HUOLTO OHJE REVISIO: B
20.9.2024
Oscar Husman

Automation upgrade

Plaza / Piccolo ON ECC -> eWind

NOTE (Piccolo ON)!

Fan speed 3 will be used as PDC-mode in the automation.

Parameters:

c10: 83

c11: 80

c12: 0 (PDC)

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!

Table of contents

Disconnect ***the power supply (1)***.

Open the service door by releasing ***four screws (2)***.

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

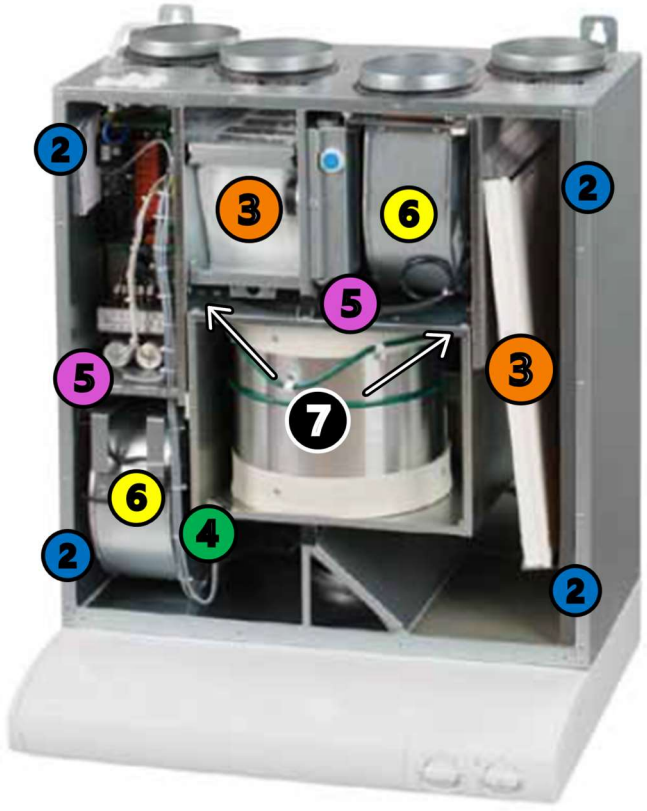
Remove ***the filters (3)*** by pulling.

Disconnect ***the HRW connector (4)***.

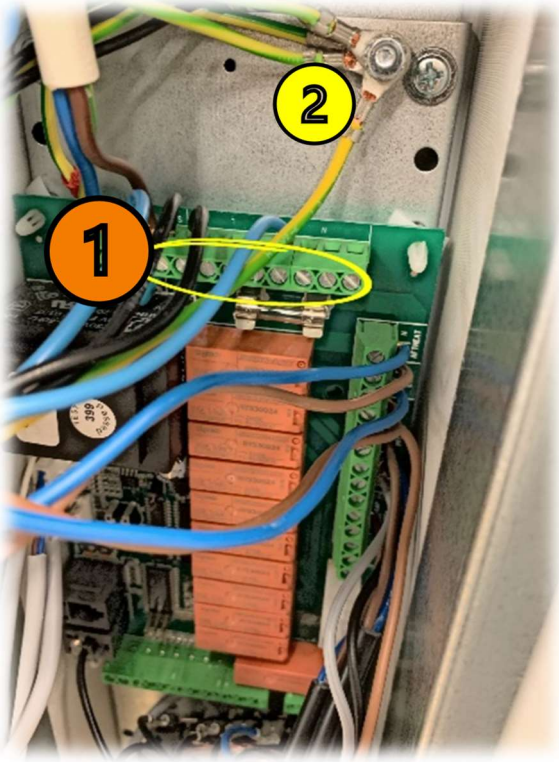
Disconnect ***the fan connectors (5)***.

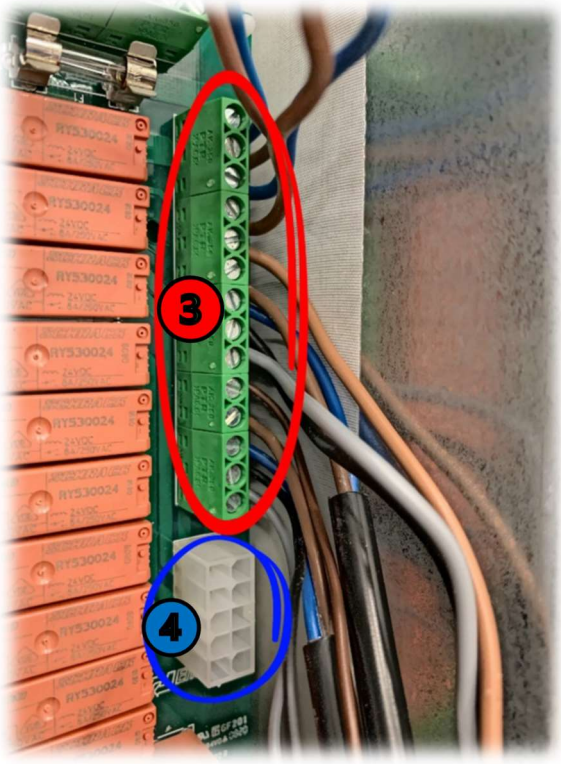
Remove ***the fans (6)*** by pulling.

Release ***the screws*** and remove ***the HRW (7)*** by pulling.



Disconnect ***the power supply cable (1)***.
Disconnect ***all ground wires (2)*** from the ground point.





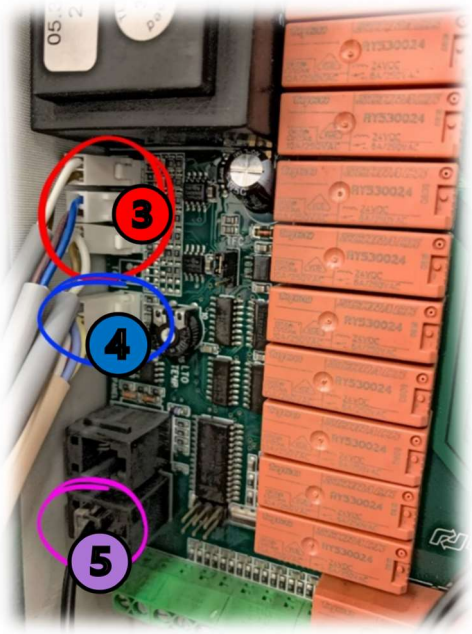
Disconnect ***the wires (3)***.

Disconnect ***the connector (4)***.

Disconnect ***the sensors (3)***.

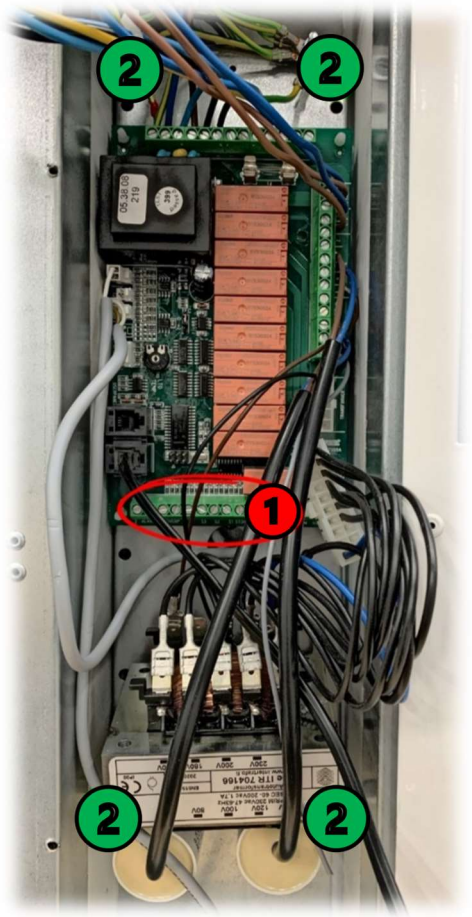
Disconnect ***the connector (4)***.
Ignore if no after heater installed.

Disconnect ***the display cable (5)***.



If there are wires connected ***here (1)***, mark them according to the reading on the mainboard and disconnect.

Release ***the screws (2)*** and remove the automation base incl. main board, capacitors and transformer.



Cut and remove ***the outside air sensor (1)***.
Cut and remove ***the HRW supply air sensor (2)***.

If the unit has an electrical after heater installed; remove the after heater by removing the screws and by pulling, along with the cables (and sensor) connected to ***the after heater (3)***.

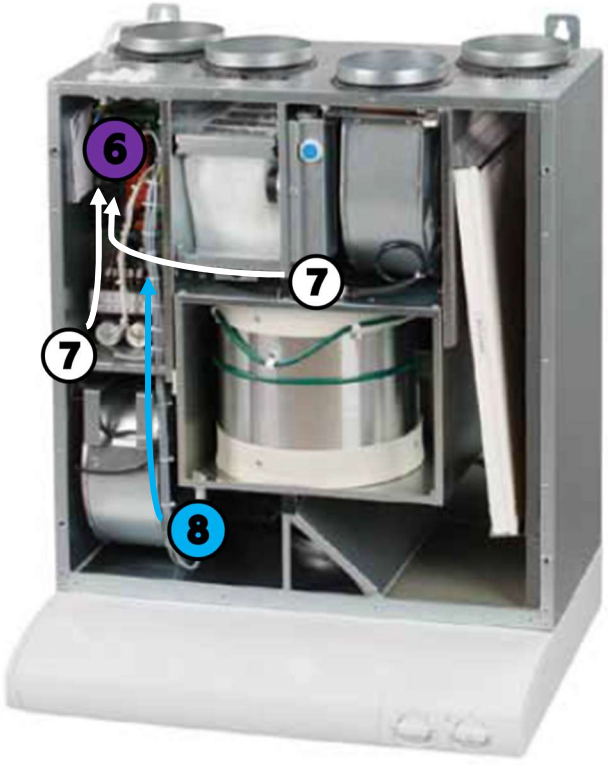
Remove ***the HRW- and fan cables (4)***.

Install ***the new extract air sensor (5)*** *(40029224)* and attach it with cable ties *(40030997)* to the cross support.
Install the extract air sensor cable into ***the electrical box (6)***.

Install ***the new fan cables (7)*** *(40028782, 40028783, 40028784, 40028785)*.

Install ***the new HRW cable (8)*** *(40028725)*.

Install the cables into ***the electrical box (6)***.



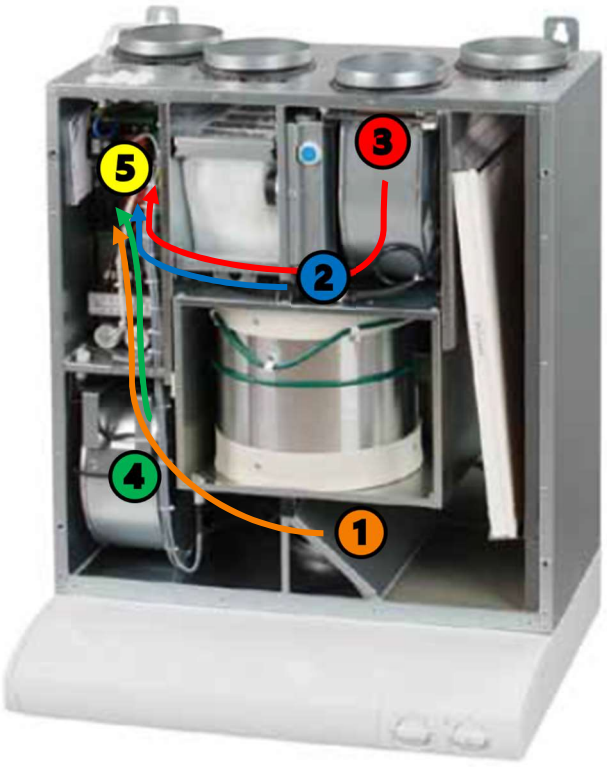
Install ***the new outside air sensor (1) (850mm)*** *(40029165)* and mark it ***"TE01"*** on the connector in the other end.

Install ***the new HRW-supply air sensor (1) (500mm)*** *(40029230)* and mark it ***"TE05"*** on the connector in the other end.

Drill a 15mm hole in the new supply air fan frame ***(as marked) (3)***.
Install a cable sealing *(40030100)* to ***the new supply air sensor (3) (850mm)***.
Attach the sensor to the cable sealing with a cable tie, and install the sensor *(40029165)* in the fan frame.
Mark it ***"TE10"*** on the connector in the other end.

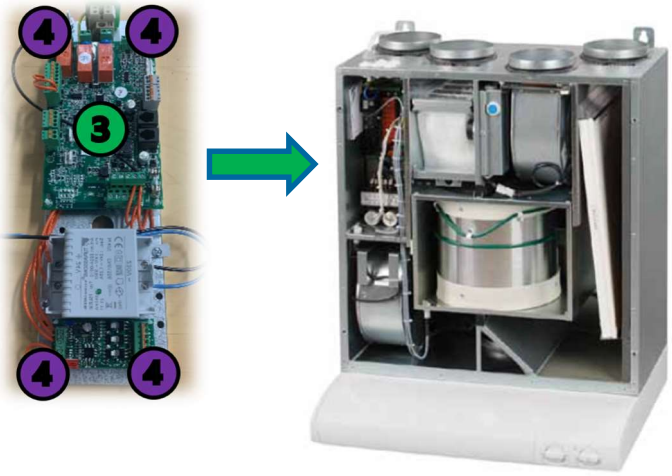
Install ***the new waste air sensor (4) (500mm)*** *(40029230)* and mark it ***"TE32"*** on the connector in the other end.

Install the sensor cables into ***the electrical box (5)***.



Install ***the new electrical after heater (1)*** *(10023882)* in its place and install the cables into the electrical box.

Attach the installed cables to ***the cross support (2)*** with cable ties *(40030997)*.

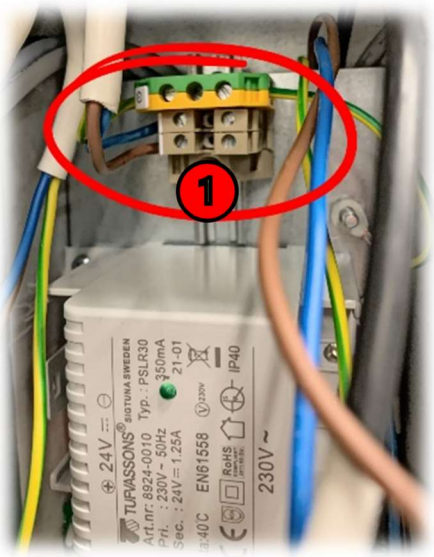


Install ***the new automation (3)*** in the electrical box. Make sure no installed cable / sensor get stuck behind the automation base and that they are available in front of the main board.

Attach the automation base *(40029602)* 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

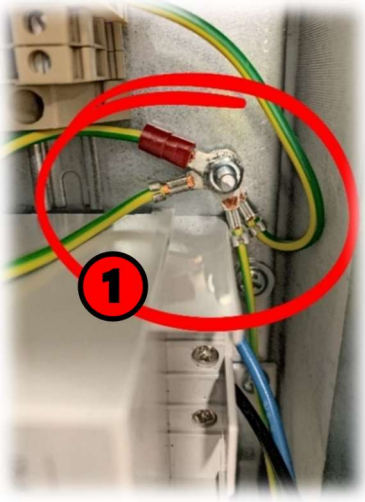


Install ***the connection terminals (2)*** *(40029982)*.

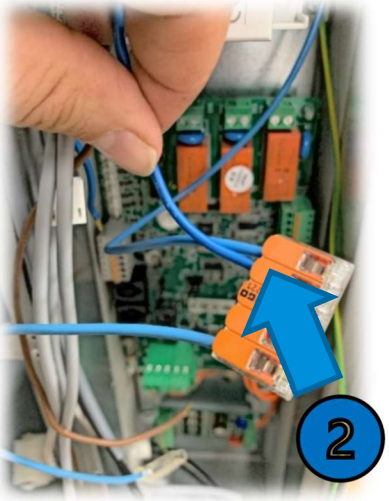
*Plaza: One for "**L**" and one for "**N**".*
*Piccolo ON: Two for "**L**" and two for "**N**".*

Connect ***the wires (3)*** *(40028774 & 40028779)*
between the connection terminals *(40029982)*.

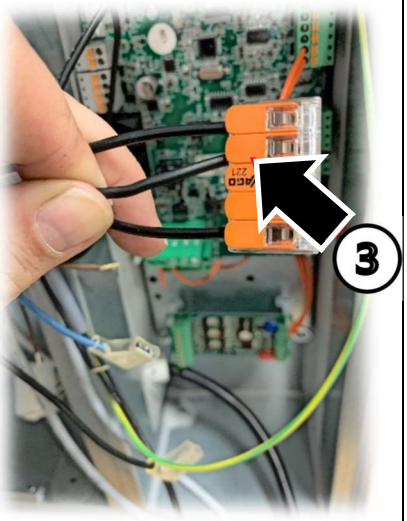
Connect ***all ground wires*** to ***the automation base ground point (1)***.
Tighten with ***the nut*** *(40031489).*



Connect ***the blue wire*** from the electrical
after heater to ***the blue connection terminal (2)***.



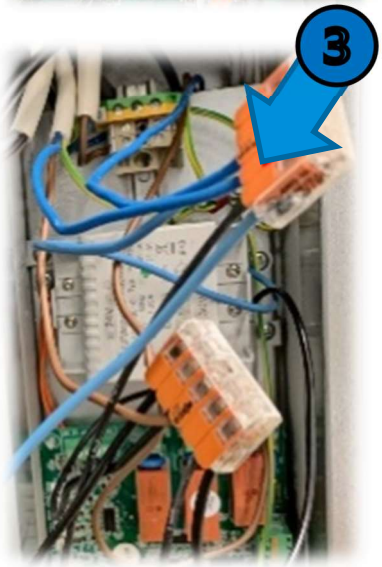
Connect ***the black wire*** (*40028774)*
to ***the black connection terminal (3)*** *(40029982)*.



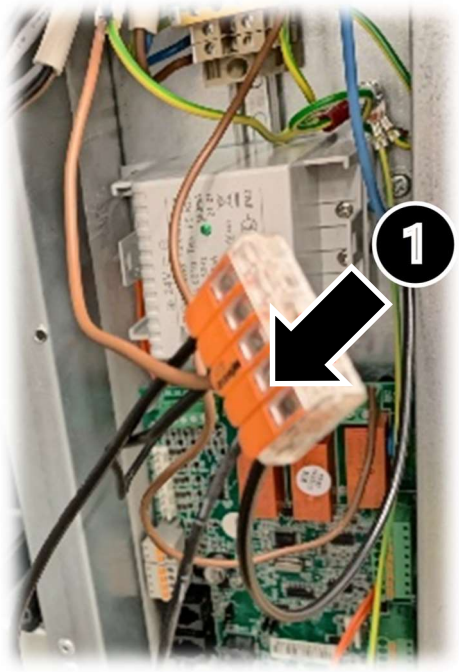
Connect ***the black wire*** (*40028774)* to ***”DO2” (2)*** on the main board.

Connect ***the*** **brown wire** from the electrical after heater to ***”DO2” (2)***.

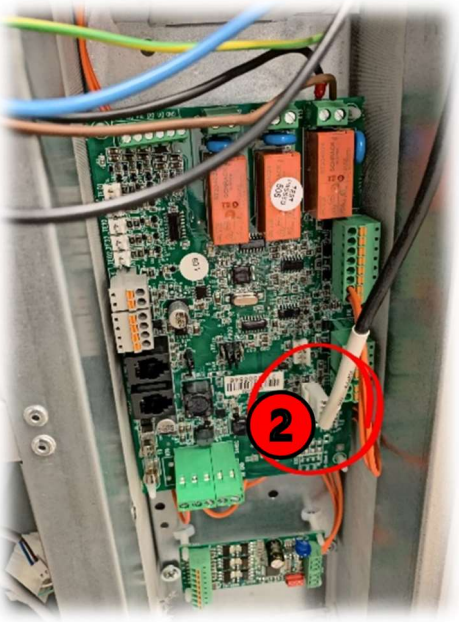
Connect ***the wires marked ”2”*** in the fan power cables
(40028782, 40028783)
to ***the blue connection terminal (2)*** *(40029982)*.



Connect ***the wires marked "1"*** in the fan power cables *(40028782, 40028783)*
to ***the black connection terminal (1)*** *(40029982)*.

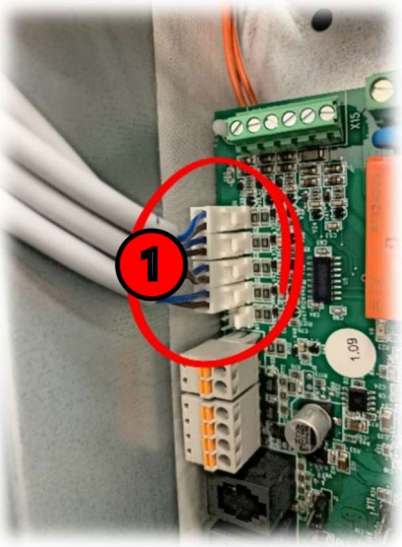


Connect ***the extract air sensor (2)*** *(40029224)* to the main board *(X29)*.



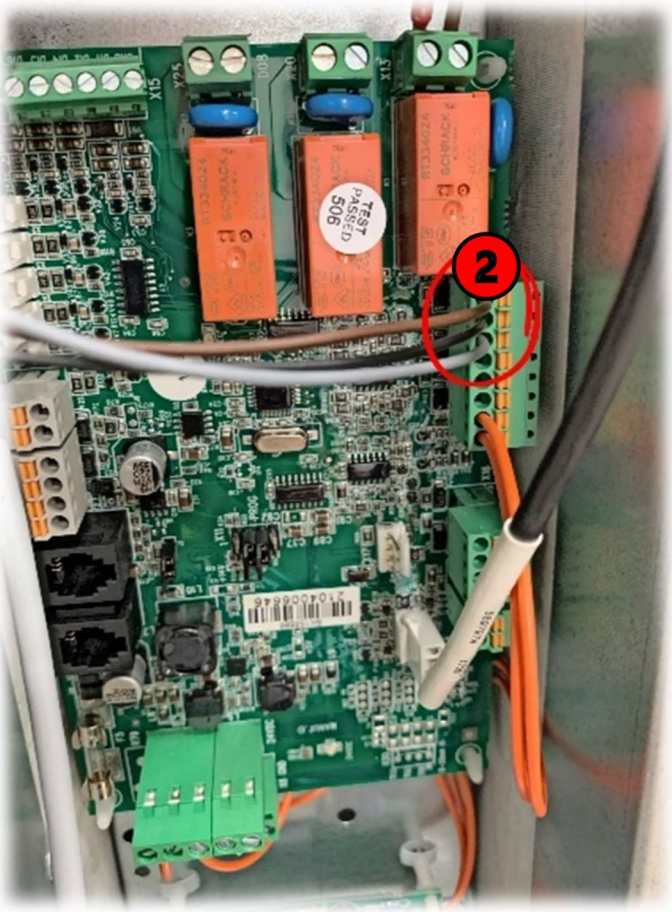
Connect ***the sensors (1)*** to the main board according to the markings.

TE01: Outside air (40029165)
TE05: HRW supply air (40029230)
TE10: Supply air (40029165)
TE32: Waste air (40029230)



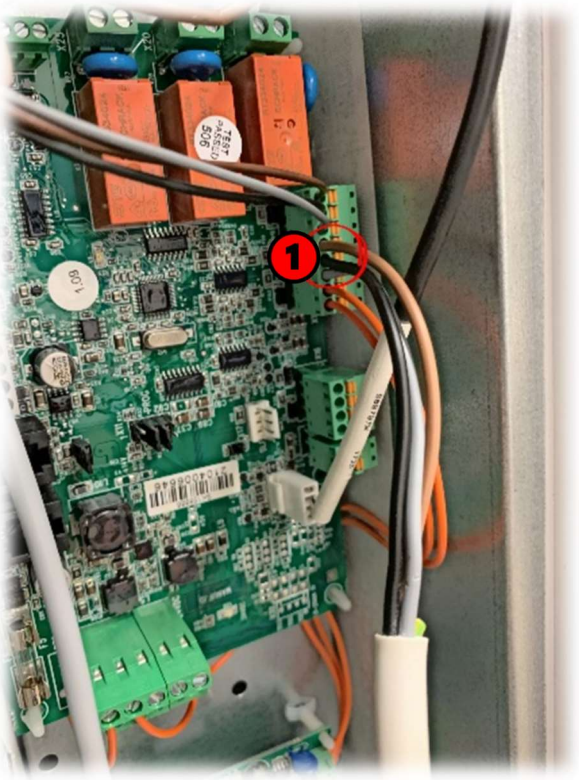
Connect ***the wires from the supply air fan control cable (2)*** *(40028784)* to the main board.

AO1: Brown
GND: Black
DI11: Gray



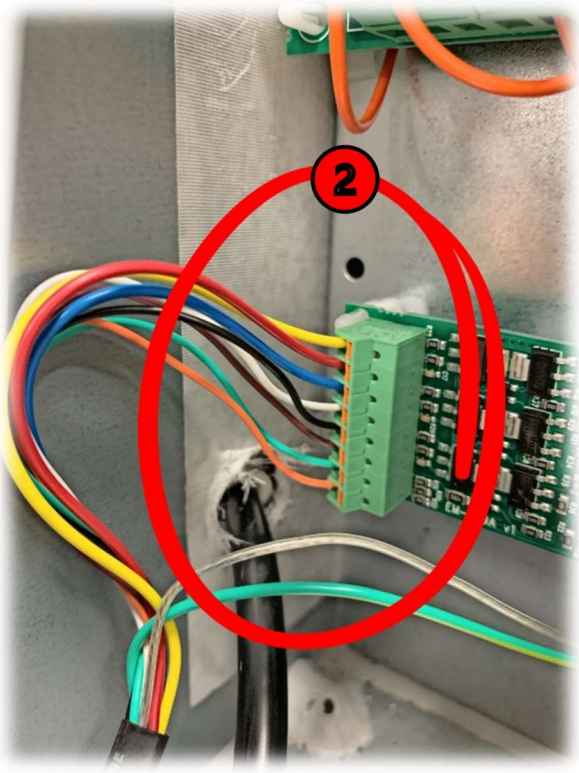
Connect ***the wires from the extract air fan control cable (1)*** *(40028785)* to the main board.

AO2: Brown
GND: Black
DI12: Gray



Connect ***the wires from the HRW cable*** *(40028725)* ***to the HRW control board (2)***.

1: Yellow
2: Red
3: Blue
4: White
5: Black
6: Brown
7: Green
8: Orange



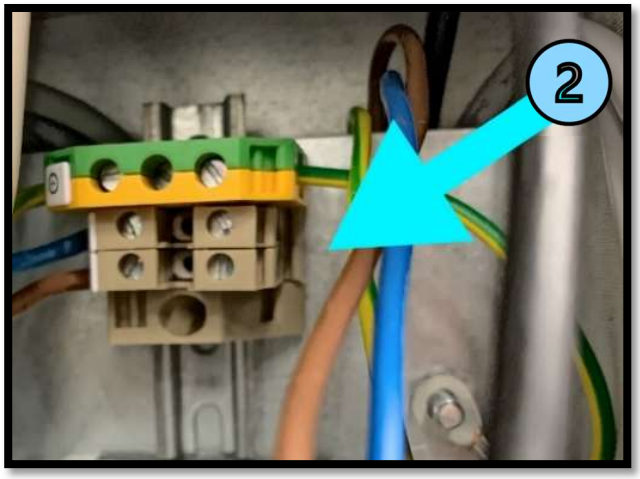
Piccolo ON:

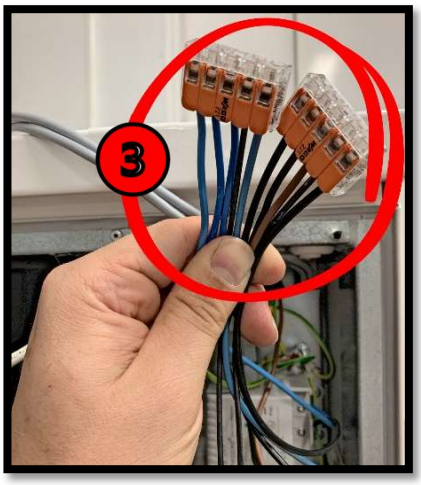
Connect the wires from the 12-pin/8-pin connector to the eWind main board as follows:

1: DI5
2: Don´t connect
3: DI6
4: Don´t connect
5: GND
6: Black connection terminal (40029982)
7: Don´t connect
8: Blue connection terminal (40029982)

Connect the wires *(40028774 & 40028779)* to ***the terminals (2)*** and to the ***black*** & ***blue connection terminals (3)*** *(40029982)*.

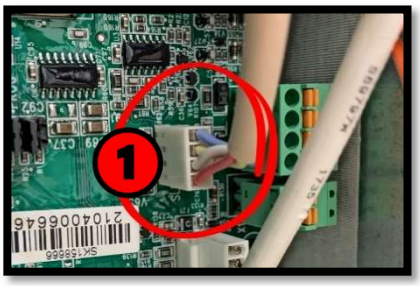
Attach all cables and wires together with cable ties *(40030997)*.





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

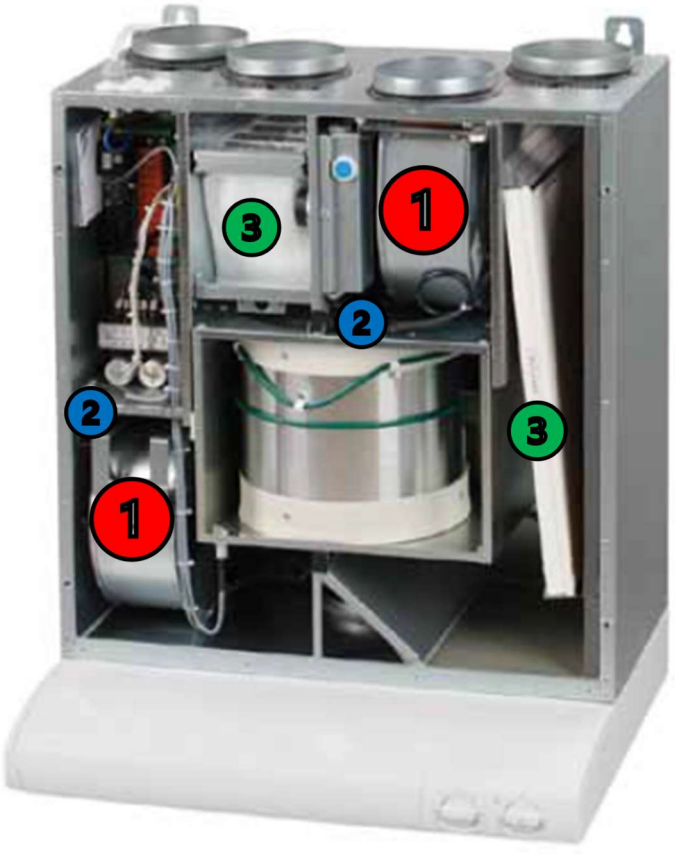
Connect other components according to the electrical diagrams (pages 23-26).



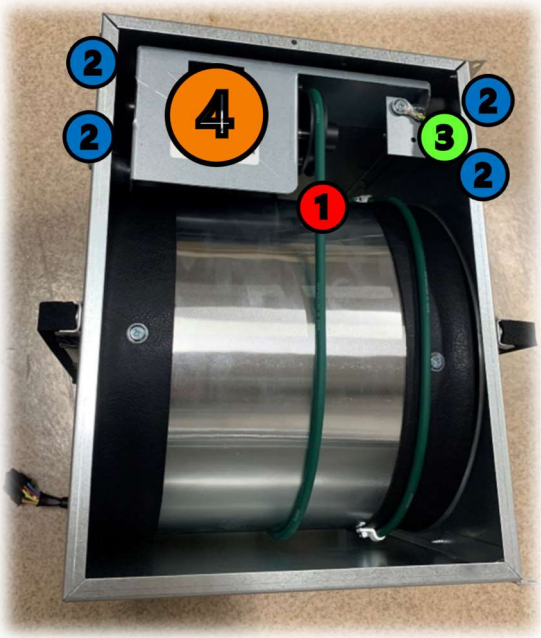
Install ***the new fans (1)***
(40033799, 40033800 / 40033801, 40033802)

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

Install ***the filters (3)***.



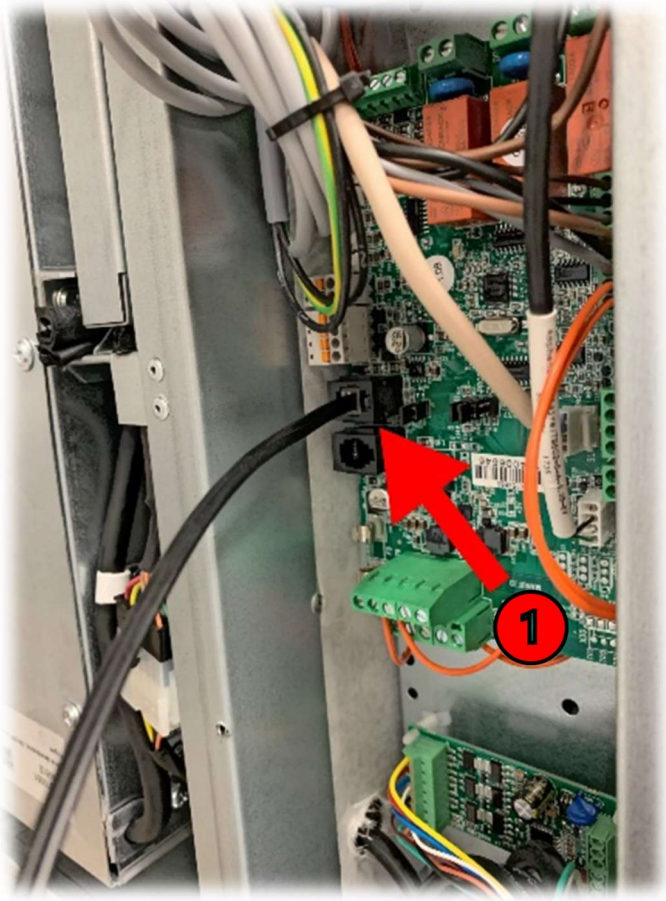
Remove ***the belt (1)*** from the wheel.
Remove ***the screws (2)*** from the motor package.
Remove ***the ground wire (3)***.
Remove ***the HRW motor package (4)*** along with the cable.



Install ***the new motor package (1)*** *(40034061 / 40028739)*.

Install ***the HRW (2)*** and connect it.
Attach the screws.

Connect ***the display cable (1)*** to the main board.

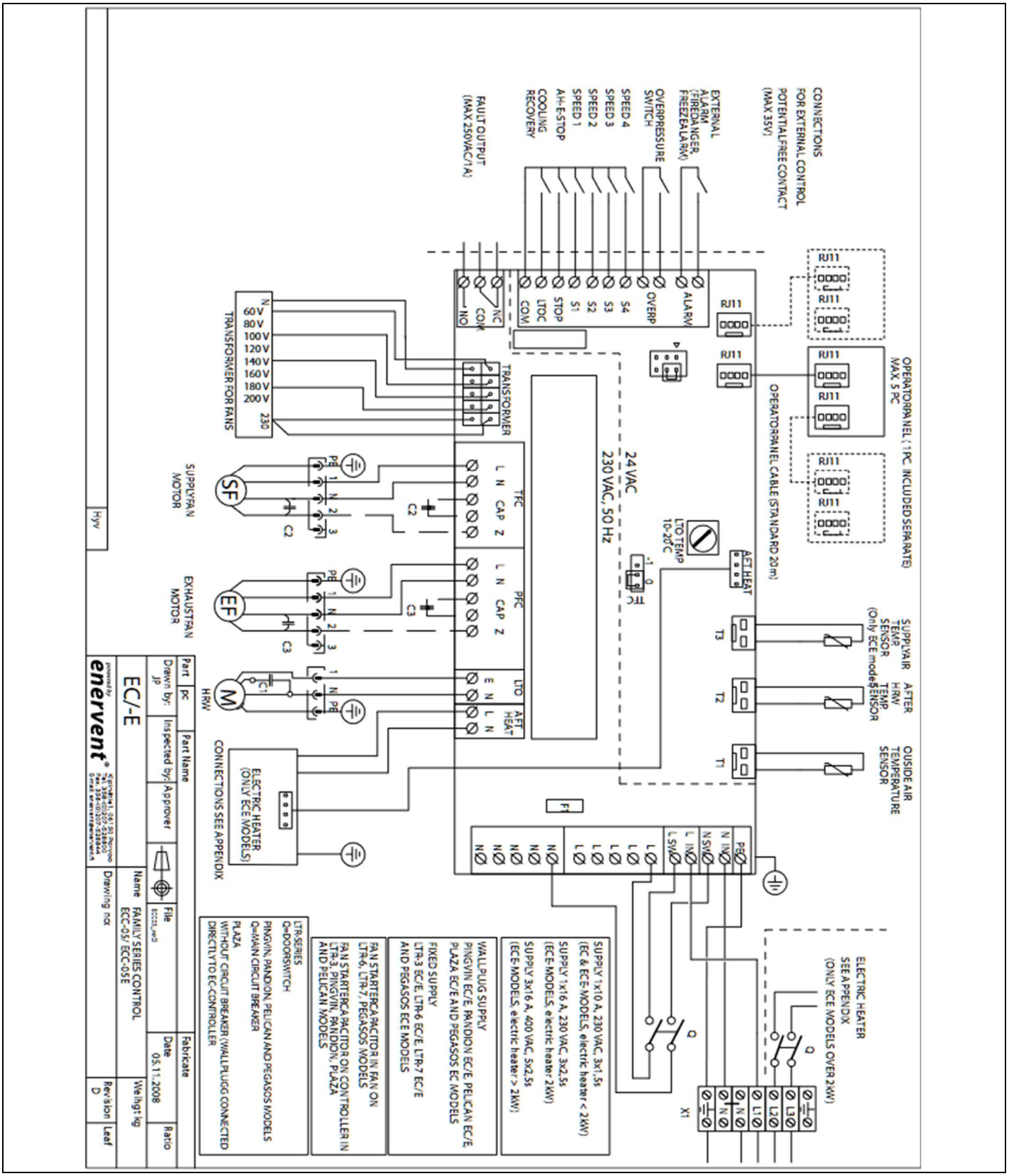


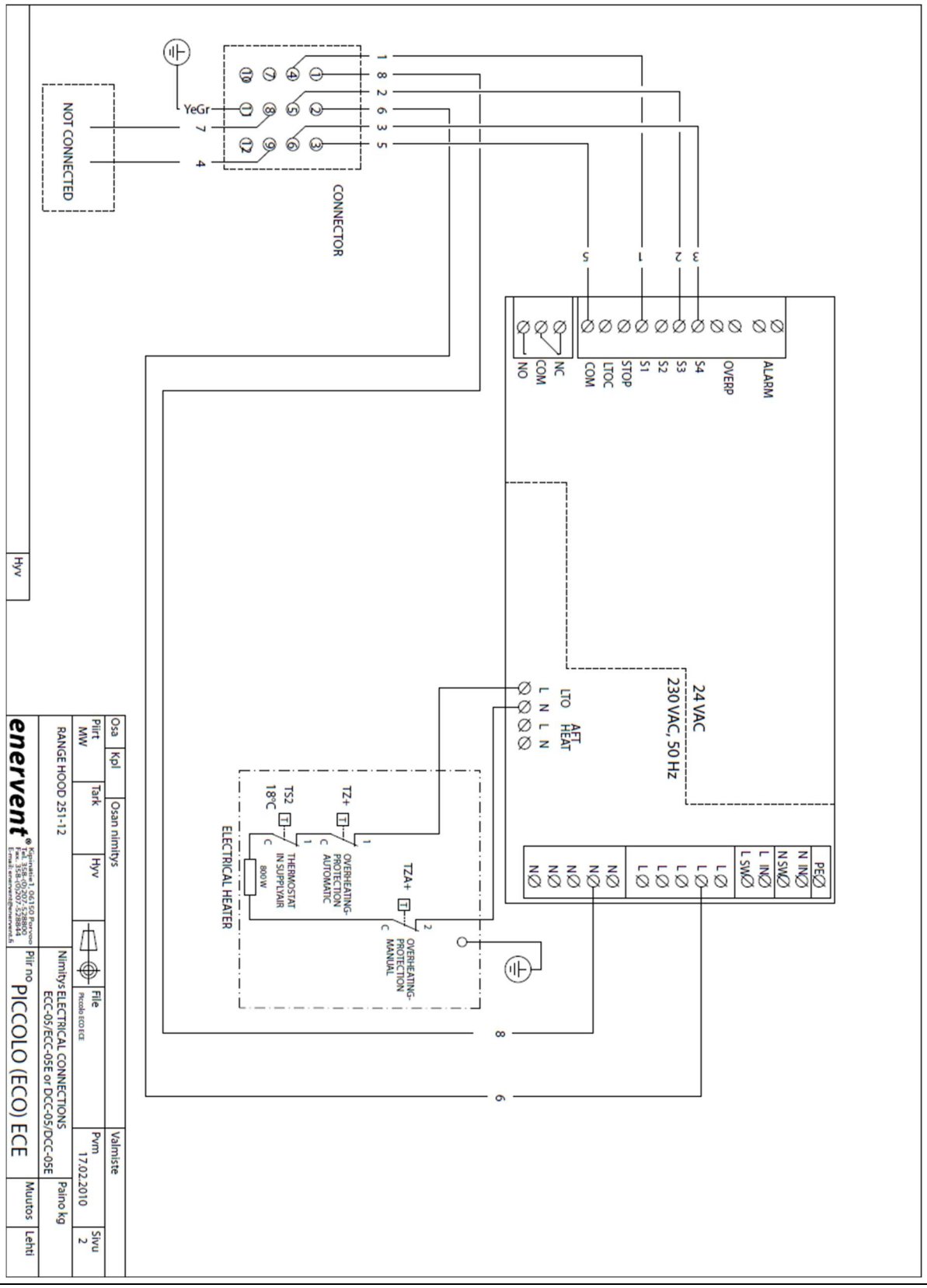
Disconnect and remove the old display.
Install ***the new display (2)*** *(40031115)*.

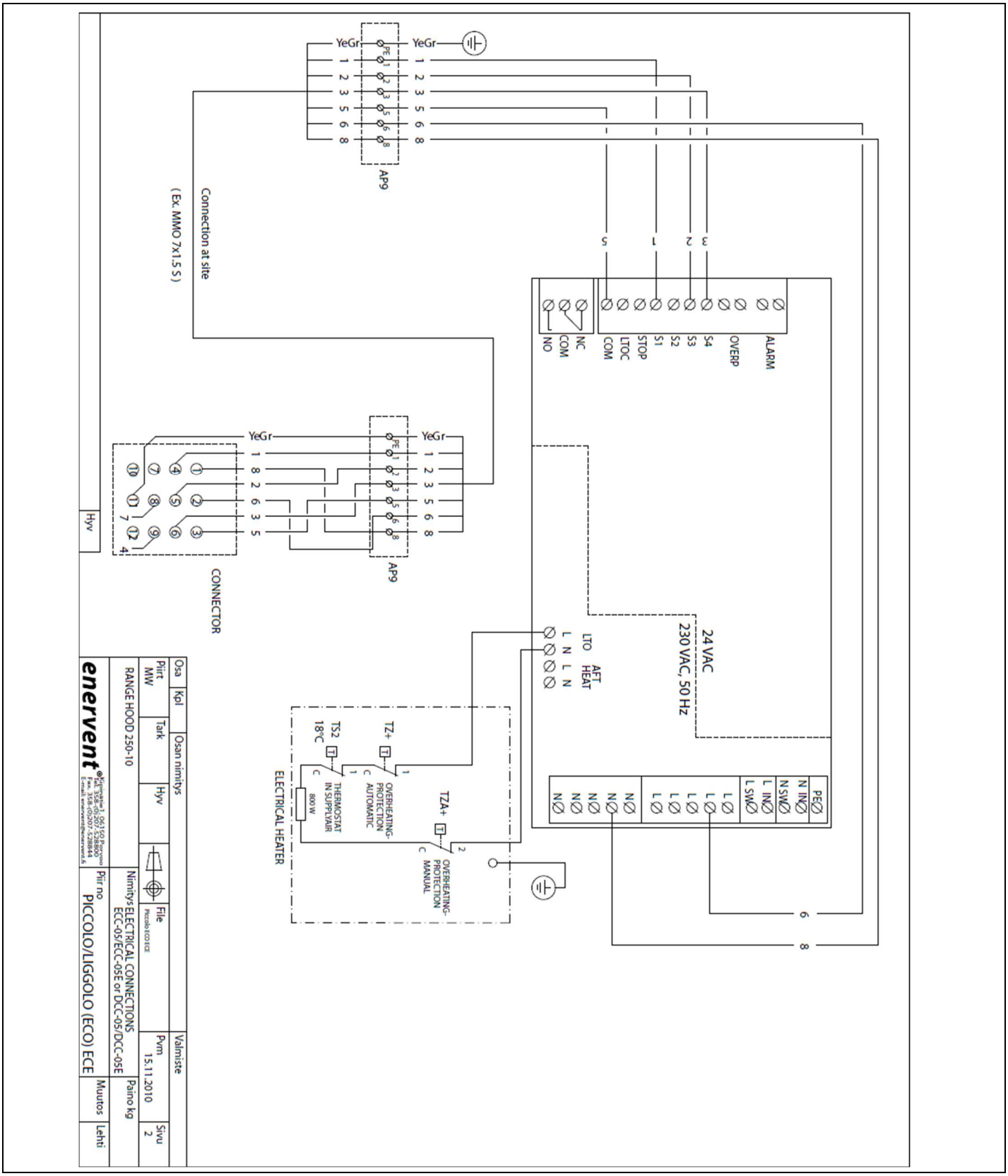
Perform insulation and ground continuity test according to regulations.

Attach the service door to the unit with ***four screws (1)***.

Install ***the new type plate sticker (2)*** to the service door.

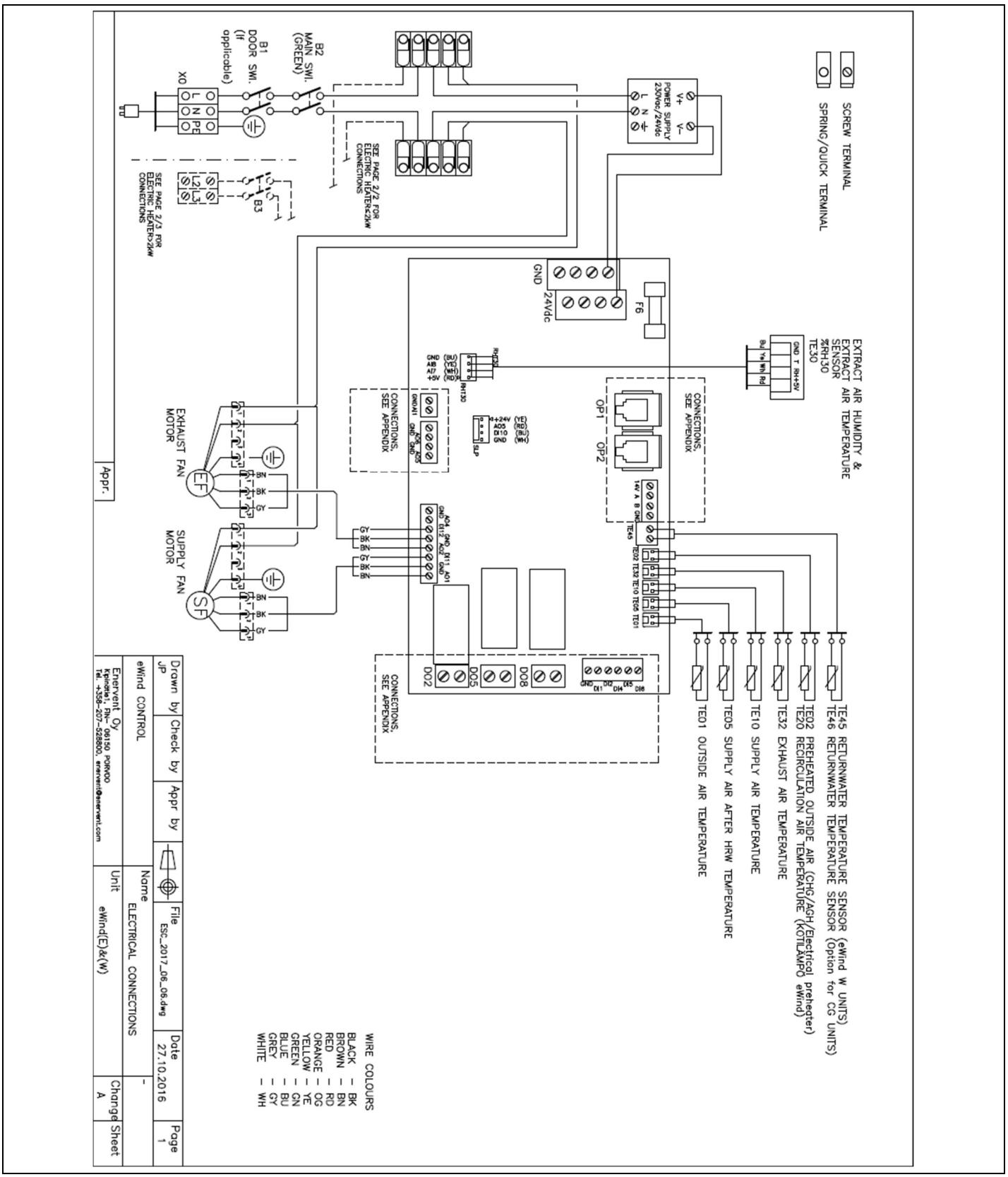

CONNECTIONS
FOR EXTERNAL CONTROL
POTENTIAL FREE CONTACT
(MAX 35V)
EXTERNAL ALARM (FIRE DANGER, FREEZE ALARM)
OVERPRESSURE SWITCH
SPEED 4
SPEED 3
SPEED 2
SPEED 1
AH-E-STOP
COOLING RECOVERY
FAULT OUTPUT (MAX 250VAC/1A)
OPERATOR PANEL (1 PC INCLUDED SEPARATE)
MAX 5 PC
OPERATOR PANEL CABLE (STANDARD 20 m)
TRANSFORMER FOR FANS
60 V
80 V
100 V
120 V
140 V
160 V
180 V
200 V
230
TRANSFORMER
24 VAC
230 VAC, 50 Hz
SUPPLY FAN MOTOR
EXHAUST FAN MOTOR
HRW
LTO TEMP 10-20°C
AFT HEAT
SUPPLY AIR TEMP. SENSOR (Only ECE models)
AFTER HRW TEMP. SENSOR
OUSIDE AIR TEMPERATURE SENSOR
ELECTRIC HEATER (ONLY ECE MODELS)
CONNECTIONS SEE APPENDIX
ELECTRIC HEATER SEE APPENDIX (ONLY ECE MODELS OVER 2kW)
SUPPLY 1x10 A, 230 VAC, 3x1,5s (EC & ECE-MODELS, electric heater < 2kW)
SUPPLY 1x16 A, 230 VAC, 3x2,5s (ECE-MODELS, electric heater 2kW)
SUPPLY 3x16 A, 400 VAC, 5x2,5s (ECE-MODELS, electric heater > 2kW)
WALLPLUG SUPPLY
PINGVIN EC/E, PANDION EC/E, PELICAN EC/E, PLAZA EC/E AND PEGASOS EC MODELS
FIXED SUPPLY
LTR-3 EC/E, LTR-6 EC/E, LTR-7 EC/E AND PEGASOS ECE MODELS
FAN STARTER/CAPACITOR IN FAN ON LTR-6, LTR-7, PEGASOS MODELS
FAN STARTER/CAPACITOR ON CONTROLLER IN LTR-3, PINGVIN, PANDION, PLAZA AND PELICAN MODELS
LTR-SERIES
Q=DOORSWITCH
PINGVIN, PANDION, PELICAN AND PEGASOS MODELS
Q=MAIN CIRCUIT BREAKER
PLAZA
WITHOUT CIRCUIT BREAKER (WALLPLUGG CONNECTED DIRECTLY TO EC-CONTROLLER
enervent
EC/-E
FAMILY SERIES CONTROL ECC-05/ ECC-05E
Drawing no:
Name
File
Date 05.11.2008
Weight kg
Ratio
Revision D
Leaf
Part
Drawn by: JP
Inspected by:
Approver
Part Name
Fabricate

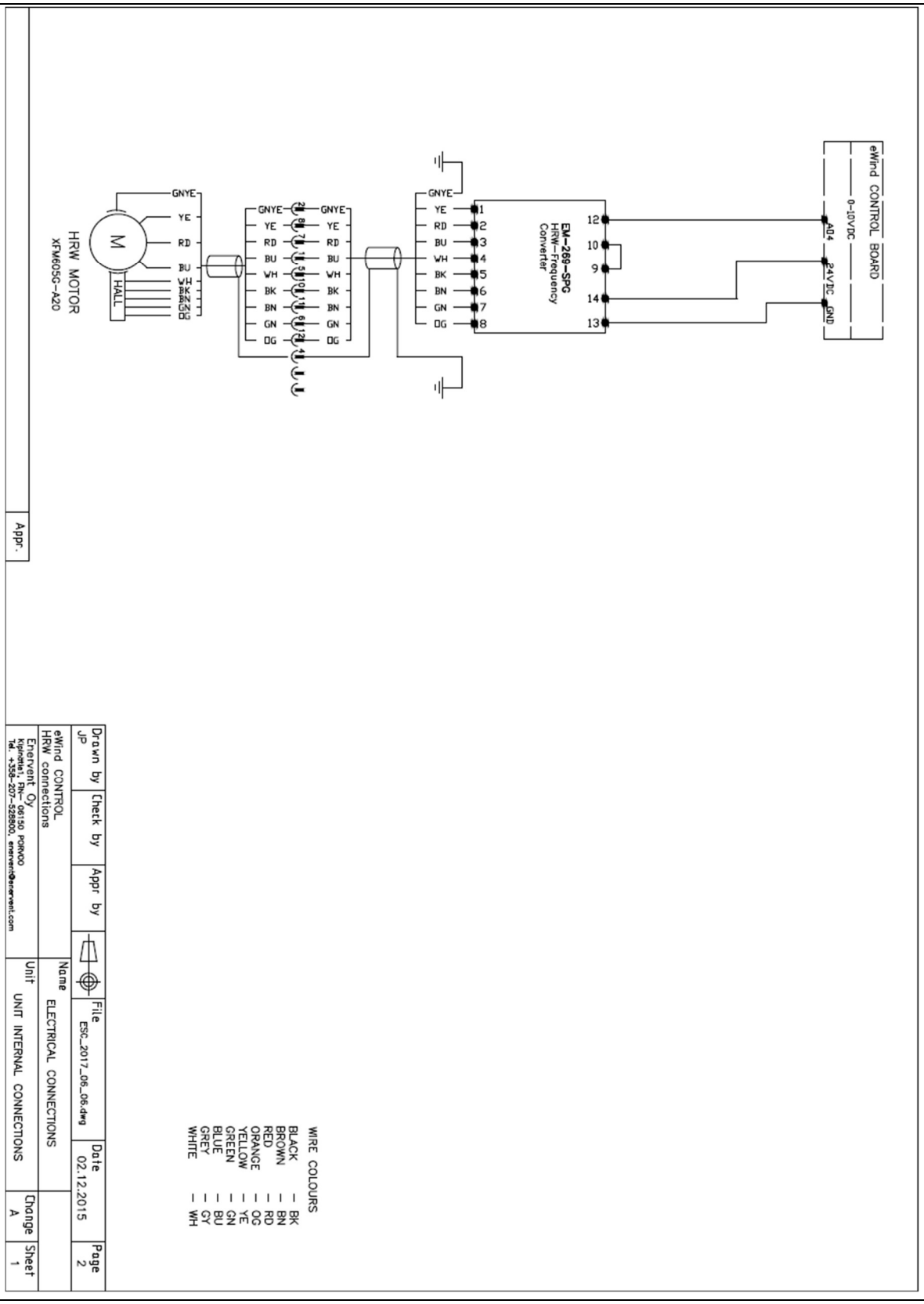

NOT CONNECTED
YeGr
CONNECTOR
1 8 2 6 3 5
7
4
NO COM NC
COM LTOC STOP S1 S2 S3 S4 OVERP ALARM
LTO AET HEAT
L N L N
24 VAC
230 VAC, 50 Hz
PE
N IN
N SW
L IN
L SW
TZ+
TS2 18°C
THERMOSTAT IN SUPPLYAIR
800 W
ELECTRICAL HEATER
OVERHEATING-PROTECTION AUTOMATIC
TZA+
OVERHEATING-PROTECTION MANUAL
8
6
Hyv
Osa
Kpl
Osan nimitys
Piirt
MW
Tark
Hyv
File
Piccolo ECO ECE
RANGE HOOD 251-12
Nimitys: ELECTRICAL CONNECTIONS ECC-05/ECC-05E or DCC-05/DCC-05E
Piir no
PICCOLO (ECO) ECE
Pvm
17.02.2010
Valmiste
Paino kg
Muutos
Sivu
2
Lehti
enervent

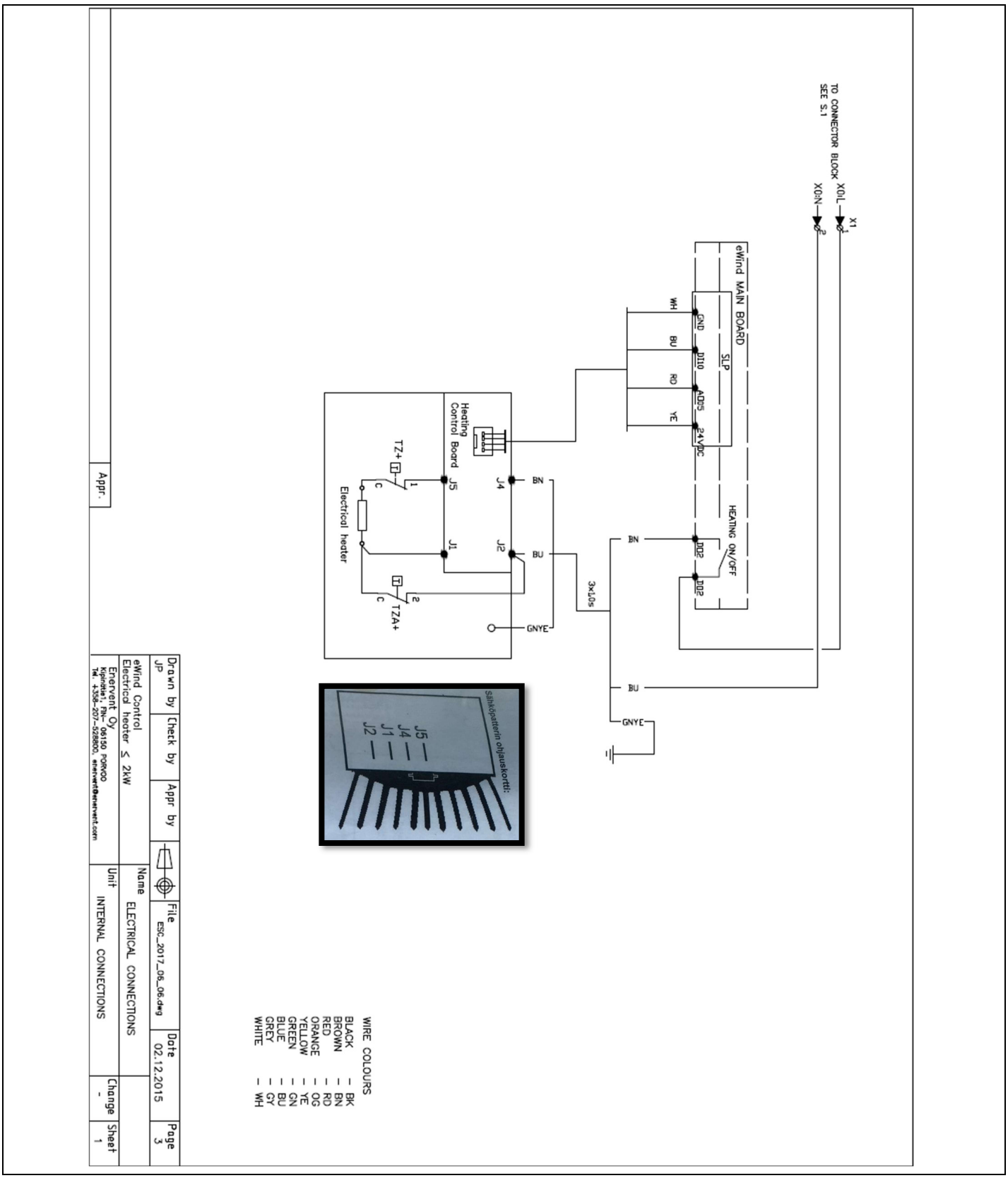


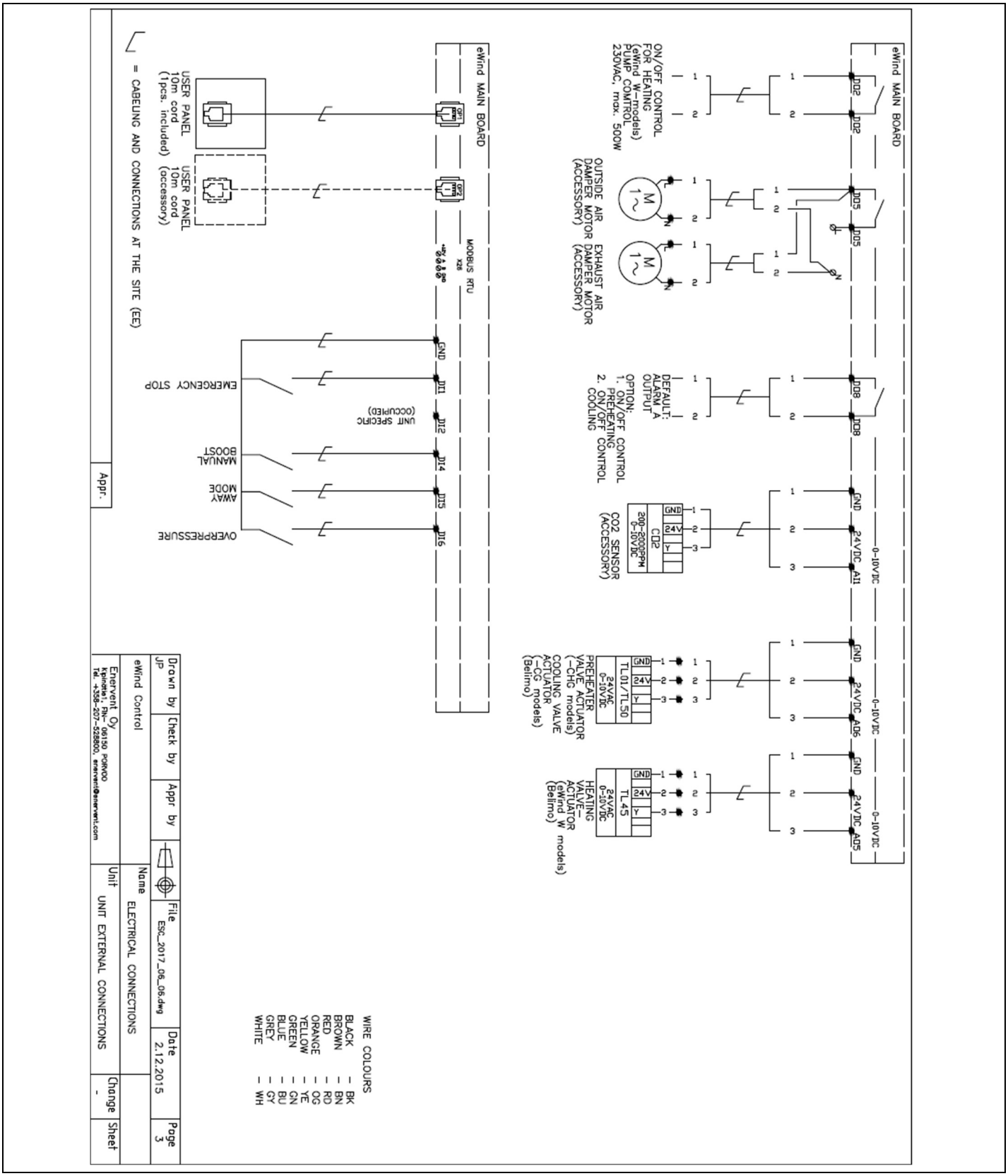
Osa	Kpl	Osan nimitys					Valmiste
Piirt MW							
	Tark						
		Hyv					
				File		Pvm	
				Piccolo ECO ECE		15.11.2010	
Piir no		Nimitys ELECTRICAL CONNECTIONS ECC-05/ECC-05E or DCC-05/DCC-05E				Paino kg	
PICCOLO/LIGGOLO (ECO) ECE						Muutos	
						Lehti	Sivu 2

enervent
Kipinätie 1, 06150 Porvoo
Tel. +358 (0)207 1298840
Fax +358 (0)207 1298844
E-mail: enervent@enervent.fi


SCREW TERMINAL
SPRING/QUICK TERMINAL
B1 DOOR SWI. (If applicable)
B2 MAIN SWI. (GREEN)
B3
X0
POWER SUPPLY 230Vac/24Vdc
SEE PAGE 2/2 FOR ELECTRIC HEATER>2kW CONNECTIONS
SEE PAGE 2/3 FOR ELECTRIC HEATER>2kW CONNECTIONS
GND
24Vdc
F6
EXTRACT AIR HUMIDITY & EXTRACT AIR TEMPERATURE SENSOR %RH30 TE30
CONNECTIONS, SEE APPENDIX
OP1
OP2
EXHAUST FAN MOTOR
SUPPLY FAN MOTOR
EF
SF
TE45 RETURNWATER TEMPERATURE SENSOR (eWind W UNITS)
TE46 RETURNWATER TEMPERATURE SENSOR (Option for CG UNITS)
TE02 PREHEATED OUTSIDE AIR (CHG/ACH/Electrical preheater)
TE20 RECIRCULATION AIR TEMPERATURE (KOTILAMPÖ eWind)
TE32 EXHAUST AIR TEMPERATURE
TE10 SUPPLY AIR TEMPERATURE
TE05 SUPPLY AIR AFTER HRW TEMPERATURE
TE01 OUTSIDE AIR TEMPERATURE
DO2
DO5
DO8
WIRE COLOURS
BLACK – BK
BROWN – BN
RED – RD
ORANGE – OG
YELLOW – YE
GREEN – GN
BLUE – BU
GREY – GY
WHITE – WH
Appr.
Drawn by JP
Check by
Appr by
File ESC_2017_06_06.dwg
Date 27.10.2016
Page 1
eWind CONTROL
Name ELECTRICAL CONNECTIONS
Unit eWind(E)&(W)
Change A
Sheet
Enervent Oy
Kipinätie 1, FIN- 06150 PORVOO
Tel. +358-207-528800, enervent@enervent.com


eWind CONTROL BOARD
0-10VDC
AO4
24VDC
GND
EM-269-SPG
HRW-Frequency
Converter
HRW MOTOR
XFM605G-A20
HALL
GNYE
YE
RD
BU
WH
BK
BN
GN
OG
WIRE COLOURS
BLACK — BK
BROWN — BN
RED — RD
ORANGE — OG
YELLOW — YE
GREEN — GN
BLUE — BU
GREY — GY
WHITE — WH
Appr.
Drawn by JP
Check by
Appr by
Name ELECTRICAL CONNECTIONS
File ESC_2017_06_06.dwg
Date 02.12.2015
Page 2
Unit UNIT INTERNAL CONNECTIONS
Change A
Sheet 1
eWind CONTROL
HRW connections
Enervent Oy
Kipinätie 1, FIN- 06150 PORVOO
Tel. +358-207-528800, enervent@enervent.com


TO CONNECTOR BLOCK
SEE S.1
X0:L
X0:N
X1
eWind MAIN BOARD
SLP
GND
DI10
AO5
24VDC
WH
BU
RD
YE
HEATING ON/OFF
DO2
DO2
BN
BU
3x1,0s
GNYE
Heating
Control Board
J5
J4
J1
J2
BN
BU
GNYE
TZ+
TZA+
Electrical heater
Sähköpatterin ohjauskortti:
J5
J4
J1
J2
WIRE COLOURS
BLACK – BK
BROWN – BN
RED – RD
ORANGE – OG
YELLOW – YE
GREEN – GN
BLUE – BU
GREY – GY
WHITE – WH
Appr.
Drawn by JP
Check by
Appr by
Name ELECTRICAL CONNECTIONS
File ESC_2017_06_06.dwg
Date 02.12.2015
Page 3
Enervent Oy
Kipinätie 1, FIN- 06150 PORVOO
Tel. +358-207-528800, enervent@enervent.com
eWind Control
Electrical heater ≤ 2kW
Unit INTERNAL CONNECTIONS
Change -
Sheet 1


eWind MAIN BOARD
ON/OFF CONTROL FOR HEATING (eWind W-models) PUMP COMTROL 230VAC, max. 500W
OUTSIDE AIR DAMPER MOTOR (ACCESSORY)
EXHAUST AIR DAMPER MOTOR (ACCESSORY)
DEFAULT: ALARM A OUTPUT
OPTION: 1. ON/OFF CONTROL PREHEATING 2. ON/OFF CONTROL COOLING
CO2 SENSOR (ACCESSORY)
CO2
200-2000PPM 0-10VDC
PREHEATER VALVE ACTUATOR (-CHG models)
COOLING VALVE ACTUATOR (-CG models) (Belimo)
TL01/TL50
24VAC 0-10VDC
HEATING VALVE-ACTUATOR (eWind W models) (Belimo)
TL45
0-10VDC
24VDC
GND
eWind MAIN BOARD
MODBUS RTU
USER PANEL 10m cord (1pcs. included)
USER PANEL 10m cord (accessory)
EMERGENCY STOP
UNIT SPECIFIC (OCCUPIED)
MANUAL BOOST
AWAY MODE
OVERPRESSURE
= CABELING AND CONNECTIONS AT THE SITE (EE)
Appr.
WIRE COLOURS
BLACK – BK
BROWN – BN
RED – RD
ORANGE – OG
YELLOW – YE
GREEN – GN
BLUE – BU
GREY – GY
WHITE – WH
Drawn by JP
Check by
Appr by
File ESC_2017_06_06.dwg
Date 2.12.2015
Page 3
Name ELECTRICAL CONNECTIONS
Unit UNIT EXTERNAL CONNECTIONS
Change -
Sheet
eWind Control
Enervent Oy
Kipinätie 1, FIN- 06150 PORVOO
Tel. +358-207-528800, enervent@enervent.com

MANDATORY PARTS

10025906	**CTRL UPDT KIT PLAZA / PICCOLO ON ECC -> EWIND**	**1**
40033799	**FAN PACKAGE 118W SUPPLY AIR LEFT**	**1**
40033800	**FAN PACKAGE 118W EXTRACT AIR LEFT**	**1**
	or	
40033801	**FAN PACKAGE 118W SUPPLY AIR RIGHT**	**1**
40033802	**FAN PACKAGE 118W EXTRACT AIR RIGHT**	**1**
40034061	**HRW MOTOR PACKAGE STEPLESS DC LEFT**	**1**
	or	
40028739	**HRW MOTOR PACKAGE STEPLESS DC RIGHT**	**1**
10023882	**ELECTRICAL HEATER 0,8kW**	**1**

Code	Description	Pcs.
	Automation	
40029189	Control board EM-240-M	1
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 FWN	1
40029602	Automation base	1
	Components	
40030100	Cable sealing VET 5-7	2
40030101	Cable sealing VET 7-10	3
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
40029230	EDA temperature sensor 500mm	2
40029165	EDA temperature sensor 850mm	2
40029224	Humidity/temperature sensor Amphenol 600mm	1
40029982	WaGo 221-415	4
40028774	Wire 255mm 1mm2 black	3
40028779	Wire 255mm 1mm2 blue	2
40031530	Screw ZN 4,2x25	4
40031537	Washer 6798-A ZN M4x8	1
40031489	Nut DIN 934/8 ZN M4	1
40030997	Cable tie 2,5x200mm	10
40028725	Rotor cable DC 60cm	1
40031115	eWind panel package	1
40034288	WiFi module package	1
	Manuals etc. (depends on model)	
	eWind installation manual	1
	eWind user manual	1
	eWind electrical diagrams	1

Notes: