

# Geniox Core Control system 41.04.02

Documents listed on pages below:

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Quick Guide: page 2

General Description: page 3-4

External connections: page 10-17

Circuit Diagram: page 19-27

Modbus Guide: page 23

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Cable plan: page 100-118

Units with internal cabinet:

Cabinet is always inside the unit.

AHU unit data.

Heat exchanger type:

See data in the attached annex - Technical data

Heat coil type:

See data in the attached annex - Technical data

Cooling coil type:

See data in the attached annex - Technical data

Heat pump type:

See data in the attached annex - Technical data

Electrical data:

Total consumed power:

Watch printed order

Fan fuse size:

Watch printed order

Supply air fan cable resistance:

Watch printed order

Extract air fan cable resistance:

Watch printed order

Max pre-fuse:

Watch printed order

Ik max on fuse in unit:

6 kA

Manufacturer:

Systemair A/S, Denmark

Ved Milepælen 7

8361 Hasselager



Geniox  
Access CU27 Controller

Frontpage

Project:

Geniox-Core CS 41.04.02 GB

Rev.:

41.04.02

Sheet:

1

Date:

07-08-2020

initials:

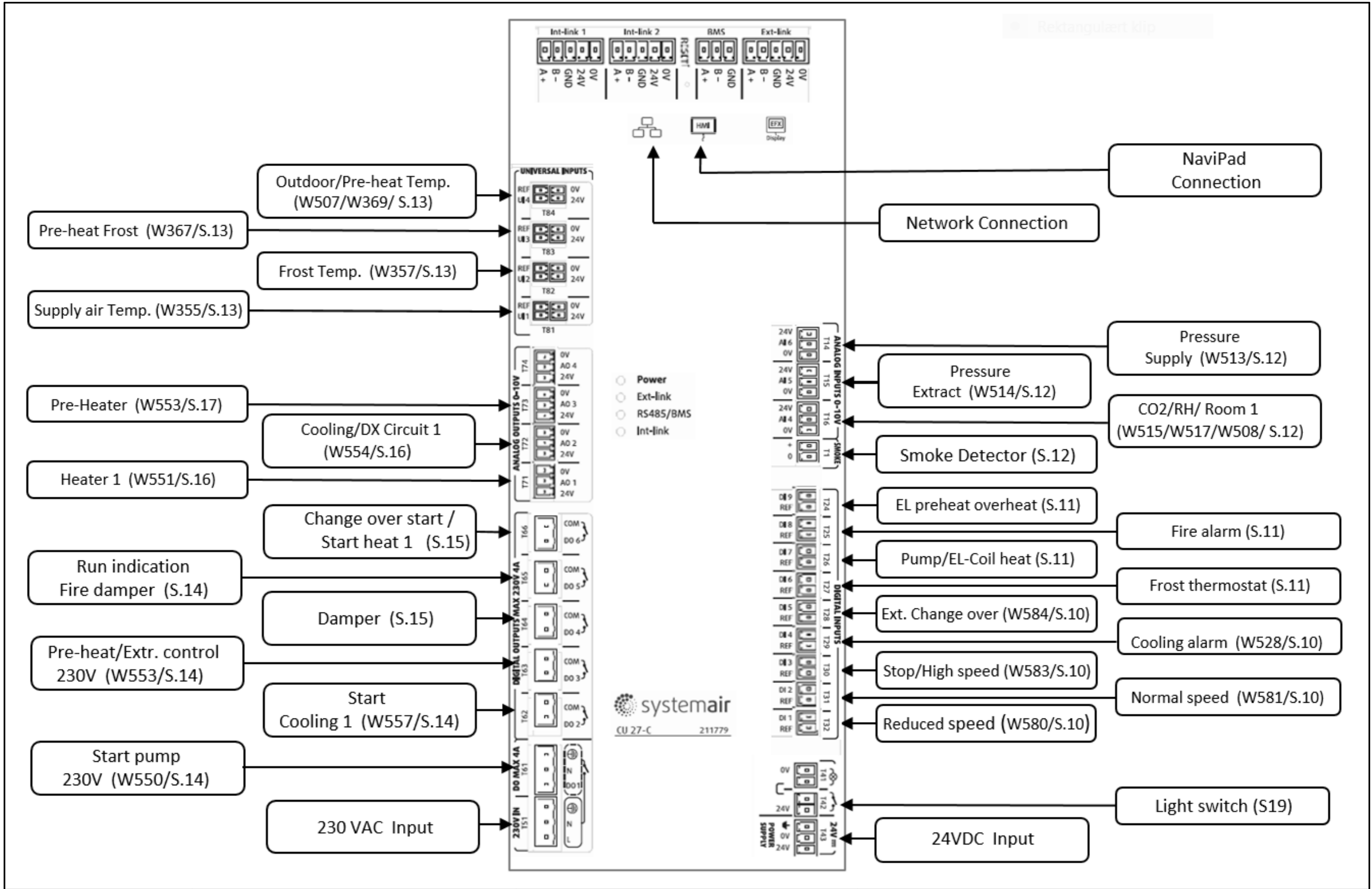
MIKE

Total sheets:

4

Next sheet:

2



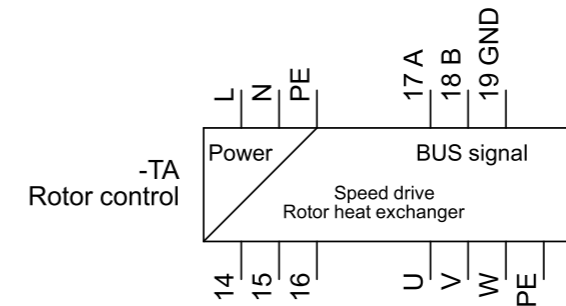
Symbols are according to IEC 60617.  
 On the following 2 pages there are descriptions of used symbols in the project.

Wire Colour code	
Black	- BK
Brown	- BN
Red	- RD
Orange	- OG
Yellow	- YE
Green	- GN
Blue	- BU
Violet	- VT
Gray	- GY
White	- WH
Pink	- PK
Transparent	- TP
Green/Yellow	- PE

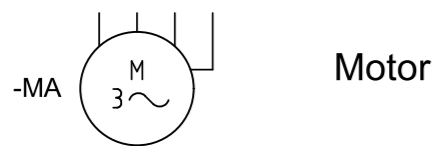
L1:1 > References


-X2:1  Terminal

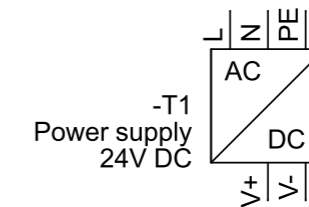
-EA  Lamp



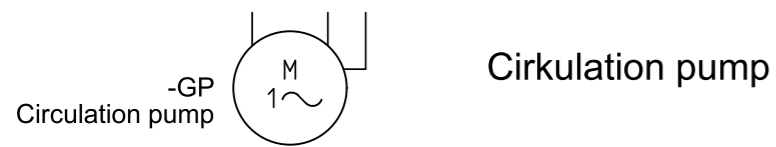
Rotary heat exchanger



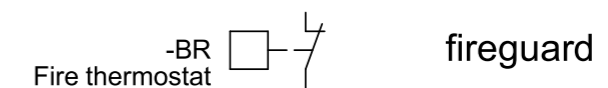
-SF  Switchgear



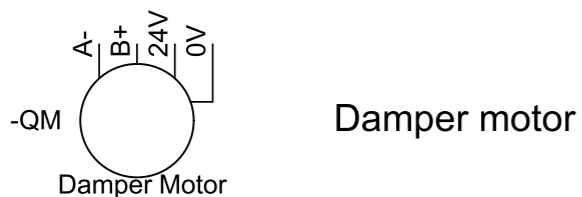
Power supply



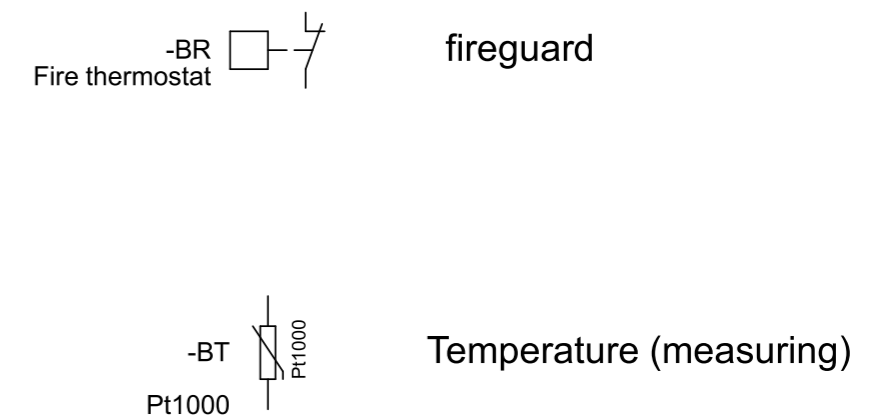
-BP  Pressure transmitter




fireguard



-BP  Pressure Switch

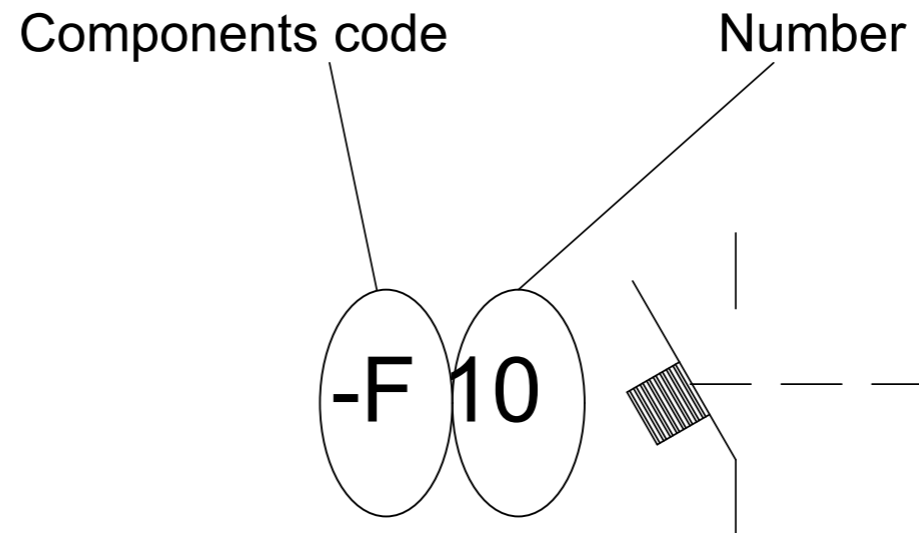
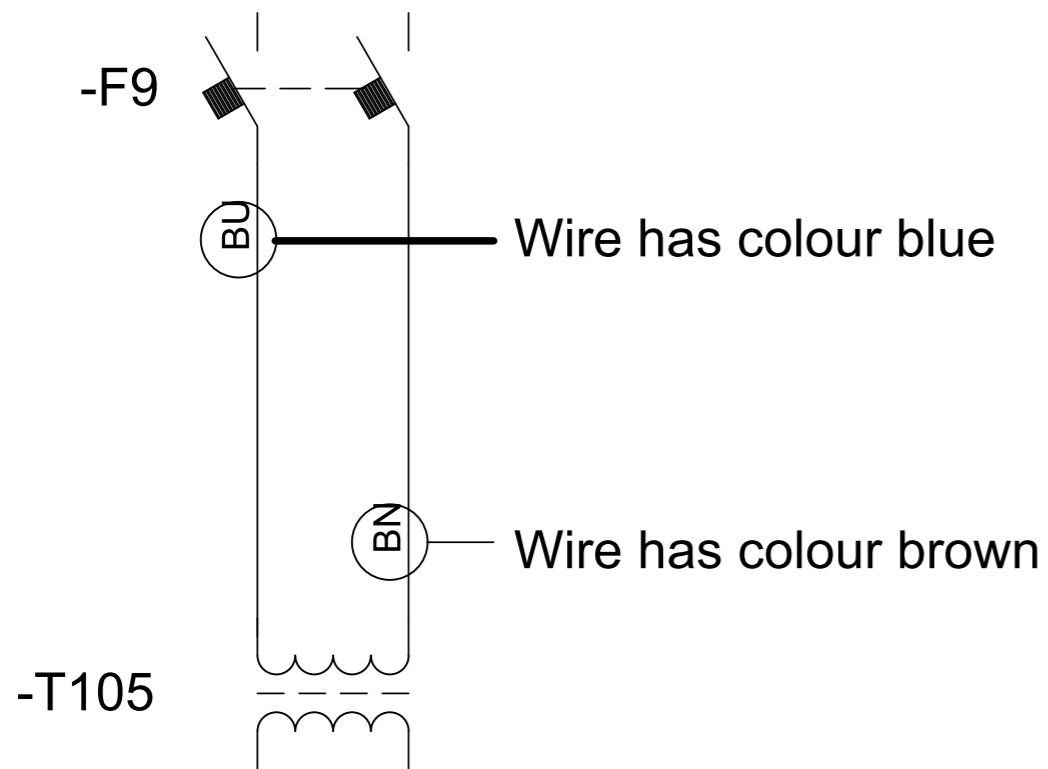


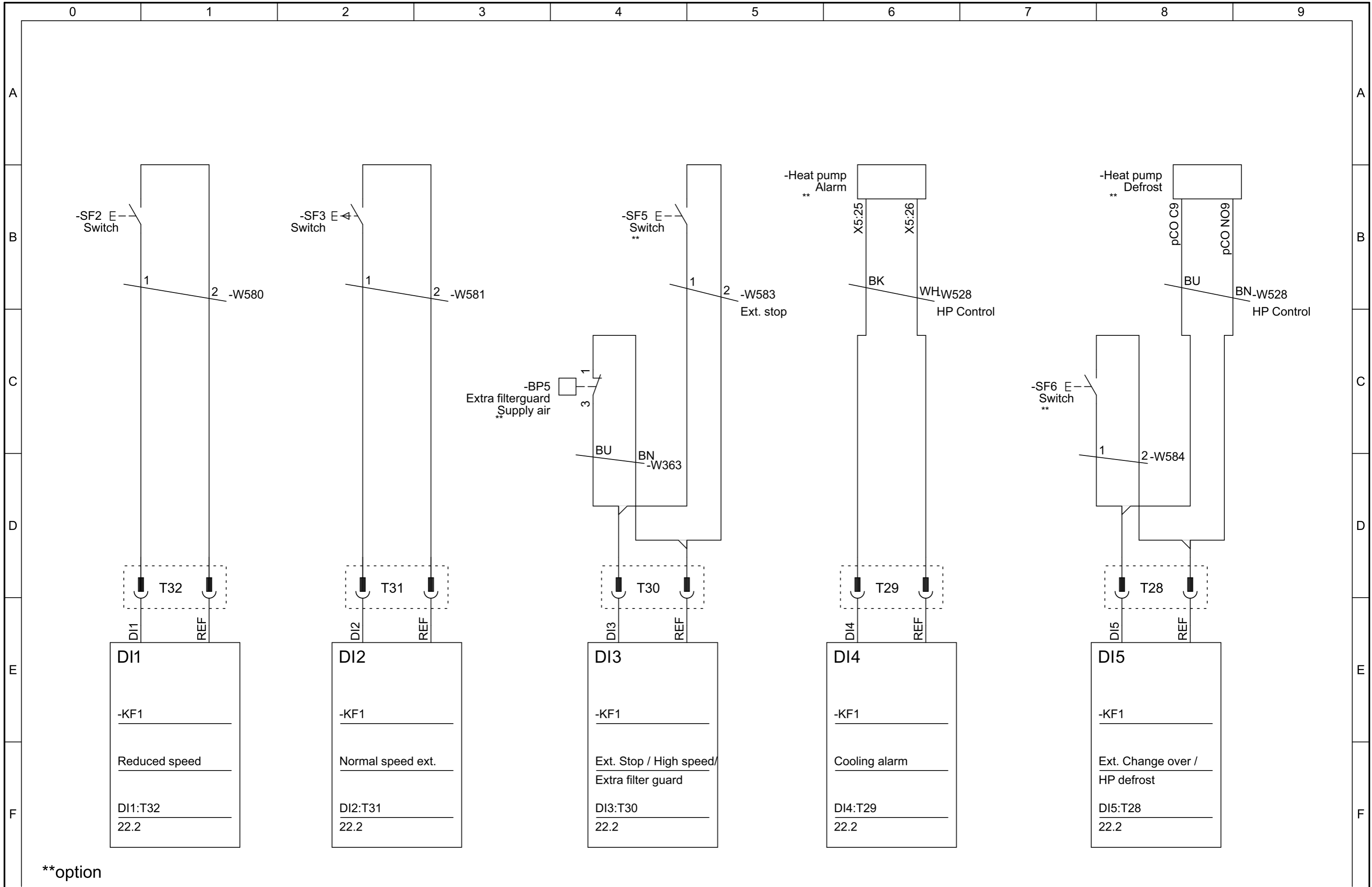
Temperature (measuring)

-F  Automatic tripping,

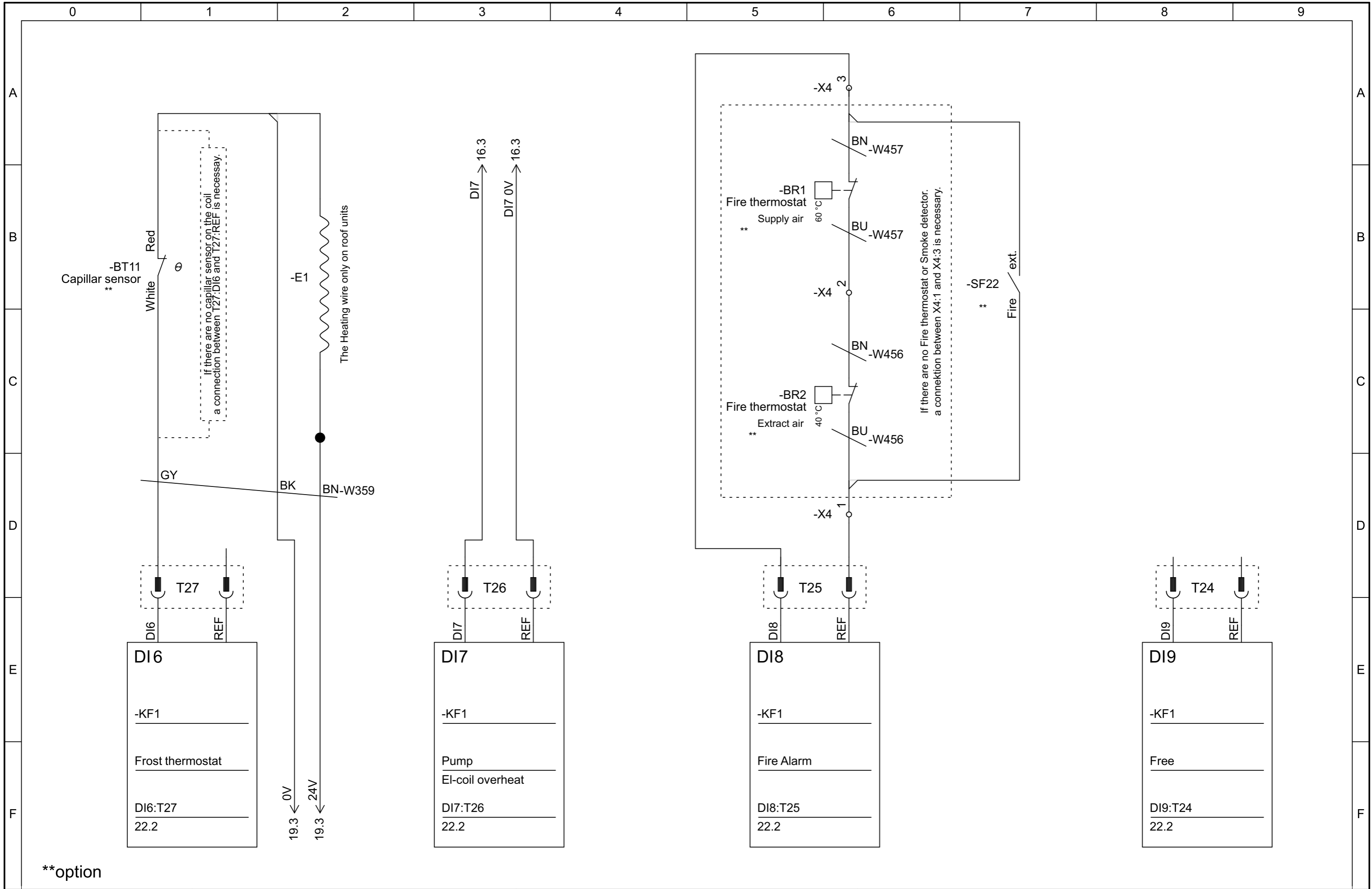
Labeling of wires are marked with terminal name

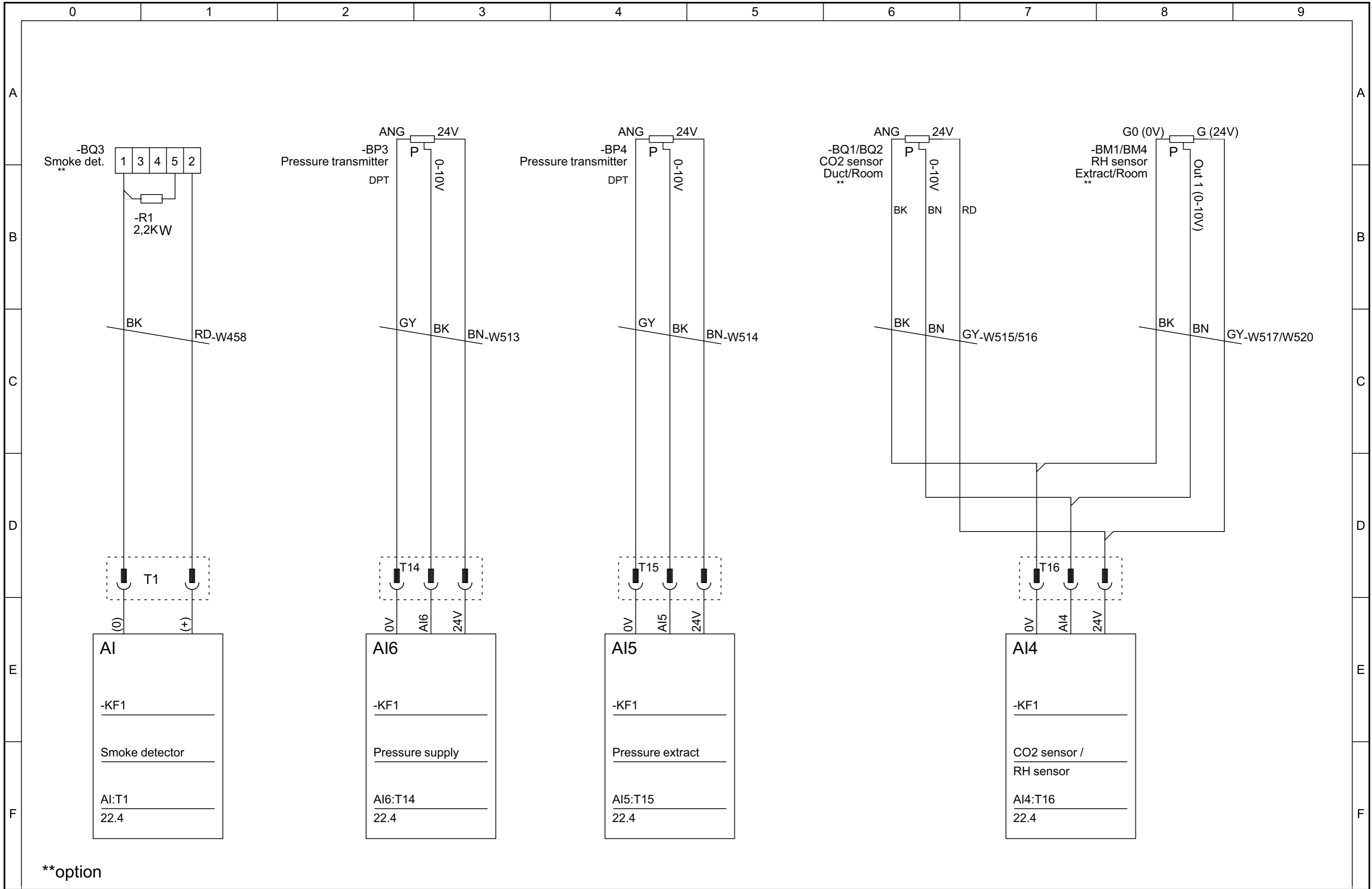
Components are marked with component codes followed by a number according to IEC 61346-1 Chart 1



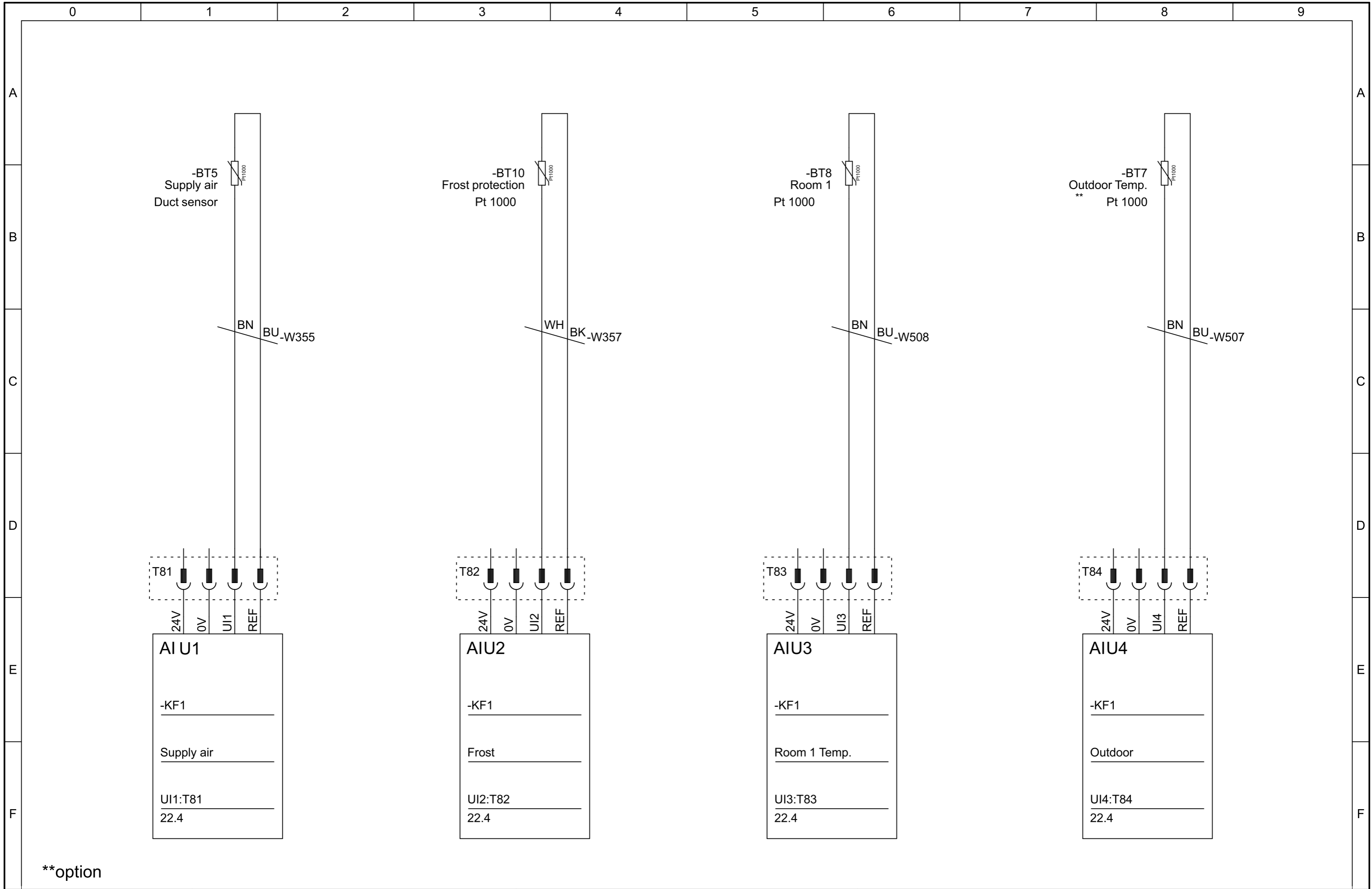


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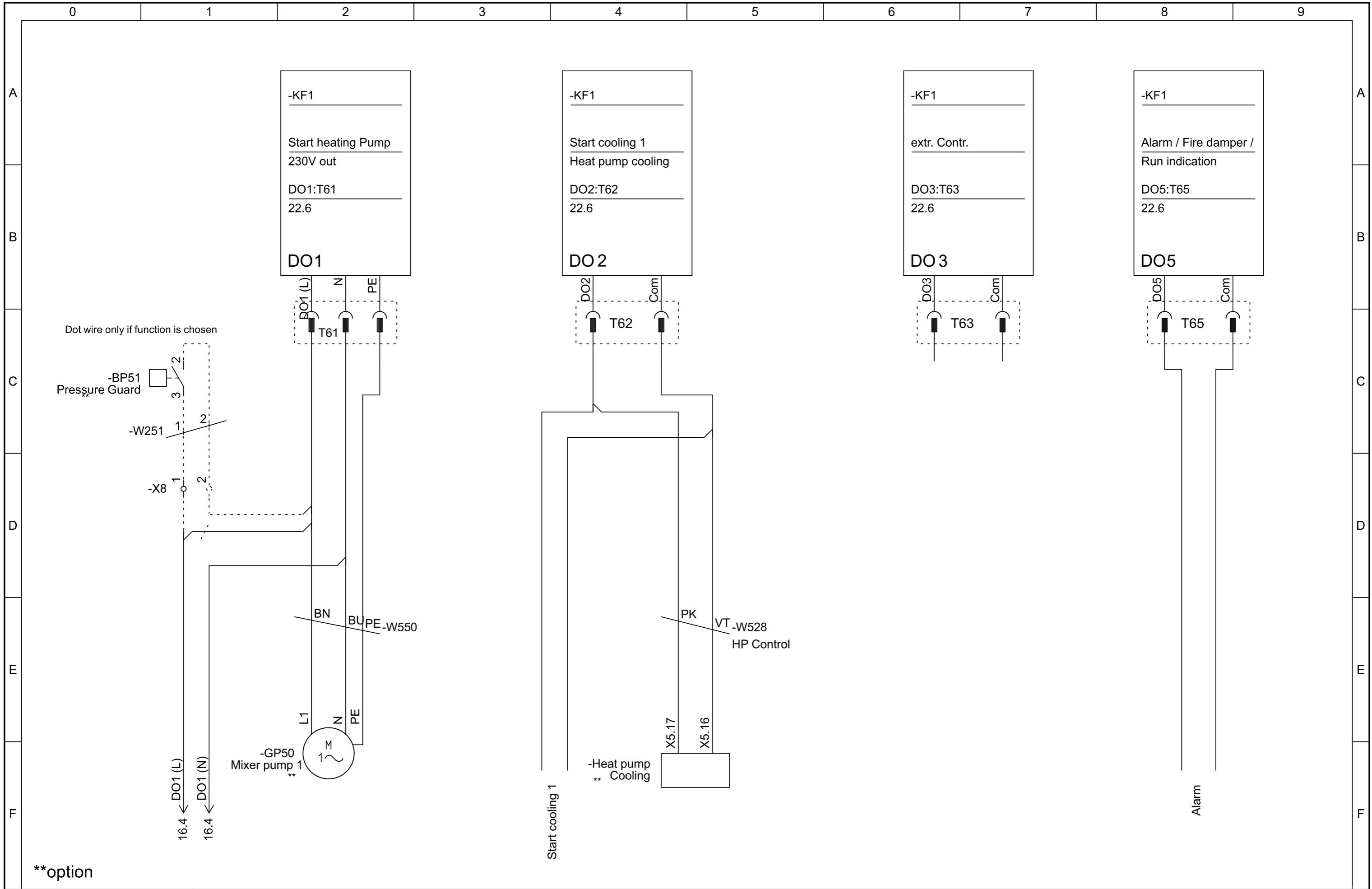


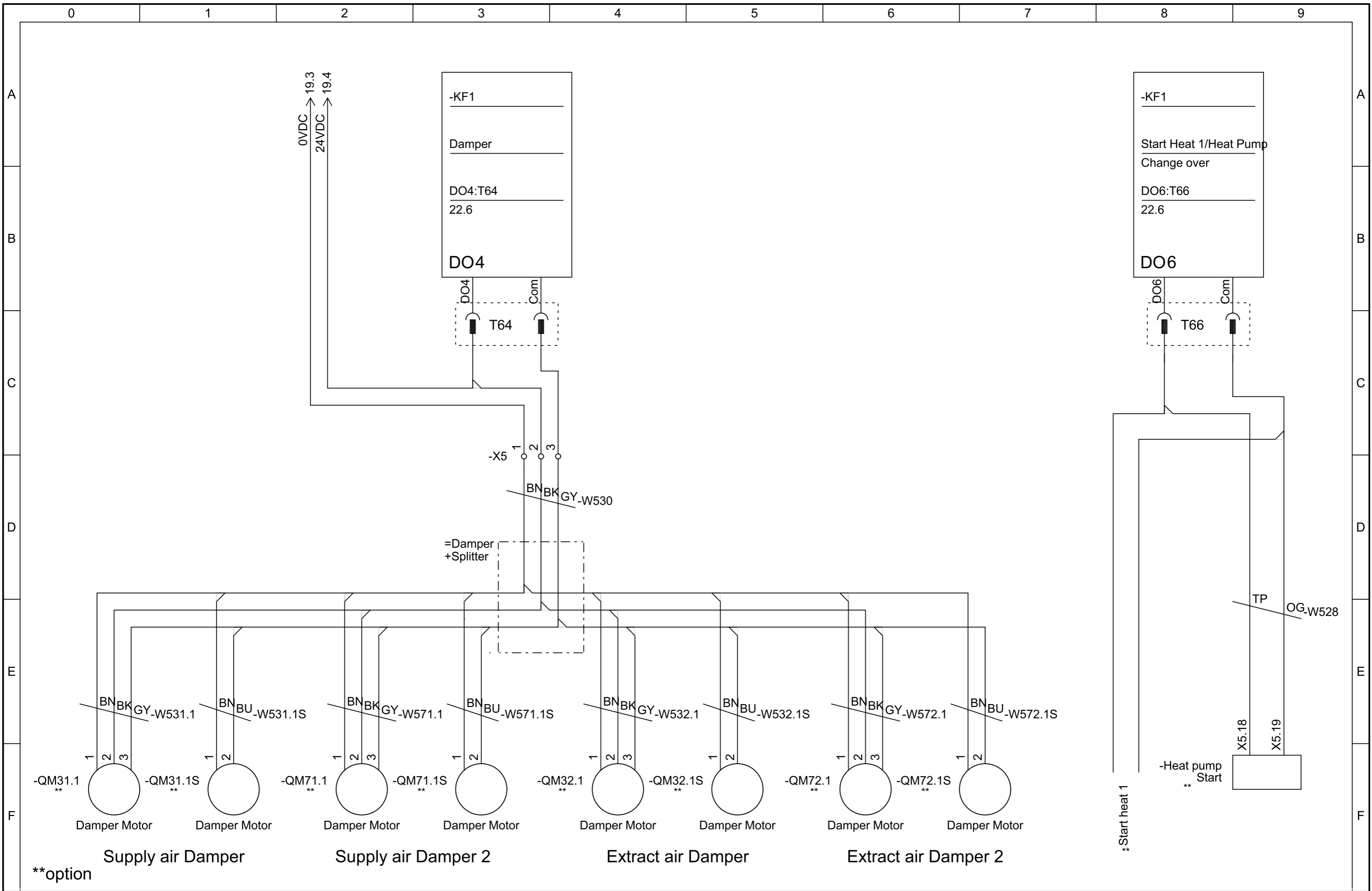


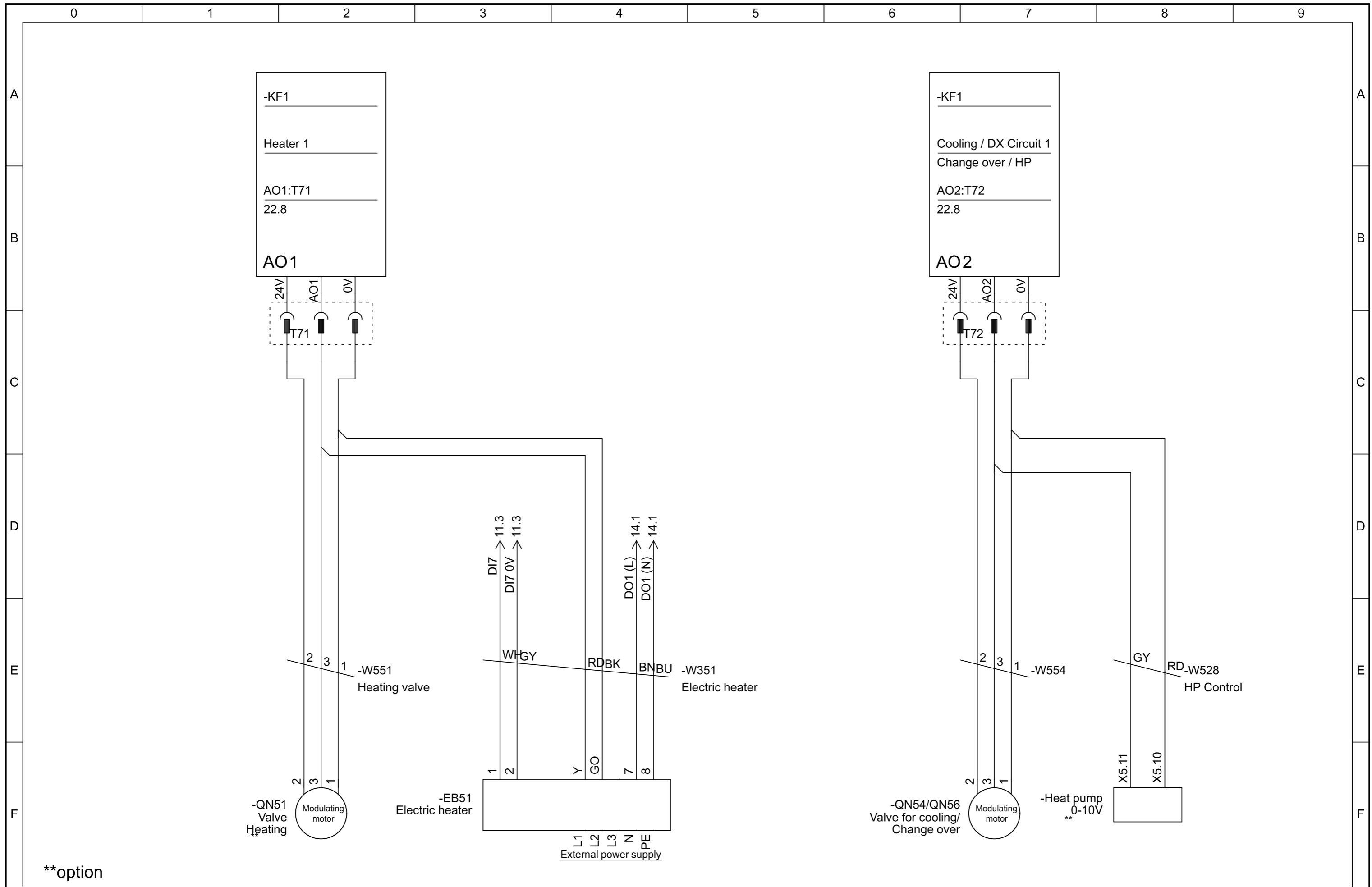
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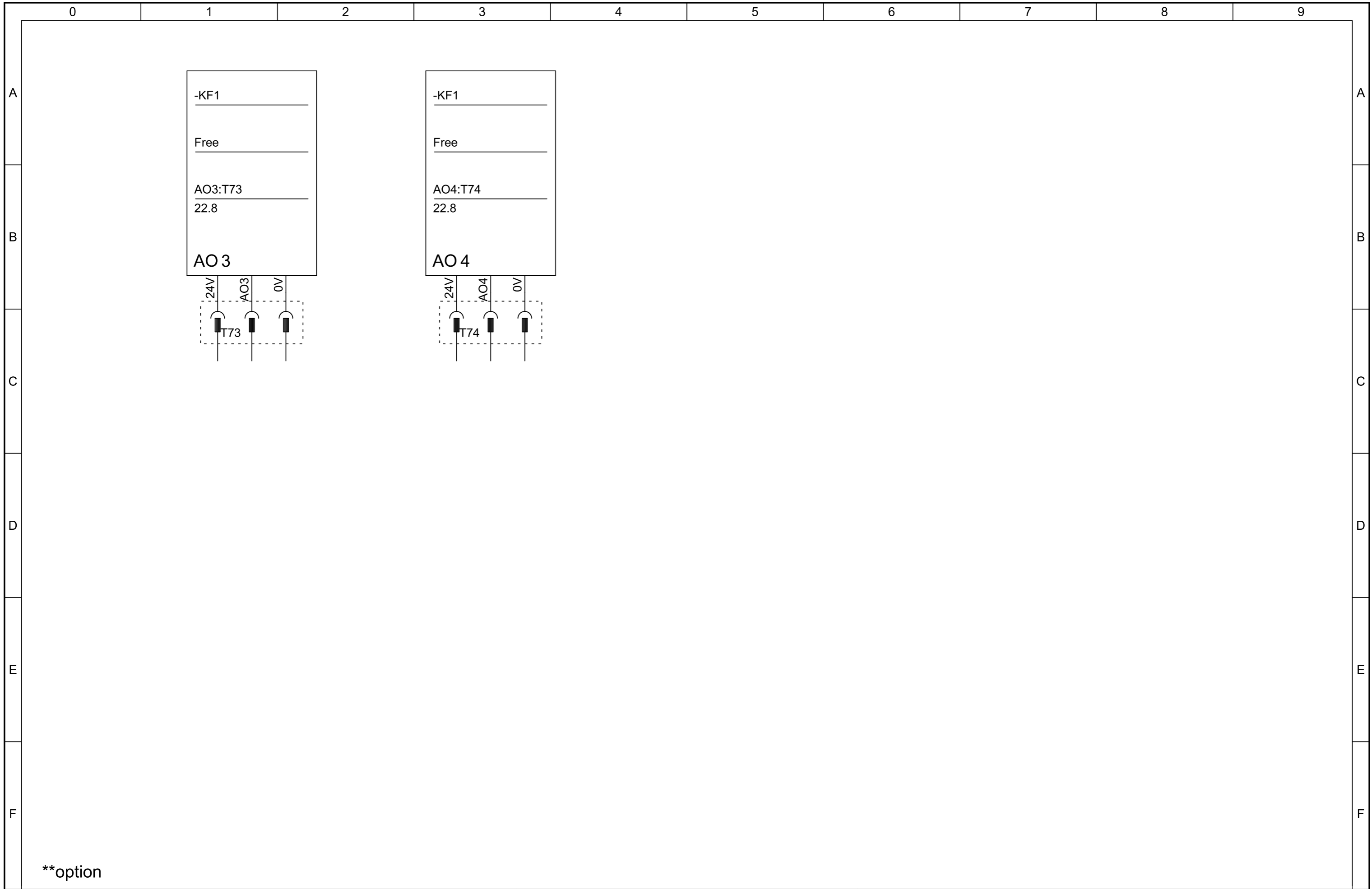




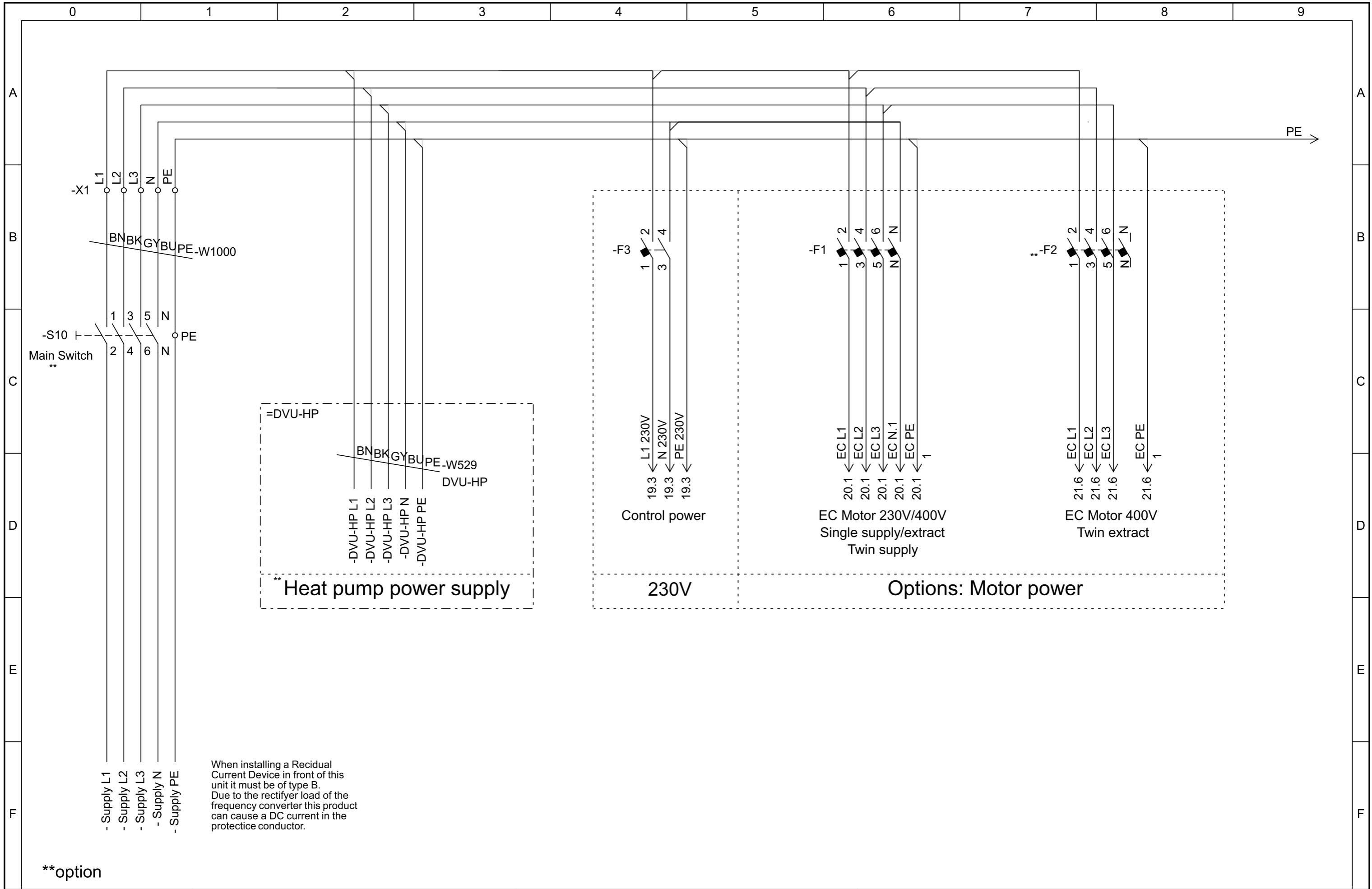




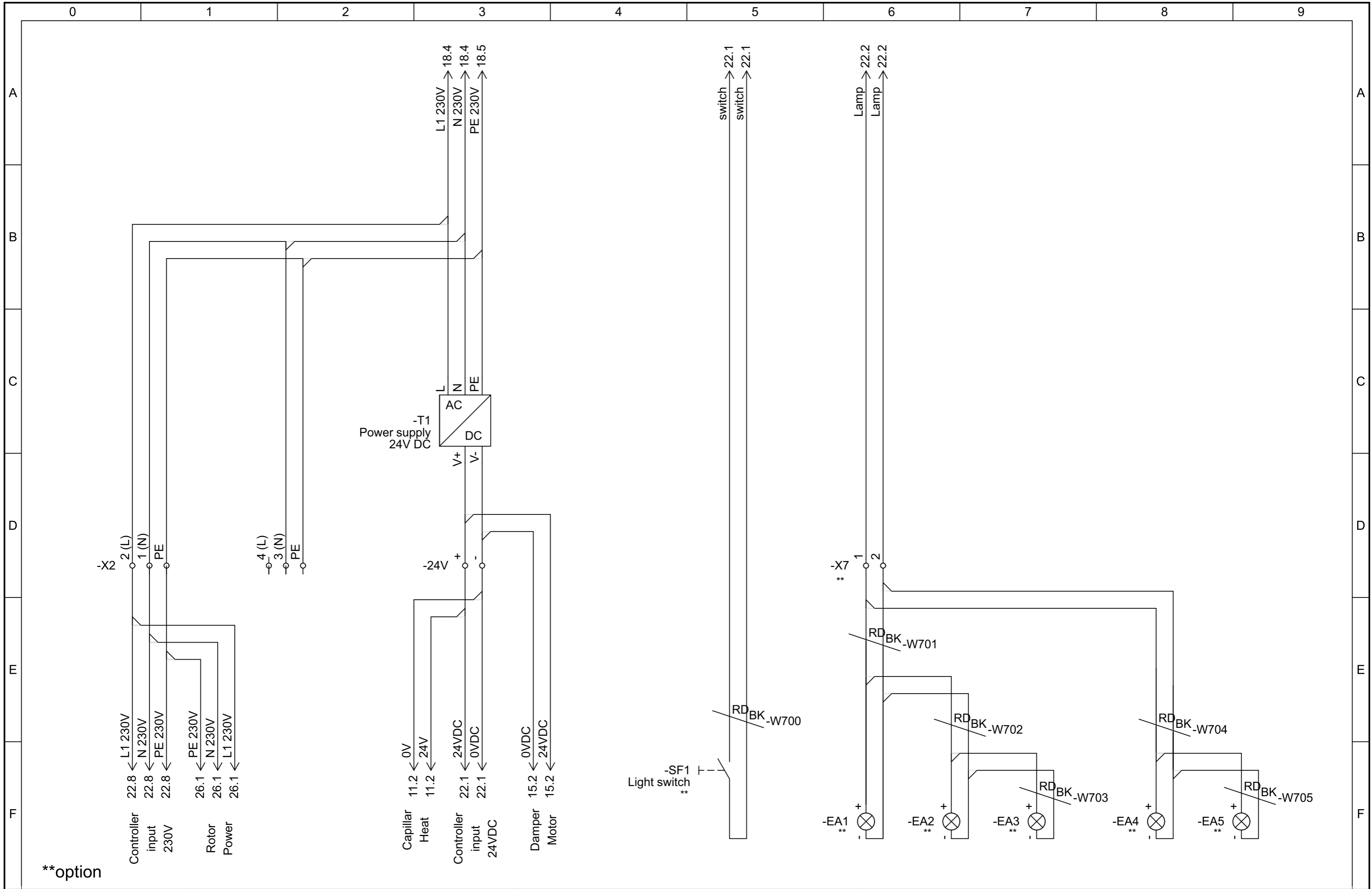
\*\*option



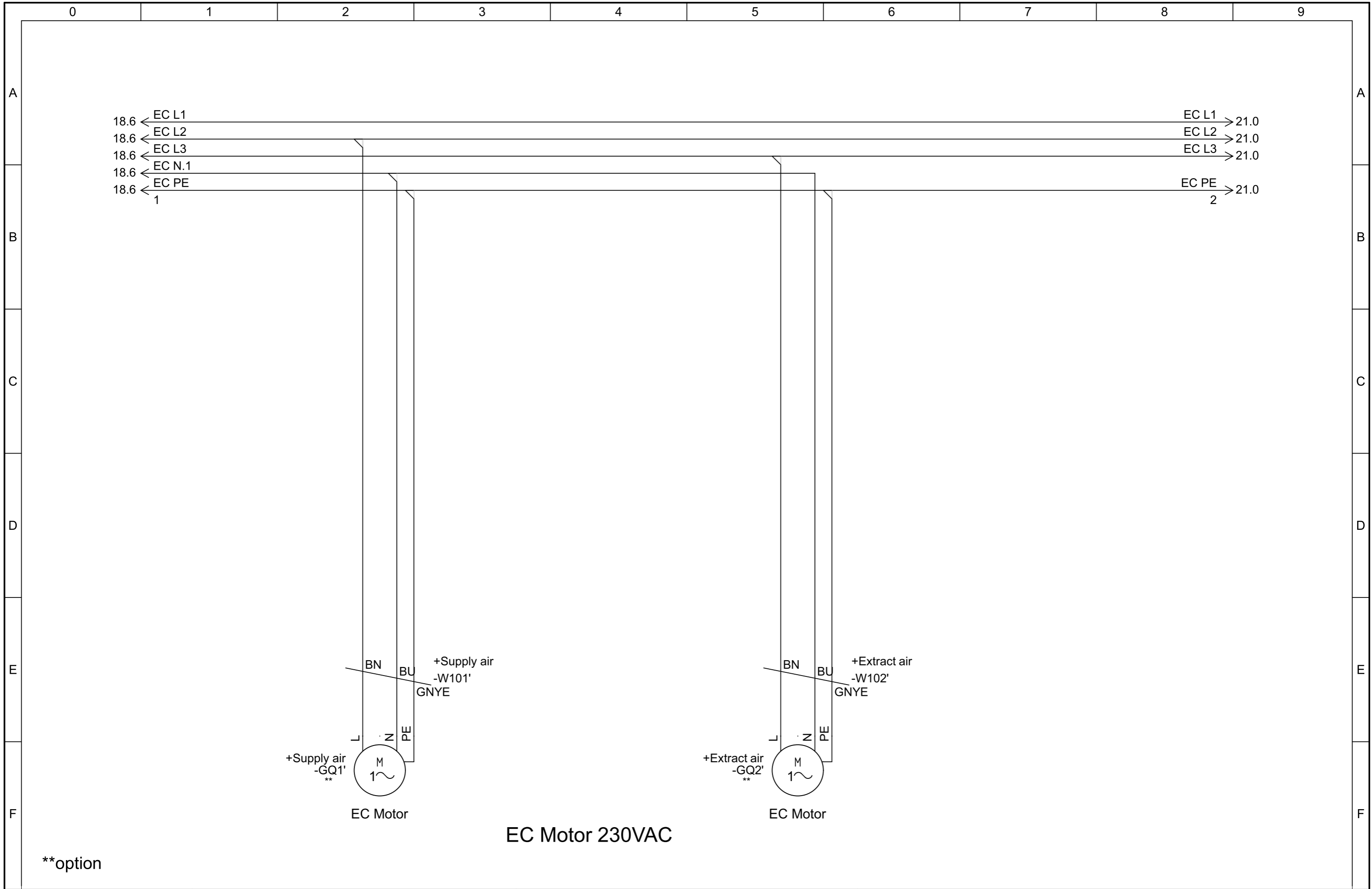
\*\*option

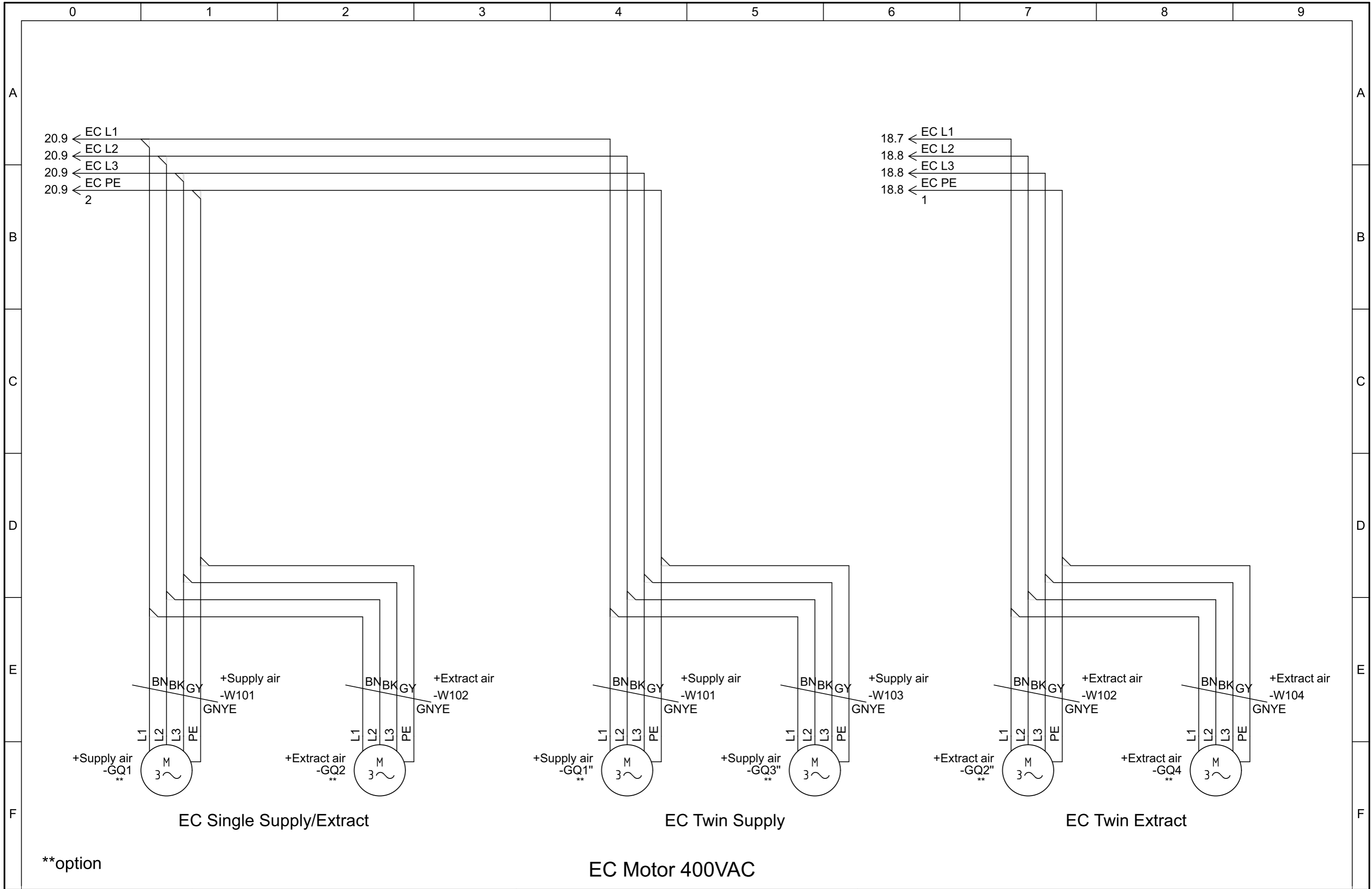


\*\*option



\*\*option





\*\*option

EC Motor 400VAC



-KF1

### Access CU27 Controller

### Systemair A/S

DI1:T32 10.1 DI1  
Reduced speed



AI:T1 12.0 (0)  
Smoke detector



DO1:T61 14.2 DO1 (L)  
Start heating Pump  
230V out



AO1:T71 16.2 24V  
Heater 1



DI2:T31 10.2 DI2  
Normal speed ext.



AI6:T14 12.2 0V  
Pressure supply



DO2:T62 14.4 DO2  
Start cooling 1  
Heat pump cooling



AO2:T72 16.7 24V  
Cooling / DX Circuit 1  
Change over / HP



DI3:T30 10.4 DI3  
Ext. Stop / High speed/  
Extra filter guard



AI5:T15 12.4 0V  
Pressure extract



DO3:T63 14.6 DO3  
extr. Contr.



AO3:T73 17.1 24V  
Free



DI4:T29 10.6 DI4  
Cooling alarm



AI4:T16 12.7 0V  
CO2 sensor /



DO4:T64 15.3 DO4  
Damper



AO4:T74 17.3 24V  
Free



DI5:T28 10.8 DI5  
Ext. Change over /  
HP defrost



UI1:T81 13.1 24V  
Supply air



DO5:T65 14.8 DO5  
Alarm / Fire damper /  
Run indication



DI6:T27 11.1 DI6  
Frost thermostat



UI2:T82 13.3 24V  
Frost



DO6:T66 15.8 DO6  
Start Heat 1/Heat Pump  
Change over



DI7:T26 11.3 DI7  
Pump  
EI-coil overheat



UI3:T83 13.5 24V  
Room 1 Temp.



DI8:T25 11.5 DI8  
Fire Alarm



UI4:T84 13.8 24V  
Outdoor



DI9:T24 11.8 DI9  
Free



24VDC Input

Light

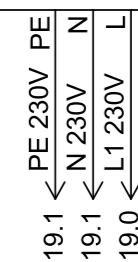
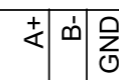
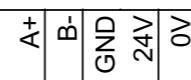
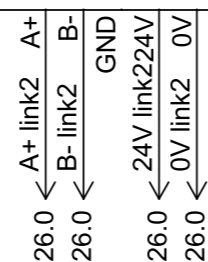
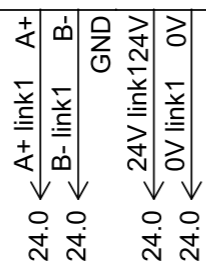
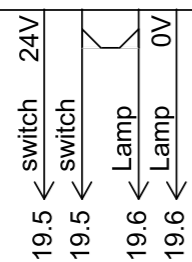
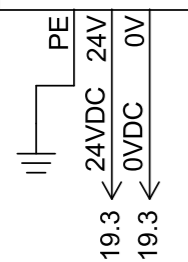
Int-link 1

Int-link 2

Ext-link

BMS

230V Input



Geniox  
Access CU27 Controller

Access CU27 Controller

Project:

Geniox-Core CS 41.04.02 GB

Rev.:

41.04.02

Sheet:

22

Date:

15-01-2020

initials:

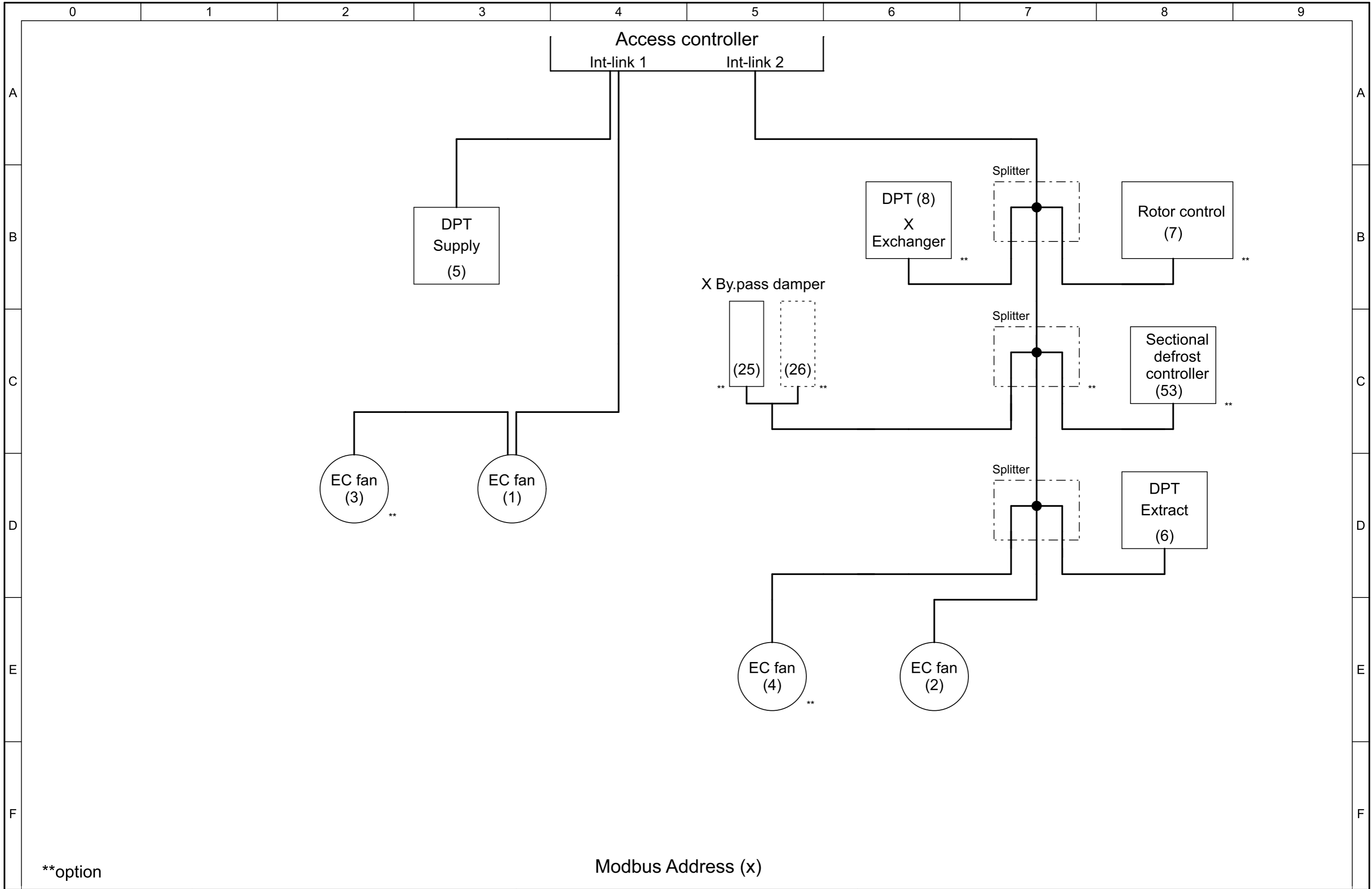
MIKE

Total sheets:

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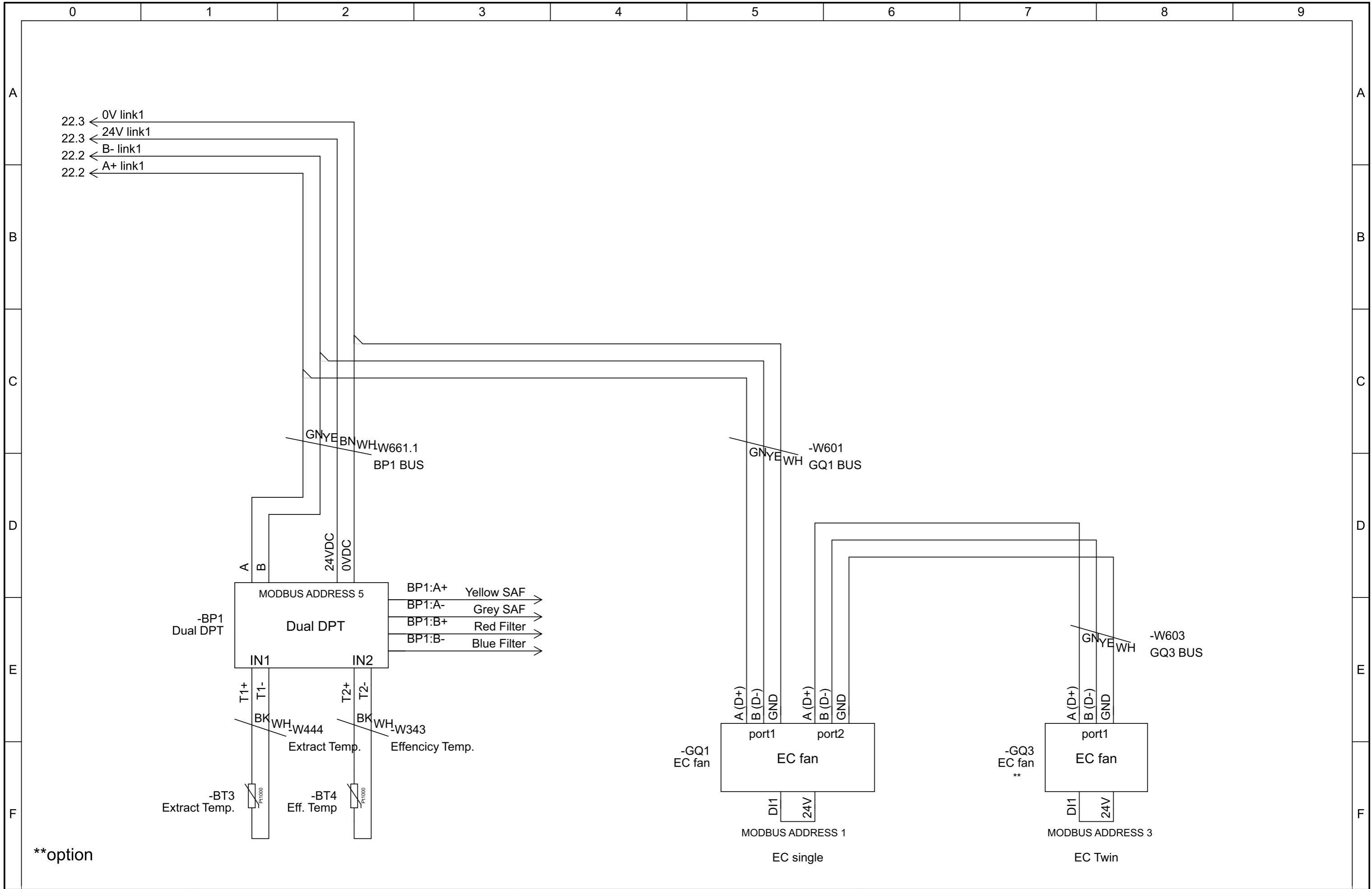
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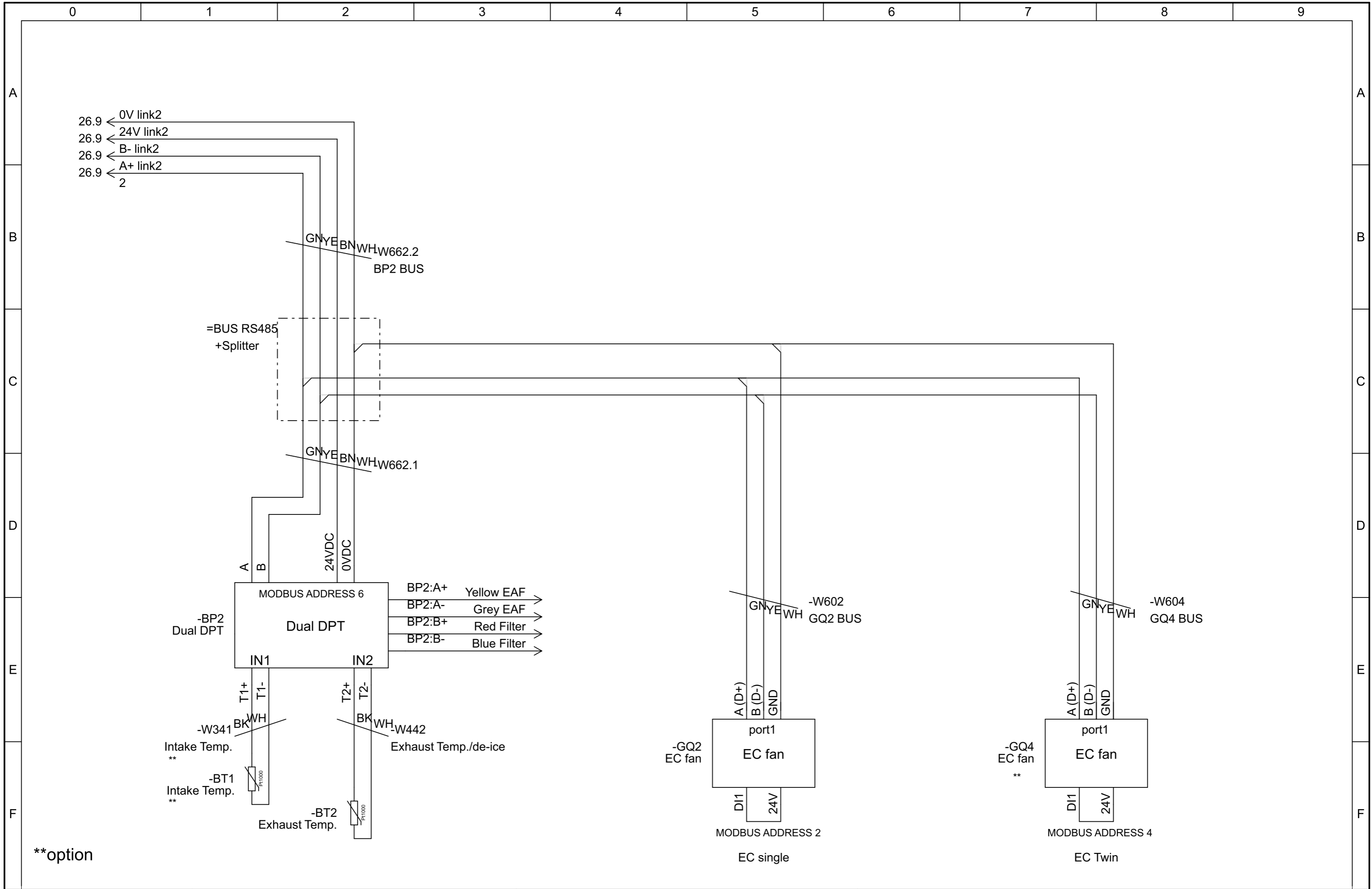
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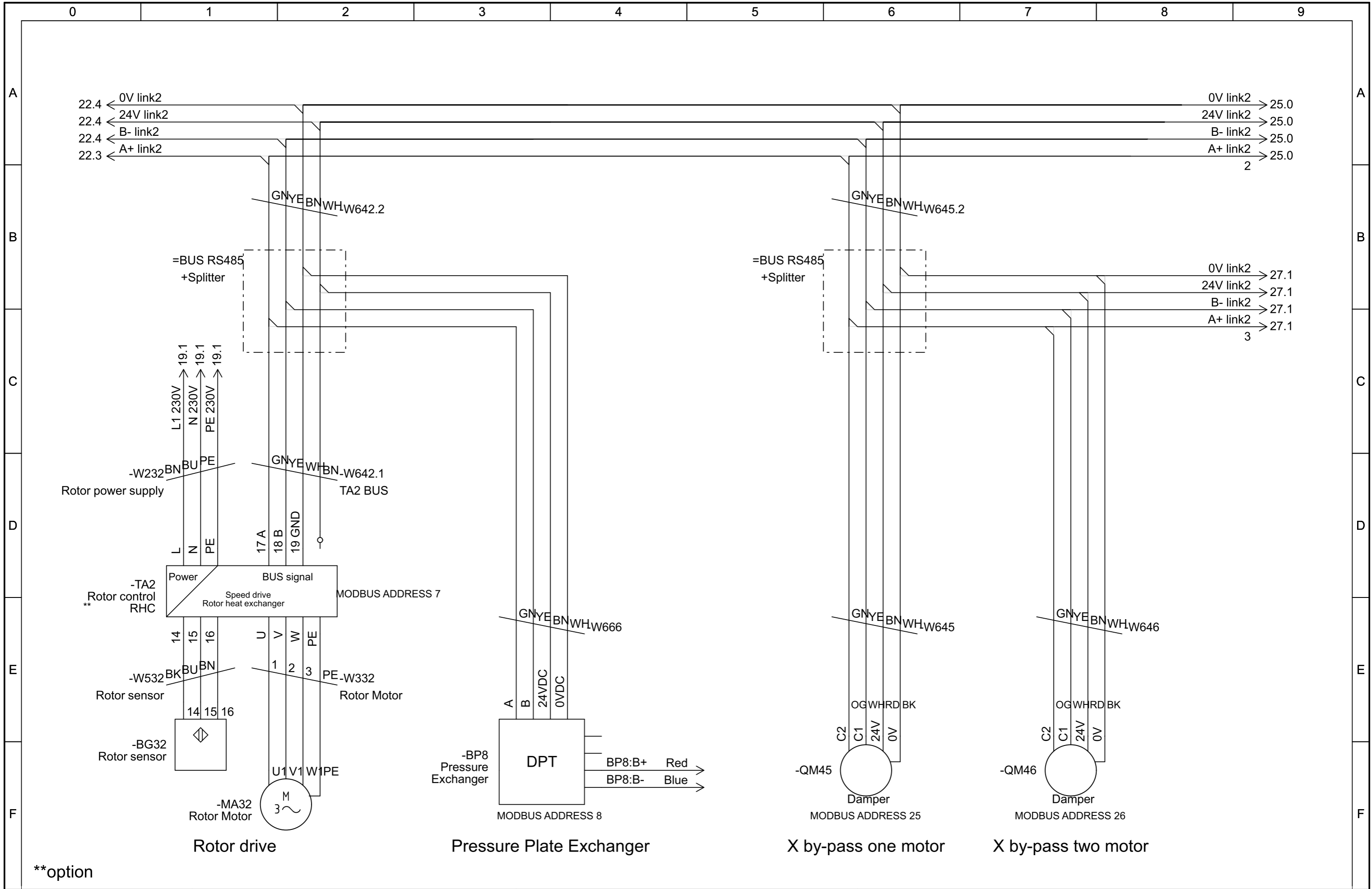
\*\*option

Modbus Address (x)

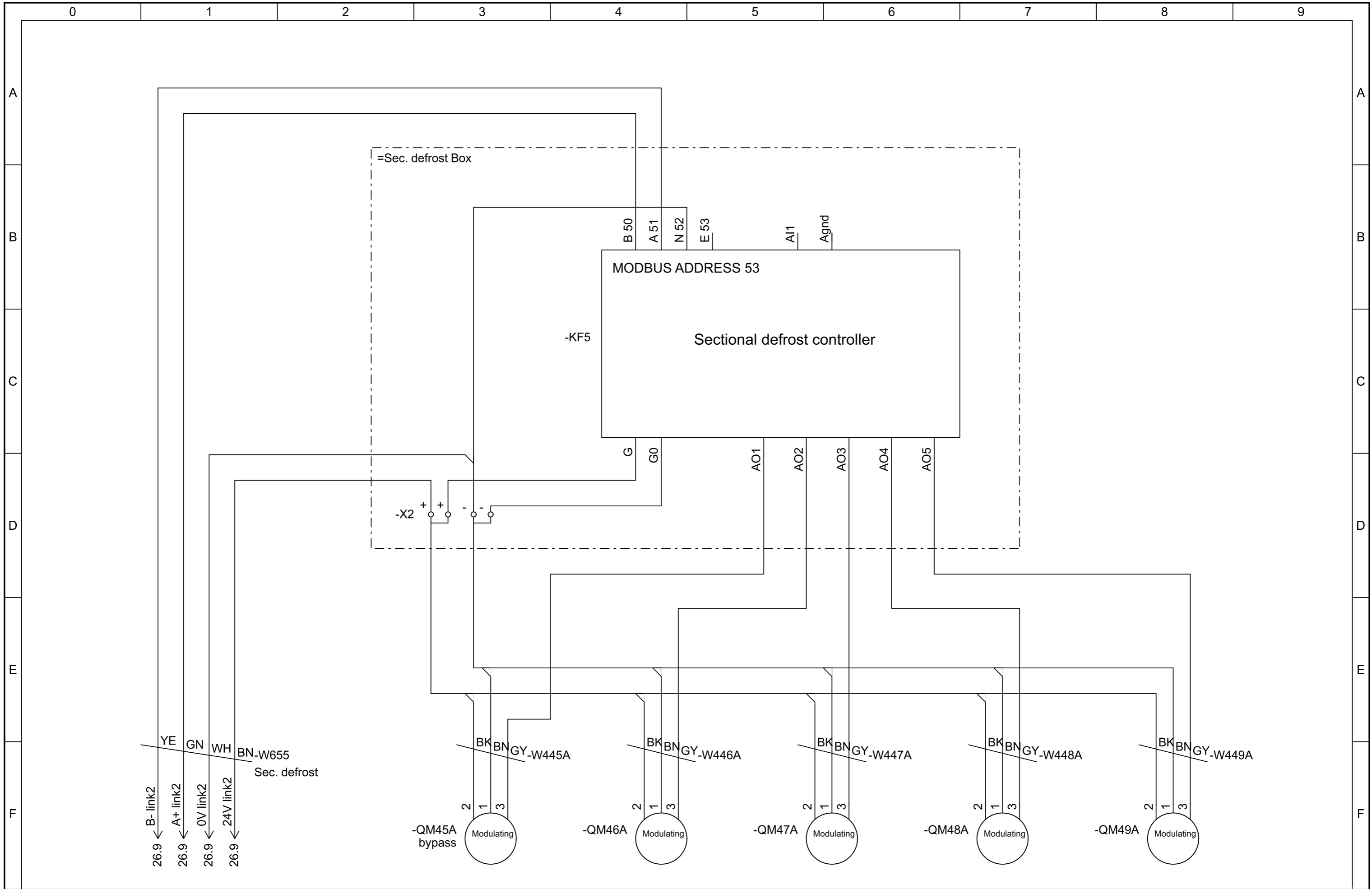




\*\*option



\*\*option



### Address list

### Systemair settings of ECblue Modbus

Address	Component: Code
1	Supply air fan 1: GQ1
2	Extract air fan 1: GQ2
3	Supply air fan 2: GQ3
4	Extract air fan 2: GQ4
5	Dual pressure transmitter supply: BP1
6	Dual pressure transmitter extract: BP2
7	RHC (Rotor drive system): TA2
8	Pressure Exchanger: BP8
25	Plate exchanger by-pass: QM45
26	Plate exchanger "by-pass" 2: QM46
53	Sectional Defrost control: KF5

COM Baudrate: 9600Bd

COM Mode: 8N1

BUS Address: Supply air, 1 and (3, Twin fans)

Extract air, 2 and (4, Twin fans)

D1: 19D

D1 is set to disable internal safety functions that protects the motor (fire mode)

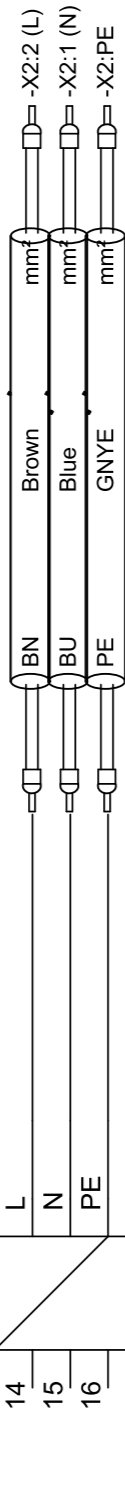
Normal speed control of the fan is possible in this mode.

Function is active if D1 is open = no signal.



# Cable Plan

Path  
Sheet



Remark: Rotor power supply  
Cable-type:

**-W232**

14  
15  
16

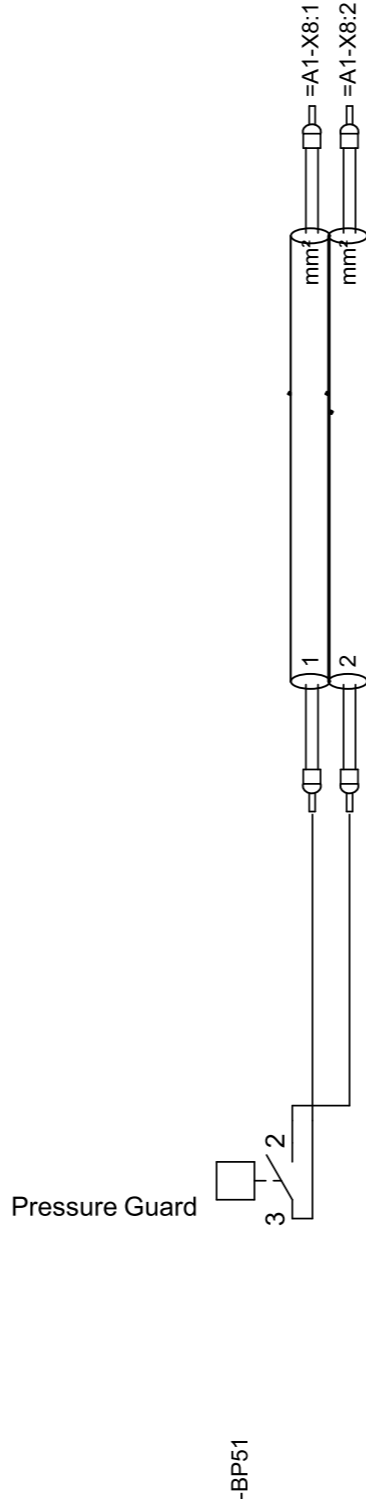
=A1+RHC-TA2  
U  
V  
W  
PE

Rotor control  
RHC

L  
N  
PE  
17 A  
18 B  
19 GND

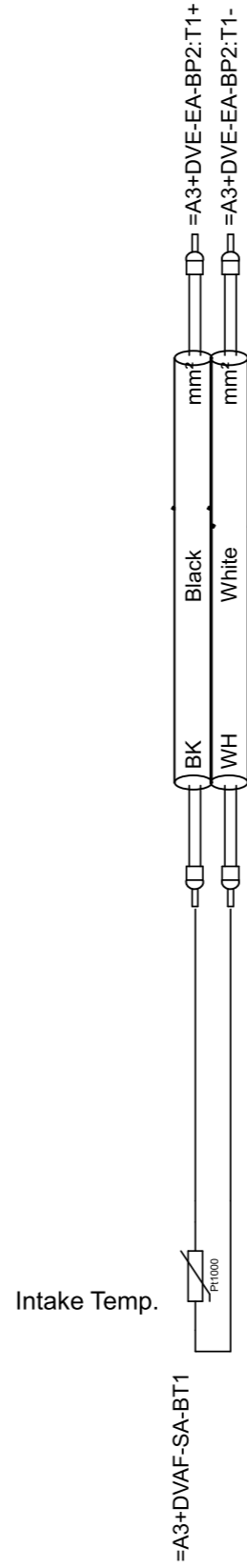
Remark:  
Cable-type:

**-W251**



Remark: Intake Temp.  
Cable-type:

**-W341**



Remark:  
Cable-type:

**-W341**

=A3+DVE-SA-BT1

Intake Temp.



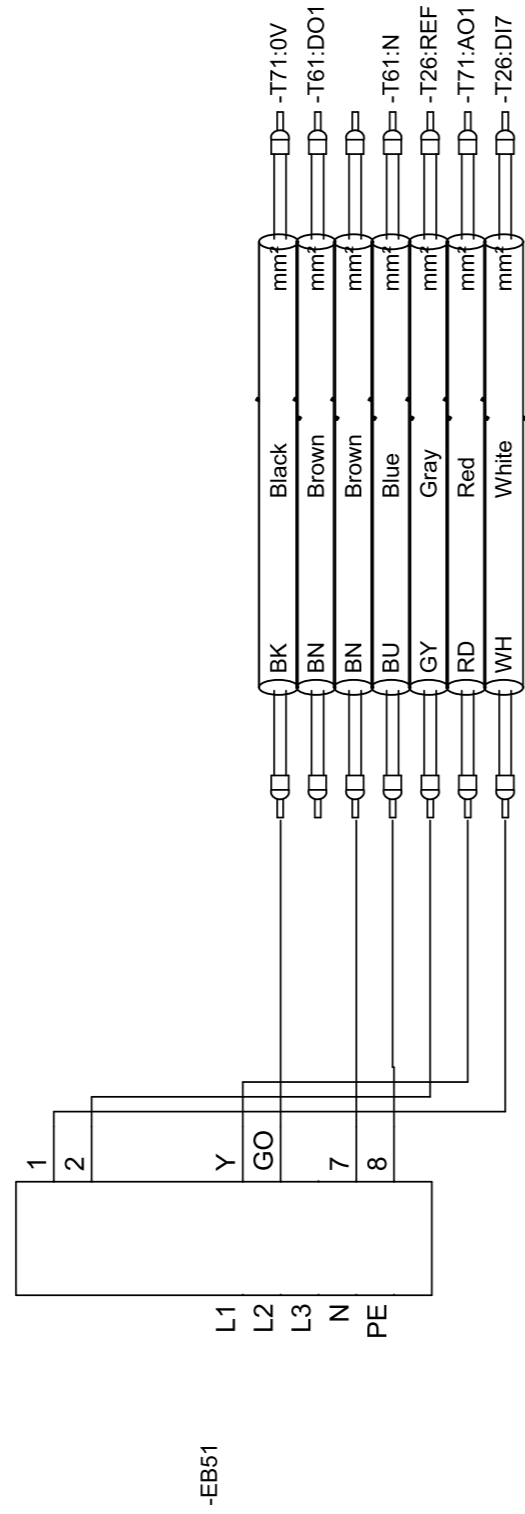
# Cable Plan

Path  
Sheet

Remark: Electric heater  
Cable-type:

**-W351**

Electric heater



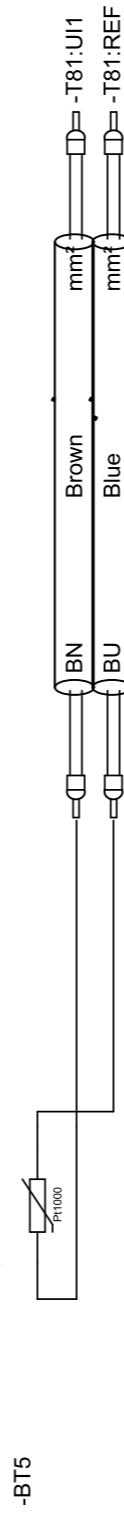
-EB51

16  
16  
16  
16  
16  
16  
16

**-W355**

Remark: Temperatur sensor supply air  
Cable-type:

Supply air  
Duct sensor



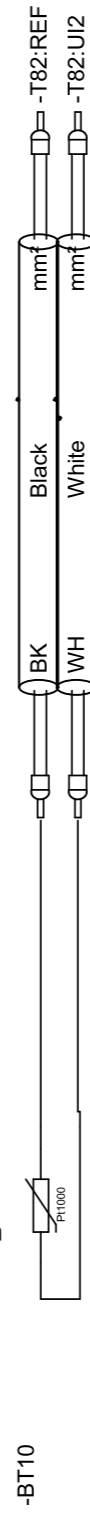
-BT5

13  
13

**-W357**

Remark: Frost protection heating coil  
Cable-type:

Frost protection  
Pt 1000



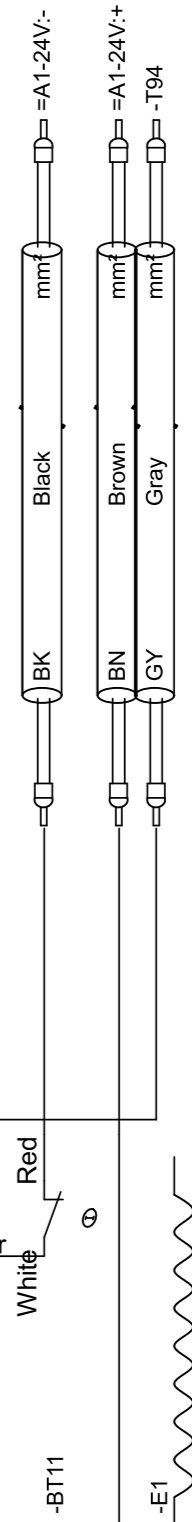
-BT10

13  
13

**-W359**

Remark: Frost thermostat  
Cable-type:

Capillar sensor



-BT11

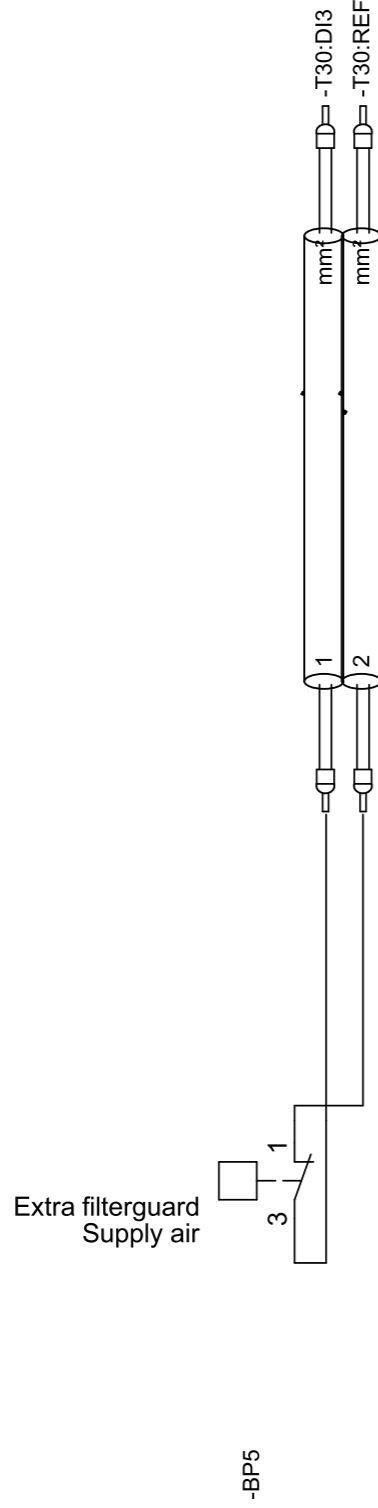
11  
11  
11

# Cable Plan

Path  
Sheet

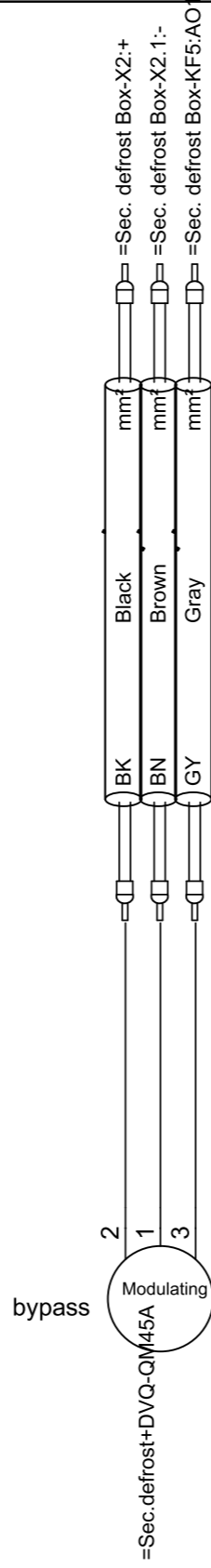
Remark: Extra filter guard  
Cable-type:

**-W363**



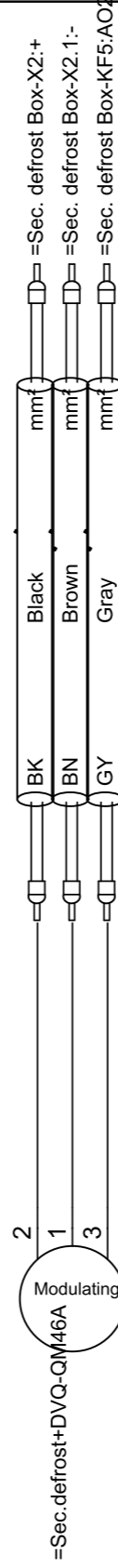
**-W445A**

Remark:  
Cable-type:



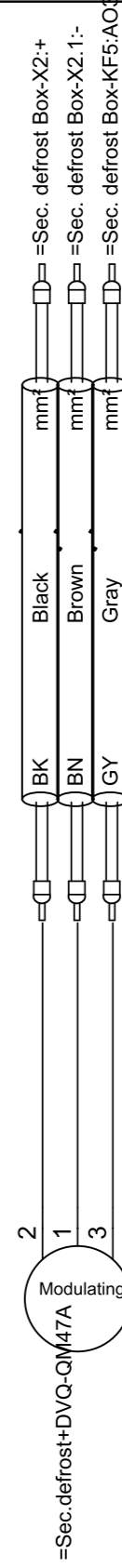
**-W446A**

Remark:  
Cable-type:



**-W447A**

Remark:  
Cable-type:



10  
10

27  
27  
27

27  
27  
27

27  
27  
27

4  
4

3  
3  
3

4  
4  
4

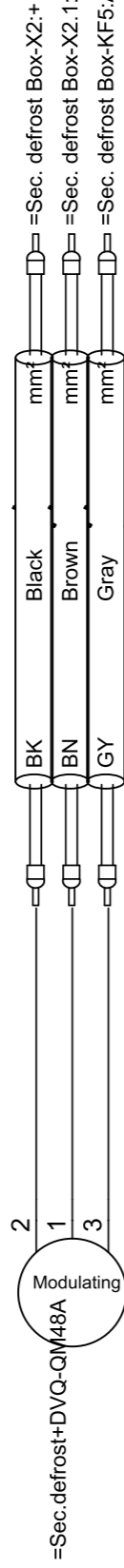
5  
6  
6

# Cable Plan

Path  
Sheet

**-W448A**

Remark:  
Cable-type:

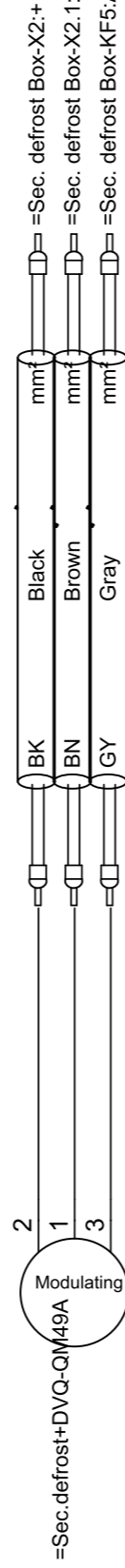


27  
27  
27

7  
7  
7

**-W449A**

Remark:  
Cable-type:

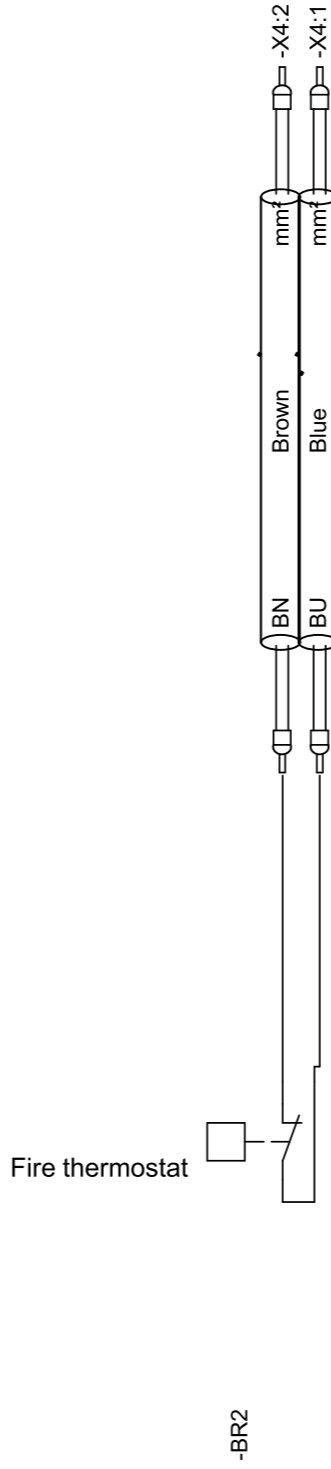


27  
27  
27

8  
8  
8

**-W456**

Remark: Fire thermostat extract air  
Cable-type:

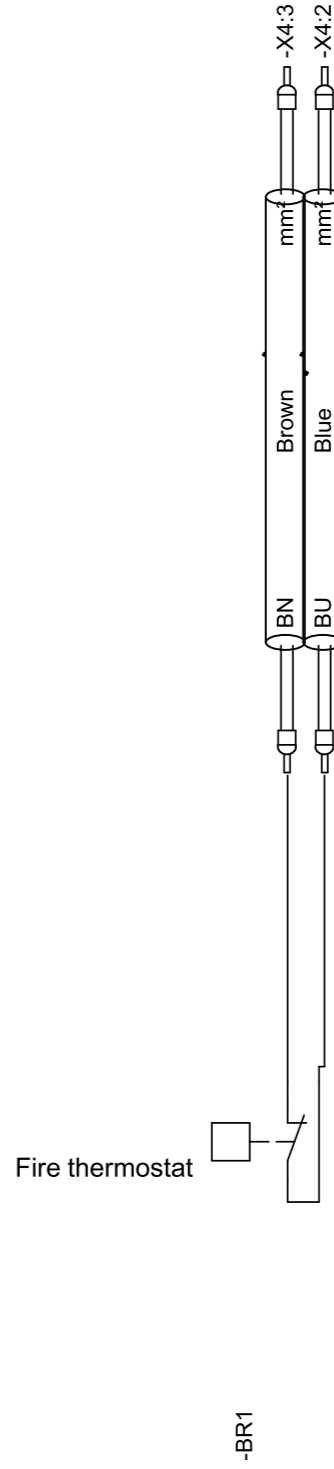


11  
11

6  
6

**-W457**

Remark: Fire thermostat  
Cable-type: 2x0,75mm2



11  
11

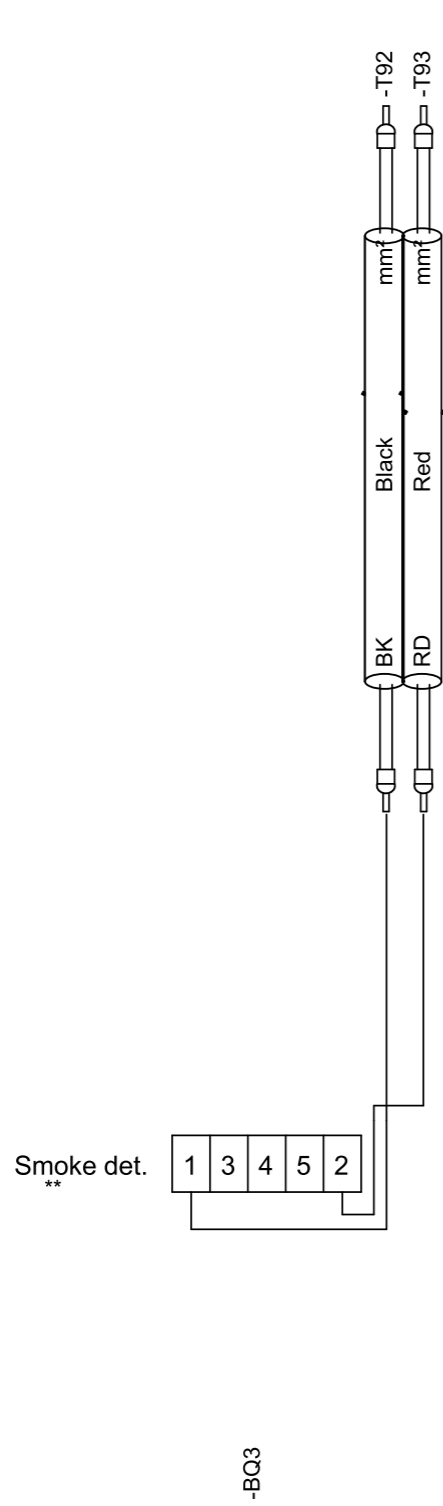
6  
6

# Cable Plan

Path  
Sheet

Remark: Smoke detector  
Cable-type:

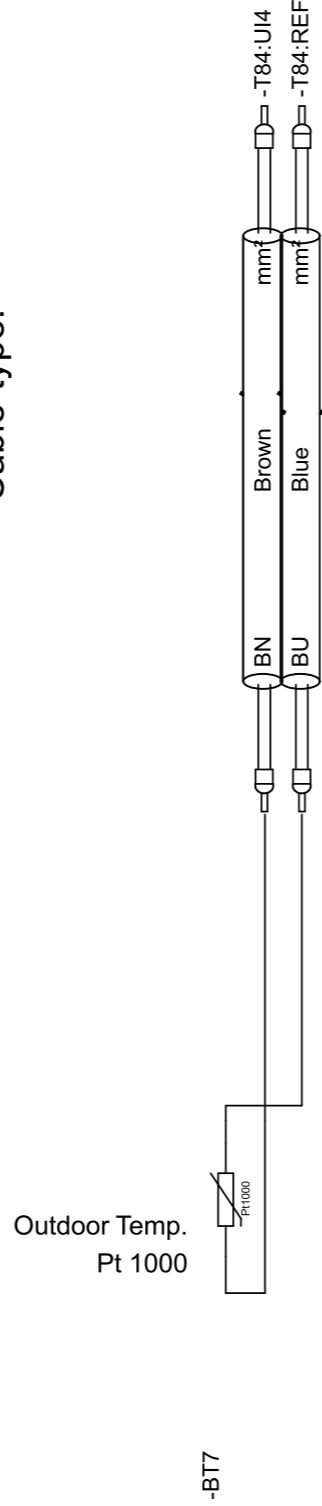
-W458



-BQ3

Remark: Outdoor sensor  
Cable-type:

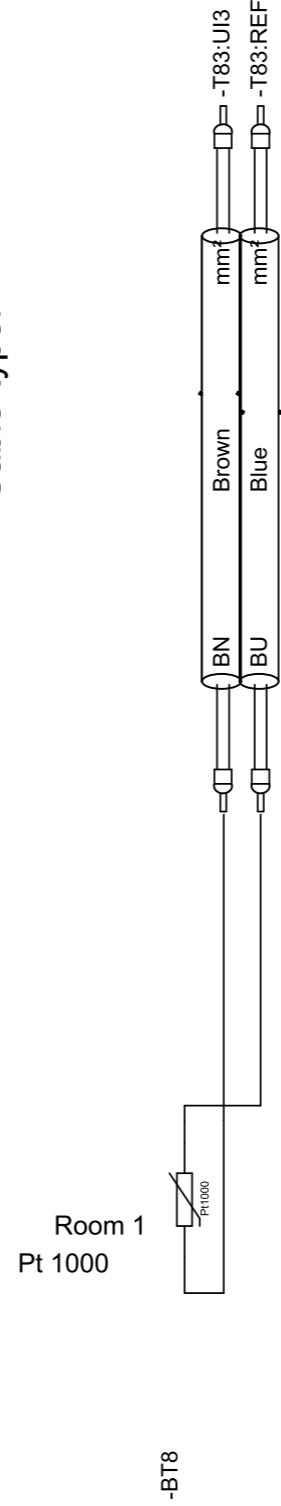
-W507



-BT7

Remark: Room 1 Temp.  
Cable-type:

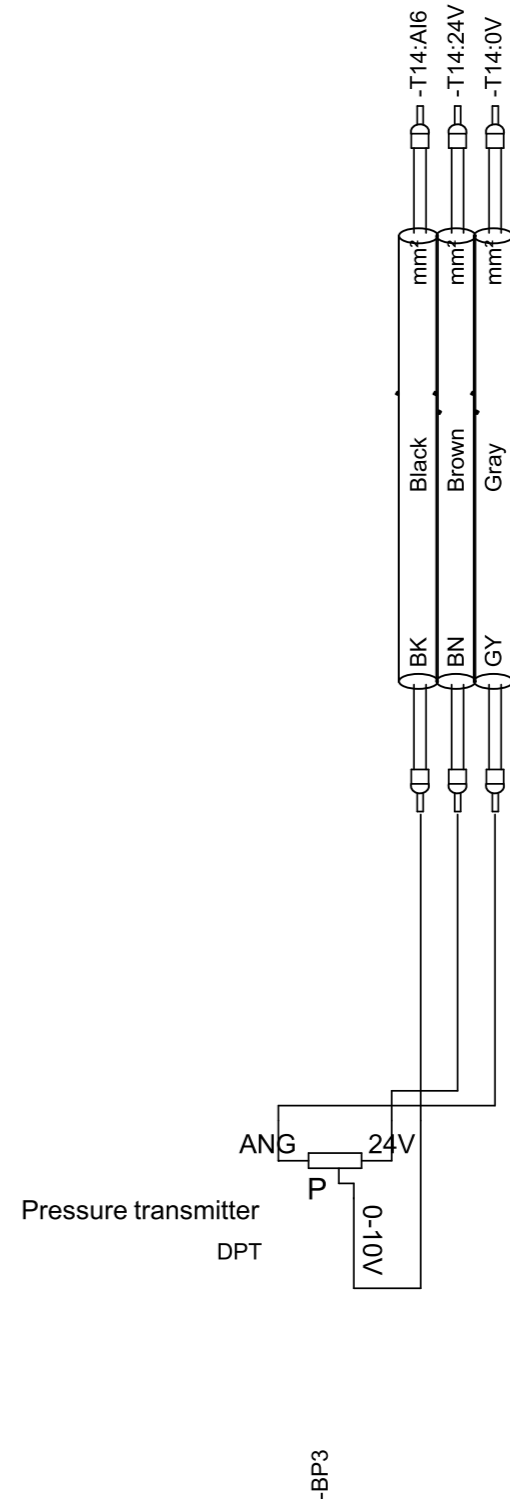
-W508



-BT8

Remark: Pressure Supply air external  
Cable-type:

-W513



-BP3

0  
12

1  
12

8  
13

8  
13

6  
13

6  
13

3  
12

3  
12

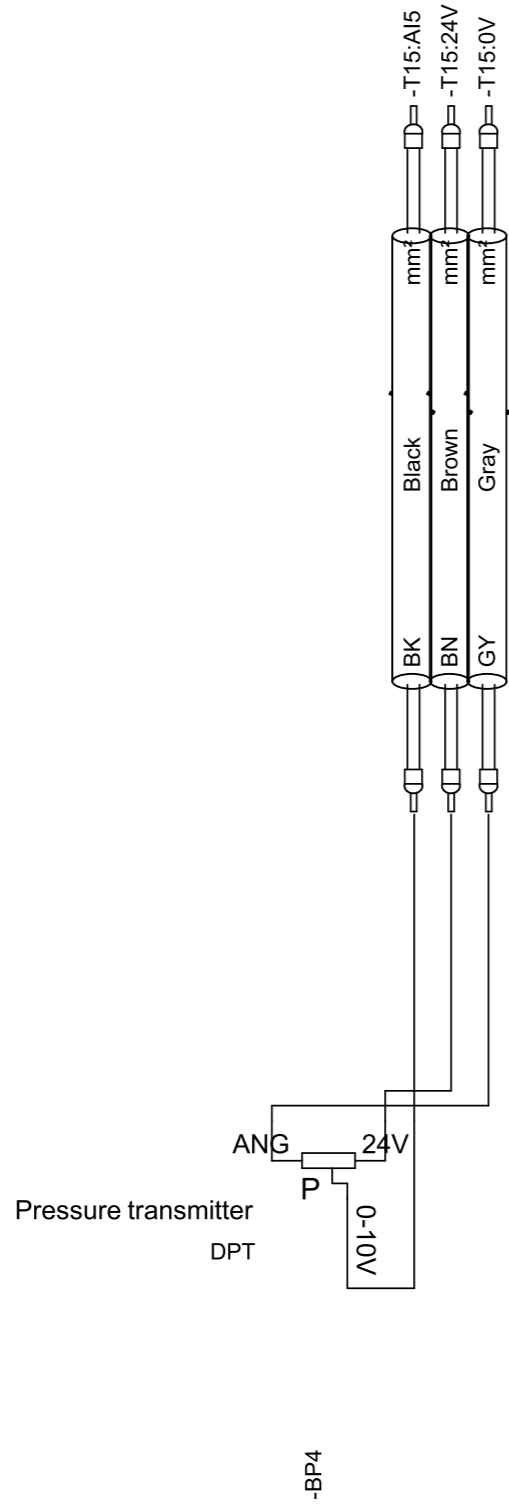
2  
12

# Cable Plan

Path  
Sheet

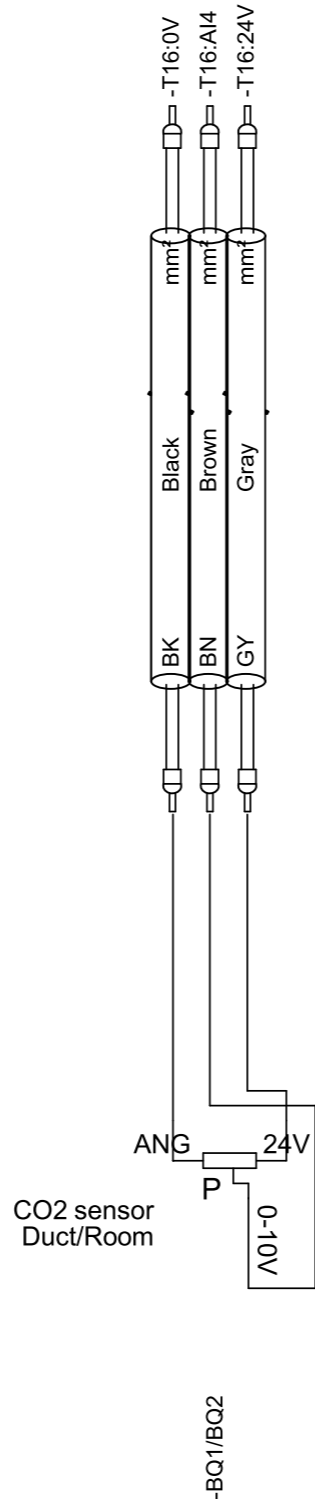
Remark: Pressure Extract air external  
Cable-type:

**-W514**



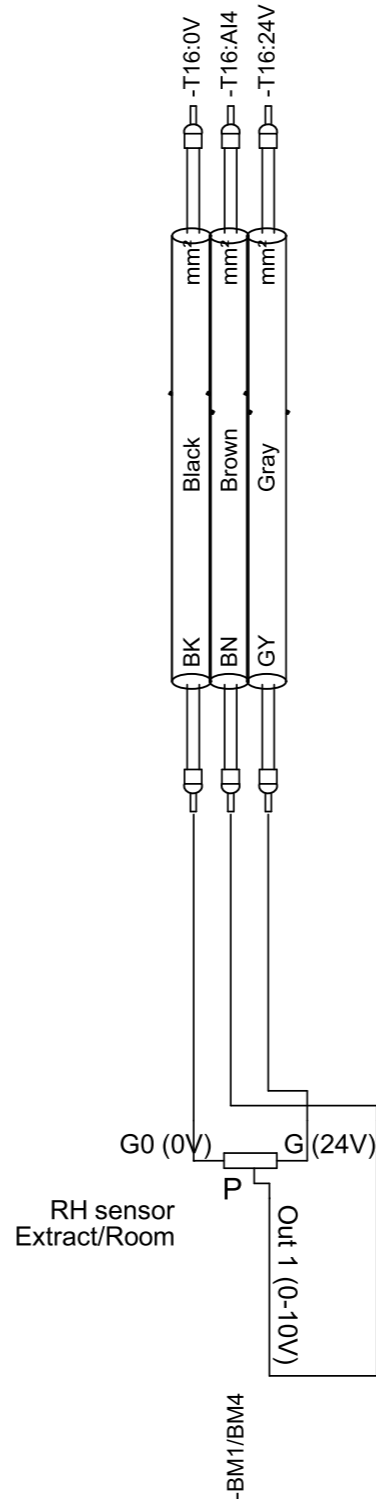
**-W515/516**

Remark: CO2 sensor  
Cable-type:



**-W517/W520**

Remark: RH sensor  
Cable-type:



4  
5  
4

6  
6  
7

8  
8  
8

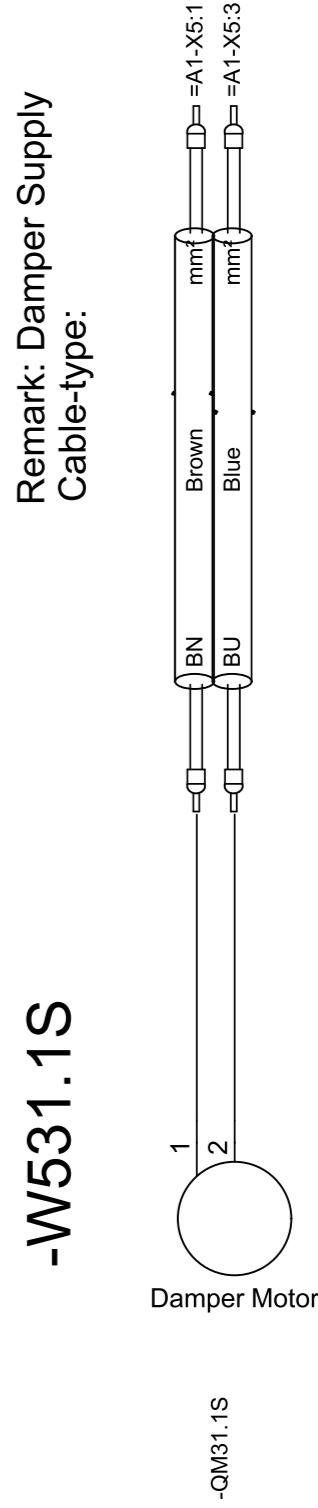
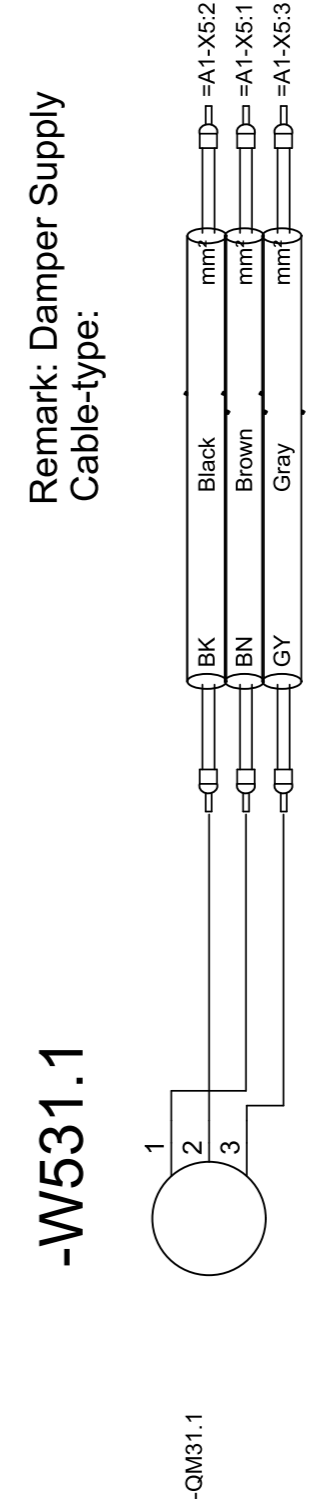
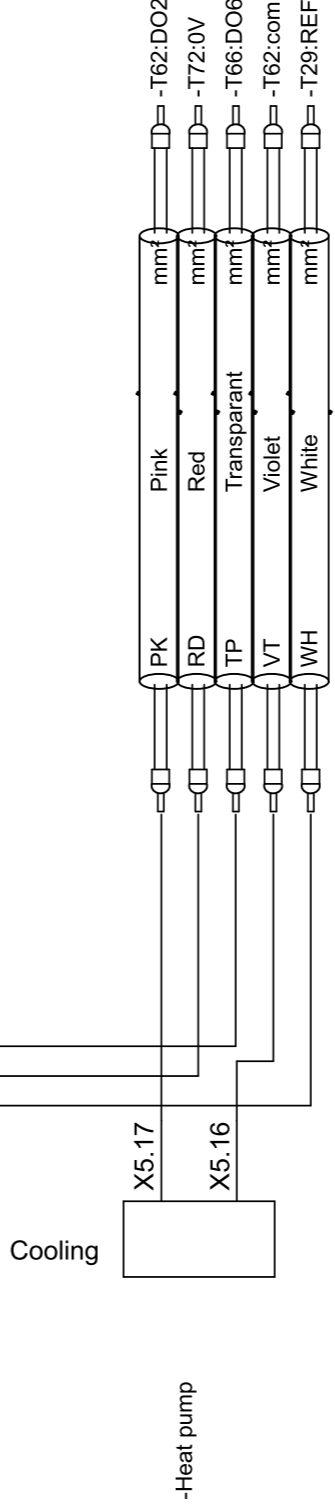
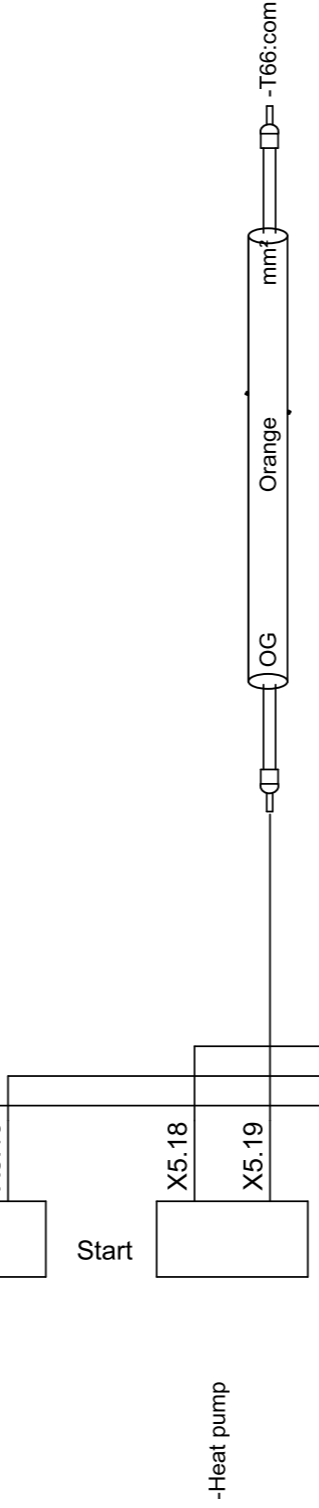
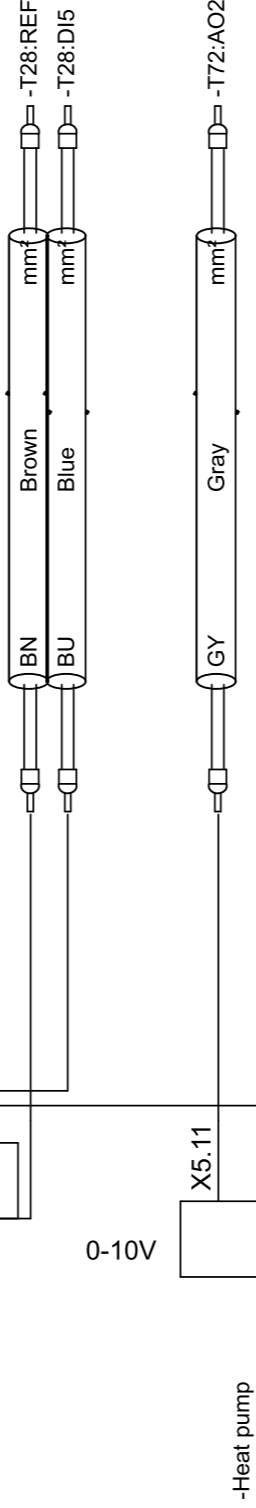
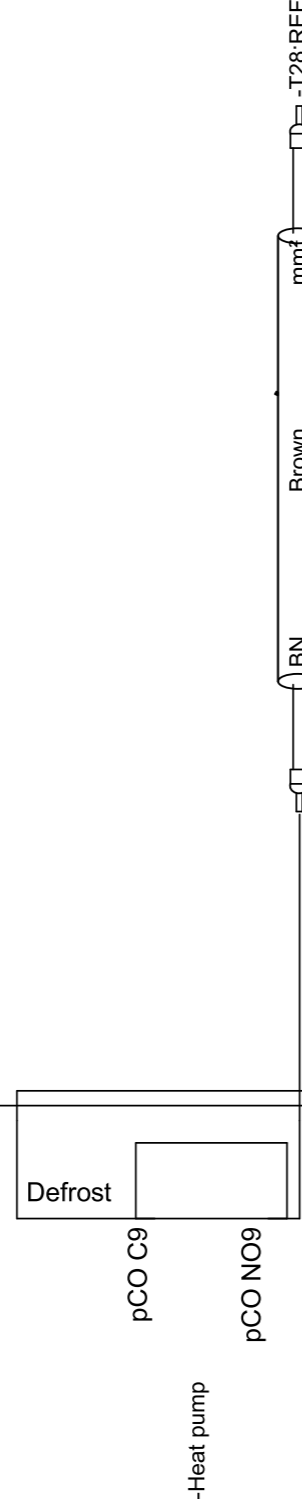
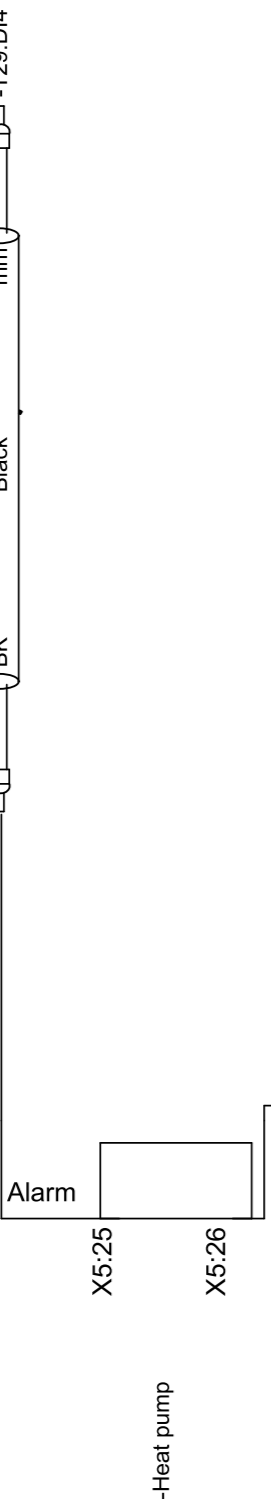
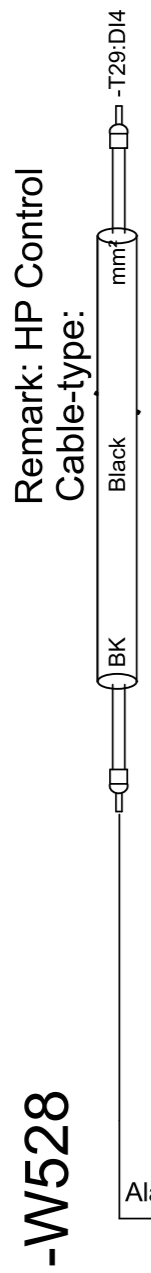
12  
12  
12

12  
12  
12

12  
12  
12

# Cable Plan

Path	6
Sheet	10



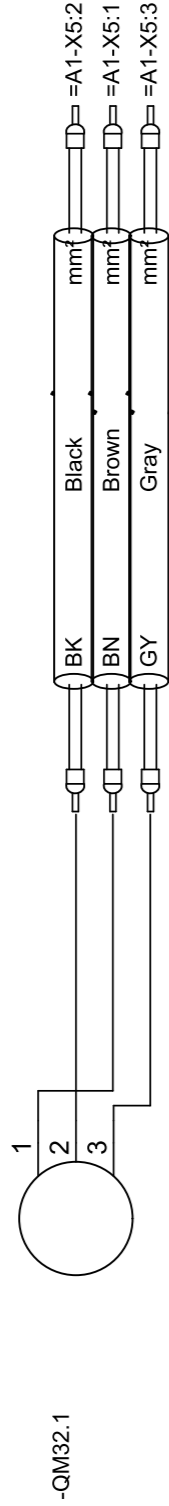
10	10	10	10	16	15	14	16	15	14	10	15	15	15	15	15	15
6	9	8	8	9	4	8	9	5	6	0	0	0	1	1		

# Cable Plan

Path  
Sheet

Remark: Damper Extract  
Cable-type:

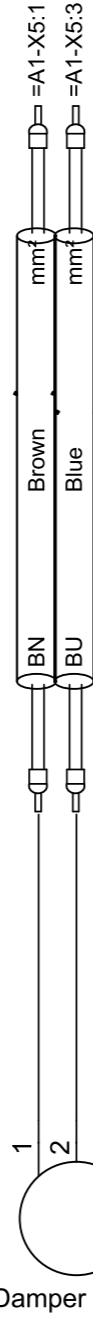
**-W532.1**



-QM32.1

Remark: Damper Extract  
Cable-type:

**-W532.1S**

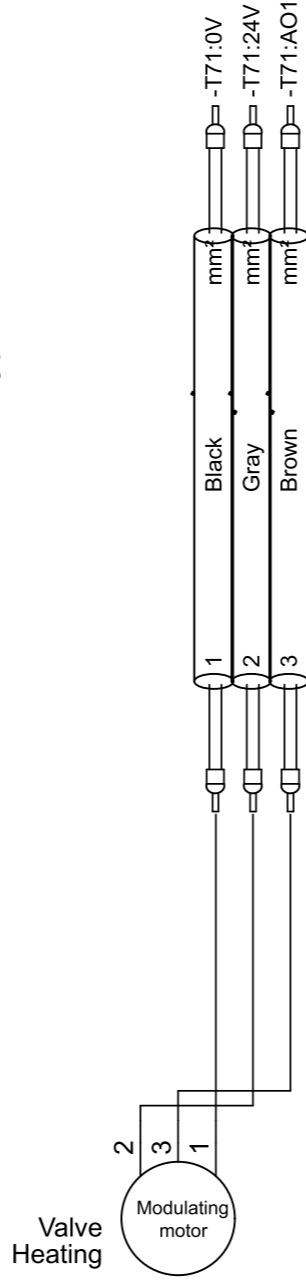


-QM32.1S

Damper Motor

Remark: Heating valve  
Cable-type:

**-W551**

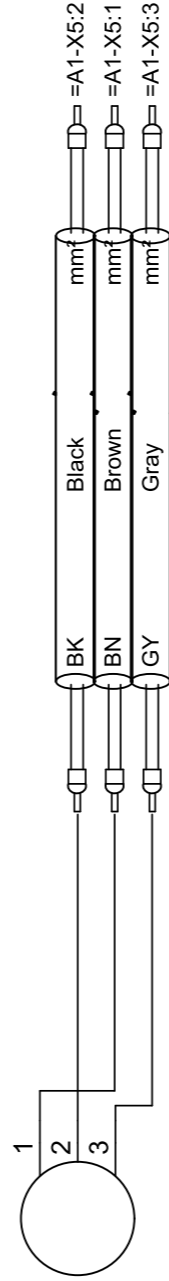


-QN51

Valve Heating  
Modulating motor

Remark: Damper Supply 2  
Cable-type:

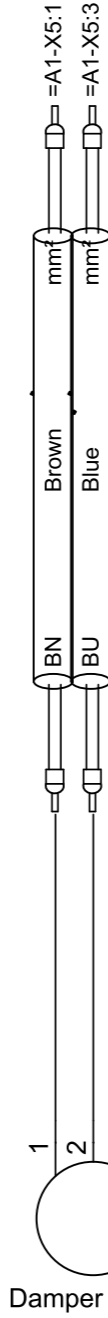
**-W571.1**



-QM71.1

Remark: Damper Supply 2  
Cable-type:

**-W571.1S**

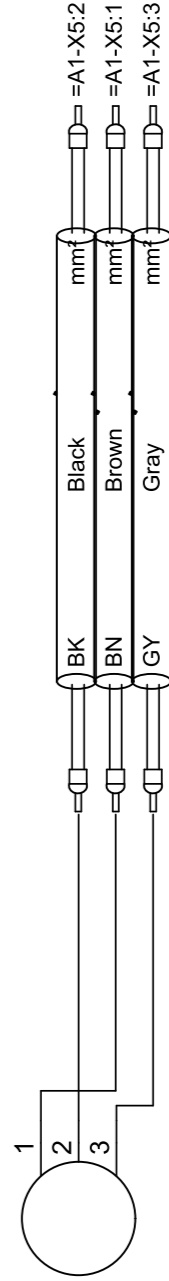


-QM71.1S

Damper Motor

Remark: Damper Extract 2  
Cable-type:

**-W572.1**



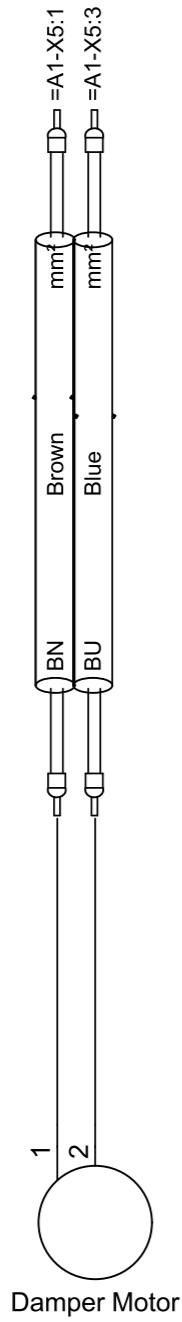
-QM72.1

# Cable Plan

Path  
Sheet

**-W572.1S**

Remark: Damper Extract 2  
Cable-type:



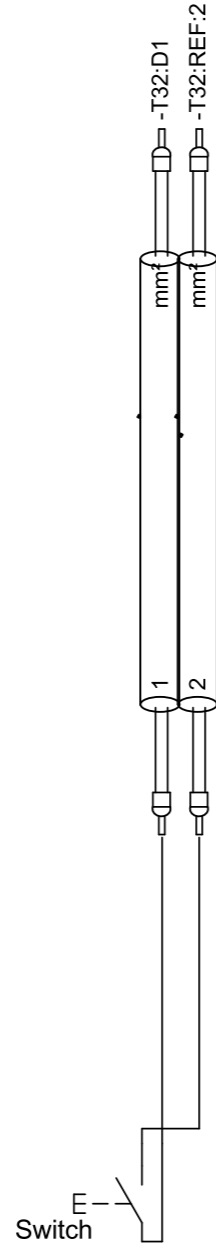
-QM72.1S

Damper Motor

7  
15

**-W580**

Remark: Reduced speed  
Cable-type: 2x0,75mm2

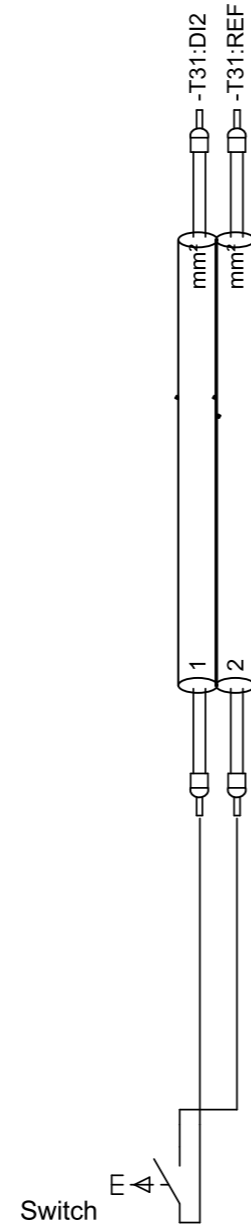


-SF2

1  
10

**-W581**

Remark: Normal speed-ext.  
Cable-type:



-SF3

2  
10

**-W583**

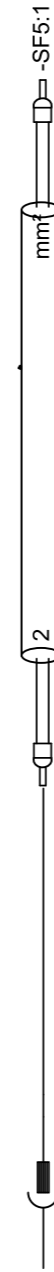
Remark: Ext. stop  
Cable-type: 2x0,75mm2



-T30:D13

5

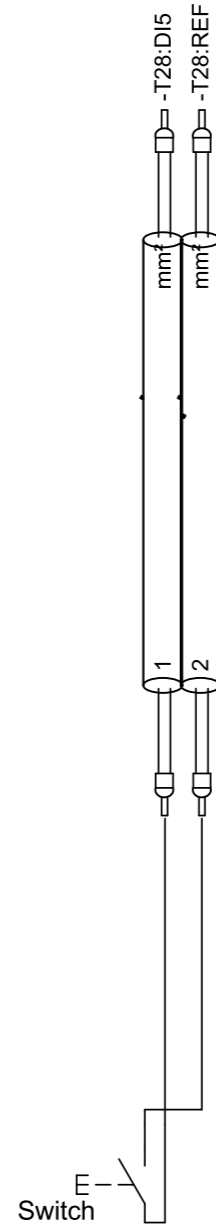
-T30:REF



5

**-W584**

Remark: Change over  
Cable-type:



-SF6

8  
10

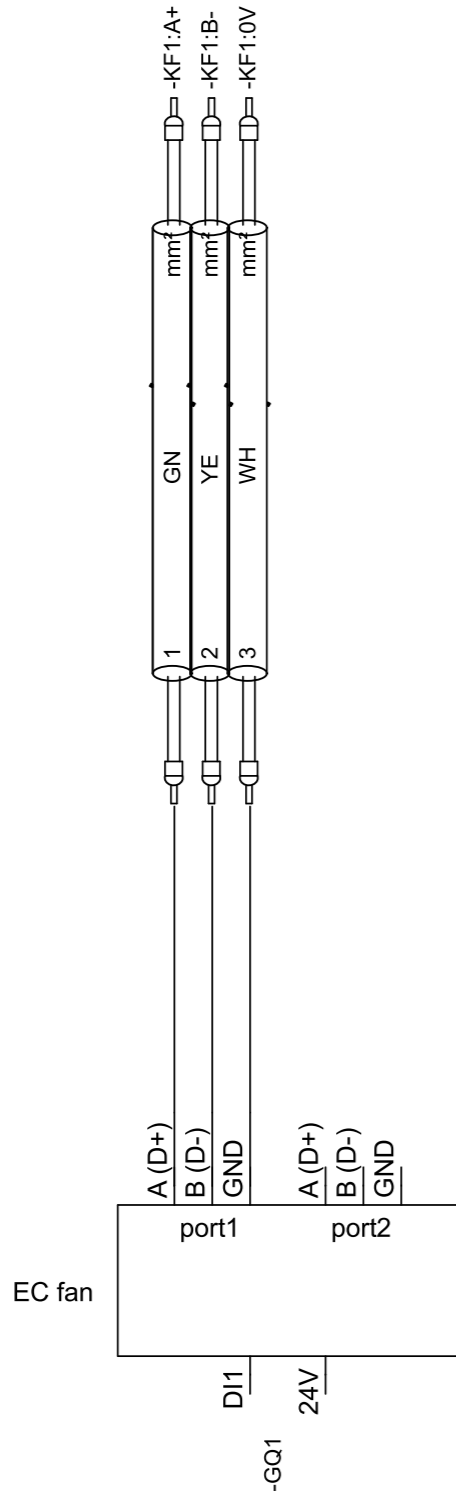


# Cable Plan

Path  
Sheet

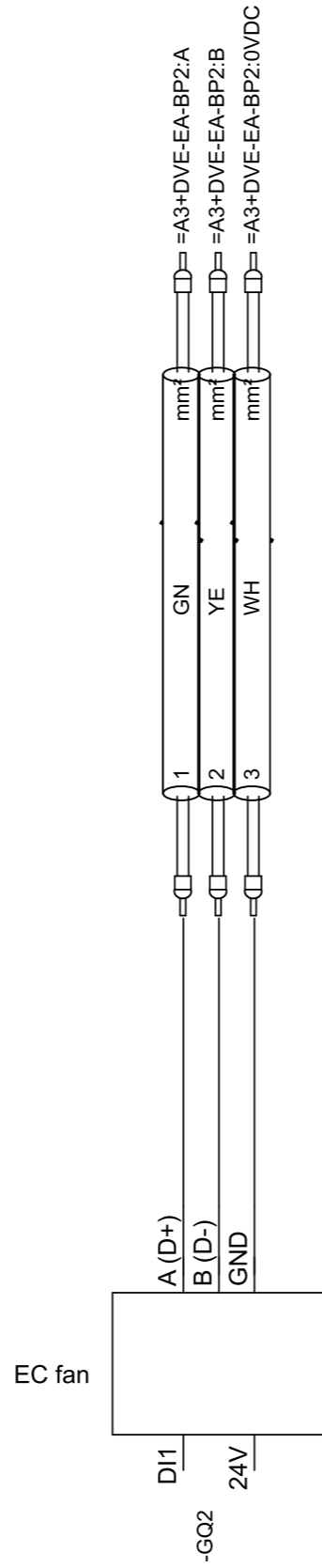
Remark: GQ1 BUS  
Cable-type: 4x0,6mm2

**-W601**



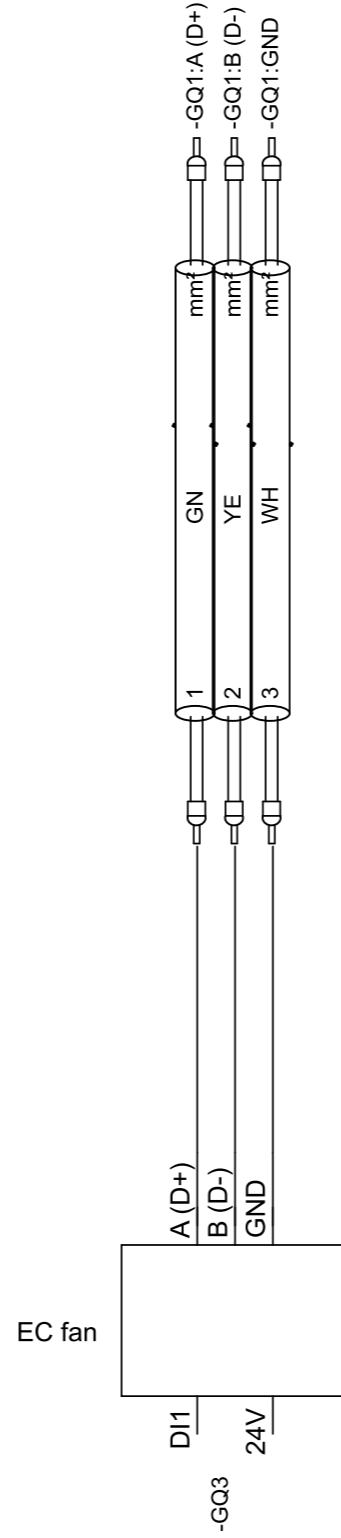
Remark: GQ2 BUS  
Cable-type: 4x0,6mm2

**-W602**



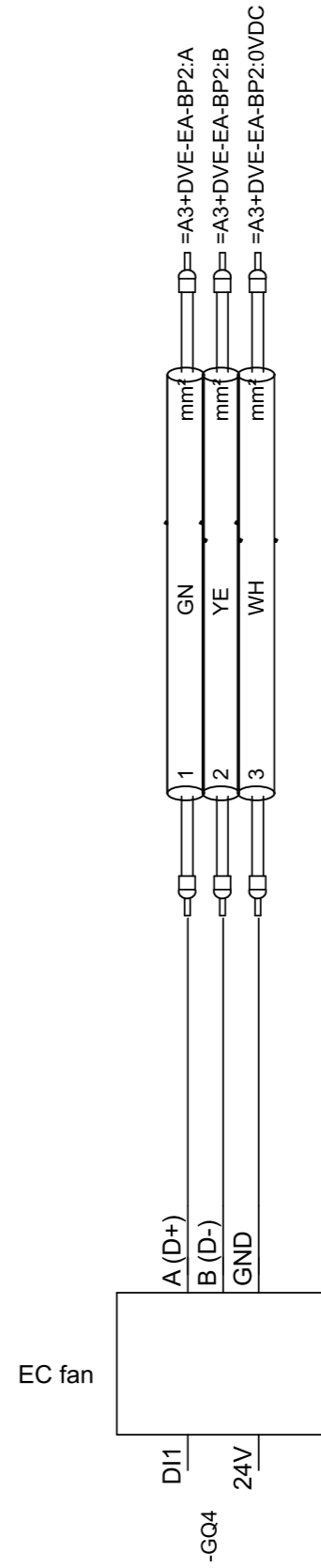
Remark: GQ3 BUS  
Cable-type: 4x0,6mm2

**-W603**



Remark: GQ4 BUS  
Cable-type: 4x0,6mm2

**-W604**

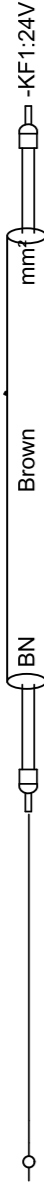


# Cable Plan

Path  
Sheet

26	2
26	1
26	2
26	2
26	6
26	6
26	6
26	6
26	7
26	7
26	8
26	7

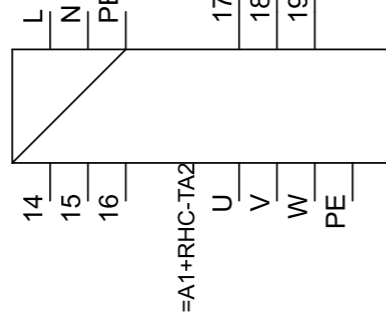
Remark: TA2 BUS  
Cable-type:



-W642.1

-X

Rotor control  
RHC



=A1+RHC-TA2



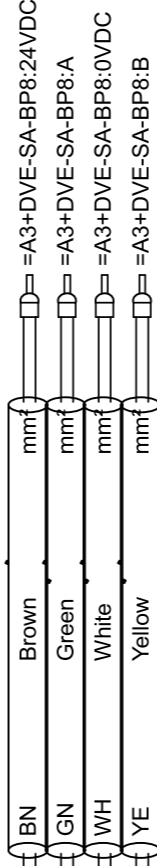
Remark: Extract  
Cable-type:

-W645



Damper

=BUS RS485+Ext



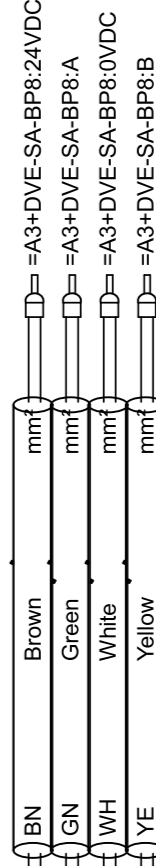
Remark: Extract  
Cable-type:

-W646



Damper

=BUS RS485+Ext

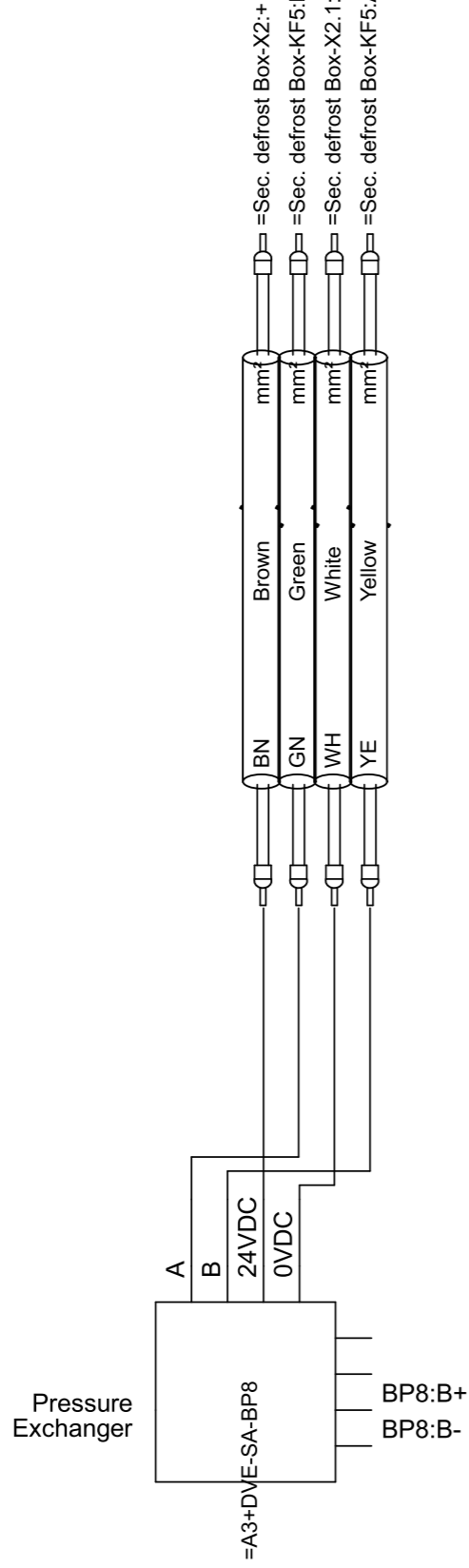


# Cable Plan

Path  
Sheet

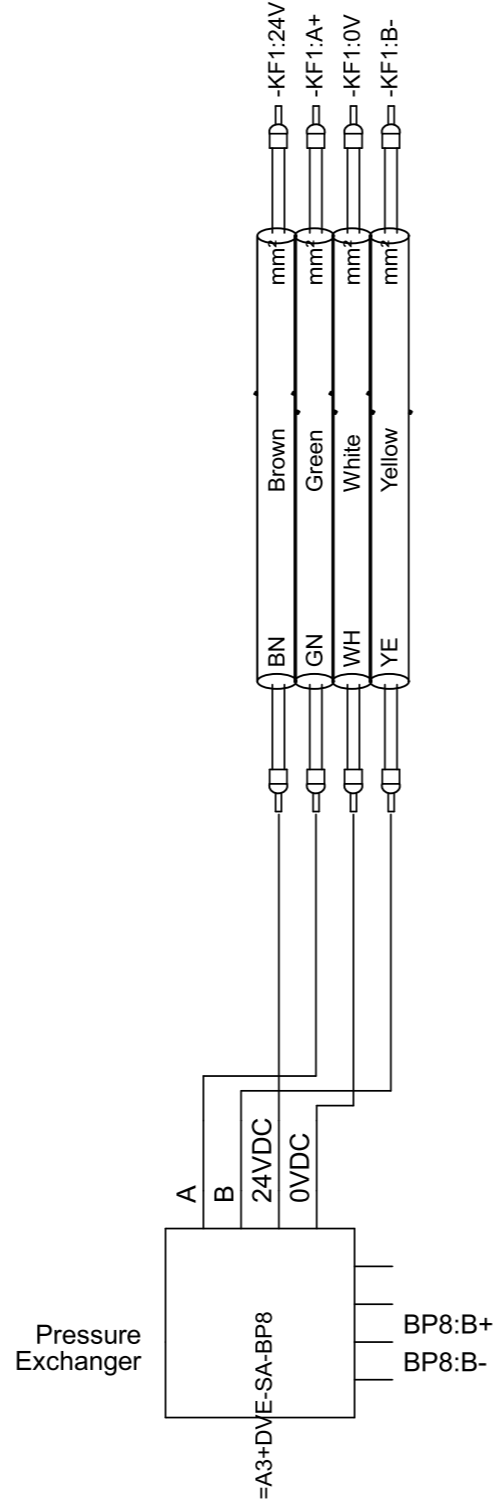
Remark: Sec. defrost  
Cable-type:

-W655



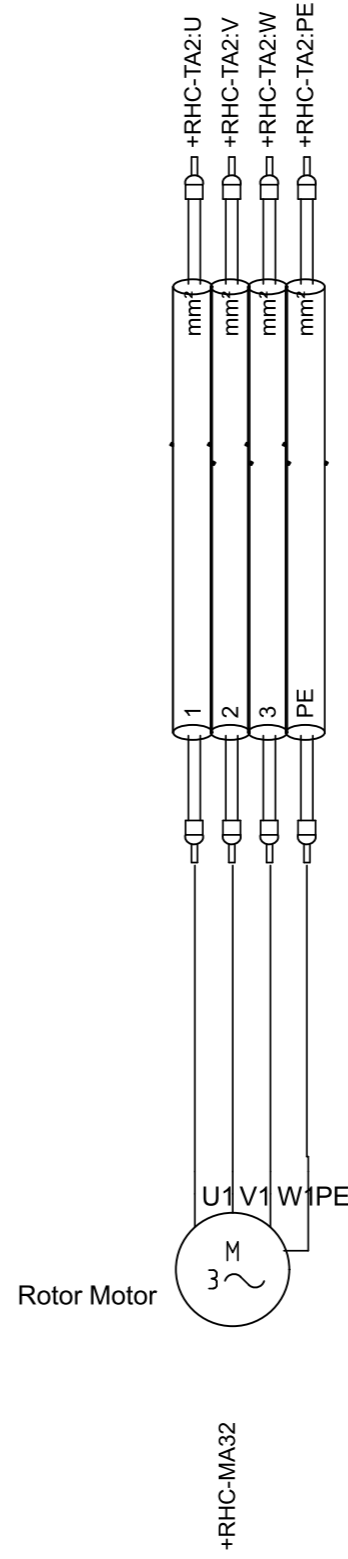
Remark: Pressure Plate  
Cable-type:

-W666



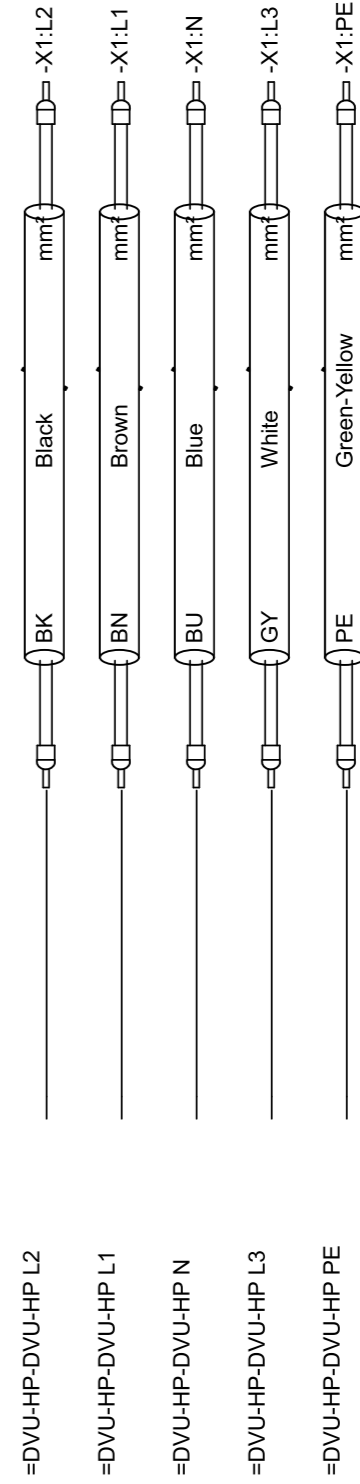
Remark: Rotor Motor  
Cable-type:

=A1-W332



Remark: DVU-HP  
Cable-type:

=A1-W529



27  
27  
27  
27

26  
26  
26  
26

26  
26  
26  
26

18  
18  
18  
18  
18

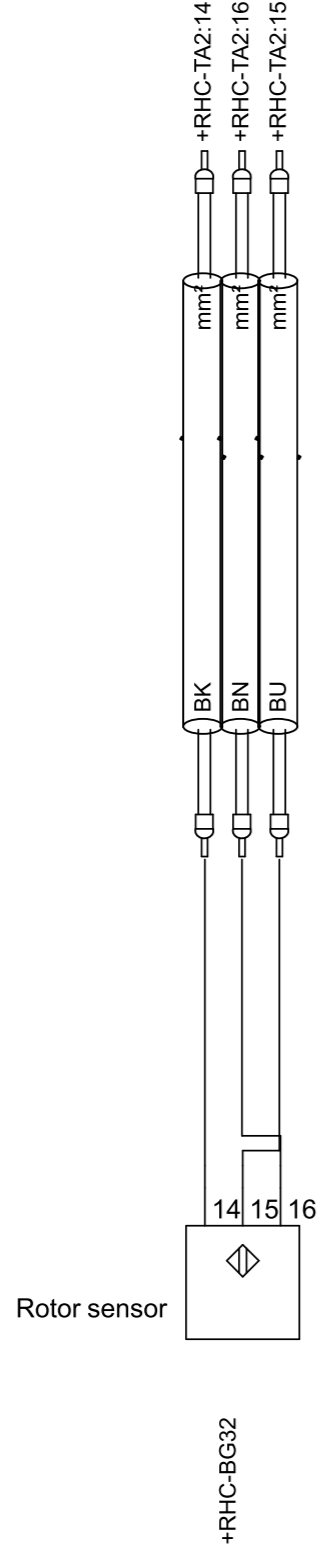
# Cable Plan

Path  
Sheet

26	26	26	14	14	14	16	16	16	19	19	19	19
1	1	1	2	2	2	7	7	7	5	5	6	6

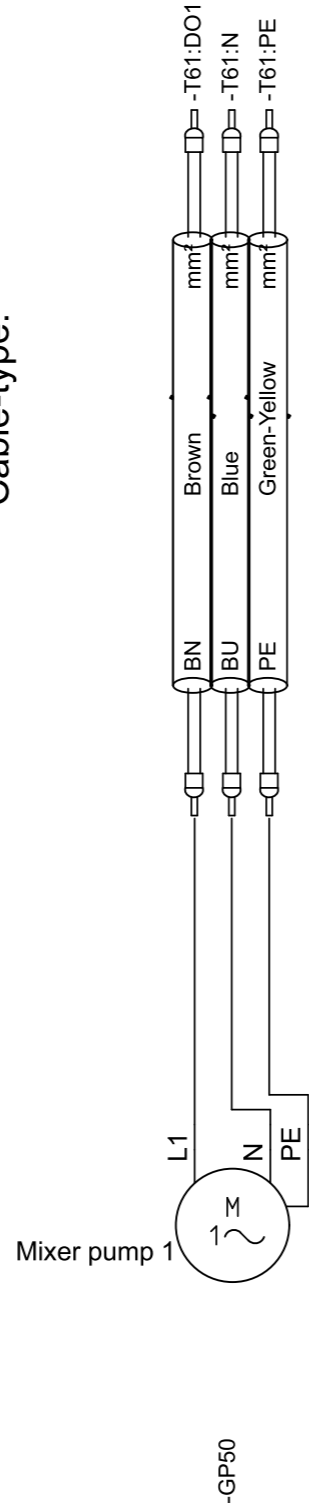
**=A1-W532**

Remark: Rotor sensor  
Cable-type:



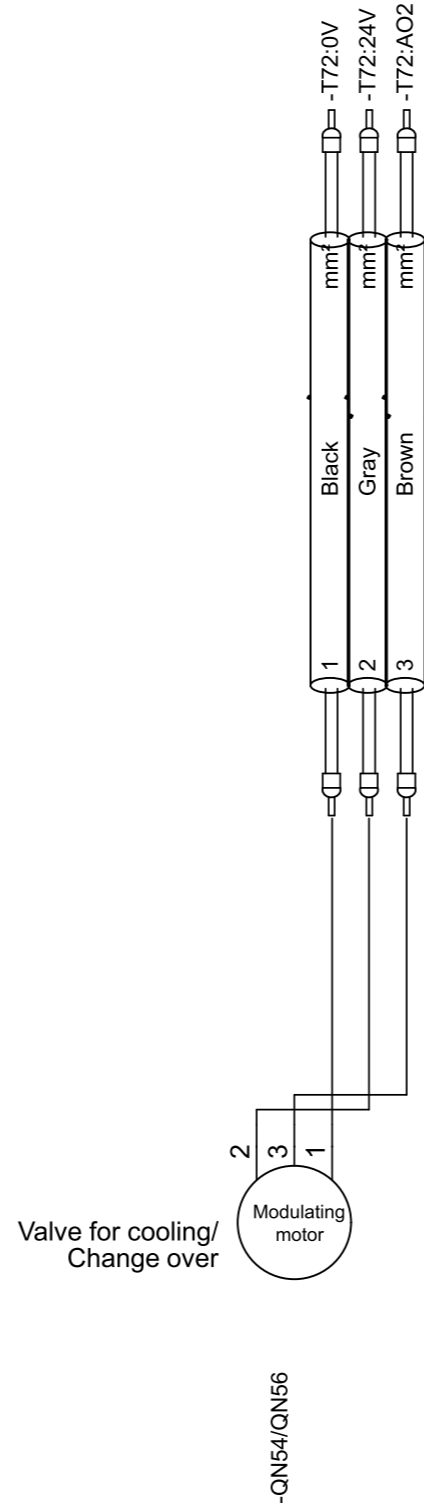
**=A1-W550**

Remark: Mixing pump  
Cable-type:



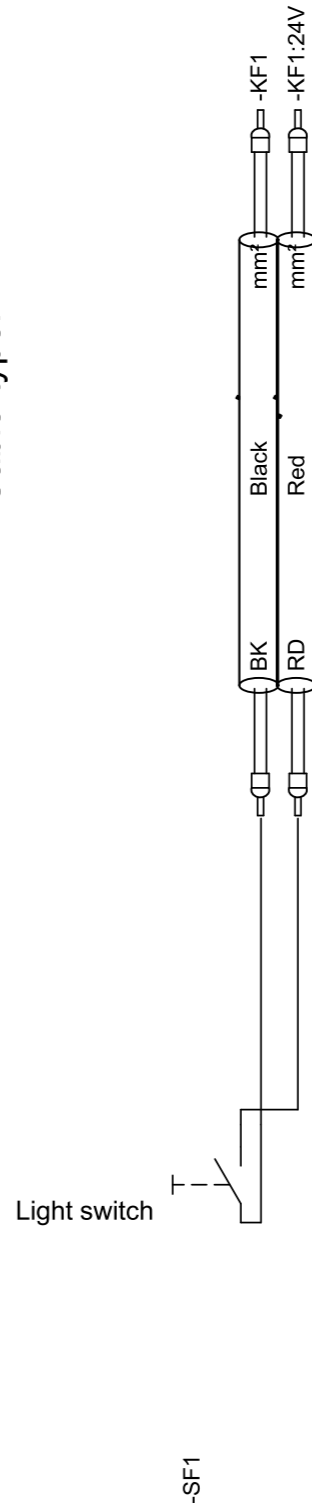
**=A1-W554**

Remark: Cooling valve  
Cable-type:



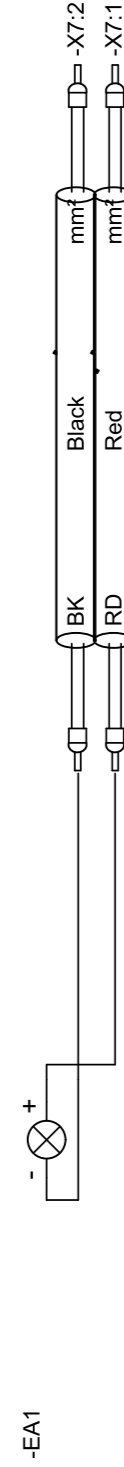
**=A1-W700**

Remark: Light switch  
Cable-type:



**=A1-W701**

Remark: Light P20  
Cable-type:

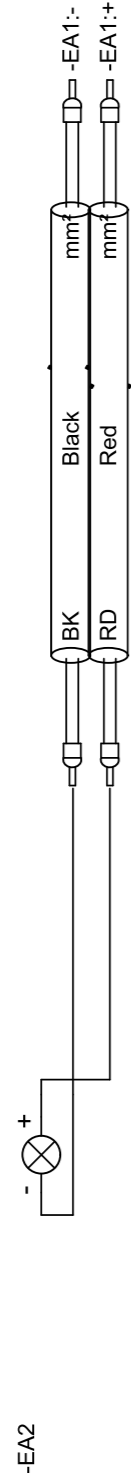


# Cable Plan

Path  
Sheet

=A1-W702

Remark: Light P20  
Cable-type:

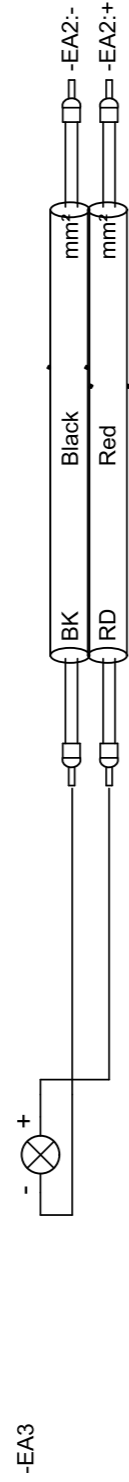


-EA2

7  
19

=A1-W703

Remark: Light P20  
Cable-type:

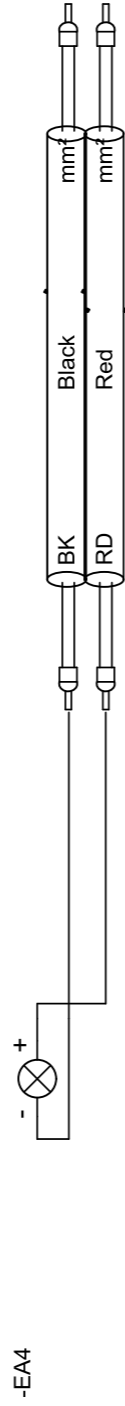


-EA3

7  
19

=A1-W704

Remark: Light P21  
Cable-type:

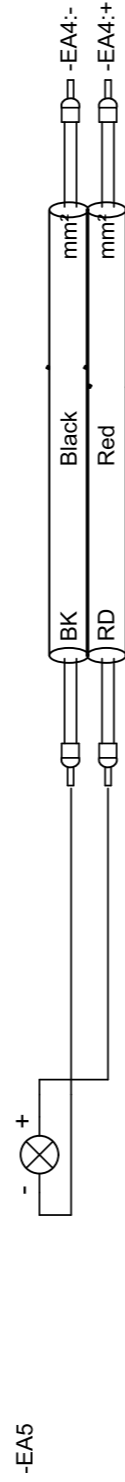


-EA4

8  
19

=A1-W705

Remark:  
Cable-type:

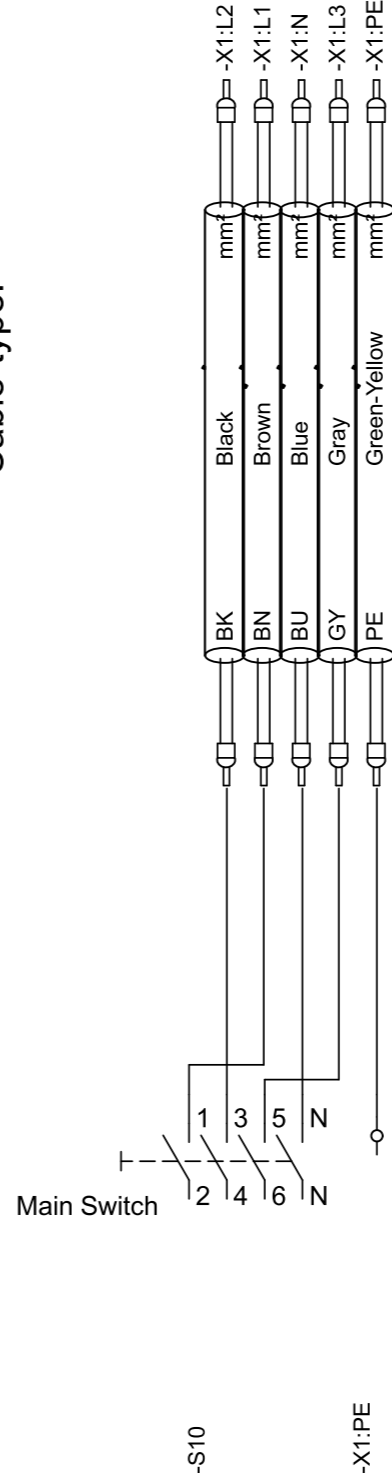


-EA5

9  
19

=A1-W1000

Remark: Main power supply  
Cable-type:



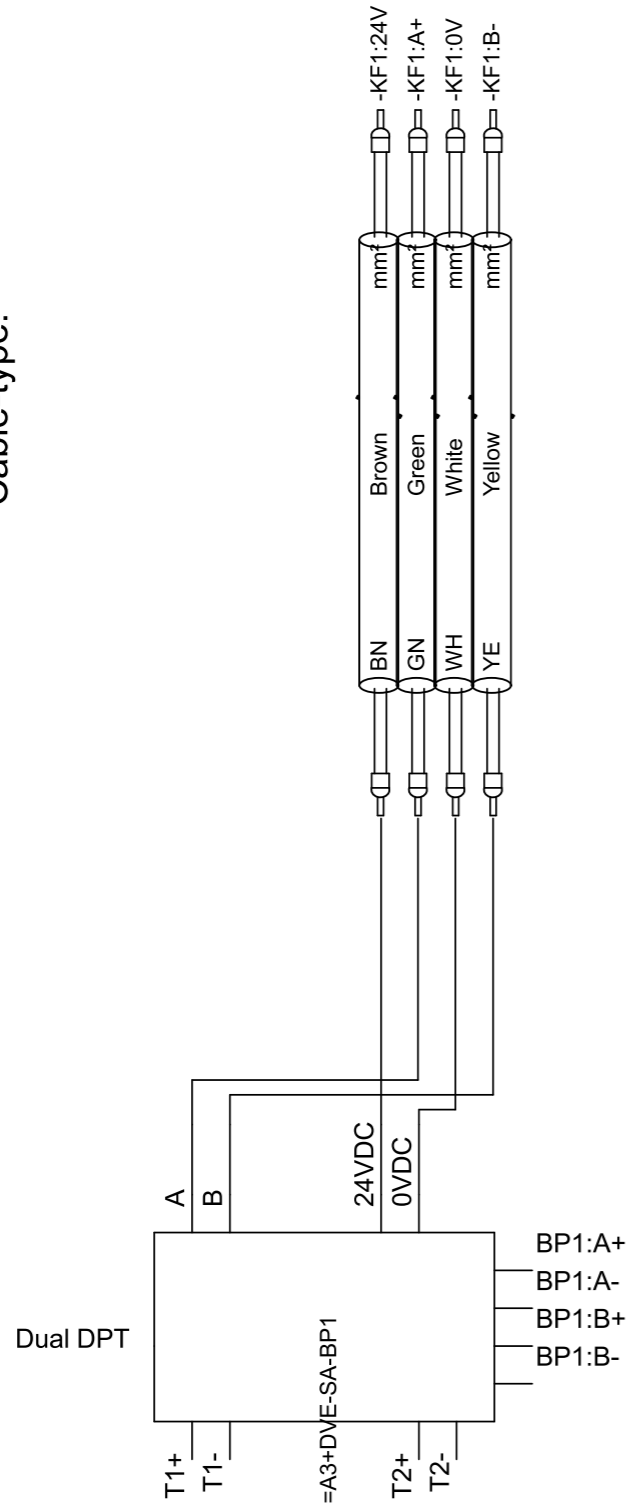
-S10

0  
18  
1  
18  
1  
18

# Cable Plan

## =A1 controller-W661.1

Remark: BP1 BUS  
Cable-type:

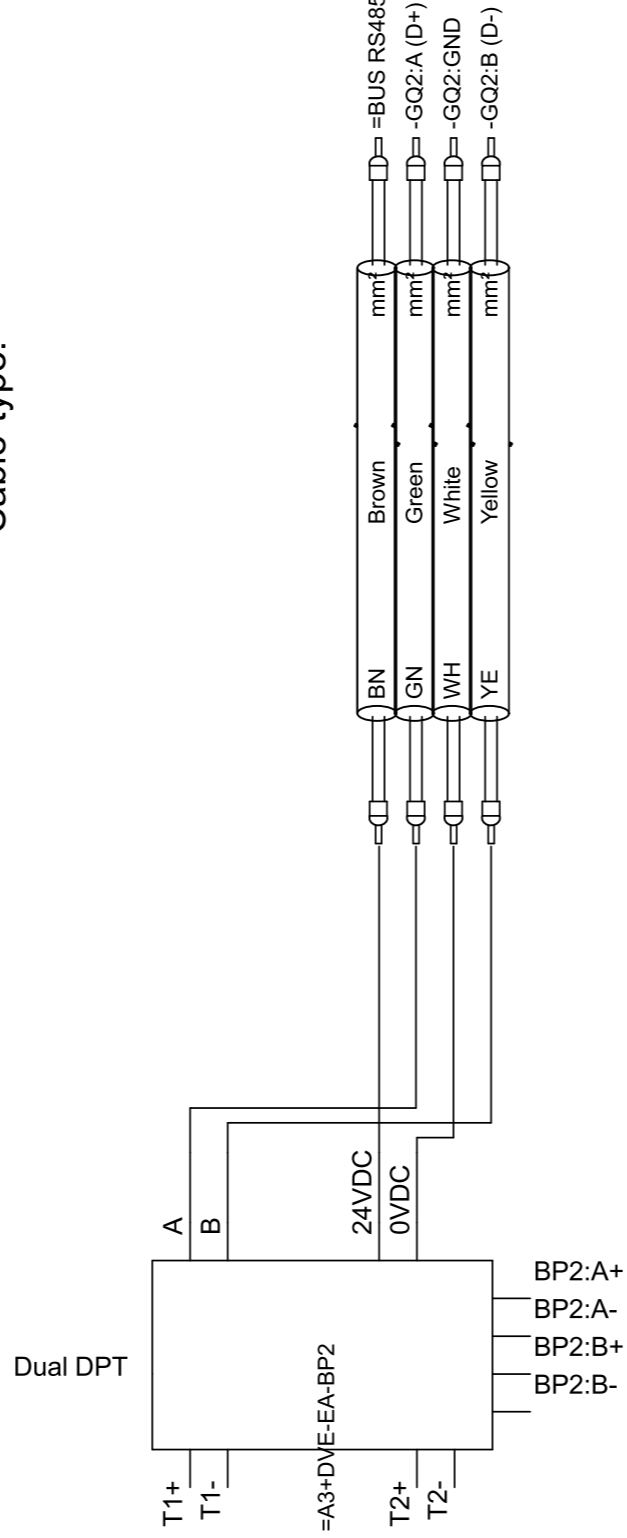


24  
24  
24  
24

Path  
Sheet

## =A1 controller-W662.1

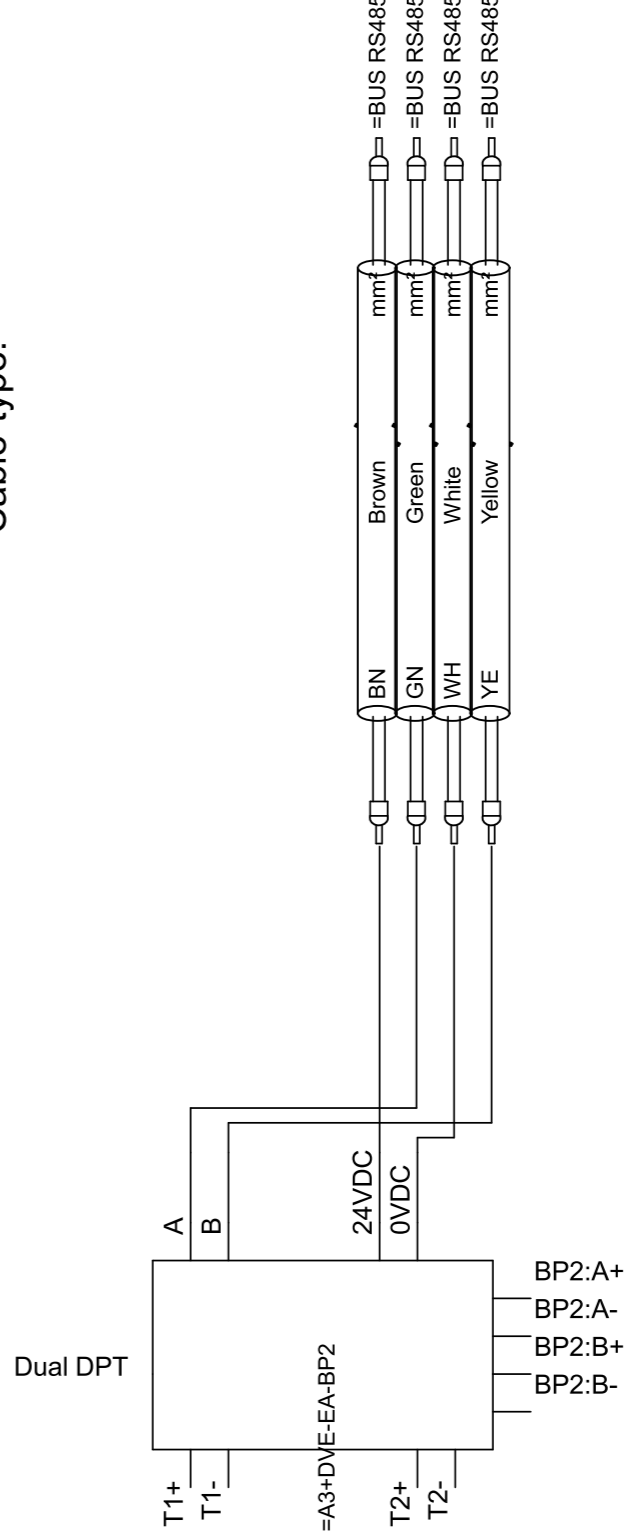
Remark: BP2 BUS  
Cable-type:



25  
25  
25

## =A1 controller-W662.2

Remark: BP2 BUS  
Cable-type:



2  
2  
2  
2

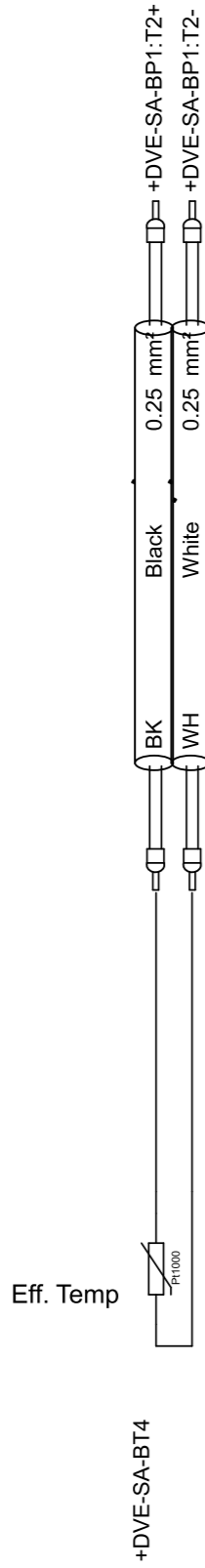
# Cable Plan

Path  
Sheet

24	2
24	2
25	2
25	2
24	1
24	1
21	2
21	2
21	2
21	3
20	5
20	5
20	6

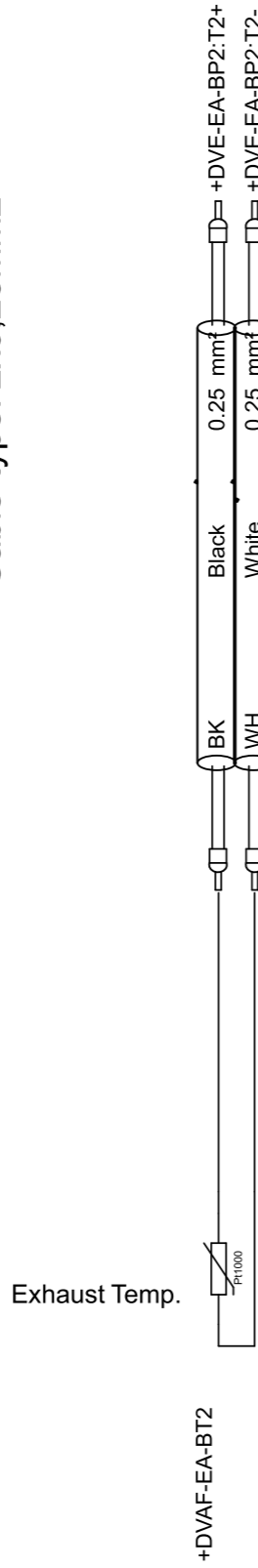
**=A3-W343**

Remark: Efficiency Temp.  
Cable-type: 2x0,25mm<sup>2</sup>



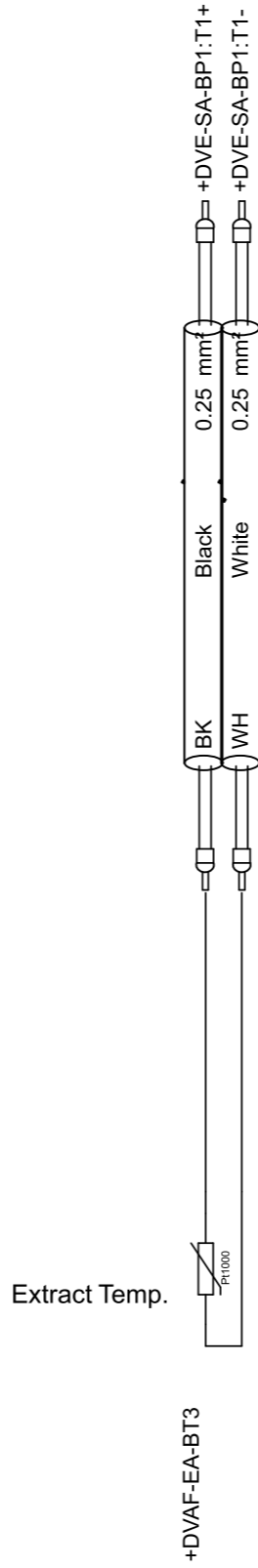
**=A3-W442**

Remark: Exhaust Temp./de-ice  
Cable-type: 2x0,25mm<sup>2</sup>



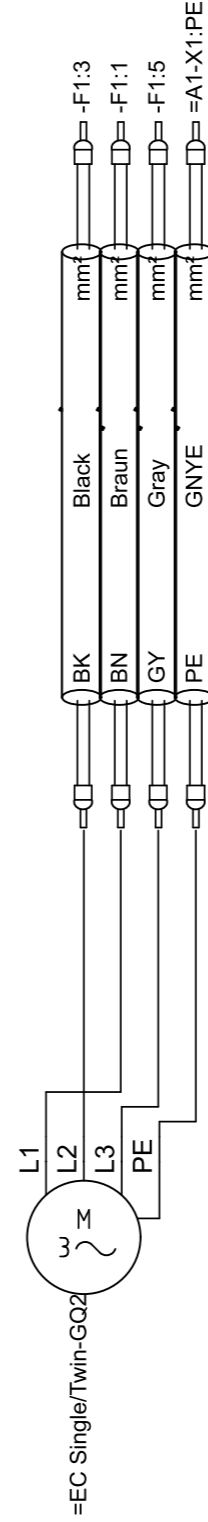
**=A3-W444**

Remark: Extract Temp.  
Cable-type: 2x0,25mm<sup>2</sup>



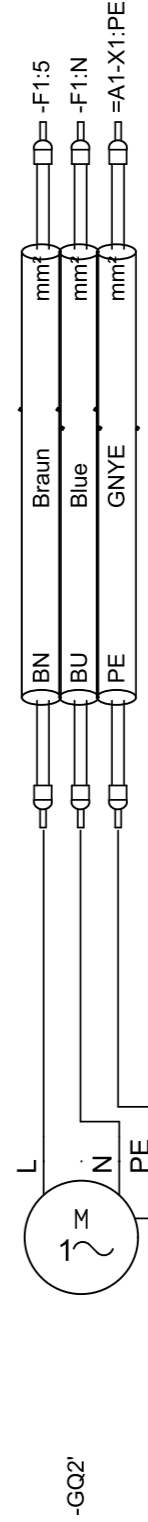
**=EC single+Extract air-W102**

Remark: motor extract air  
Cable-type:



**=EC single+Extract air-W102**

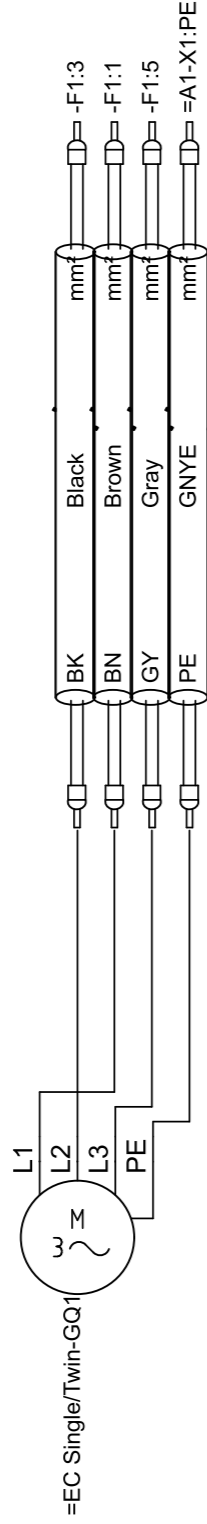
Remark: motor extract air  
Cable-type:



# Cable Plan

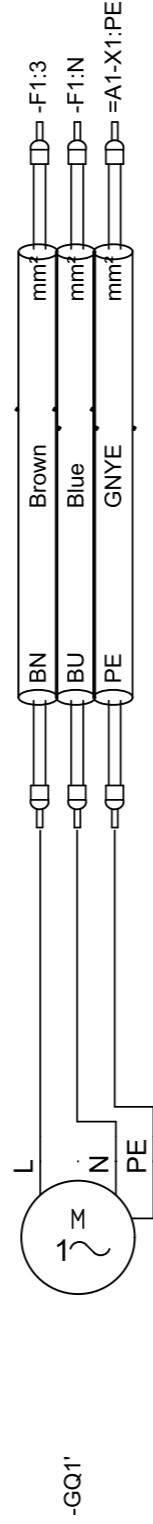
Path  
Sheet

=EC single+Supply air-W101 Remark: motor supply air  
Cable-type:



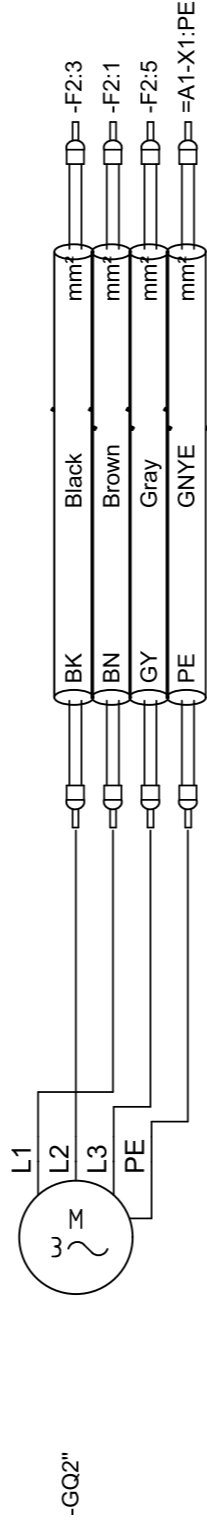
=EC Single/Twin-GQ1

=EC single+Supply air-W101 Remark: motor supply air  
Cable-type:



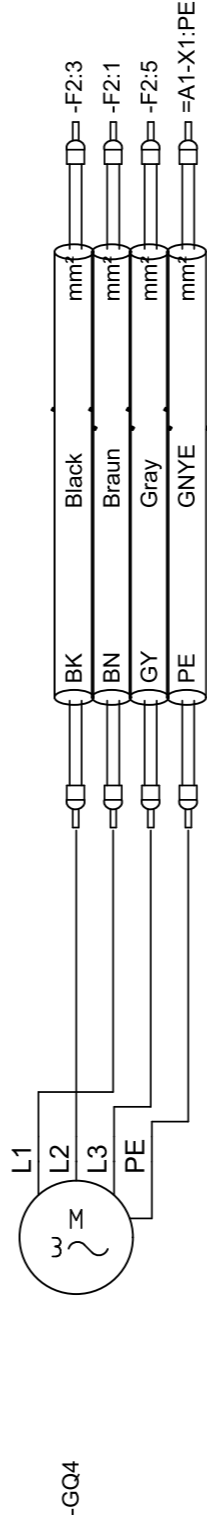
-GQ1'

=EC Twin+Extract air-W102 Remark: motor supply air  
Cable-type:



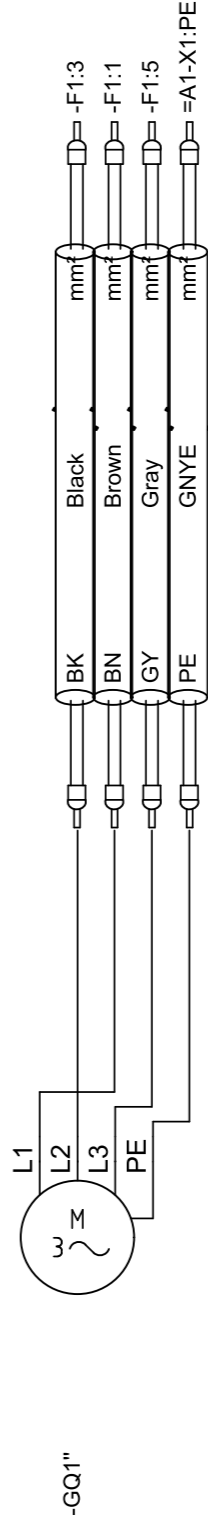
-GQ2"

=EC Twin+Extract air-W104 Remark: motor extract air  
Cable-type:



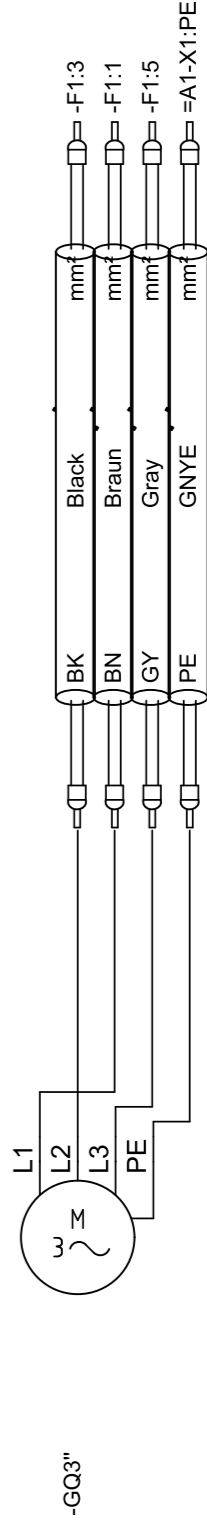
-GQ4

=EC Twin+Supply air-W101 Remark: motor supply air  
Cable-type:



-GQ1"

=EC Twin+Supply air-W103 Remark: motor supply air  
Cable-type:



-GQ3"

1  
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