

Automation upgrade

Pelican EDA -> eAir

NOTE!

The new fans will deliver about -25% less airflow compared to the old fans.

Warning!

According to regulations, an ordinary electricity consumer is only allowed to perform some minor service tasks.

**According to Finnish regulations,
a list of the allowed tasks can be found at the Tukes home page (www.tukes.fi).**

Always make sure that the power supply is turned off before opening the service door.

Wait two minutes before beginning the maintenance work. The fans rotate for some time by themselves, and the heating element may be hot even if the power supply of the ventilation unit is switched off. Electrical housing may be opened only by a trained electrician.

Electrical installations must comply with local regulations.

**Continuously check and compare the electrical diagrams at the end
of this instruction as the upgrade progresses!**

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Open **the small door (1)** by pressing on it.



Disconnect **the power cable (2)**
(+ other possible power supplies if available).



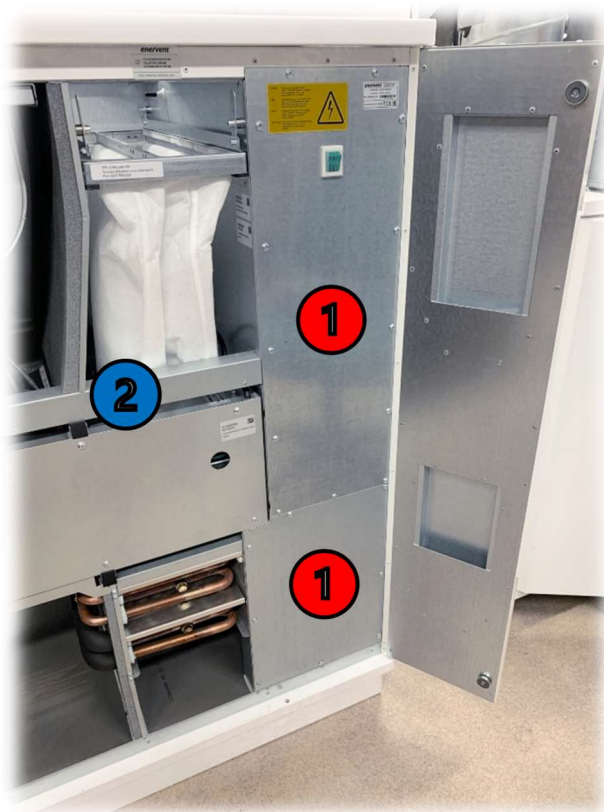
Open the service door by turning **the handle (3)**.



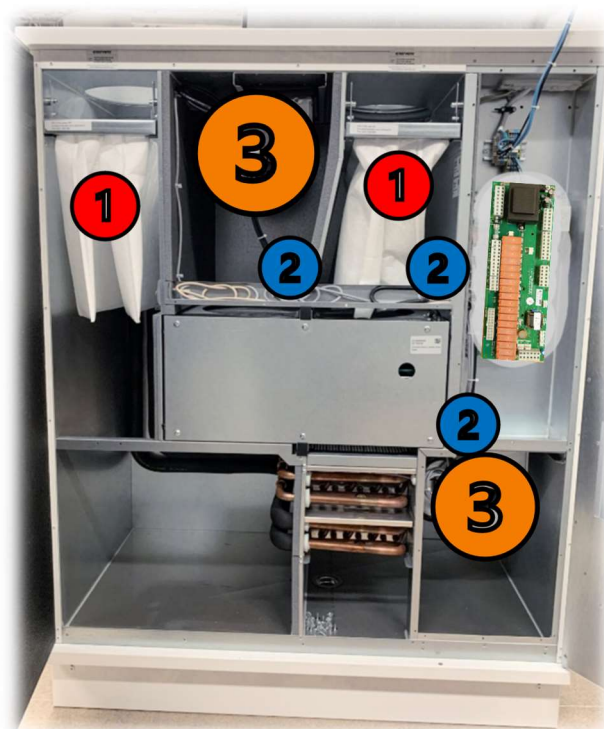
Remove **the cover to the electrical box (1)** and **the supply air fan chamber (1)** by removing the screws.

NOTE! Ensure that no voltage is occurring in the electrical box before proceeding!

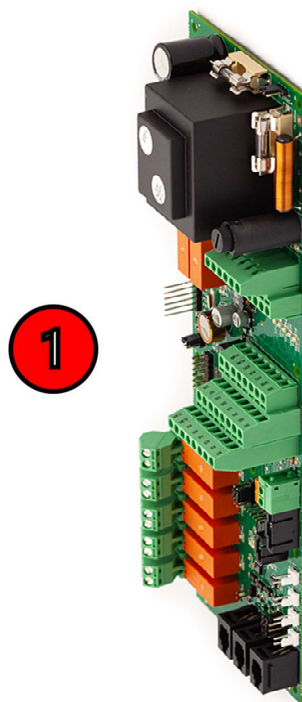
Remove **the POP rivets** from **the cable rail (2)** by drilling, and remove the cover.



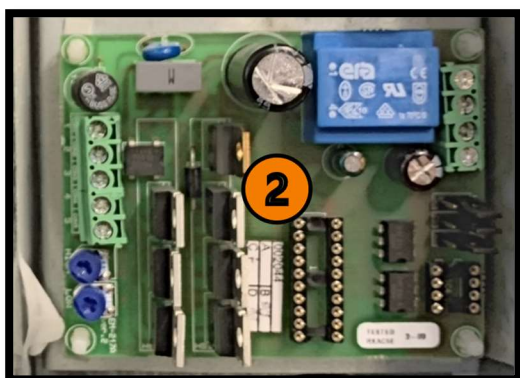
Remove **the filters (1)** by pulling.
Disconnect **the connectors (2)**.
Remove **the fans (3)**.



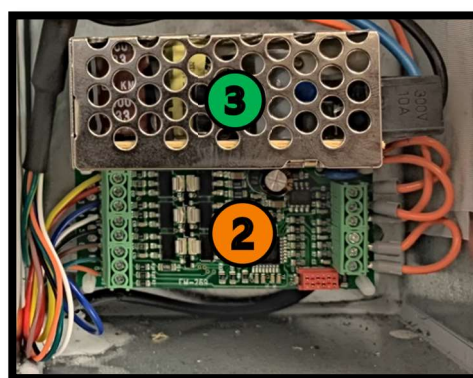
Mark all wires/sensors according to the marking on the main board and disconnect them from **the EDA main board (1)**.



Mark all wires according to the marking on the circuit board and disconnect them from **the HRW circuit board (2)** and **possible transformer (3)**.
Type of HRW depends on year of manufacture.



AC HRW circuit board.



DC HRW circuit board.

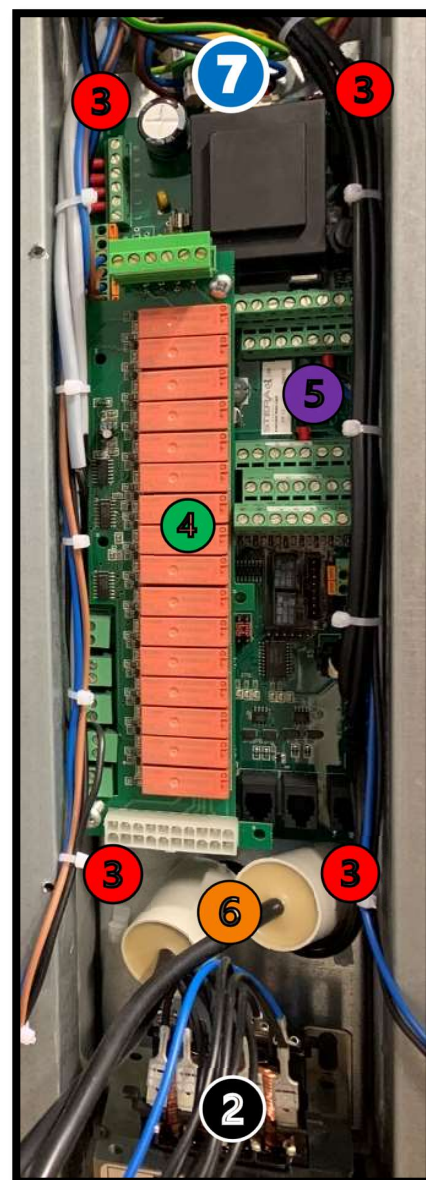
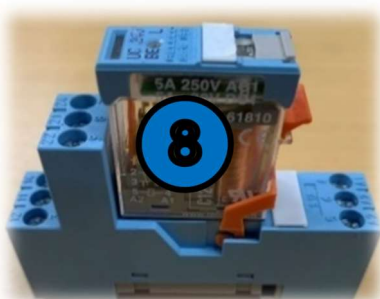
Disconnect **all ground wires (1)** from the automation base ground point.



Disconnect the main power cable from **the terminals (7)** and from **the main switch**.

Remove **the screws (3)** and remove the automation base incl. **the terminals (7)**, **relay board (4)**, **EDA main board (5)**, **capacitors (6)** and **transformer (2)**.

If there is a **blue relay (8)** installed, remove the relay along with the wires and replace the electrical after heater with the new delivered one.

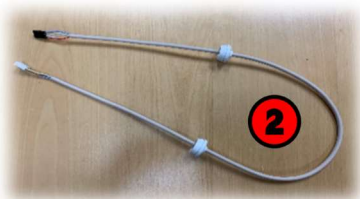


NOTE! If there was a blue relay installed;

Disconnect and remove **the HRW (3)** and install **the new after heater (10023263)**.

NOTE! If there was no blue relay installed in the electrical box;

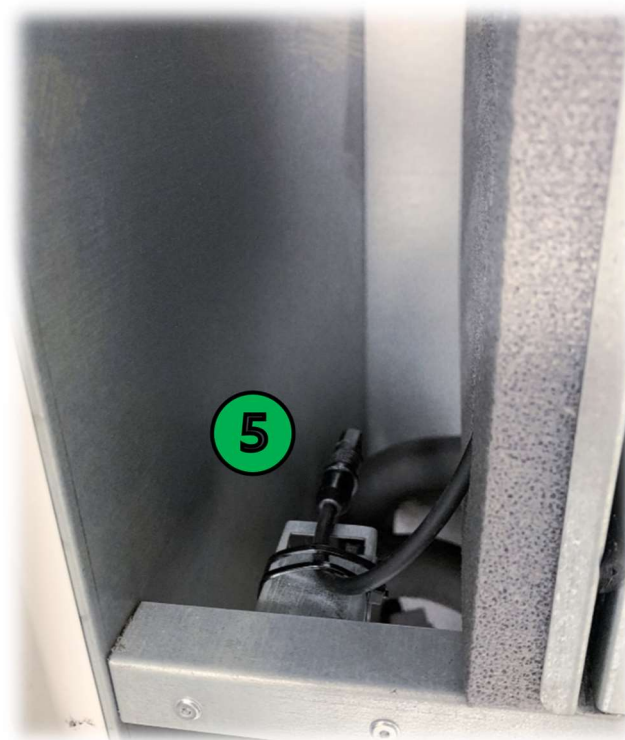
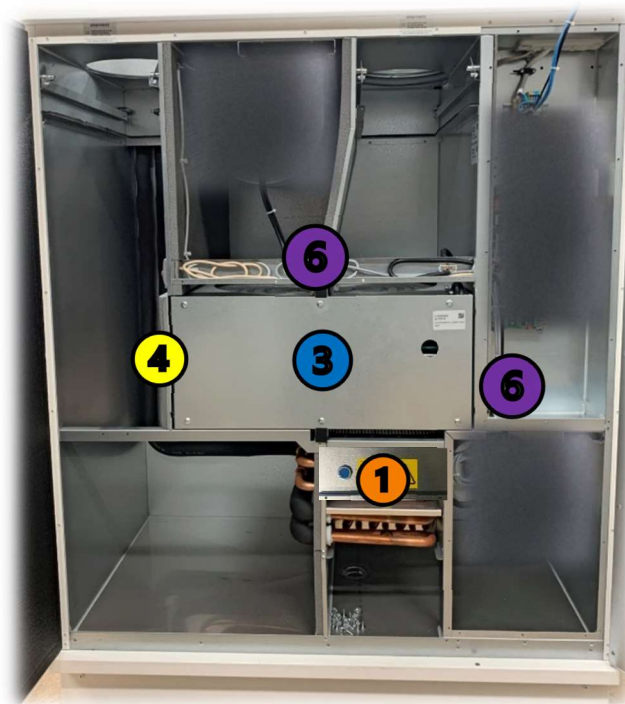
Open **the after heater (1)** (four screws).
Remove the old triac control cable and install **the new triac control cable (2)** (40030313).
Install the other end of the triac control cable into the electrical box.



