

Automation upgrade

Pandion EDA -> eWind

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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Electrical diagrams EDA27

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



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



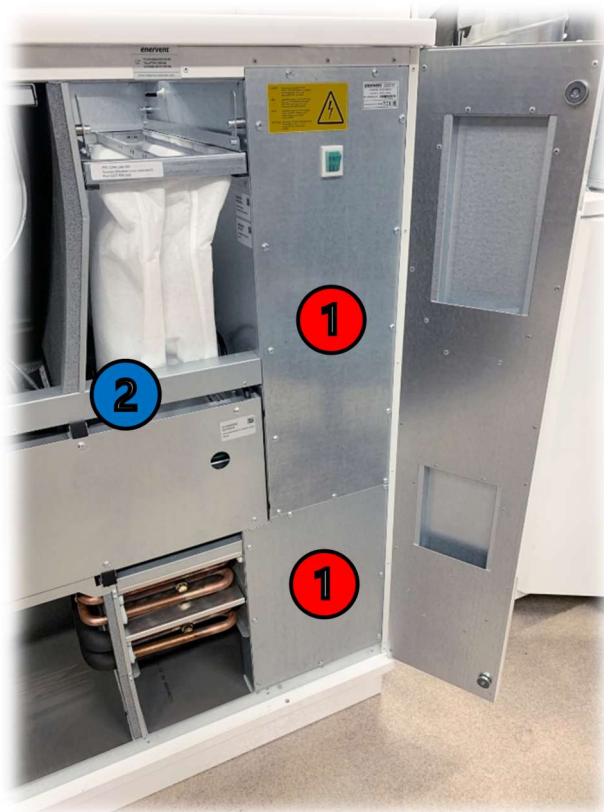
Open the service door by turning **the three locks (3)**.



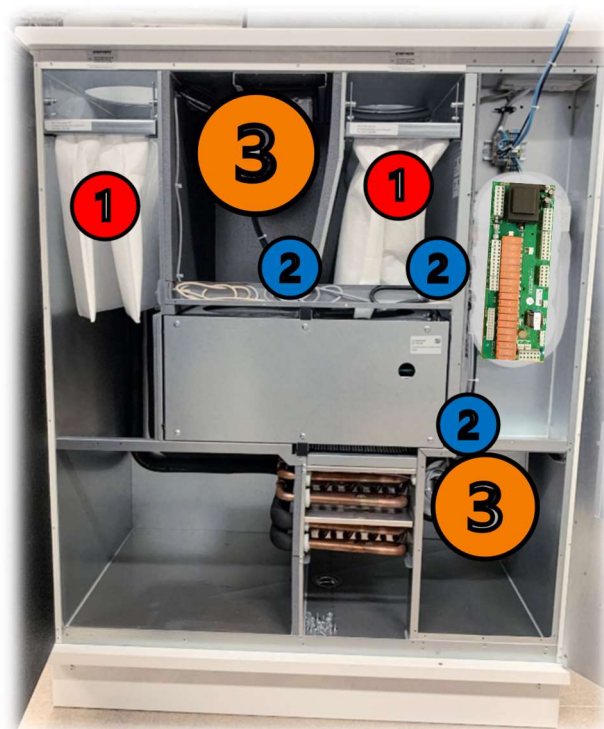
Remove **the cover to the electrical box (1)** and **the supply air fan chamber (1)** by removing the screws.

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

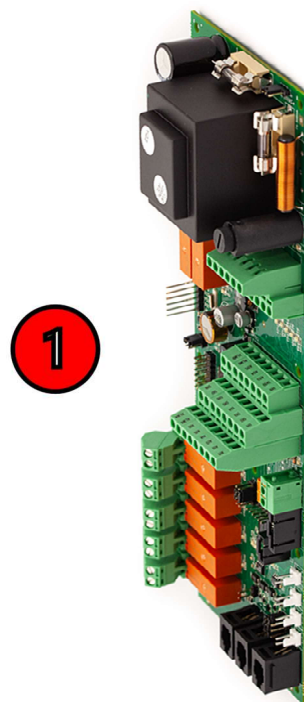
Remove **the POP rivets** from **the cable rail (2)** by drilling, and remove the cover.



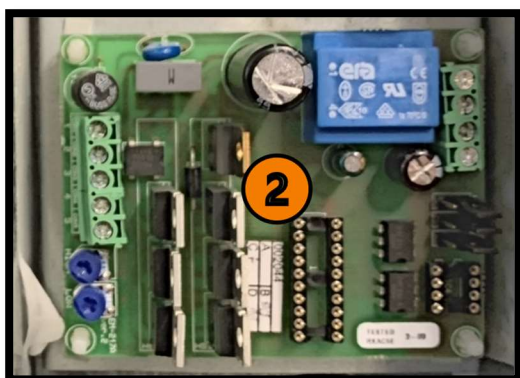
Remove **the filters (1)** by pulling.
Disconnect **the connectors (2)**.
Remove **the fans (3)**.



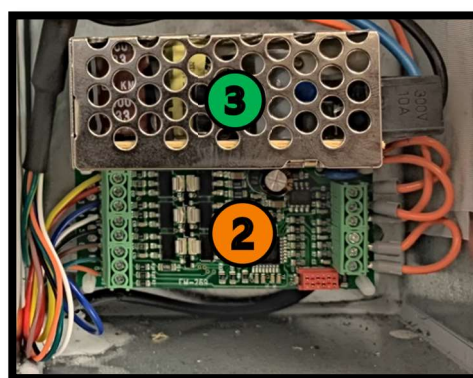
Mark all wires/sensors according to the marking on the main board and disconnect them from **the EDA main board (1)**.



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.

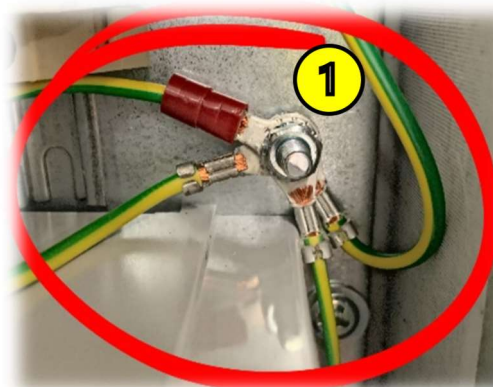


AC HRW circuit board.



DC HRW circuit board.

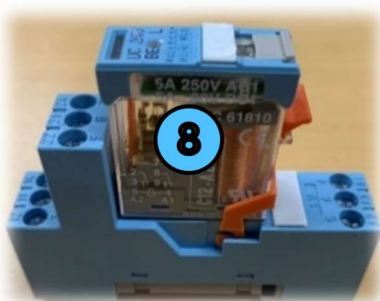
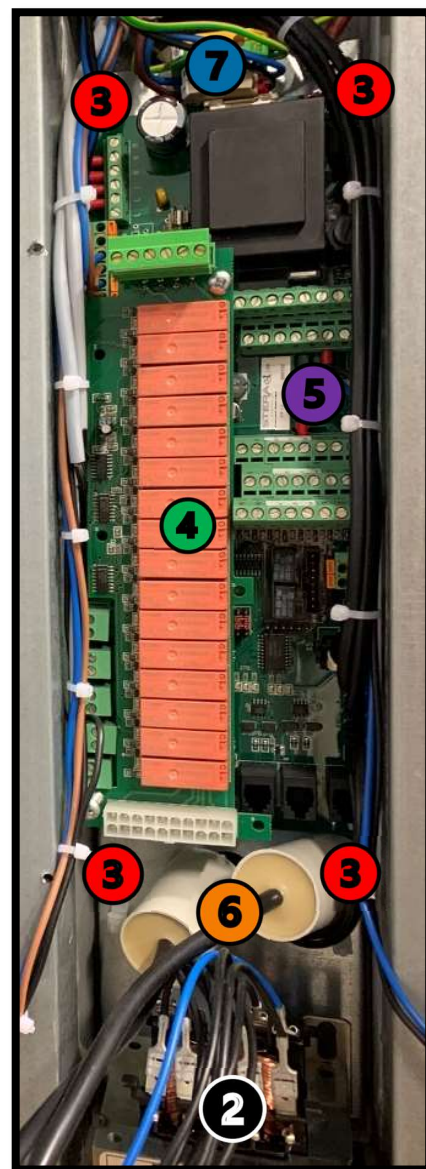
Disconnect **all ground wires (1)** from the automation base ground point.



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

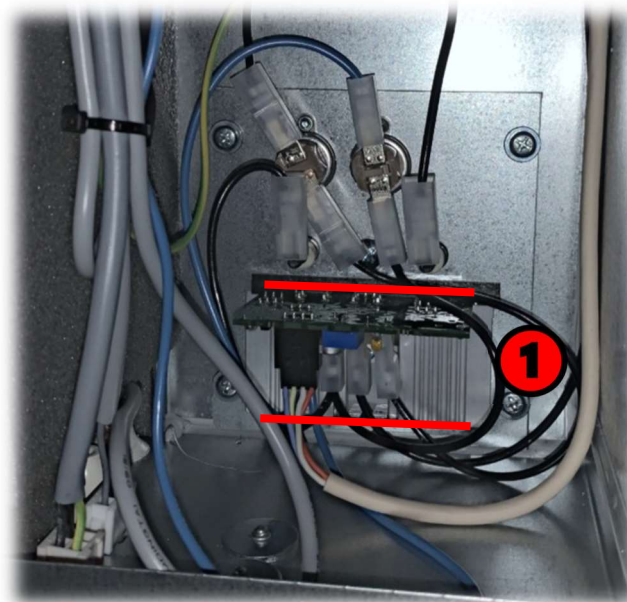
Remove **the screws (3)** and remove the automation base incl. **terminals (7)**, **relay board (4)**, **EDA main board (5)**, **capacitors (6)** and **transformer (2)**.

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



NOTE! If there was a **blue relay** installed;

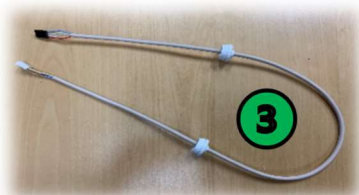
The gap in the frame needs to be enlarged with metal scissors to prevent the new circuit board from touching the frame. If the 230VAC circuit is too close touching the frame, a short circuit may occur (1).



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

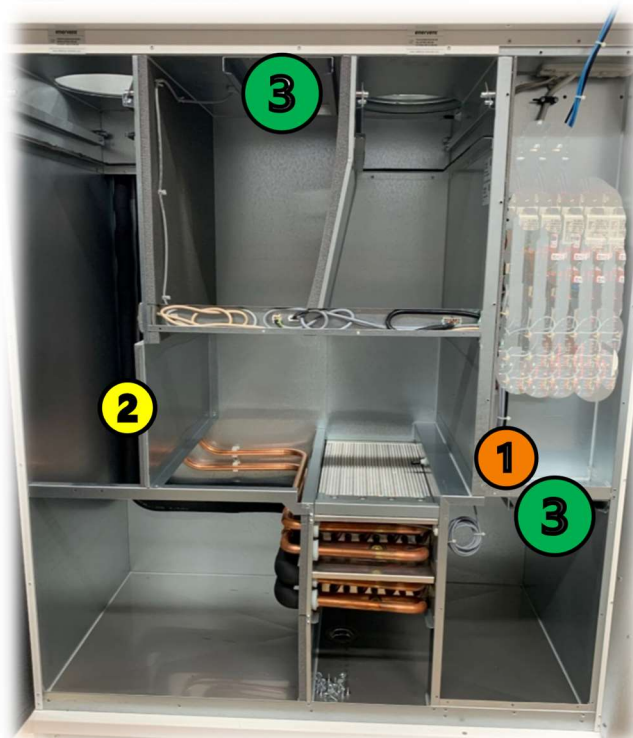
Remove **the old triac control cable (2)** and install **the new triac control cable (3)** (40030313).

