SMARTY XV

EN MOUNTING AND INSTALLATION INSTRUCTION

SALDA

www.salda.lt

1. CONTENT

2. SYMBOLS AND MARKING

Warning – pay attention | **Additional information**

Apply the auxiliary label on the unit (on an easily accessible location) or on the dashed location of the technical manual in order to keep the important information about the unit.

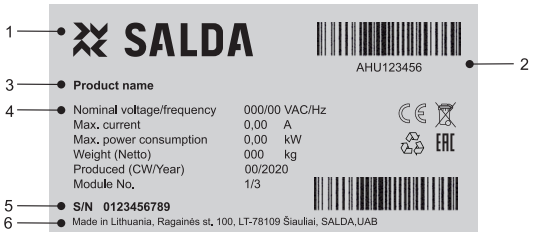


Figure. 2.1. Technical label

1 - Logo; 2 - Product code (SKU); 3 - Product name; 4 - Technical data; 5 - Serial number; 6 - Production place.

Figure. 2.2. Indication for duct connection.

ODA - outdoor air; SUP - supply air; ETA - extract air; EHA - exhaust air.

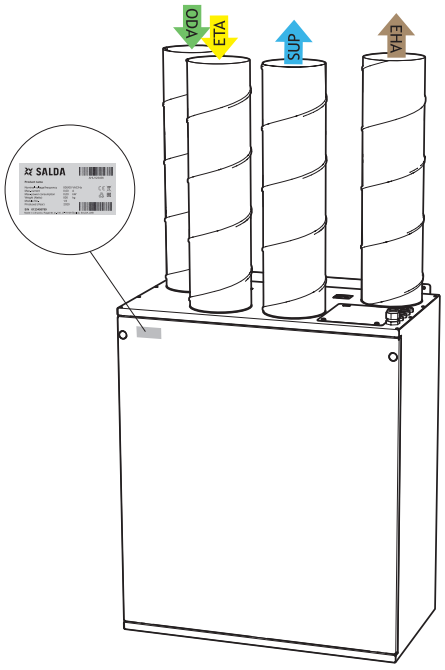


Figure. 2.3. Smarty 2 XV Technical label location and air duct indication

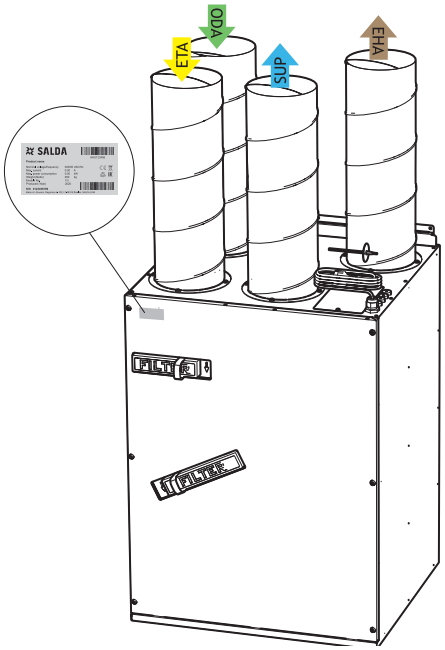


Figure. 2.4. Smarty 3XV/4XV F2 Technical label location and air duct indication

NOTE. Ducts are not the part of the unit.

3. SAFETY INSTRUCTIONS AND PRECAUTIONS

Read these instructions very carefully before installing and using this equipment. Installation, connection and maintenance should be carried out by a qualified technician and in accordance with the local regulations and legislation.
The company shall take no responsibility for the injuries or damaged property if the safety requirements are not followed or the device is modified without the permission of the manufacturer.

Main safety rules

Danger
- Before carrying out any electrical or maintenance works, make sure that the device is disconnected from the mains and all moving parts of the device have stopped.
- Make sure that the fans are not accessible through air ducts or branch openings.
- If any liquids on electric parts or connections that bear voltage are noticed, stop the operation of the device.
- Do not plug the device into the mains that differ from the one indicated on the label or on the housing.
- Voltage of the mains should comply with the electro technical parameters indicated on the label.
- The device should be earthed in accordance with the regulations on the installation of electric devices. Turning on and using unearthed device is not allowed. Follow the requirements specified on the device's labels that indicate danger.

Warnings
- Connection of electricity and maintenance of the device should be performed by the qualified personnel only and in accordance with the manufacturer's instructions and safety requirements.
- In order to reduce the risk during installation and maintenance, suitable protective clothing must be worn.
- Beware of sharp angles while carrying out installation and maintenance works.
- Do not touch heating elements until they haven't cooled down.
- Some devices are heavy, you should be very careful while transporting and installing them. Use suitable lifting equipment.
- When connecting electricity to the mains, a circuit breaker of suitable size must be used.

Warning!
- If the device is installed in a cold environment, make sure that all connections and tubes are properly isolated. Intake and discharge air ducts should be isolated in all cases.
- Openings of the ducts should be covered during transportation and installation.
- Make sure not to damage the heater when connecting the piping of the water heater. For tightening up, use a wrench/spanner.

Before starting up the device
- make sure, that there are no strange objects inside;
- manually check fans to make sure they are not stuck or blocked;
- if rotary heat exchanger is installed in the device, make sure that it is not stuck or blocked;
- check the earthling;
- make sure that all components and accessories are connected in accordance with the wiring diagram or provided instructions.

Danger: Fumes
Salda Antifrost system uses dis-balancing of an airflow and it may cause negative pressure in premises. Care must be taken when using the device in the premises together with another heating appliance that depends on the air in the premises. Such appliances include gas, oil, wood or coal-fired boilers and heaters, fireplaces, continuous flow or other water heaters, gas hobs, cookers or ovens that draw the air in from the room and the duct-exhaust gases out through chimney or extraction ducting. The heating appliance can be starved of oxygen, impairing combustion. In exceptional cases, harmful gases could be drawn out of the chimney or extraction ducting back into the room. In such case we strictly recommend to turn off Salda Antifrost and use an external preheater for heat exchanger anti-frost protection (see *Salda Antifrost* function in the Remote Controller Operation Manual).

4. INFORMATION ABOUT THE PRODUCT

4.1. DESCRIPTION

Smarty XV is the residential air handling unit with a high efficiency (up to 90%) counter flow heat exchanger. The unit supplies ventilation in home and takes the heat from exhaust air. AHU complies with ErP 2018 and Passivhaus requirements. The unit is operated by a separate remote control panel or though separate MB-Gateway by PC. Remote control panel and MB-Gateway are optional and not included in the standard package. Control functions depend on selected control board type: MiniMCB or MiniMCB basic.

Product name	Control board	Type	Heat recovery	Temperature control	Bypass damper	Optional heating elements	
						Duct based Air Pre-Heater	Duct based Air Heater
Smarty 2X V 1.1	Mini MCB	Premium	+	+	+	-	+
Smarty 2X V 1.2	Mini MCB Basic	Advanced	+	+	+	+*	+*
Smarty 3X V 1.1	Mini MCB	Premium	+	+	+	-	+
Smarty 3X V 1.2	Mini MCB Basic	Advanced	+	+	+	+*	+*
Smarty 4X V F2 1.1	Mini MCB	Premium	+	+	+	-	+
Smarty 4X V F2 1.2	Mini MCB Basic	Advanced	+	+	+	+*	+*

*- only pre-heater or heater

Not suitable for operation in pools, saunas and other similar premises.

4.2. DIMENSIONS AND WEIGHT

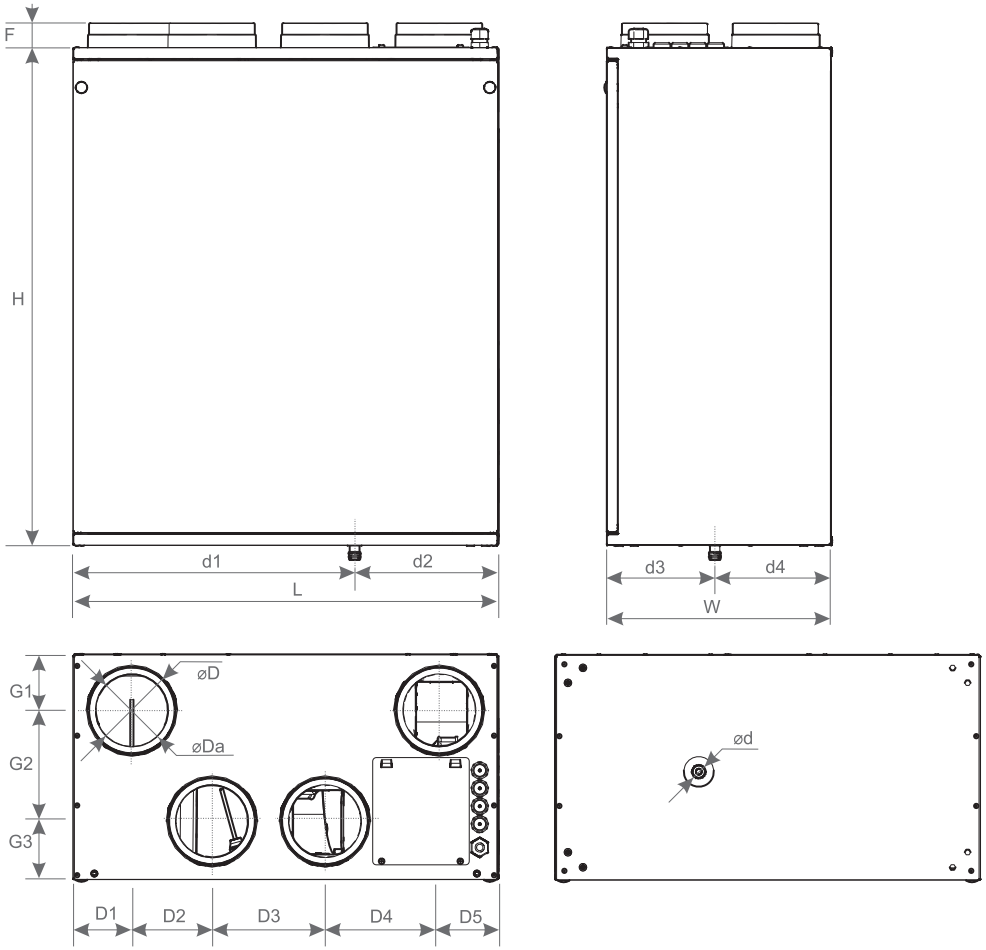


Figure 4.2.1. Smarty 2XV dimension

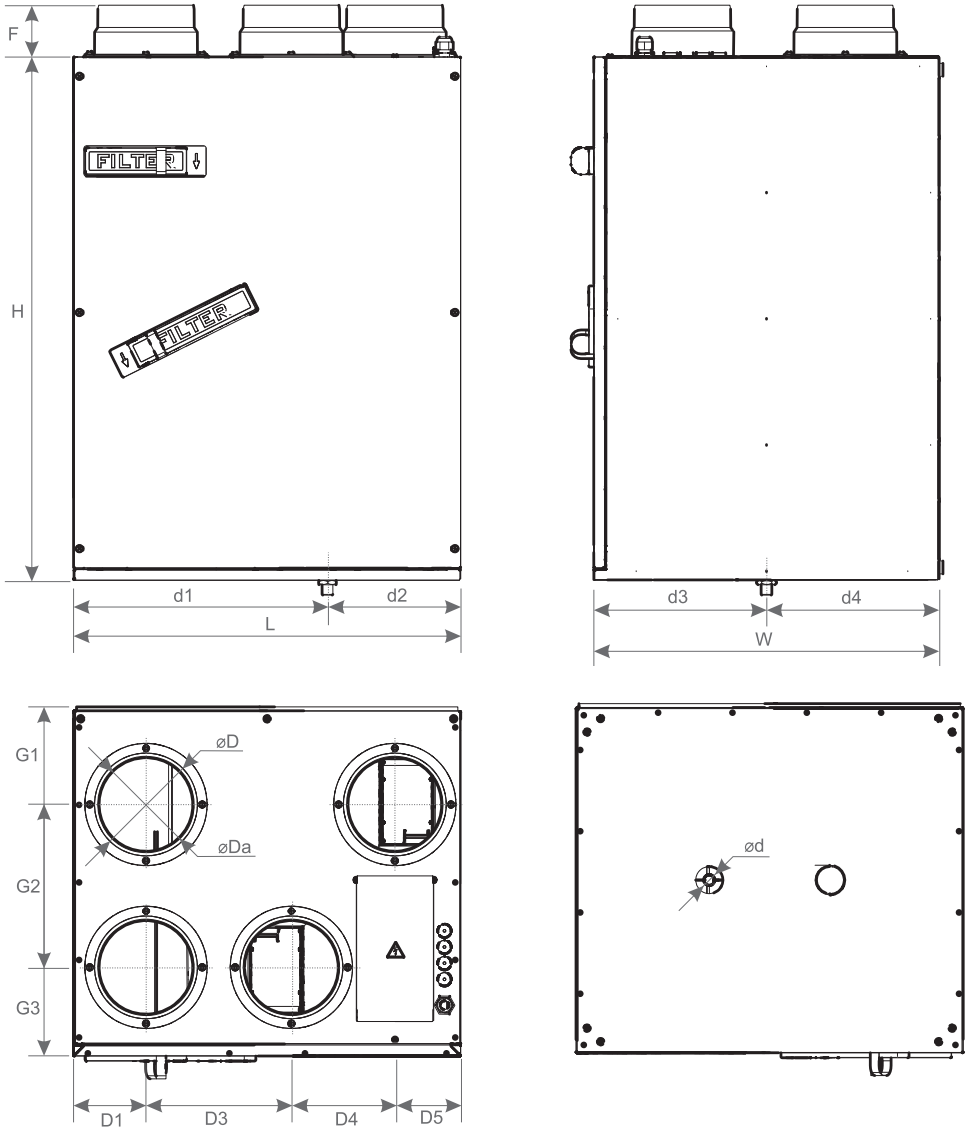


Figure 4.2.2. Smarty 3XV, Smarty 4XV F2 dimension

SMARTY		2XV 1.1	2XV 1.2	3XV 1.1	3XV 1.2	4XV F2 1.1	4XV F2 1.2
L	[mm]	595	595	599	599	599	599
W	[mm]	315	315	538	538	538	538
H	[mm]	698	698	810	810	810	810
øD	[mm]	125	125	160	160	160	160
øDa	[mm]	100	100	150	150	150	150
F	[mm]	34	34	80	80	80	80
ød		G3/8	G3/8	G1/2	G1/2	G1/2	G1/2
d1	[mm]	394	394	391	391	391	391
d2	[mm]	201	201	206	206	206	206
d3	[mm]	163	163	267	267	267	267
d4	[mm]	152	152	271	271	271	271
D1	[mm]	83	83	112	112	112	112
D2	[mm]	112	112	112	112	112	112
D3	[mm]	158	158	225	225	225	225
D4	[mm]	160	160	160	160	160	160
D5	[mm]	83	83	102	102	102	102
G1	[mm]	77	77	145	145	145	145
G2	[mm]	155	155	252	252	252	252
G3	[mm]	81	81	137	137	137	137
Weight	[kg]	25	25	46	46	46	46

4.3. TECHNICAL DATA

SMARTY		2XV 1.1	2XV 1.2	3XV 1.1	3XV 1.2	4XV F2 1.1	4XV F2 1.2
Exhaust air fan							
phase/voltage	[50 Hz/VAC]	1/230	1/230	1/230	1/230	1/230	1/230
power/current	[kW/A]	0,04/0,35	0,04/0,35	0,08/0,75	0,08/0,75	0,17/1,35	0,17/1,35
speed	[min^{-1}]	4060	4060	3200	3200	4120	4120
control input	[VDC]	0-10	0-10	0-10	0-10	0-10	0-10
protection class		IP54	IP54	IP54	IP54	IP54	IP54
Supply air fan							
phase/voltage	[50 Hz/VAC]	1/230	1/230	1/230	1/230	1/230	1/230
power/current	[kW/A]	0,04/0,35	0,04/0,35	0,08/0,75	0,08/0,75	0,17/1,35	0,17/1,35
speed	[min^{-1}]	4060	4060	3200	3200	4120	4120
control input	[VDC]	0-10	0-10	0-10	0-10	0-10	0-10
protection class		IP54	IP54	IP54	IP54	IP54	IP54
Integrated electrical preheater	[kW]	0,6	-	1,2	-	1,2	-
Total power/current consumption	[kW/A]	0,67/3,35	0,07/0,75	1,37/6,75	0,17/1,55	1,54/7,9	0,34/2,7
Automatic control integrated		miniMCB	miniMCB basic	miniMCB	miniMCB basic	miniMCB	miniMCB basic
Insulation of walls	[mm]	30	30	30	30	30	30
Exhaust air filter (class, dimensions LxWxH)	[mm]	MPL 270x187x25 Coarse 65%		MPL 475x180x25 Coarse 65%		MPL 475x180x25 Coarse 65%	
Supply air filter (class, dimensions LxWxH)	[mm]	MPL 270x121x25 Coarse 65%		MPL 475x134x25 Coarse 65%		MPL 475x134x25 Coarse 65%	
Device protection class		IP 34	IP 34	IP 34	IP 34	IP 34	IP 34

According to EN 13141-7.

Acoustic data: check the product page on www.salda.lt

⚠ **Not suitable for installation in living rooms: additional noise insulation required.**

4.4. OPERATING CONDITIONS

SMARTY	2XV	3XV	4XV F2
Minimum outdoor air temperature	-2 °C	-2 °C	-2 °C
Maximum outdoor air temperature	+40 °C	+40 °C	+40 °C
Minimum extracted air temperature	+15 °C	+15 °C	+15 °C
Maximum extracted air temperature	+40 °C	+40 °C	+40 °C
Maximum extracted air relative humidity	60 %	60 %	60 %
Minimum ambient air temperature	+5 °C	+5 °C	+5 °C
Maximum ambient air temperature	+40 °C	+40 °C	+40 °C
Installation	indoor	indoor	indoor

4.5. STANDART PACKAGE OF COMPONENTS

SMARTY	2XV 1.1	2XV 1.2	3XV 1.1	3XV 1.2	4XV F2 1.1	4XV F2 1.2
Bush caps BFG15	2	2	-	-	-	-
Key M4 Z-type	1	1	-	-	-	-
Outlet pipe G3/8	1	1	-	-	-	-
Siphon D25 202.085	-	-	1	1	1	1
Bracket 2281027	1	1	1	1	1	1
Fix - PV gasket 6x20 (white)	605 mm	605 mm	1300 mm	1300 mm	1300 mm	1300 mm
Sealing rubber 15x8x7 427021	66 mm	66 mm	610 mm	610 mm	610 mm	610 mm
Straight Fiting With O-ring F 1/2 M/M	-	-	1	1	1	1
Rubber gasket d20xD28 s2mm	-	-	1	1	1	1

4.6. DESCRIPTION OF COMPONENTS

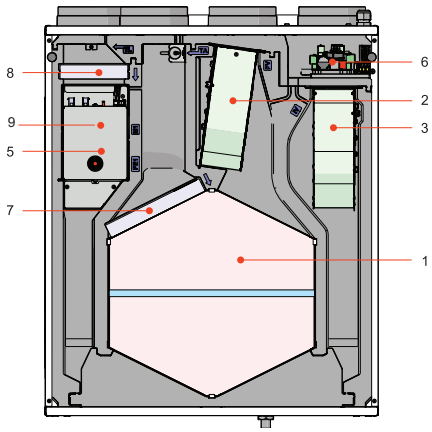


Figure 4.6.1. Smarty 2XV

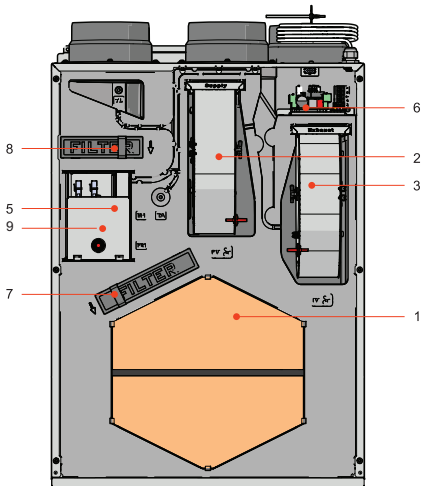


Figure 4.6.2. Smarty 3XV/4XV F2

1 - Plate heat exchanger; 2 - Supply fan; 3 - Exhaust fan; 5 - Electrical pre-heater (version 1.1 only); 6 - Control board; 7 - Extract air filter (panel); 8 - Supply air filter (panel); 9 - By-Pass damper.