Remove **the extract air sensor cable (4)**.

Remove **the fan cables (6)**.

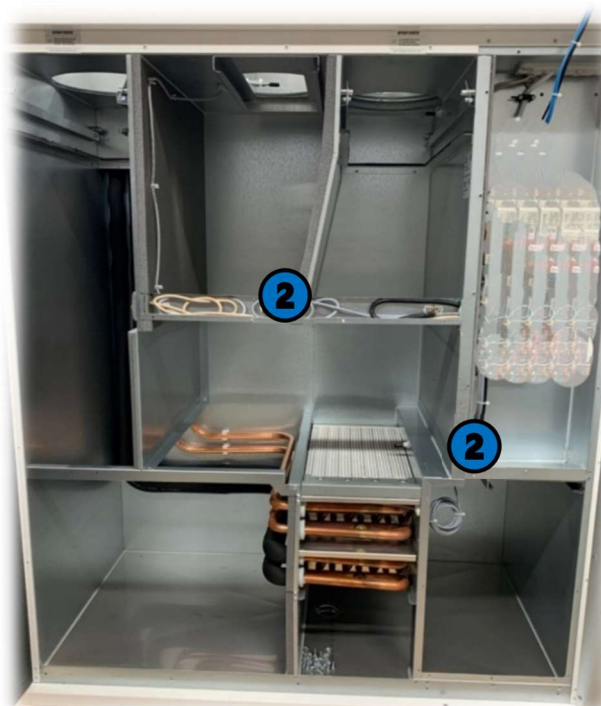
Install **the new extract air sensor (5)** (40029225) and attach it with **cable ties** (40030997) on top of the old sensor.
The old sensor won't be used anymore.



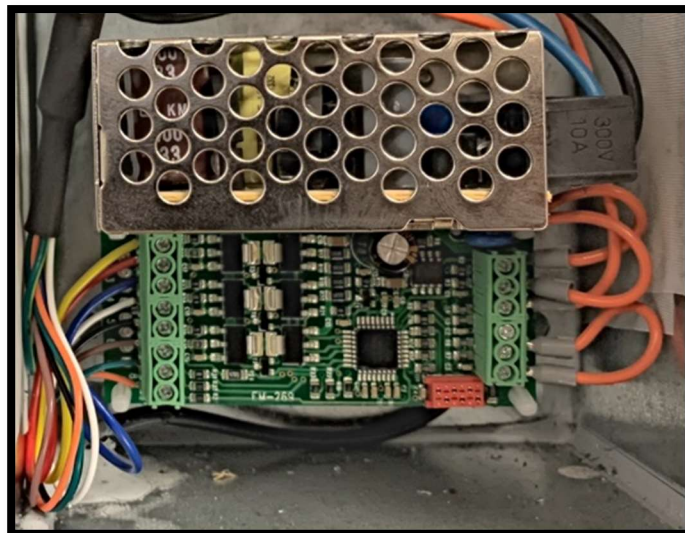
Cut a gap in the insulation and install the extract air sensor cable into **the gap (1)** and through the cable rail into the electrical box.



Drill two 18mm holes (if needed) in the frame (where the old fan cables were attached), install **new cable sealings** (40030101) and install **the new fan cables (2)** (40028782, 40028783, 40028784, 40028785).

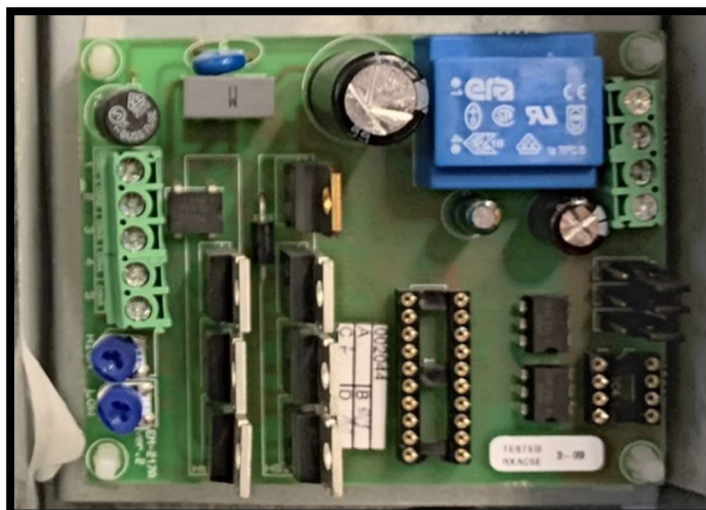


If the unit has a DC HRW installed, jump to page 14.

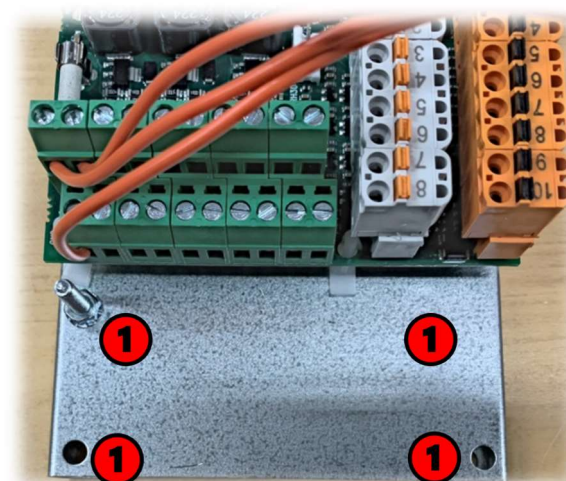


If the unit has an AC HRW installed, follow the instructions on the next page.

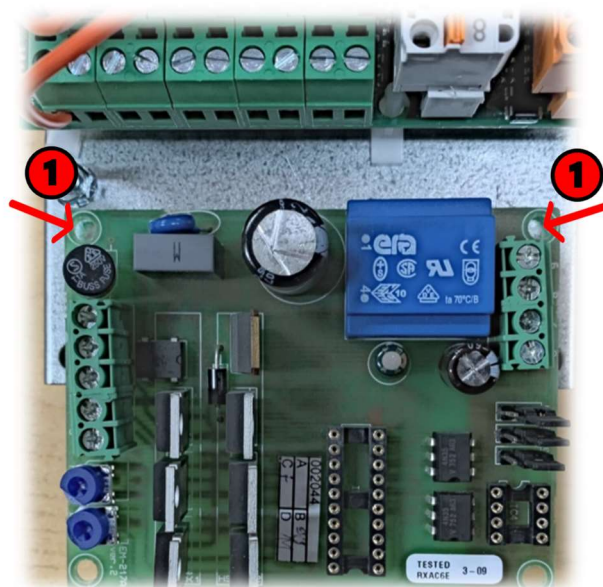
If the AC HRW control board is installed separately in the electrical box, there is no need to move it physically. Just connect it like advised (page 12, 13).



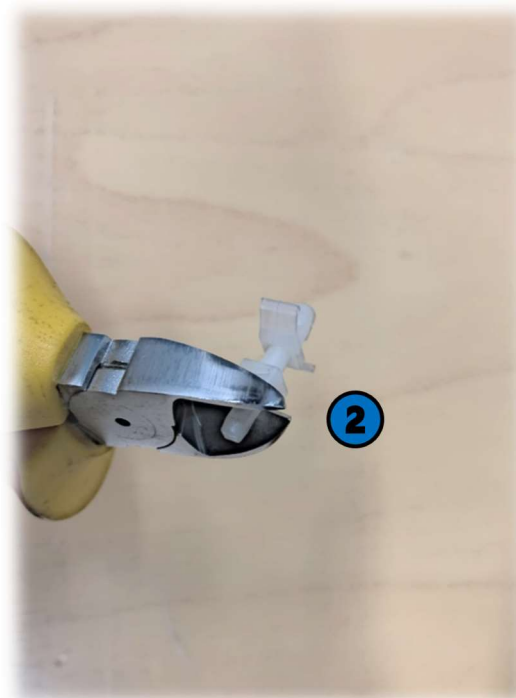
Remove **the PCB supports (1)** from the new automation base.



Mark **the holes (1)** to the automation base.



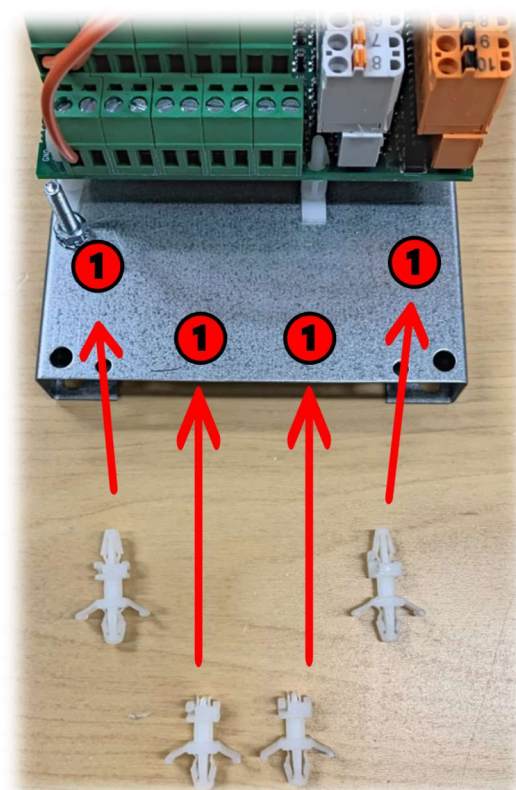
Cut **two of the new PCB supports (2)** (40030936).