Connect the triac board according to the electrical diagram (**page 33**).
To lengthen the original wires; use the delivered cables and connection terminals (40028780, 40028781, 40029982).



Remove **the fan cables (1)**.

Remove **the extract air sensor cable (2)**.



Remove the POP rivets from **the fan rails (3)** by drilling, and remove the rails (they are also glued to the frame).

Install **the new extract air sensor (4)** (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 (4)** and through the cable rail into the electrical box.



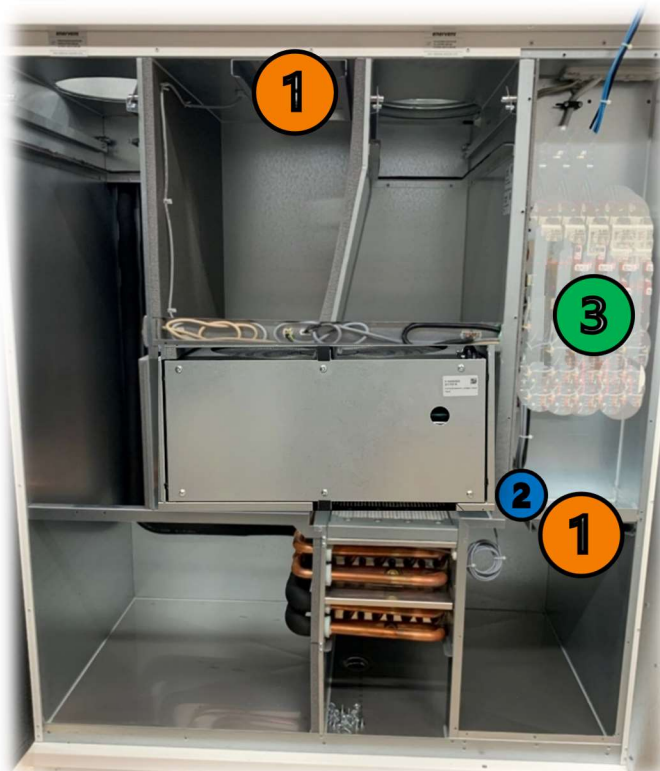
Install **the new fan rails (1)** (10026631).

by:

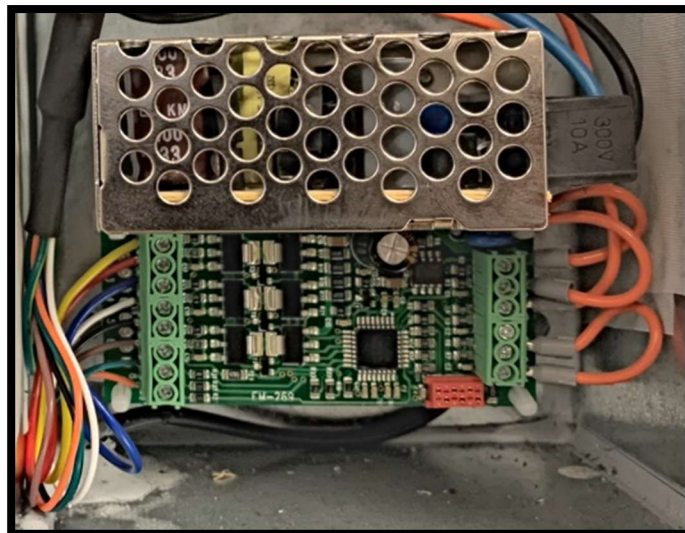
- drilling new 3,2mm holes for **the new POP-rivets** (40031559).
- placing sealant between the frame and the fan rails.
ex. Würth silicone sealant.
- attaching the new fan rails to the frame with **the new POP-rivets** (40031559).

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

Install the cables in **the electrical box (3)**.

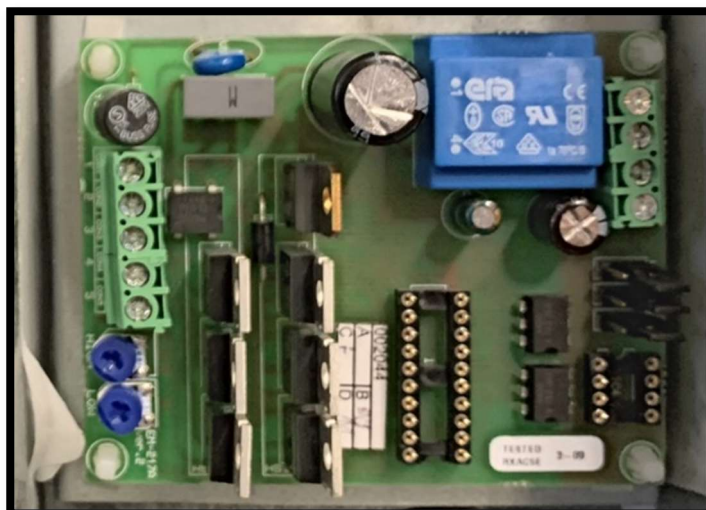


If the unit has a DC HRW installed, jump to page 13.



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

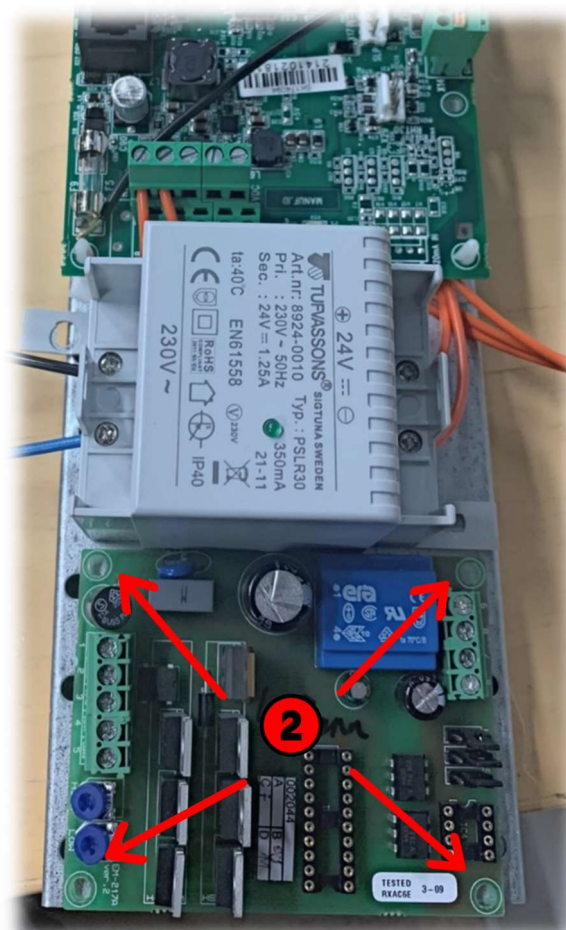
If the AC HRW control board is installed separately in the electrical box, there is no need to move it physically (if the new automation base fits). Just connect it like advised (page 13, 22).



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

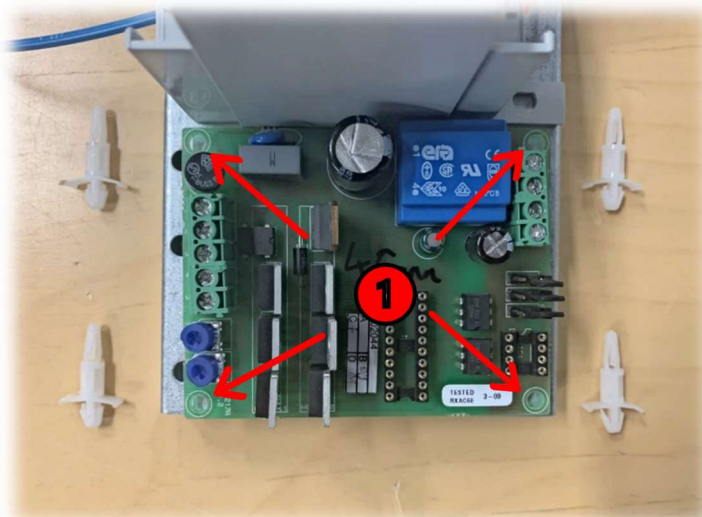


Mark **the holes (2)** to the automation base, and drill 4 pcs. 4,5mm holes according to the markings.

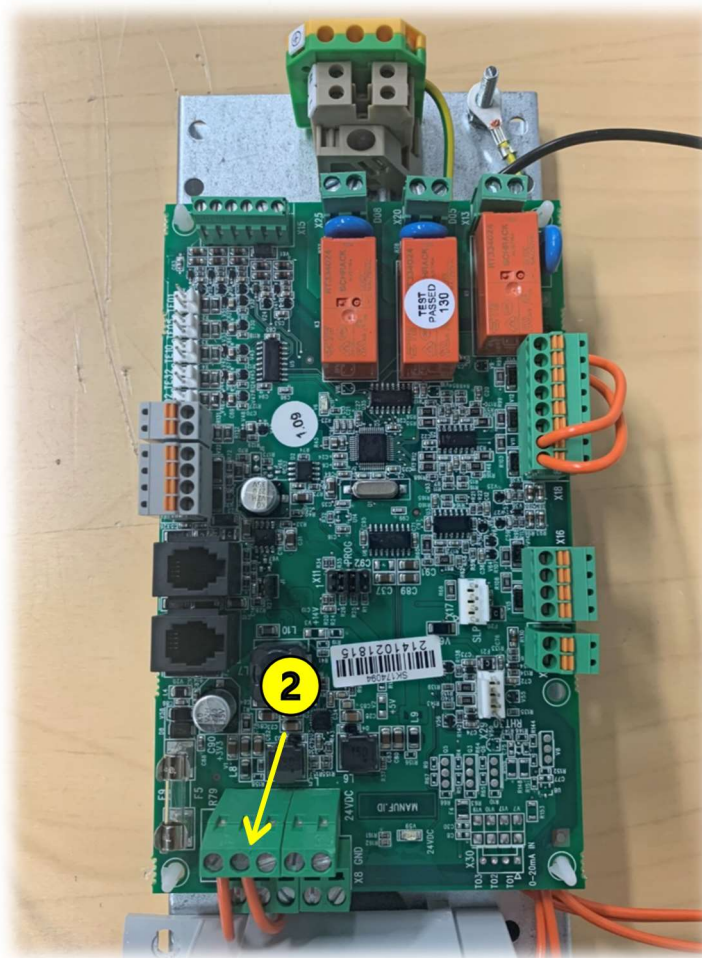


Install **the new PCB supports** (40030936) **into the drilled holes (1).**

Attach the AC HRW circuit board to the PCB supports.



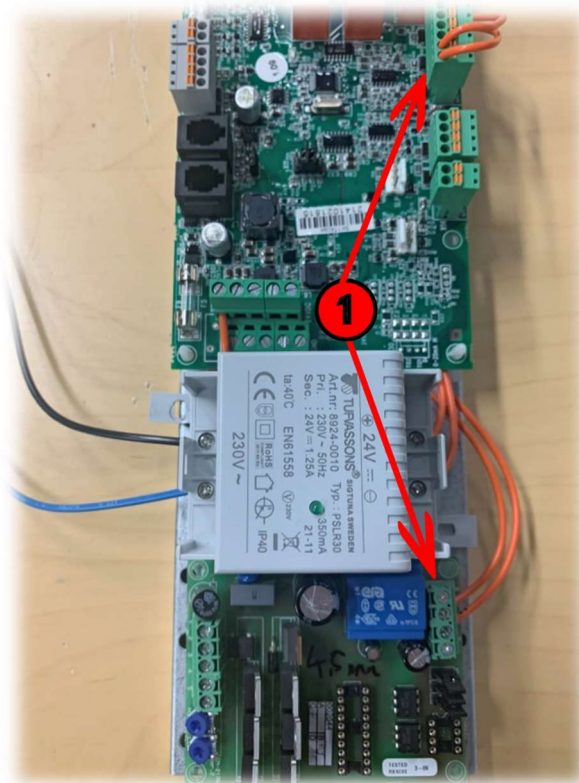
Disconnect and remove **the possible extra wire (2).**



Connect **the wire from the main board connector "AO4"** to AC HRW circuit board "8".

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

1

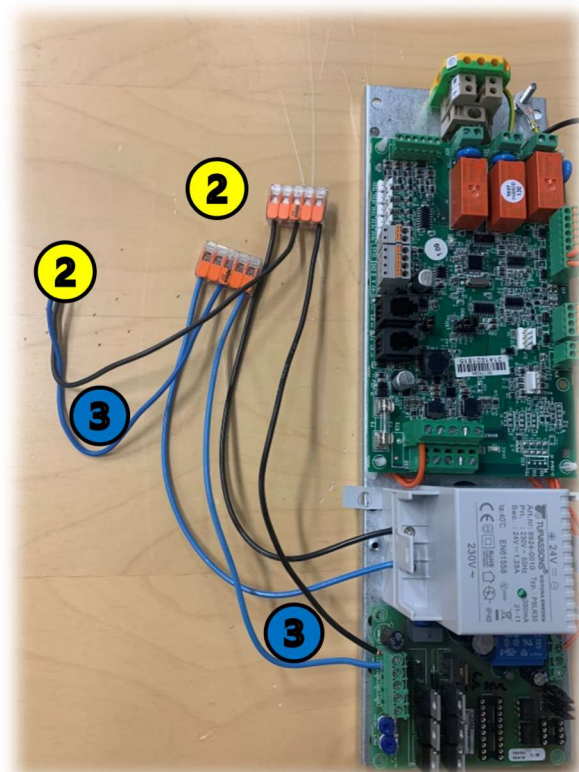


Install **the connection terminals (2)** (40029982) to the wires and the transformer. Two for "L" and two for "N".

Connect **the wires (3)** (40028774 & 40028781) to the connection terminals and to the AC HRW circuit board connectors:

1: Black (L)

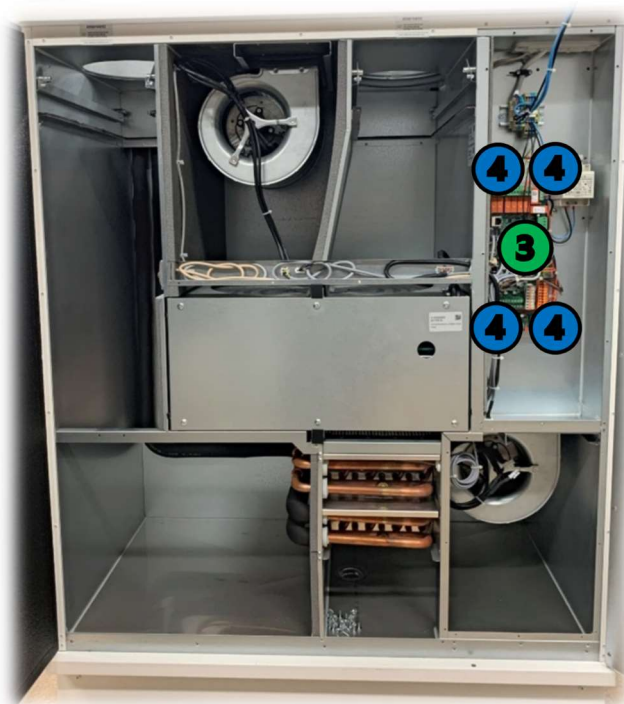
2: Blue (N)



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)**.

If the new automation base doesn't fit in the electrical box; remove the old DC HRW control board from the electrical box and attach it to the new automation base (page 20).

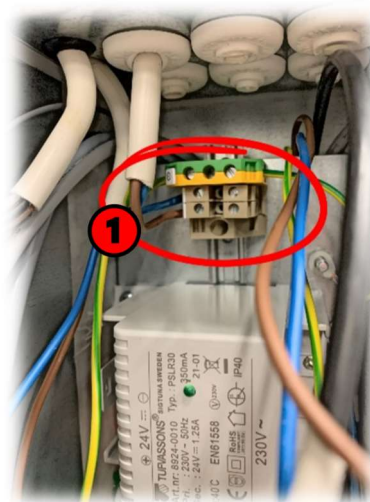


Connect **the main power cable to the terminals (1)**.

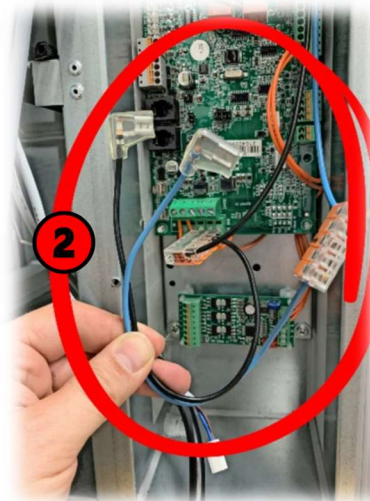
L: Brown

GND: Green/yellow

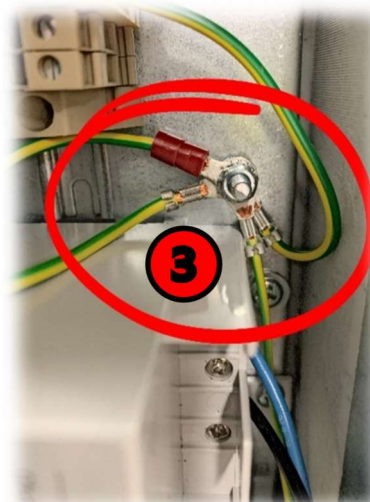
N: Blue



Connect one pair of **the main switch wires to the connection terminals (2)** (40029982).



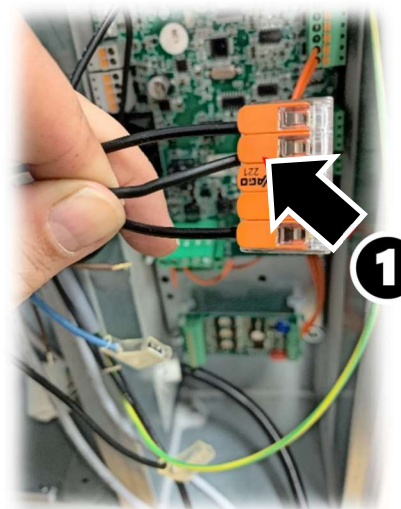
Connect **all ground wires to the automation base ground point (3)**.
Ground terminal, (HRW), supply air fan, extract air fan.
Tighten with **the nut** (40031489).



Connect **the blue wire** from the electrical after heater to **the blue connection terminal (2)** (40029982).
Ignore if no electrical after heater installed.



Connect **the black wire** (40028774) to **the black connection terminal (1)** (40029982).



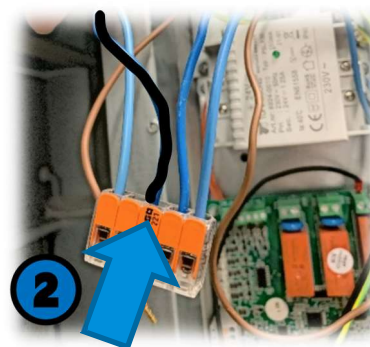
Connect **the same black wire** (40028774) to **"DO2" (2)** on the main board.



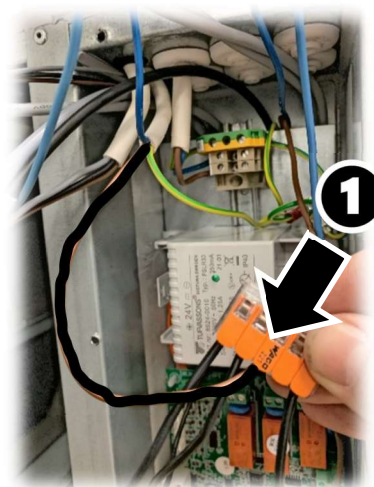
Connect **the brown wire** from the electrical after heater to **"DO2" (2)**.
*If there is a water coil after heater installed,
 the circulation pump power wire (L) would be connected here.*



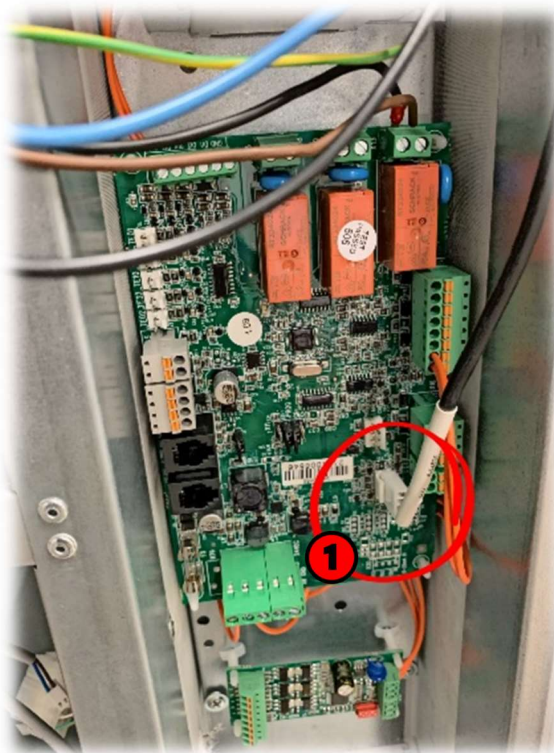
Connect **the wires marked "2"** from the fan power cables to **the blue connection terminal (2)** (40029982).



Connect **the wires marked "1"** from the fan power cables to **the black connection terminal (1)** (40029982).

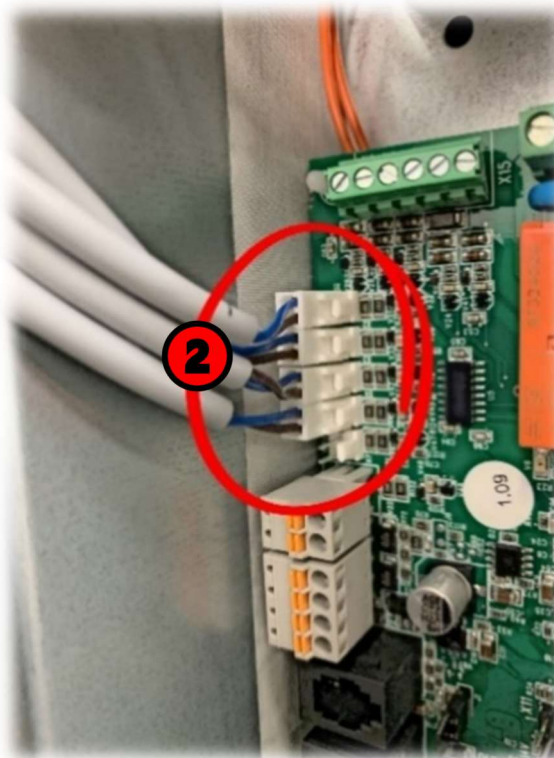


Connect **the extract air sensor (1)** (40029225) to the main board (X29).



Connect **the sensors (2)** to the main board according to the markings.

TE01: Outside air
TE05: HRW supply air
TE10: Supply air
TE32: Waste air

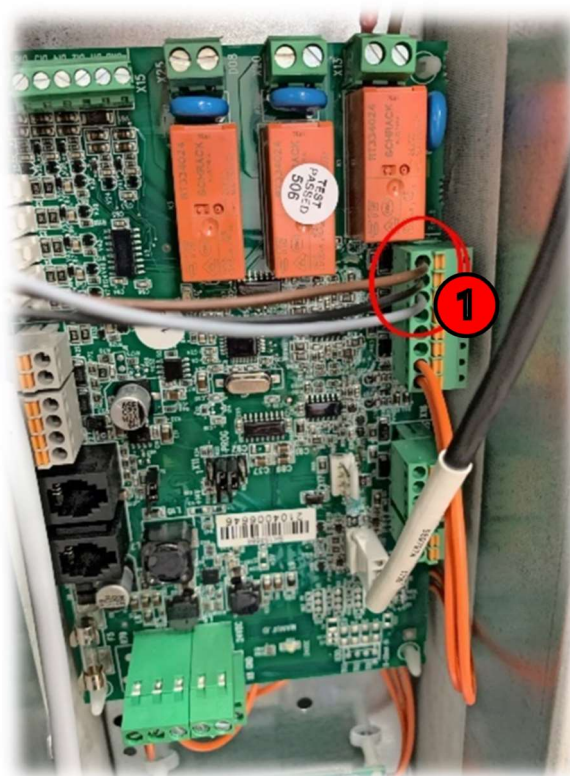


Connect **the wires from the supply air fan control cable (1)** (40028784) to the main board.

AO1: Brown

GND: Black

DI11: Gray

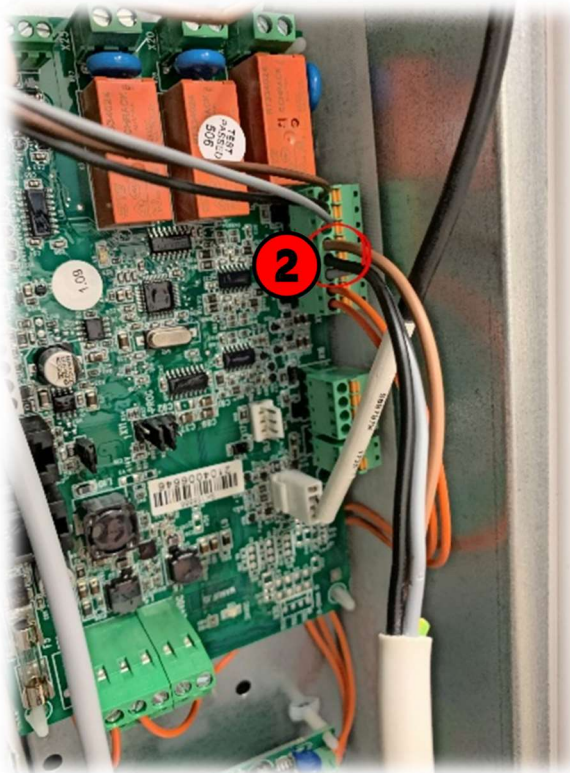


Connect **the wires from the extract air fan control cable (2)** (40028785) to the main board.

AO2: Brown

GND: Black

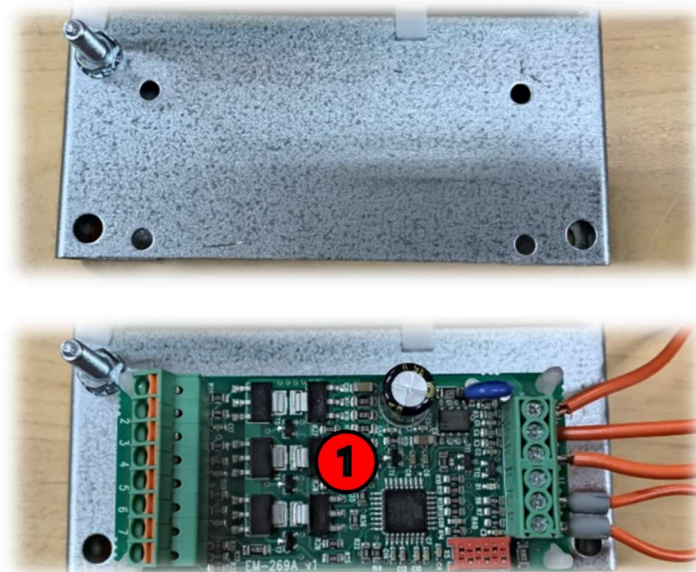
DI12: Gray



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 according to the electrical diagram (**page 32**).

The old transformer won't be used anymore!



If DC HRW:

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

1: Yellow

2: Red

3: Blue

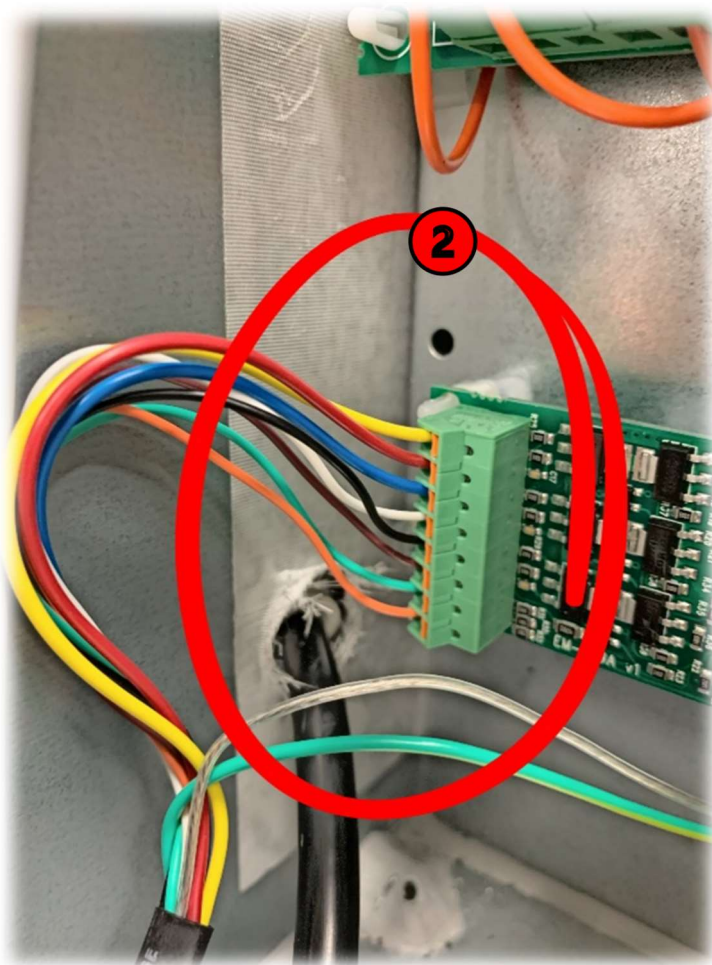
4: White

5: Black

6: Brown

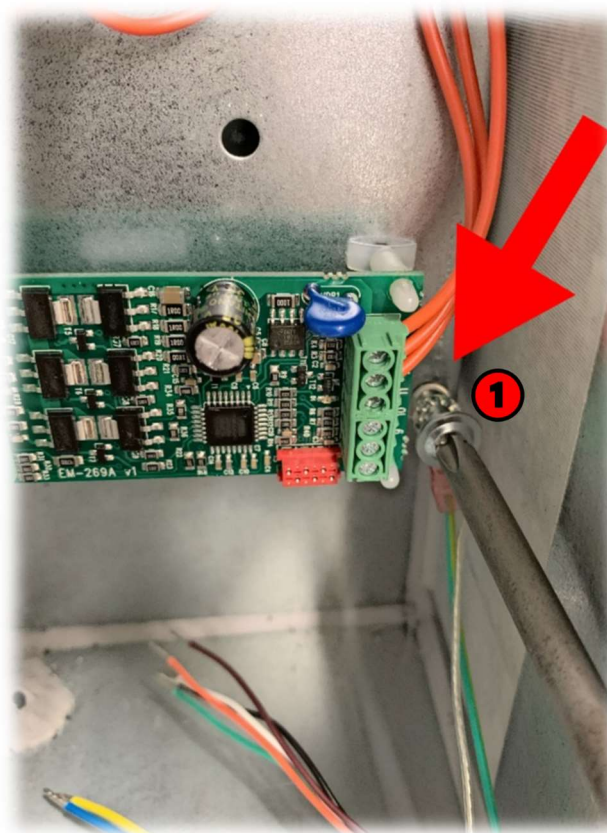
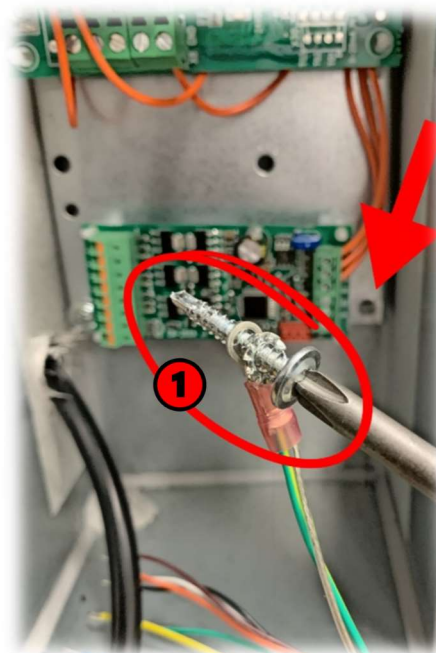
7: Green

8: Orange



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.

If AC HRW:

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

3: Brown / (1)

4: Gray / (2)

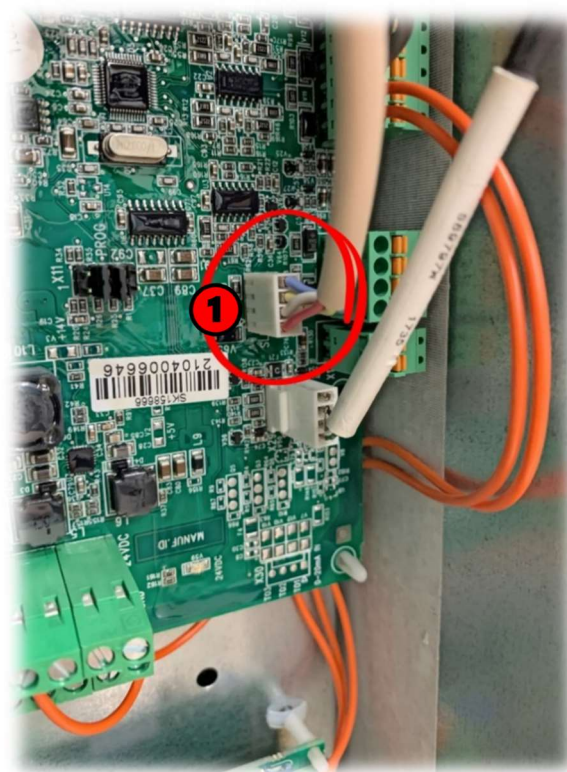
5: Black / (3)



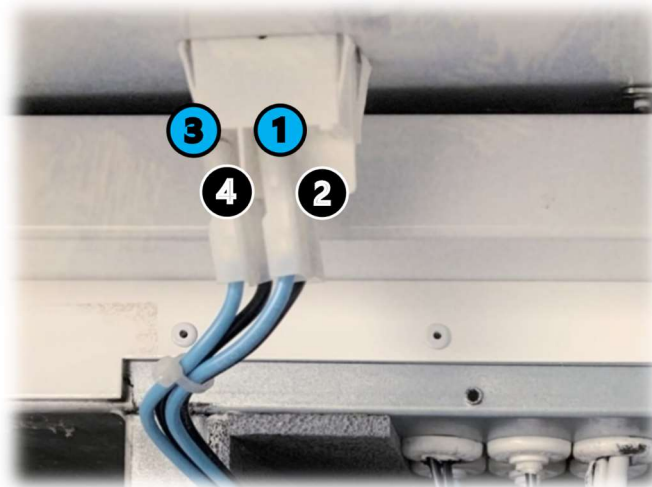
Connect **the after heater control cable (1)** to the main board (X17).

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 31-34).



Connect **one pair of the main switch wires (1, 2)** to **the main switch** from the **black & blue connection terminals (40029982)**.

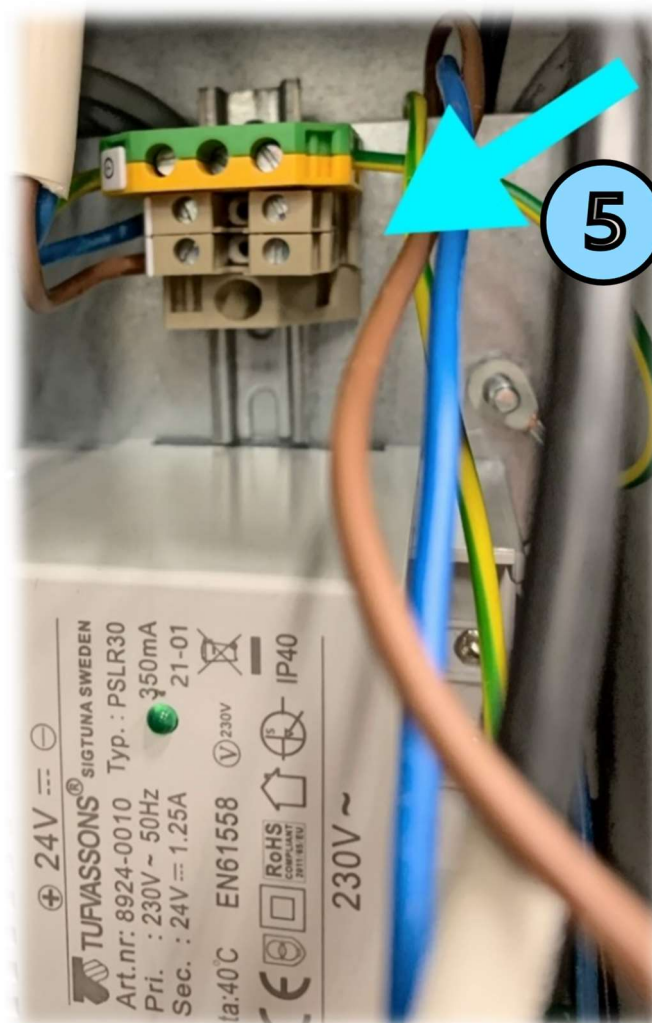


Connect **the other pair of main switch wires (3, 4)** to **the main switch**, and to **the terminals (5)**.

L: Black (4)

N: Blue (3)

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



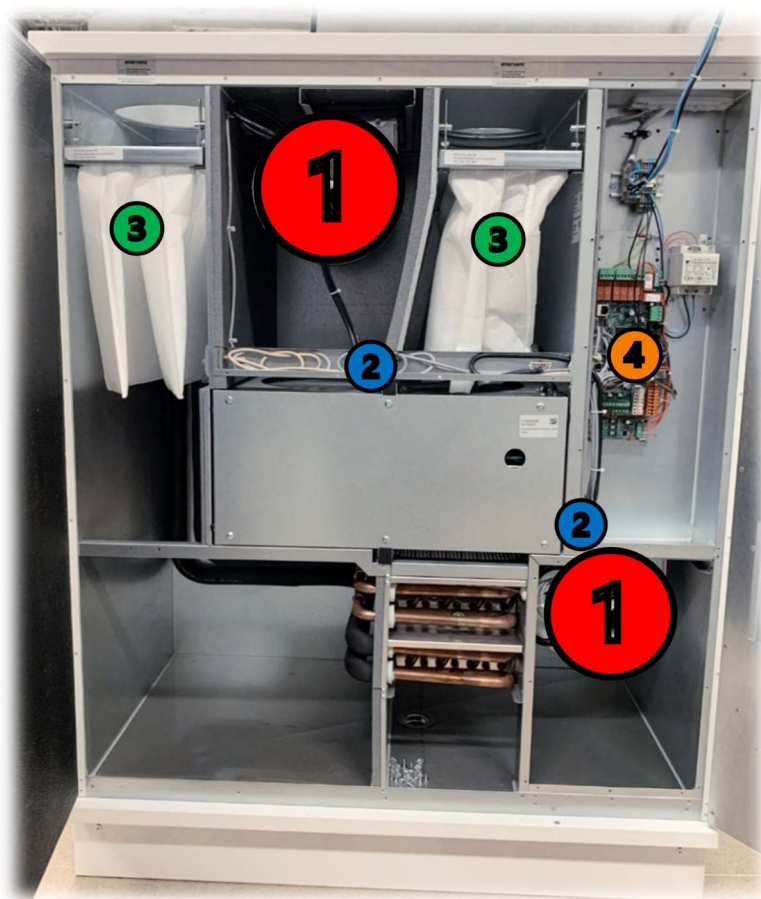
⊕ 24V ⊖
TURVASSONS® SIGTUNA SWEDEN
Art.nr: 8924-0010 Typ.: PSLR30
Pri.: 230V ~ 50Hz 350mA
Sec.: 24V ~ 1.25A 21-01
ta: 40°C EN61558 V230V
CE RoHS COMPLIANT IP40
230V ~

Install **the new fans (1)**
(10023316, 10023315)

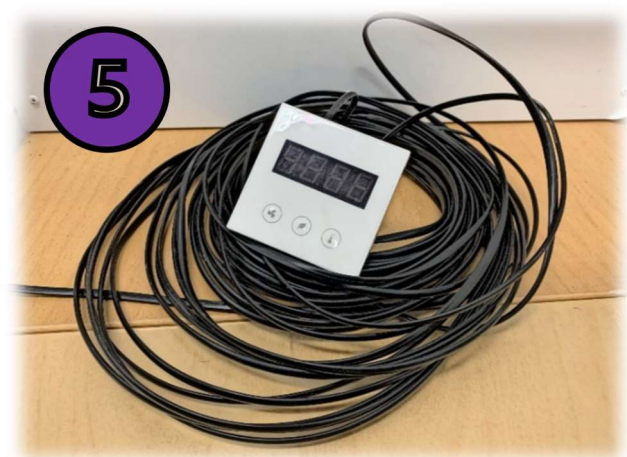
Connect **the fan cables (2)** and attach
them together with **cable ties (40030997)**.

Install **the filters (3)**.

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



Disconnect and remove the old display.
Install **the new display (5)** (40031115)
in a desired place.



Install *the WiFi module (4)* (40034288).

4

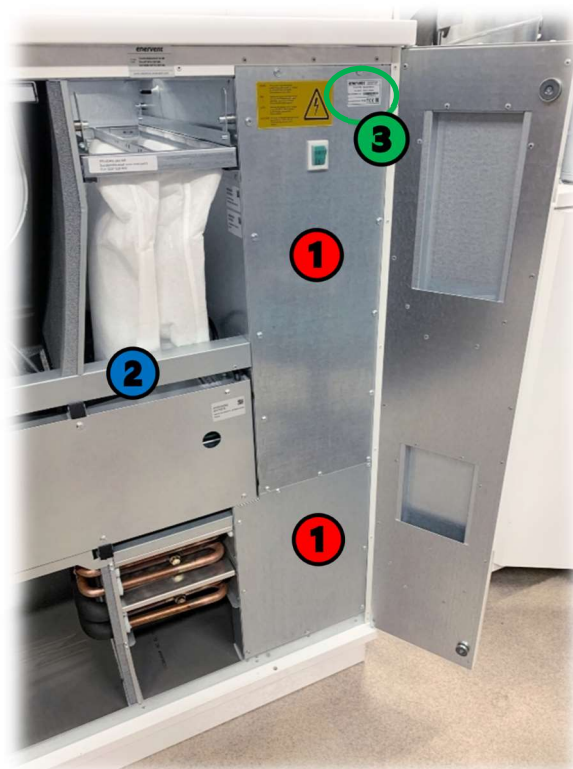


Attach the cover to *the electrical box (1)*.

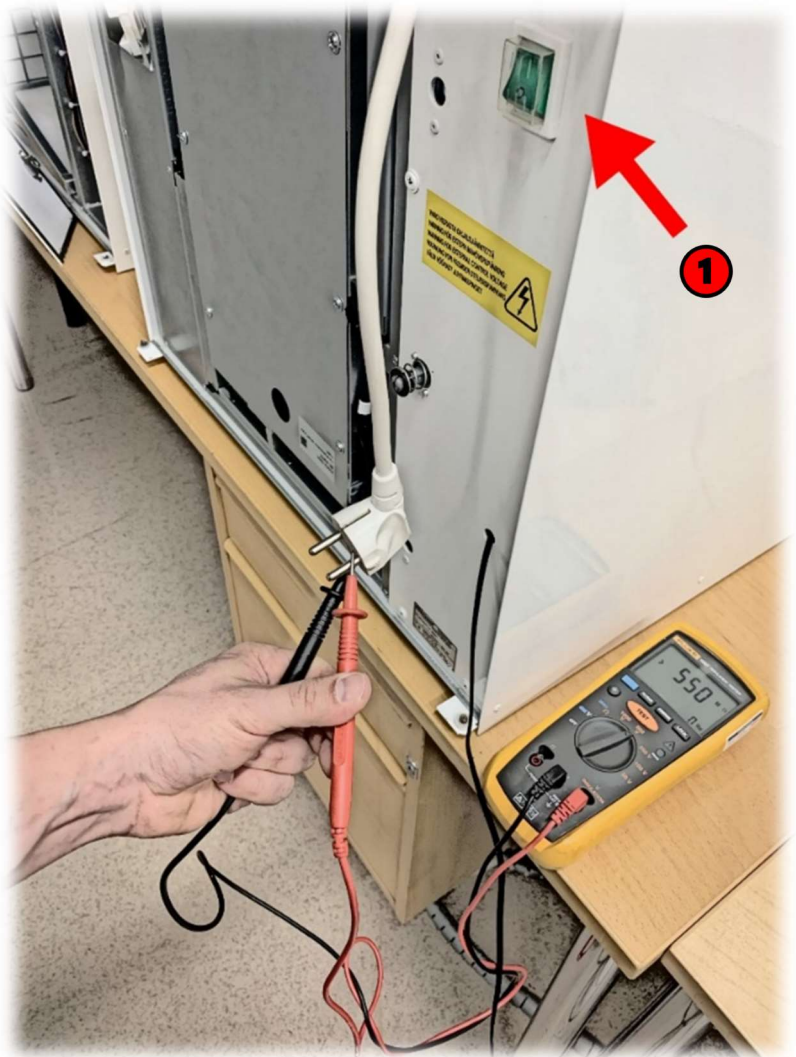
Attach *the cover to the cable rail (2)*
with *the new POP rivets* (40031559).

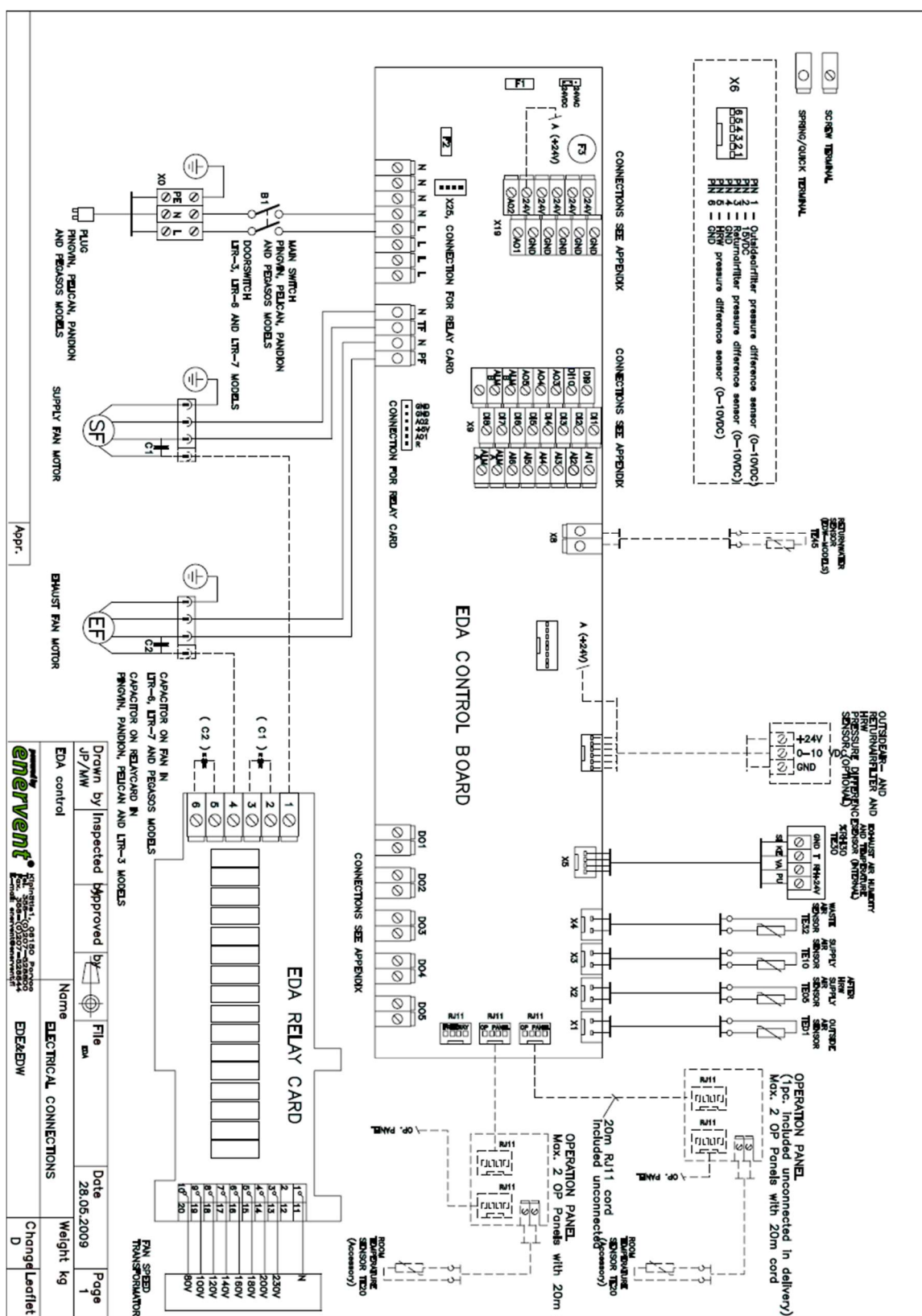
Install *the new type plate sticker (3)*.

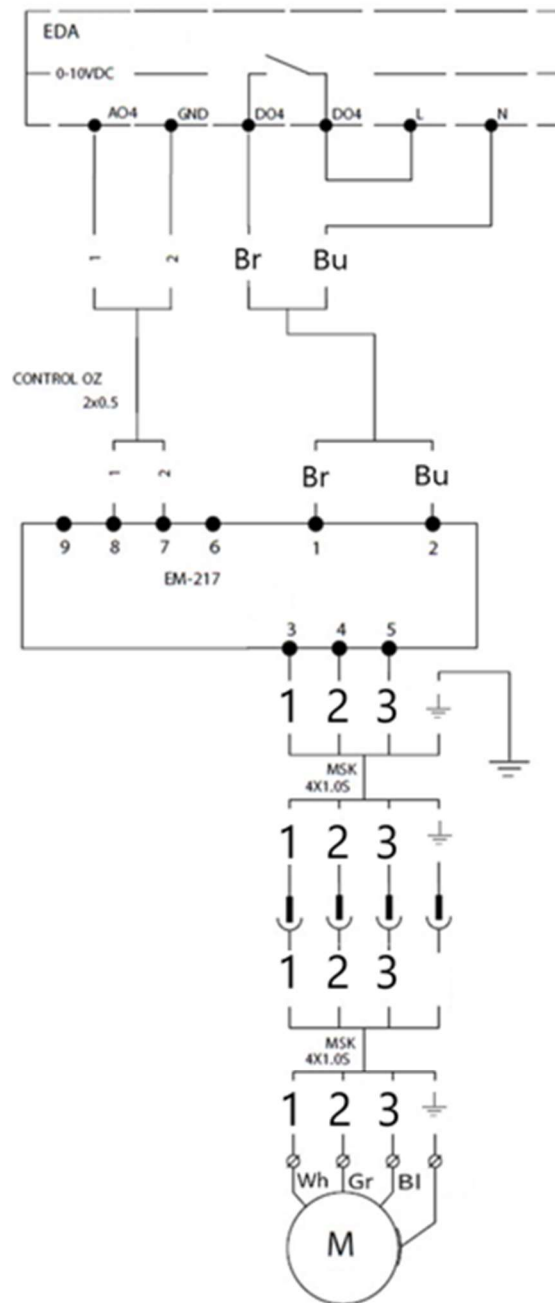
Close the service door.



Turn on **the main switch (1)** and perform insulation and ground continuity test according to regulations.

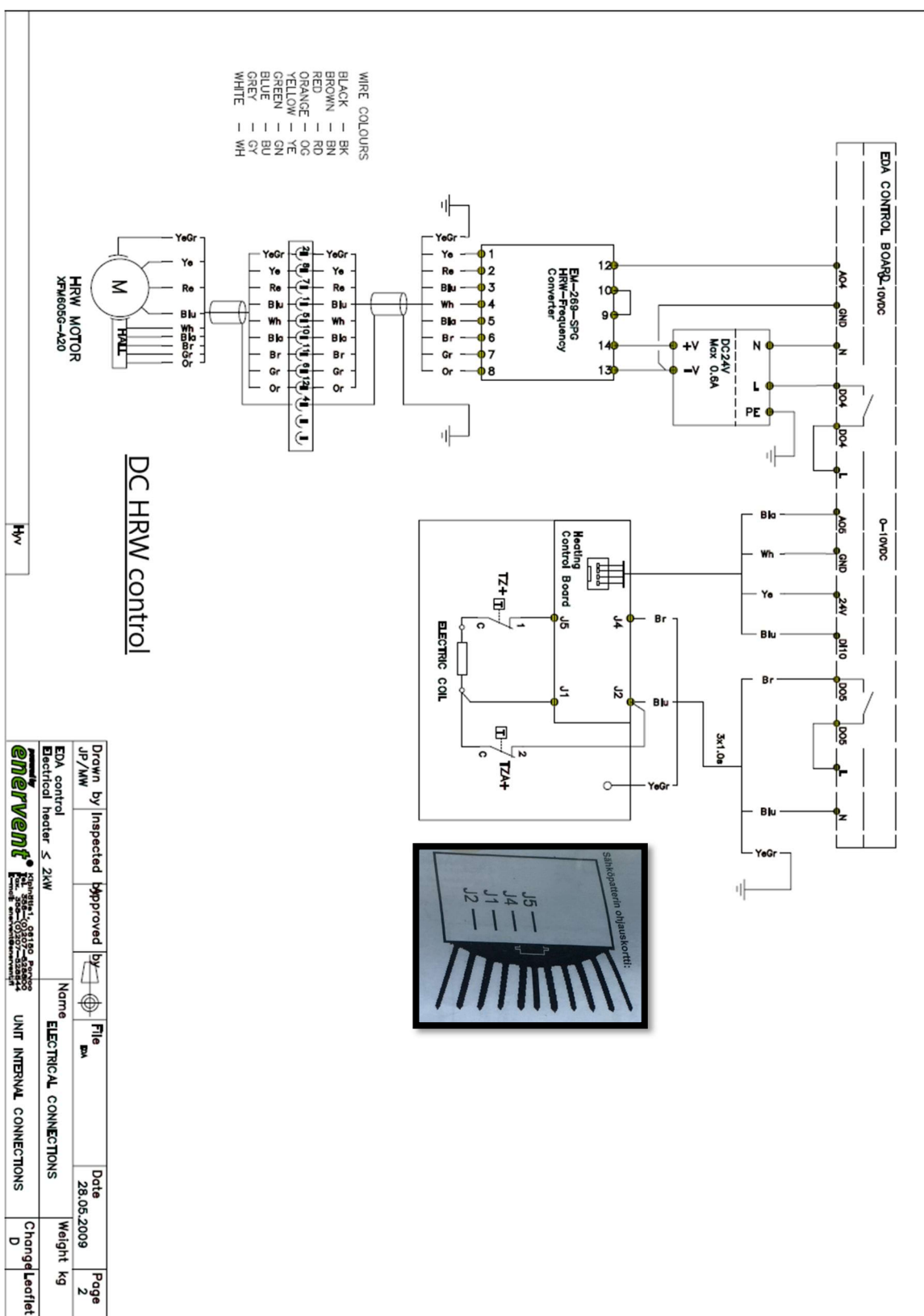


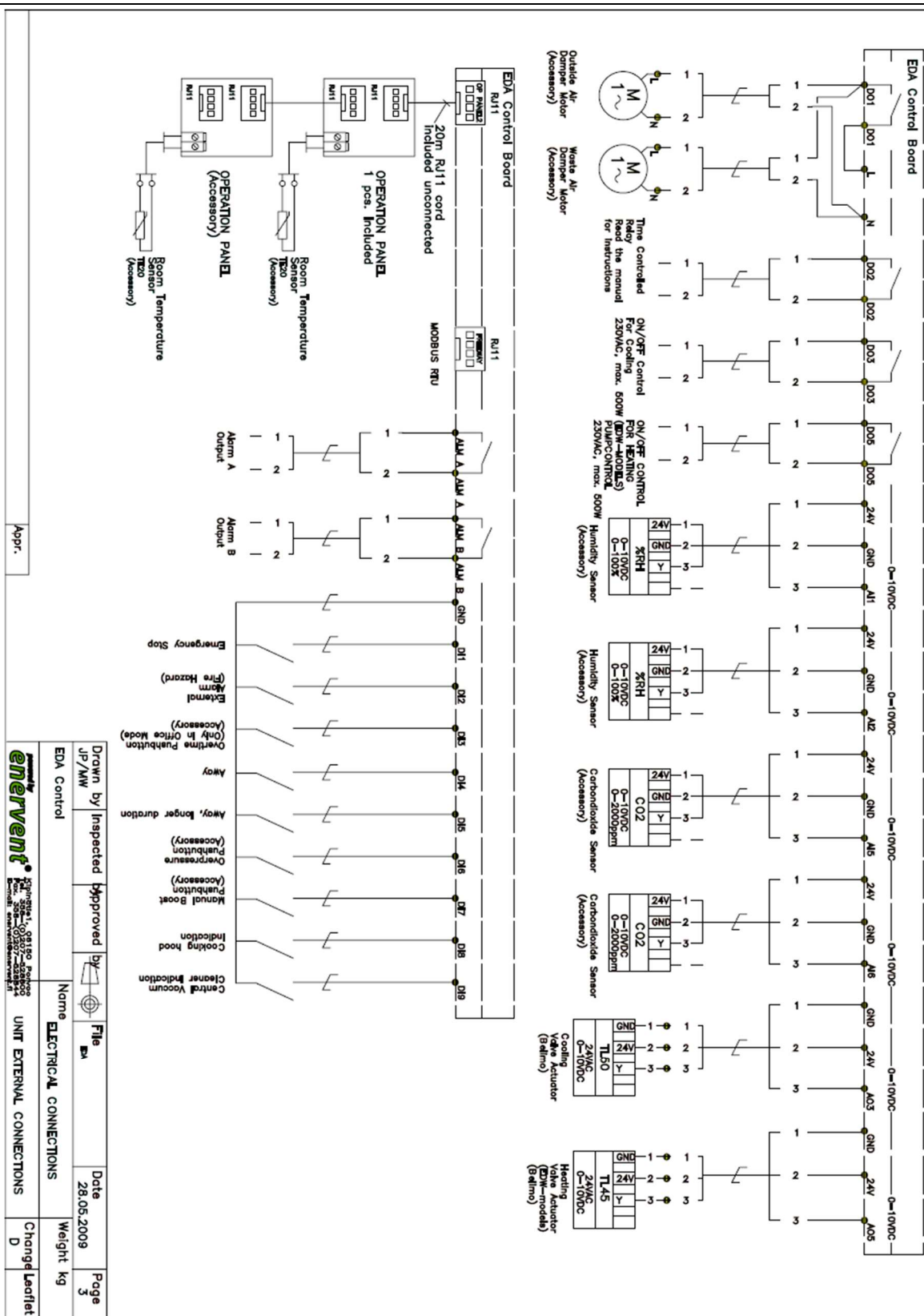


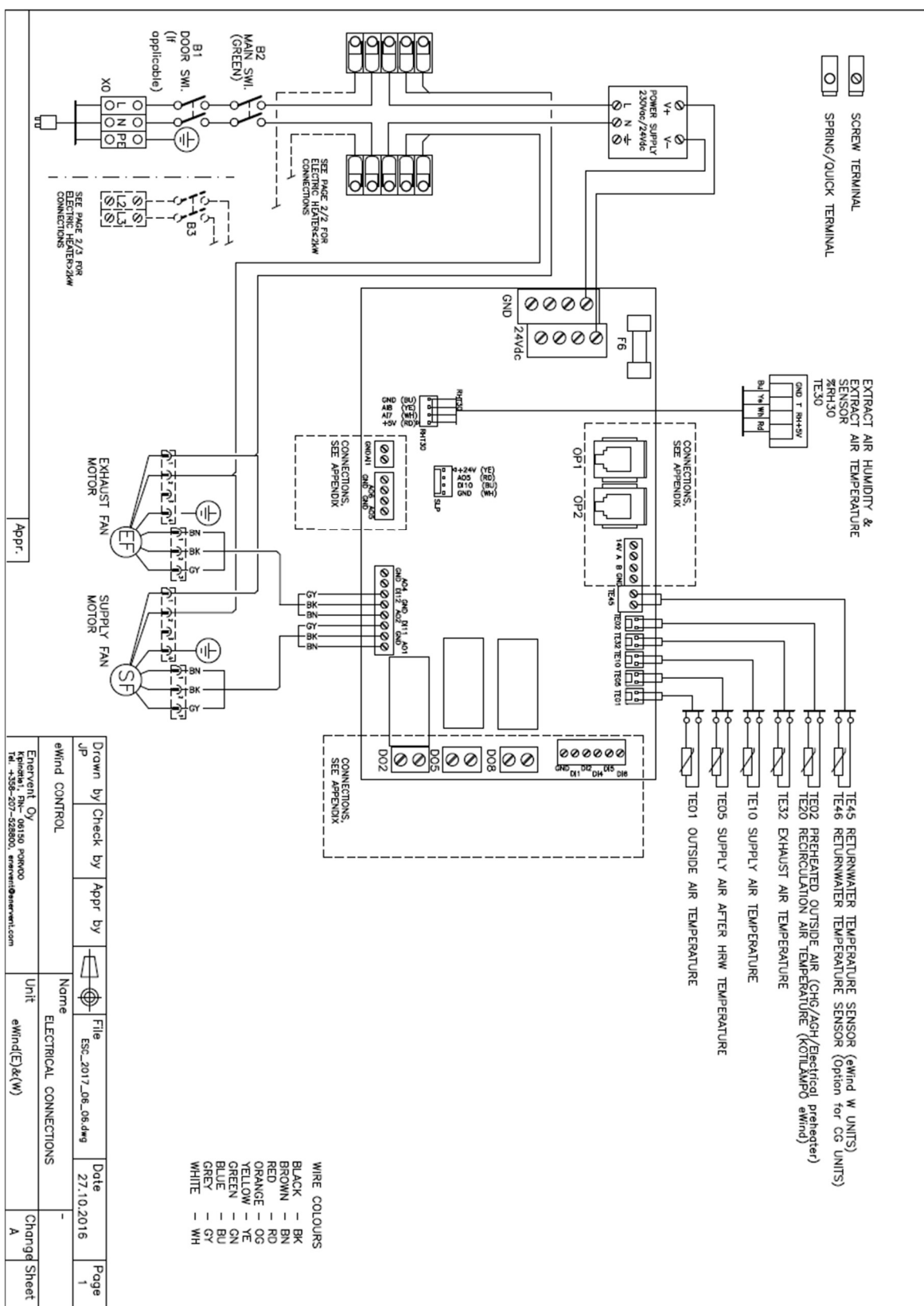


Bl: Black
Bu: Blue
Br: Brown
Wh: White
Gr: Gray

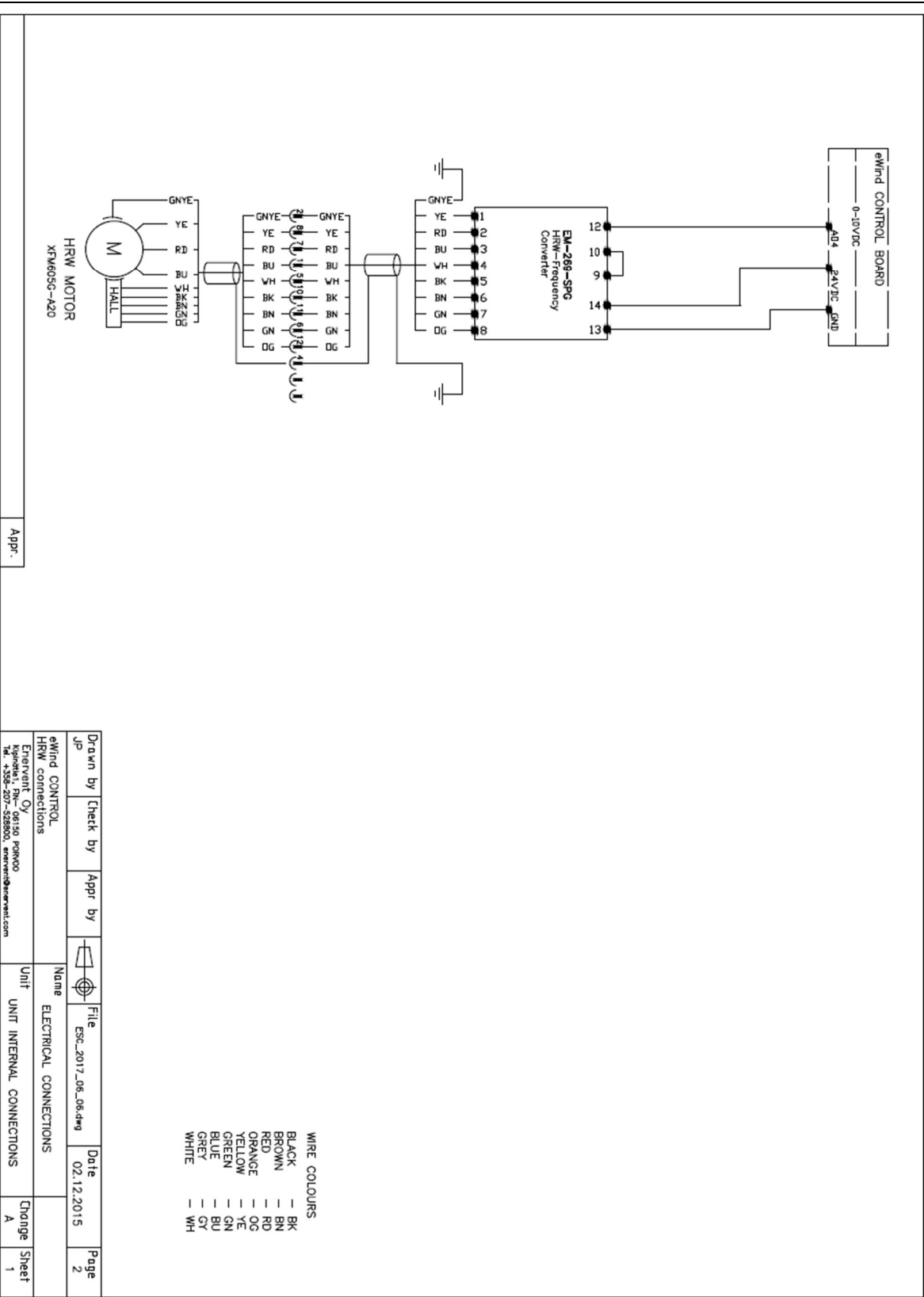
HRW MOTOR

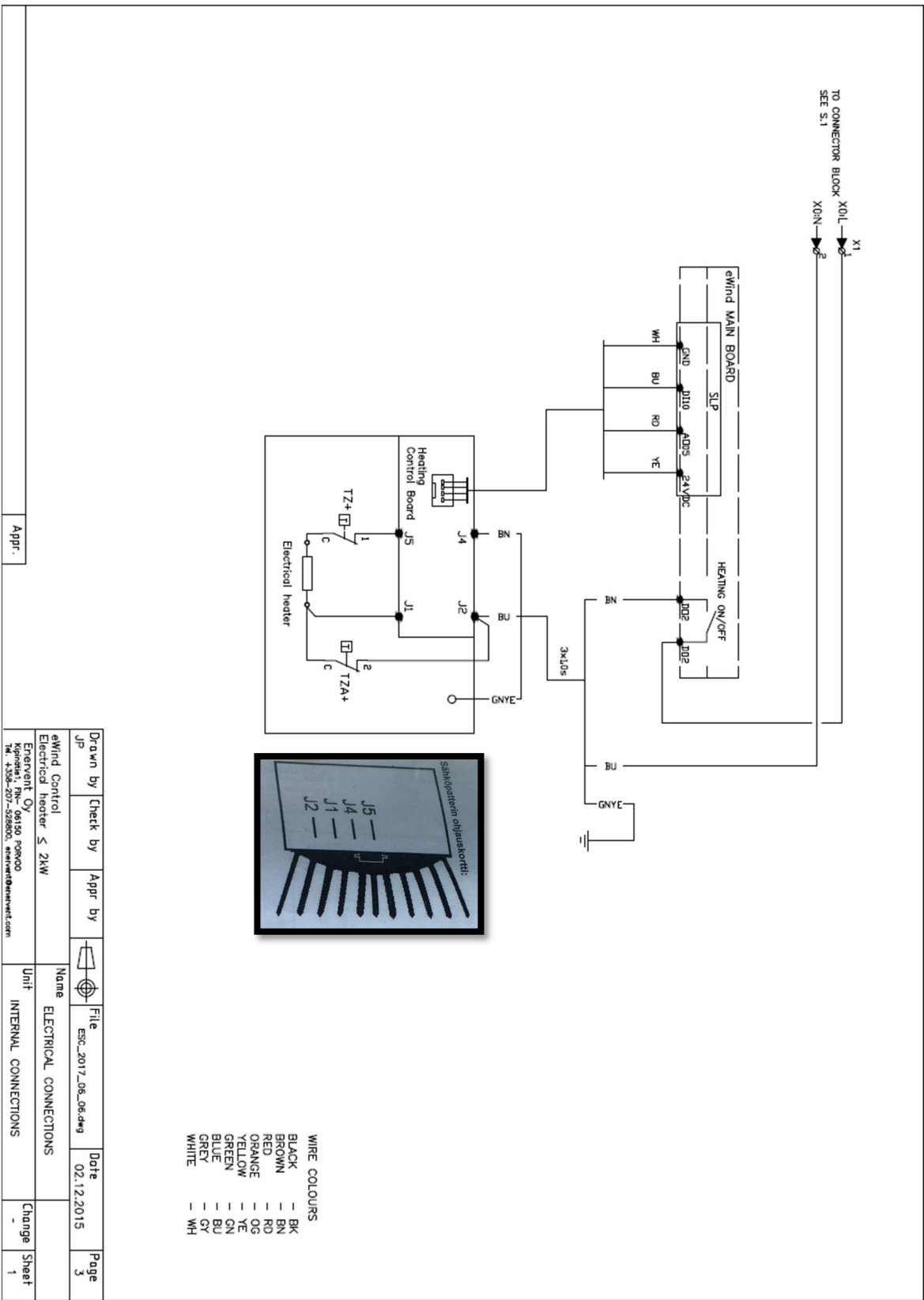


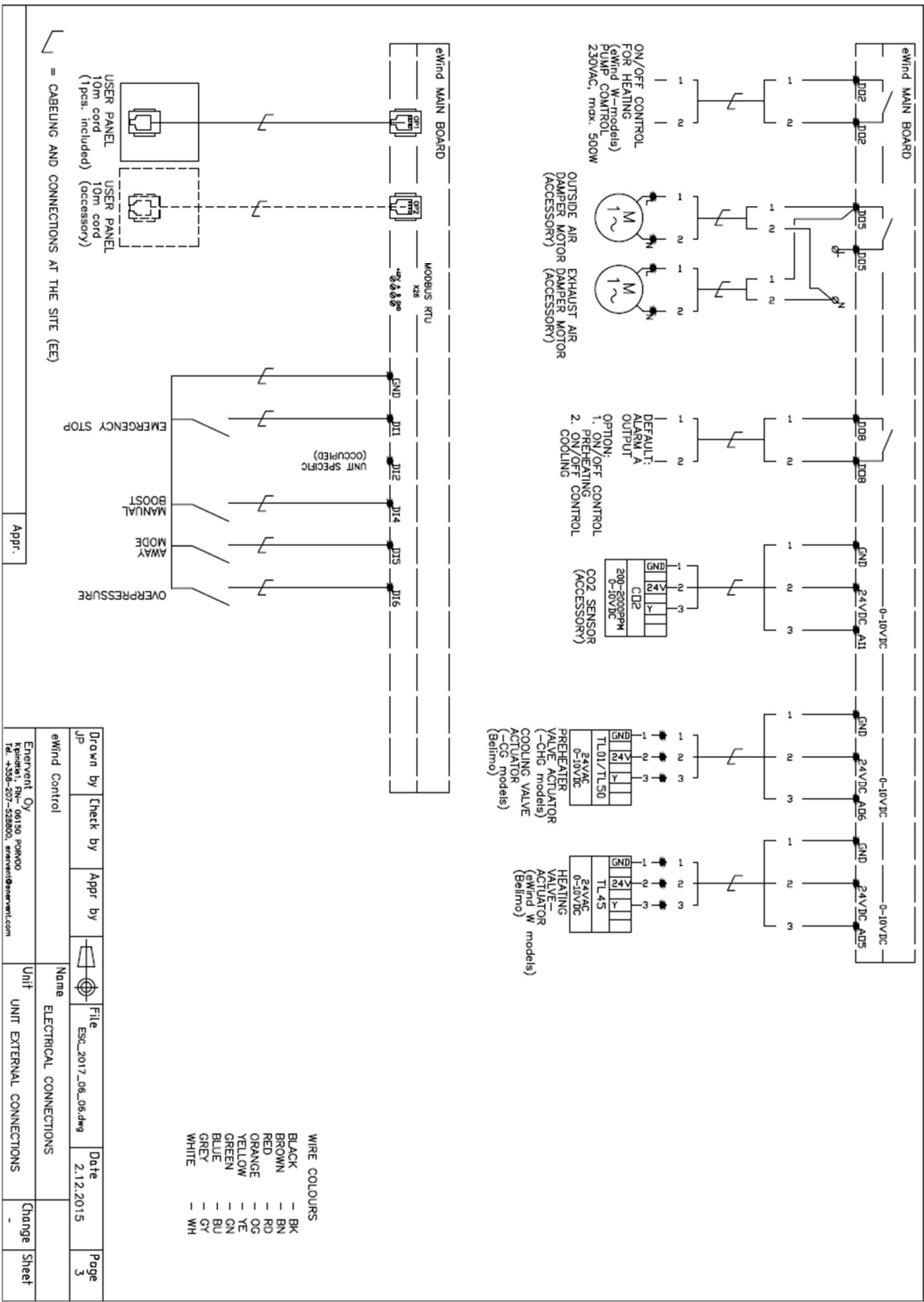




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J.P.			Esc_2017_08_08.dwg	27.10.2016	1
eWind CONTROL			ELECTRICAL CONNECTIONS		
Enervent Oy 06150 PORVOO Kipinätie, FIN-06150 PORVOO Tel. +358-207-528800, enervent@enervent.com			Unit eWind(E)&(W)		
			Charged Sheet A		







MANDATORY PARTS

10024053	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EWIND	1
10023316	FAN PACKAGE 170W SUPPLY AIR	1
10023315	FAN PACKAGE 170W EXTRACT AIR	1
10026631	FAN RAIL PACKAGE PANDION	1

OPTIONAL PARTS

10023887	ELECTRICAL HEATER 0,8kW	1
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Code	Description	Pcs.
10024053	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EWIND	

Automation

40030936	PCB support KGLS-6S	4
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 0,75mm ²	1
40028773	Wire 340mm orange 0,75mm ²	5
40028774	Wire 255mm 1mm ² black	1
40028779	Wire 255mm 1mm ² blue	1
40031094	eWind main board	1
40029195	Power supply Tufvassons PSLR24	1
40028788	Ground wire 100mm	1
40029341	Terminal SL 4/15	1
40029343	Terminal ES 15 PA	1
40029340	Terminal SRK 2,5/15 PA	2
40029330	PMC SB 5/50 So ERDE	1
40029329	PMC SB 5/50 So L	1
40029327	PMC SB 5/50 FW N	1
40029647	Automation base	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
40029982	WaGo 221-415	4
40031530	Screw ZN 4,2x25	5
40028774	Wire 255mm 1mm ² black	3
40028779	Wire 255mm 1mm ² blue	2
40028780	Wire 600mm 1mm ² black	1
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
40031115	eWind panel package	1
40030313	Triac cable 1000mm 4-pole	1
40034288	WiFi module package	1

Manuals etc. (depends on model)

eWind installation manual	1
eWind user manual	1
eWind electrical diagrams	1

MANDATORY PARTS

10024053	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA→ EWIND	1
10023316	FAN PACKAGE 170W SUPPLY AIR	1
10023315	FAN PACKAGE 170W EXTRACT AIR	1
10026631	FAN RAIL PACKAGE PANDION	1

Code	Description	Pcs.
10024053	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA→ EWIND	

Automation

40030936	PCB support KGLS-6S	4
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 0,75mm ²	1
40028773	Wire 340mm orange 0,75mm ²	5
40028774	Wire 255mm 1mm ² black	1
40028779	Wire 255mm 1mm ² blue	1
40031094	eWind main board	1
40029195	Power supply Tufvassons PSLR24	1
40028788	Ground wire 100mm	1
40029341	Terminal SL 4/15	1
40029343	Terminal ES 15 PA	1
40029340	Terminal SRK 2,5/15 PA	2
40029330	PMC SB 5/50 So ERDE	1
40029329	PMC SB 5/50 So L	1
40029327	PMC SB 5/50 FW N	1
40029647	Automation base	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
40029982	WaGo 221-415	4
40031530	Screw ZN 4,2x25	5
40028774	Wire 255mm 1mm ² black	3
40028779	Wire 255mm 1mm ² blue	2
40028780	Wire 600mm 1mm ² black	1
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
40031115	eWind panel package	1
40030313	Triac cable 1000mm 4-pole	1
40034288	WiFi module package	1

Manuals etc. (depends on model)

eWind installation manual	1
eWind user manual	1
eWind electrical diagrams	1

Notes: