

# Preheater Topvex SC, Topvex TC

Installation instructions

GB

Document in original language | 247019 · A001



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## 1 Warnings



### Danger

- Make sure that the mains power supply to the unit is disconnected before performing any maintenance or electrical work!
- All electrical connections must be carried out by an authorized installer and in accordance with local rules and regulations.

## 2 General

A preheater is available as an accessory for Systemair Topvex SC, Topvex TC. Install the preheater in the outdoor duct to prevent icing in the heat exchanger, compensate for loss of heating capacity during by-pass defrosting or to supplement the heating capacity during colder conditions.

The kit contains of 1 preheater, 1 outdoor air sensor and 1 instruction.

## 3 Installation

### 3.1 Outdoor air sensor

Mount the enclosed outdoor air sensor to the outdoor air duct (OS in figure 1).

Replace the existing OS-label inside the air handling unit with the new PHS-label. Attach the new OS-label next to the added outdoor air sensor.

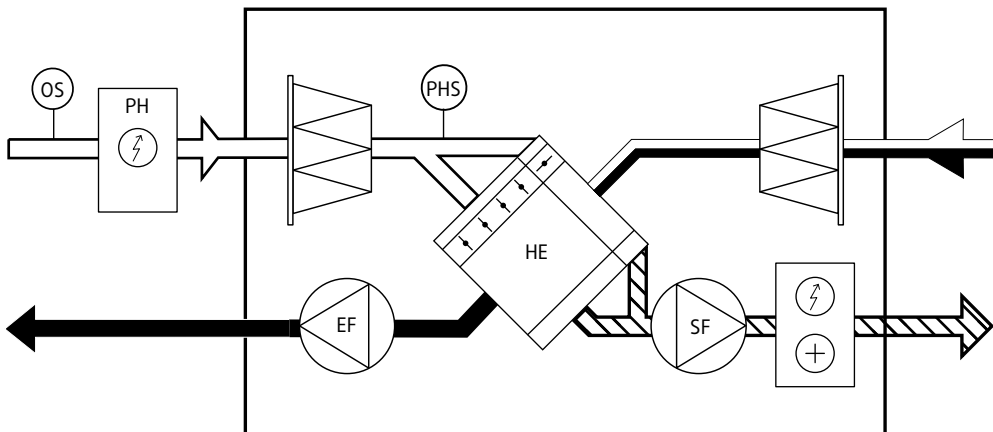


Fig. 1

	Outdoor air
	Supply air
	Extract air
	Exhaust air
OS	Outdoor air sensor
PH	Preheater
PHS	Preheater temperature sensor
EF	Extract air fan
SF	Supply air fan
HE	Heat exchanger