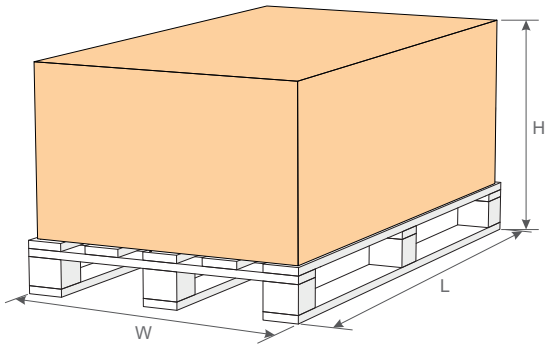
5. INSTALATION

5.1. RECEPTION OF GOODS

Each device is carefully checked before transportation. When receiving the goods, checking the devices for any damage made during transportation is recommended. If any damage to the unit is observed, immediately contact the representatives of a transport company. Please inform the representative of the manufacturer, if any deviation of the device is noticed.

5.2. TRANSPORTATION AND STORAGE

- All units are factory-packaged to withstand normal conditions of transportation.
- When unpacking, check the unit for any damage made during transportation. Installing of damaged units is not allowed!
- **The packaging is used for protection purpose only!**
- When unloading and storing the units, use suitable lifting equipment to avoid damage and injuries. Do not lift units by holding on power supply cables, connection boxes, air extract or exhaust flanges. Avoid hits and shock overloads. Before installation, the units must be stored in a dry room with the relative air humidity not exceeding 70% (at +20°C) and with an average ambient temperature ranging between +5 °C and +30 °C. The storage place must be protected against dirt and water.
- The units must be transported to the storage place or installation site using forklifts.
- The recommended storage i period should not be longer than one year. In case of storing the units for a period longer than one year, checking if the fan bearings and motor rotate without difficulty (turning the impeller by hand) and if the electric circuit insulation is not damaged or the moisture has not accumulated must be performed before the installation of the unit.



	H	W	L	Max. number of transported packages
SMARTY	[mm]	[mm]	[mm]	[pcs.]
2 XV	2160	700	800	6
3 XV	1060	730	585	1
4 XV F2	1060	730	585	1

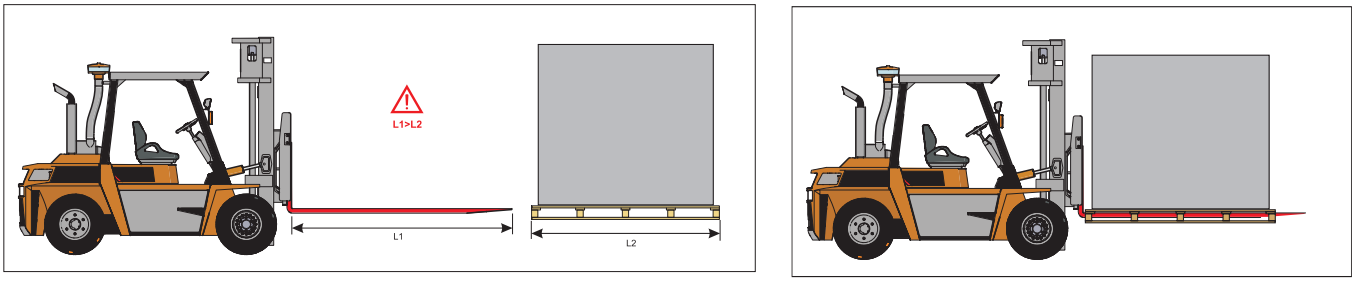


Figure 5.2.1. Lifting by forklift.

In order to prevent damage to the casing, only a product placed on a pallet should be lifted.

5.3. UNPACKING

Accessories may be packed together with the product. Prior to transporting the unit, the accessories should be unpacked first.

- Remove the film from the unit.
- Remove the bracing packaging tape that keeps the protective profiles in place.
- Remove the protective profiles.
- After unpacking the unit, examine it to make sure that no damage was made during transportation. Installing of damaged units is not allowed!
- Before commencing the installation of the unit, please check if all ordered equipment have been delivered. Any variation from the ordered equipment list must be reported to the product supplier.

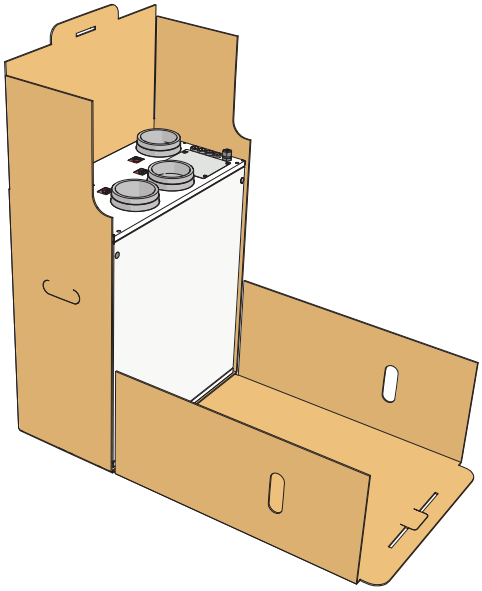


Figure 5.3.1. Smarty 2XV

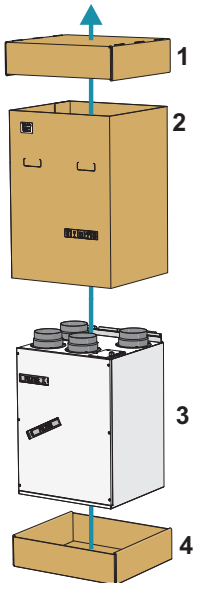


Figure 5.3.2. Smarty 3XV/4XV F2

5.4. PIPING AND INSTRUMENTATION DIAGRAM

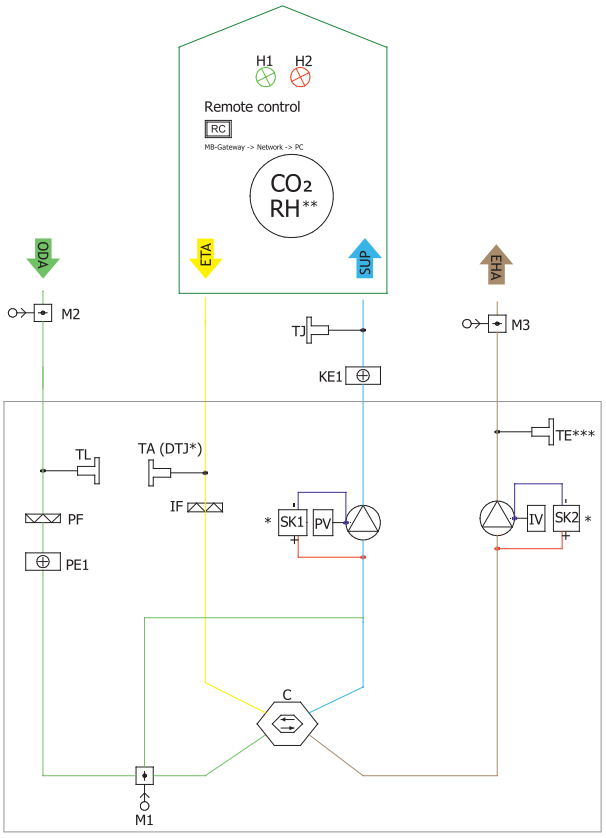


Figure 5.4.1. SMARTY XV miniMCB (Available in 3XV/4XV F2 1.1 models; ** Check the manual for details; *** Optional)*

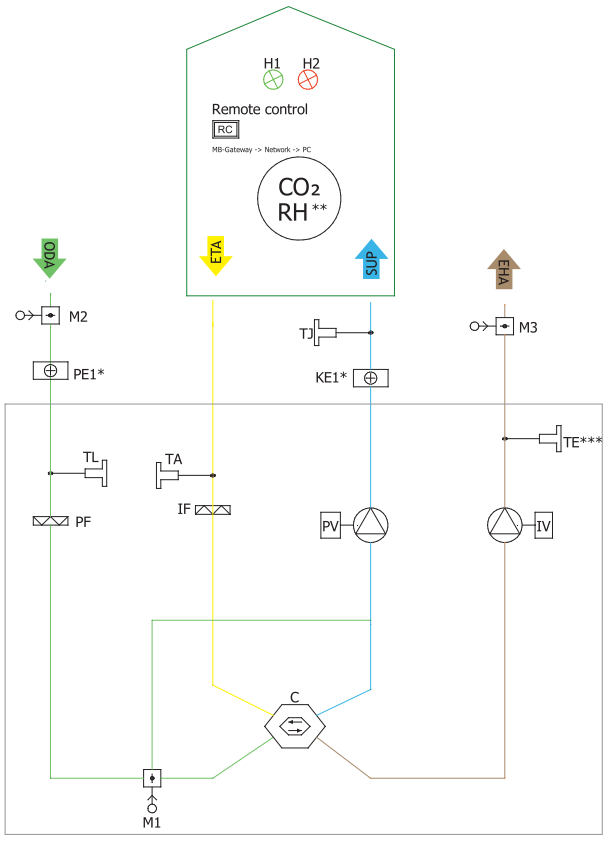


Figure 5.4.2. SMARTY XV miniMCB basic (Only heater or preheater can be connected at a time; ** Check the manual for details; *** Optional)*

THE LIST OF COMPONENTS			
C	Plate heat exchanger	**PV**	Supply air fan
IF	Extract air filter	**PF**	Supply air filter
IV	Exhaust fan	**TA**	Extract air temperature sensor
TE	Exhaust air temperature sensor	**TJ**	Supply air temperature sensor
DTJ	Extract air temperature and humidity sensor	**CO_2**	CO_2 sensor*
RH	RH sensor*	**PC**	Computer
KE1	Electric heater	**PE1**	Electric pre-heater
M1	By-pass damper	**M2**	Outdoor air damper actuator
M3	Exhaust air damper actuator	**SK1**	Supply air pressure sensor
SK2	Exhaust air pressure sensor	**TL**	Outdoor air temperature sensor
	Ventilated premises	**MB-Gateway**	Network module
NET	Network	**RC**	Stouch or ST-SA-Control remote control panel

* Component/posibility to connect it depends on model.

POSIBLE PCB INPUTS/OUTPUTS			
FA	Fire alarm	**FPP**	Fireplace protection
H1	Working indication output	**H2**	Alarm indication output
	System mode switch (START/STOP)		Fans speed switch (BOOST)

5.5. MOUNTING

- Installation should be carried out by qualified and trained staff only.
- When connecting air ducts, consider the labels on the casing of the unit.
- Before connecting to the air duct system, the connection openings of ventilation unit should be closed.
- When connecting the ducts, the air-flow direction indicated on the device housing should be observed.
- Do not connect the bends close to connection flanges of the unit. The minimum distance of the straight air duct between the unit and the first
- branch of the air duct in the supply air duct must be 1xD, in air exhaust duct 3xD, where D is the diameter of the air duct.
- It is recommended to use the brackets (accessories). This will reduce the vibration transmitted by the unit to the air duct system and environment.
- Sufficient space must be provided for opening of the manhole and filter covers.
- If the ventilation unit is wall-mounted wall, it may transmit noise vibrations to the premises. Though the level of noise generated by the fans is admissible, mounting the unit it the distance of 400 mm from the nearest wall is recommended. Where this is not possible, mounting of the unit on the wall of the room where the level of noise is not significant is recommended.
- Ducts are connected to the unit in such way that they could be easily disassembled and the heater could be removed from the unit when carrying out maintenance, servicing and/or repairs

The protective film is used to protect the unit during transportation. It is recommended to remove the film; otherwise, oxidation signs may occur.

Before every heating season, the condensate tube must be filled with water as indicated during the first start-up!

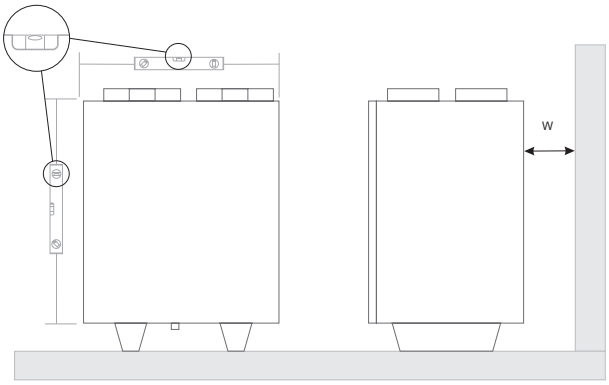


Figure 5.5.1. Horizontal floor-mounting positions on floor (W=400 mm)

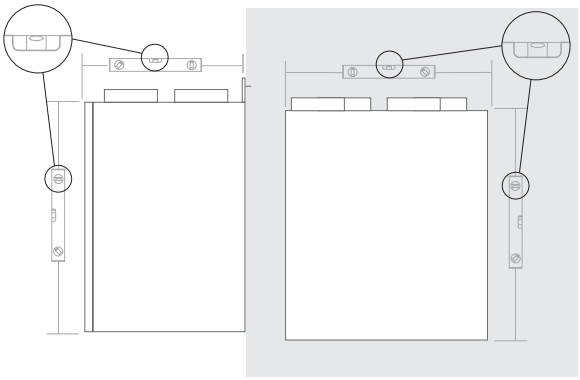


Figure 5.5.2. Ceiling-mounting positions

5.6. UNIT PLACING AND MOUNTING POSITIONING REQUIREMENTS

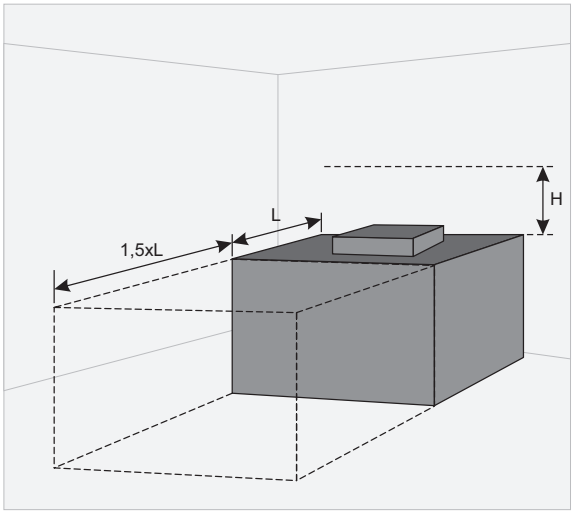


Figure 5.6.1. Min. distance to open the door - 1,5xL; Min. distance to open the control box door - H > 400 mm.

5.7. FLOOR MOUNTING

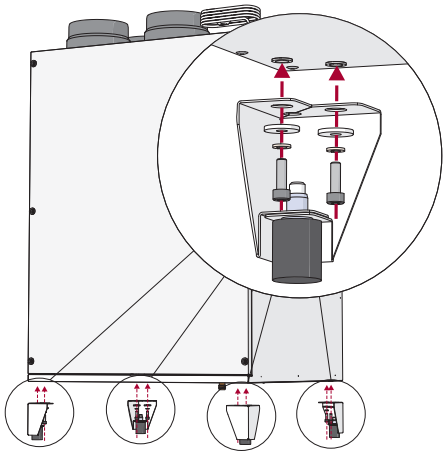


Figure 5.7.1. floor mounting (optional accessory required)

5.8. WALL-MOUNTING OF THE UNIT

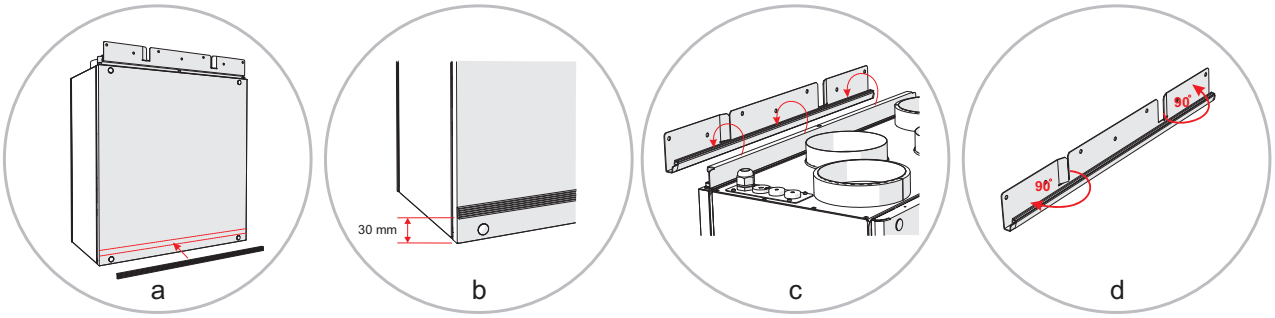


Figure 5.8.1. mounting on the wall

5.9. DRAINAGE

Before every heating season the condensate tube shall be filled with water as indicated during the first start-up! Before every heating season the condensate tube shall be filled with water as indicated during the first start-up!

