

Automation upgrade

Pelican EDA -> eWind

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).



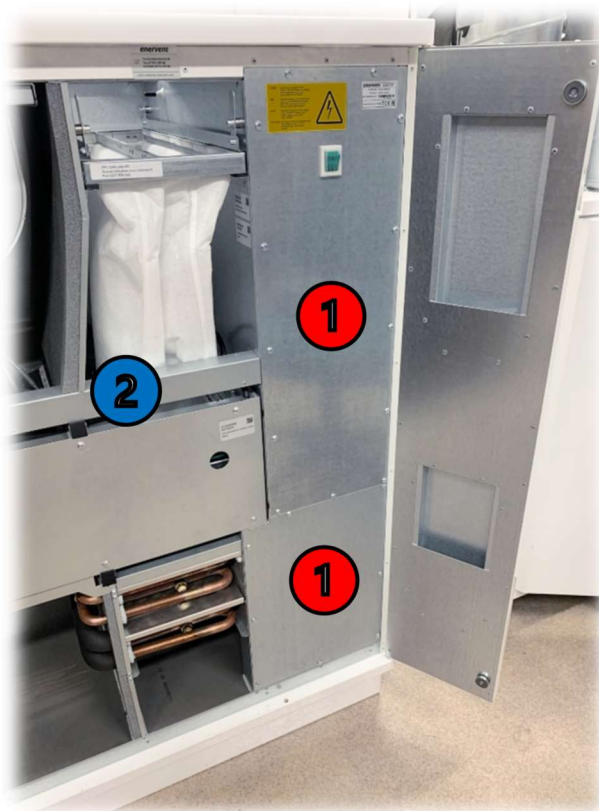
Open the service door by turning **the handle (3)**.



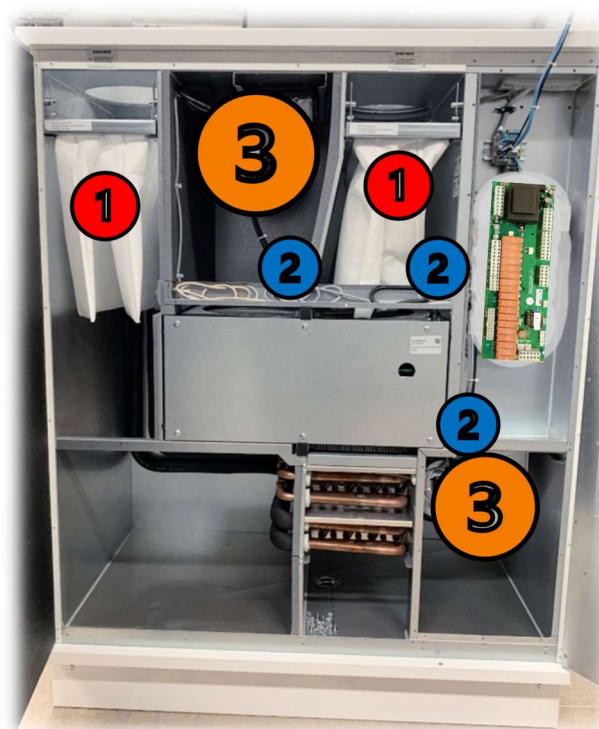
Remove **the cover to the electrical box (1)** and **the supply air fan chamber (1)** by removing the screws.

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

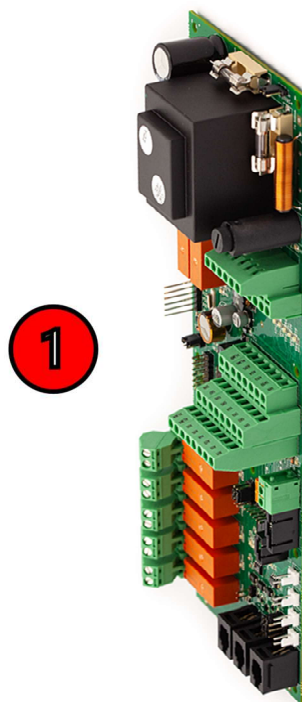
Remove **the POP rivets** from **the cable rail (2)** by drilling, and remove the cover.



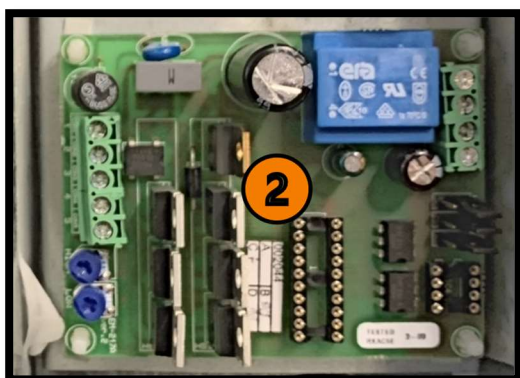
Remove **the filters (1)** by pulling.
Disconnect **the connectors (2)**.
Remove **the fans (3)**.



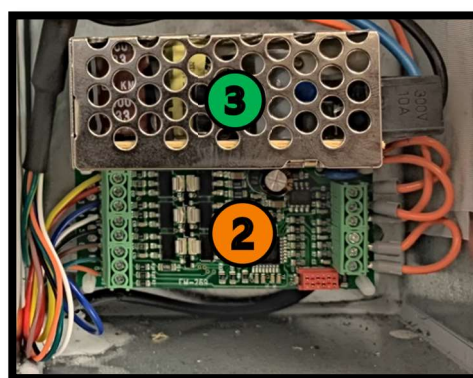
Mark all wires/sensors according to the marking on the main board and disconnect them from **the EDA main board (1)**.



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.

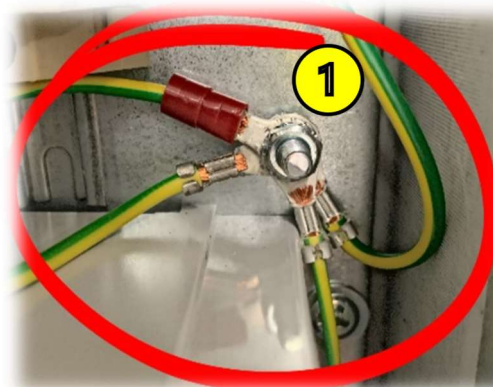


AC HRW circuit board.



DC HRW circuit board.

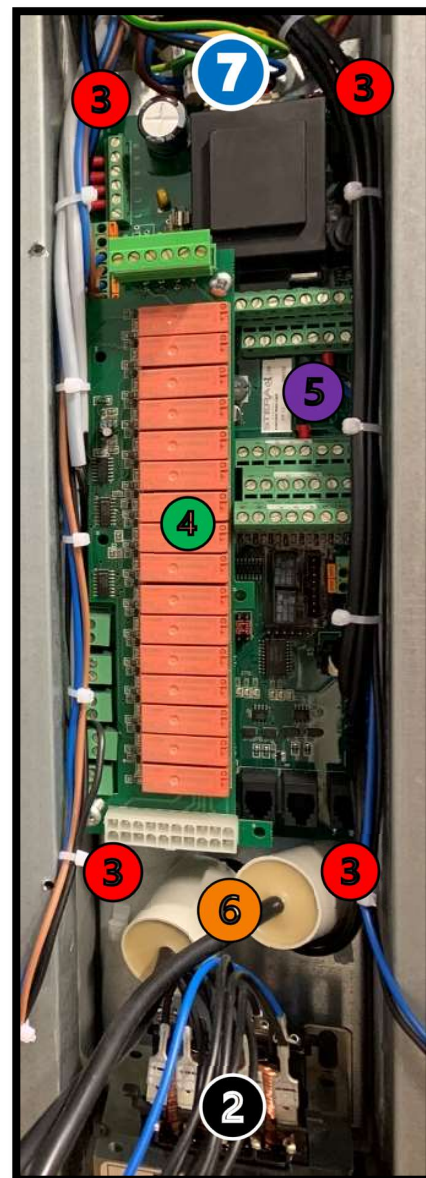
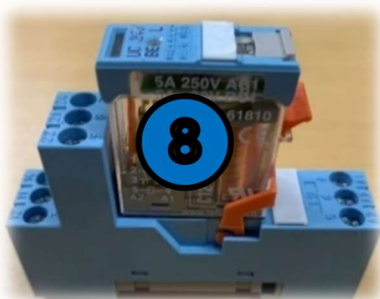
Disconnect **all ground wires (1)** from the automation base ground point.



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 withh the new delivered one.

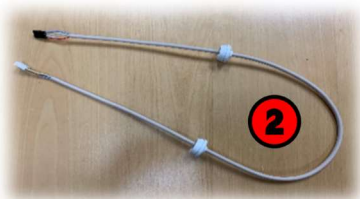


NOTE! If there was a blue relay installed;

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;

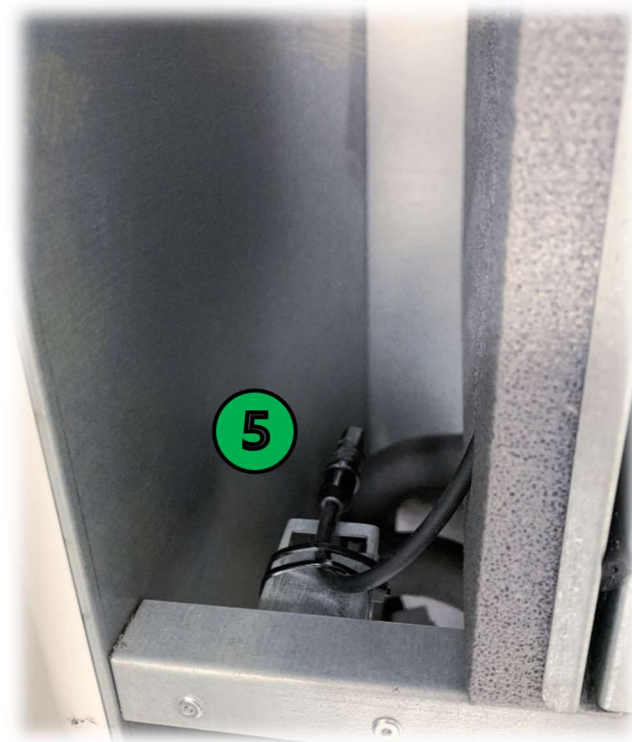
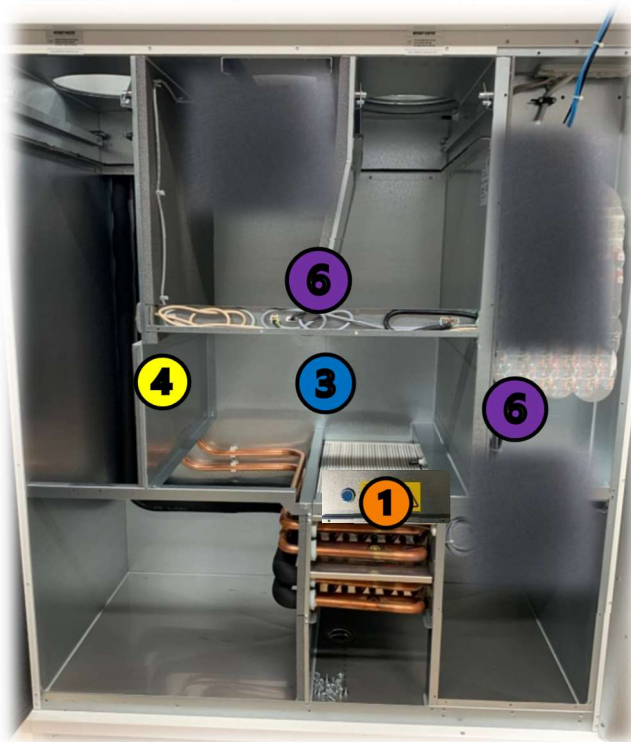
Open **the after heater (1)** (four screws).
Remove the old triac control cable and install **the new triac control cable (2)** (40030313).
Install the other end of the triac control cable into the electrical box.