### 3.2 Wiring diagram

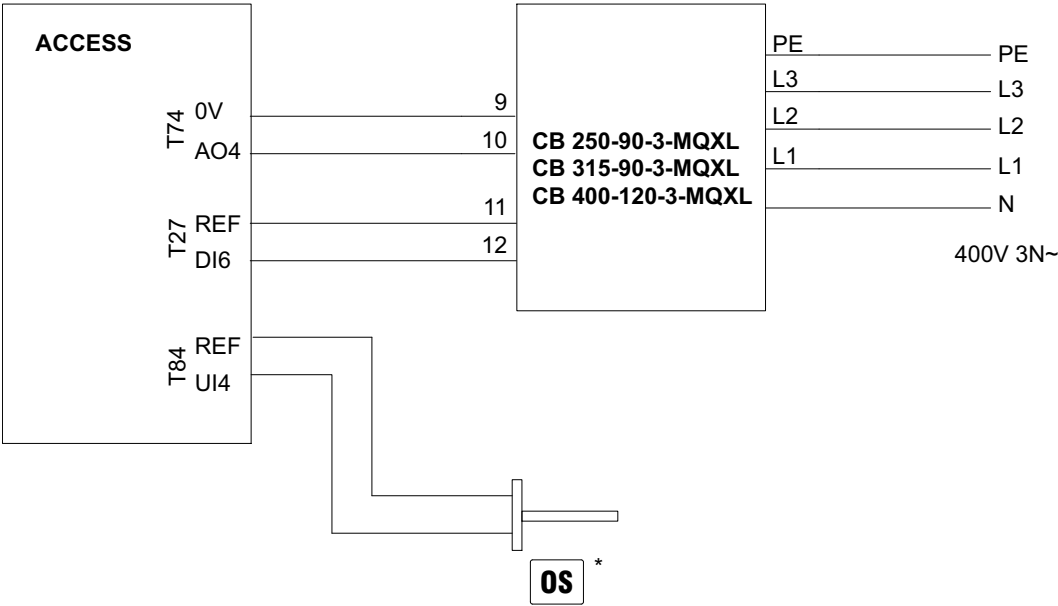


Fig. 2 Wiring CB

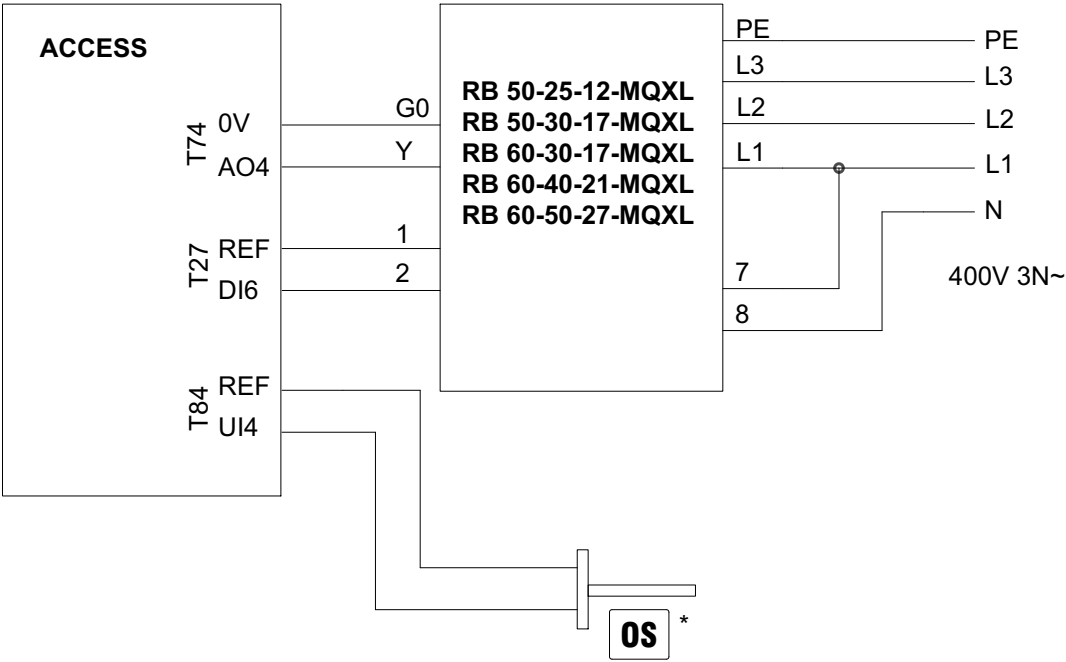





Fig. 3 Wiring RB

\* See chapter 3.1





## 4 How to set up the function

Log in with service mode using password 0612.

### Overview:

	Service
	0612
	Login





### Step by step:

1.  Open the log in window
2.  Select service from drop down list
3.  Type in password 0612
4.  Press Login.


### 4.1 Activation

Activate the Preheater function by selecting **Yes** as **Preheater** in the list of available functions in the **Configuration > Functions > Function activation** menu.

### Overview

	Configuration > Functions > Function activation	22 Sept 12:43	
	Preheater		 <b>Yes</b>

### Step by step:

1.  Select Configuration from the navigation icons
2. Select Functions
3. Select Function activation
4. Select Yes as Preheater

## 4.2 Configuration

Configure the preheater and its running mode in the Configuration > Functions > Preheater menu.



### Note:

Select **When defrosting** if preheater is used to maintain supply air temperature at desired level only during by-pass defrosting (Pressure monitoring).  
Select **Unit running** if preheater is used to prevent icing in the exchanger or to support section defrosting or heating capacity in very cold climates.

### Overview

	Configuration > Functions > Preheater	22 Sept 12:43	
	Preheater function		<b>Preheater</b>
	Type of preheater		<b>Electric</b>
	Preheater temperature sensor		<b>Preheater temperature</b>
	Start/Stop function		<b>When defrosting, Unit running</b>
	Type of feedback		<b>Alarm</b>

### Step by step:


- Select Configuration from the navigation icons
- Select Functions
- Select Preheater
- Select Preheating as Preheater function
- Select Electric as Type of preheater
- Select Preheater temperature as Preheater temperature sensor
- Select When defrosting (see note) or Unit running (see note) as Start/Stop function
- Select Alarm as Type of feedback



4.3 Allocation

Configuration > I/O allocation settings


Select I/O (in-/output) placement for the connected temperature sensor and control/feedback signals to/from the electric heater in the Configuration > I/O allocation settings submenus.



**Caution**


Do not use the same in- or output for several functions.

Overview:


	Configuration > I/O allocation settings > Analog inputs	22 Sept 12:43	 
	Analog inputs	Device	Position
	Intake air temperature	Controller	AI4
	Preheater temperature	PDT2	UI1

	Configuration > I/O allocation settings > Digital inputs	22 Sept 12:43	 
	Digital inputs	Device	Position
	Feedback preheater	Controller	DI6

	Configuration > ... > Digital inputs> Feedback preheater	22 Sept 12:43	 
	Name	Feedback preheater	
	Original name	Feedback preheater	
	Contact function	Normally closed	

	Configuration > I/O allocation settings > Analog outputs	22 Sept 12:43	 
	Analog outputs	Device	Position
	Preheater	Controller	AO4

**Step by step:**

1.  Select Configuration from the navigation icons
2. Select I/O allocation settings
3. Select Analog inputs
4. Allocate Intake air temperature to AI4
5. Allocate Preheater temperature to UI1 on Controller
6. Go back to I/O allocation settings (use the navigation path Configuration > I/O allocation settings)
7. Select Digital inputs
8. Allocate Feedback preheater to DI6
9. Select Feedback preheater
10. Adjust Contact function to Normally closed
11. Go back to I/O allocation settings (use the navigation path Configuration > I/O allocation settings)
12. Select Analog outputs
13. Allocate Preheater to AO4
14. Go back to I/O allocation settings (use the navigation path Configuration > I/O allocation settings)

## 4.4 Operation settings

Data & Settings > Temperature control > Preheater

Adjust the preheater temperature set point in the Data & Settings > Temperature control > Preheater menu



### Note:

#### When defrosting:

To maintain a supply temperature during by-pass defrosting the preheater need to compensate for the missing heating capacity. E.g. if the desired supply air temperature is 22 °C, but the heating capacity is only 10 °K the preheater setpoint need to be set to 12 °C.

#### Unit running:

*Example A:* To prevent any ice build-up in the exchanger the preheater setpoint need to be 0 °C

*Example B:* In very cold climates the preheater setpoint need to equal the outdoor temperature used for dimensioning the unit's heating capacity. E.g. If the unit is dimensioned for outdoor temperatures down to -18 °C but outdoor temperatures in this location may be even lower the preheater setpoint need to be -18 °C.

### Overview:

	Data & Settings > Temperature control > Preheater	22 Sept 12:43	
	Setpoint preheater		-18 °C

### Step by step:

1. Select Data & Settings from the navigation icons
2. Select Temperature control
3. Select Preheater
4. Adjust Setpoint preheating to the desired temperature setpoint.

## 4.5 Save commissioning settings

When the installation is complete and all functions are tested it is recommended to save a local backup of the current configuration in the control unit.

Select Yes ON Save commissioning settings in the Configuration > System settings > Save and restore settings menu.

### Overview:

	Configuration > System settings > Save and restore settings	22 Sept 12:43	
	Save commissioning settings		<b>Yes</b>

### Step by step:

1. Select Configuration from the navigation icons
2. Select System settings
3. Select Save and restore settings
4. Select Yes ON Save commissioning settings.



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