DVU-HP Control system

Documents listed on below pages

Cabinet is placed behind cabinet door
for the compressor

Data over AHU unit.

Heat exchanger type:

See data in the attached annex - Technial data

Electrical data:

Total consumed power:

Compressor fuse size:

Compressor 1 cable resistance:

Compressor 2 cable resistance:

Ik max on fuse in unit: 10 kAmps

Manufacture:

Systemair A/S, Denmark
Ved Milepælen 7
8361 Hasselager

supplier:

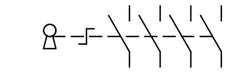
Systemair A/S, _____

_____

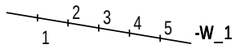
_____

systemair		Frontpage	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Rev.: 01.05	Sheet: 1
			Date: 30-04-2012	Function: =A4	Cabinet:	Total sheets: 3		Next sheet: =A4/2

Symbols are according to IEC 60617.
On this page are descriptions of used symbols in the project.



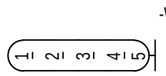
Switchgear, 4 pole



Cable

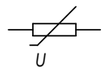
Automatic tripping, 3-pole

Automatic tripping, 2-pole

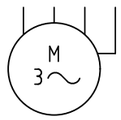


Shielded cable

Resistor



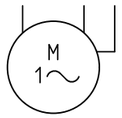
Thermistor



Motor three phase + PE

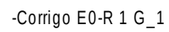
References

Terminal



Cirkulation pump

Lamp



Info text

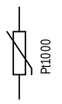
Fuse

Transformer

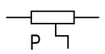
Switchgear

Switchgear

fireguard



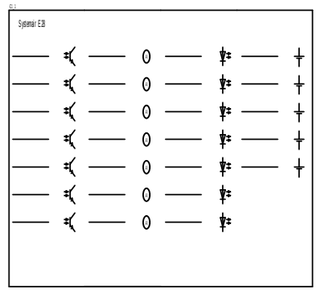
Temperature (measuring)



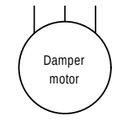
Pressure

Relay contacts, NC

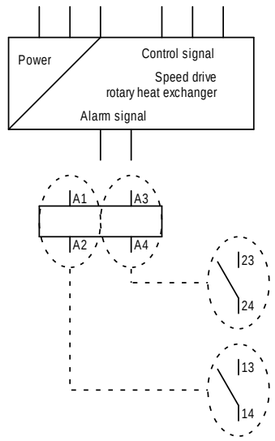
Switchgear



Corrigo E28



Damper motor



Rotary heat exchanger

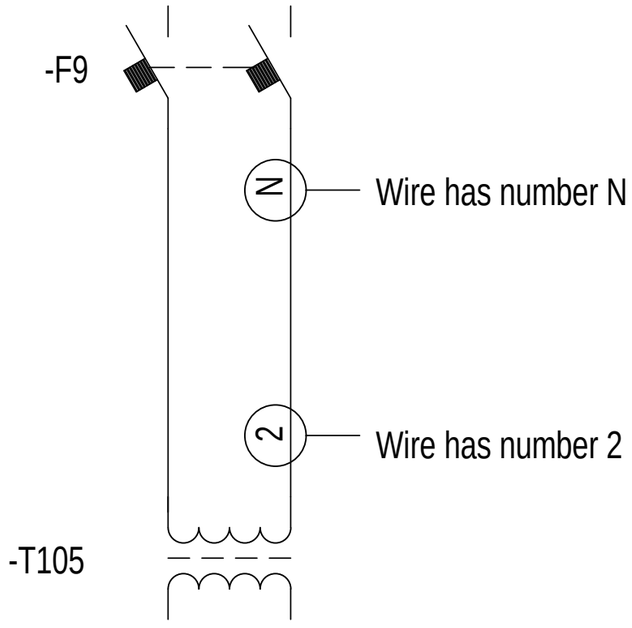
Relay coil with 2 coils

Relay contact 2

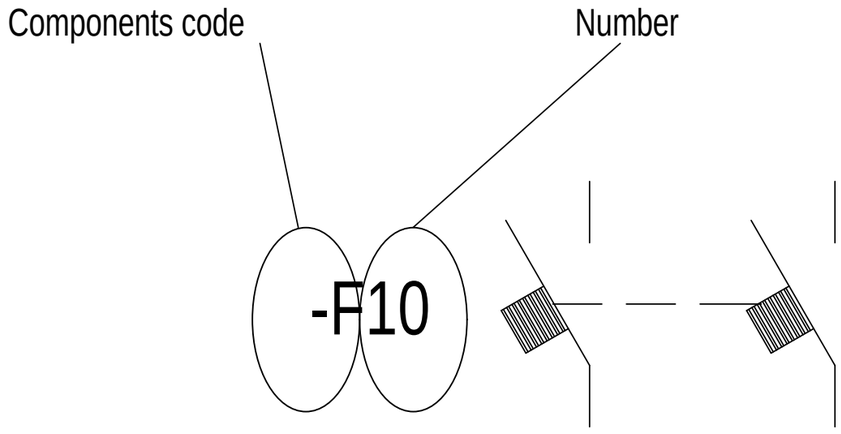
Relay contact 1

systemair		General Description Symbols	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Rev.: 01.05	Sheet: 2
			Date: 30-04-2012	Function: =A4	Cabinet:	Total sheets: 3		Next sheet: =A4/3

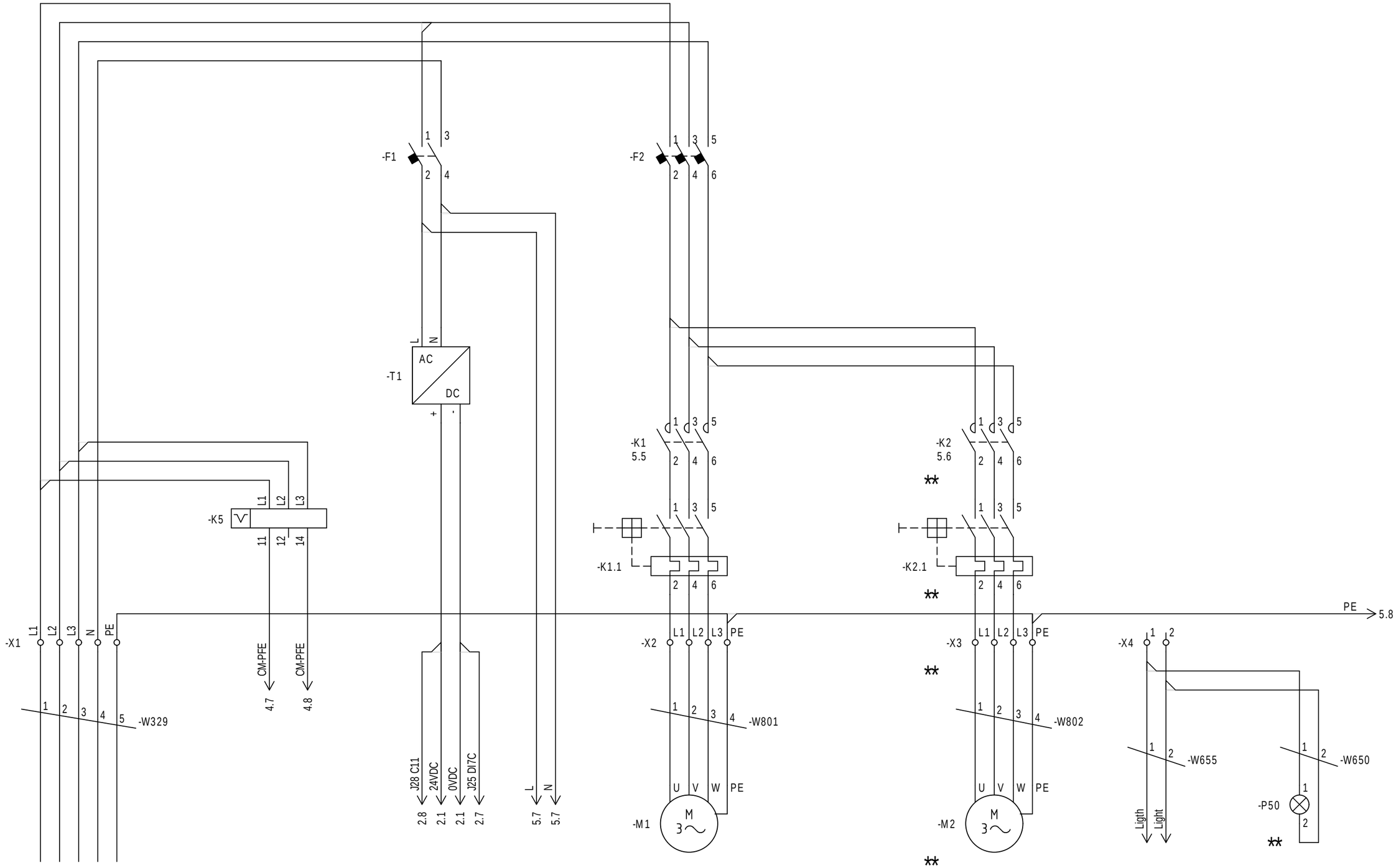
Labeling of wires
Cables are marked with
terminal name



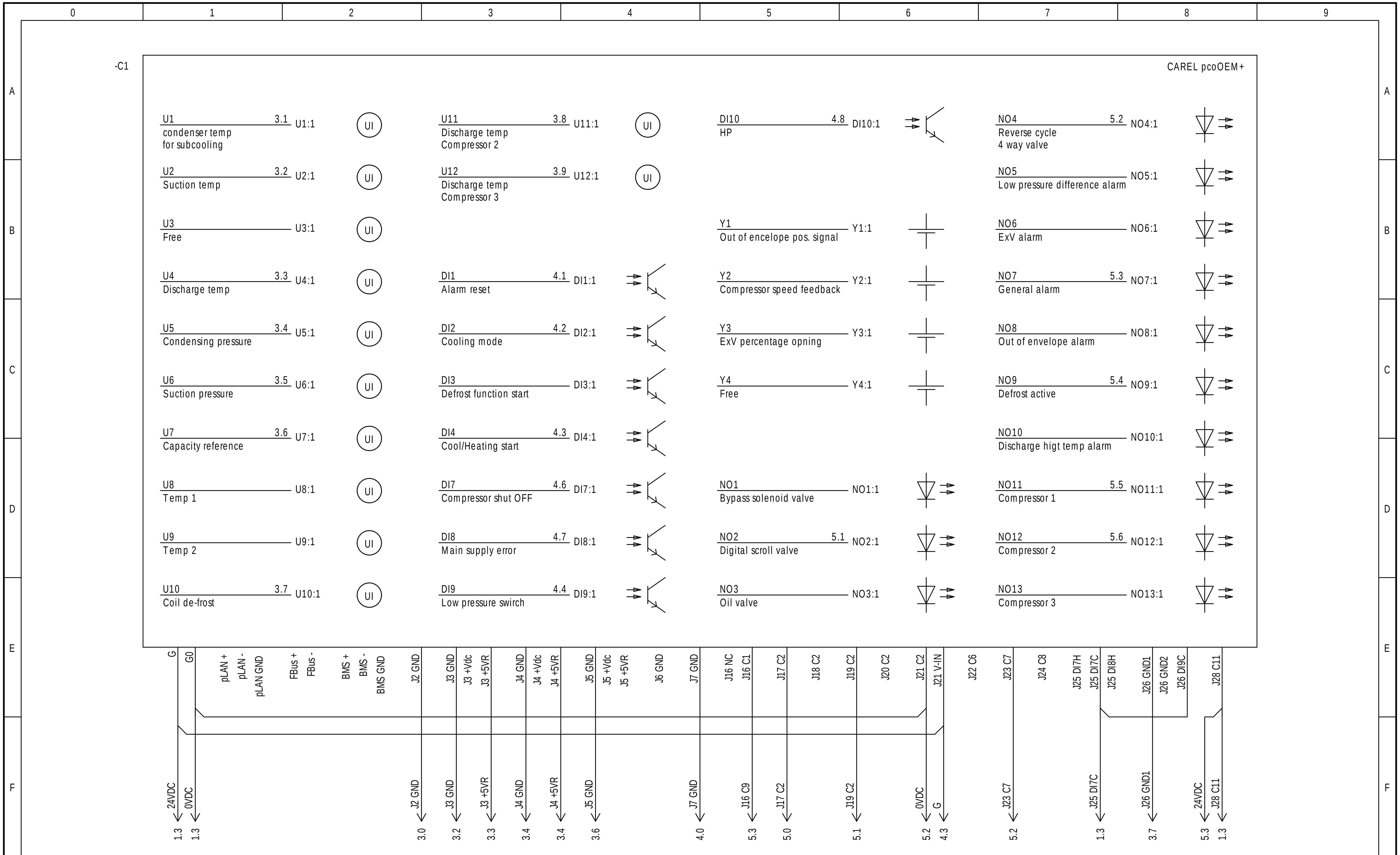
Components are marked with component codes
followed by a number according to IEC 61346-1 Chart 1



systemair		General Description Wires	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Rev.: 01.05	Sheet: 3
			Date: 30-04-2012	Function: =A4	Cabinet:	Total sheets: 3		Next sheet:



systemair		Main Power	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Version.: 01.05	Sheet: 1
			Date: 11-03-2014	Func: =A4	Place:	Cabinet:	Total sheets: 5	Next sheet: =A4/2

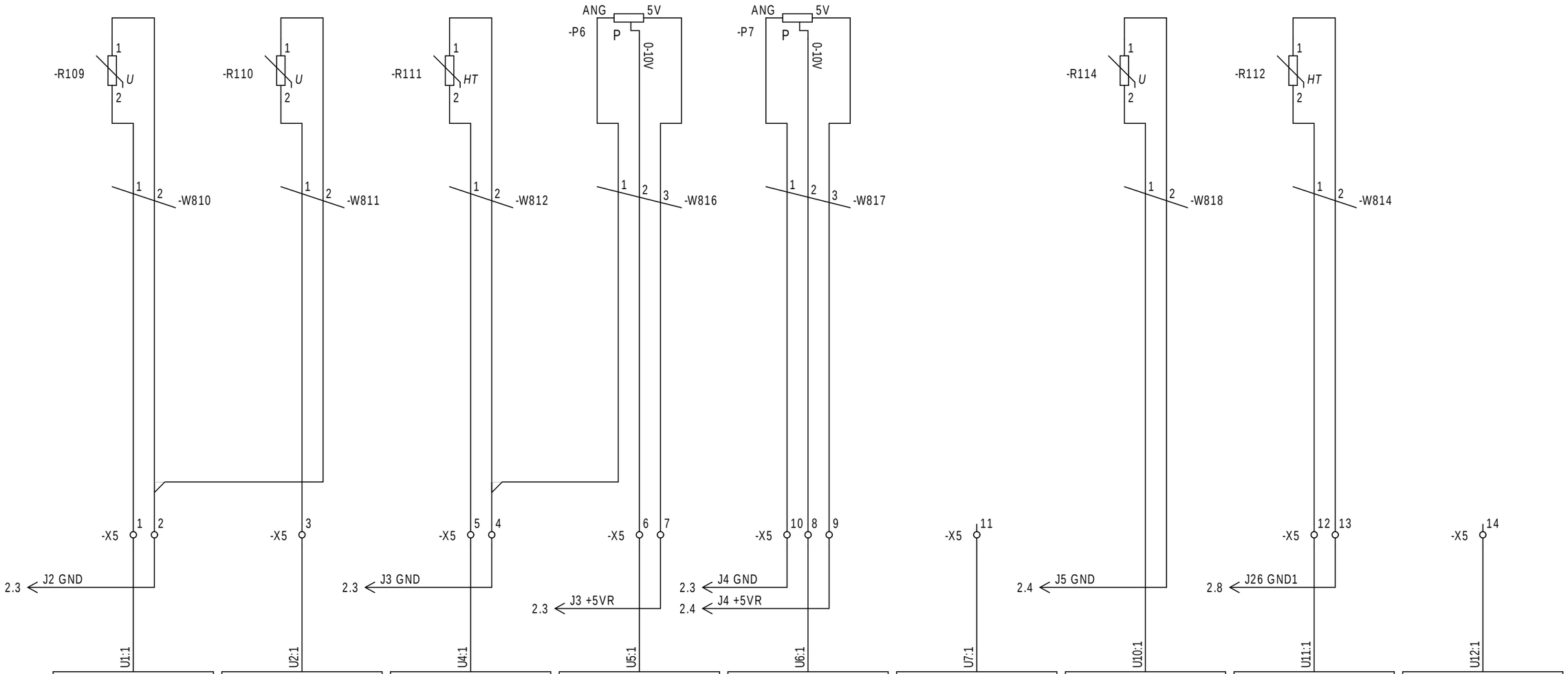


systemair

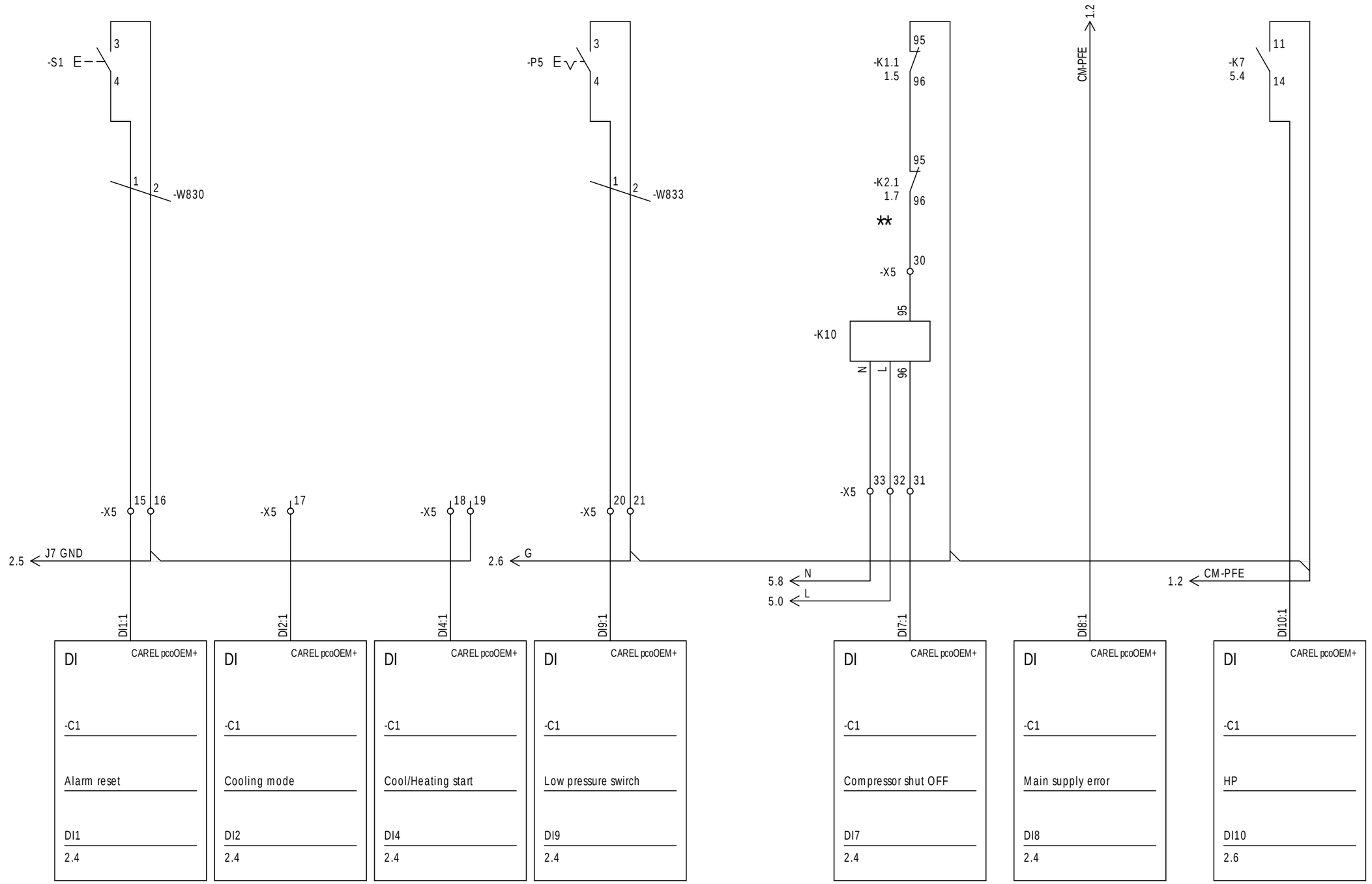
Controller

Project:	Drawing no.:	Init.:	Rev Date.:	Version.:	Sheet:
DVU-HP Control system - ver 01.05			15-12-15	01.05	2

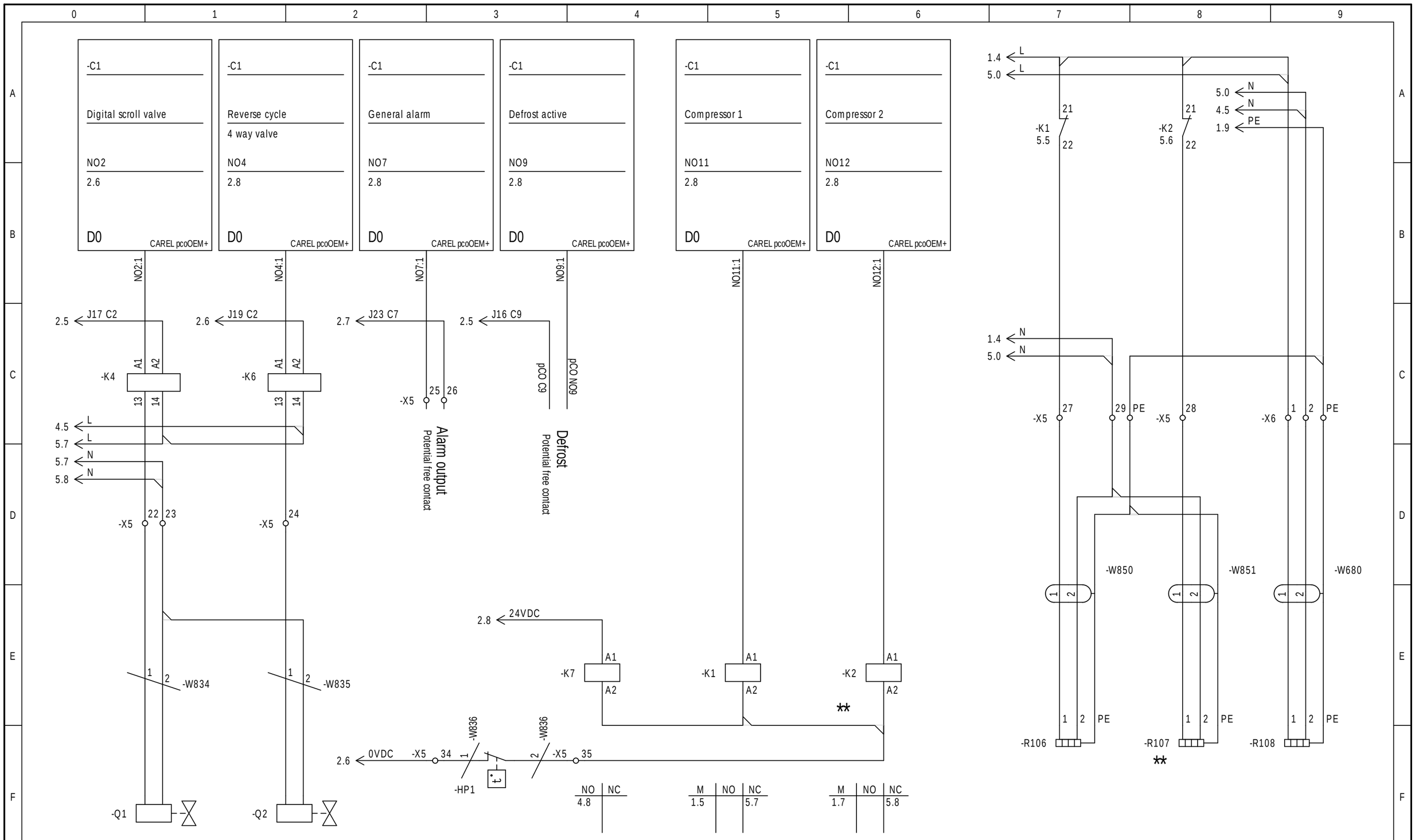
Date:	Func:	Place:	Cabinet:	Total sheets:	Next sheet:
11-03-2014	=A4			5	=A4/3



systemair		Analog input	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Version.: 01.05	Sheet: 3
			Date: 11-03-2014	Func: =A4	Place:	Cabinet:	Total sheets: 5	Next sheet: =A4/4



systemair		Digital input	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Version.: 01.05	Sheet: 4
			Date: 12-03-2014	Func: =A4	Place:	Cabinet:	Total sheets: 5	Next sheet: =A4/5



systemair		Outputs	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Init.:	Rev Date.: 15-12-15	Version.: 01.05	Sheet: 5
			Date: 26-03-2014	Func: =A4	Place:	Cabinet:	Total sheets: 5	Next sheet:

List of PLC I/O

Function (=)	Location (+)	PLC (-)	Operand	Symbol Adress	Comment	Con. No.	MODBUS	BACKnet	Connection	Sheet	Cell
=A4		-C1	DI1	Alarm reset		DI1:1			=A4-X5:15	4	1
=A4		-C1	DI2	Cooling mode		DI2:1			=A4-X5:17	4	2
=A4		-C1	DI4	Cool/Heating start		DI4:1			=A4-X5:18	4	3
=A4		-C1	DI7	Compressor shut OFF		DI7:1			=A4-X5:31	4	6
=A4		-C1	DI8	Main supply error		DI8:1			=A4-K5:11	4	7
=A4		-C1	DI9	Low pressure swirch		DI9:1			=A4-X5:20	4	4
=A4		-C1	DI10	HP		DI10:1			=A4-K7:14	4	8
=A4		-C1	NO2	Digital scroll valve		NO2:1			=A4-K4:A1	5	1
=A4		-C1	NO4	Reverse cycle	4 way valve	NO4:1			=A4-K6:A1	5	2
=A4		-C1	NO7	General alarm		NO7:1			=A4-X5:25	5	3
=A4		-C1	NO9	Defrost active		NO9:1				5	4
=A4		-C1	NO11	Compressor 1		NO11:1			=A4-K1:A1	5	5
=A4		-C1	NO12	Compressor 2		NO12:1			=A4-K2:A1	5	6
=A4		-C1	U1	condenser temp	for subcooling	U1:1			=A4-X5:1	3	1
=A4		-C1	U2	Suction temp		U2:1			=A4-X5:3	3	2
=A4		-C1	U4	Discharge temp		U4:1			=A4-X5:5	3	3
=A4		-C1	U5	Condensing pressure		U5:1			=A4-X5:6	3	4
=A4		-C1	U6	Suction pressure		U6:1			=A4-X5:8	3	5
=A4		-C1	U7	Capacity reference		U7:1			=A4-X5:11	3	6
=A4		-C1	U10	Coil de-frost		U10:1			=A4-R114:2	3	7
=A4		-C1	U11	Discharge temp	Compressor 2	U11:1			=A4-X5:12	3	8
=A4		-C1	U12	Discharge temp	Compressor 3	U12:1			=A4-X5:14	3	9

systemair

Project: DVU-HP Control system - ver 01.05		Function decription:	Sheet: 1
Date: 19-09-2016	Rev.:	Init.:	Drawing no.:

Next sheet:

Total sheets: 1

Terminal Matrix

Terminal Strip:

-X1

Connection 1	Term.	No.	Connection 2	Sheet	Path
	○	L1	-F2:1	1	0
	○		-K5:L1		
	○	L2	-F2:3	1	1
	○		-K5:L2		
	○	L3	-F2:5	1	1
	○		-K5:L3		
	○	N	-F1:3	1	1
	○	PE	-X2:PE	1	1

Cable name	Cable type	Note

----- Cable -----

Cable name	Cable type	Note

----- Cable -----

Terminal Matrix

Terminal Strip: -X2

Path	5	5	5	5	
Sheet	1	1	1	1	

Note	Cable type	Cable name	----- Cable -----

Connection 1	Term.	No.	Connection 2
-M1:U	O	L1	-K1.1:2
-M1:V	O	L2	-K1.1:4
-M1:W	O	L3	-K1.1:6
-M1:PE	O	PE	-X1:PE
	O		-X3:PE

		=A4-W801	1	2	3	4		

Note	Cable type	Cable name	----- Cable -----

systemair		-X2	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Rev.: / Init.:
			Date: 19-09-2016	Function: =A4	Location: / Page: 61

Terminal Matrix

Terminal Strip: -X3

Path	1 7	1 7	1 7	1 7	
Sheet	1	1	1	1	

Note	Cable type	Cable name	----- Cable -----

Connection 1	Term.	No.	Connection 2
-M2:U	O	L1	-K2.1:2
-M2:V	O	L2	-K2.1:4
-M2:W	O	L3	-K2.1:6
-M2:PE	O	PE	-X2:PE
	O		-X6:PE

		=A4-W802	1	2	3	4	

Note	Cable type	Cable name	----- Cable -----

systemair		-X3	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Rev.: / Init.:
			Date: 19-09-2016	Function: =A4	Location: / Page: 62

Terminal Matrix

Terminal Strip: -X4

	Terminal 1	Terminal 2
Path	8	8
Sheet	1	1
Connection 2		
No.	1	2
Term.	○	○
Connection 1	-P50:1	-P50:2

Note	Cable type	Cable name	----- Cable -----	
		=A4-W650	1	2

systemair

-X4

Project: DVU-HP Control system - ver 01.05	Drawing no.:		Rev.:	Init.:
Date: 19-09-2016	Function: =A4	Location:	Page: 63	

Terminal Matrix

Terminal Strip: -X5

Connection 1	Term.	No.	Connection 2	Sheet	Path	Cable (Connection 1 side)	Cable (Connection 2 side)
-C1:U1:1	○	1	-R109:2	3	1		=A4-W810: 1
-C1:J2 GND	○	2	-R109:1	3	1		=A4-W810: 2
	○		-R110:1				=A4-W811: 2
-C1:U2:1	○	3	-R110:2	3	2		=A4-W811: 1
-C1:J3 GND	○	4	-P6:ANG	3	3		=A4-W816: 1
	○		-R111:1				=A4-W812: 2
-C1:U4:1	○	5	-R111:2	3	3		=A4-W812: 1
-C1:U5:1	○	6	-P6:0-10V	3	4		=A4-W816: 2
-C1:J3 +5VR	○	7	-P6:5V	3	4		=A4-W816: 3
-C1:U6:1	○	8	-P7:0-10V	3	5		=A4-W817: 2
-C1:J4 +5VR	○	9	-P7:5V	3	5		=A4-W817: 3
-C1:J4 GND	○	10	-P7:ANG	3	4		=A4-W817: 1
-C1:U7:1	○	11		3	6		
-C1:U11:1	○	12	-R112:2	3	8		=A4-W814: 1
-C1:J26 GND1	○	13	-R112:1	3	8		=A4-W814: 2
-C1:U12:1	○	14		3	9		
-C1:DI1:1	○	15	-S1:4	4	1		=A4-W830: 1
-C1:J7 GND	◎	16	-S1:3	4	1		=A4-W830: 2
-C1:DI2:1	○	17		4	2		
-C1:DI4:1	○	18		4	3		
	◎	19		4	3		
-C1:DI9:1	○	20	-P5:4	4	4		=A4-W833: 1
-C1:J21 V-IN	○	21		4	4		
-K1.1:95	○		-P5:3				=A4-W833: 2
-Q1	○	22	-K4:13	5	1	=A4-W834: 1	
-Q1	◎	23		5	1	=A4-W834: 2	
-Q2	○		-X6:2			=A4-W835: 2	
-Q2	○	24	-K6:13	5	2	=A4-W835: 1	
	○	25	-C1:NO7:1	5	3		
	○	26	-C1:J23 C7	5	3		
-R106:1	○	27	-K1:22	5	7	=A4-W850: 1	
-R107:1	○	28	-K2:22	5	8	=A4-W851: 1	
-R106:2	◎	29		5	7	=A4-W850: 2	
-R107:2	○		-F1:4			=A4-W851: 2	
-K10:95	○	30	-K2.1:96	4	6		
-C1:DI7:1	○	31	-K10:96	4	6		
-K4:14	○	32	-K10:L	4	6		
-X6:2	○	33	-K10:N	4	6		
-HP1	○	34	-C1:J21 C2	5	3	=A4-W836: 1	
-K1:A2	○	35		5	4		
-K2:A2	○		-HP1~				
-R106:PE	○	PE		5	8	=A4-W850: PE	
-R107:PE	○		-X6:PE			=A4-W851: PE	

Cables (Connection 1 side): =A4-W834, =A4-W835, =A4-W836, =A4-W850, =A4-W851

Cables (Connection 2 side): =A4-W810, =A4-W811, =A4-W812, =A4-W814, =A4-W816, =A4-W817, =A4-W830, =A4-W833, =A4-W836

Note	Cable type	Cable name
		----- Cable -----

systemair	-X5	Project: DVU-HP Control system - ver 01.05	Drawing no.:	Rev.:	Init.:
		Date: 19-09-2016	Function: =A4	Location:	Page: 64

Terminal Matrix

Terminal Strip:

-X6

No.	Connection 1	Term.	Connection 2	Cable	Sheet	Path
1	-R108:1	○	-K2:21 -K4:14	=A4-W680 (1)	5	9
2	-R108:2	○	-X5:23 -X5:33	=A4-W680 (2)	5	9
PE	-R108:PE	○	-X3:PE -X5:PE	=A4-W680 (PE)	5	9

Note	Cable type	Cable name
		=A4-W680

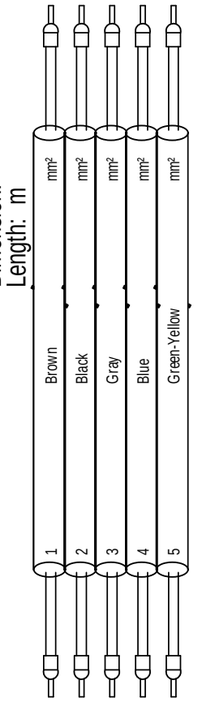
Cabelplan

Sheet	Path
1	0
1	1
1	1
1	1
1	1
1	9
1	9
1	8
1	8
5	9
5	9
5	9
1	5
1	5
1	5
1	5

=A4-W329

Description:

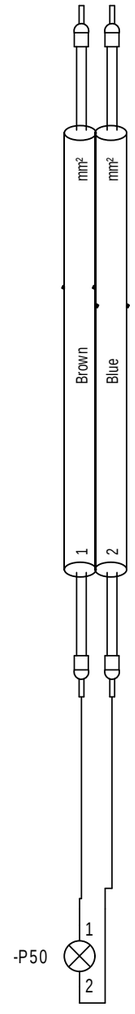
Type:
Dimension:
Length: m



=A4-W650

Description:

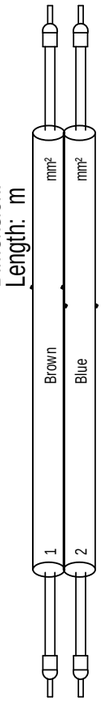
Type:
Dimension:
Length: m



=A4-W655

Description:

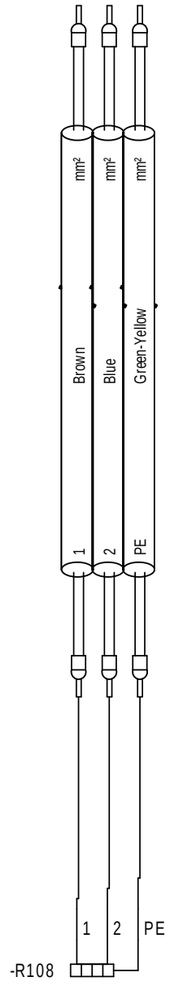
Type:
Dimension:
Length: m



=A4-W680

Description:

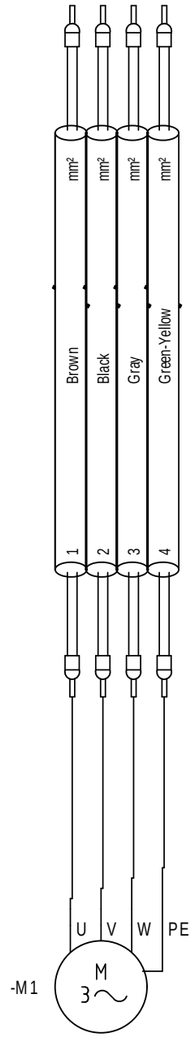
Type:
Dimension:
Length: m



=A4-W801

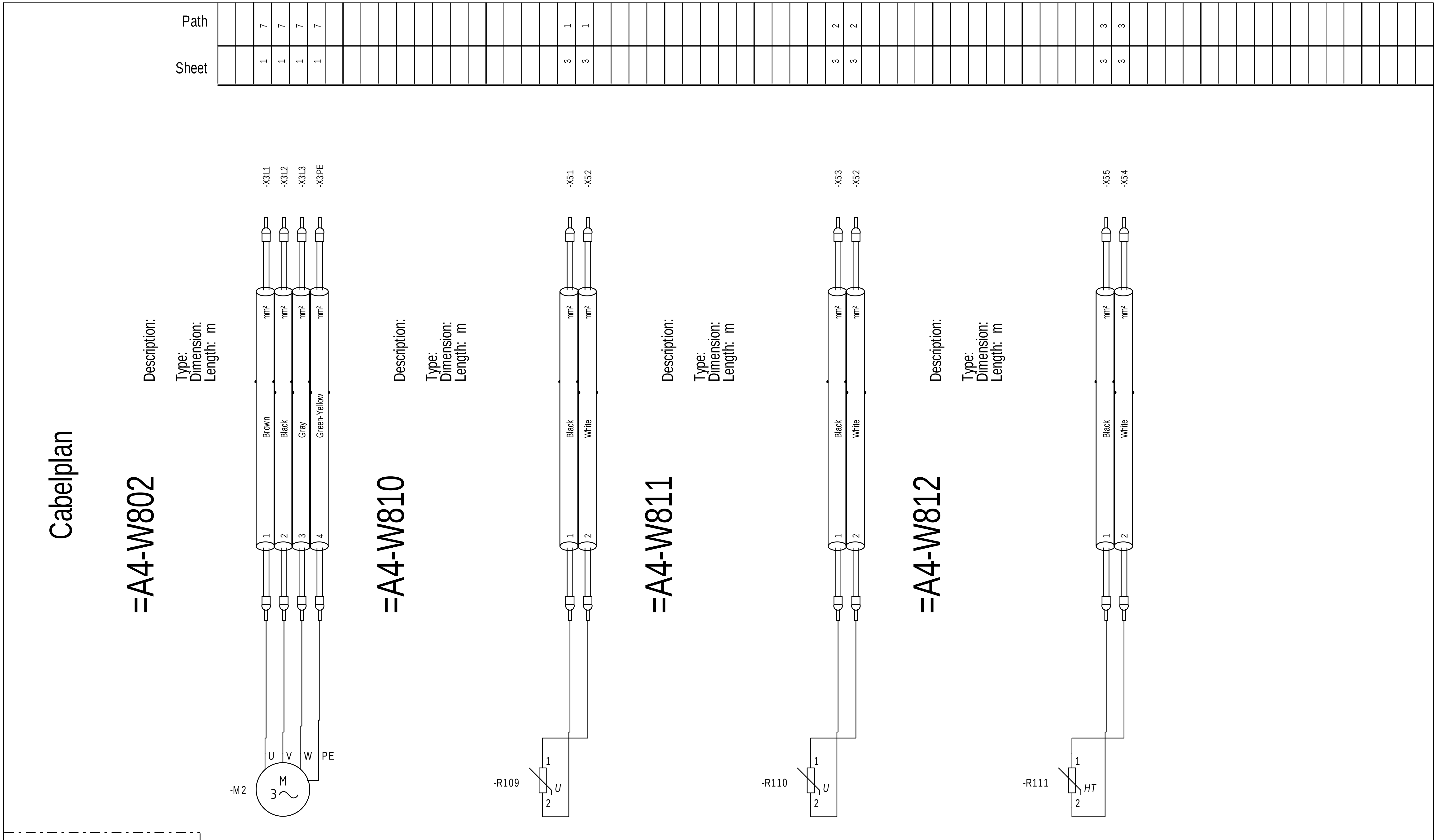
Description:

Type:
Dimension:
Length: m



systemair

Project: DVU-HP Control system - ver 01.05	Int.:	DCC: &EFS	Sheet: 5
Date: 19-09-2016	Funk	Dok. number	Page: 70



Project	Int.:	DCC	Sheet
DVU-HP Control system - ver 01.05		&EFS	5
Date: 19-09-2016	Funk	Dok. number	Page 71

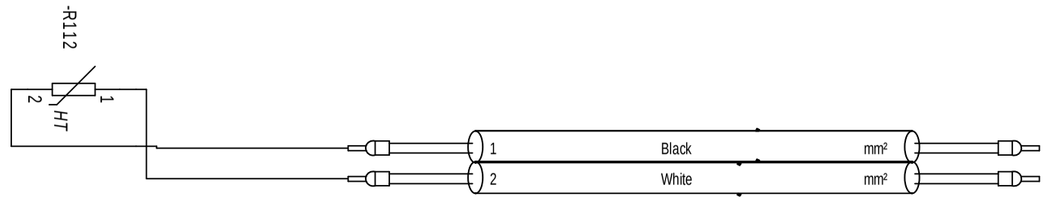
systemair

Cabelplan

=A4-W814

Description:

Type:
Dimension:
Length: m



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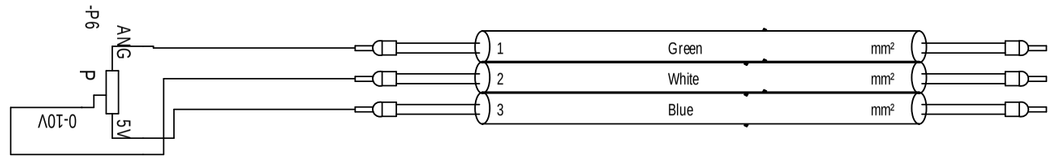

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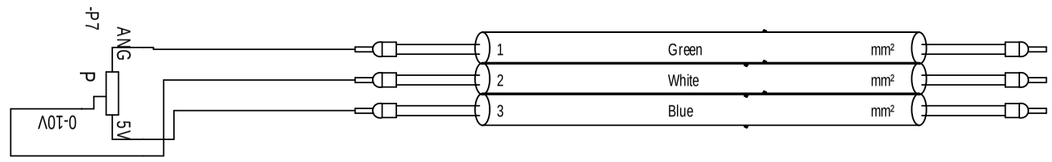

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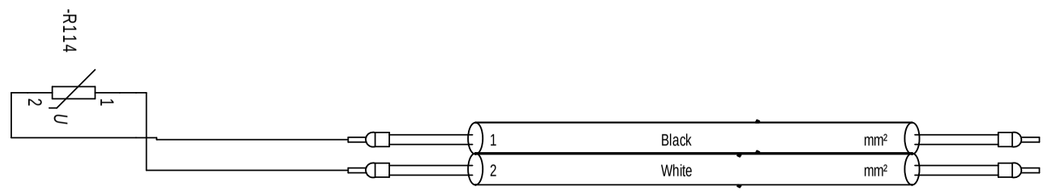

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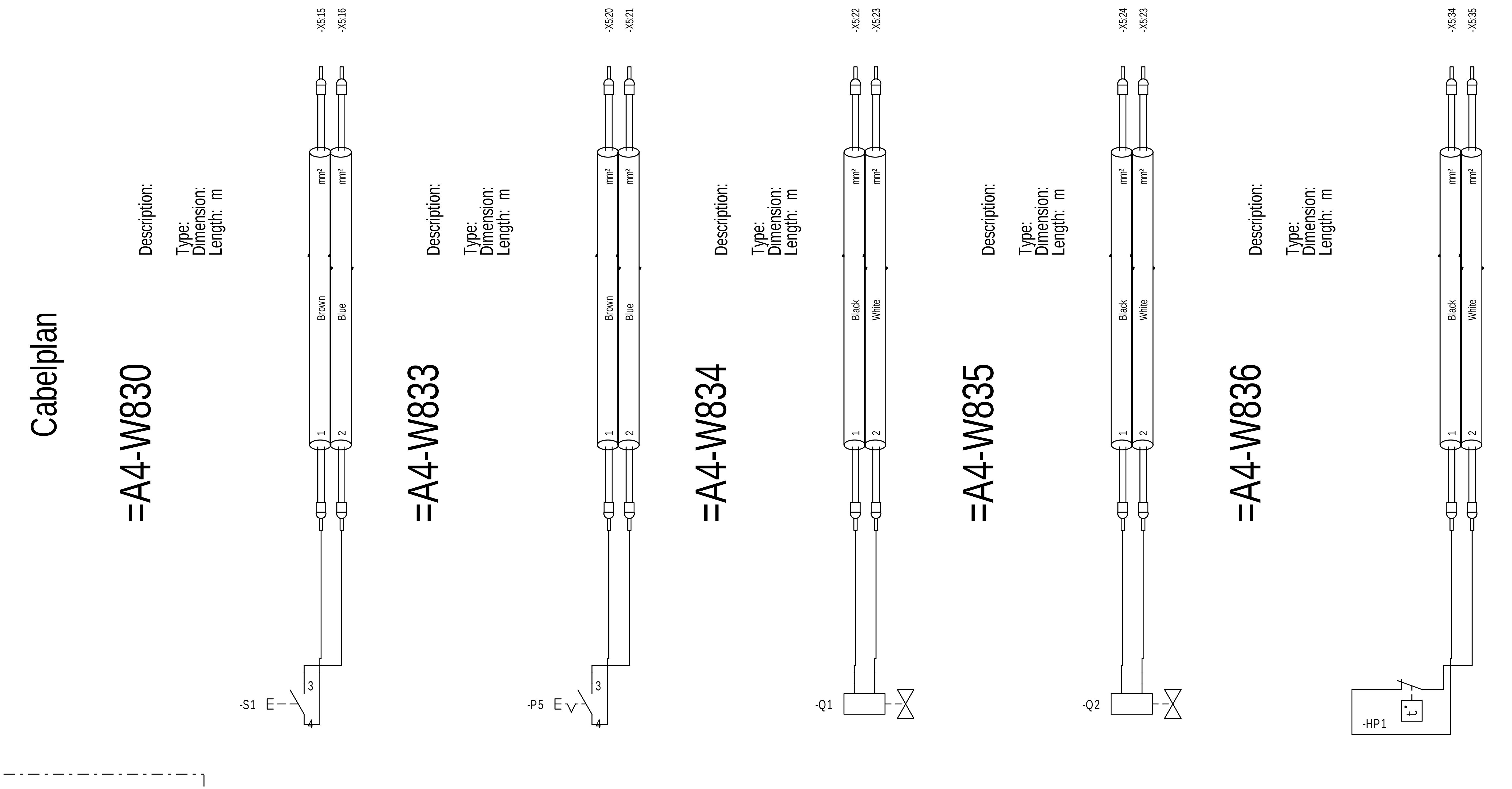
Project	DVU-HP Control system - ver 01.05
Date	19-09-2016
Funk	
Dok. number	
Int.:	
DCC	&EFS
Sheet	5
Page	72

Cabelplan



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DVU-HP Control system - ver 01.05		&EFS	5
Date: 19-09-2016	Funk	Dok. number	Page: 73

systemair

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Cabelplan

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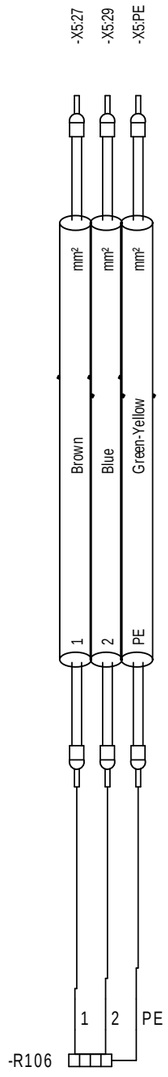

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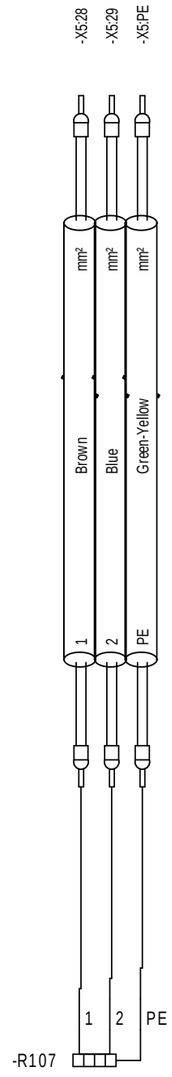

systemair

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DVU-HP Control system - ver 01.05			&EFS	5
Date	Funk	Dok. number		Page
19-09-2016				74