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

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

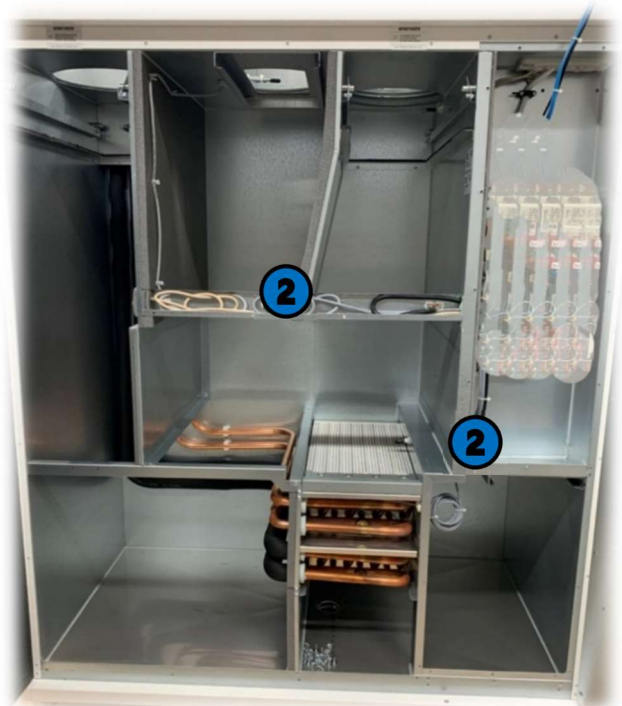
Install **the new extract air sensor (5)** (40029225) and attach it with **cable ties** (40030997) on top of the old sensor.
The old sensor won't be used anymore.



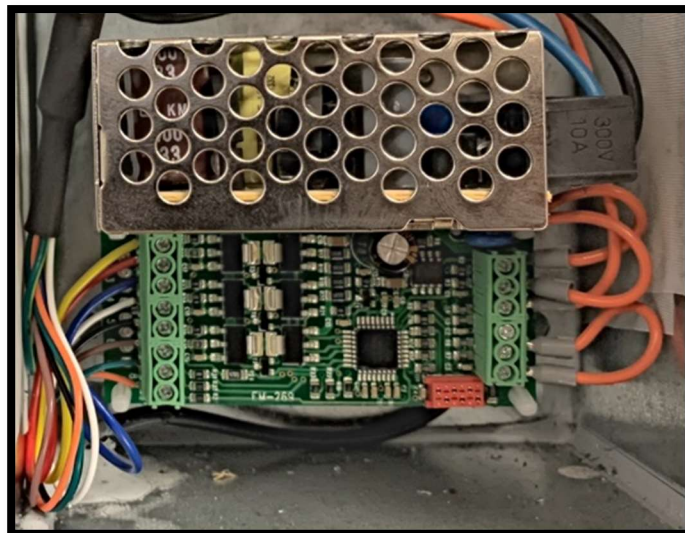
Cut a gap in the insulation and install the extract air sensor cable into **the gap (1)** and through the cable rail into the electrical box.



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).

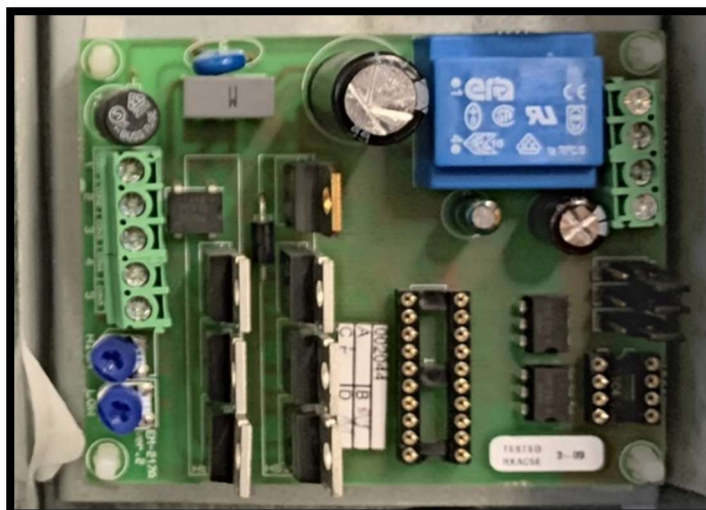


If the unit has a DC HRW installed, jump to page 13.

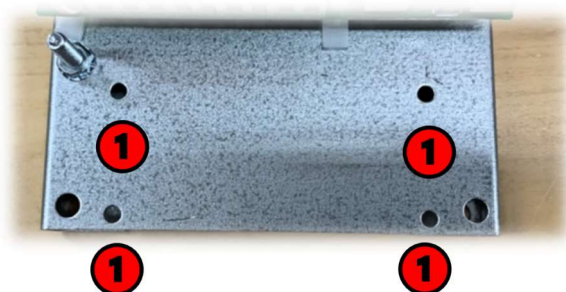


If the unit has an AC HRW installed, follow the instructions on the next page.

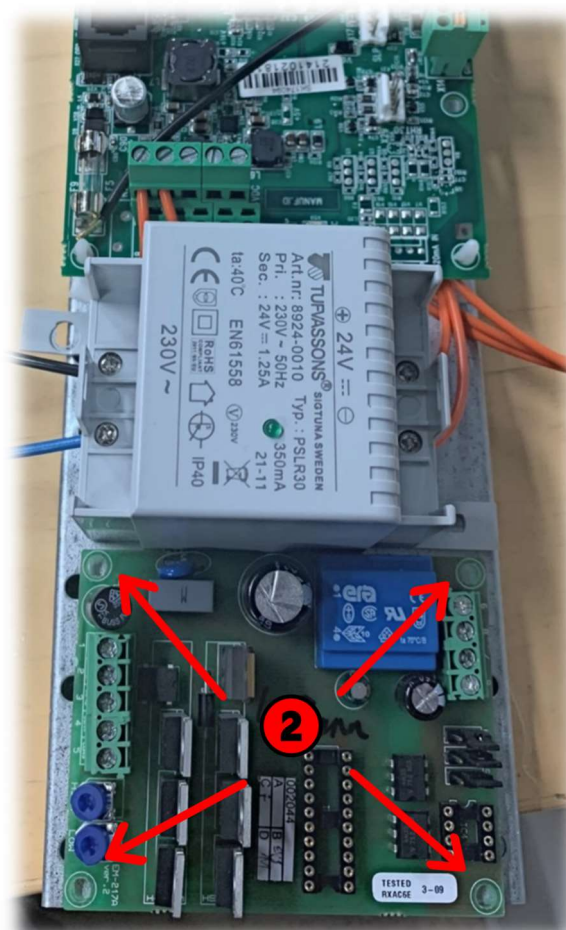
If the AC HRW control board is installed separately in the electrical box, there is no need to move it physically. Just connect it like advised (page 12, 21).



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

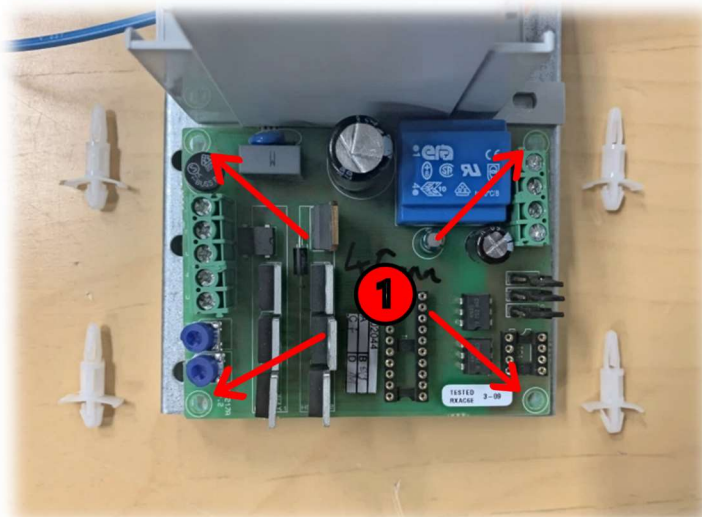


Mark **the holes (2)** to the automation base, and drill 4 pcs. 4,5mm holes according to the markings.

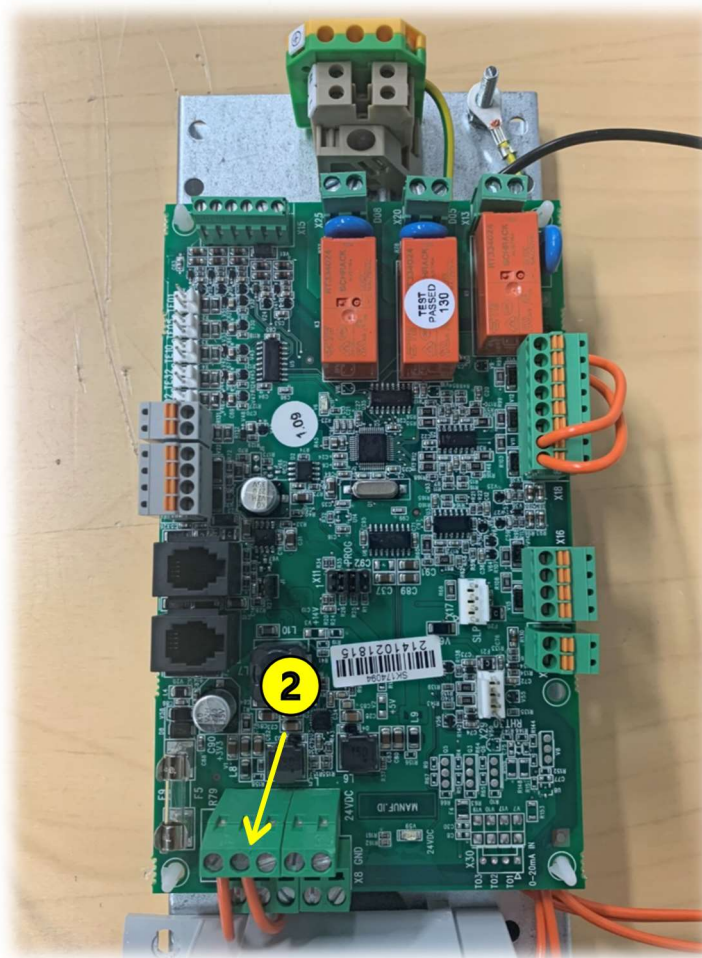


Install **the new PCB supports** (40030936) **into the drilled holes (1).**

Attach the AC HRW circuit board to the PCB supports.