DRAINAGE SYSTEM INSTALLATION SMARTY 2XV

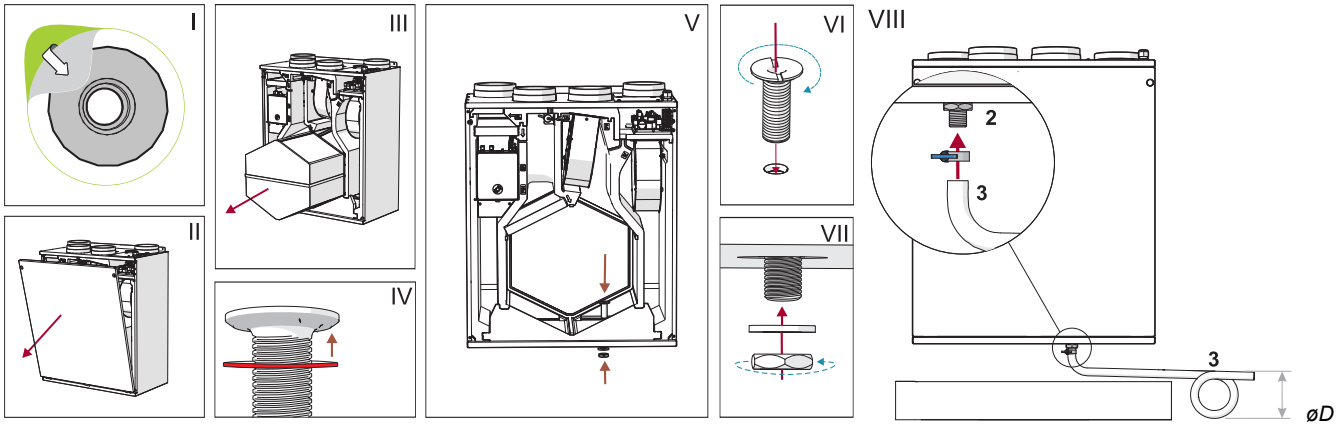
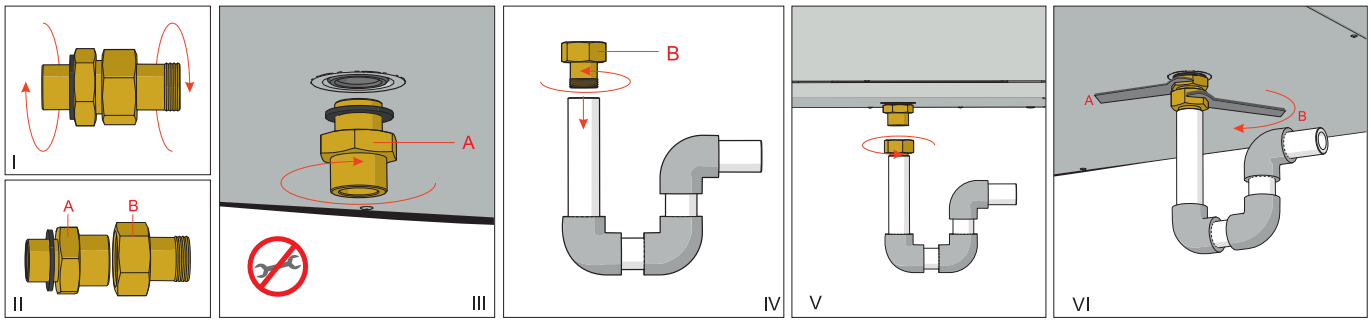


Figure 5.9.1. Drainage system installation (øD=150 mm)

It's required to connect condensate drainage system after hanging or placing of air handling unit. Insert condensate draining into AHU. Condensate draining must be lubricated with a sealant (I-VII) and connected to a condensate removal system.
Remove the sticker on the bottom of the unit, which covers a drainage hole. Then open the unit cover (II) and take out the heat exchanger. Put condensate outlet pipe to EPP casing through intended hole (V), use silicon gasket (IV). Place from the bottom side gasket and screw a brass nut on (VII). Screw the nut by holding the pipe with a hand in order prevent spinning (it's possible to hold with a screwdriver or 1 Euro coin by putting it in the notch on the pipe). Screw the nut with a wrench (No. 27) until a top part presses in the EPP casing (level with a surface or slightly enters into it). **Attention: Screwing force may not exceed 2 Nm.**
Pipe (3) (metal pipe should be connected with G3/8 elbow, plastic pipe – with G3/8 elbow or rubber hose – with strap if the unit is placed on the legs, in other cases condensate hose can be connected in any direction) should be connected by following order: AHU (1), pipe (2), and drainage system. Pipes (3) should be bended not less than 3° degrees (1 meter of pipe must be bended 60 mm downwards)! Before turning on AHU (1) the draining system should be filled up with at least 0.5 l of water (pipe loop (3) must be always filled with water), also check if water reaches sewerage system! In other case premise can be flooded during AHU operation!
Draining system must be installed in the premise where the temperature is not lower than 1°C. If temperature falls below 0°C the draining system should be isolated with thermal isolation. The pipe loop 2) not necessarily must be mounted below the AHU (1), but below the AHU (1) level.
Note. If the collector is situated upstream, install a system with a condensate pump (offered as an accessory).

DRAINAGE SYSTEM INSTALLATION SMARTY 3XV/4XV F2



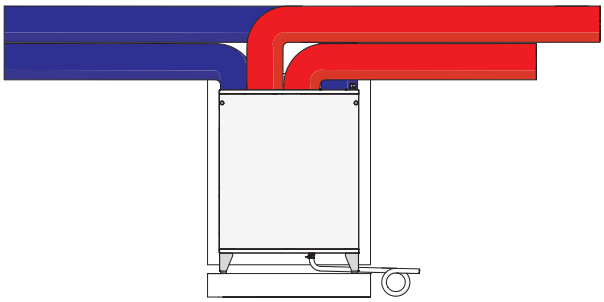
1.Connect the drain couplings (ZPGGM056) part A (G ½ male) to drainage connection into the unit, by turning it clockwise by hand. Do not use any tools (I-III)!
2. Connect drain couplings part B(G ½ male) to condensate syphon or looped sanitary hose(IV-V).
3.Connect drain couplings A and B parts. Hold back the part A with the key during connection (VI).

5.10. CONNECTION OF THE AIR DUCT

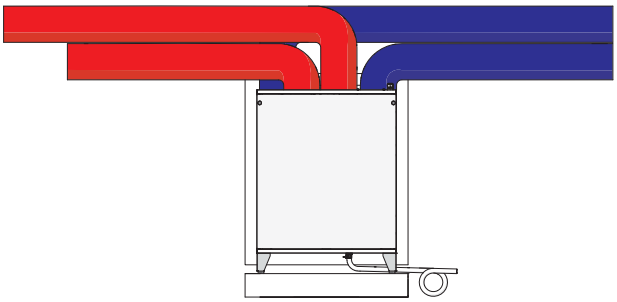
• The connected air ducts must not be bent and have separate fixing.
• Make sure that the fans can not be accessed through air duct heads. Otherwise, protective grid should be installed. You may choose the grid from the range of products provided in our website.
• Do not reduce the diameter of the piping near air inlet or exhaust ducts. If you want to reduce the airflow speed in the system, drop of pressure and noise level, you can increase the diameter.
• In order to reduce the level of the noise in the air supply system, install dampers (see the chapter on air supply system installation).
• In order to reduce air loss in the system, the air ducts and profile components should be of class C and higher. The catalog on the above-mentioned items can be found in our website.
• External air and exhaust system piping should be isolated in order to prevent heat loss and condensation.
• Maintaining the distance of up to 8 meters between air intake and air exhaust ducts is recommended. Air supplying system should be installed away from potential air pollution sources.
• When installing air ducts next to the ventilation equipment, brackets must be used. They suppress vibration and assure secure installation of the various system parts. The necessary brackets can be found in our catalog or website.
• Air ducts are often mistakenly connected in inappropriate location. The ventilation units bear the labels indicating the correct air duct connection layout. Before starting up the system, carefully check if all related works have been performed properly.

For flange diameters see chapter " DIMENSIONS AND WEIGHT".

Right side connection



Left side connection



5.11. CONNECTION OF THE UNIT TO ELECTRIC NETWORK

• Supply voltage to the unit must be connected by a qualified specialist following the manufacturer's instructions and applicable safety guidelines.
• The unit's power network voltage must correspond to electro technical specifications of the unit indicated in the technical decal.
• The unit's voltage, power and other technical specifications are provided in the unit's technical decal (on the unit casing). The unit must be connected to the voltage plug socket of the grounded power network in accordance with the applicable requirements.
• The unit must be earthed according to electrical equipment installation regulation.
• Using extension wires (cables) and power network plug socket distribution devices is not allowed.
• Prior to carrying out any ventilation unit installation and connection works (before the unit is commissioned), the unit must be disconnected from the power network.
• After installation of the ventilation unit, the power network plug socket must be accessible at any time and disconnection from the power network must be performed through the two-pole circuit breaker (by disconnecting phase pole and neutral).
• Before it is connected to the power network, the unit must be carefully checked for any damage (execution, control, and measurement nodes) made during transportation.
• The power cable can be replaced only by a qualified technician, having evaluated the rated power and current.

The manufacturer does not assume any liability for personal injuries and property damage due to nonconformance with the provided instructions.

5.12. START-UP RECOMMENDATIONS

5.12.1. SYSTEM PROTECTION

The control automatics of the unit have integrated protection against short circuit of those assemblies. The controllers have the following protections:

miniMCB
F1 - 1A(5x20) miniMCB protection;

Using the unit with external electrical protection is recommended.

SMARTY	2XV 1.1	2XV 1.2	3XV 1.1	3XV 1.2	4XV F2 1.1	4XV F2 1.2
Mains Fuse	10A	16A	16A	16A	16A	16A

To ensure safe maintenance of the unit, it is necessary to turn off main switch and/or external protection device.

5.12.2. PRE-STARTUP RECOMENDATIONS OF THE UNIT (IN THE PRESENCE OF THE ENDUSER)

Prior to start-up, the system must be carefully cleaned. Check for the following:
• operation systems and unit elements as well as automation and automation devices were not damaged during installation,
• all electrical devices are connected to power supply and fit for service,
• all necessary automation elements are installed and connected to power supply and miniMCB, EX1 terminal blocks,
• cable connection to miniMCB, EX1 terminal blocks comply with the existing wiring diagrams,
• all electrical equipment protection components are properly connected (if they are additionally used),
• cables and wires correspond to all applicable safety and functional requirements, diameters, etc.,
• earthling and protection systems are properly installed,
• condition of all seals and sealing surfaces is proper.

6. MAINTENANCE

6.1. SAFETY INSTRUCTIONS

Unplug the unit from the mains before opening the door (disconnect the power plug from the outlet or in case a two-pole automatic circuit breaker installed, disconnect it as well. Make sure that it cannot be turned on by third parties) and wait until the fans completely stop (for about 2 min.).

6.2. GENERAL RECOMMENDATIONS FOR VENTILATION SYSTEM MAINTENANCE

In order to ensure proper functioning of the system, maintenance requirements and its periods should be observed. Otherwise, the warranty shall be void. Some recommendations are provided in the table below, but they are just advisory, as the need for system maintenance depends on the location of the unit installation, the pollution of atmosphere, population, working hours, etc.

COMPONENT	DURING START-UP	AT LEAST EVERY 6 MONTHS
Filters	Check the cleanliness of the filters	Replace filters every 3 to 4 months or according to the control device indications.
Fans	Check the connections and the direction of rotation	Check cleanliness. Clean, if necessary
		Make sure that the impellers are not unbalanced.
		Make sure that the impellers do not cause noise when rotated by hand.
		Make sure that the fastening screws are not loose and free of mechanical damage.
		Check electrical connections and make sure that these are secured properly and are free of signs of corrosion.
Plate Heat exchanger	Check the cleanliness of the heat exchanger	Check cleanliness and clean, if necessary
Control panel	Check the connections	Check the connections
Electric heater	Check the connections	Clean off dust, and check the electrical components and connections of the heater
Presure sensor	Check electrical connections	Check the operation
Temperature sensor	Check electrical connections	Check the operation
Air supply and extract system	Check the connections	Clean
Air duct system	Check the tightness	Clean
Dampers, diffusers, grid	Check the tightness of connections	Clean
Switching unit (contactor)		Every 3 to 4 months, visually assess the functioning of the switching unit (contactor), i.e. make sure that its casing has no signs of melting or is not thermally damaged in any way and does not produce any unusual sounds. All the contactors in the product or in its accessories must be checked.
Condensate trap and discharge assembly	Check the condensate discharge assembly and make sure that water runs from the drip tray properly.	Clean

6.3. COVER OPENING

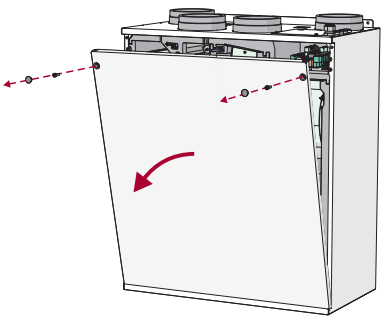


Figure 6.3.1. Smarty 2XV

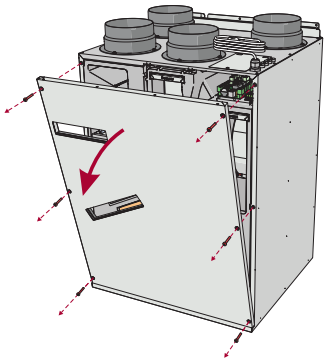


Figure 6.3.2. Smarty 3XV/4XV F2

6.4. FILTERS MAINTENANCE

- In order to remove the filters, open filter cover by pulling the strap and take out the filters. Use Coarse 65% filters or optionally the ePM1 70% filter for outdoor air filtration and the Coarse 65% filter for the exhaust air filtration.
- Dirty filters increase air resistance, this decreases the airflow into the rooms.

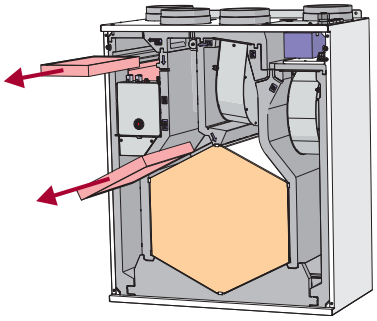


Figure 6.4.1. Smarty 2XV

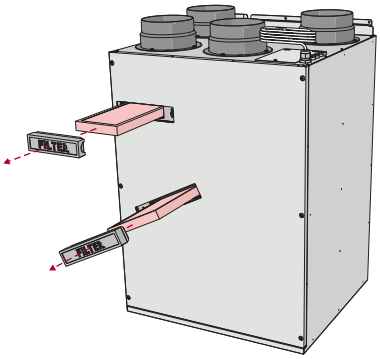


Figure 6.4.2. Smarty 3XV/4XV F2

After changing the filters, please reset the filter timer. The instruction on resetting can be found in the control panel operation manual or on our website www.salda.lt
Operation of the unit without filters is not allowed.

Change the filters every 3-4 months or according to the notification on the control device.

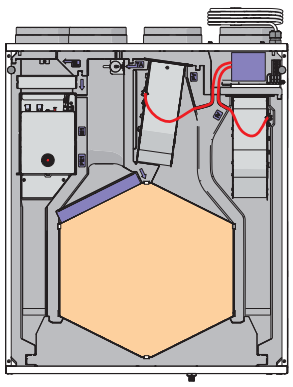
6.5. FAN MAINTENANCE

- Fan maintenance should be performed by experienced and trained staff only.
- The fan should be inspected and cleaned at least once per year.
- Observe staff safety regulations during maintenance and repairs.
- The fans features a heavy-duty ball bearing design. The motor is completely sealed and free of maintenance.
- Detach the fan from the unit.
- The impeller should be particularly checked for built-up material or debris that may cause an imbalance. Excessive imbalance may lead to accelerated wear on motor bearings and vibration.
- Clean the impeller and inside housing with a mild detergent, water and damp, soft cloth.
- Do not use high-pressure cleaner, abrasives, sharp tools or caustic solvents that may scratch or damage the housing and impeller.
- Do not plunge the motor into any fluid while cleaning the impeller. Make sure the impeller's balance weights are not moved.
- Make sure the impeller is free of any obstacles.
- Install the fan back into the unit. Connect fan power and control signals.
- In case the fan after maintenance does not automatically start up or stop, contact the manufacturer. Malfunction of the fan can be identified by the pressure in the system (when pressure switches are connected). In case of any fault in the fan motor, a notice will appear on the control panel.

Prior to commencing any maintenance or repairs , make sure the ventilation units is disconnected from the power source.

- Remove the fans connectors from the control board or fan housing. Supply air fan connects to control board's X15, X2, X4 connectors. Extract air fan connects to control board's X16, X2, X4 connectors. Smarty 4XV F2 fans can be disconnected by unplugging X32, X33 connectors located on the fans housing.

Note:
- X2 and X4 are the same for both fans.
- Reassembling must be executed in the reverse order.



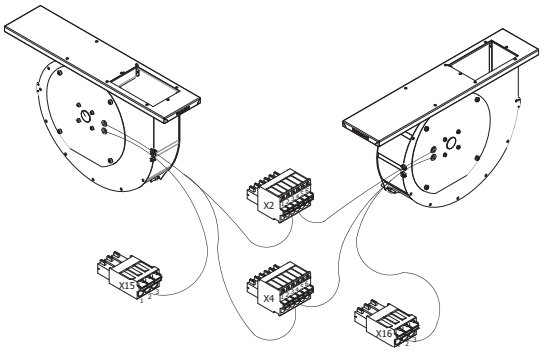


Figure 6.5.1. Smarty 2XV/3XV

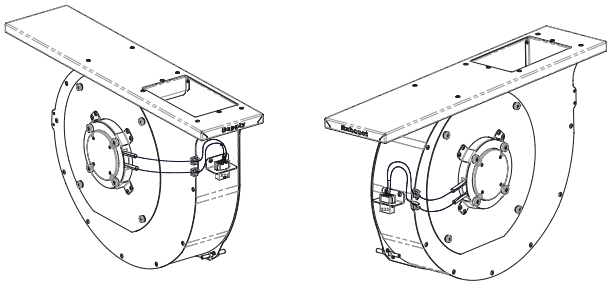


Figure 6.5.2. Smarty 4XV F2

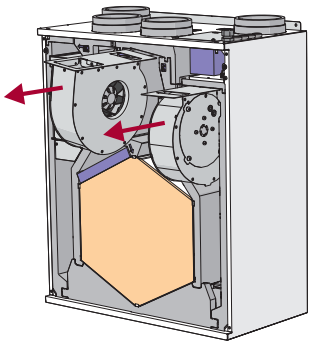


Figure 6.5.3. Smarty 2XV

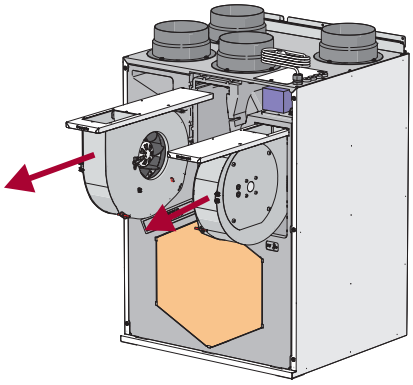


Figure 6.5.4. Smarty 3XV/4XV F2

6.6. HEAT EXCHANGER MAINTENANCE

- Proceed to maintenance and repair after any rotation in the fan stopped.
- Clean the heat exchanger once a year.
- Firstly take out heat exchanger cassette carefully. Submerge it into a bath and wash with warm soapy water (do not use soda). Then rinse it with weak hot water stream (too strong stream can fold the plates). Place back the heat exchanger only when it is completely dry.

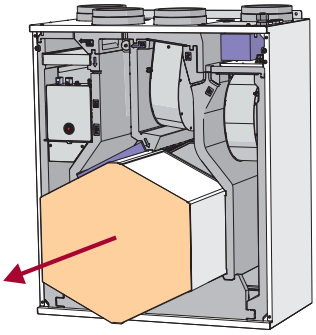


Figure 6.6.1. Smarty 2XV

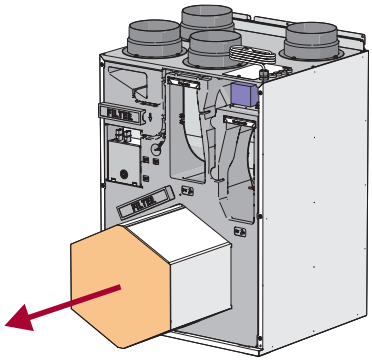


Figure 6.6.2. Smarty 3XV/4XV F2

CAUTION: the heat exchanger can not be used when the filters are removed!

6.7. BYPASS DAMPERS AND PRE-HEATER MAINTENANCE

• If the manual protection is activated, check for a fault before pressing the RESET button. If the fault is identified after it has been rectified, press the RESET button using a screwdriver or similar object.
• Bypass damper and pre-heater are mounted on one block. The pre-heater shall be disconnected by removing X29 connector. The bypass damper shall be disconnected by removing X25 .

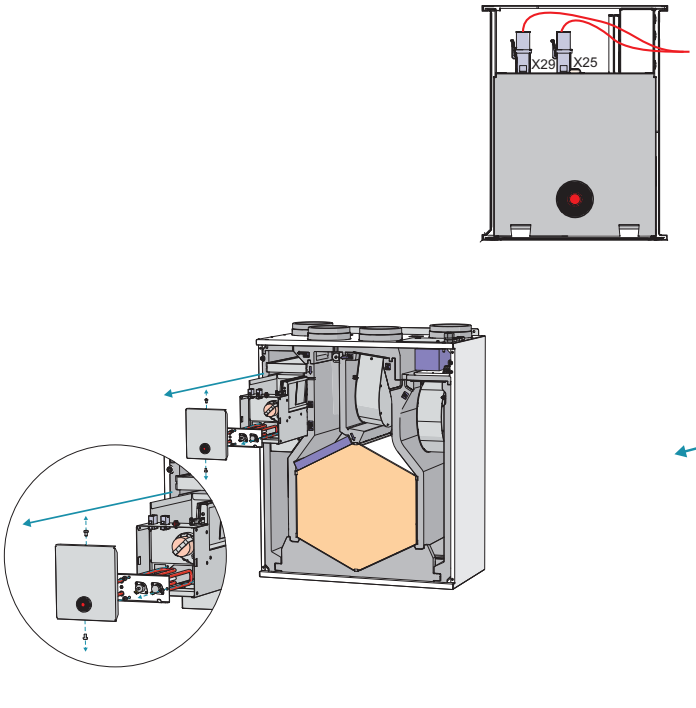
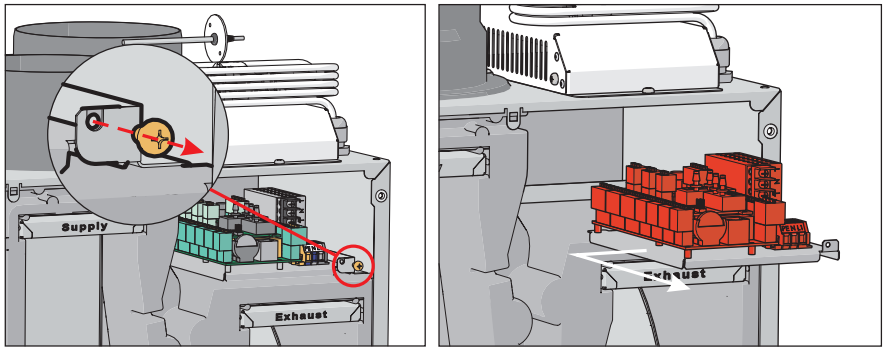


Figure 6.7.1. Smarty 2XV

Figure 6.7.2. Smarty 3XV/4XV F2

6.8. CONTROL BOARD MAINTENANCE

- Unscrew the front bolt securing the control board holder to the unit casing.
- Withdraw the automation through the front part.
- Disconnect the connectors from the control board.
- The connectors are marked according to connection location. Thus during automation reassembly please observe the marking of the connection location of connectors and controller. If the marking on the controller terminals is not visible follow the PCB information provided in "MCB miniMCB technical manual".



7. CONTROL

7.1. DEVICE CONTROL

Ventilation unit equipped with miniMCB control board can be controlled with remote controller, WEB interface or mobile app via MB-GATEWAY and BMS (Building Management System). More information provided in the table below.

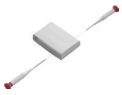
With MB-GATEWAY	Remote control panels	BMS direct connection	Wireless communication
Web interface SALDA AIR mobile application BMS over Modbus TCP/IP BMS over BACnet TCP/IP	Stouch ST-SA-Control	Modbus RTU (RS485)	MB-GATEWAY + WIFI router

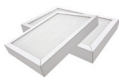
7.2. DEVICE FUNCTIONS

All miniMCB control boards are run by the same software with all functions included. Full function list and description you can find on the MCB/miniMCB technical manual. However, operation and control of the device depends on the following factors:
1. Selected control interface (remote control panel, MB-GATEWAY, etc.). The selected interface affects access to the information and settings, however, it does not affect the logic of control. Full access to the information and settings is available on ST-SA-Control, MB-GATEWAY WEB application and SALDA AIR mobile application.
2. Unit configuration (internal/external components, sensors and control board settings).

For unit control instructions, refer to the operation manual of the existing control device.

8. ACCESSORIES

SMARTY			2XV 1.1	2XV 1.2	3XV 1.1	3XV 1.2	4XV F2 1.1	4XV F2 1.2
Legs		Legs Smarty 2XV/3XV/4XV	ACC000009	ACC000009	ACC000009	ACC000009	ACC000009	ACC000009
Outlet covers		WSG 160	-	-	FIT000403	FIT000403	FIT000403	FIT000403
		ALU 125	FIT000126	FIT000126	-	-		
		ALU 160	-	-	FIT000127	FIT000127	FIT000127	FIT000127
Control		Network module MB-Gateway	ACC000269	ACC000269	ACC000269	ACC000269	ACC000269	ACC000269
		Remote control panel ST-SA-Control	ACC000271	ACC000271	ACC000271	ACC000271	ACC000271	ACC000271
		Remote control panel Stouch	ACC000272	ACC000272	ACC000272	ACC000272	ACC000272	ACC000272
		Switch 774451 + 774411	ACC004460	ACC004460	ACC004460	ACC004460	ACC004460	ACC004460
		Router TP-Link TL-WR802N	ACC000273	ACC000273	ACC000273	ACC000273	ACC000273	ACC000273
External sensors		Sensor CO_2 duct S-KCO2	ACC000277	ACC000277	ACC000277	ACC000277	ACC000277	ACC000277
		Sensor CO_2 room S-RCO2-F2	ACC000278	ACC000278	ACC000278	ACC000278	ACC000278	ACC000278
		Sensor humidity duct S-KFF-U	ACC000279	ACC000279	ACC000279	ACC000279	ACC000279	ACC000279
		Sensor humidity room S-RFF-U-D-F2	ACC000280	ACC000280	ACC000280	ACC000280	ACC000280	ACC000280
		Temperature sensor TJ1TE-NTC10K3B4.5	ACC002560	ACC002560	ACC002560	ACC002560	ACC002560	ACC002560
		Smoke detector UG-3-A4O	ACC004464	ACC004464	ACC004464	ACC004464	ACC004464	ACC004464
Actuators		Actuator for damper CM230-1-F-L (2 Nm, on-off)	ACC000305	ACC000305	ACC000305	ACC000305	ACC000305	ACC000305
Dampers		SKG-A 125	FIT000201	FIT000201	-	-	-	-
		SKG-A 160	-	-	FIT000203	FIT000203	FIT000203	FIT000203

Silencers		MUTE 125X600	FIT000287	FIT000287	-	-	-	-
		MUTE 125X900	FIT000288	FIT000288	-	-	-	-
		MUTE 160X600	-	-	FIT000289	FIT000289	FIT000289	FIT000289
		MUTE 160X900	-	-	FIT000290	FIT000290	FIT000290	FIT000290
El.heaters		EKA 125-0.3-1 f	ACC003721	ACC003721	-	-	-	-
		EKA 125-0,6-1 f	ACC000329	ACC000329	-	-	-	-
		EKA 125-0,9-1 f	ACC000330	ACC000330	-	-	-	-
		EKA 125-1,2-1f	ACC003722	ACC003722	-	-	-	-
		EKA 125-1,5-1 f	ACC000331	ACC000331	-	-	-	-
		EKA 125-1,8-1 f	ACC000332	ACC000332	-	-	-	-
		EKA 160-0.3-1 f	-	-	ACC003723	ACC003723	ACC003723	ACC003723
		EKA 160-0.6-1 f	-	-	ACC003724	ACC003724	ACC003724	ACC003724
		EKA 160-1.0-1 f	-	-	ACC000333	ACC000333	ACC000333	ACC000333
		EKA 160-1,2-1f	-	-	ACC003725	ACC003725	ACC003725	ACC003725
		EKA 160-1,5-1 f	-	-	ACC000334	ACC000334	ACC000334	ACC000334
		EKA 160-2,0-1 f	-	-	ACC000335	ACC000335	ACC000335	ACC000335
		EKA 160-2,4-1f	-	-	ACC003726	ACC003726	ACC003726	ACC003726
		EKA 160-3,0-1 f	-	-	ACC000336	ACC000336	ACC000336	ACC000336
		EKA NIS 125-0,3-1f	ACC003802	ACC003802	-	-	-	-
		EKA NIS 125-0.6-1 f	ACC000319	ACC000319	-	-	-	-
		EKA NIS 125-0.9-1 f	ACC000320	ACC000320	-	-	-	-
		EKA NIS 125-1,2-1f	ACC003803	ACC003803	-	-	-	-
		EKA NIS 125-1.5-1 f	ACC000321	ACC000321	-	-	-	-
		EKA NIS 125-1.8-1 f	ACC000322	ACC000322	-	-	-	-
		EKA NIS 160-0,6-1f	-	-	ACC005245	ACC005245	ACC005245	ACC005245
		EKA NIS 160-1.0-1 f	-	-	ACC000323	ACC000323	ACC000323	ACC000323
		EKA NIS 160-1.2-1 f	-	-	ACC003804	ACC003804	ACC003804	ACC003804
		EKA NIS 160-1.5-1 f	-	-	ACC000324	ACC000324	ACC000324	ACC000324
		EKA NIS 160-2.0-1 f	-	-	ACC000325	ACC000325	ACC000325	ACC000325
		EKA NIS 160-2.4-1 f	-	-	ACC000326	ACC000326	ACC000326	ACC000326
		EKA NIS 160-3,0-2f	-	-	ACC003805	ACC003805	ACC003805	ACC003805
Filter sets		Filter set Smarty 2X V (Coarse-65+Coarse-65-2pcs.)	ACC005251	ACC005251	-	-	-	-
		Filter set Smarty 3-4X V (Coarse-65+Coarse-65-2pcs.)	-	-	ACC005255	ACC005255	ACC005255	ACC005255

8.1. CONNECTION OF ACCESSORIES

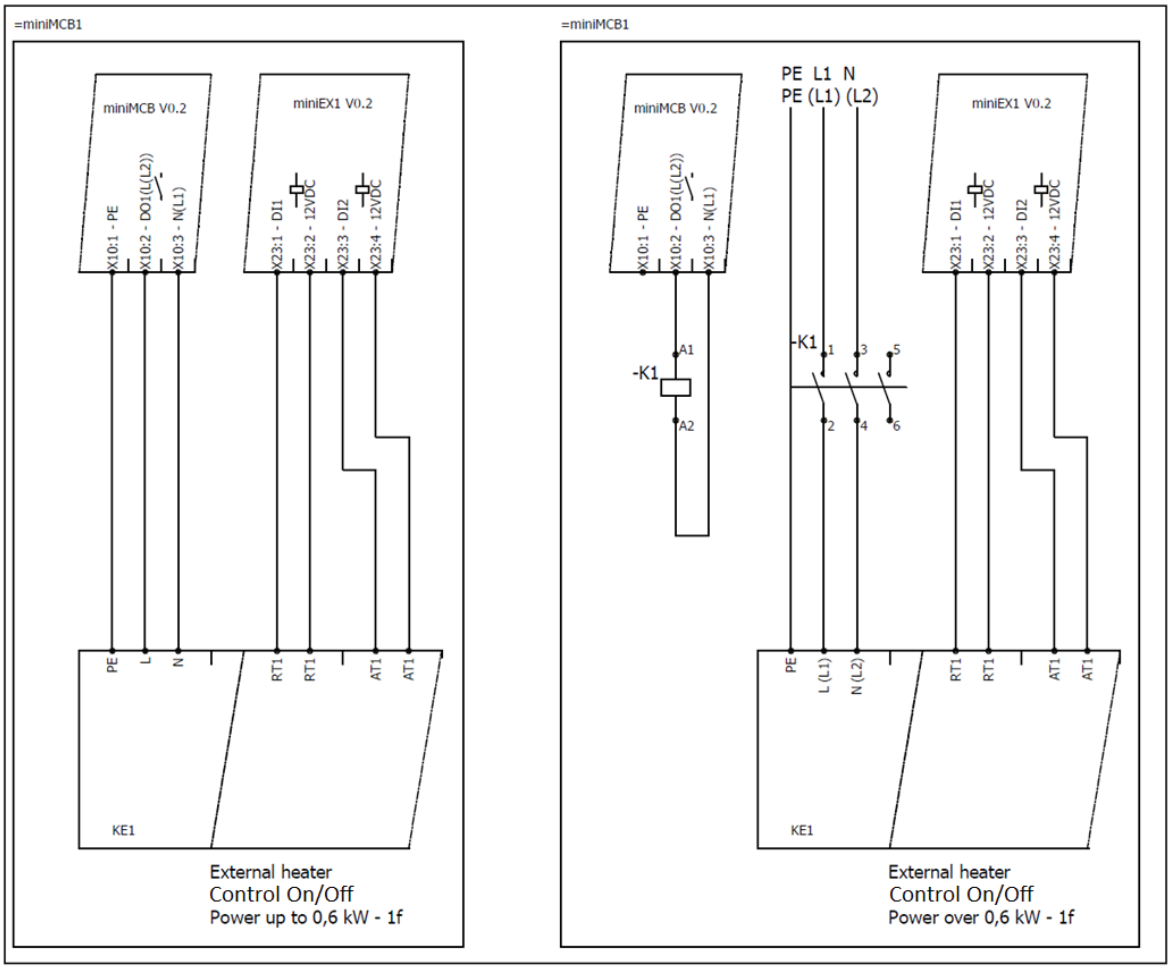
8.1.1. HEATER AND PRE-HEATER

8.1.1.1. VERSION 1.1.

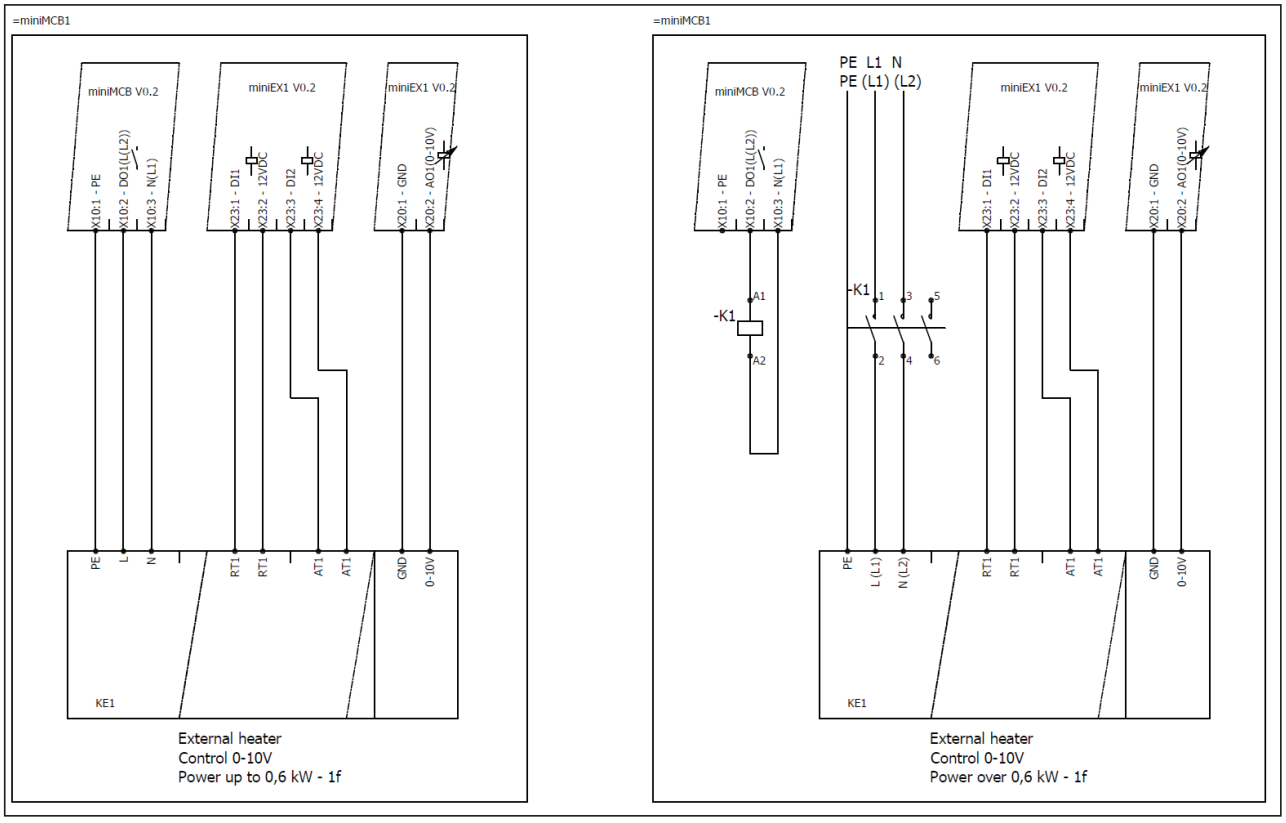
Smarty XV 1.1. units feature one connection for external electrical air heater and one for external air pre-heater. Pre-heater is integrated inside the product. Heater/pre-heater can be controlled by the following signals:

- 0-10V – EKA NIS
- On-Off – EKA

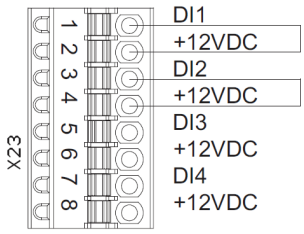
EKA connection:



EKA NIS connection:



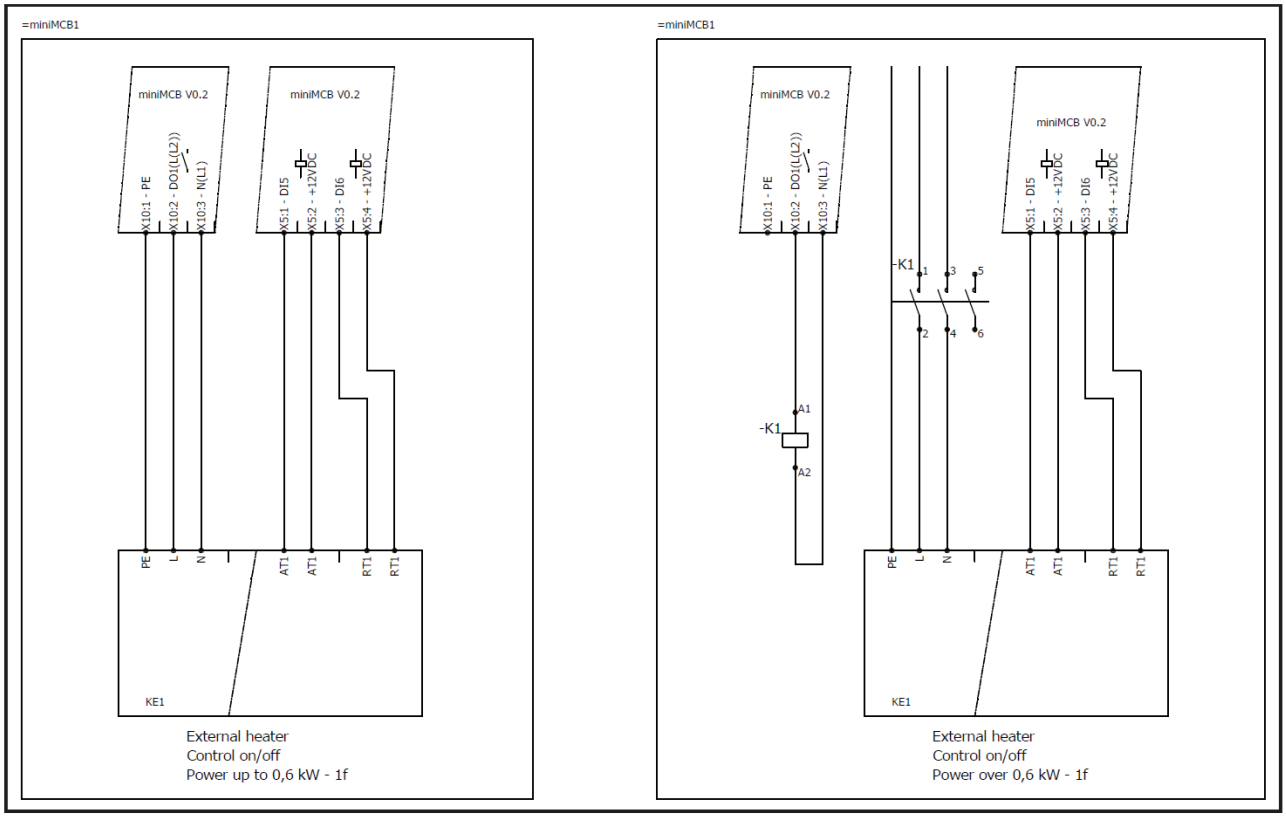
Automatic and manual protection must be connected to EX1 controller ‘s X23 connector when an electric heater is equipped with these connection terminals. Otherwise, jumpers are installed on the X23 connect or protection inputs.

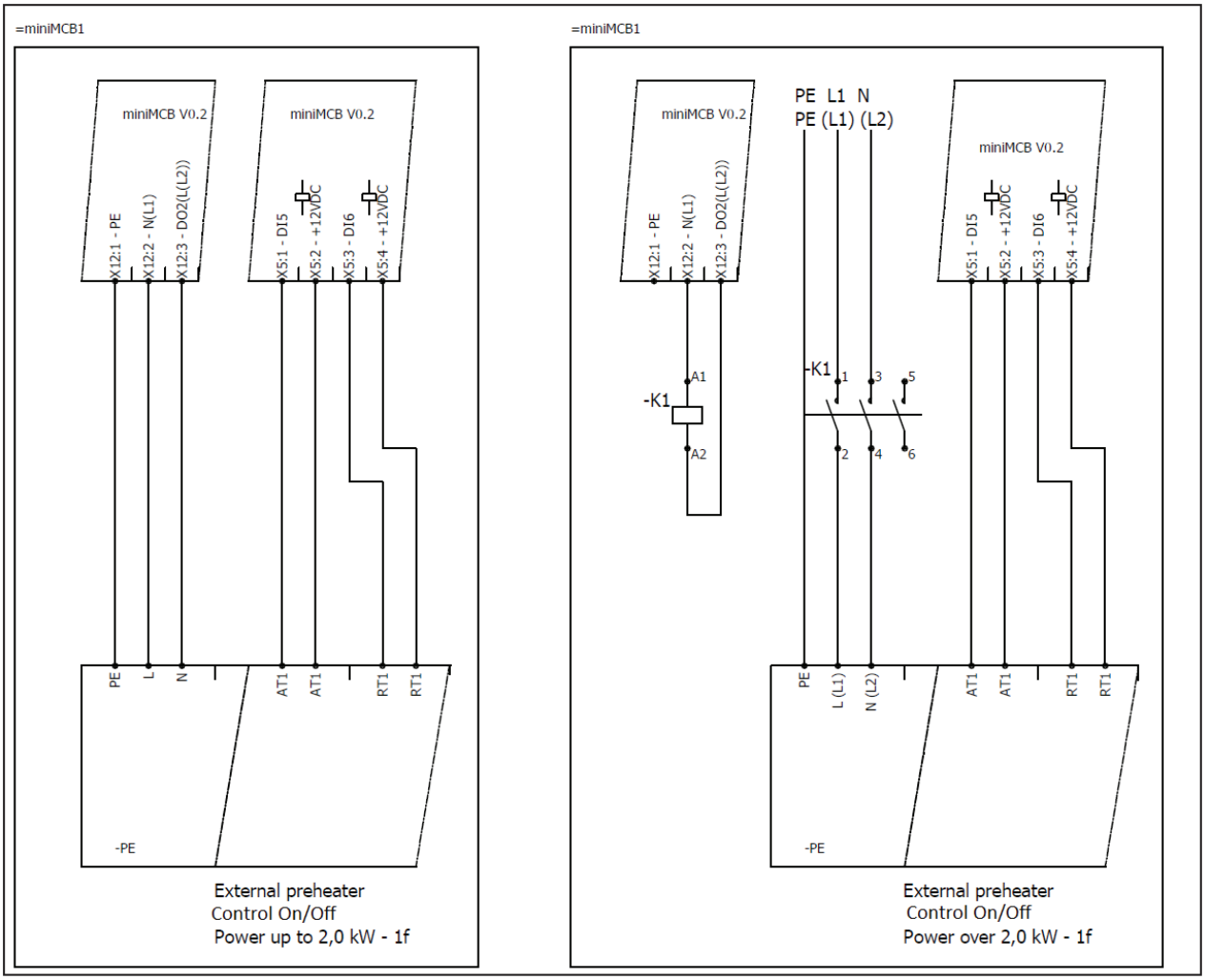


8.1.1.2. VERSION 1.2.

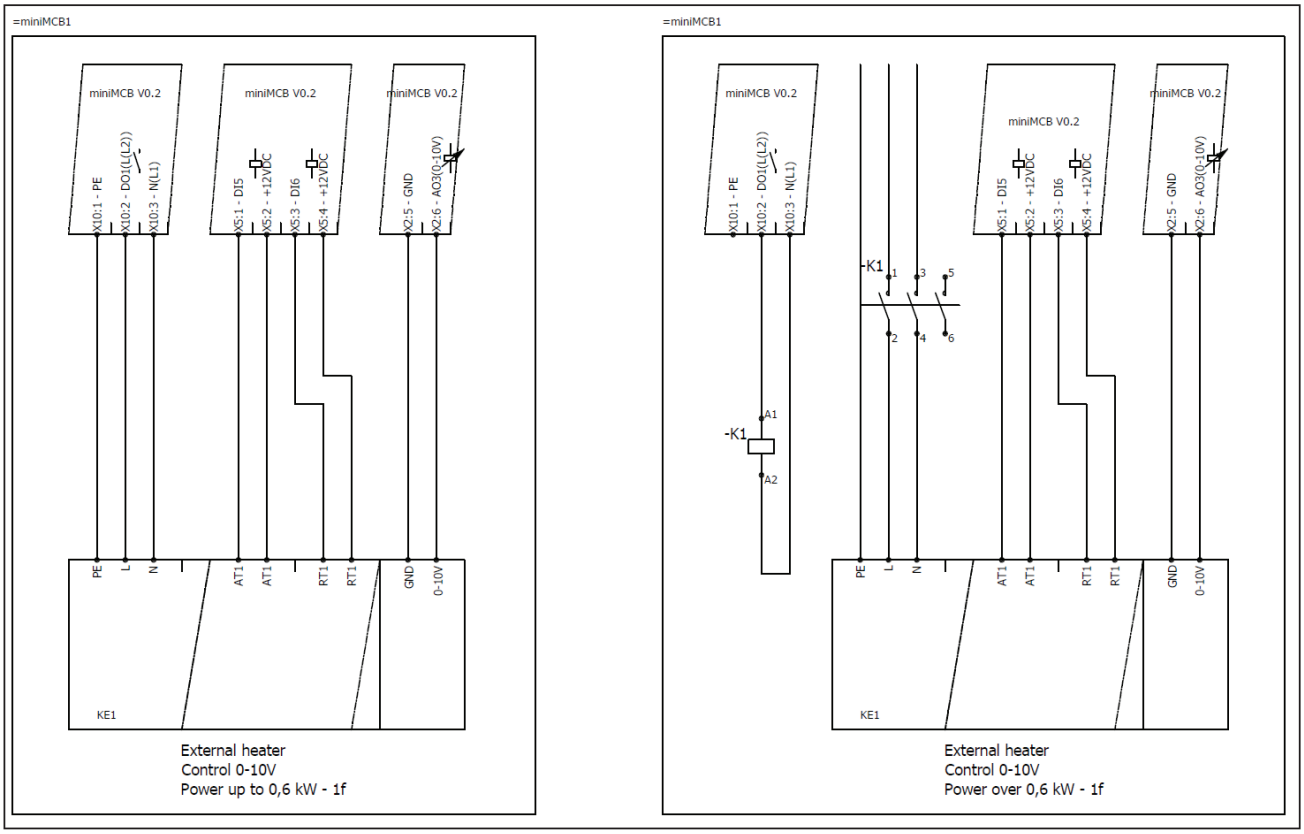
Smarty XV 1.2. units feature one connection of external electrical heater/pre-heater. In factory settings, the connection is intended for the pre-heater, however, it can be configured for the heater. Heater/pre-heater can be controlled by the following signals:
• 0-10V – EKA NIS
• On-off – EKA

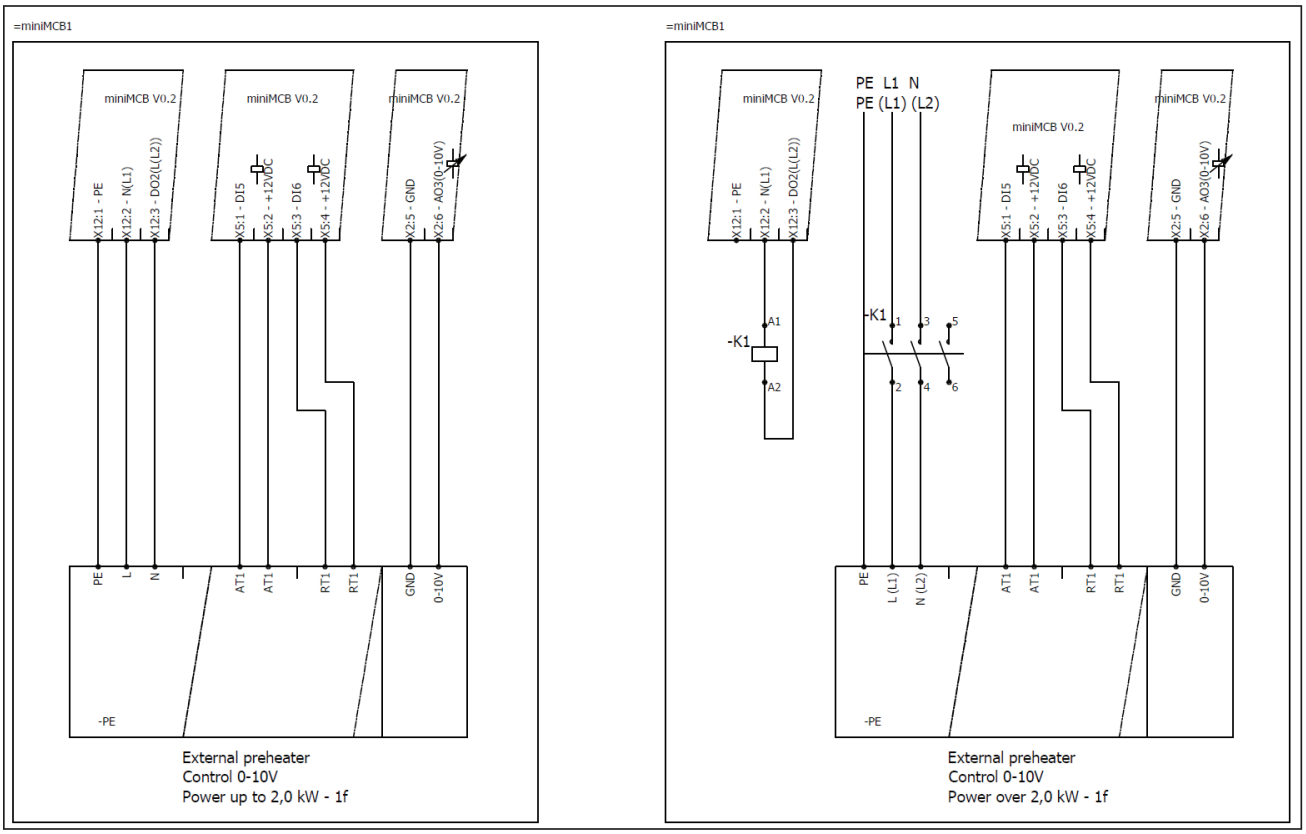
EKA connection:



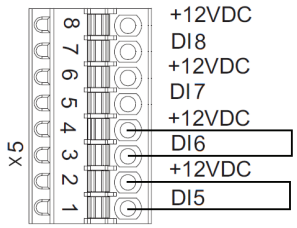


EKA NIS connection:





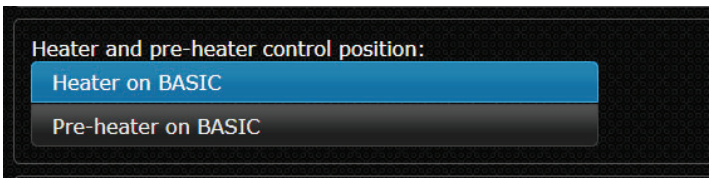
Automatic and manual protection must be connected to the controller's X5 connector when an electric heater/pre-heater is equipped with these connection terminals. Otherwise, jumpers are installed on the X5 connector protection inputs.



Since the pre-heater must be connected according to the factory settings, the settings should be changed in the environment of the MB-Gateway WEB application service or on the ST-SA-Control panel.

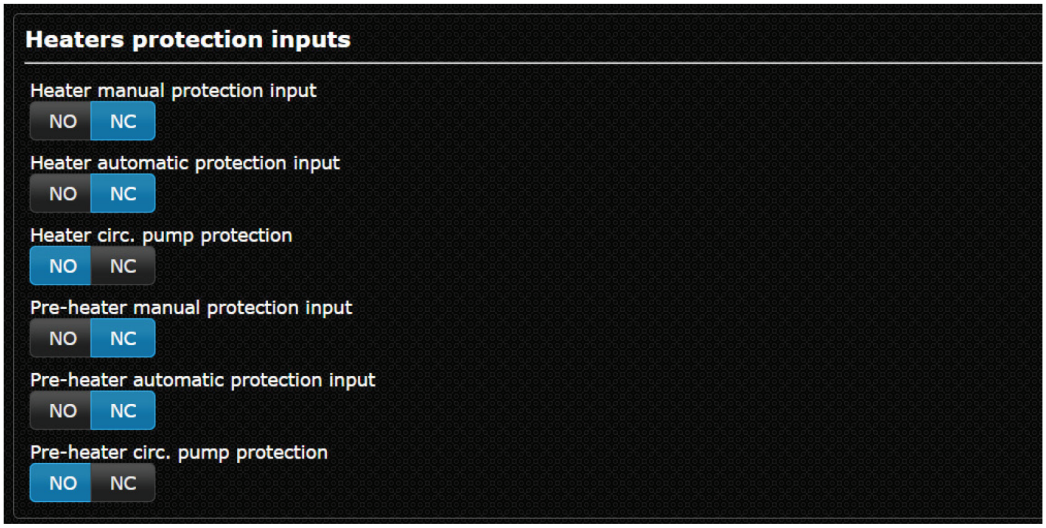
Settings in the environment of the MB-Gateway WEB application service

Change the settings as follows:
• Service password 4444;
• Service > Heaters > Heater and pre-heater position;
• Select either the heater or pre-heater to be switched on the MiniMCB basic.



[1]For the Stouch control panel, changing of the settings is not possible

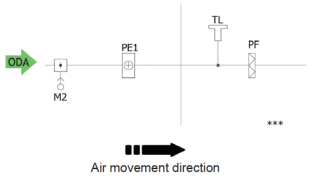
• Service > Digital inputs > Heater protection inputs
Set the manual and automatic protection modes of the heater or pre-heater (NC by default).



• Service > Heaters > Supply air heater or outdoor air pre-heater
Set either a heater or pre-heater and the type of the heater or pre-heater as well as the steps to be performed in case of protection signal activation.

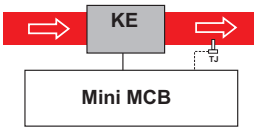
Settings with the ST-SA-Control panel
1. Go to Menu/Service/Heaters. Enter the Service password (the initial password – 4444);
2. Select Control Position as 'Heater on basic' or 'Pre-heater on basic.
3. Go to Menu/Service/Heaters/Heaters and set the heater type
0.10VDC – 0-10 control,
ON/OFF – On/Off control,
None – heater switch-off, and also specify the system response protection signal.
4. Go to Menu/Service/Heaters/Preheater. Set type '0..10VDC' 0-10 control, 'ON/OFF' On/Off control, 'None' – pre-heater switch-off. Set the system response protection signal.
5. Go to Menu/Service/Digital inputs/Heater protection. Set the manual and automatic protection device modes (NC by default).
6. Go to Menu/Service/Digital inputs/Preheater protection. Set the manual and automatic protection device modes (NC by default).

Pre-heater installation diagram
Installation based on air direction Air Damper M2 > Pre-Heater PE1 > Air Handling Unit.

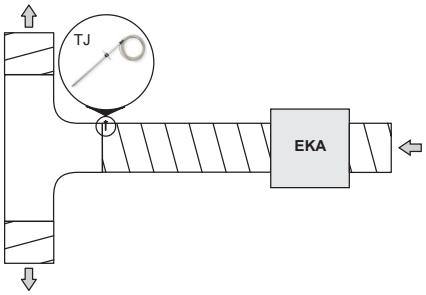


Only pre-heaters with up to 2 kW power circuit can be connected directly to the control board. The pre-heaters of higher power must be connected to separate electric power circuit.

Heater Installation Diagram
Electric heater must be installed inside the air duct. The layout is based on airflow direction Electric Heater > Supply Air Sensor (TJ).



When using the supply air heater, the supply air sensor (TJ) must be installed downstream the heater (or cooler) at the length of sensor cable allows or up to the first branching or bend of air transportation system.

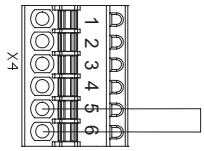


Only heaters with up to 0.6 kW power circuit can be connected directly to the control board. The heaters of higher power heaters must be connected to separate electric power circuit.

8.1.2. FIRE PROTECTION SIGNAL INPUT (FIRE PROTECTION INPUT (NC))

Fire protection signal input must be normally closed, until the fire protection system is not connected a jumper is installed in the factory.

Automation controller A zone X4

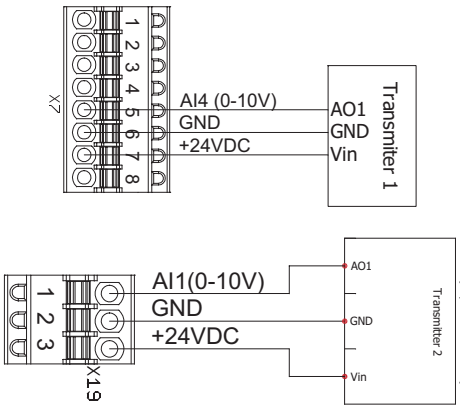


More information can be found in the MCB miniMCB Technical Manual.

8.1.3. EXTERNAL CO_2/RH SENSORS

Smarty XV 1.1. units feature two connections for external CO_2 /RH (input 0-10VDC) sensors.

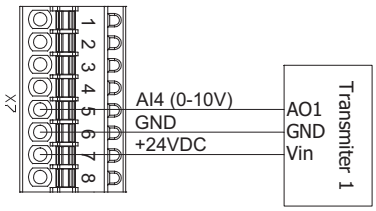
Sensors connection:



Smarty 3XV 1.1 and Smarty 4XV F2 1.1 come with the integrated RH sensor connected.

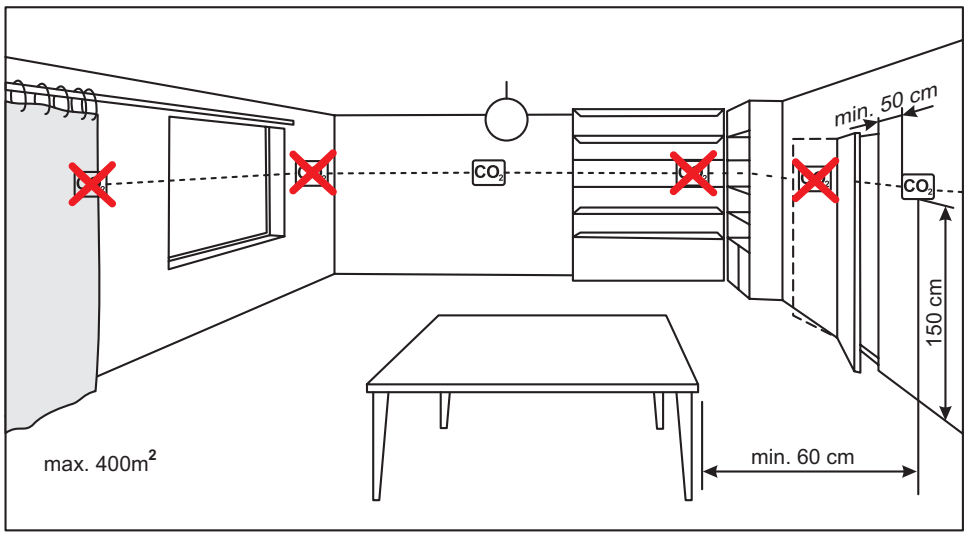
Smarty XV 1.2. units feature one connection for external CO_2 /RH (input 0-10VDC) sensors.

Sensors connection:



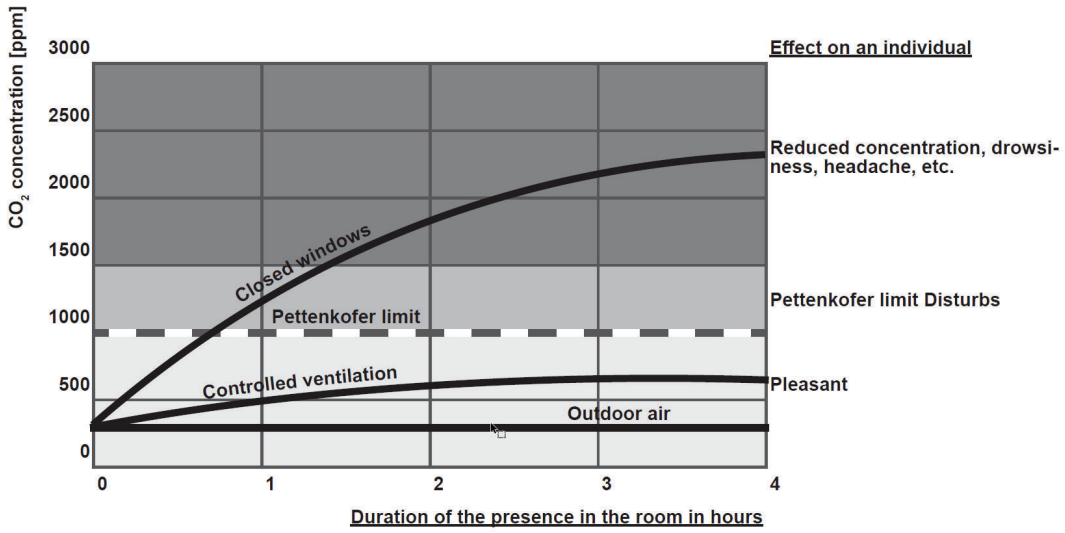
There are 3 functions of these sensors: Supply RH, Extract RH and Extract CO_2.
Supply RH transmitter shall be installed inside supply air duct.
Extract RH and Extract CO_2 transmitters shall be installed inside extract air duct or room.

8.1.4. ROOM CO_2 TRANSMITTER INSTALLATION RECOMMENDATION



If the duct CO_2 transmitter is used, it must be installed in the extract air duct. To install duct transmitters, hole drilling tools are required .

8.1.5. CO_2 CONCENTRATION ACCORDING TO PETTENKOFER LIMIT

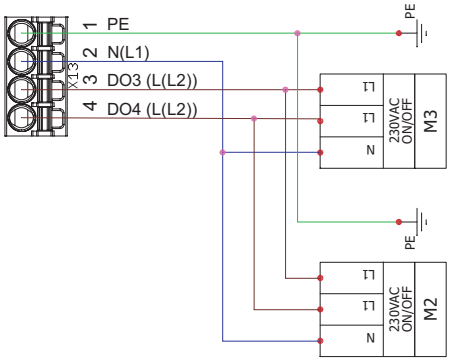


8.1.6. CONECTION OF SUPPLY AND EXHAUST AIR DAMPERS

All versions of Smarty XP can be equipped with outdoor air and exhaust air dampers. Dampers are operated by Open/Close actuators.

Installation diagram
See PIPING AND INSTRUMENTATION DIAGRAM.

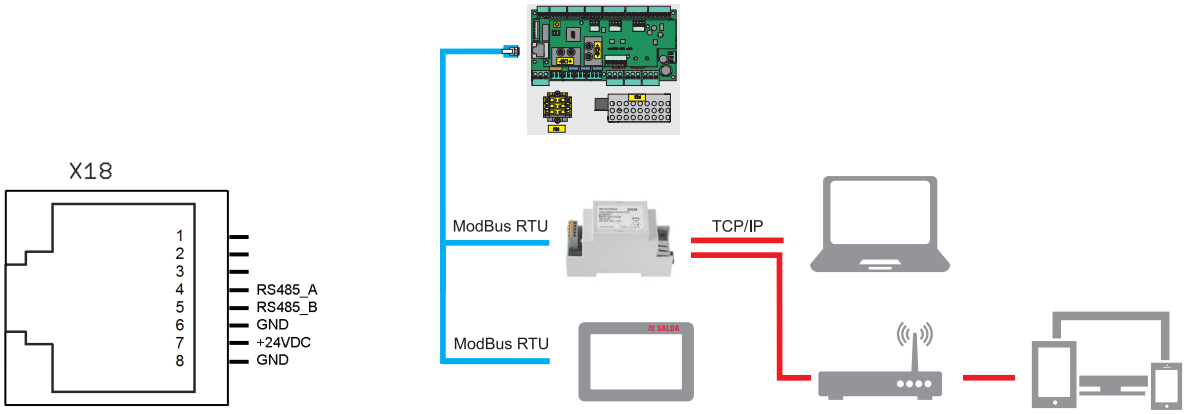
Wiring diagram
Automation controller D zone. Upon activation of output X13:3, the dampers open. Upon activation of output X13:4, the dampers close.



8.1.7. CONNECTION OF REMOTE CONTROL PANEL OR MODBUS

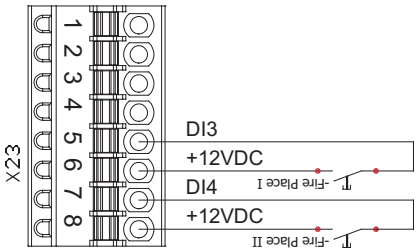
Wiring diagram.
Automation controller F zone, X18 connector.
Switch position for X18 connector configuration

Switch	Position	Purpose
S2	1	120R line termination resistor (On/Off)



8.1.8. FIRE PLACE CONNECTION (SMARTY XV 1.1)

Wiring diagram.
Automation controller C zone, X23 connector.



LED indication

miniMCB		miniEX1	
LED1	3.3V miniMCB power indication (1W mode)	LED1	EX1 status LED
LED2	12V miniMCB power indication		
LED3	3.3V miniMCB power indication (ON mode)		
LED4	MiniMCB status LED		
LED5	Communication line Transmit indication		
LED6	Communication line Receive indication		
LED7	24V peripheral POWER ON indication		

8.1.9. RECOMMENDED SCHEME FOR CONNECTION OF INTERNAL AND EXTERNAL COMPONENTS

***Only Smarty 1.1 versions have N2 module.**

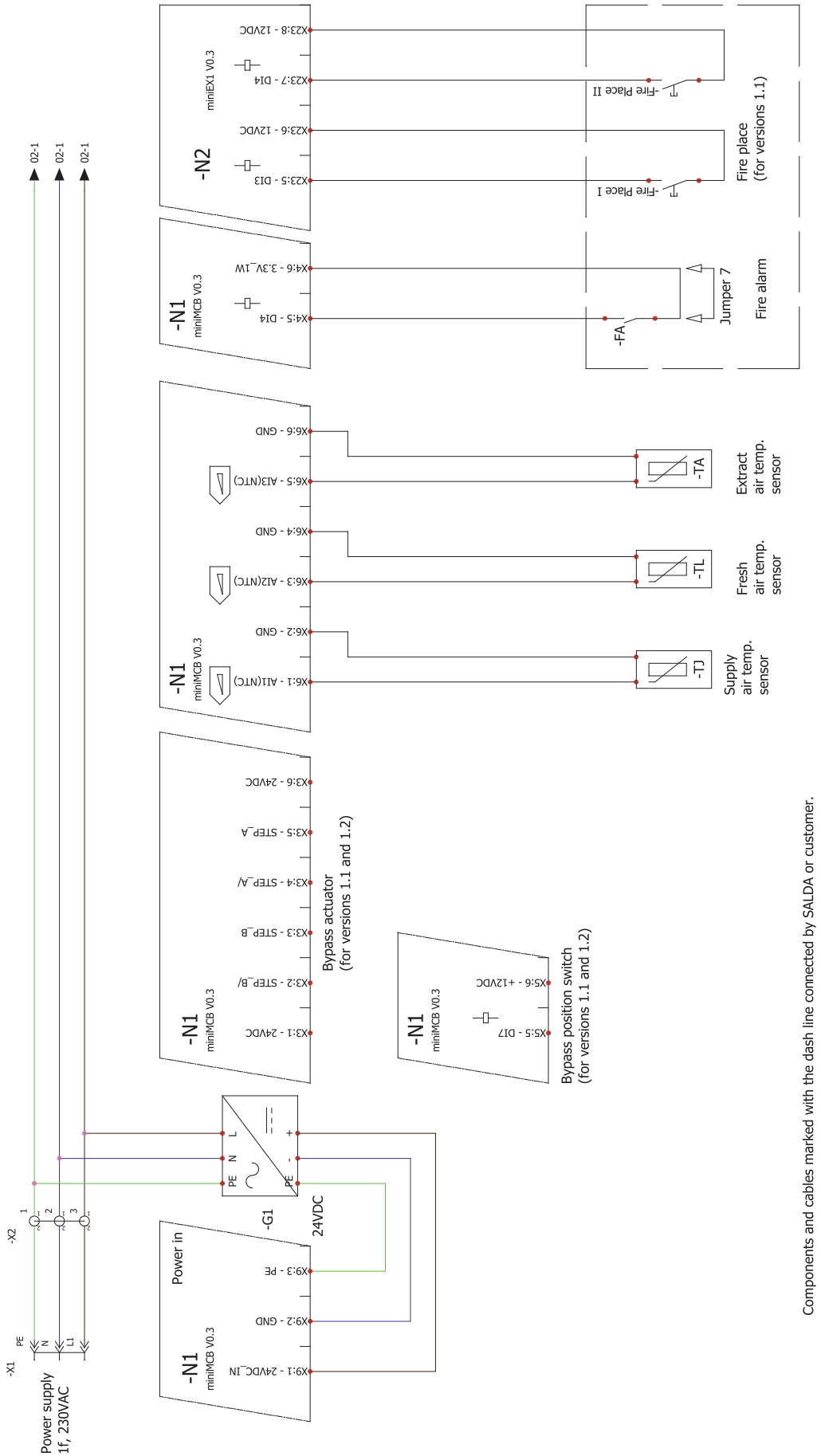


Figure 8.1.9.1. Smarty 2XV 1.1, Smarty 2XV/3XV/4XV F2 1.2 (219.1017.0.1.1-PS)

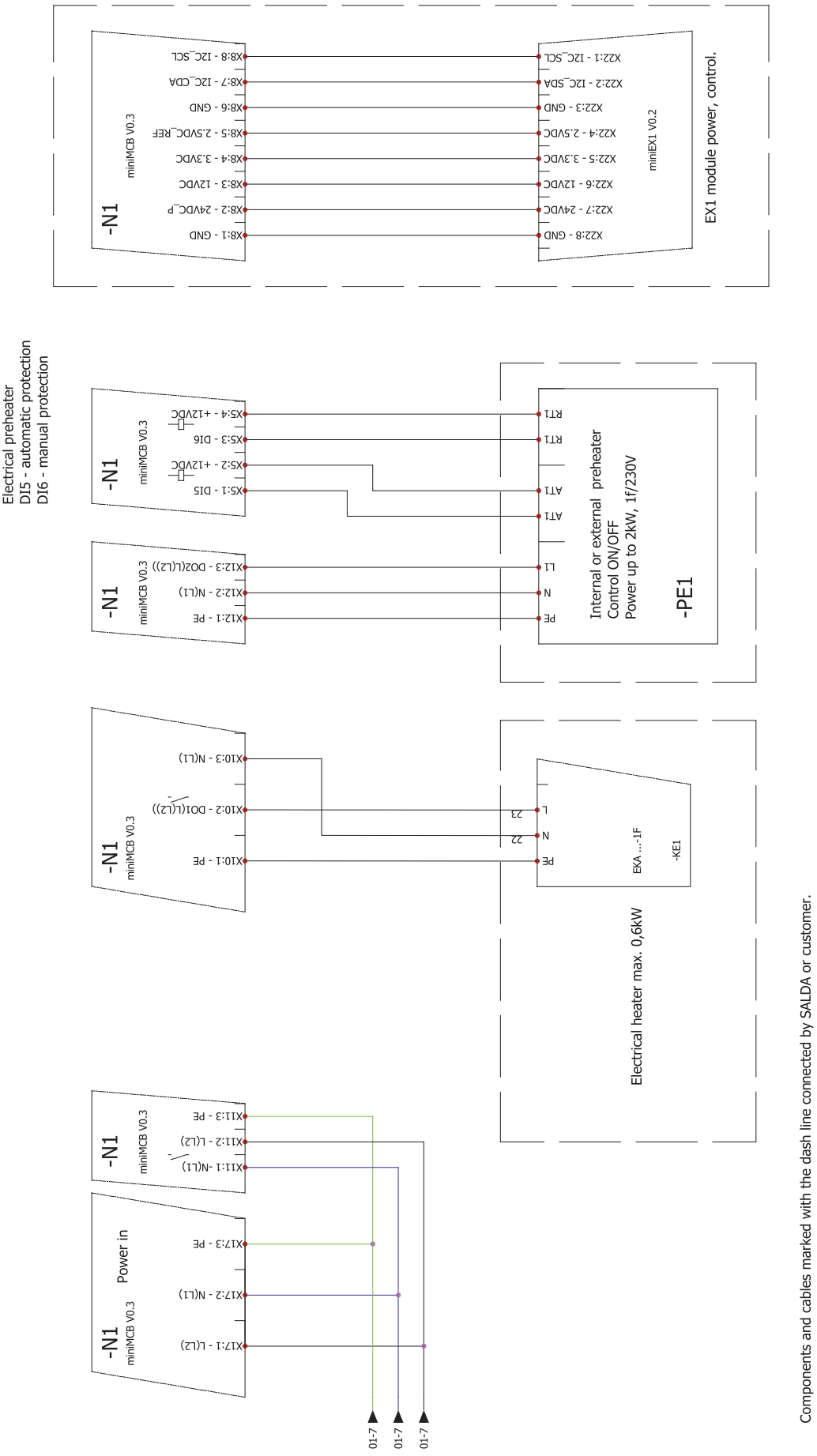


Figure 8.1.9.2. Smarty 2XV 1.1, Smarty 2XV/3XV/4XV F2 1.2 (219.1017.0.1.2-PS)

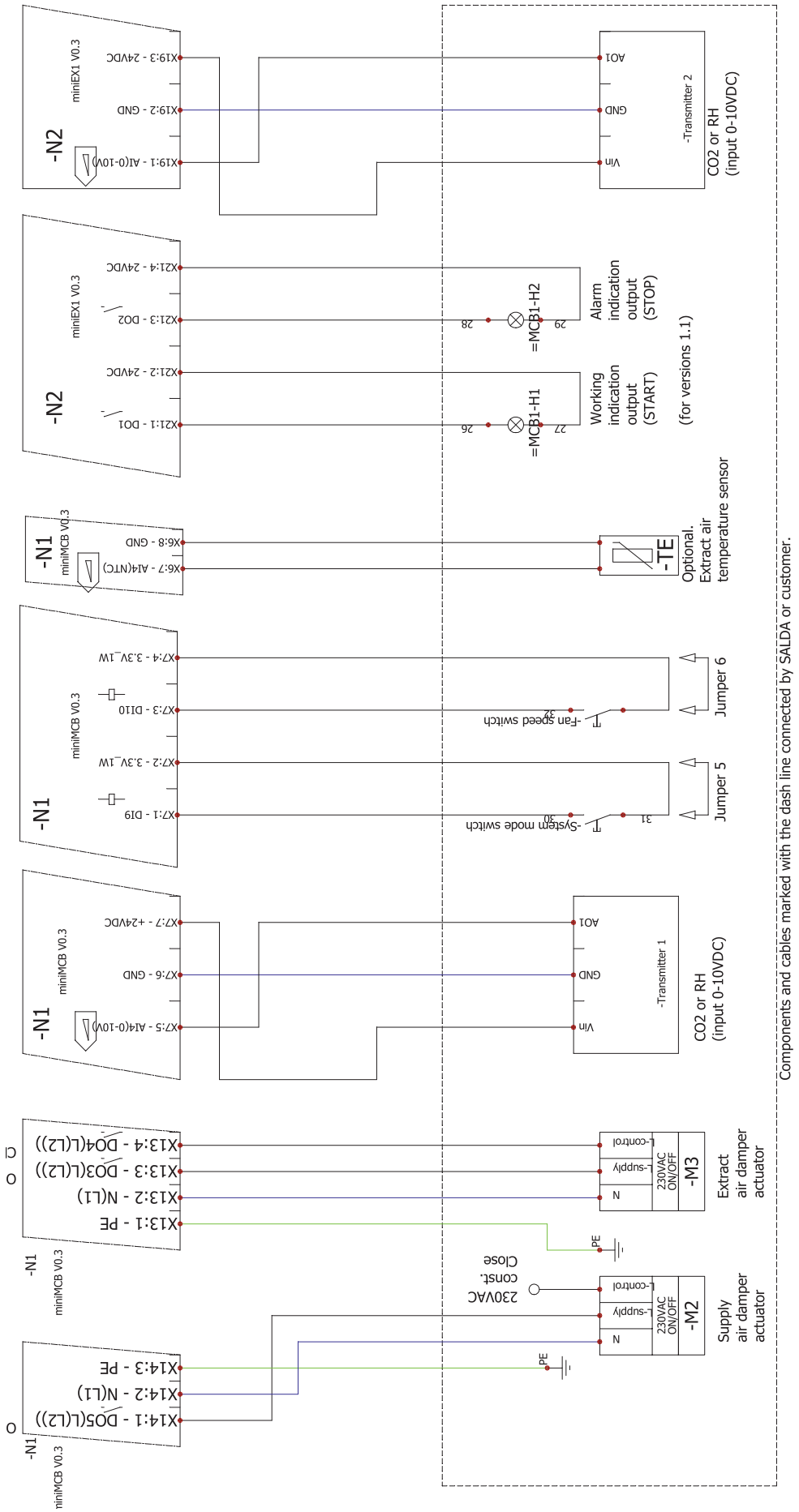


Figure 8.1.9.3. Smarty 2XV 1.1, Smarty 2XV/3XV/4XV F2 1.2 (219.1017.0.1.3-PS)

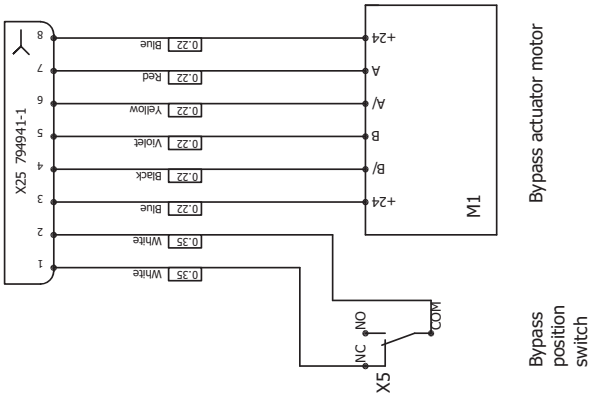


Figure 8.1.9.4. Bypass (SMARTY ZP3XV-0k)

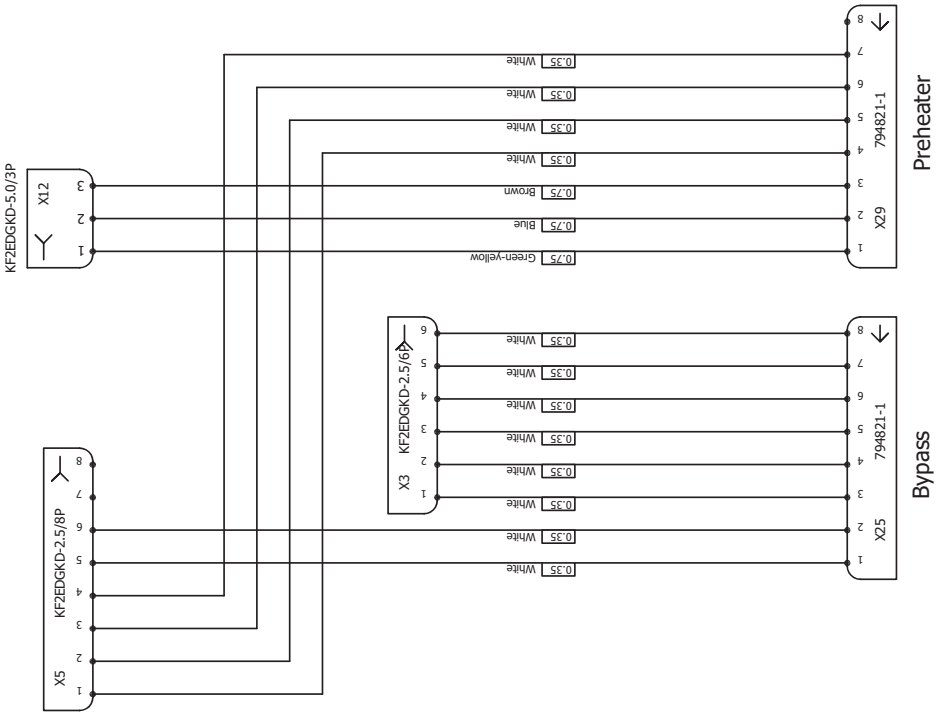


Figure 8.1.9.5. Preheater, Bypass wiring (Smarty 3XV-PE-0k)

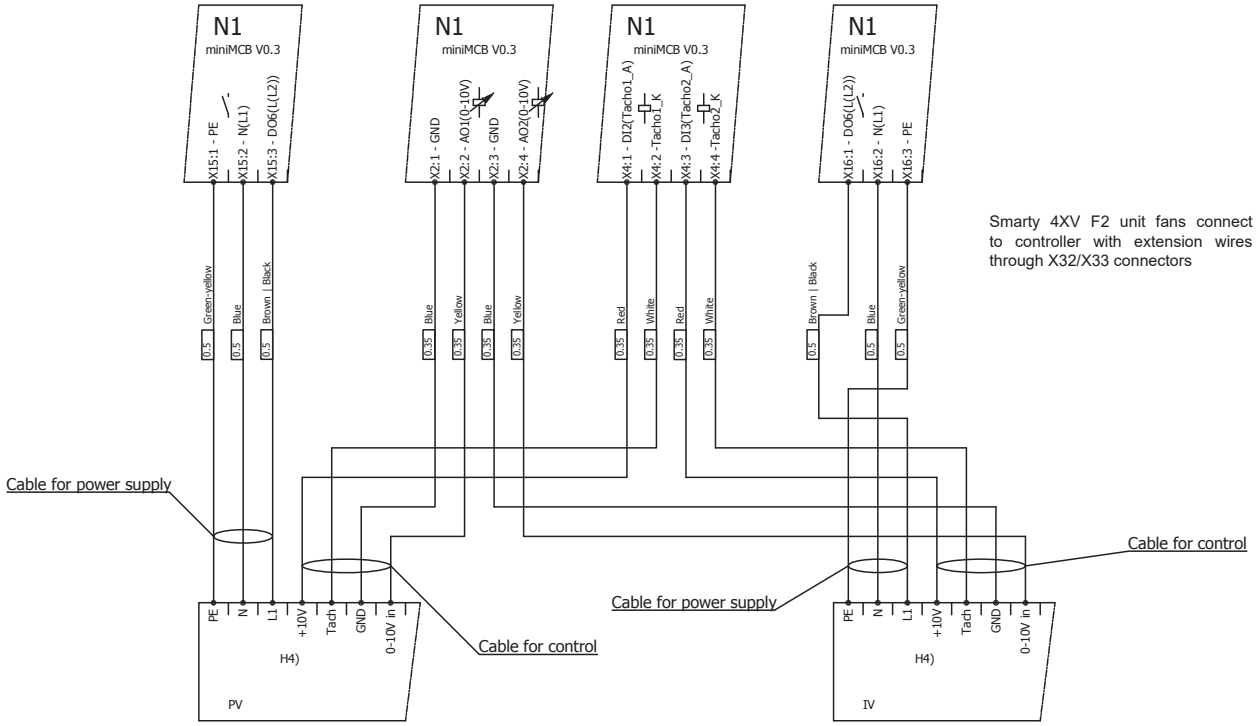


Figure 8.1.9.6. Fans (MiniMCB)

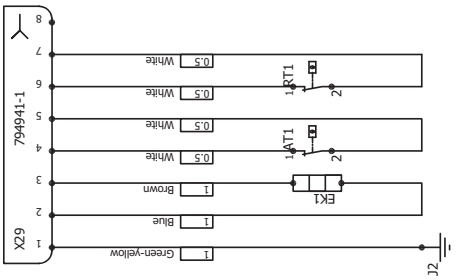


Figure 8.1.9.7. Preheater (SP35)

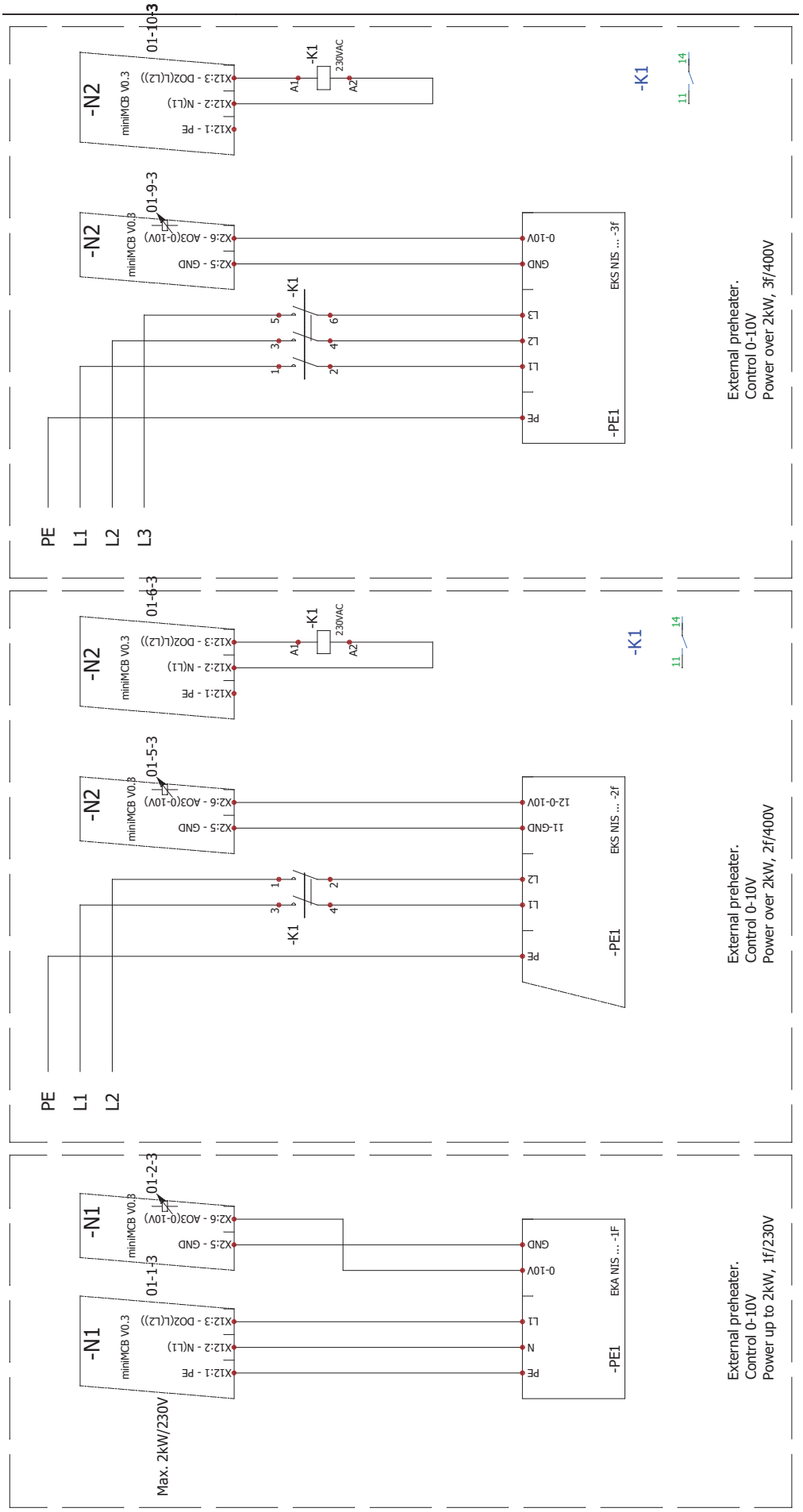


Figure 8.1.9.8. External preheater (SP45)

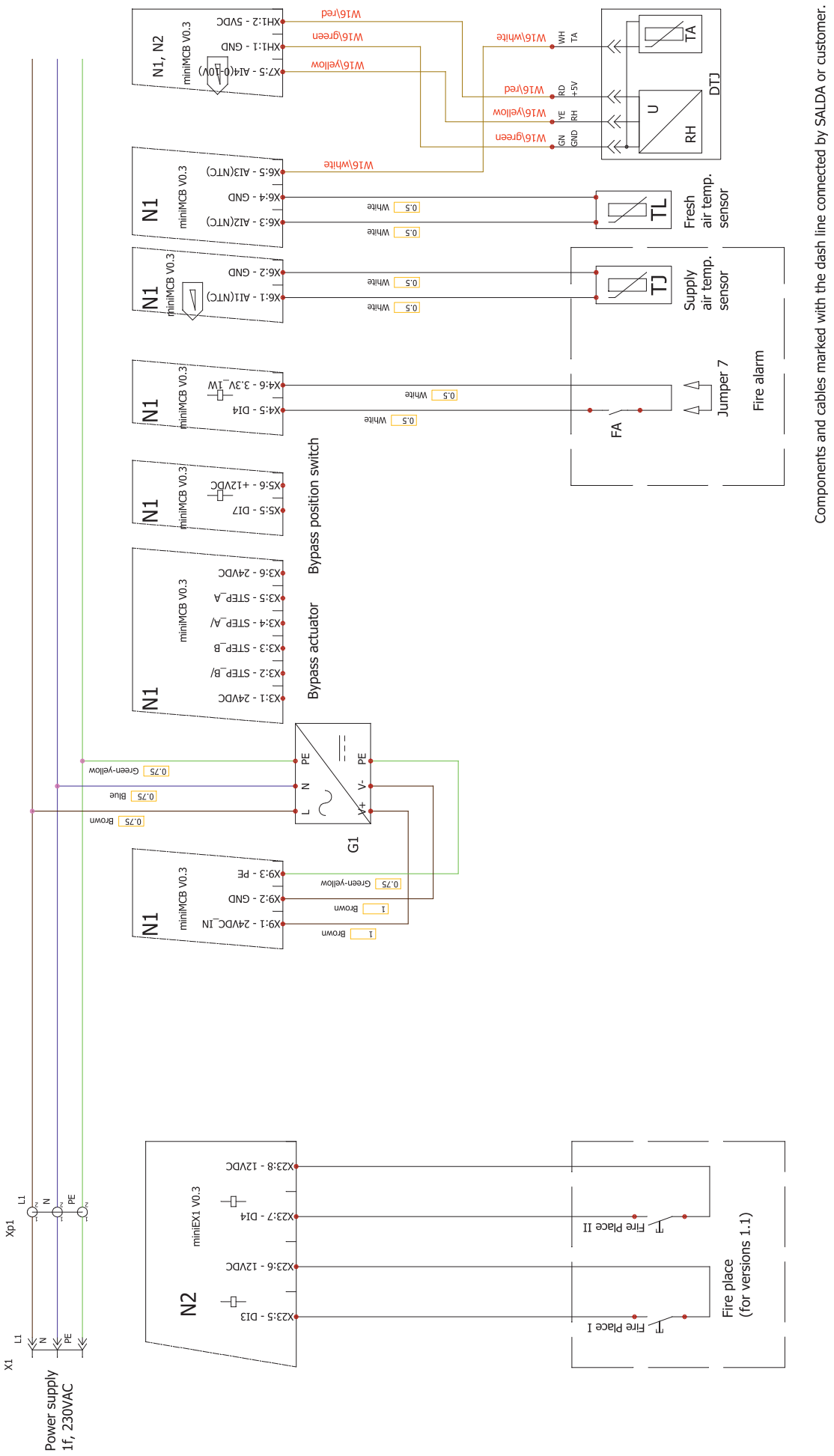


Figure 8.1.9.9. Smarty 3XV/4XV F2 1.1 (219.1349.0.1.1-PS)

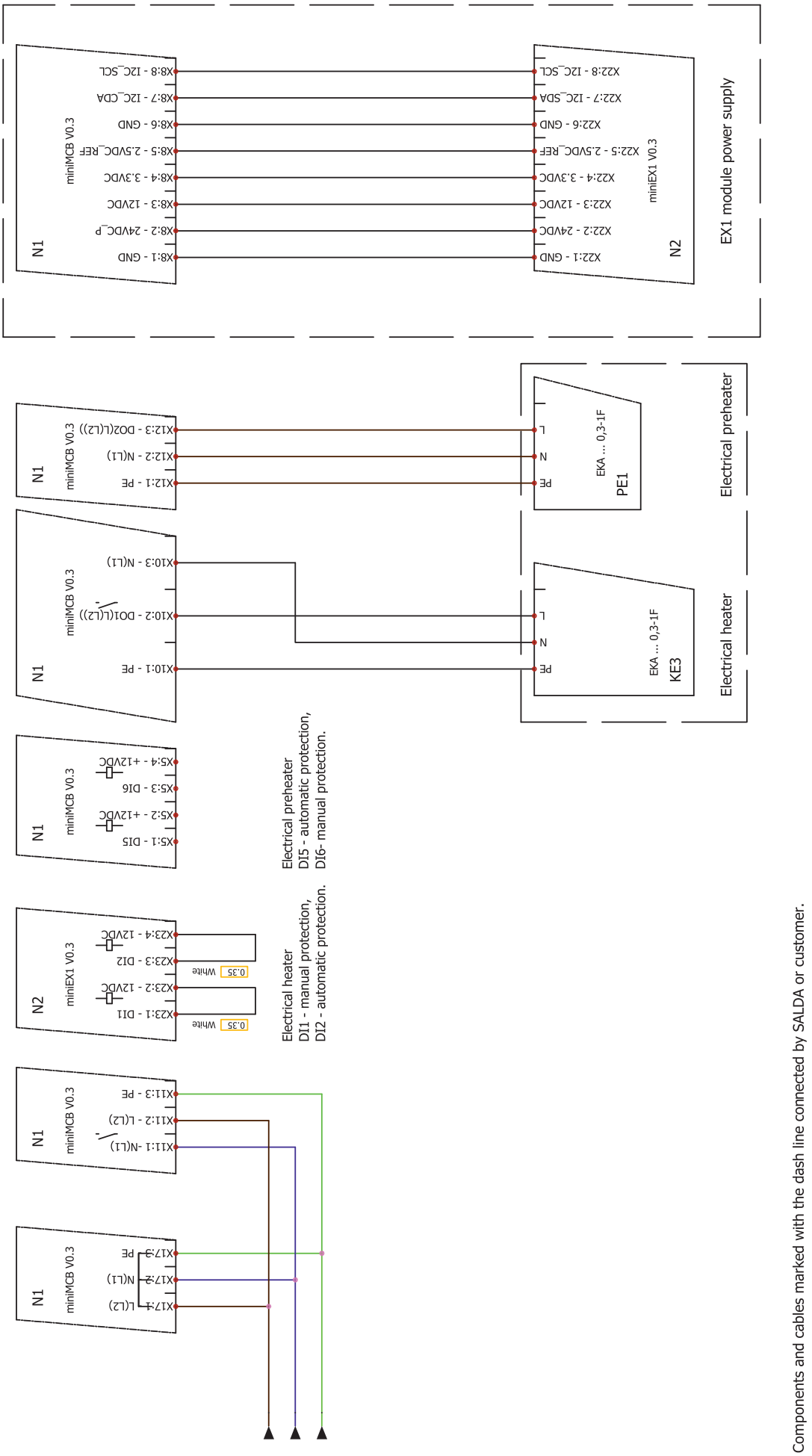


Figure 8.1.9.10. Smarty 3XV/4XV F2 1.1 (219.1349.0.1.2-PS)

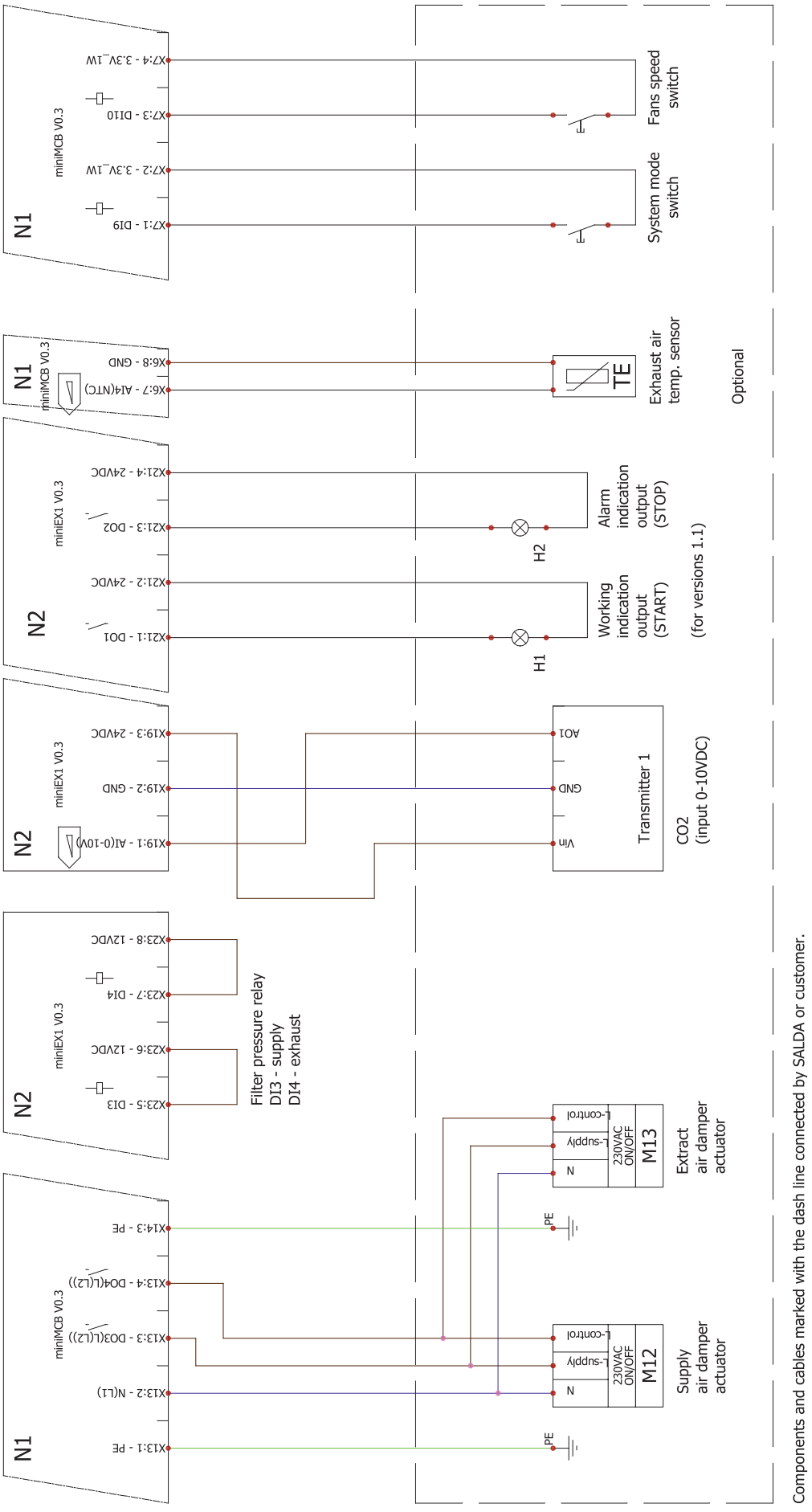


Figure 8.1.9.11. Smarty 3XV/4XV F2 1.1 (219.1349.0.1.3-PS)

9. POSSIBLE FAULTS AND TROUBLESHOOTING

FAILURE	CAUSE	EXPLANATION / CORRECTIVE ACTIONS
Unit is not operating	No supply voltage	Check whether the device is connected to the power network
	Protection device is off or the current leakage relay is active (if installed by the installer)	Switch on only if the unit condition has been evaluated by a qualified electrician. If the system failed, the failure MUST BE rectified prior to switching it on
Air supply heater or pre-heater is not operating or malfunctioning (if installed)	Too low airflow in air ducts activates automatic protection	Check if air filters are not clogged Check if fans are rotating
	Manual safety device is activated	Possible heater or unit failure. Service staff MUST be contacted to identify and eliminate the failure .
Too low air flow at rated fan speed	Clogged supply and/or extract air filter(s)	Filter replacement needed
Filters are clogged and no message is shown on the remote control panel	Wrong time on filter timers or their switch is broken, or its pressure is set improperly.	Shorten filter timer time to the message of clogged filters or replace the pressure switch of the filters, or set their proper pressure.

10.ECODESIGN DATA TABLE

MODEL			SMARTY 2XV 1.1			
Climate zone	**Control typology**	**Control factor**	**Specific energy consumption (SEC)**	**SEC Class**	**AEC**	**AHS**
			[kWh/m²/a]		**[kWh/a]**	**[kWh/a]**
Average	Clock control (standard)	0,95	-36,9	A	395	4610
	Central demand control (opt. with 1 sensor)	0,85	-38,9	A	326	4641
	Local demand control (opt. with 2 sensors)	0,65	-42,5	A+	209	4702
Cold	Clock control (standard)	0,95	-75,6	A+	932	9018
	Central demand control (opt. with 1 sensor)	0,85	-77,9	A+	863	9078
	Local demand control (opt. with 2 sensors)	0,65	-82,1	A+	746	9198
Warm	Clock control (standard)	0,95	-12,1	E	350	2085
	Central demand control (opt. with 1 sensor)	0,85	-14,0	E	281	2098
	Local demand control (opt. with 2 sensors)	0,65	-17,2	E	164	2126
Declared typology			Bidirectional			
Type of drive installed (fan)			Variable			
Type of heat recovery system			Recuperative			
Thermal efficiency of heat recovery		[%]	90,4			
Maximum flow rate		[m³/h]	182			
Electric power input of the fan drive at maximum flow rate		[W]	82			
Sound power level (Lwa)		[dB(A)]	51			
Reference flow		[m³/s]	0,035			
Reference pressure difference		[Pa]	50			
SPI		[W/(m³/h)]	0,31			
Declared maximum internal leakage rates		[%]	1,2			
Declared maximum external leakage rates		[%]	1,2			
Possition and description of visual filter warning for RVU's			Timer			
ErP Compliance			2018			
Internet address for disassembly instructions			www.salda.lt			

MODEL			SMARTY 2XV 1.2			
Climate zone	Control typology	Control factor	Specific energy consumption (SEC)	SEC Class	AEC	AHS
			[kWh/m²/a]		[kWh/a]	[kWh/a]
Average	Clock control (standard)	0,95	-36,9	A	395	4610
	Central demand control (opt. with 1 sensor)	0,85	-38,9	A	326	4641
Cold	Clock control (standard)	0,95	-75,6	A+	932	9018
	Central demand control (opt. with 1 sensor)	0,85	-77,9	A+	863	9078
Warm	Clock control (standard)	0,95	-12,1	E	350	2085
	Central demand control (opt. with 1 sensor)	0,85	-14,0	E	281	2098
Declared typology			Bidirectional			
Type of drive installed (fan)			Variable			
Type of heat recovery system			Recuperative			
Thermal efficiency of heat recovery		[%]	90,4			
Maximum flow rate		[m³/h]	182			
Electric power input of the fan drive at maximum flow rate		[W]	82			
Sound power level (Lwa)		[dB(A)]	51			
Reference flow		[m³/s]	0,035			
Reference pressure difference		[Pa]	50			
SPI		[W/(m³/h)]	0,31			
Declared maximum internal leakage rates		[%]	1,2			
Declared maximum external leakage rates		[%]	1,2			
Possition and description of visual filter warning for RVU's			Timer			
ErP Compliance			2018			
Internet address for disassembly instructions			www.salda.lt			

MODEL			SMARTY 3XV 1.1			
Climate zone	Control typology	Control factor	Specific energy consumption (SEC)	SEC Class	AEC	AHS
			[kWh/m²/a]		[kWh/a]	[kWh/a]
Average	Central demand control	0,85	-39,1	A	280	4546
	Local demand control (opt. with 1 sensor)	0,65	-42,4	A+	183	4629
Cold	Central demand control	0,85	-77,2	A+	817	8893
	Local demand control (opt. with 1 sensor)	0,65	-81,3	A+	720	9056
Warm	Central demand control	0,85	-14,7	E	235	2056
	Local demand control (opt. with 1 sensor)	0,65	-17,5	E	138	2093
Declared typology			Bidirectional			
Type of drive installed (fan)			Variable			
Type of heat recovery system			Recuperative			
Thermal efficiency of heat recovery		[%]	86,9			
Maximum flow rate		[m³/h]	394			
Electric power input of the fan drive at maximum flow rate		[W]	170			
Sound power level (Lwa)		[dB(A)]	50			
Reference flow		[m³/s]	0,077			
Reference pressure difference		[Pa]	50			
SPI		[W/(m³/h)]	0,26			
Declared maximum internal leakage rates		[%]	1,2			
Declared maximum external leakage rates		[%]	1,2			
Possition and description of visual filter warning for RVU's			Timer			
ErP Compliance			2018			
Internet address for disassembly instructions			www.salda.lt			

MODEL			SMARTY 3XV 1.2			
Climate zone	Control typology	Control factor	Specific energy consumption (SEC)	SEC Class	AEC	AHS
			[kWh/m²/a]		[kWh/a]	[kWh/a]
Average	Clock control (standard)	0,95	-37,2	A	339	4504
	Central demand control (opt. with 1 sensor)	0,85	-39,1	A	280	4546
Cold	Clock control (standard)	0,95	-74,9	A+	876	881
	Central demand control (opt. with 1 sensor)	0,85	-77,2	A+	817	8893
Warm	Clock control (standard)	0,95	-13,0	E	294	2037
	Central demand control (opt. with 1 sensor)	0,85	-14,7	E	235	2056
Declared typology			Bidirectional			
Type of drive installed (fan)			Variable			
Type of heat recovery system			Recuperative			
Thermal efficiency of heat recovery		[%]	86,9			
Maximum flow rate		[m³/h]	394			
Electric power input of the fan drive at maximum flow rate		[W]	170			
Sound power level (Lwa)		[dB(A)]	50			
Reference flow		[m³/s]	0,077			
Reference pressure difference		[Pa]	50			
SPI		[W/(m³/h)]	0,26			
Declared maximum internal leakage rates		[%]	1,2			
Declared maximum external leakage rates		[%]	1,2			
Possition and description of visual filter warning for RVU's			Timer			
ErP Compliance			2018			
Internet address for disassembly instructions			www.salda.lt			

MODEL			SMARTY 4XV F2 1.1			
Climate zone	Control typology	Control factor	Specific energy consumption (SEC)	SEC Class	AEC	AHS
			[kWh/m²/a]		[kWh/a]	[kWh/a]
Average	Central demand control	0,85	-37,0	A	361	4538
	Local demand control (opt. with 1 sensor)	0,65	-41,2	A	230	4623
Cold	Central demand control	0,85	-75,1	A+	898	8877
	Local demand control (opt. with 1 sensor)	0,65	-80,0	A+	767	9044
Warm	Central demand control	0,85	-12,6	E	316	2052
	Local demand control (opt. with 1 sensor)	0,65	-16,3	E	185	2090
Declared typology			Bidirectional			
Type of drive installed (fan)			Variable			
Type of heat recovery system			Recuperative			
Thermal efficiency of heat recovery		[%]	86,6			
Maximum flow rate		[m³/h]	565			
Electric power input of the fan drive at maximum flow rate		[W]	351			
Sound power level (Lwa)		[dB(A)]	59			
Reference flow		[m³/s]	0,11			
Reference pressure difference		[Pa]	50			
SPI		[W/(m³/h)]	0,349			
Declared maximum internal leakage rates		[%]	1,2			
Declared maximum external leakage rates		[%]	1,2			
Possition and description of visual filter warning for RVU's			Timer			
ErP Compliance			2018			
Internet address for disassembly instructions			www.salda.lt			

MODEL			SMARTY 4XV F2 1.2			
Climate zone	**Control typology**	**Control factor**	**Specific energy consumption (SEC)**	**SEC Class**	**AEC**	**AHS**
			[kWh/m²/a]		**[kWh/a]**	**[kWh/a]**
Average	Clock control (standard)	0,95	-34,6	A	439	4495
	Central demand control (opt. with 1 sensor)	0,85	-37,0	A	361	4538
Cold	Clock control (standard)	0,95	-72,3	A+	976	8793
	Central demand control (opt. with 1 sensor)	0,85	-75,1	A+	898	8877
Warm	Clock control (standard)	0,95	-10,5	F	394	2033
	Central demand control (opt. with 1 sensor)	0,85	-12,6	E	316	2052
Declared typology			Bidirectional			
Type of drive installed (fan)			Variable			
Type of heat recovery system			Recuperative			
Thermal efficiency of heat recovery		[%]	86,6			
Maximum flow rate		[m³/h]	565			
Electric power input of the fan drive at maximum flow rate		[W]	351			
Sound power level (Lwa)		[dB(A)]	59			
Reference flow		[m³/s]	0,11			
Reference pressure difference		[Pa]	50			
SPI		[W/(m³/h)]	0,349			
Declared maximum internal leakage rates		[%]	1,2			
Declared maximum external leakage rates		[%]	1,2			
Possition and description of visual filter warning for RVU's			Timer			
ErP Compliance			2018			
Internet address for disassembly instructions			www.salda.lt			

11. DECLARATION OF CONFIMITY

Manufacturer

SALDA, UAB
Ragainės g. 100
LT-78109 Šiauliai, Lithuania
Tel.: +370 41 540415
www.salda.lt

Hereby confirms that the following products - Air handling units:

Smarty XV*

(where by „*“ indicates possible unit installation type and modification)

Provided it was delivered and installed in the facility in accordance with the included installation instructions, comply with all applicable requirements in the following directives:

Machinery Directive 2006/42/EC
EMC Directive 2014/30/EU
Low Voltage Directive 2014/35/EU
Ecodesign Directive 2009/125/EC
RoHS 2 Directive 2011/65/EU

The following regulations are applied in applicable parts:

Ecodesign requirements for ventilation units Nr. 1253/2014
Energy labeling of residential units Nr. 1254/2014

The following harmonized standards are applied in applicable parts:

EN 13141-7:2010 - Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 7: Performance testing of a mechanical supply and exhaust ventilation units (including heat recovery) for mechanical ventilation systems intended for single family dwellings.
EN ISO 12100:2012 - Safety of machinery - General principles for design - Risk assessment and risk reduction.
EN 60204-1:2018 - Safety of machinery - Electrical equipment of machines - Part 1: General requirements.
EN 60335-1:2012 - Household and similar electrical appliances. Safety. Part 1: General requirements.
EN 60529:1999/A2:2014/AC:2019 - Degrees of protection provided by enclosures (IP code).
EN IEC 61000-6-1:2019-03 - Electromagnetic compatibility (EMC) -- Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments.
LST EN 61000-6-3:2008 - Electromagnetic compatibility (EMC) -- Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments.

Should any alterations be made in the products, this declaration will no longer apply.

Quality: SALDA UAB activities are in line with the international quality management system standard **ISO 9001:2015.**

Date 2020-10-23

Giedrius Taujenis
Director product development

12. WARRANTY

1. All equipment manufactured in our factory is checked in operating conditions and tested before delivery. Test protocol is supplied together with the unit. The equipment is shipped in good working condition to the end-client. The unit is warrantied for the period of two years from the invoice date.
2. If equipment is found to have been damaged during transportation, a claim should be made against carrier, as we assume no responsibility for such damage.
3. This warranty does not apply:
3.1. when transportation, storage, installation and maintenance instructions of the unit are violated;
3.2. when the equipment is improperly maintained, mounted - inadequate maintenance;
3.3. when the equipment without our knowledge and permission has been upgraded or unskilled repairs were made;
3.4. when the unit was used not for its original purpose.
3.5. Company SALDA UAB is not responsible for potential loss of property or personal injury in cases where AHU is manufactured without a control system and the control system will be installed by the client or third parties. The manufacturer's warranty does not cover devices that will be damaged by installing the control system.
4. This warranty does not apply at these malfunction cases:
4.1. mechanical damage;
4.2. damage caused by entering outside objects, materials, liquids;
4.3. damage caused by natural disaster, accident (voltage change in the electricity network, lightning, etc..).
5. The company assumes no liability for its products either directly or indirectly damage, if the damage is caused by failure to comply with installation and mounting regulations, deliberate or careless users or third-party behavior.

These conditions are readily discernable when the equipment is returned to our factory for inspection.
If the direct client determines that equipment is found to be faulty, or a breakdown occurred, he should inform the manufacturer within five working days and deliver the equipment to manufacturer. Delivery costs should be covered by customer.

⚠ **Manufacturer reserves the right to change this technical passport any time without prior notice, if some typographic errors or inaccurate information is found, as well as after improving the apps and/or the devices. Such changes will be included in the new issues of the technical passport. All illustrations are just for information and thus may differ from the original device.**

12.1. LIMITED WARRANTY COUPON

Warranty term
24 months*

I received complete package and technical manual of the product ready for use. I have read and agreed with the warranty terms and conditions:

.....
Customer's signature

*Refer to the WARRANTY CONDITIONS

Dear User, we appreciate your choice and do hereby guarantee that all ventilation equipment manufactured by our Company is inspected and thoroughly tested. An operational and high-quality product is sold to the direct buyer and shipped from the territory of the factory. It is provided with a 24-month warranty since invoice issue date.
Your opinion is important to us, thus we always look forward to hearing your comments, feedback, or suggestions regarding technical and operational characteristics of the Products.
In order to avoid any misunderstandings, please read the instructions for installation and operation of the product as well as other technical documents of the product carefully. The number of the Limited Warranty Coupon and serial number of the product specified on the silver identification sticker attached to the housing must match.
The Limited Warranty Coupon shall be valid provided that the seller's stamps and records are clear. It is not allowed to change, delete, or rewrite
the data specified on it in any manner – such a coupon shall be invalid.
With this Limited Warranty Coupon the manufacturer confirms one's obligations to implement the imperative requirements established by effective laws on protection of consumer rights in the event of identification of any defects of the products.
The manufacturer reserves the right to refuse provision of free warranty servicing in cases when the warranty conditions listed below are disregarded.

PRODUCT MAINTENANCE TABLE

Product name*

SERIAL number*

installation	interval	**Date**
Fan cleaning	**Once per year****	
Heat-exchanger cleaning	**Once per year****	
Filter replacement	**Every 3-4 months****	

* - Look at the product label.
** - At least.

NOTE. The customer shall be required to complete the Product Maintenance Table.

MANUALS IN OTHER LANGUAGES

DE

https://select.salda.lt/file/smartyxvde

DK

https://select.salda.lt/file/smartyxvdk

FR

https://select.salda.lt/file/smartyxvfr

LT

https://select.salda.lt/file/smartyxvlt

NL

https://select.salda.lt/file/smartyxvnl

PL

https://select.salda.lt/file/smartyxvpl

RU

https://select.salda.lt/file/smartyxvru

MAN000306

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