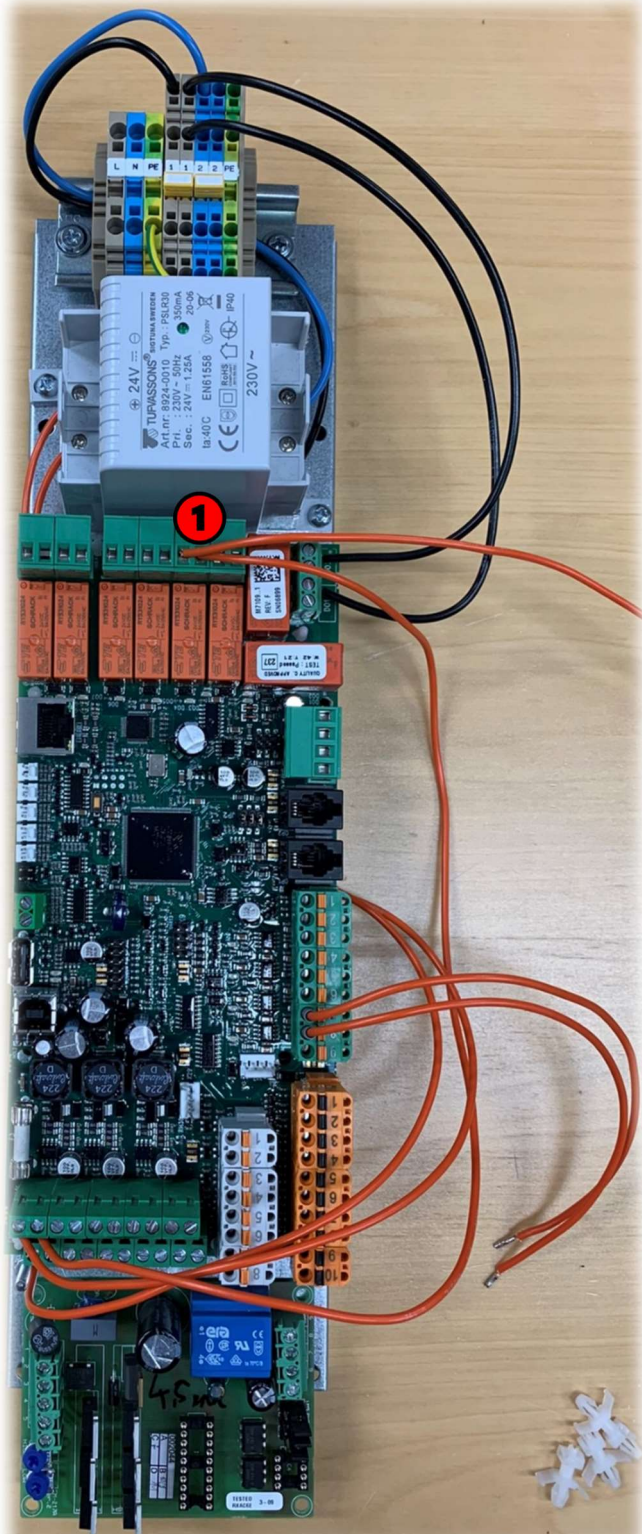
Drill **four 4,5mm holes (1)** according to the previous markings as shown in the picture.

Install **the new PCB supports (1)** (40030936).

Attach the AC HRW circuit board to the PCB supports.



Disconnect and remove
the wires connected to "DO4" (1).



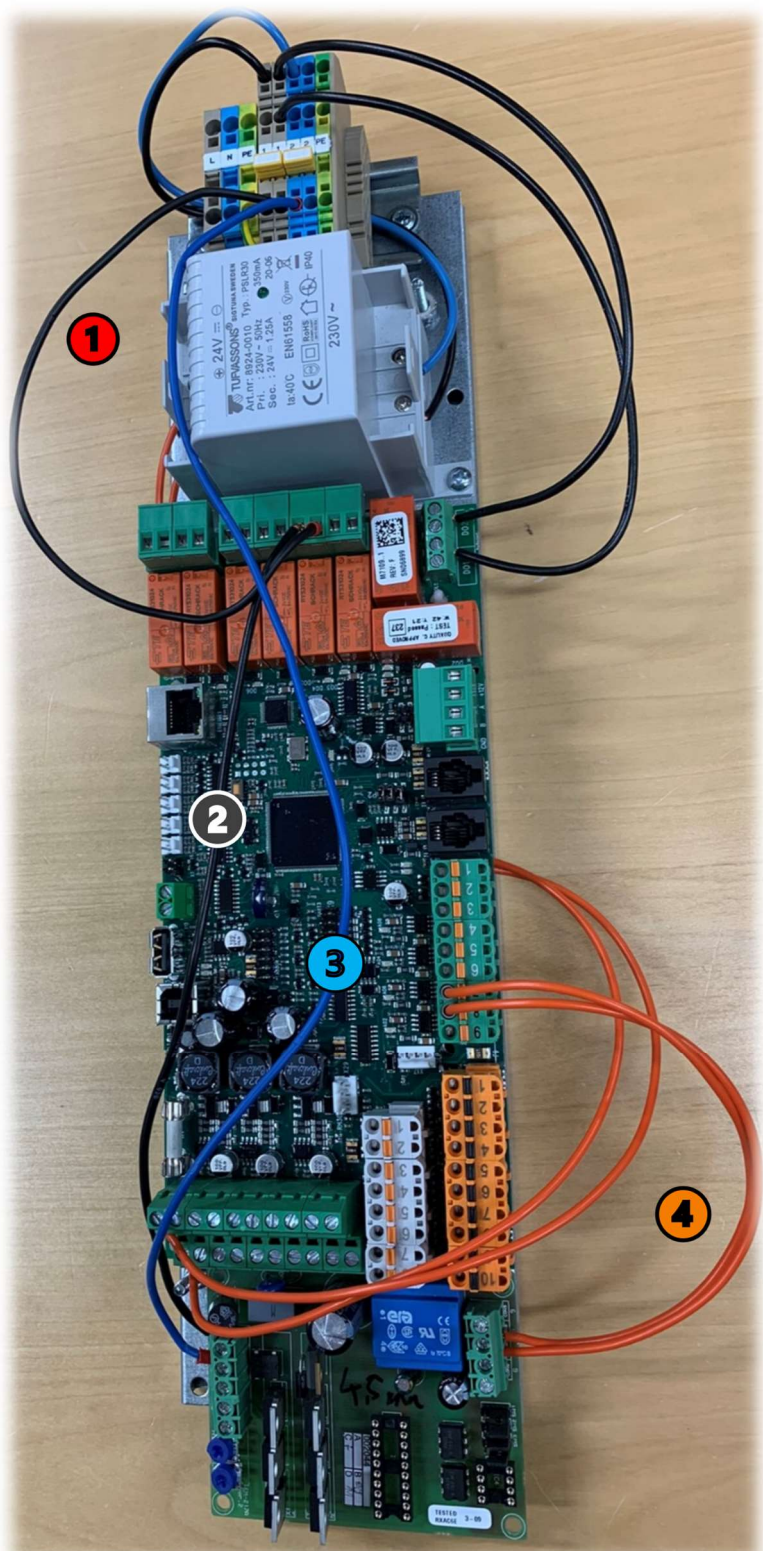
Connect **the black wire** (40028774)
to connection terminal "1" and to "DO4" (1).

Connect **the black wire** (40028780)
to "DO4" and to the AC HRW circuit board connector "1" (2).

Connect **the blue wire** (40028781)
to connection terminal "2" and to the AC HRW circuit board connector "2" (3).

Connect **the wire from eAir main board connector "7" to AC HRW circuit board "8".**

Connect **the wire from eAir main board connector "8" to AC HRW circuit board "7".**



Install **the new automation (3)** in the electrical box. Make sure no installed cable / sensor get stuck behind the automation base and that they are available in front of the main board.

Attach **the automation base (40029647)** to the electrical box with **four self tapping screws (4) (40031530)**.

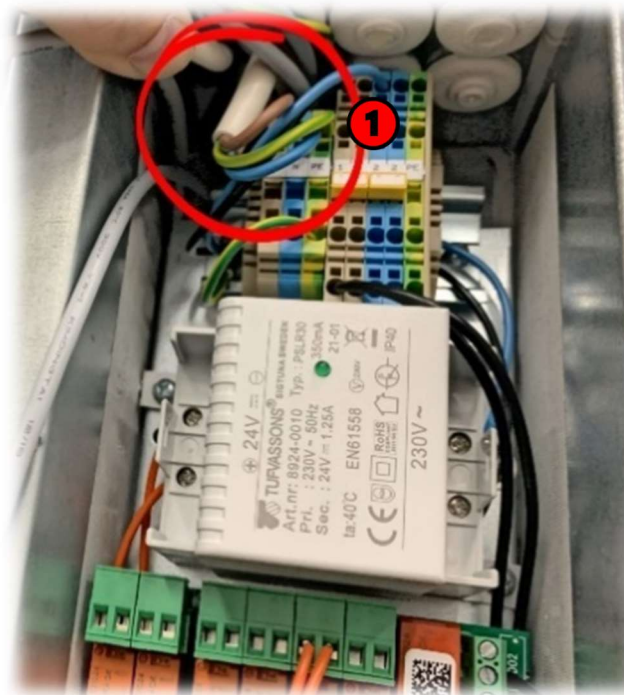


Connect **the power cable to the terminals (1)**.

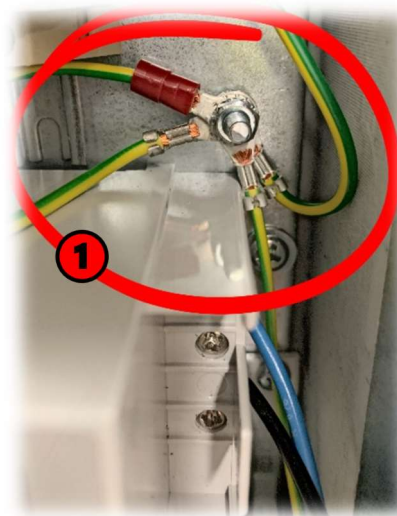
L: Brown

PE: Green/yellow

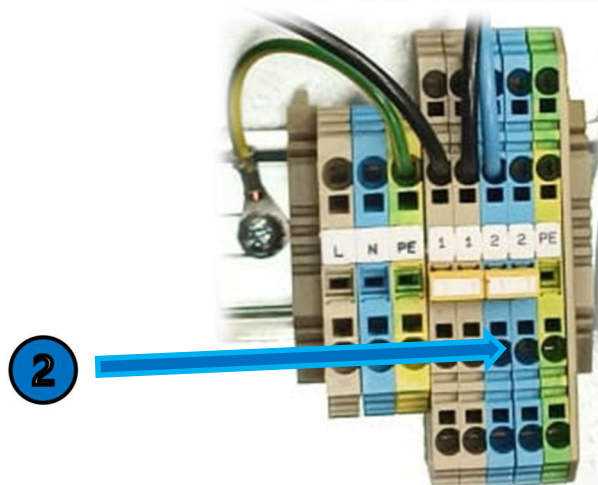
N: Blue



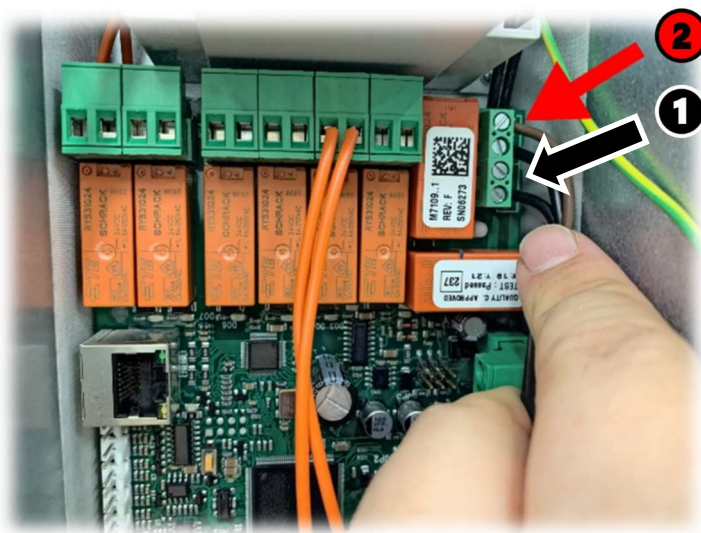
Connect **the ground wires** to **the automation base ground point (1)**.
Supply air fan, extract air fan, (after heater), (HRW), ground terminal.
Tighten with **the nut (40031489)**.



Connect **the blue wire** from the electrical after heater to **the blue "2" connection terminal (2)**.
Ignore if no electrical after heater installed.

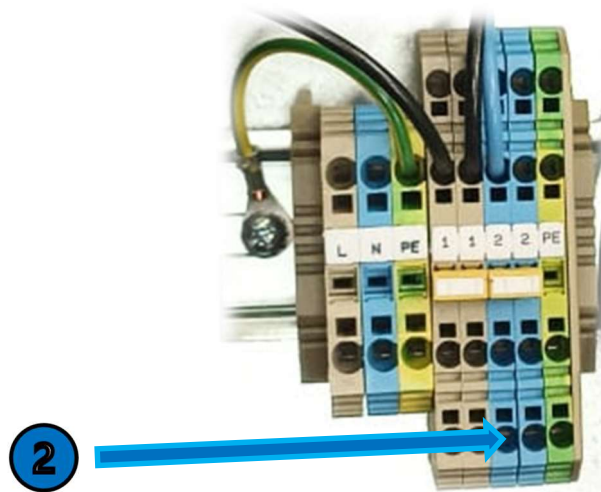


Connect **the brown wire** from the after heater to **"DO2" (2)**.
If there is a water coil after heater installed, the circulation pump power wire (L) would be connected here.

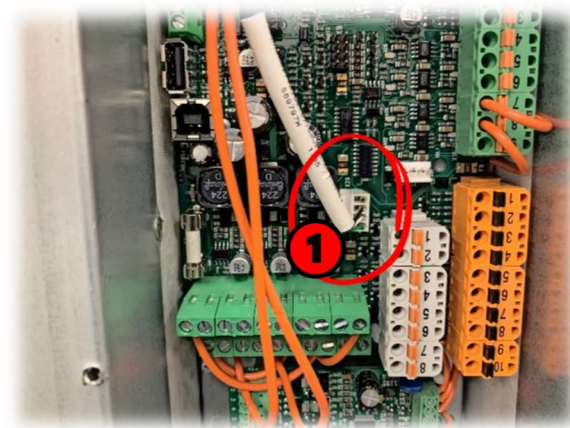


Connect **the wires marked "1"** in the fan power cables (40028782, 40028783) to **"DO1" (1)**.

Connect **the wires marked "2"** in the fan power cables (40028782, 40028783) to the **blue "2" connection terminal (2)**.



Connect **the extract air sensor (1)** (40029225) to the main board (X29).



Connect **the sensors (1)** to the main board according to the markings.

X1, TE01: Outside air

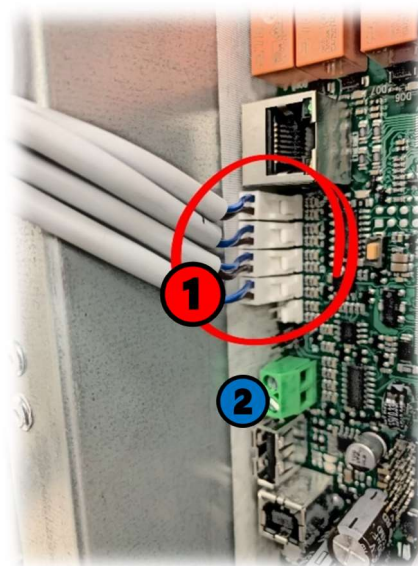
X2, TE05: HRW supply air

X3, TE10: Supply air

X4, TE32: Waste air

X12, TE45: Return water sensor (2)

if the unit has a water coil after heater installed.

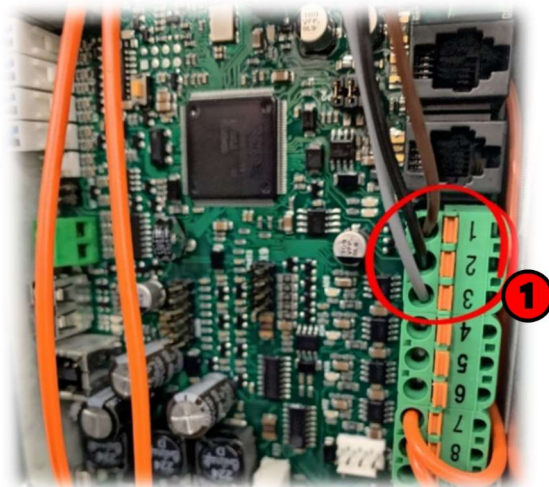


Connect **the wires from the supply air fan control cable (1)** (40028784) to the main board.

1: *Brown*

2: *Black*

3: *Gray*



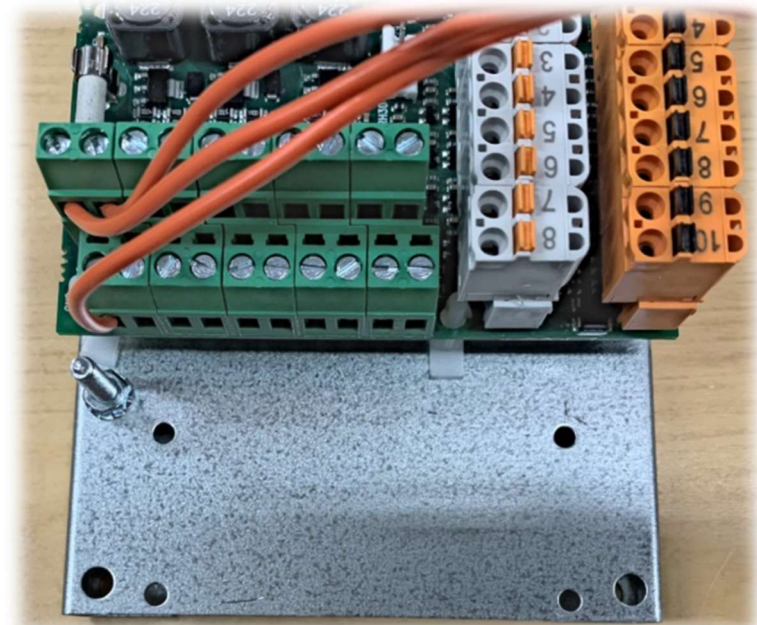
Connect **the wires from the extract air fan control cable (2)** (40028785) to the main board.

4: *Brown*

5: *Black*

6: *Gray*

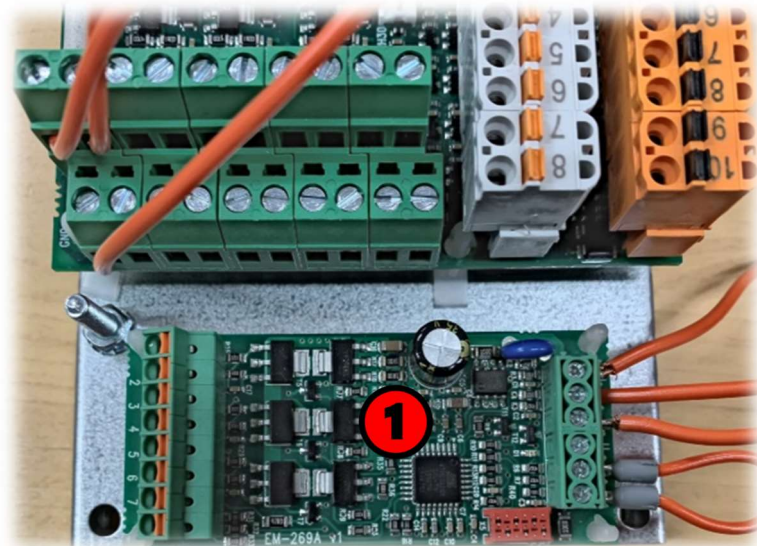




If DC HRW:

Install **the old DC HRW circuit board (1)** to the new automation base / or leave it in place if installed separately in the electrical box, and connect it to the main board (**page 20 & 30**).

The old transformer won't be used anymore!



If DC HRW:

Connect **the wires from the HRW cable to the HRW control board (1).**

1: Yellow

2: Red

3: Blue

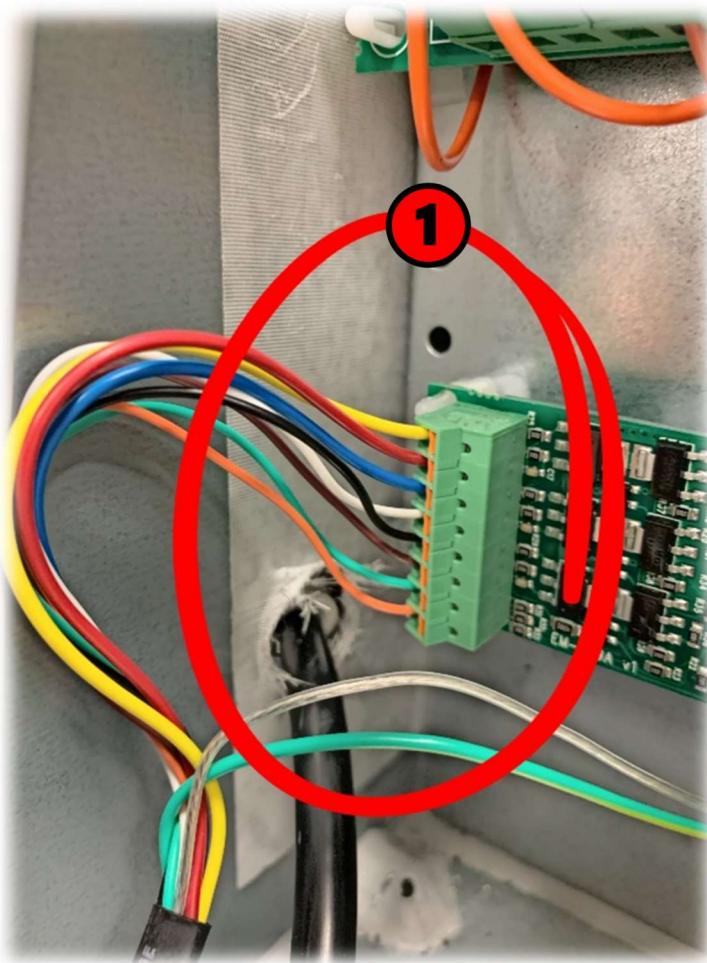
4: White

5: Black

6: Brown

7: Green

8: Orange



If AC HRW:

Connect **the wires from the HRW cable to the HRW control board (2).**

3: Brown / (1)

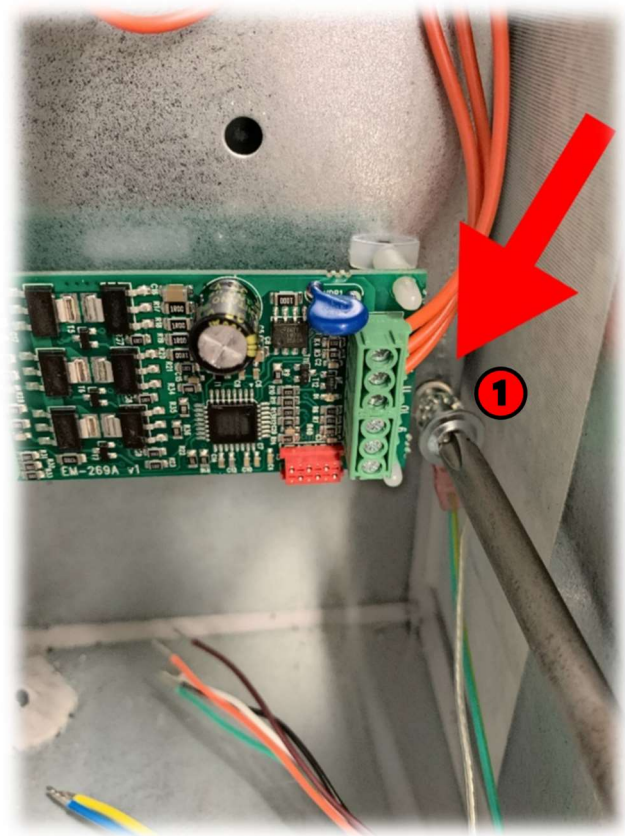
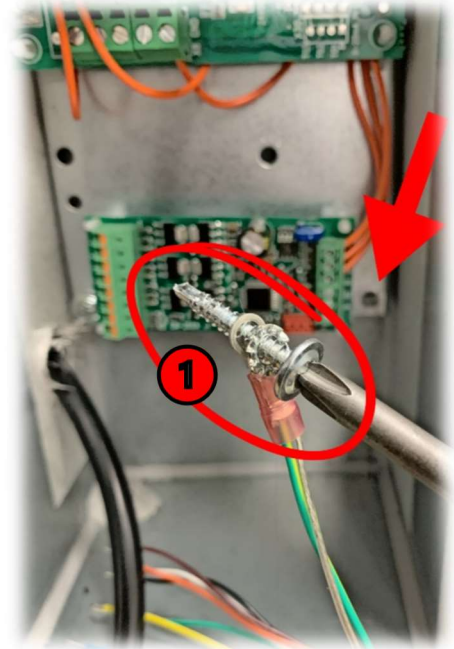
4: Gray / (2)

5: Black / (3)



If DC HRW:

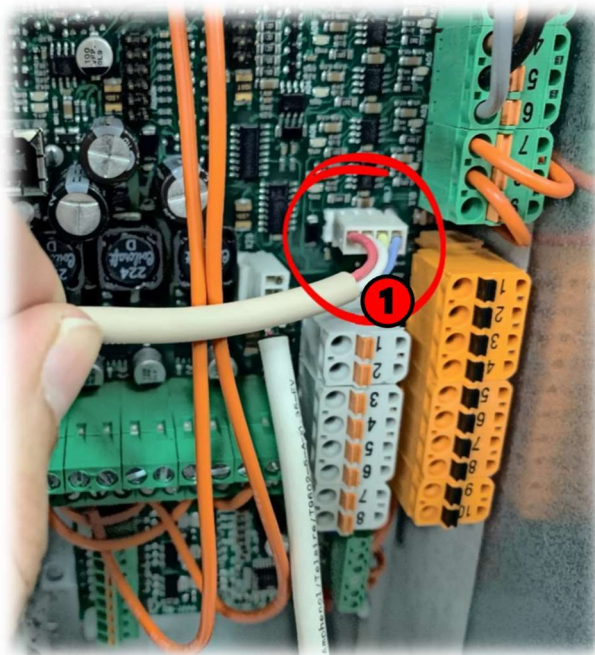
Release **the screw (1)** from the automation base and attach **the ground wire** from the HRW cable to the screw, along with **a washer** (40031537).



Reattach **the screw (1)** to the automation base.

Connect **the after heater control cable (1)** to the main board (X17).
Ignore if the unit has a water coil after heater installed.

Connect other components (for example actuator for cooling coil or water coil after heater) according to the electrical diagrams (pages 28-31).

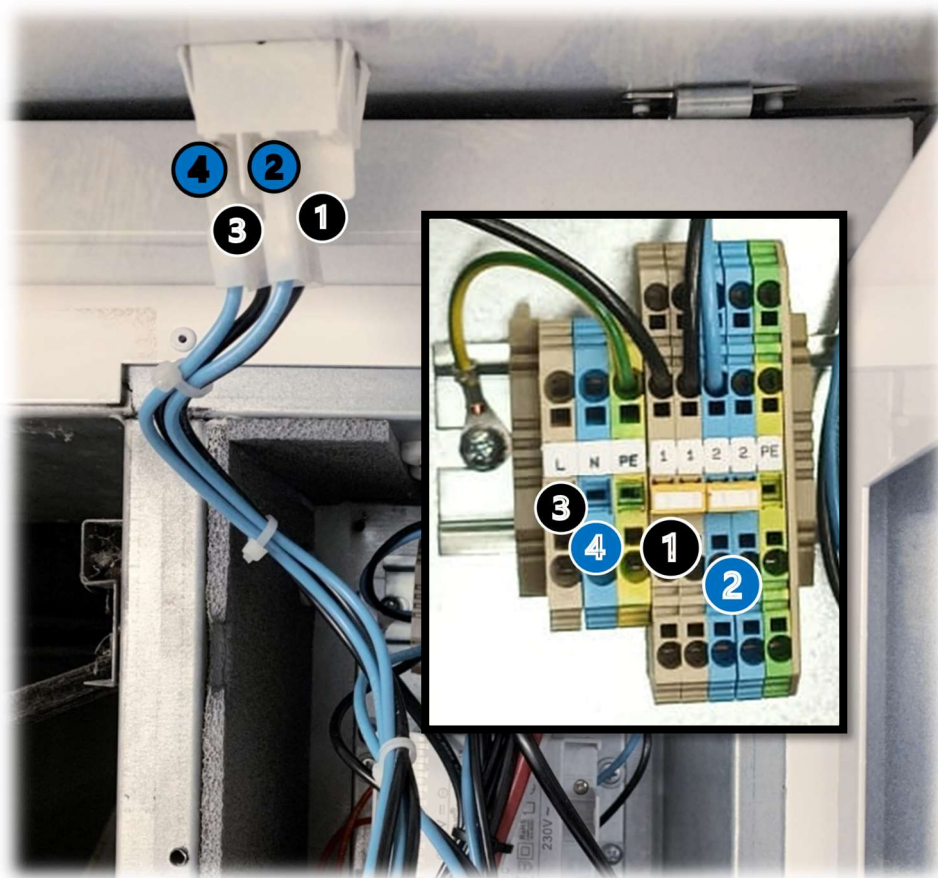


Connect **the main switch wires** to the main switch and to **the connection terminals**.

L: Black (3)
 N: Blue (4)

1: Black (1)
 2: Blue (2)

Attach all cables and wires together with **cable ties** (40030997).



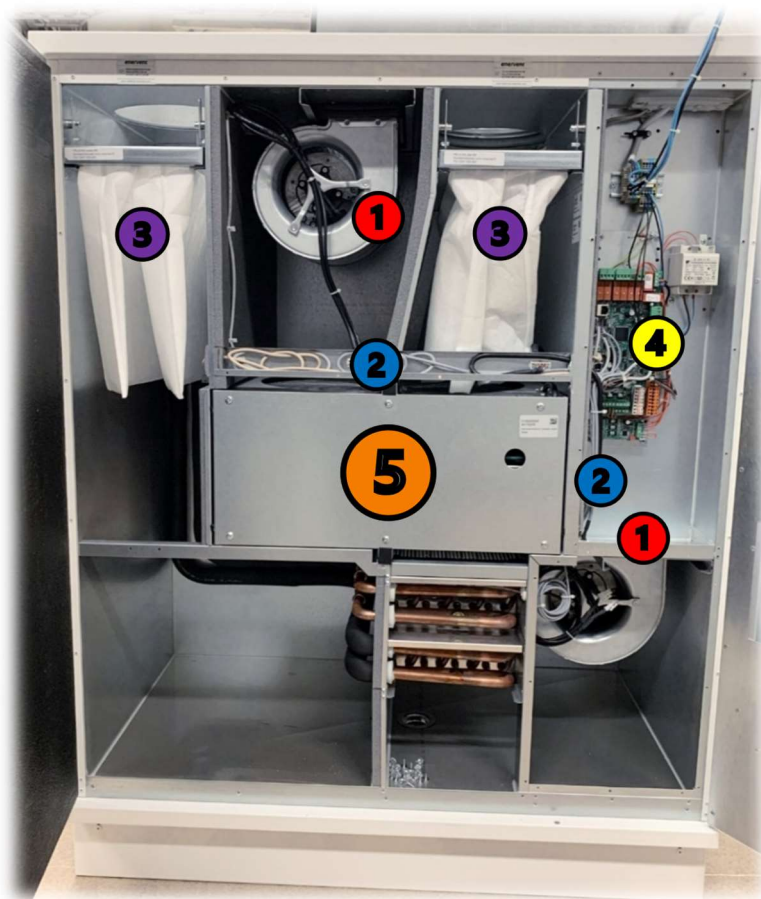
Install **the new fans (1)** (10023149) and the locking parts.

Connect **the fan cables (2)** and attach them together with cable ties (40030997).

Install **the filters (3)**.

Connect **the display cable (4)** to the main board.

Install **the HRW (5)**.



Disconnect and remove the old display.
Install **the new display (6)** (40031114) in a desired place.



Install **the WiFi module (7)** (40034288).

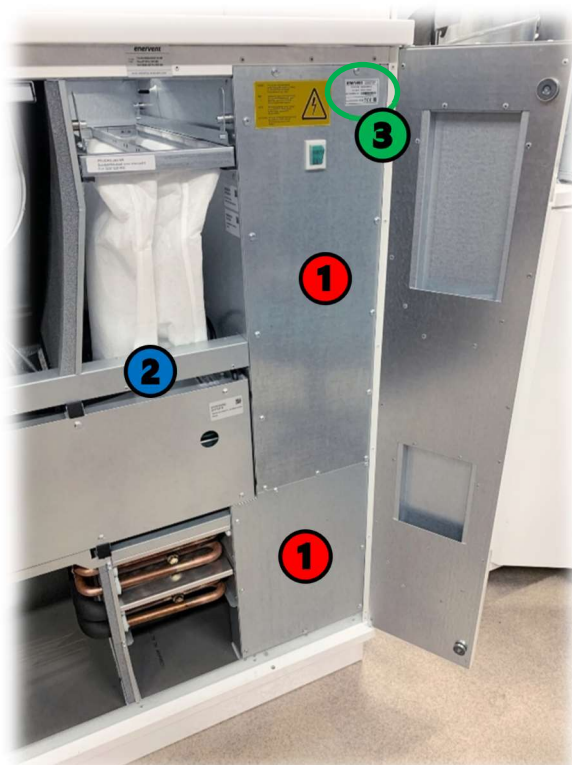


Attach the cover to **the electrical box (1)** and **the supply air fan chamber (1)**.

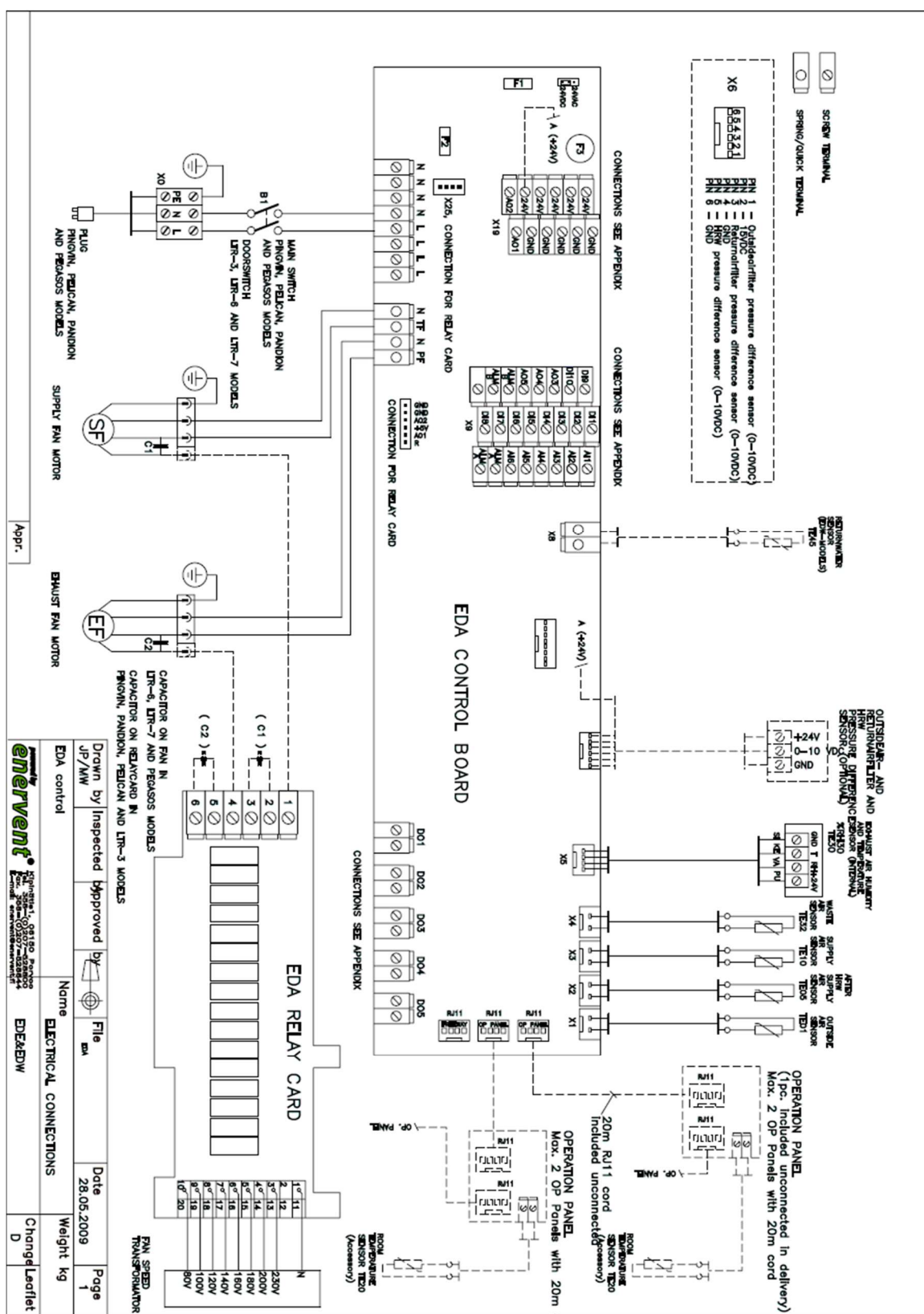
Attach **the cover to the cable rail (2)** with **the new POP rivets (40031559)**.

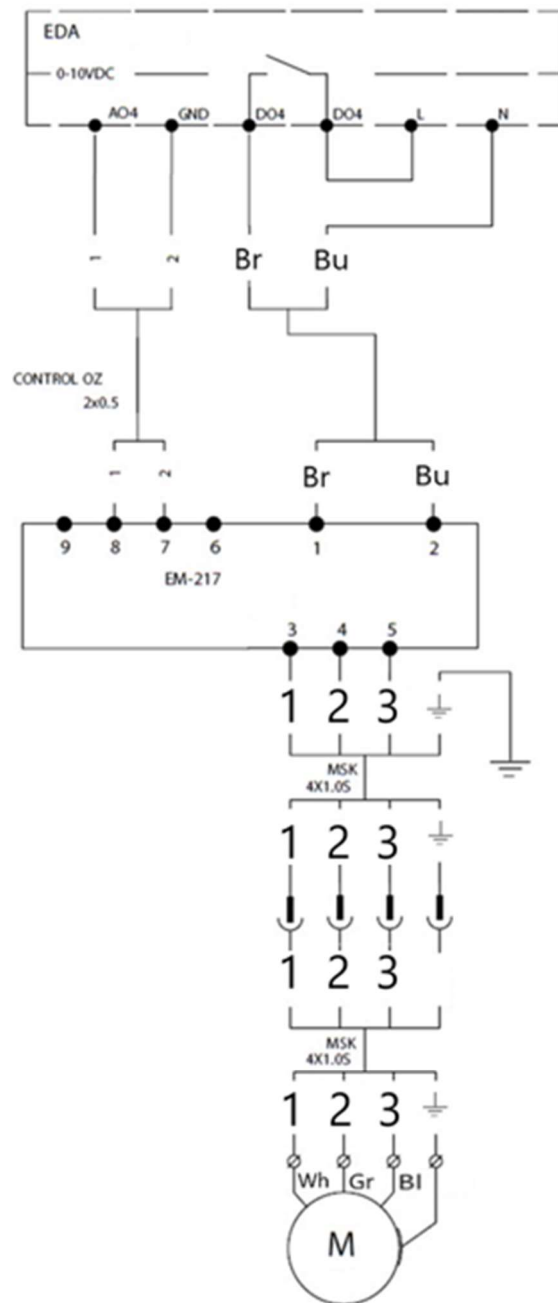
Install **the new type plate sticker (3)**.

Close the service door.



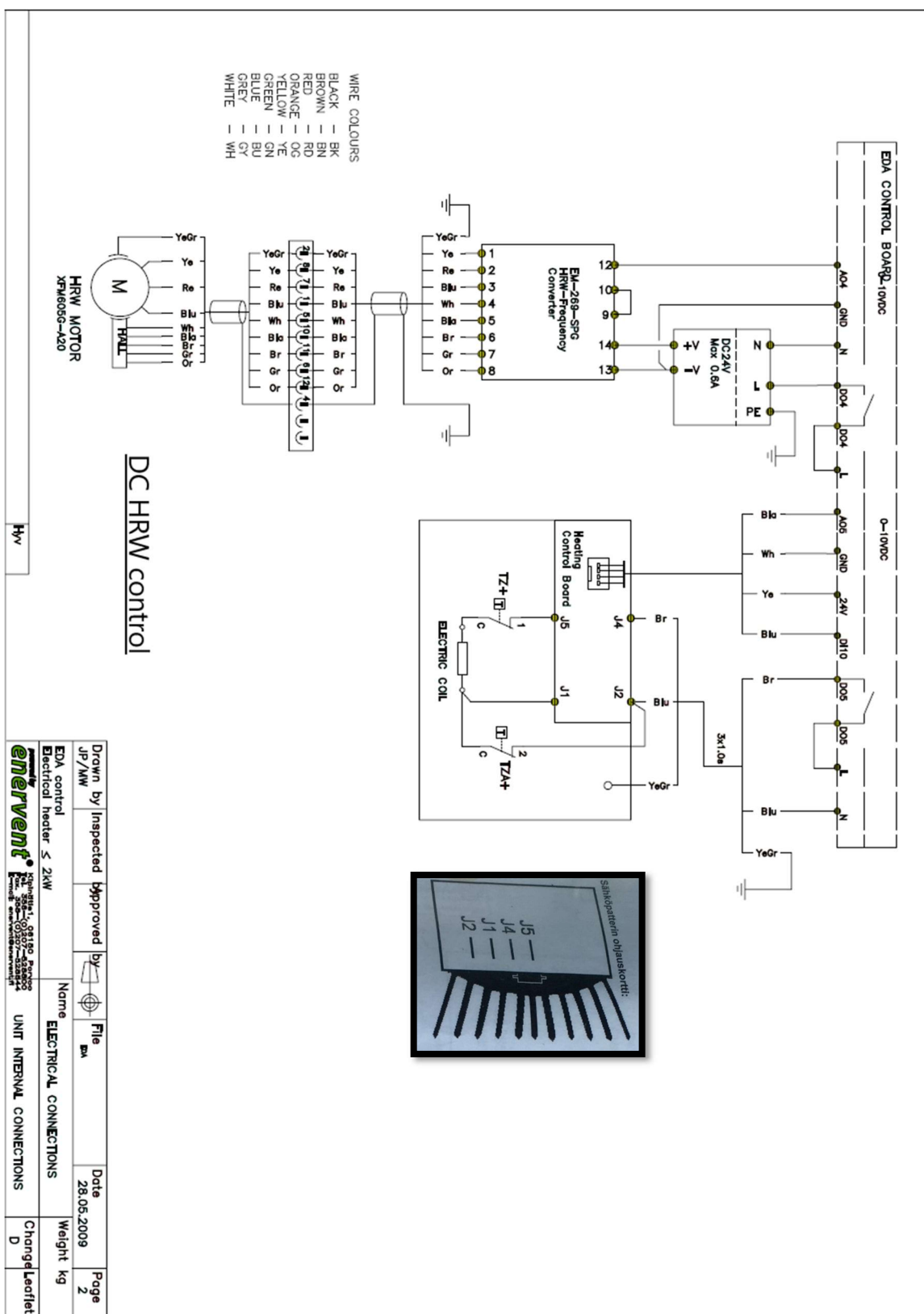
Turn on **the main switch (4)** and perform insulation and ground continuity test according to regulations.

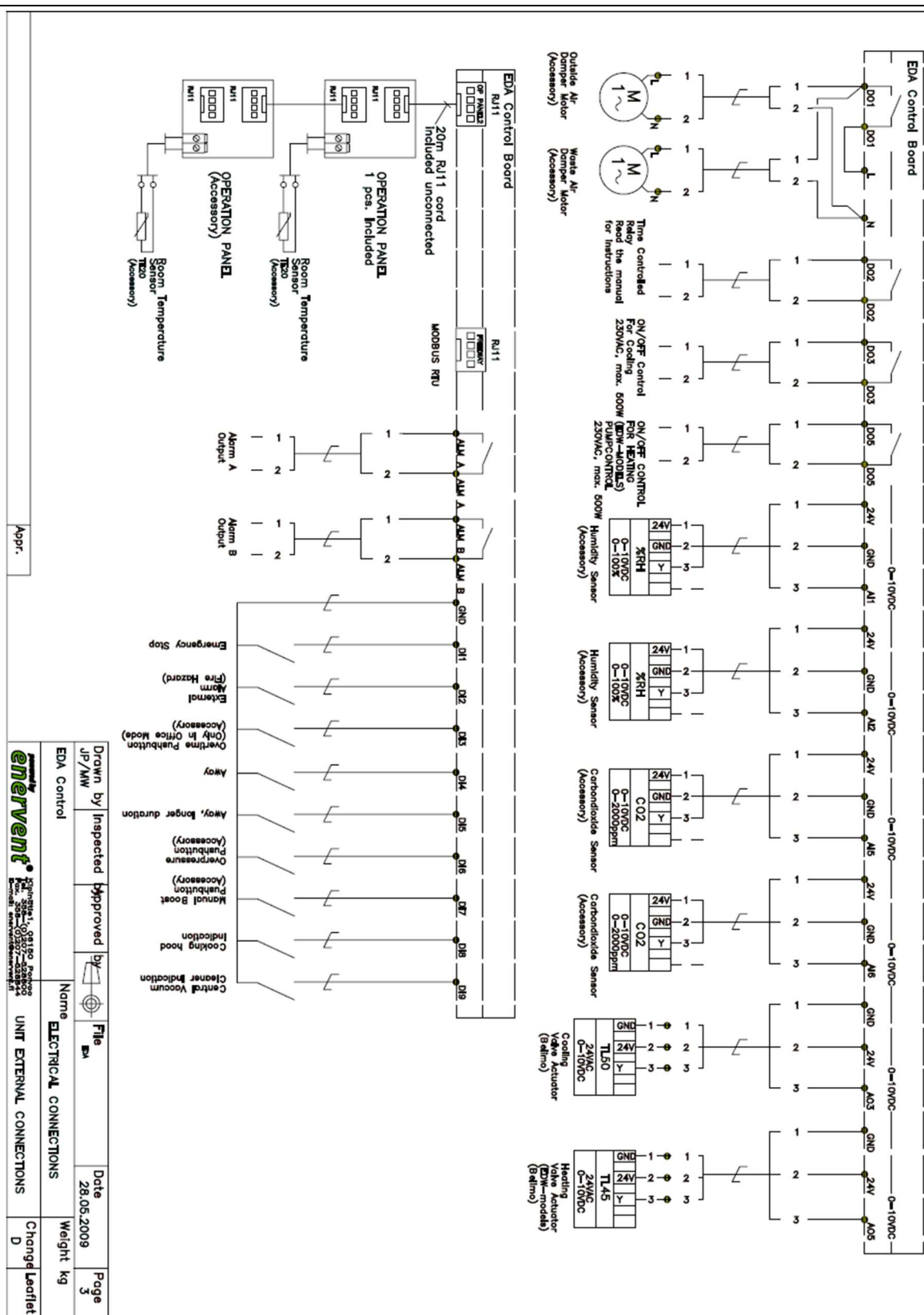


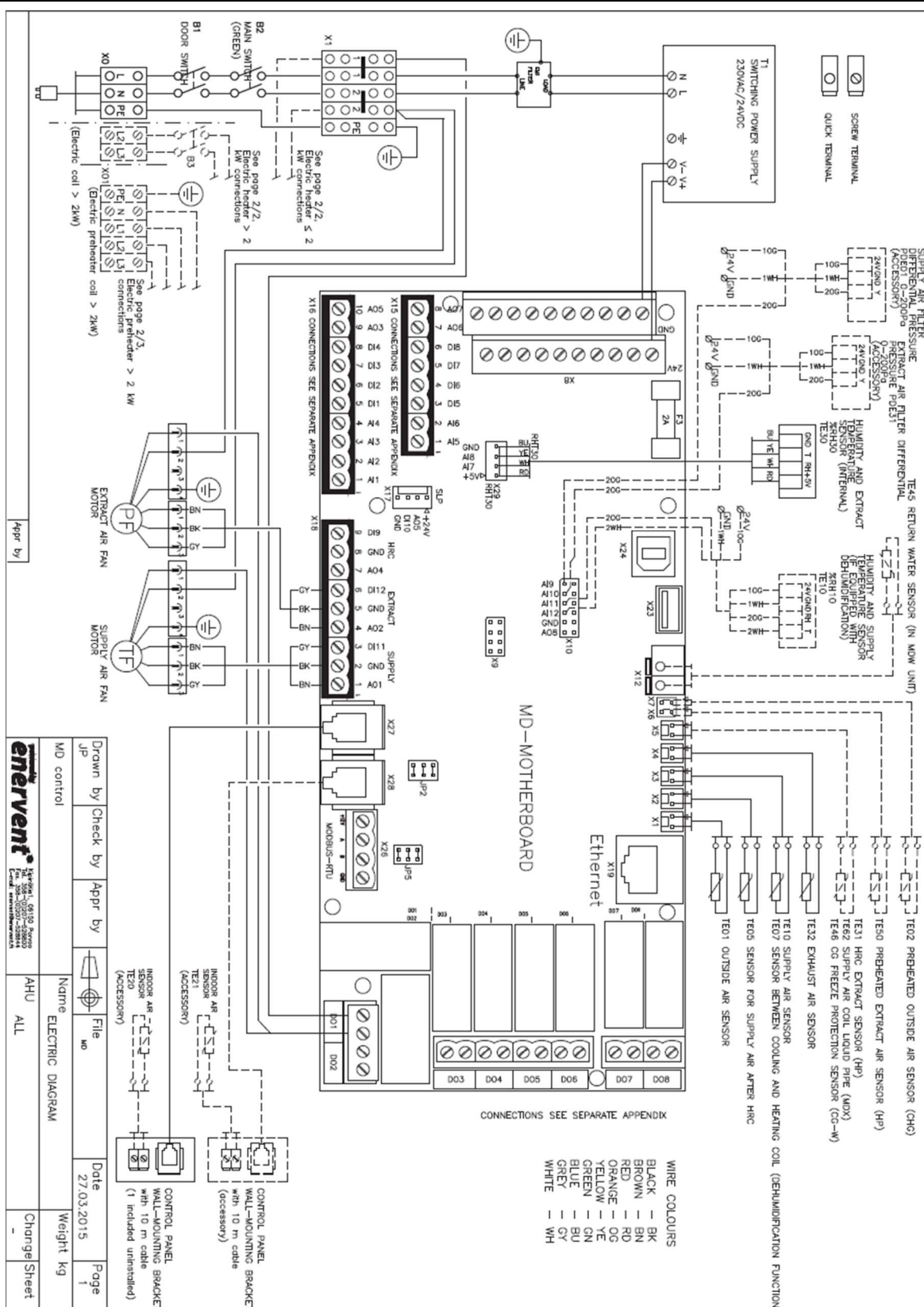


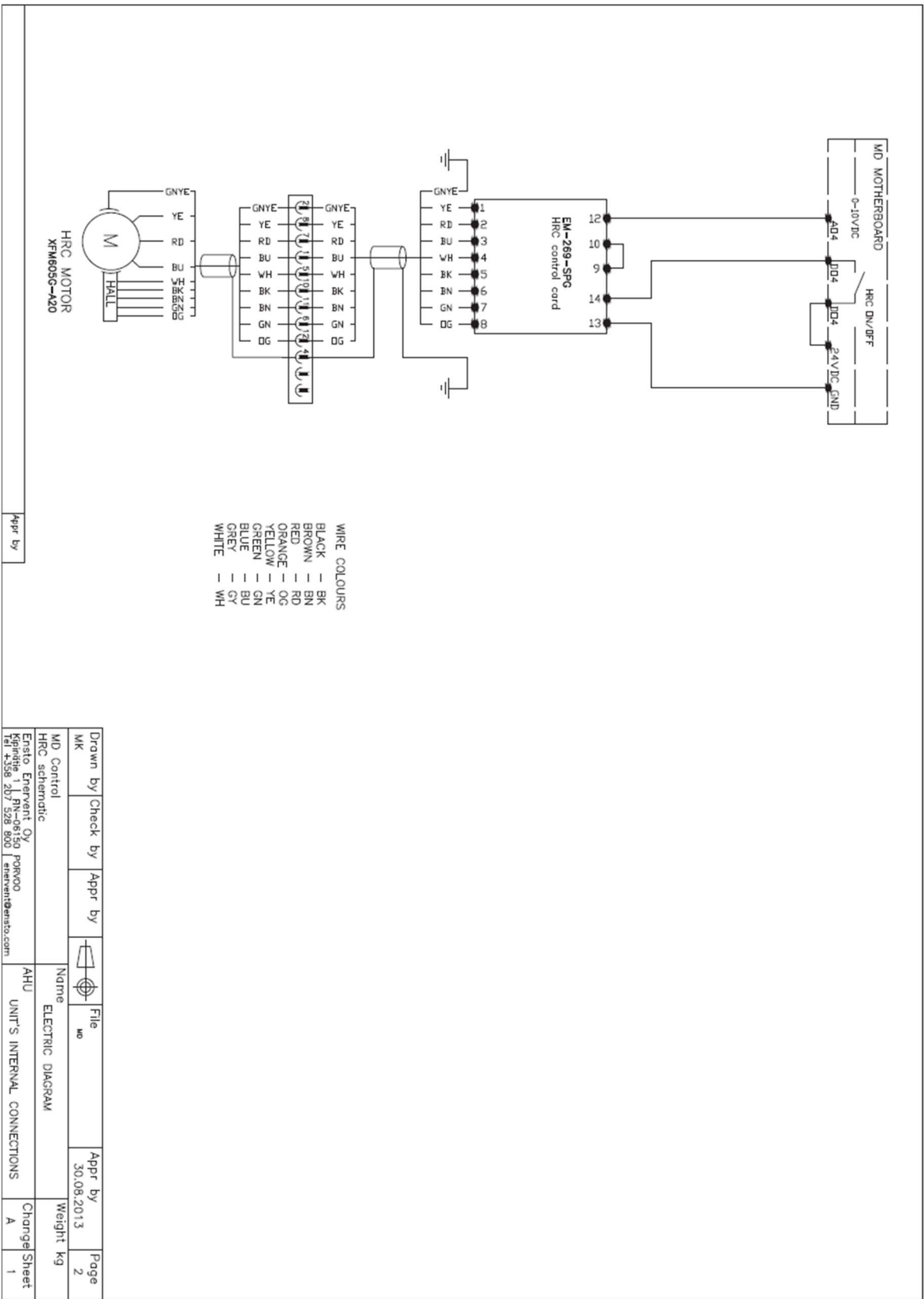
Bl: Black
Bu: Blue
Br: Brown
Wh: White
Gr: Gray

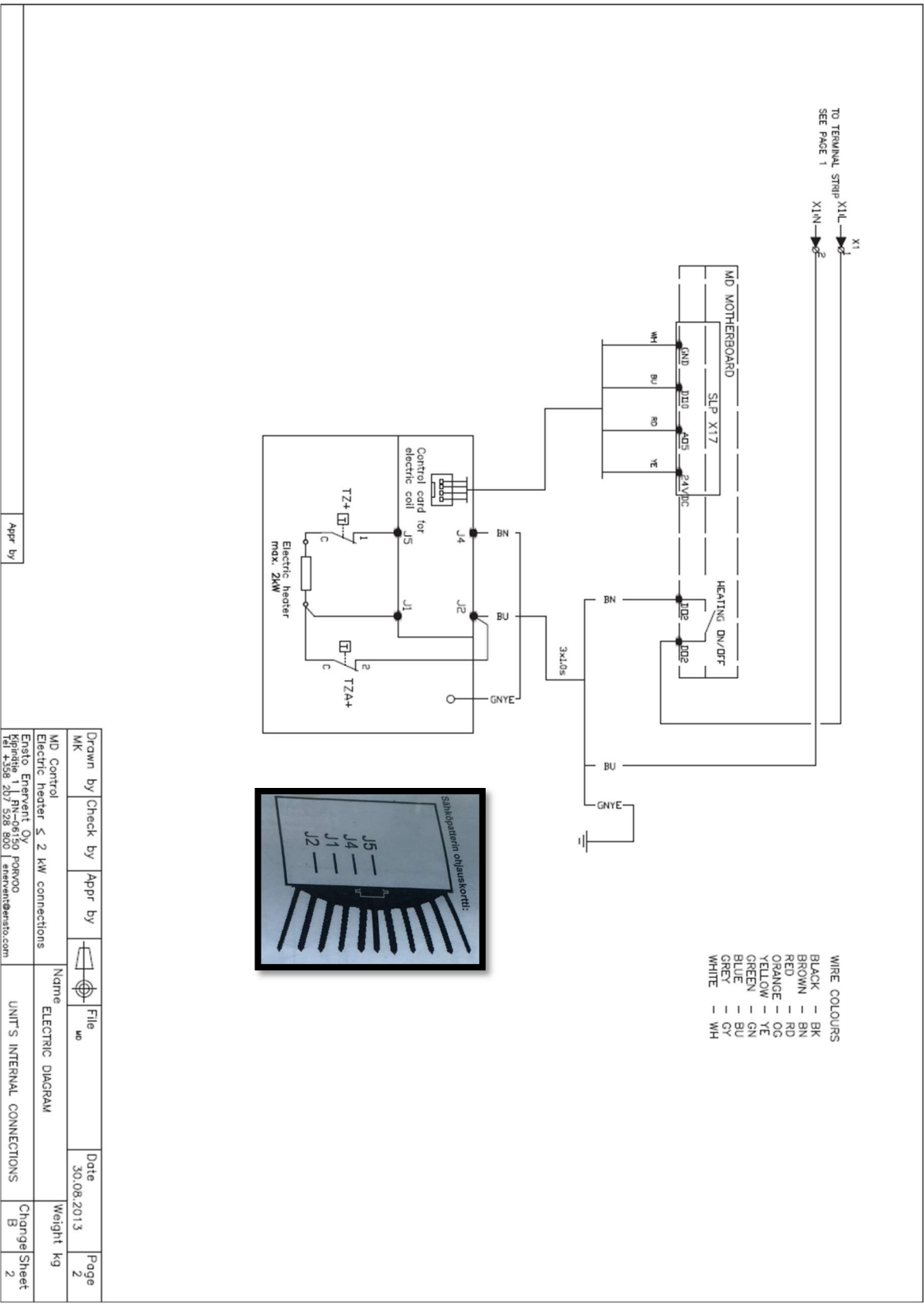
HRW MOTOR

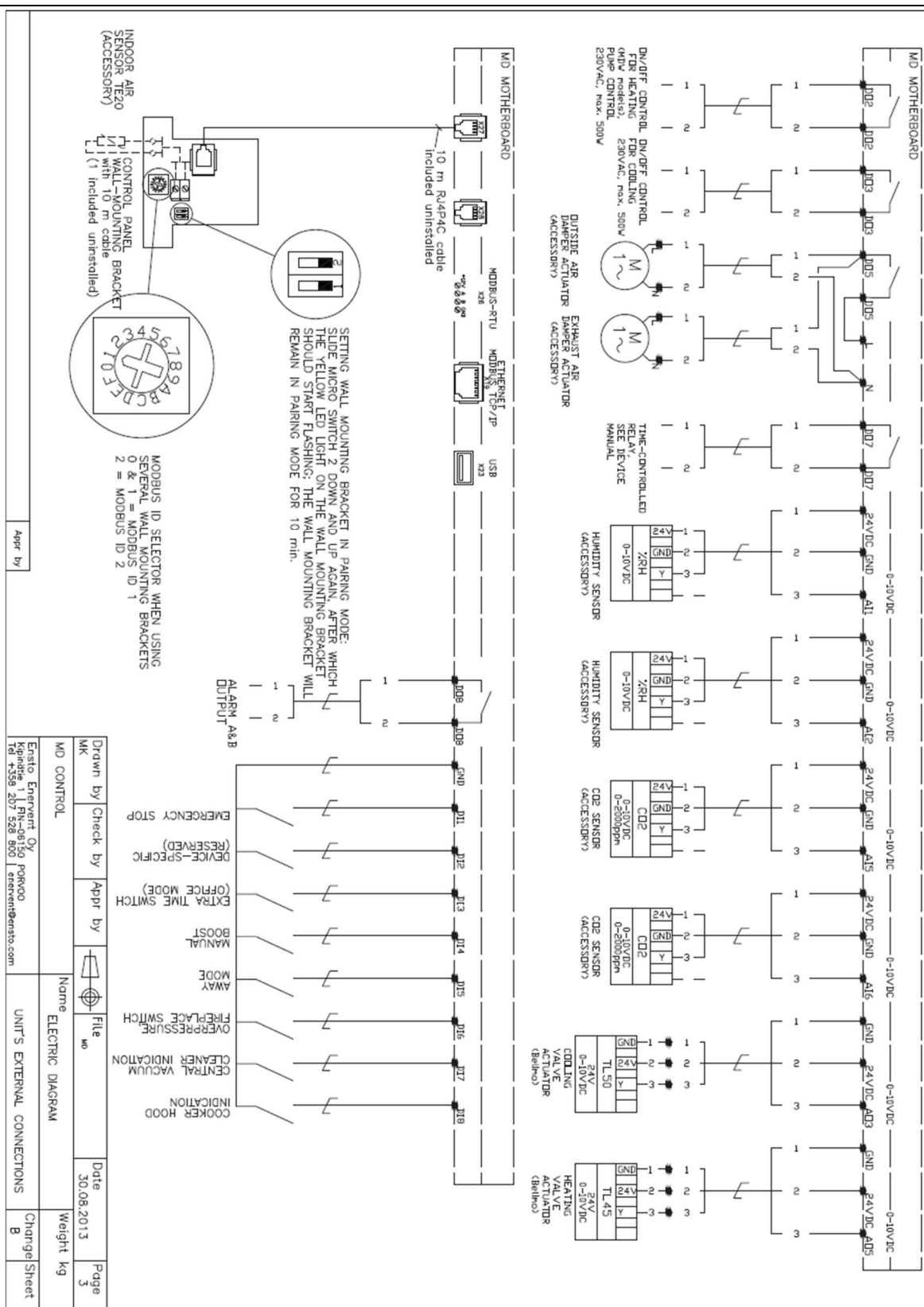












MANDATORY PARTS

10024054	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EAIR	1
10023149	FAN PACKAGE 170W	2

OPTIONAL PARTS

10023263	ELECTRICAL HEATER 2kW	1
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Code	Description	Pcs.
10024054	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EAIR	

Automation

40030936	PCB support KGLS-6S	5
40030937	PCB support LCBSM-6-01	4
40031695	Screw DIN 7981 ZN 3,9x9,5	4
40031631	Screw DIN 7985 ZN M4x20	1
40031537	Washer 6798-A ZN M4x8	3
40031489	Nut DIN 934/8 ZN M4	1
40028772	Wire 65mm orange 0,75mm2	1
40028773	Wire 340mm orange 0,75mm2	6
40028774	Wire 255mm 1mm2 black	3
40028779	Wire 255mm 1mm2 blue	1
40031093	eAir main board	1
40029985	eAir main board connectors	1
40029195	Power supply Tufvassons PSLR24	1
40028788	Ground wire 100mm	1
40029647	Automation base	1
40029344	Terminal package	1

Components

40030936	PCB support KGLS-6S	4
40030100	Cable sealing VET 5-7	6
40030101	Cable sealing VET 7-10	6
40028782	Fan power cable supply air	1
40028783	Fan power cable extract air	1
40028784	Fan control cable supply air	1
40028785	Fan control cable extract air	1
40029225	Humidity/temperature sensor Amphenol 1800mm	1
40031530	Screw ZN 4,2x25	4
40028774	Wire 255mm 1mm2 black	3
40028781	Wire 600mm 1mm2 blue	1
40028780	Wire 600mm 1mm2 black	2
40029982	WaGo 221-415	2
40031537	Washer 6798-A ZN M4x8	1
40031489	Nut DIN 934/8 ZN M4	1
40030997	Cable tie 2,5x200mm	10
40031559	POP-rivet Multigrip 3,2x9	12
40031114	eAir panel package	1
40030313	Triac cable 1000mm 4-pole	1
40034288	WiFi module package	1

Manuals etc. (depends on model)

eAir installation manual	1
eAir user manual	1
eAir electrical diagrams	1

MANDATORY PARTS

10024054	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EAIR	1
10023149	FAN PACKAGE 170W	2
10025837	FAN RAIL PACKAGE	1

<u>Code</u>	<u>Description</u>	<u>Pcs.</u>
10024054	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EAIR	

Automation

40030936	PCB support KGLS-6S	5
40030937	PCB support LCBSM-6-01	4
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40031489	Nut DIN 934/8 ZN M4	1
40028772	Wire 65mm orange 0,75mm ²	1
40028773	Wire 340mm orange 0,75mm ²	6
40028774	Wire 255mm 1mm ² black	3
40028779	Wire 255mm 1mm ² blue	1
40031093	eAir main board	1
40029985	eAir main board connectors	1
40029195	Power supply Tufvassons PSLR24	1
40028788	Ground wire 100mm	1
40029647	Automation base	1
40029344	Terminal package	1

Components

40030936	PCB support KGLS-6S	4
40030100	Cable sealing VET 5-7	6
40030101	Cable sealing VET 7-10	6
40028782	Fan power cable supply air	1
40028783	Fan power cable extract air	1
40028784	Fan control cable supply air	1
40028785	Fan control cable extract air	1
40029225	Humidity/temperature sensor Amphenol 1800mm	1
40031530	Screw ZN 4,2x25	4
40031537	Washer 6798-A ZN M4x8	1
40028774	Wire 255mm 1mm ² black	3
40028781	Wire 600mm 1mm ² blue	1
40028780	Wire 600mm 1mm ² black	1
40031489	Nut DIN 934/8 ZN M4	1
40030997	Cable tie 2,5x200mm	10
40031559	POP-rivet Multigrip 3,2x9	12
40030313	Triac cable 1000mm 4-pole	1
40031114	eAir panel package	1
40030313	Triac cable 1000mm 4-pole	1
40034288	WiFi module package	1

Manuals etc. (depends on model)

eAir installation manual	1
eAir user manual	1
eAir electrical diagrams	1

Notes: