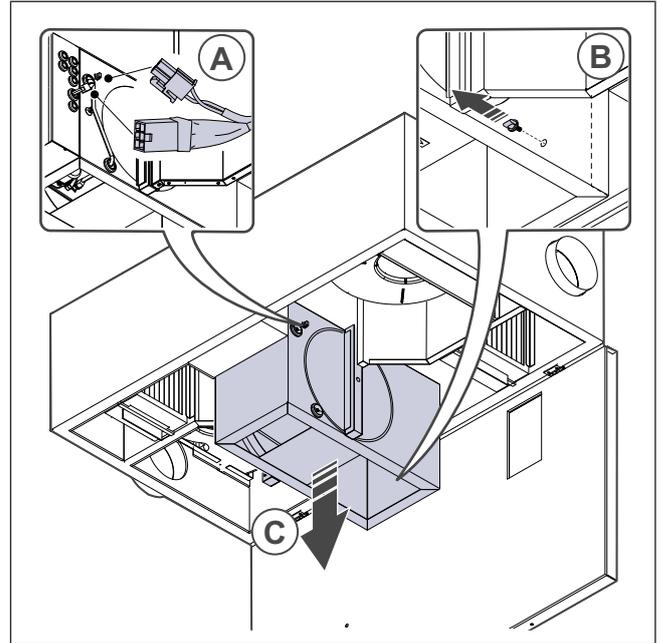
4. Pull out the heat exchanger towards you. Some force may be needed.

5. Loosen the screws of the heat exchanger housing to access the belt pulley.
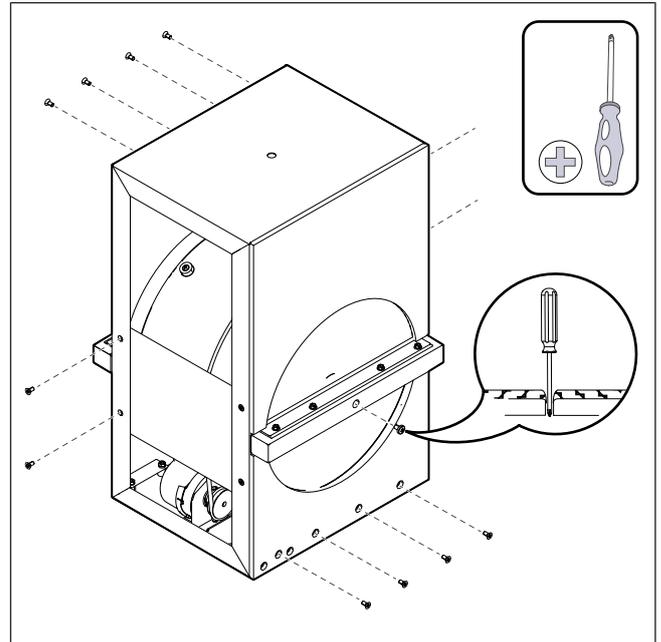
6. Put the new belt on the rotor.
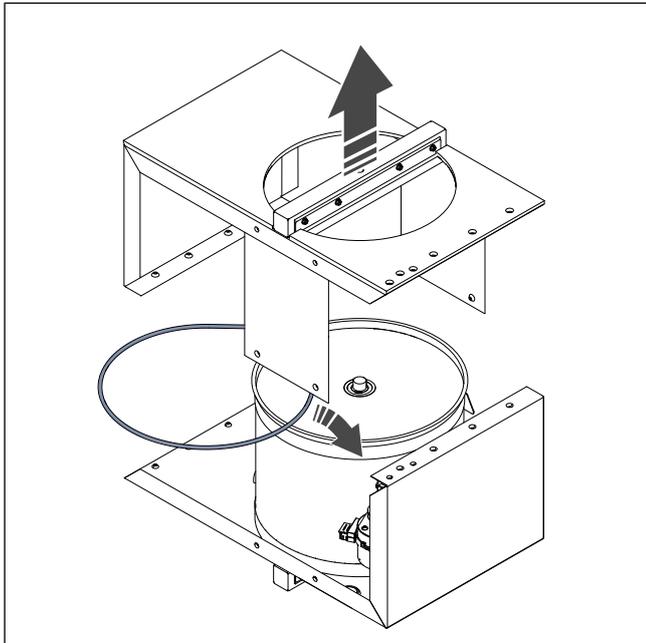
7. Assemble the heat exchanger.

8. Pull the belt on the belt pulley.
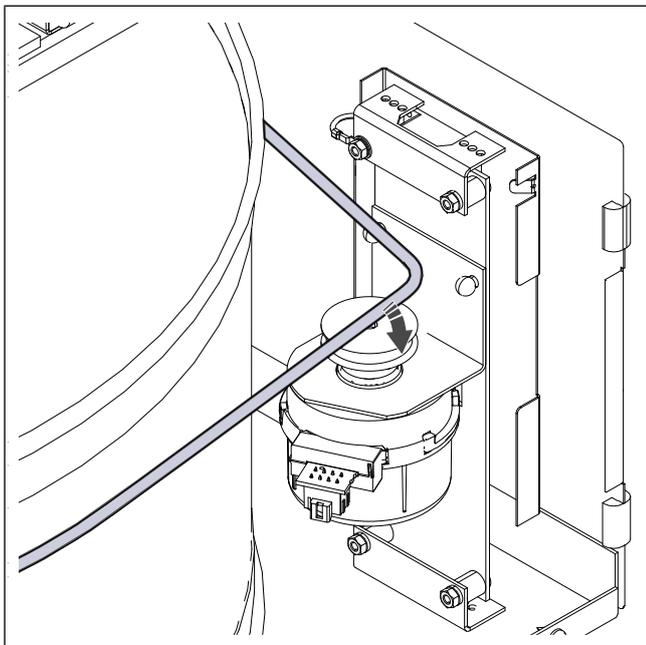
9. Install the heat exchanger.

10. Connect the heat exchanger cable and the rotation sensor.

11. Close and lock the door and connect the product to the power supply.

3.5   To replace the temperature sensor

17 ± 1 mm
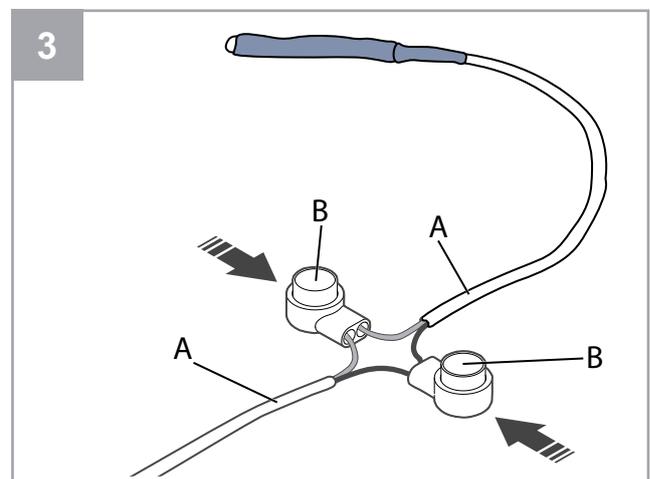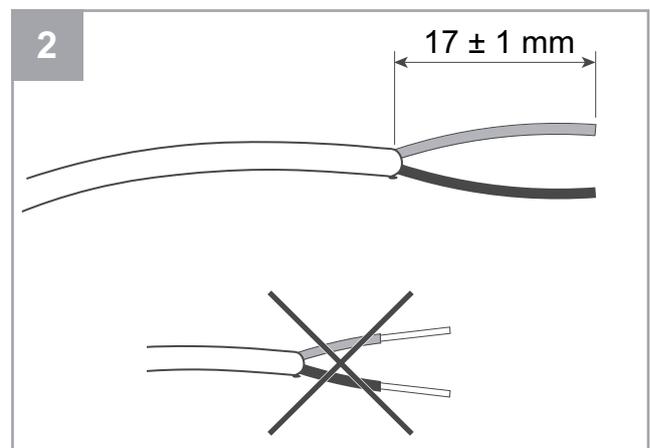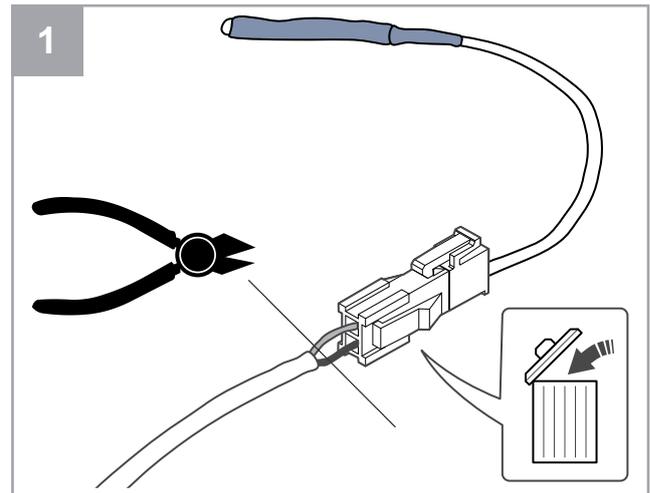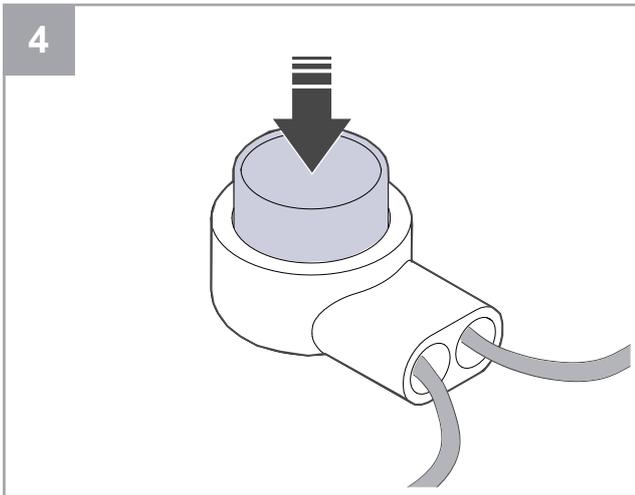
1. Remove the defective sensor.
   - Remove connector together with the defective sensor.
   - If the cable does not have a connector then cut the cable close to the defective sensor (maximum 100 mm).
2. Remove 17 mm of the outer cable jacket. Do not damage the inner wire jackets.
3. Connect wires of the same colour.

   Insert wires (A) into connectors (B). Make sure that wires are inserted all the way into connectors.
4. Use pliers to push a button until there is no gap left. Make sure wires are tight.

3.6 To reset the manual overheat protection
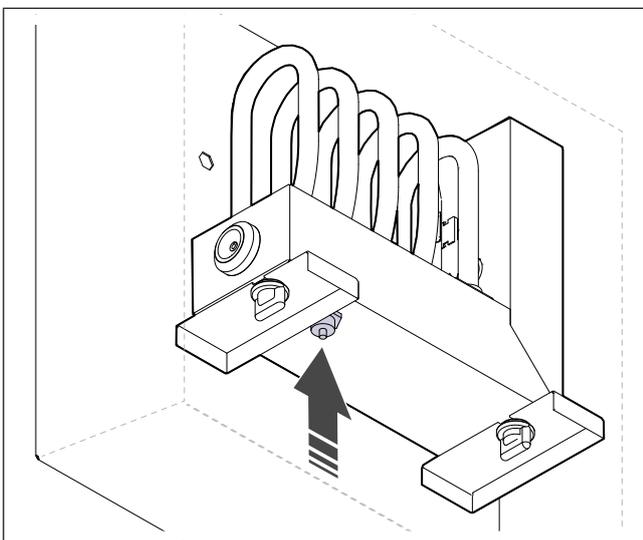
Push the red button on the electrical heater.

4 Operation

The product can be controlled in different ways:

- **SAVE CONNECT** – wireless control with a mobile application.
- **SAVE LIGHT** – control panel with basic features.
- **SAVE TOUCH** – control panel with advanced features.

4.1 Overview of functions

Icon	Function	Description
	Heating	The electric heater or pre-heater is ON.
	Heat recovery	Heat recovery from the apartment is ON.
	Cooling	The cooler is ON.
	Cooling recovery	Automatic cooling recovery is ON. Extracted air temperature from the apartment is lower than outdoor air temperature and there is a cooling demand (temperature setpoint is lower than outdoor air temperature).
	Free cooling	Cool outdoor air is used to lower indoor air temperature to save energy.
	Moisture transfer	Rotation speed of the heat exchanger is controlled to prevent moisture transfer to supply air due to high relative humidity in the extract air. Function is only available for products with the rotating heat exchanger.
	Defrosting	Function prevents formation of ice on the heat exchanger during cold outdoor temperatures.
	Secondary air	The damper inside the outdoor air duct is used to defrost the heat exchanger with warm air from the apartment. The product switches from outdoor air to secondary air while the extract air fan stops and warm secondary air increases the temperature inside the heat exchanger.

	Vacuum cleaner	Supply air fan is set to **High** level and extract air fan is set to **Low** level to increase air pressure within the apartment for better dust collection through central vacuum cleaner. The function can be activated via a digital input — **Central Vacuum Cleaner Function**. Always ON while digital input is activated.
	Cooker hood	The speed of the supply and extract air fans is set to **Maximum** level to increase the airflow in the cooker hood. The function can be activated via a digital input — **Cooker Hood Function**.
	User Lock	The system is password-locked. Login with a password to change settings.
	Configurable Digital Input 1	Configurable digital input for a custom fan speed. High–priority function.
	Configurable Digital Input 2	Configurable digital input for a custom fan speed. Mid–priority function.
	Configurable Digital Input 3	Configurable digital input for a custom fan speed. Low–priority function.
	Pressure guard	Configurable digital input for a pressure guard connection. The airflow levels of both fans can be freely configured.

4.2 Digital signal functions

A digital signal from the push-button, presence detector, Building Management System (BMS) and any other external device with a digital output can be used to turn on functions when configured:

- **Vacuum cleaner**
- **Cooker hood**
- **Pressure guard**
- **Configurable Digital Input 1**
- **Configurable Digital Input 2**
- **Configurable Digital Input 1**
- **Fire alarm**
- all temporary user modes

Configurable digital inputs are grouped in levels of priority.

Configurable DI 1 has the highest priority and cannot be overwritten by other user functions.

4.3 Priority of functions and modes

User modes and functions such as **Away**, **Crowded**, **Fireplace**, **Holiday**, **Refresh** are always interrupted by manual selection of **Auto** and **Manual** modes.

Fireplace function has the highest priority between user functions. Other functions can interrupt each other.
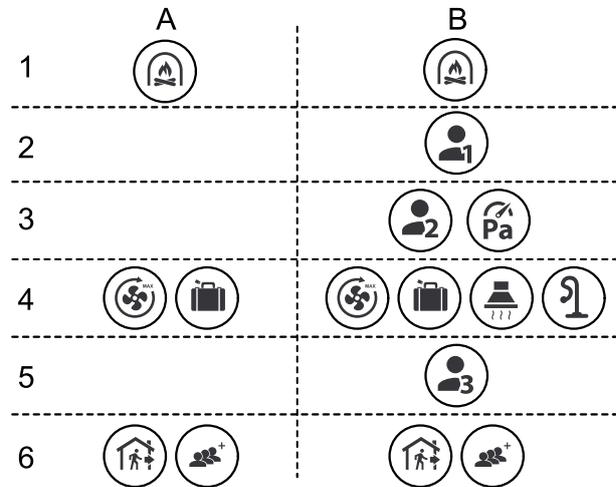
Modes are listed from the highest to lowest priority:

- A — user modes that can be activated from the control panel.
- B — user modes and functions activated via digital input.

4.4 ECO mode

 ECO mode is a power saving function that can be activated in the **Set Temperature** menu.

The **ECO mode** function is available only when the internal heater is installed and configured.

The **ECO mode** function lowers the supply air temperature value at which the heater is activated during a cold night.

If the outside temperature is very low and the heater is still on during the night, then during the next daytime the indoor temperature will be increased by using the heat exchanger so that accumulated heat could be used during the next cold night. The lowered set-point for the heater remains.

ECO mode will have impact for the following user functions/modes if selected:	ECO mode is always activated by the following modes:
 - **Auto** - **Manual** - **Away** - **Holiday** - **Central Vacuum Cleaner Function** - **Cooker Hood Function** - **Fireplace Function**	- **Away** - **Holiday**
	ECO mode is always deactivated by the following user functions/modes:
	- **Crowded** - **Refresh** - **Free cooling**

4.5 Indoor air quality

The product automatically controls indoor humidity and/or CO_2 levels. When air quality deteriorates, the airflow is increased.

The **Demand Control** function is responsible for indoor air quality (IAQ) regulation. Relative humidity (RH) and/or CO_2 sensors monitor indoor air quality.

The indoor air quality indication is available when **Auto** mode and **Demand Control** function are ON.

Indoor air quality levels:

- **Perfect** — measured indoor air quality value is below a set-point.
- **Good** — measured indoor air quality value is between low and high limits.
- **Improving** — measured indoor air quality value is above the high set-point.

Set-point for relative humidity and CO_2 level can be set in the **Service** menu.

Different airflow settings can be set for **Improving** and **Good** quality levels in the **Service** menu.

4.6 Overview of Unit Information menu

Basic read-only information about status of the product, configured components and inputs/outputs.

- **Components**

  Type and settings of the heat exchanger, heater, cooler, extra controller.

- **Sensors**

  Values from sensors and rotation speed of fans.

- **Input Status**

Status of configured analogue, digital and universal inputs. The type of connected component and raw value (volts) are displayed.

- **Output Status**

  Status of configured analog, digital and universal outputs. Connected component type and value (volts) is displayed.

- **Unit Version**

  Product model name, manufacturer number, serial number and product software versions for the control board, control panel and internet access module.

4.7 Overview of Alarms menu

A detailed information about alarms that are ON and a log of the last 20 events.

- **Active Alarms**

  Alarm screen is empty if there are no active or logged alarms.

  Touch **Help** button to know more about the alarm.

  Touch **ACKNOWLEDGE** button to clear the alarm.

  – If the cause is not corrected, the alarm comes back.
  – If the problem continues contact your installation company or place of purchase.

  The control panel cannot go to sleep mode if at least one alarm is ON.

- **Alarms log**

  The last 20 alarms can be viewed in the alarm log.

  Each alarm contains information:

  – Alarm name
  – Date and time stamp
  – Information if the alarm stops the product and other notes

4.7.1 Overview of the alarms

Note:

If alarm continues, speak to Systemair technical support.

Alarm	Explanation	Solution
A class alarms:		
Frost protection	Water temperature in the heating coil is too low. • Alarm stops the product and opens the water valve completely.	Make sure the water circulation pump is ON. Increase return water temperature to at least 13 °C.
Frost protection temperature sensor	Water heater temperature sensor is not working properly. • Alarm stops the product.	Make sure that frost protection temperature sensor connection is correctly done and cable is not damaged.

Alarm	Explanation	Solution
Defrosting error	Pre-heater has failed to heat the out-door air because of very low outdoor temperature or pre-heater failure. • Alarm stops the product.	Press a red reset button to reset the thermostat. Make sure the pre-heater cable is not damaged. Mare sure that installed pre-heater meets heating power requirements if outdoor temperature is very cold.
Supply air fan rpm	Supply air fan malfunction. Rotation speed of the supply air fan is lower than minimum required. • Alarm stops the product.	Make sure that the cable connectors are connected.
Extract air fan rpm	Extract air fan malfunction. Rotation speed of the extract air fan is lower than minimum required. • Alarm stops the product.	Make sure that the fan cable connectors are connected.
Supply air fan control error	The supply air pressure is bellow set limit. • Alarm stops the product.	Make sure that air tube for pressure sensor is correctly connected and cable is not damaged.
Extract air fan control error	The extract air pressure is bellow set limit. • Alarm stops the product.	Make sure that air tube for pressure sensor is correctly connected and cable is not damaged.
Fire	Fire alarm is ON. • Alarm stops the product.	Remove the cause of fire alarm, ac-knowledge the alarm and restart the product. **Note:** The fire alarm can only be started by a digital signal from a fire detection system or similar. The digital input must be configured as **Fire alarm** for the alarm to work.
Low supply air temperature	Supply air temperature is too low.	Make sure that the rotary heat exchanger is rotating. Make sure the heater is working correctly.
B class alarms:		
Emergency thermostat	Overheating protection was energized.	If the manual overheating protection was energized, press the red button on the heater to reset the status. If the automatic overheating protection is ON, wait for the temperature to drop.
Bypass damper feedback	Bypass damper malfunction.	• Disconnect the power supply for 10 seconds to reset the control function. • Wait until the bypass damper functionality test is complete. If the alarm occurs again after approximately 3 minutes, speak to Systemair technical support.
Rotor motor feedback	Heat exchanger rotor motor malfunction. No feedback signal from the rotor motor for 180 seconds.	Replace the rotor belt if it is broken. Make sure that the cable connectors are plugged firmly.

Alarm	Explanation	Solution
Rotor guard	Heat exchanger rotor has stopped. No rotation guard signal for 180 seconds.	Replace the rotor belt if it is broken. Make sure that the cable connectors are plugged firmly. Make sure that there is a gap of 5-10 mm between the rotation sensor and the magnet. Adjust the gap if necessary.
Secondary air damper	Shows the secondary air damper malfunction.	Make sure that the secondary air damper is in correct position. Make sure that the cable connectors are plugged firmly.
Outdoor air temperature sensor	Shows outdoor air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Overheat Temp. Sensor (OHT)	Shows overheat temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Supply air temperature sensor	Shows supply air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Room air temperature sensor	Shows room air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Extract air temperature sensor	Shows extract air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Extra controller temperature sensor	Shows extra controller temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Built-in RH sensor	Shows internal relative humidity sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Built-in extract air temperature sensor	Shows internal extract air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Extra controller alarm	Shows error from external device.	Make sure that the sensor is connected correctly and the cable is not damaged. Make sure that the overheat protection is not energized.
C class alarms:		
Filter warning	Notification about the upcoming filter change.	Make sure to change filters within a month.
Filter	Time for filter change.	Change the filter. Details about filter retailers can be found in **Help** menu.
External stop	The product was stopped by an external signal from connected device or building management system (BMS).	Remove the cause of stop signal.
Manual Fan Stop	Fans are in the manual mode and airflow is set to **Off**.	Select a different airflow (**Low/Normal/High**) or **Auto** mode in the control panel home screen.
Overheat Alarm	Temperature after the heater is too high because supply airflow is not sufficient.	Make sure that the intake grille is not blocked. Make sure that the outdoor air damper is open during operation.
External CO2 sensor	Shows the external CO_2 sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged. If the sensor is wireless, do a check of a RS485 gateway and sensor status in the control panel.

Alarm	Explanation	Solution
External RH sensor	Shows the external relative humidity sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged. If the sensor is wireless, do a check of a RS485 gateway and sensor status in the control panel.
Output in manual mode	One or more of analog outputs are in manual mode.	Do a check of Service->Output menu. Make sure that all configured outputs are set to Auto value.

A digital output configured as **Sum Alarm** sends a generic signal every time the alarm is on, except for alarms **External stop**, **Output in manual mode** and **Manual Fan Stop**. This signal does not specify the alarm type.

4.8   Overview of System Preferences menu

Configuration of product location, language and time.

- Language (default language is English)
- Country (default country is UK)
- Unit address (address, post code)
- Unit date and time, activate or deactivate summer/winter time switch.

  Time will automatically change between summertime and wintertime according to European standard, based on Greenwich time zone and set unit location.

  Switch between 12 and 24 hours time format.

- Contact information: contractor, installer, service, phone, website, e-mail, etc.
- Display settings: screen brightness and screen behaviour in standby mode.

4.9   Overview of Service menu

All product parameters and settings can be changed in the **Service** menu.

The **Service** menu is locked with a password (default password is **1111**).

4.9.1   Input

Settings for analogue, digital and universal input terminals on the control board and connection board for external accessories.

Digital input	Description
User Modes	Select the user mode to be started by the digital input signal.
Central Vacuum Cleaner Function	Configure central vacuum cleaner function to be started by the digital input signal.
Cooker Hood Function	Configure the cooker hood function to be started by the digital input signal.
External Stop	Configure the product to be stopped by a digital input signal.

Extra controller alarm	Configure the alarm signal from the external heater, cooler or pre-heater.
Change-over feedback	Configure the fluid temperature feed-back signal from the change-over system.
Fire alarm	Configure the fire alarm or smoke detector signal.
Configurable Digital Input 1	Configure the start of custom airflows.
Configurable Digital Input 2	Configure the start of custom airflows.
Configurable Digital Input 3	Configure the start of custom airflows.
Pressure guard	Configure the pressure switch signal.

Note:

- Relative humidity and rotation speed signals from fans are already pre-addressed to specified terminals and cannot be changed. All other digital inputs can be configured for any function.
- Analogue input (AI) temperature sensors cannot be configured more than once.
- The same user modes can be configured on multiple digital inputs. For example, multiple bathrooms can be connected to different digital inputs with **Refresh** mode configured for each of them.
- Digital inputs can be configured to be normally open **Normally Open (NO)** or normally closed **Normally Closed (NC)**. The default setting is **Normally Open (NO)**.

4.9.2   Output

Settings for analogue, digital and universal output terminals on the control board and connection board for external accessories.

Digital output	Description
Step Controller Y1 Heating Step Controller Y3 Cooling Step Controller Y4 Extra Controller	Configure the control signals.

Sum Alarm	Configure the fault indication output
Outdoor-/Exhaust Air Damper	Configure the air damper control signal.
Secondary air	Configure the secondary air damper control signal.
Activate Cooling	Configure the output signal to the external system to activate cooling.
Interlock External fan control	Configure the indication signal about the limited fan speed (for example when defrost is ON).
Start/Stop Circ. Pump, Y1 Heating Start/Stop Circ. Pump, Y3 Cooling Start/Stop Circ. Pump,Y1/3 Change-over Start/Stop Circ. Pump, Y4 Extra Controller	Configure the stop and start signals for the circulation pump.
Week schedule - Unscheduled	Configure the output signal for an unscheduled week period.
Week schedule - Scheduled	Configure the output signal for a scheduled week period.
Unit Status OK	Configure the output signal that is ON when there are no more ON or unacknowledged alarms.

Note:

- Fan pulse-width modulation output and TRIAC output are already pre-addressed to specified terminals and cannot be changed. All other outputs can be configured for any function.
- An output function can only be used once. Already used and configured terminal is greyed-out in the menu for output type selection.
- The analogue and digital outputs have an adjustable **Manual** mode.
- The **Manual** mode overwrites all system related automatic functions. The analogue output is adjustable 0–10 V and digital output values are **On** and **Off**.

4.9.3 Components

Configure the connected components.

Heat Exchanger

- Activate or deactivate the passive house function if the heat exchanger type is **Rotating**.

  Yes / **No**.
- Choose the bypass damper location if the heat exchanger type is **Plate**. Default setting is based on the product type.

  Supply / **Extract**.
- Set the actuator type. Default setting is based on the product type.

Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.

Heater

- Choose the heater type. Each selection unlocks additional configuration options. Default setting is based on the product type.

  None / **Electrical** / **Water** / **Change-over**.
- Set the actuator type. Default value is 0–10 V.

  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.
- Set the circulation pump temperature. Default setting is 10 °C. Only available if the heater type is **Water** or **Change-over**.

  Range: 0–20 °C.
- Set the circulation pump stop delay. Default setting is 5 minutes. Only available if the heater type is **Water** or **Change-over**.

  Range: **Off** / 1–60 min.

Cooler

- Choose the cooler type. Each selection unlocks additional configuration options. Default setting is **None**.

  None / **Water** / **Change-over**.
- Set the outdoor air temperature interlock. Default setting is 10 °C.

  Range: 0–20 °C.
- Set the actuator type. Default value is 0–10 V

  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.
- Set the circulation pump stop delay. Default setting is 5 minutes. Only available if the cooler type is **Water** or **Change-over**.

  Range: **Off** / 1–60 min.

Extra Controller

- Choose the extra controller type. Each selection unlocks additional configuration options. Default setting is **None**.

  None / **Preheater** / **Heating** / **Cooling** / **GEO Exchanger**.
- Set temperature setpoint of the extra controller. Default value is 0 °C.

  Range: –30 °C – 40 °C.
- Set P-band. Default setting is 4 °C.

  Range: 1–60 °C.
- Set I-time. Default setting is **Off**.

  Range: **Off** / 1–240 sec.
- Set the actuator type. Default value is 0–10 V.

  Range: 0–10 V / 2–10 V / 10–0 V / 10–2 V.
- Set the circulation pump temperature. Default setting is 0 °C. Only available if the controller type is **Preheater**

  Range: 0–20 °C.
- Set the circulation pump stop delay. Default setting is 5 minutes.

  Range: **Off** / 1–60 min.

  Make advanced settings if the controller type is **GEO Exchanger**.
  - Pre-heater settings:

    Set-point (-30 °C to + 10 °C).

Activation temperature (-30 °C to 0 °C).

– Pre-cooler settings:

Set-point (10 °C to 30 °C).

4.9.4 Control Regulation

Configure the product control.

Temperature Control

- Configure the temperature controller. Choose the control mode:

Supply air temperature control / **Room temperature control** / **Extract air temperature control**.

> **Note:**
>
> **Room temperature control** mode requires an accessory to measure room temperature.

- Choose temperature unit. Default setting is **Celsius**.

Celsius / **Fahrenheit**.

- Set P-band. Default setting is 20 °C. Set I-time. Default setting is 100 sec.

- Configure **SATC Split** for cooler (0–20%), heat exchanger (25–60%) and heater (65–100%) output settings. Range: 0–100%.

- Configure cascade control setpoint for min/max supply air temperature, P-band, I-time.

Only available for **Room temperature control** and **Extract air temperature control** modes.

ECO Mode

- Configure the economic mode settings. Set the heater offset. Default setting is 5 °C.

Range: 0–10 °C.

Fan Control

- Configure airflow and fan settings. Select fan control (airflow) type. Default setting is **RPM**.

Available airflow control types: **%**/ **rpm** / **Flow** / **Pressure** / **External**.

Setting	Manual	Manual	Flow	Pressure	External
Airflow measurement unit.	%	rpm	l/s, m³/h, cfm	Pa	%
P-Band	–	0–3000 rpm	0–3000 rpm		–
I-Time	–	Off / 1–240 sec. Default setting: 5 sec.	Off / 1–240 sec. Default setting: 5 sec.		–
Airflow level settings for each level	16-100%	500–5000 rpm	Sensor range (airflow unit)		0–100%
Manual Fan Stop — enables or disables the manual fan stop. Default setting is OFF.					
Pressure Sensors — configure sensor voltage relation to pressure. Set value at which fan alarm occurs. Default setting is **None**	–	–	Supply air fan control sensor: Pressure at 0V: 0-500 Pa, default setting 0 Pa Pressure at 10V: 0-2500 Pa, default setting 500 Pa. Extract air fan control sensor: Pressure at 0V: 0-500 Pa, default setting 0 Pa. Pressure at 10V: 0-2500 Pa, default setting 500 Pa		–

Setting	Manual	Manual	Flow	Pressure	External
Set K factor for supply air fan and extract air fan. Default settings are based on the product type.	–	–	SAF K-Factor range: 0–1000 EAF K-Factor range: 0–1000	–	–
Outdoor Compensation	The purpose of this function is to protect the prodcut from freezing by creating an unbalanced airflow at extreme winter temperatures, or to limit supply of cold/hot outdoor air at extreme winter/summer conditions with balanced ventilation. Function operates by lowering the speed of supply air fan (SAF) or both supply and extract air fans (SAF/EAFC) by value set in **Stop Compensation Value** setting (adjustable from 0% to 50%) if the outdoor air temperature (OAT) drops below adjustable value set in **Start Compensation Temperature** setting (during winter from 0 °C to -30 °C / during summer from 15 °C to 30 °C). This compensation reaches the maximum as soon as the outdoor air temperature reaches the adjustable value set in **Stop Compensation Temperature** setting (during winter from 0 °C to -30 °C / during summer from 15 °C to 30 °C).				

Note:

P-band value must be changed manually when airflow type is changed. P-band value does not change automatically.

Demand Control

Configure indoor air quality sensors. Once sensor(s) are configured, **Demand Control** function can be activated with **Auto** mode in home screen.

- Start or stop the CO_2 sensor. Default setting is **Off**.

  Set CO_2 sensor setpoint. Default setting is 800 ppm (parts per million in atmosphere). Normal atmospheric CO_2 concentration is 400 ppm. Range: 100–2000 ppm.

  Set P-band, default setting is 200 ppm. Range: 50–2000 ppm.

  Set I-Time, default setting is **Off**. Range: Off/1–120 sec.

- Start or stop the relative humidity sensor. Default setting is **Off**.

  Set humidity setpoint in summer, default setting is 60%. Range: 1–100%.

  Set humidity setpoint in winter, default settting is 50%. Range: 1–100%.

  Set P-band, default setting is 10%. Range: 1–100%.

  Set I-time, default setting is **Off**, Range: Off/1–120 sec.

- Select airflow level for the **Improving** air quality. Range: **Normal** /**High** / **Maximum**.

- Select airflow level for the **Good** air quality. Range: **Low** / **Normal**.

Moisture Transfer Control

The setting is possible if the product has a rotating heat exchanger. It is highly recommended to leave default values for P-band and I-time. They should be changed only by installer and trained staff.

- Start or stop the relative humidity transfer function. Default setting is **ON**.

- When **Moisture Transfer Control** function is activated, configure:

  Setpoint, default setting is 45% humidity. Range: 1–100% RH.

  Set P-band, default setting is 4g/kg. Range: 1–100g/kg.

  Set I-time, default setting is Off. Range: Off/1–120 sec.

Defrosting Control

Setting is possible if the product has a plate heat exchanger.

- The product is equipped with an automatic defrost function that is activated when there is risk of icing in the area around the heat exchanger.

  Select the defrost mode. Default setting is **Normal**.

Soft	Dry areas, such as warehouse buildings with few people or industrial buildings that don't use water in their production process.
Normal	Apartments or houses with normal humidity In newly constructed houses it might be necessary with a higher defrost level during the first winter period.
Hard	Buildings with very high humidity level.

- Set by-pass location. Default setting is based on the product configuration.

  Supply / **Extract**.

- Set if the secondary air is permitted. Default setting is **Off**.

  Off / **On**.

Cooling Control

- Start or stop cooling recovery. Default setting is **On**.

  If the outdoor air is warmer than the extract air and the supply air is above the setpoint, cooling recovery occurs. This condition stops the heat regulation process.

  Set cooling limit. Cooling recovery is on if extract air temperature is lower than outdoor air temperature by a set limit (default setting is 2K) and cooling demand is present.

- Configure status, temperature and duration of free cooling. Activate or deactivate free cooling . Default setting is **Off**.

  Set supply and extract air fan levels during free cooling. Default setting is **Normal**.

  Set the start/stop conditions.

  Set extract/room air temperature, default setting is 18 °C.

Set outdoor high temperature limit, default setting is 23 °C.

Set outdoor low temperature limit is 12 °C.

Set start and stop time.

4.9.5 User Modes

Set the supply and extract air fan levels, default duration and temperature offset where available for each user mode

4.9.6 Communication

Configure Modbus and wireless settings.

Modbus

- Set Modbus address. Default setting is 1.
- Set baud rate. Default setting is 115200.
- Set parity. Default setting is **None**. Range: **None** / **Even** / **Odd**.
- Set stop bits. Fixed value: 1.
- Shows Smartly-Gateway state.

HMI Address

- Set a unique address number for the control panel.

  Each control panel must have a different address number if more than one control panel is used.

  This menu shows the current control panel address number.

WLAN Settings

The internet access module is a device that lets you to control the product remotely.

- Configure WLAN settings to connect the product to the internet with SAVE CONNECT module.

4.9.7 Logs

See information about alarms, fans and parameters.

Fans Levels

- See the operation time of each air fan at each level. The counted and total time is shown. Reset the counted time.

  Level 1: 0–20%

  Level 2: 21–40%

  Level 3: 41–60%

  Level 4: 61–80%

  Level 5: 81–100%

Parameters

- Touch the icon in the top right corner ∿ to select parameter type, position in y-axis, period from 60 minutes to 2 weeks and then make a graph based on stored data.

- Touch the arrow button ⬇ (only available in mobile application) to export parameters data.

4.9.8 Unit Backups

Restore factory settings or import and export configuration file.

- Go to **Factory settings** menu to restore factory configuration and parameters. This will also overwrite changed password.

> **Note:**
>
> The product will be restarted. The Startup Wizard have to be completed again after restart.

- Touch **Save current configuration to IAM** option to save your current system configuration file to the connected **SAVE CONNECT** module.
- Touch **Download configuration from IAM** option to download configuration file from the connected **SAVE CONNECT** module.
- Touch **Set User Safe Configuration** option to store current settings in the product memory as a backup. It can later be used as a fail-safe configuration copy in addition to factory settings.
- Touch **Activate User Safe Configuration** option to restore the backup copy of system settings from the product memory.

4.9.9 Password Settings

Choose what menus should be locked or not.

The **Service** menu is always locked with a password. Other menu levels can be locked separately.

Use the administrator password to unlock the other menu levels.

4.10 Overview of Help menu

See FAQ (frequently asked questions), troubleshooting of alarms, contact information for support.

- **Service Partner details** — information about service partner.
  - **Company**
  - **Telephone**
  - **Homepage**
  - **Email**
- **User modes** – detailed description of all user modes.
- **Functions** – detailed description of different user functions.
- **Alarms** – detailed description of all alarms.
- **Troubleshooting** – information about all different possible malfunctions.

5 Accessory overview

5.1 Schematic layout of possible accessories
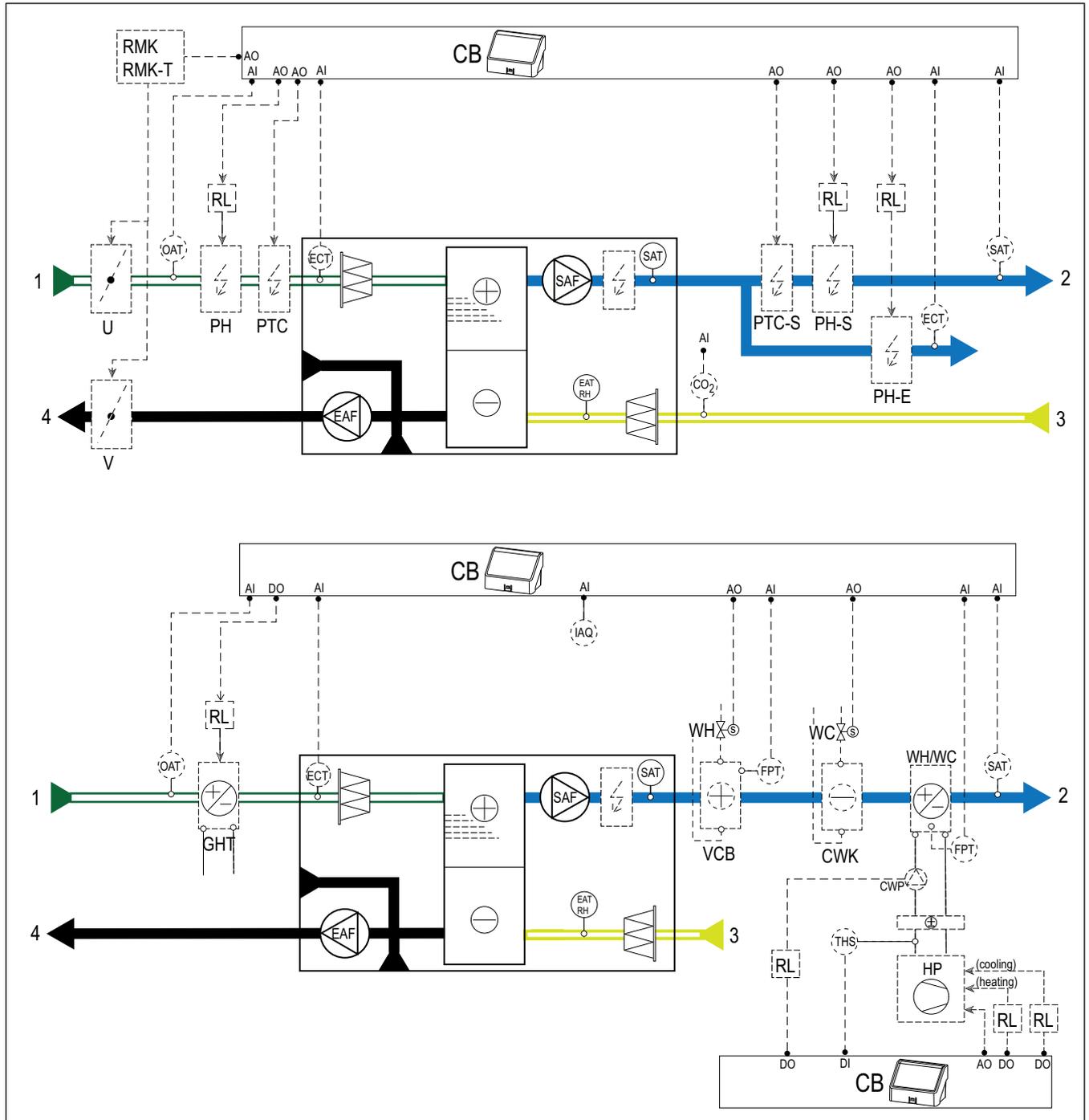
5.1.1 Explanation of symbols

- 1 — Outdoor air
- 2 — Supply air
- 3 — Extract air
- 4 — Exhaust air
- SAF — supply air fan
- EAF — extract air fan
- CB — connection board for accessories
- CO2 — CO_2 duct sensor
- IAQ — indoor air quality sensor (CO_2, RH and temperature)

- ELH — electric heater
- PH — outdoor air duct heater
- PH-S — supply air duct heater
- PH-E — supply air duct heater for extra zone
- PTC — PTC heater in the outdoor air duct
- PTC-S — PTC heater in the supply air duct
- ECT — extra controller temperature sensor
- OAT — outdoor air duct temperature sensor
- SAT — supply air temperature sensor
- WH — internal water heating battery
- VCB — water heating battery

- CWK — water cooling battery
- S — actuator for valve
- FPT — frost protection sensor
- RL — relay
- RMK — relay kit
- RMK-T — relay kit with a transformer
- U — outdoor damper
- V — exhaust damper
- GHT — ground heat exchanger
- WH/WC — change-over battery
- THS — thermostat for sensing if the temperature of heating/cooling fluid in the system is right (optional)
- HP — heat pump (or other device for heating and cooling)
- CWP — water pump

5.2 To install the indoor air quality sensors

Indoor air quality (IAQ) sensors — CO_2, relative humidity and temperature transmitters that have to be installed in the extract air duct or in the room, depending on the type of transmitter.

List of accessories:

- Systemair-1 CO2 duct sensor — 14906
- Systemair-E CO2 sensor — 14904
- Room sensor 0-50C (temperature) — 211525
- Systemair-E CO2 RH Temperature — 211522
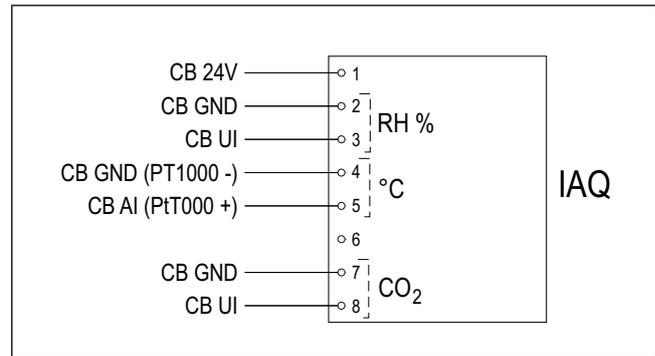
To install:

1. Install the sensor in an air duct or room, depending on the type of sensor. See the instructions delivered with the sensor.

2. Connect the CO_2 and relative humidity (RH) sensors to any available universal analogue input (UI) on the connection board.

3. Connect the temperature sensor to any available analogue input (AI) on the connection board (AI6 and AI7 are available on the connection board).

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Configure the the CO_2 and relative humidity (RH) sensors. Go to **Input ⊳ UNIVERSAL**.

    – Select the universal input to which the CO_2 sensor is connected, set the value to **Analog Input ⊳ CO2 Sensor (CO2)**.

    – Select the universal input to which the relative humidity sensor is connected, set the value to **Analog Input ⊳ RH Sensor (RH)**.

4. Configure the room temperature sensor. Go to **Input ⊳ ANALOG**. Select the analogue input to which the sensor is connected, set the value to **Room Air Temp. Sensor (RAT)**.

5.3 To install the electric heater in the outdoor air duct

List of accessories:

- CB 125-0,6 230V/1 Duct heater — 5289, CB 125-1,2 230V/1 Duct heater — 5290, CB 125-1,8 230V/1 Duct heater — 5377

- CB Preheater Connection Kit — 142852
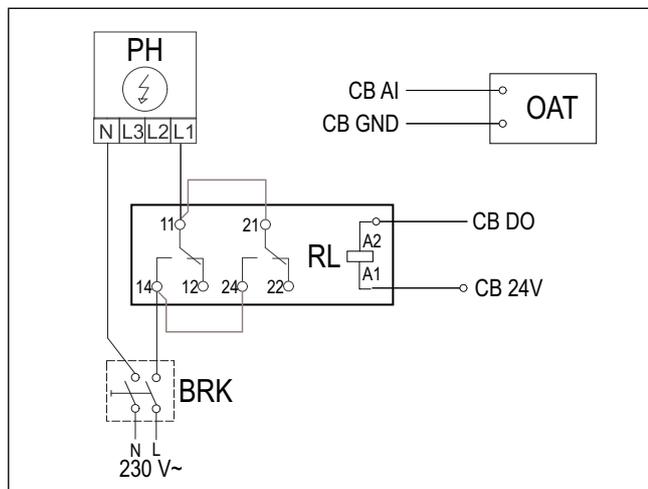
To install:

1. Install the electric heater (PH) at least 100 mm distance from the product in the outdoor air duct.

2. Connect the electric heater to the control relay.

3. Connect the control relay to any available digital output on the connection board (CB).

4. Install the duct temperature sensor (OAT) before the electric heater.

5. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

6. Connect the power supply to the control relay. A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the circuit.
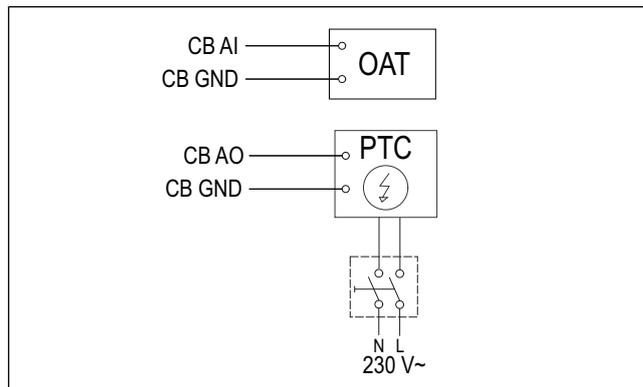
To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➢ Extra Controller ➢ Extra Controller Mode ➢ Preheater**.

4. Go to **Service ➢ Output ➢ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Step Controller Y4 Extra Controller**.

5. Change the configuration of the internal outdoor air temperature sensor. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 1**. Change the value to **Extra Controller Temp. Sensor (ECT)**.

6. Configure the duct temperature sensor (OAT). Select the analogue input to which the sensor is connected, set the value to **Outdoor Air Temp. Sensor (OAT)**.

5.4 To install the PTC heater in the outdoor air duct

List of accessories:

- PTC – DN125 – 0.8kW — 215132
- PTC – DN125 – 1.2kW — 215133

To install:

1. Install the PTC heater (PTC) at least 100 mm distance from the product in the outdoor air duct.

2. Connect the PTC heater to any available analogue output on the connection board (CB).

3. Install the duct temperature sensor (OAT) before the PTC heater.

4. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

5. Connect the power supply to the PTC heater. A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the electric circuit.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➢ Extra Controller ➢ Extra Controller Mode ➢ Preheater**.

4. Go to **Service ➢ Output ➢ ANALOG**. Select the analogue output to which the PTC heater is connected, set the value to **Y4 Extra Controller**.

5. Change the configuration of the internal outdoor air temperature sensor. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 1**. Change the value to **Extra Controller Temp. Sensor (ECT)**.

6. Configure the duct temperature sensor (OAT). Select the analogue input to which the sensor is connected, set the value to **Outdoor Air Temp. Sensor (OAT)**.

5.5 To install the electric heater in the supply air duct

List of accessories:

- CB 125-0,6 230V/1 Duct heater — 5289, CB 125-1,2 230V/1 Duct heater — 5290, CB 125-1,8 230V/1 Duct heater — 5377

- CB Preheater Connection Kit — 142852
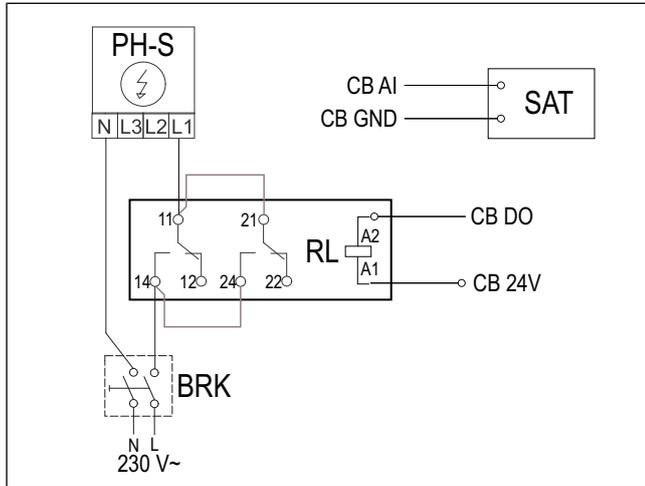
To install:

1. Install the electric heater (PH-S) at least 100 mm distance from the product in the supply air duct.

2. Connect the electric heater to the control relay (RL).

3. Connect the control relay to any available digital output on the connection board (CB).

4. Install the duct temperature sensor (SAT) after the heater.

5. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

6. Connect the power supply to the control relay. A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the electric circuit.
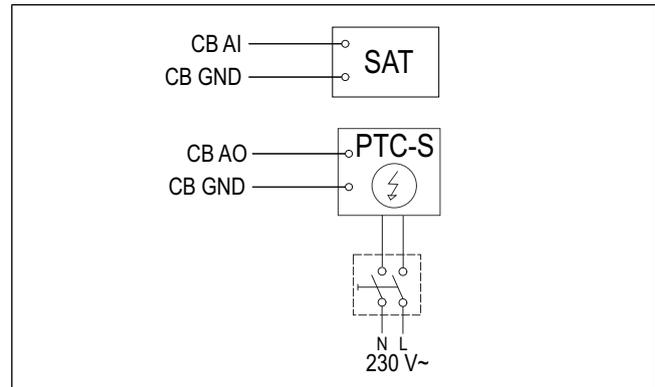
To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➢ Heater ➢ Electrical**.

4. Go to **Service ➢ Output ➢ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Step Controller Y1 Heating**.

5. Set the internal supply air temperature sensor as inactive. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 2 ➢ Inactive Input**.

6. Configure the duct temperature sensor (SAT). Select the analogue input to which the sensor is connected, set the value to **Supply Air Temp. Sensor (SAT)**.

5.6 To install the PTC heater in the supply air duct

List of accessories:

- PTC – DN125 – 0.8kW — 215132
- PTC – DN125 – 1.2kW — 215133

To install:

1. Install the PTC heater (PTC-S) at least 100 mm distance from the product in the supply air duct.

2. Connect the PTC heater to any available analogue output on the connection board (CB).

3. Install the duct temperature sensor (SAT) after the PTC heater.

4. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

5. Connect the power supply to the PTC heater. A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the electric circuit.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➢ Heater ➢Electrical**.

4. If the product has an internal electric heater, set the electric heater control as inactive. Go to **Service ➢ Output ➢ ANALOG ➢ TRIAC OUTPUT ➢ Inactive Output**.

5. Go to **Service ➢ Output ➢ ANALOG**. Select the analogue output to which the PTC heater is connected, set the value to **Y1 Heating**.

6. Set the internal supply air temperature sensor as inactive. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 2 ➢ Inactive Input**.

7. Configure the duct temperature sensor (SAT). Select the analogue input to which the sensor is connected, set the value to **Supply Air Temp. Sensor (SAT)**.

5.7 To install the electric heater in the supply air duct (extra zone)

List of accessories:

- CB 125-0,6 230V/1 Duct heater — 5289, CB 125-1,2 230V/1 Duct heater — 5290, CB 125-1,8 230V/1 Duct heater — 5377

- CB Preheater Connection Kit — 142852
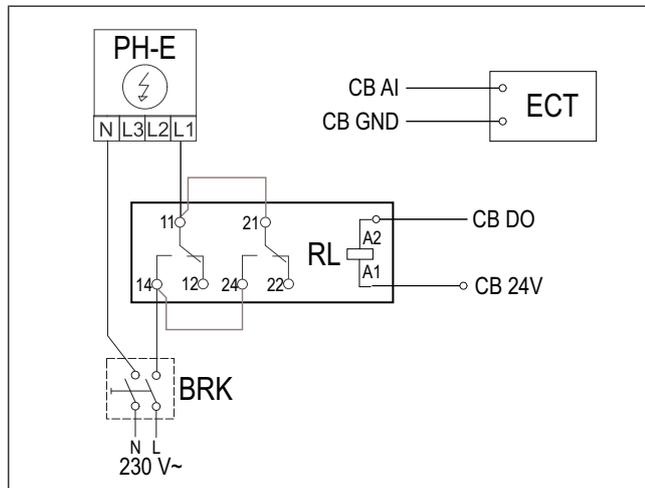
To install:

1. Install the electric heater (PH-E) at least 100 mm distance from the product in the supply air duct.

2. Connect the electric heater to the control relay (RL).

3. Connect the control relay to any available digital output on the connection board (CB).

4. Install the duct temperature sensor (ECT) after the electric heater.

5. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

6. Connect the power supply to the control relay. A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the electric circuit.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➤ Extra Controller ➤ Extra Controller Mode ➤ Heating**.

4. Go to **Service ➤ Output ➤ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Step Controller Y4 Extra Controller**.

5. Configure the duct temperature sensor (ECT). Go to **Components ➤ Input ➤ ANALOG**. Select the analogue input to which the sensor is connected, set the value to **Extra Controller Temp. Sensor (ECT)**.

5.8 To install the water heater in the supply air duct

List of accessories:

- VBC 125-2 Water heating battery — 5457

- VBC 125-3 Water heating battery — 9839

- VAZ4 24A Actuator 0-10V — 9862

- ZTV 15-0,4 2-way valve — 9829, ZTV 15-0,6 2-way valve — 6571, ZTR 15-0,4 valve 3-way — 9670, ZTR 15-0,6 valve 3-way — 6573

- Surface sensor -30-150C (FPT) — 211523

- Transformer 24V — 202692
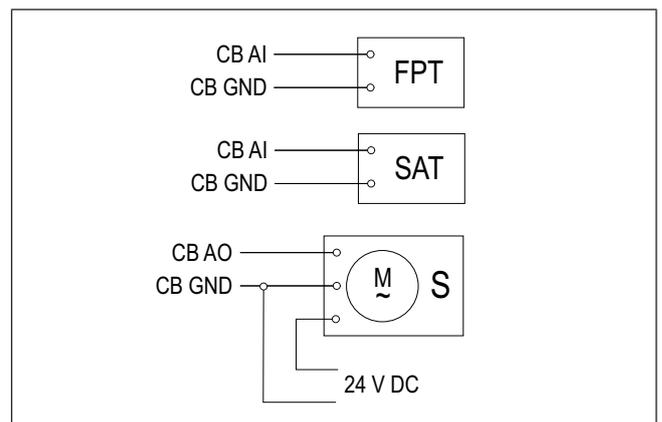
To install:

1. Install the water heater in the air duct.

2. Connect pipes to the water heater. Install the valve with actuator (S).

3. Strap the frost protection sensor (FPT) to the surface of the return water pipe.

4. Connect the frost protection sensor (FPT) to any available analogue input on the connection board (CB).

5. Connect the actuator to any available analogue output on the connection board (CB).

6. Install the duct temperature sensor (SAT) after the heater.

7. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

8. Connect the power supply to the actuator.

> ⚠️ **Caution**
>
> Do not use the 24 V DC output on the connection board to power the actuator.

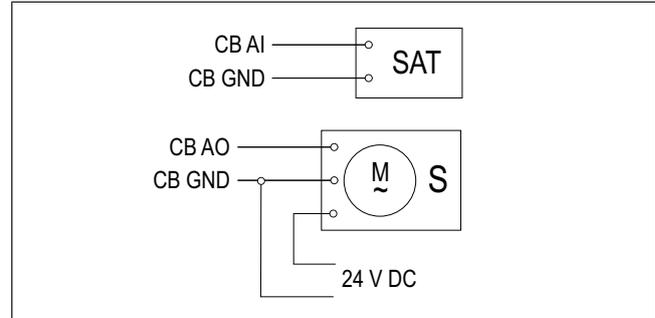For more details, see the instructions that come with the accessory.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➢ Heater ➢ Water**. Set the actuator voltage type.

4. If the product has an internal electric heater, set the electric heater control as inactive. Go to **Service ➢ Output ➢ ANALOG ➢ TRIAC OUTPUT ➢ Inactive Output**.

5. Go to **Service ➢ Output ➢ ANALOG**. Select the analogue output to which the actuator is connected, set the value to **Y1 Heating**.

6. Configure the frost protection sensor (FPT). Go to **Service ➢Input ➢ ANALOG**. Select the analogue input to which the sensor is connected, set the value to **Frost Protection Temp. Sensor (FPT)**.

7. Set the internal supply air temperature sensor as inactive. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 2 ➢ Inactive Input**.

8. Configure the duct temperature sensor (SAT). Select the analogue input to which the sensor is connected, set the value to **Supply Air Temp. Sensor (SAT)**.

5.9 To install the water cooler in the supply air duct

List of accessories:

- CWK 125-3-2,5 Duct cooler,circ — 30021

- VAZ4 24A Actuator 0-10V — 9862

- ZTV 15-0,4 2-way valve — 9829, ZTV 15-0,6 2-way valve — 6571, ZTR 15-0,4 valve 3-way — 9670, ZTR 15-0,6 valve 3-way — 6573

- Duct sensor -30-70C (SAT) — 211524

- Transformer 24V — 202692

To install:

1. Install the water cooler in the air duct.

2. Connect pipes to the water cooler. Install the valve with actuator (S).

3. Connect the actuator to any available analogue output on the connection board (CB).

4. Install the duct temperature sensor (SAT) after the cooler.

5. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

6. Connect the power supply to the actuator.

⚠️ **Caution**

Do not use the 24 V DC output on the connection board to power the actuator.

For more details, see the instructions that come with the accessory.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the cooler type **Components ➢ Cooler ➢ Water**. Set the actuator voltage type.

4. Go to **Service ➢ Output ➢ ANALOG**. Select the analogue output to which the actuator is connected, set the value to **Y3 Cooling**.

5. Set the internal supply air temperature sensor as inactive. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 2 ➢ Inactive Input**.

6. Configure the duct temperature sensor (SAT). Select the analogue input to which the sensor is connected, set the value to **Supply Air Temp. Sensor (SAT)**.

5.10 To install the ground heat exchanger

The ground heat exchanger can be connected to an outdoor air duct to increase the air temperature and prevent ice on the heat exchanger. The ground heat exchanger can also be used to decrease the temperature in the summer.
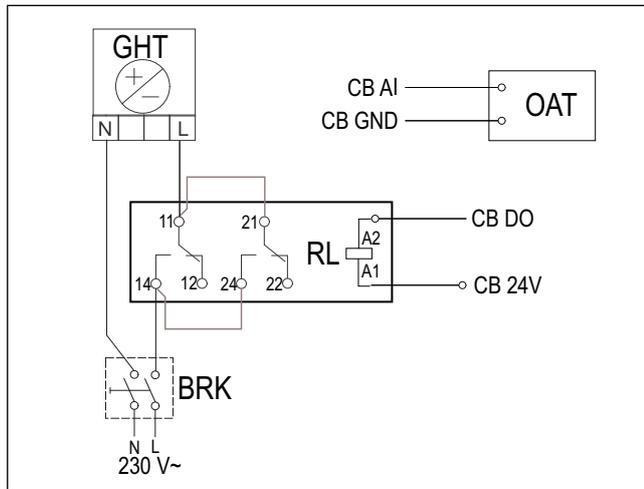
To install:

1. Install the ground heat exchanger (GHT) at least 100 mm distance from the product in the outdoor air duct.

2. Connect the ground heat exchanger to the control relay.

3. Connect the control relay to any available digital output on the connection board (CB).

4. Install the duct temperature sensor (OAT) before the ground heat exchanger.

5. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

6. Connect the power supply to the control relay. A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the circuit.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➤ Extra Controller ➤ Extra Controller Mode ➤ GEO Exchanger**.

   If necessary, make additional configuration in menus **Configure preheater settings** and **Configure precooler settings**.

4. Go to **Service ➤ Output ➤ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Start/Stop Circ. Pump, Y4 Extra Controller**.

5. Change the configuration of the internal outdoor air temperature sensor. Go to **Service ➤Input ➤ ANALOG ➤ ANALOG INPUT 1**. Change the value to **Extra Controller Temp. Sensor (ECT)**.

6. Configure the duct temperature sensor (OAT). Select the analogue input to which the sensor is connected, set the value to **Outdoor Air Temp. Sensor (OAT)**.

5.11 To install the heat pump with change-over valve

List of accessories:

- Relay 24V with socket — 159484
- Duct sensor -30-70C (SAT) — 211524
- Surface sensor -30-150C (FPT) — 211523
- Transformer 24V — 202692
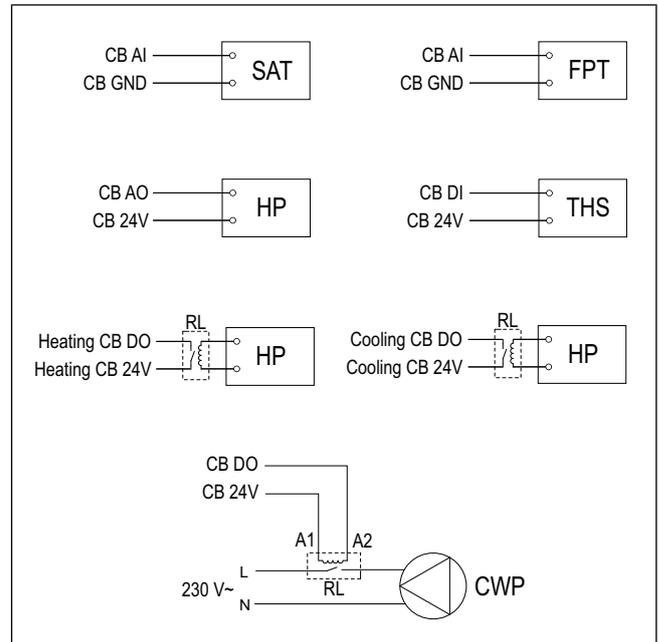
To install:

1. Install the heating and cooling battery (WH /WC) at least 100 mm distance from the product in the supply air duct.

2. Install the water pump (CWP) if necessary. Connect the water pump to the control relay (RL).

3. Connect the control relay to any available digital output on the connection board (CB).

4. Connect the heat pump (HP) start wire to any available analogue output on the connection board (CB).

5. Connect the cooling and heating start signal wires to control relays. Connect control relays any available digital outputs on the connection board (CB).

6. Strap the frost protection sensor (FPT) to the surface of the return water pipe.

7. Connect the frost protection sensor (FPT) to any available analogue input on the connection board (CB).

8. Install the duct temperature sensor (SAT) after the heating and cooling battery.

9. Connect the duct temperature sensor to any available analogue input on the connection board (CB).

10. Install a thermostat (THS) to measure the fluid temperature in a pipe if the heat pump does not have this function.

11. Connect the thermostat (THS) to any available digital input on the connection board (CB)

12. Connect the power supply to all control relays (RL). A circuit breaker (BRK) is not included and must be ordered separately. The circuit breaker must be installed in the electric circuit.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Set the heater type **Components ➢ Heater ➢ Change-over**.

   Set the cooler type **Components ➢ Heater ➢ Change-Over**.

4. If the product has an internal electric heater, set the electric heater control as inactive. Go to **Service ➢ Output ➢ ANALOG ➢ TRIAC OUTPUT ➢ Inactive Output**.

5. Go to **Service ➢ Output ➢ ANALOG**. Select the analogue output to which the heat pump start wire is connected, set the value to **Y1 / Y3 Change-over**.

6. Configure the heating start signal. Go to **Output ➢ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Step Controller Y1 Heating**.

7. Configure the cooling start signal. Go to **Output ➢ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Step Controller Y3 Cooling**.

8. Configure the frost protection sensor (FPT). Go to **Service ➢Input ➢ ANALOG**. Select the analogue input to which the sensor is connected, set the value to **Frost Protection Temp. Sensor (FPT)**.

9. Set the internal supply air temperature sensor as inactive. Go to **Service ➢Input ➢ ANALOG ➢ ANALOG INPUT 2 ➢ Inactive Input**.

10. Configure the duct temperature sensor (SAT). Select the analogue input to which the sensor is connected, set the value to **Supply Air Temp. Sensor (SAT)**.

11. Configure the thermostat or the temperature feedback signal from the heat pump. Go to **Input ➢ UNIVERSAL**. Select the universal input to which the wire is connected, set the value to **Digital Input ➢ Change-over feedback**.

12. Configure the water pump control. Go to **Output ➢ DIGITAL**. Select the digital output to which the water pump is connected, set the value to **Start/Stop Circ. Pump,Y1/3 Change-over**.

5.12   To install dampers

Install dampers in the exhaust and outdoor ducts to prevent cold draughts and condensation when the product is set to off.

List of accessories:

- TUNE-R-125-3-M1 — 311938, TUNE-R-125-3-M2 — 311948, TUNE-R-125-3-M4 — 311968, TUNE-R-125-3-M5 — 311978

- RMK — 153549, RMK–T — 153548
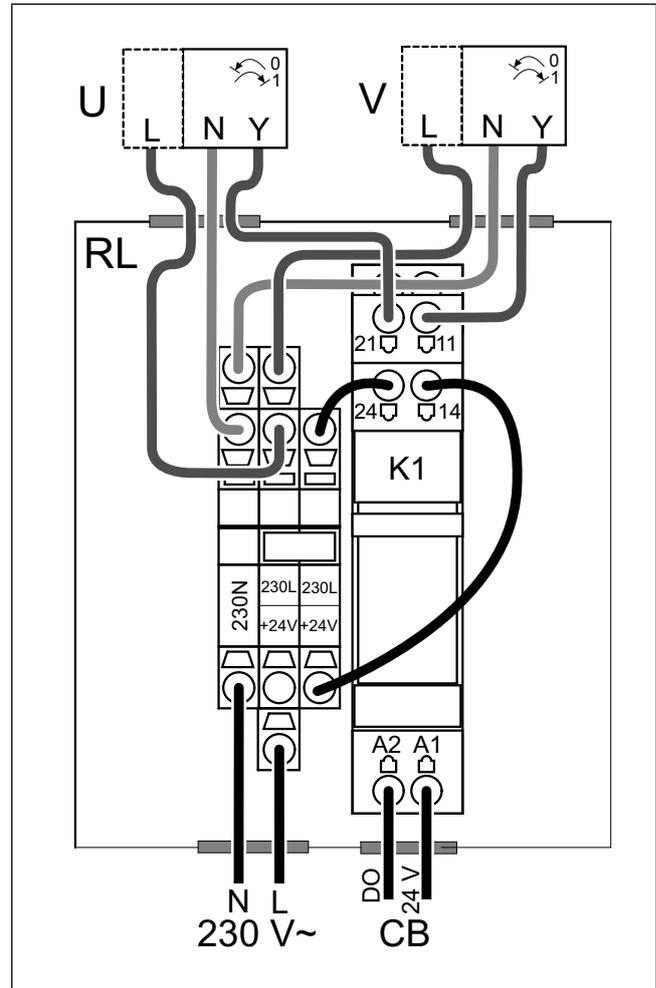
RMK-T is used to control 24 VAC dampers.

RMK is used to control 230 V~ dampers.

To install:

1. Install dampers in the outdoor and exhaust air ducts.

2. See the wiring diagram delivered with the accessory for all the applicable connection method.
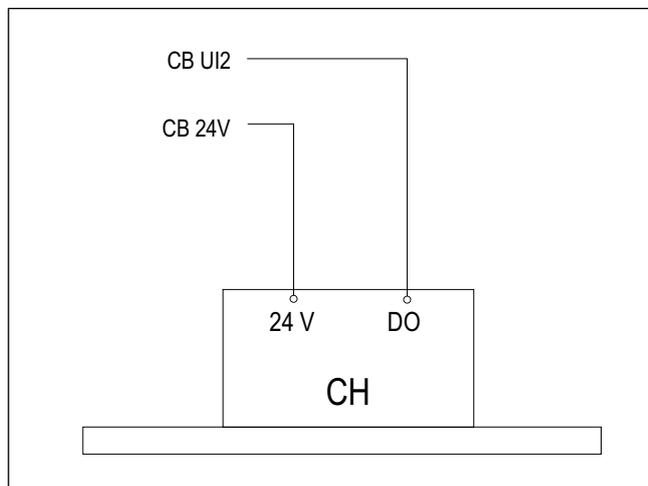
To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Go to **Output ➢ DIGITAL**. Select the digital output to which the control relay is connected, set the value to **Outdoor-/Exhaust Air Damper**.

5.13 To connect cooker hood for SAVE /B product series

SAVE /B product series have a separate duct to extract air through a cooker hood.

List of accessories:

• Recommended cooker hoods can be found at www.systemair.com in the list of accessories of your product.


Configuration

1. Go to **Service** menu.

2. Enter password (default 1111)

3. Go to **Input ➢ UNIVERSAL**.

4. Select the universal input to which the cooker hood is connected, set the value to **Digital Input ➢ Cooker Hood Function**.

5.14 To install the differential pressure switch

The differential pressure switch sends a signal when air pressure in the air duct gets to the set value.

List of accessories:

• DPR200T — 212987
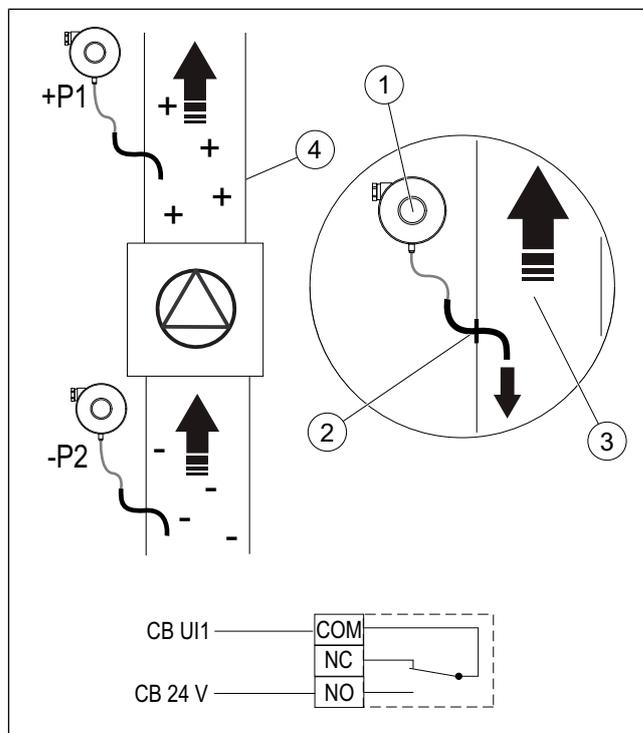
1. Differential pressure switch
2. Metal pipe
3. Exhaust air direction
4. Exhaust air duct

To install:

1. Install a metal pipe in the air duct before or after the fan.

   – when installed after the fan – connect a rubber tube to P1 positive pressure connection on the pressure switch, leave P2 negative pressure connection open.

   – when installed before the fan – connect rubber tube to P2 negative pressure connection on the pressure switch, leave P1 positive pressure connection open.

2. Set the differential pressure switch to the lowest possible pressure, for example 20 Pa.

3. Do a test for a minimum of two times to find how much pressure in the duct increases during normal operation. Calibrate when the differential pressure switch should send the signal.

4. Use strips to attach the rubber tube and the pipe in the correct position.

5. Connect a 2–wire cable from the pressure switch terminals (NO and COM) to the connection box (CB).

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Go to **Input ➢ UNIVERSAL**. Select the universal input to which the differential pressure switch is connected, set the value to **Digital Input ➢ Pressure guard**.

5.15 To connect more than one control panel

Up to 10 control panels can be connected to one product.

- If the 24 V power supply on the connection board (CB) is used for other equipment, the number of total control panels that can be powered from the product decreases.

- A single control panel uses 50 mA. The connection board for external accessories supplies up to 250 mA. If other accessories do not use 24 V power supply from the product, up to 5 control panels can be connected without a need of external power supply. In order to connect more than 5 control panels, an external power supply is required.

List of accessories:

- Diverting plug 4pin — 254978

- CEC Cable w/plug 12m — 24782, CEC Cable w/plug 6m — 24783

- SAVE TOUCH White — 138077, SAVE TOUCH Black — 138078

- SAVE LIGHT White — 319118, SAVE LIGHT Black — 319119
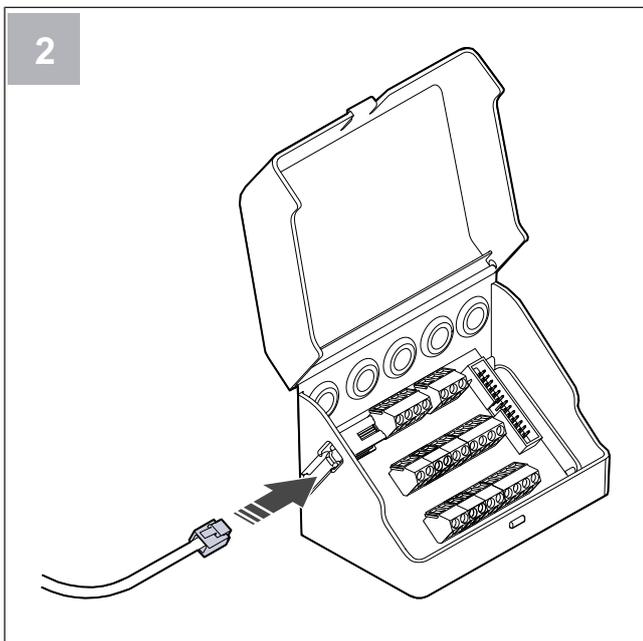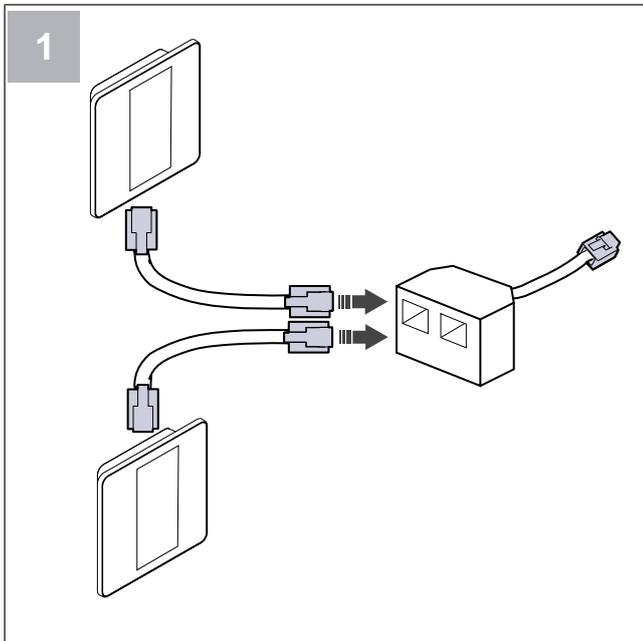
To install:

1. Connect the control panels to the diverting plug.

   The maximum cable length is 50 meters.

2. Connect the diverting plug to the connection box.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Go to **Communication ➤ HMI Address**.

4. Change the address number.

   Each control panel must have a unique address number.

To configure SAVE LIGHT:

1. Push and hold ⊖ button for 10 seconds to see a current control panel address value.

2. Press ⊕ button to increase and ⊖ button to decrease the value.

The address value can be changed from 6 to 10, default value is 10.

Address value	Indication
6	Low airflow LED is on
7	Normal airflow LEDs are on
8	High airflow LEDs are on
9	Refresh mode LEDs are on
10	All LEDs are on

5.16 To install VAV/CAV conversion kit

The CAV/VAV conversion kit is used to measure air duct pressure and control the product.

The accessory package contains all needed parts for VAV conversion, however for use with CAV, an IRIS damper or a similar device with known K factor has to be purchased.

List of accessories:

- VAV/CAV conversion kit — 140777

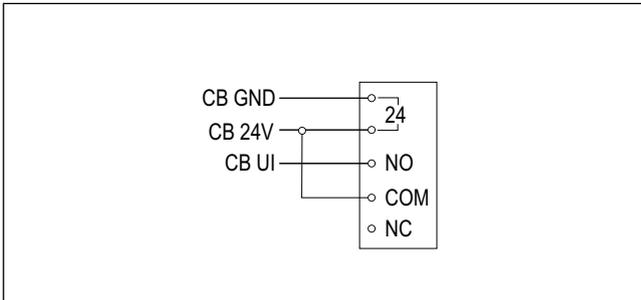- SPI-125 C Iris damper — 6751

To install:

- Follow instructions in the manual which is delivered with the accessory.

5.17 To connect the presence detector

Any required function can be started by a presence detector when there is a movement in the room.

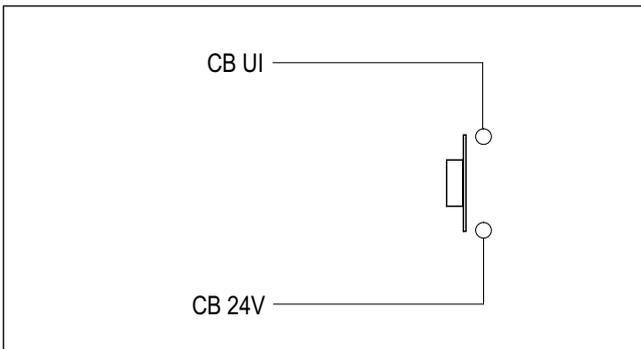**List of accessories:**

• Presence detector/IR24 — 6995

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Go to **Input** ⊳ **UNIVERSAL**. Select the universal input to which the presence detector is connected, set the value to **Digital Input** ⊳ any available function.

5.18 To connect the push button

A push button is a mechanical on/off button which can be used to start or stop different functions.

To configure:

1. Go to **Service** menu.

2. Enter the password (default 1111).

3. Go to **Input** ⊳ **UNIVERSAL**. Select the universal input to which the push button is connected, set the value to **Digital Input** ⊳ any available function.

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