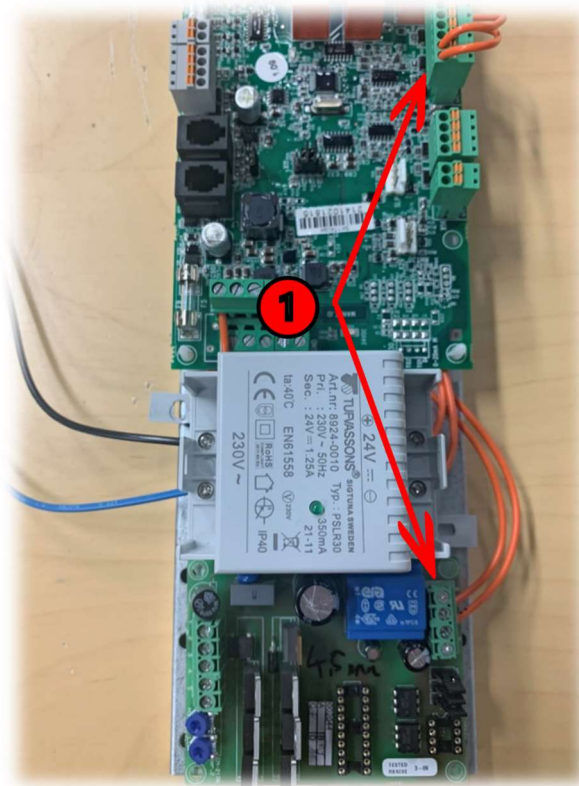
Disconnect and remove **the possible extra wire (2).**



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

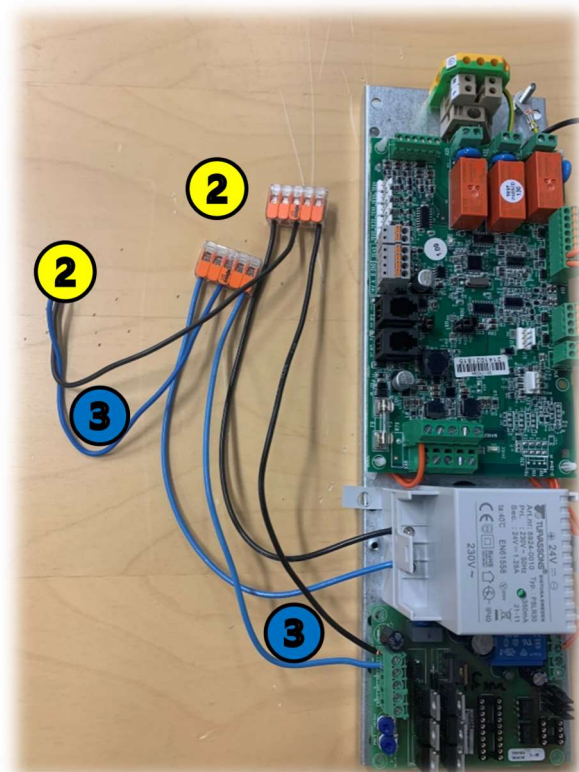


Install **the connection terminals (2)** (40029982) to the wires and the transformer. Two for "L" and two for "N".

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

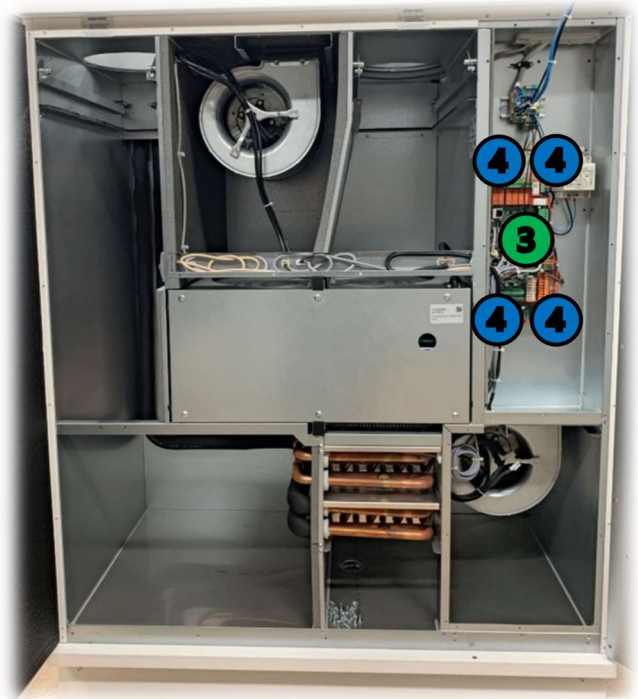
1: Black (L)

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)**.

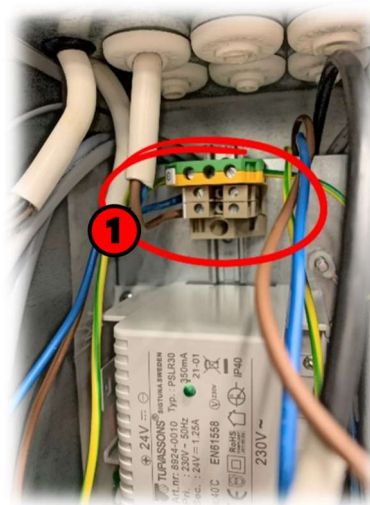


Connect **the main power cable to the terminals (1)**.

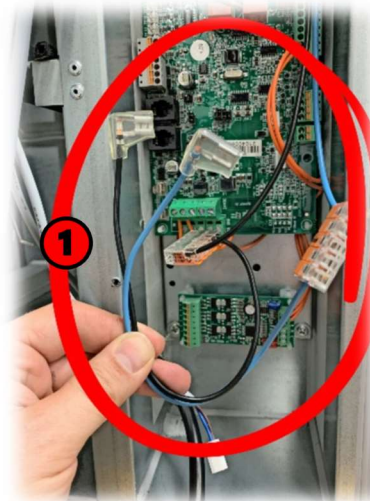
L: Brown

GND: Green/yellow

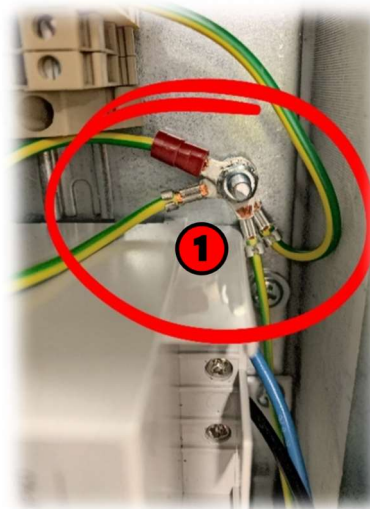
N: Blue



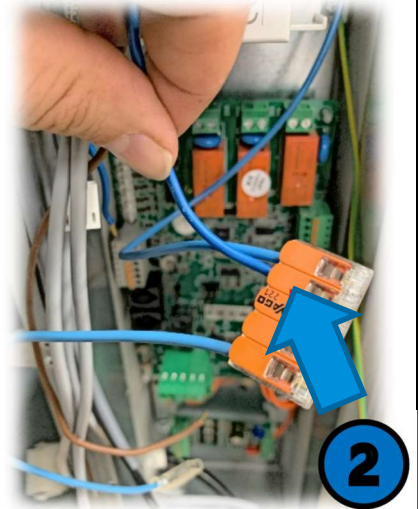
Connect one pair of **the main switch wires to the connection terminals (1)** (40029982).



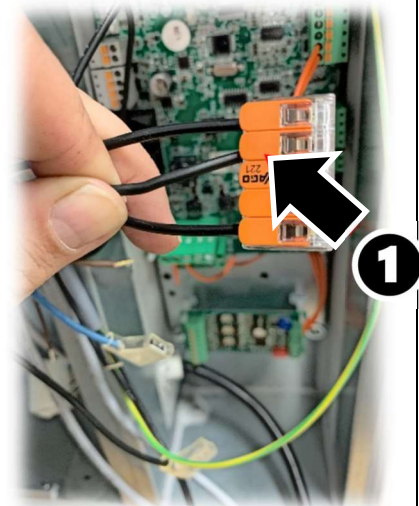
Connect **all ground wires to the automation base ground point (1)**. Ground terminal, (HRW), (after heater), supply air fan, extract air fan. Tighten with **the nut** (40031489).



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).



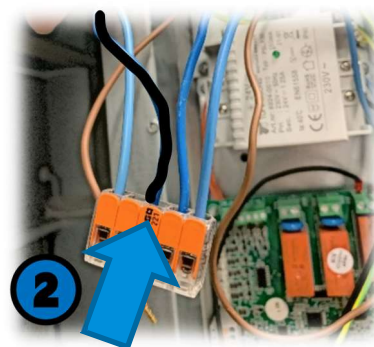
Connect **the same black wire** (40028774) to **"DO2" (2)** on the main board.



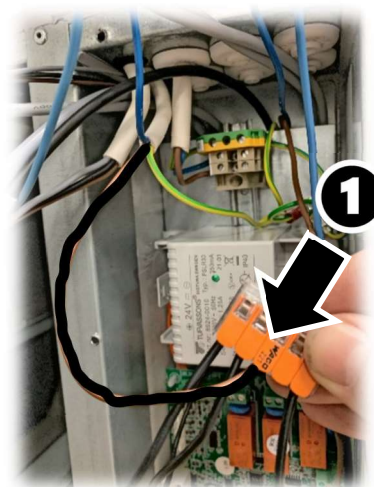
Connect **the brown wire** from the electrical after heater to **"DO2" (2)**.
*If there is a water coil after heater installed,
 the circulation pump power wire (L) would be connected here.*



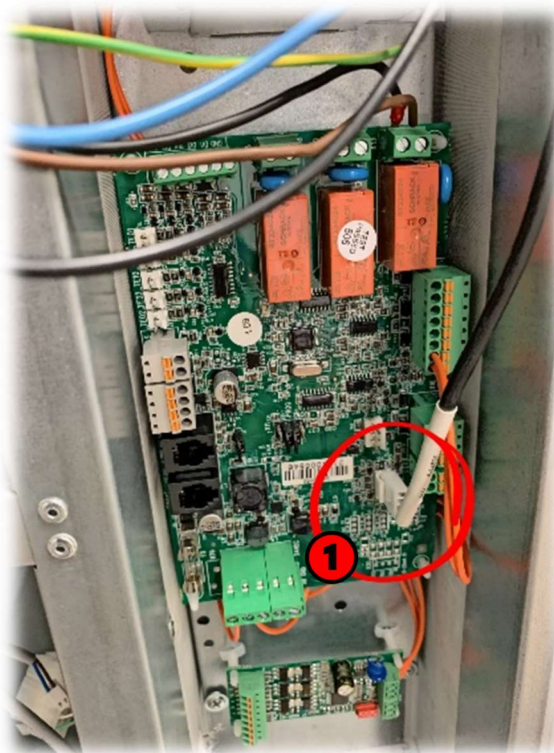
Connect **the wires marked "2"** from the fan power cables to **the blue connection terminal (2)** (40029982).



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

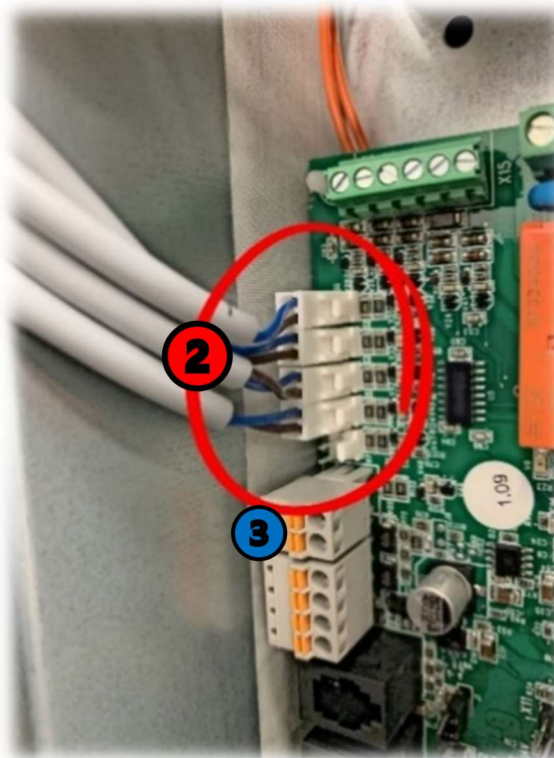
TE05: HRW supply air

TE10: Supply air

TE32: Waste air

X12, TE45: Return water sensor (3)

if the unit has a water coil after heater installed.

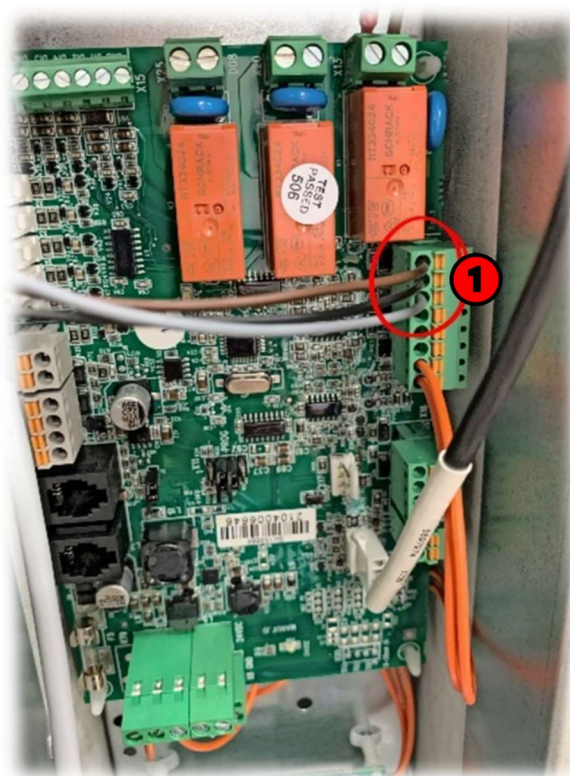


Connect **the wires from the supply air fan control cable (1)** (40028784) to the main board.

AO1: Brown

GND: Black

DI11: Gray

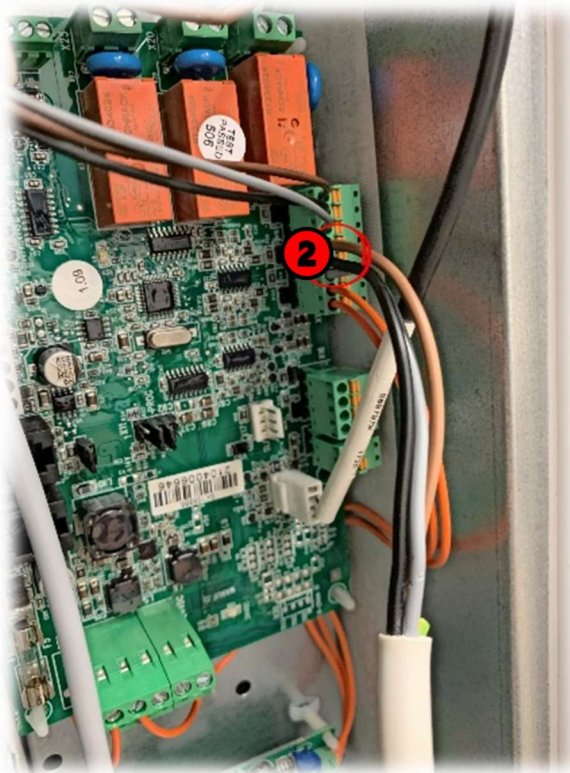


Connect **the wires from the extract air fan control cable (2)** (40028785) to the main board.

AO2: Brown

GND: Black

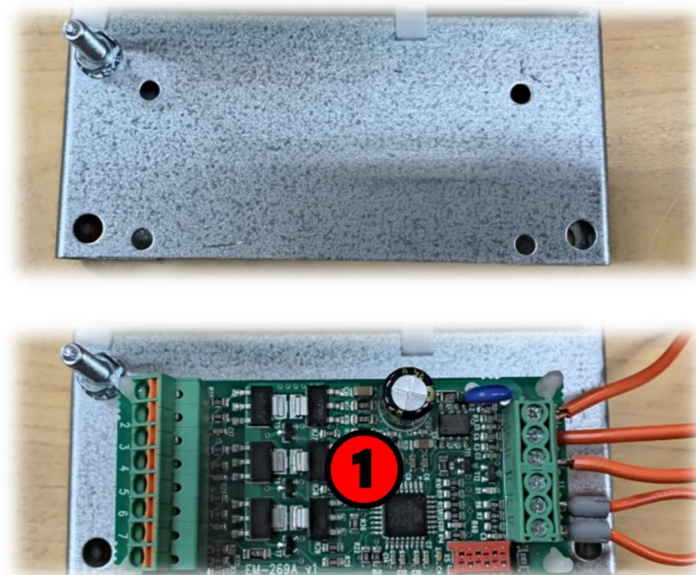
DI12: Gray



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 30**).

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

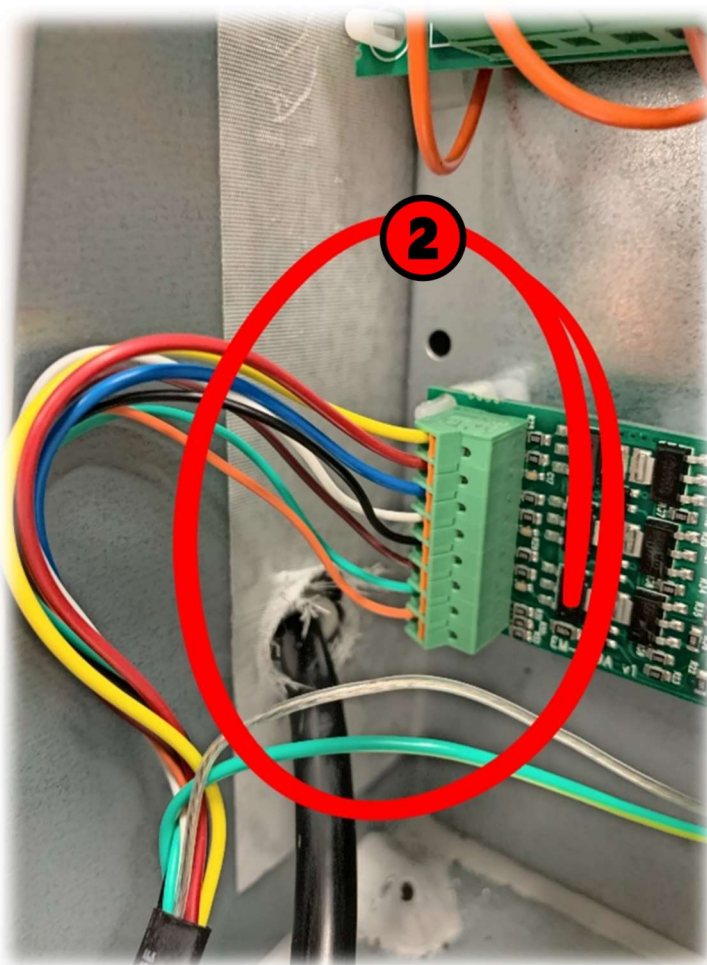
4: White

5: Black

6: Brown

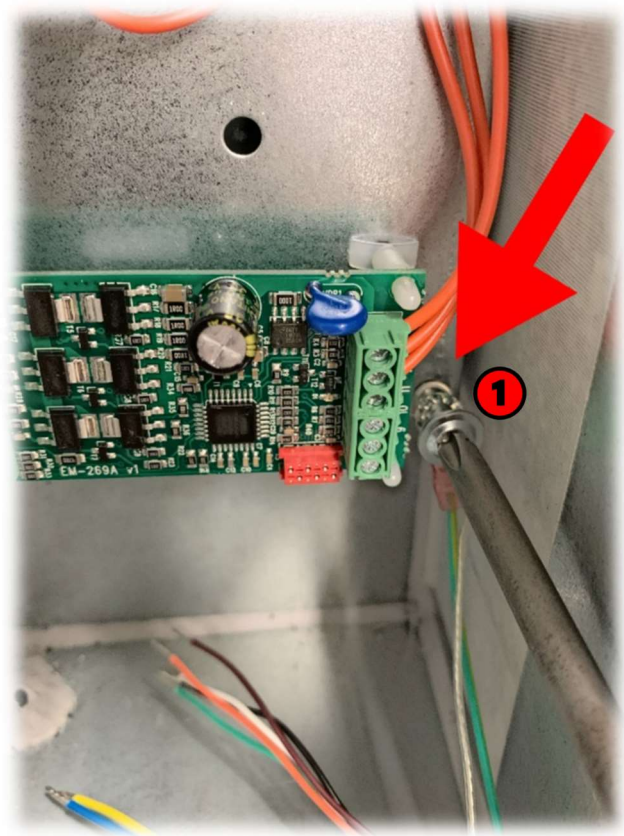
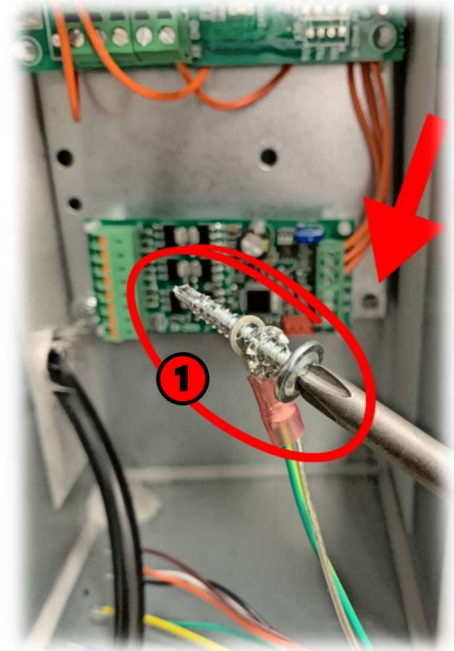
7: Green

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.

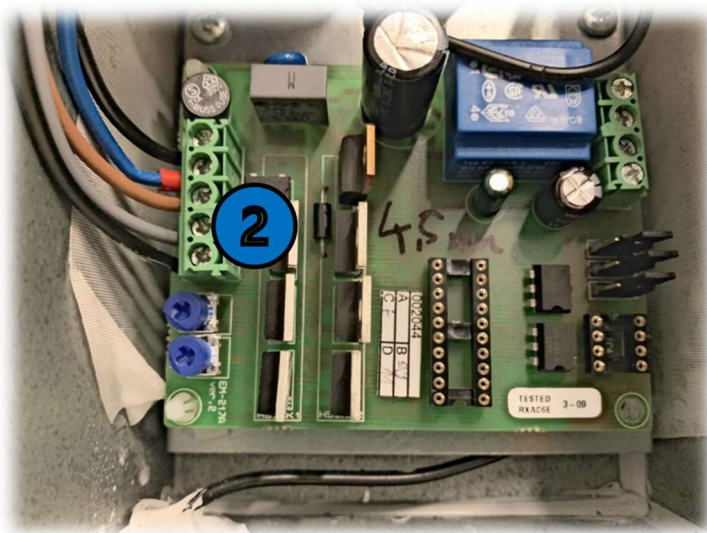
If AC HRW:

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

3: Brown / (1)

4: Gray / (2)

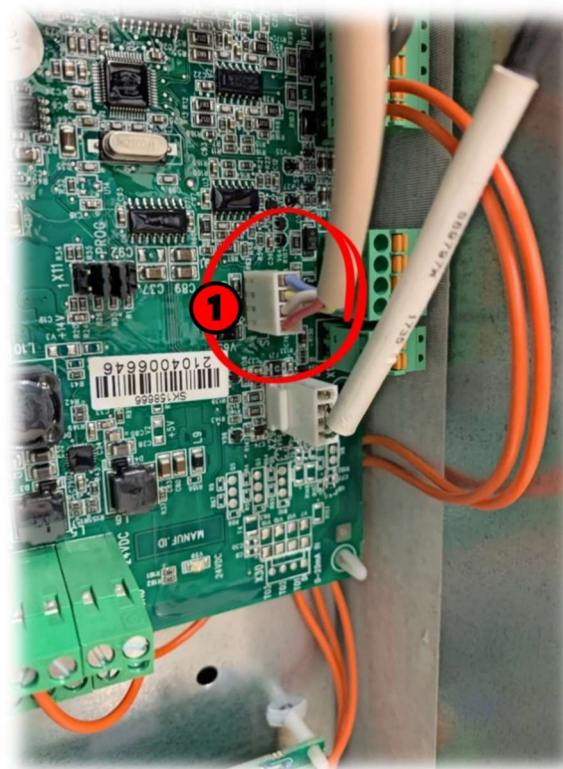
5: Black / (3)



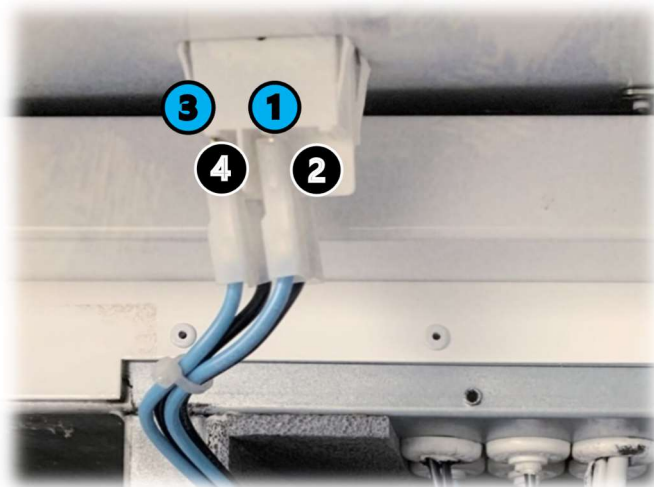
Connect *the after heater control cable (1)* to the main board (X17).

Ignore if the unit has a water coil after heater installed.

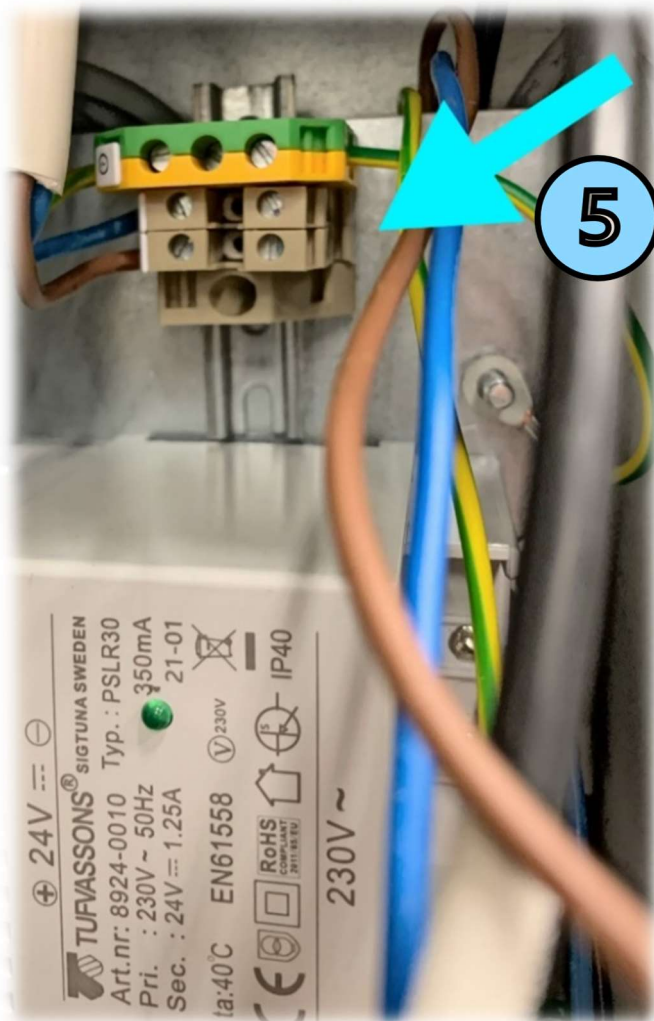
Connect other components (for example actuator for cooling coil or water coil after heater) according to the electrical diagrams (pages 29-32).



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

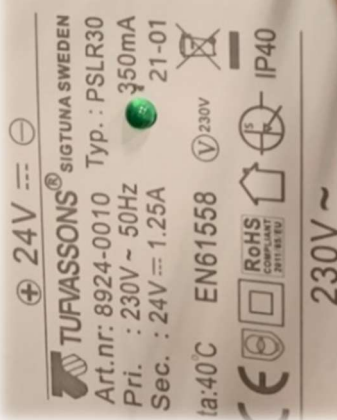


Connect **the other pair of main switch wires (3, 4)** to **the main switch**, and to **the terminals (5)**.



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

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



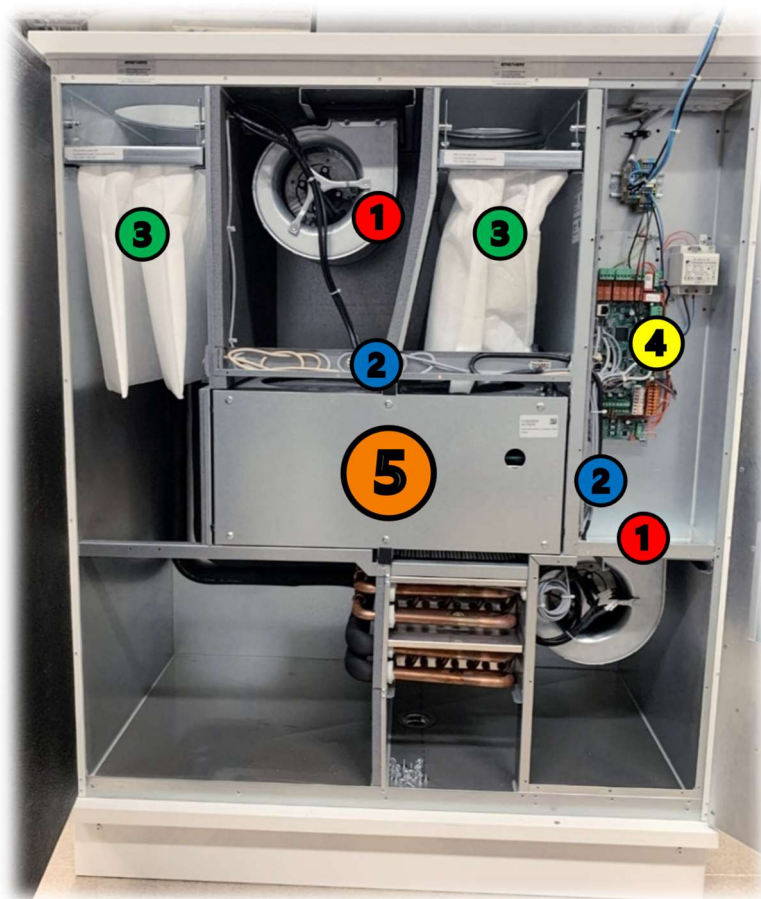
Install **the new fans (1)** (10023149) and the locking parts.

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)** (40031115) in a desired place.



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

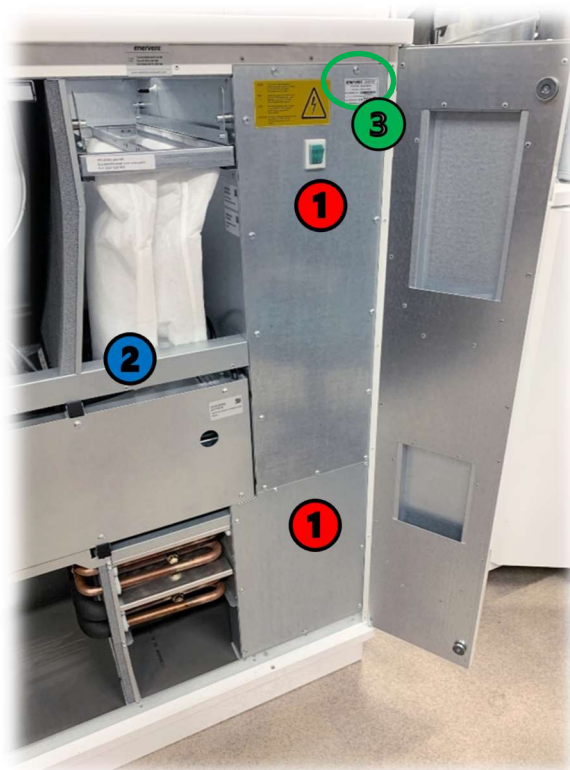


Attach the cover to **the electrical box (1)**
and **the supply air fan chamber (1)**.

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

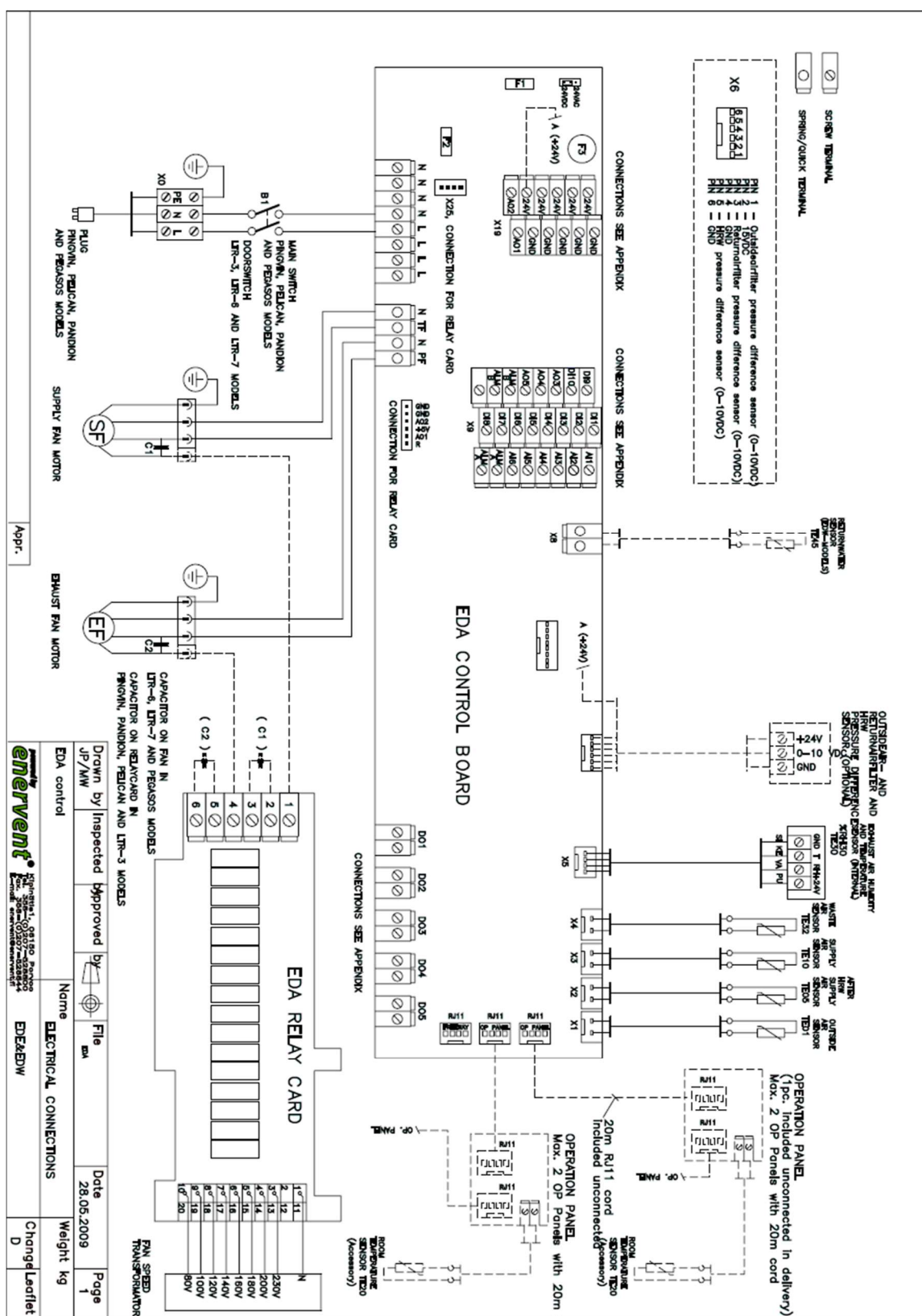
Install **the new type plate sticker (3)**.

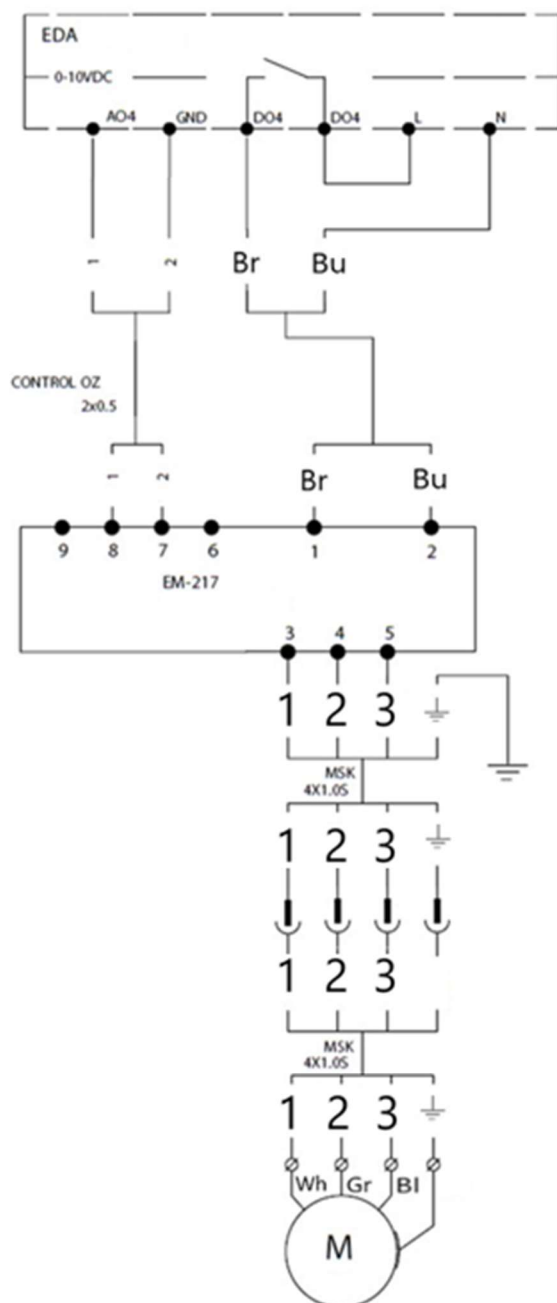
Close the service door.



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

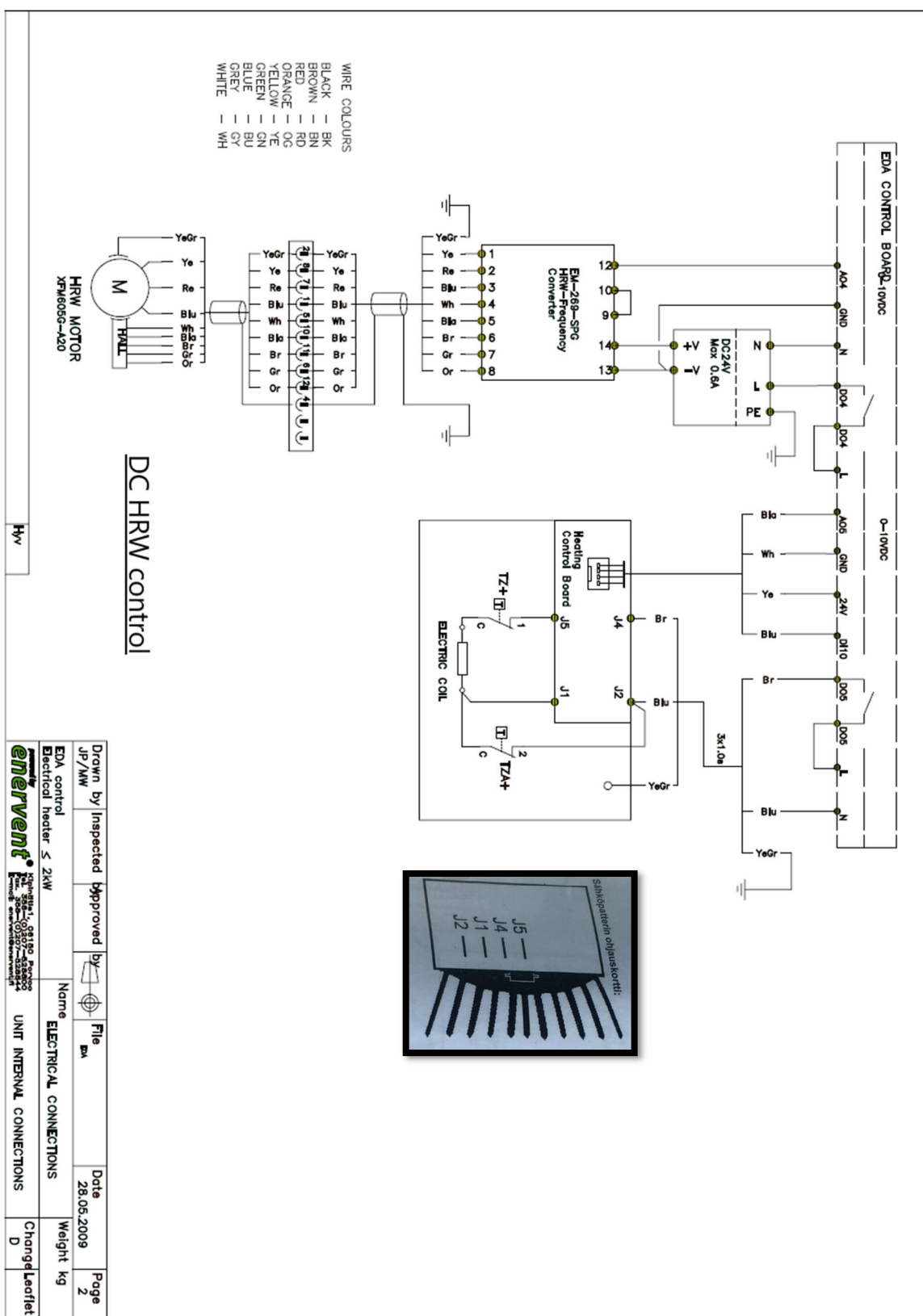




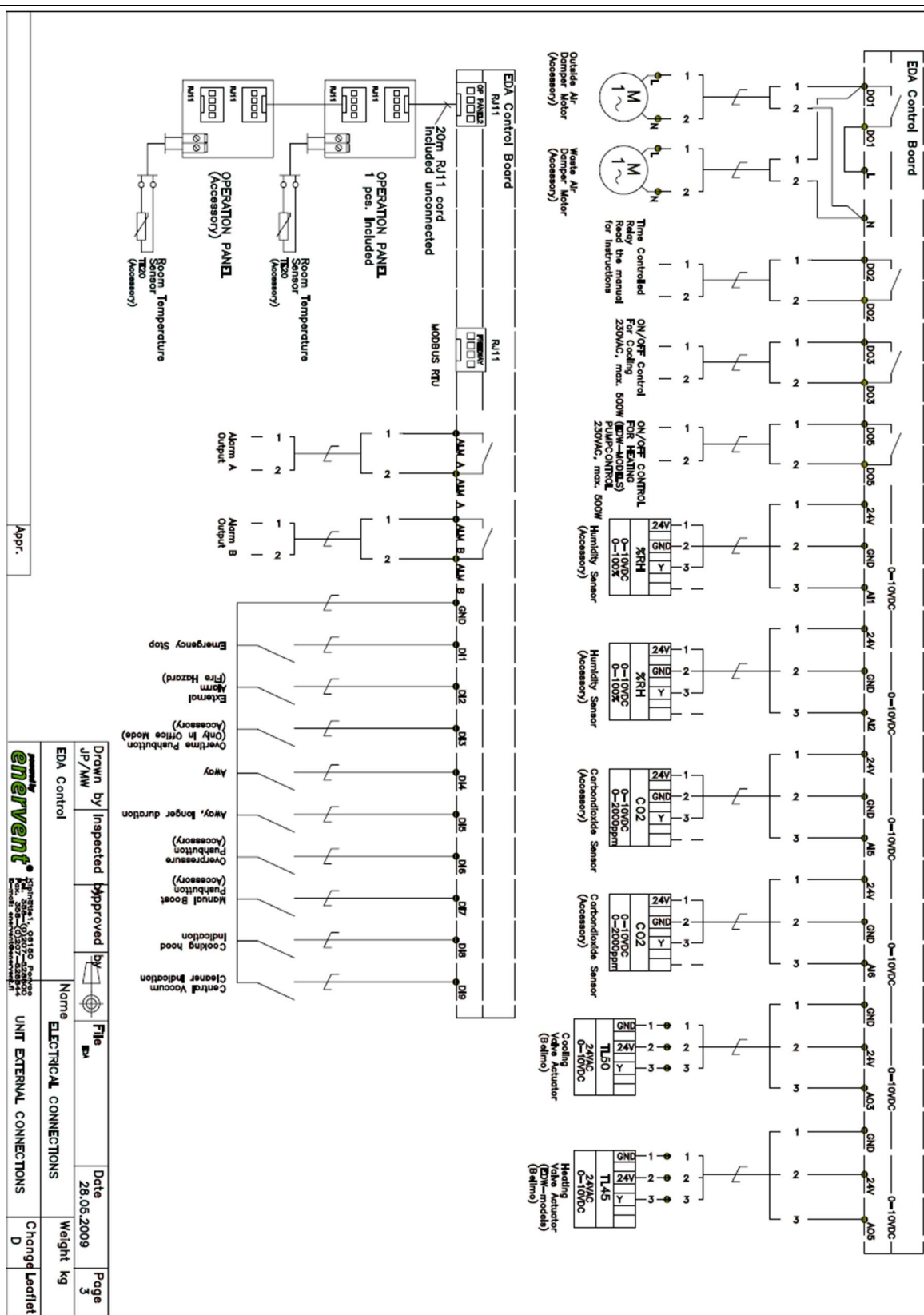


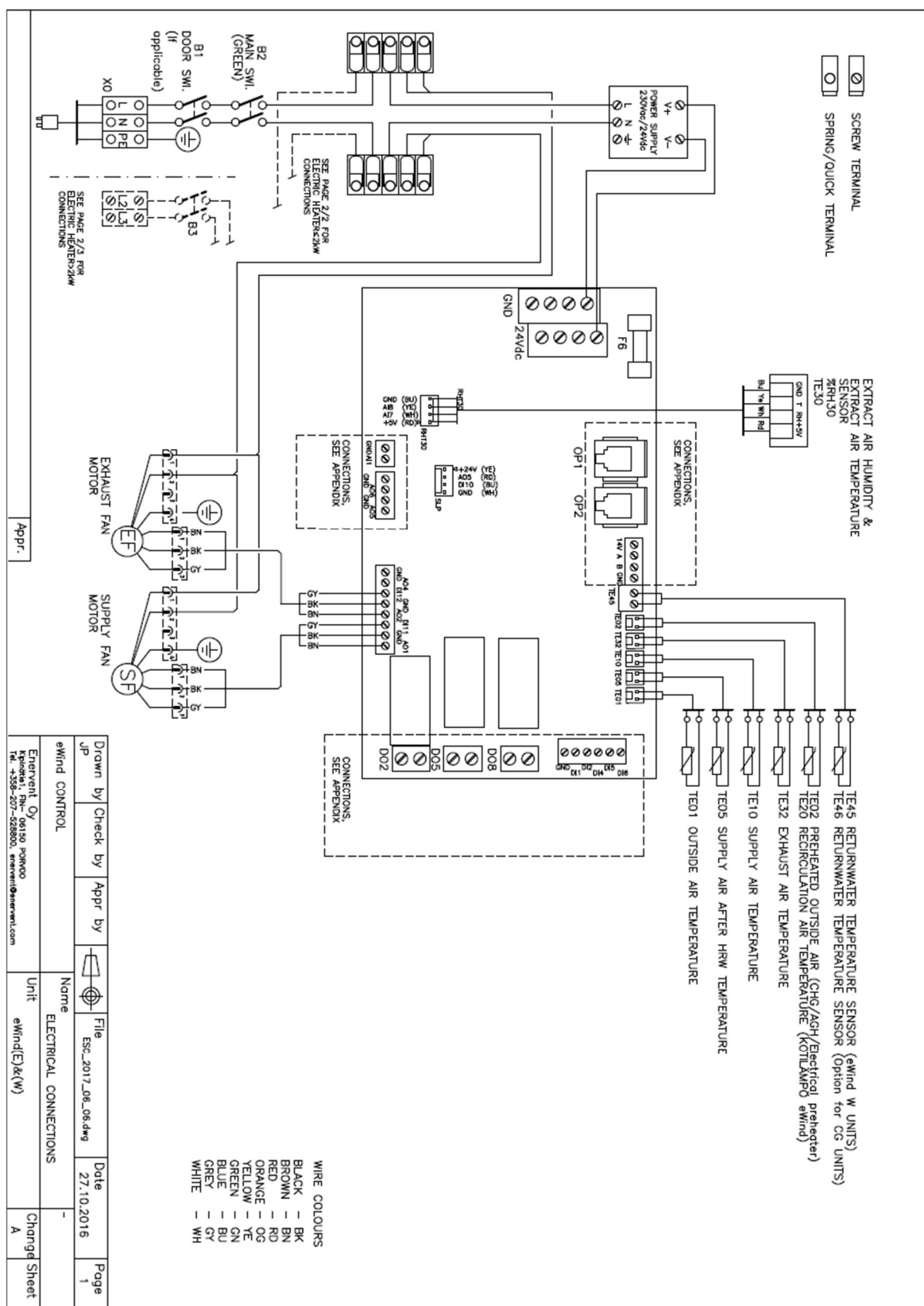
Bl: Black
 Bu: Blue
 Br: Brown
 Wh: White
 Gr: Gray

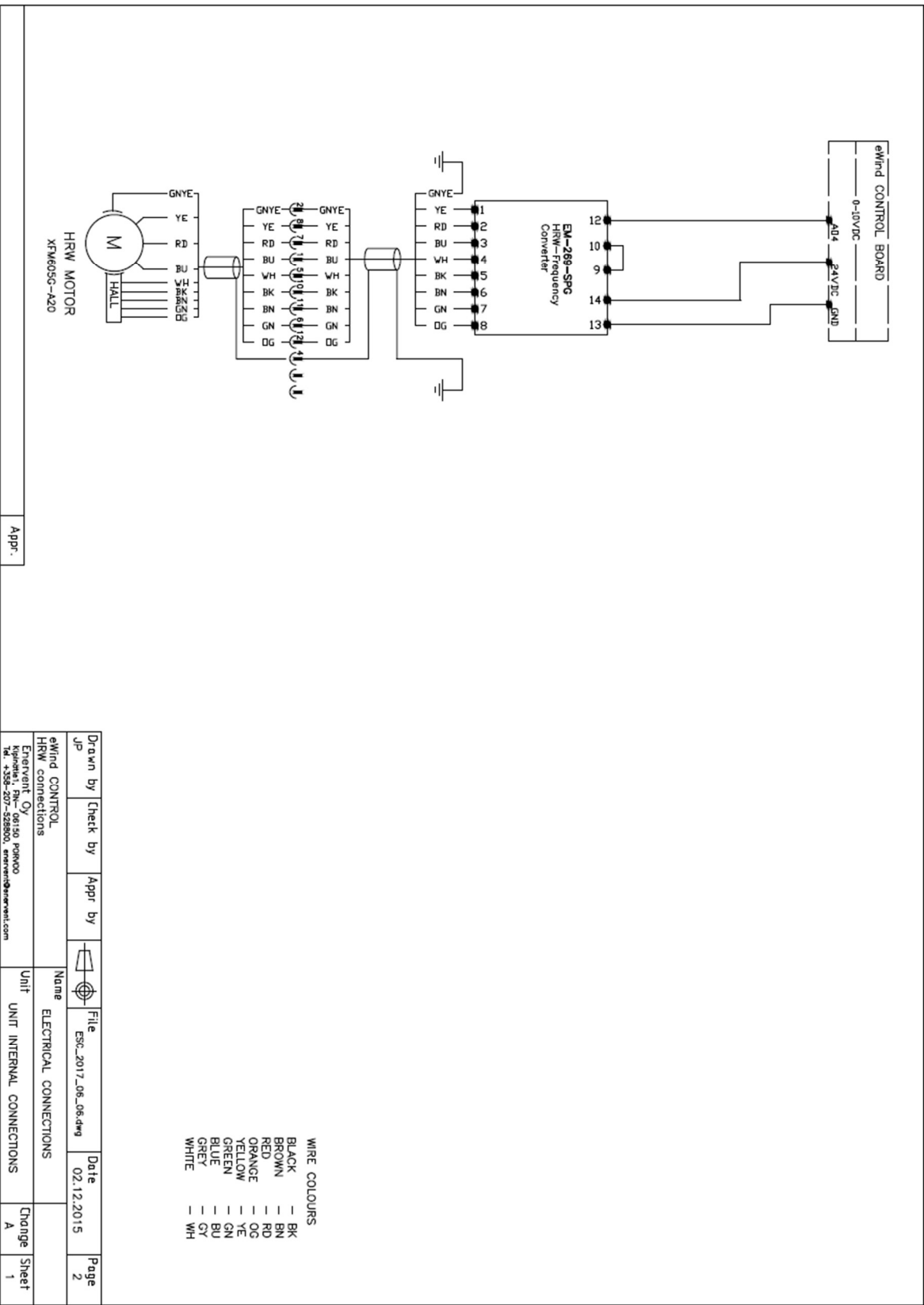
HRW MOTOR

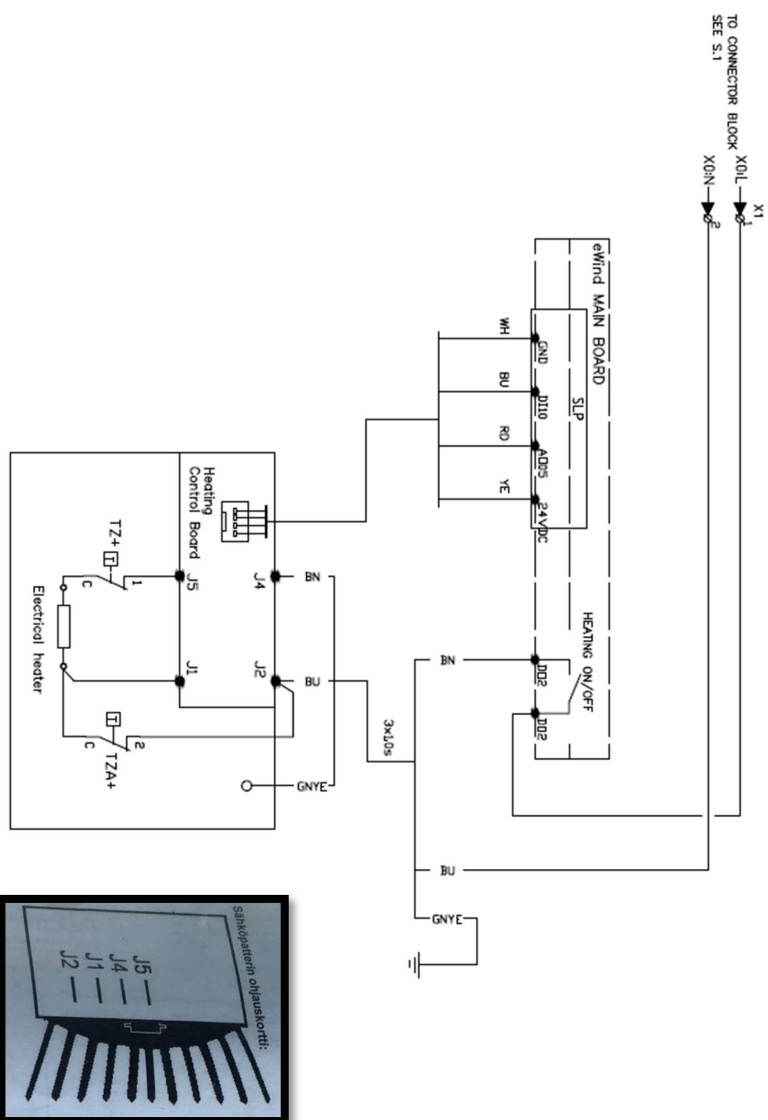


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JP/MW			BA	28.05.2009	2
ELECTRICAL CONNECTIONS					
UNIT INTERNAL CONNECTIONS					
Change Leaflet					



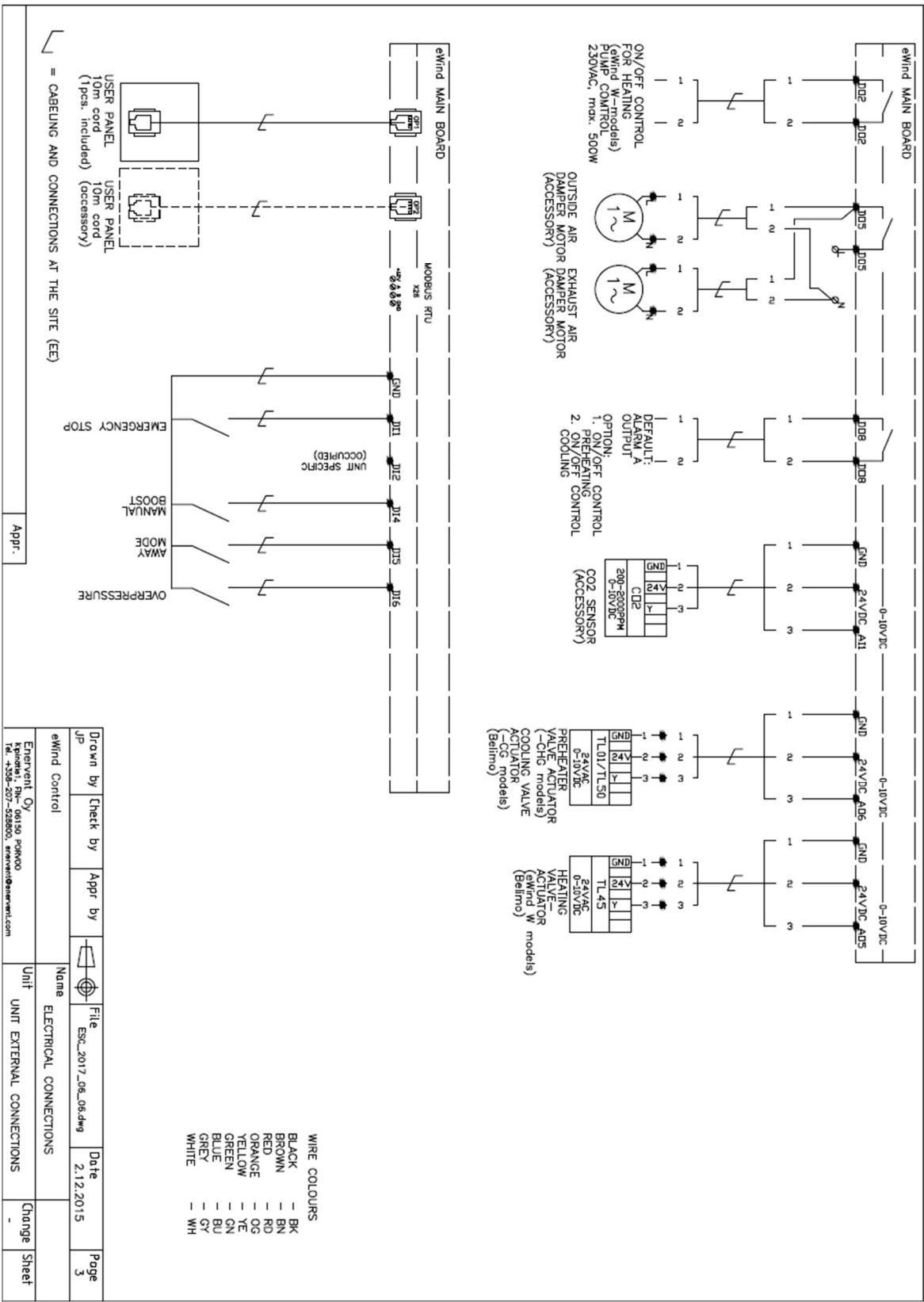






WIRE COLOURS	
BLACK	BK
BROWN	BN
RED	RD
ORANGE	OG
YELLOW	YE
GREEN	GN
BLUE	BU
GREY	GY
WHITE	WH

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JP				ESC_2017_06_06.dwg	02.12.2015	3
eWind Control Electrical heater ≤ 2kW			Name	ELECTRICAL CONNECTIONS		
Energent Oy Koponen1, FIN- 06150 PORVOO Tel. +358-207-522800, energent@energent.com			Unit	INTERNAL CONNECTIONS		
			Change	Sheet		
Appr.			-	1		



MANDATORY PARTS

10024053	CONTROL UPDATE KIT PAN/PEL/PEG(XL) EDA → EWIND	1
10023149	FAN PACKAGE 170W	2

OPTIONAL PARTS

10023263	ELECTRICAL HEATER 2kW	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
10023149	FAN PACKAGE 170W	2

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 0,75mm2	1
40028773	Wire 340mm orange 0,75mm2	5
40028774	Wire 255mm 1mm2 black	1
40028779	Wire 255mm 1mm2 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 1mm2 black	3
40028779	Wire 255mm 1mm2 blue	2
40028780	Wire 600mm 1mm2 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: