# DVU-HP Control system

Documents listed on below pages


| | |
|---|---|
| General description | 1 - 9 |
| Document list | 10 - 14 |
| Circuit diagram | 15 - 34 |
| Switchboard layout | 35 - 39 |
| Graphical list | |
| Product list | 40 - 44 |
| PLC I/O list | 45 - 49 |
| Wires list | 50 - 59 |
| Terminal matrix | 60 - 69 |
| Cable plan | 70 - 99 |


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

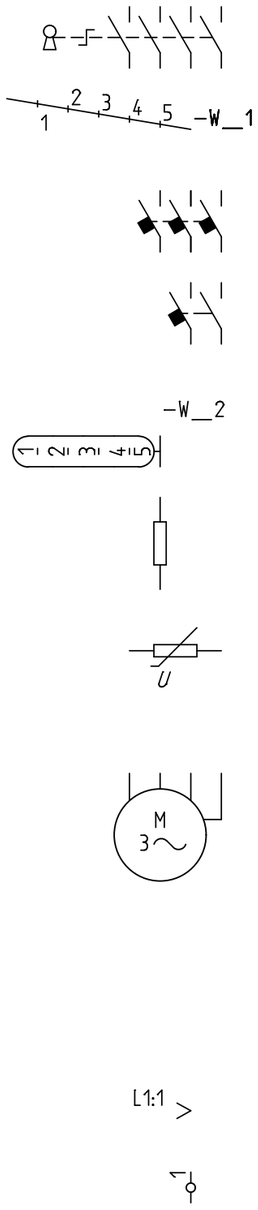
Manufacture:

Systemair A/S, Denmark
Ved Milepælen 7
8361 Hasselager

supplier:

Systemair A/S, _____
_____
_____

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

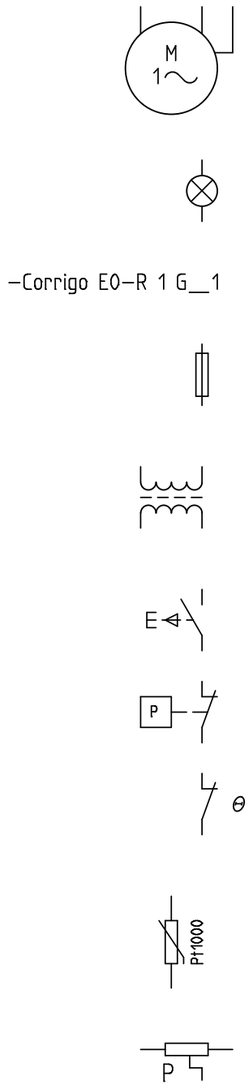
Thermistor

Motor three phase + PE

L1:1 >

References

Terminal




Cirkulation pump

Lamp

Info text

Fuse

Transformer

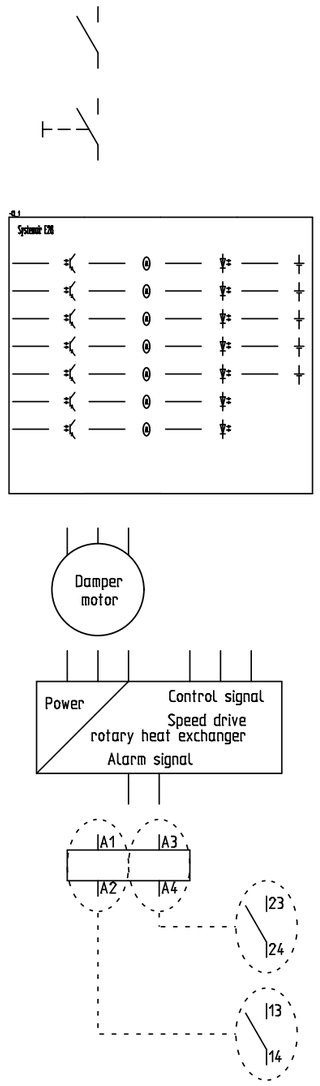
Switchgear

Switchgear

fireguard

Temperature (measuring)

Pressure




Relay contacts, NC

Switchgear

Corrigo E28

Damper motor

Rotary heat exchanger

Relay coil with 2 coils

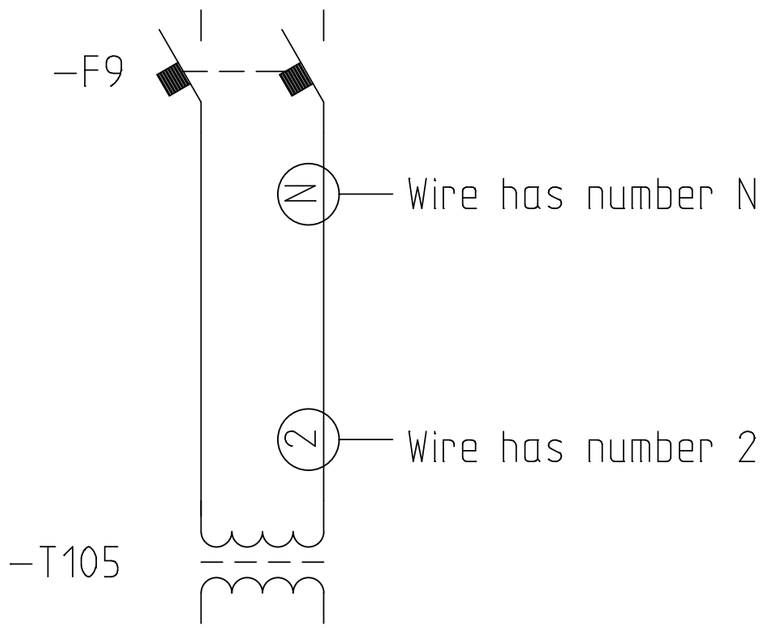
Relay contact 2

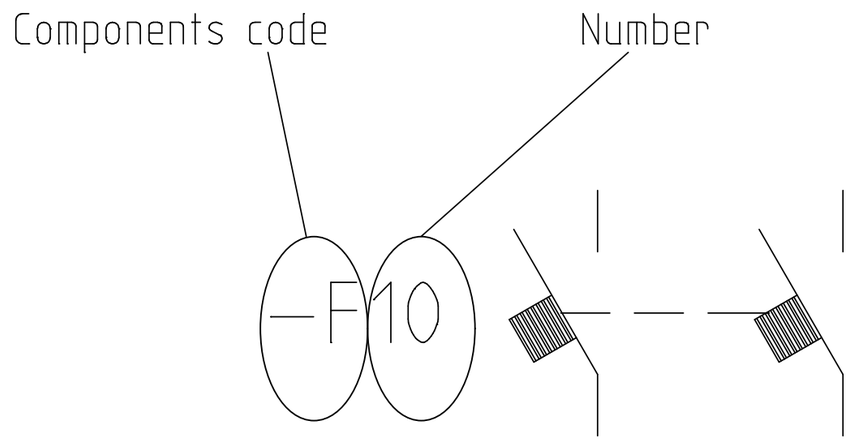
Relay contact 1

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | | General Description Symbols | Project: DVU Gen-2 Control system | Drawing no.: | Init.: | Rev Date.: 01-07-2014 | Rev.: 01.04 | Sheet: 2 |
| | | | Date: 30-04-2012 | Function: =A4 | Cabinet: | Total sheets: 3 | Next sheet: =A4/3 |

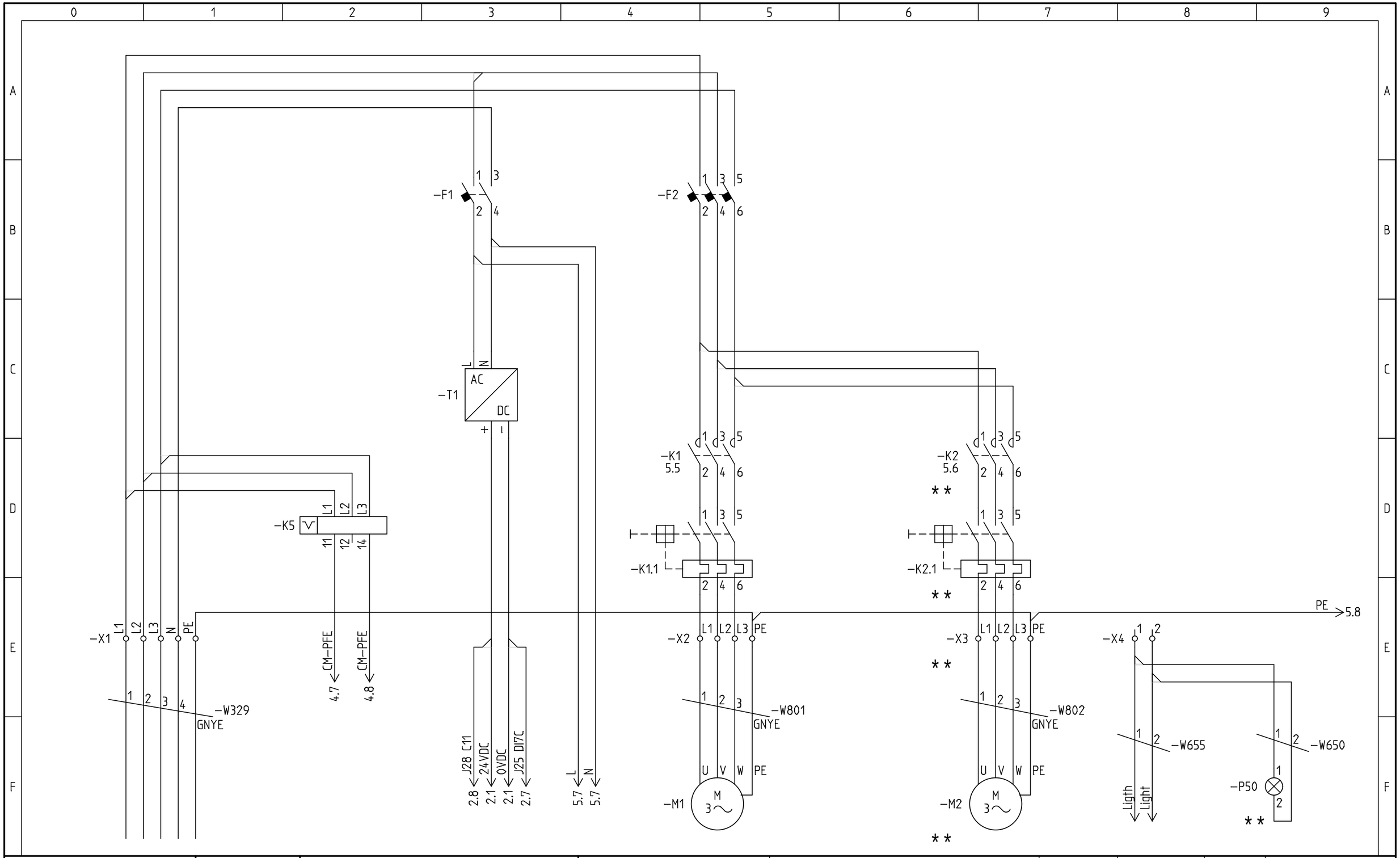
Labeling of wires
Cables are marked with
terminal name

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




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | | General Description Wires | Project: DVU Gen-2 Control system | Drawing no.: | Init.: | Rev Date.: 01-07-2014 | Rev.: 01.04 | Sheet: 3 |
| | | | Date: 30-04-2012 | Function: =A4 | Cabinet: | Total sheets: 3 | | Next sheet: |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | | Main Power | Project: DVU Gen-2 Control system | Drawing no.: | Init.: | Rev Date.: 01-07-2014 | Version.: 01.04 | Sheet: 1 |
| | | | Date: 11-03-2014 | Func: =A4 | Place: | Cabinet: | Total sheets: 5 | Next sheet: =A4/2 |

-C1

CAREL pcoOEM+

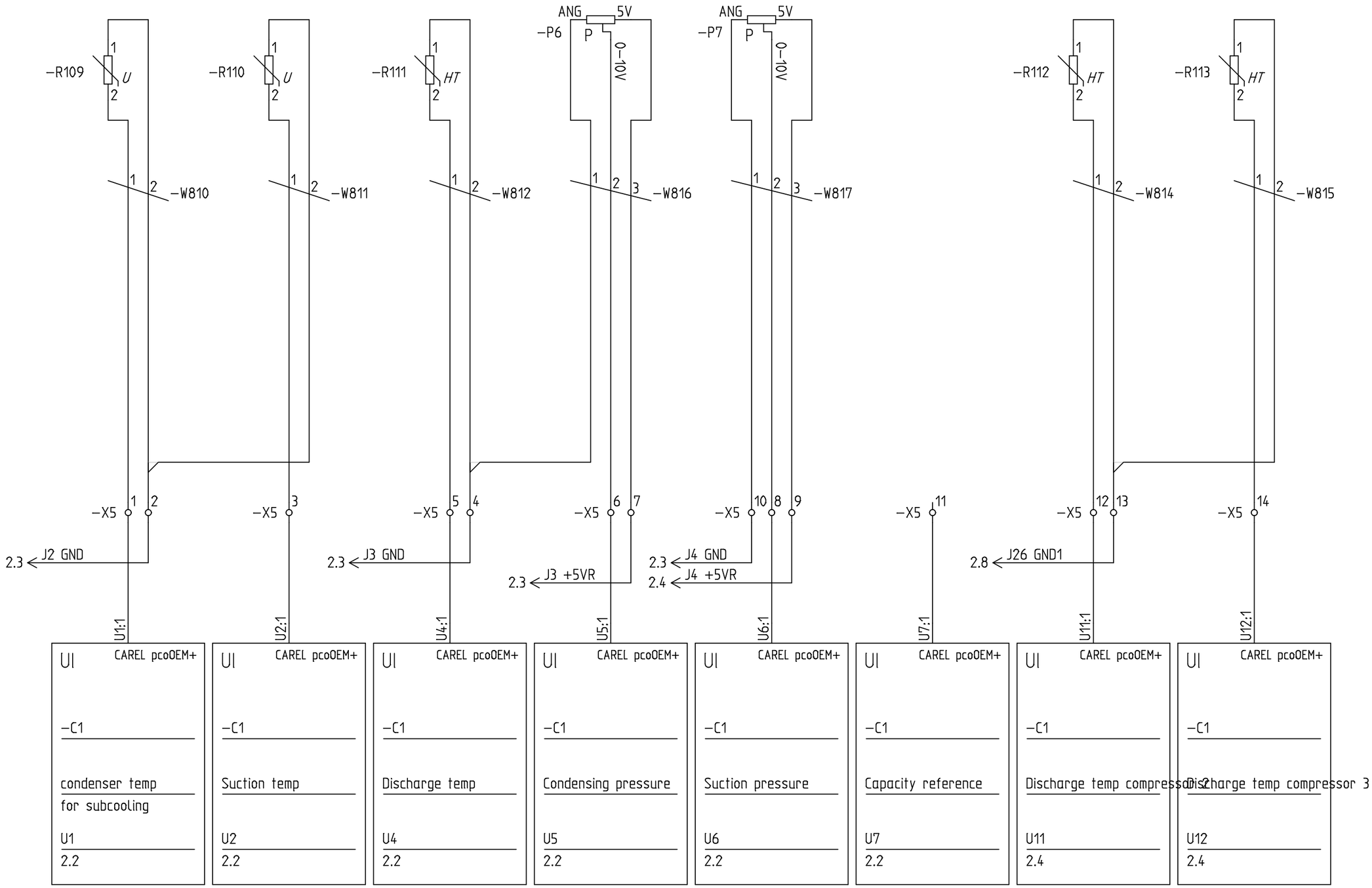
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| U1 | 3.1 | U1:1 | UI | U11 | 3.7 | U11:1 | UI | DI10 | 4.8 | DI10:1 |
| condenser temp for subcooling | | | | Discharge temp compressor 2 | | | | HP | | |
| U2 | 3.2 | U2:1 | UI | U12 | 3.8 | U12:1 | UI | | | |
| Suction temp | | | | Discharge temp compressor 3 | | | | | | |
| U3 | | U3:1 | UI | | | | | Y1 | | Y1:1 |
| Free | | | | | | | | Out of encelope pos. signal | | |
| U4 | 3.3 | U4:1 | UI | DI1 | 4.1 | DI1:1 | | Y2 | | Y2:1 |
| Discharge temp | | | | Alarm reset | | | | Compressor speed feedback | | |
| U5 | 3.4 | U5:1 | UI | DI2 | 4.2 | DI2:1 | | Y3 | | Y3:1 |
| Condensing pressure | | | | Cooling mode | | | | ExV percentage opning | | |
| U6 | 3.5 | U6:1 | UI | DI3 | | DI3:1 | | Y4 | | Y4:1 |
| Suction pressure | | | | Defrost function start | | | | Free | | |
| U7 | 3.6 | U7:1 | UI | DI4 | 4.3 | DI4:1 | | | | |
| Capacity reference | | | | Compressor start | | | | | | |
| U8 | | U8:1 | UI | DI7 | 4.6 | DI7:1 | | NO1 | | NO1:1 |
| Temp 1 | | | | Compressor shut OFF | | | | Bypass solenoid valve | | |
| U9 | | U9:1 | UI | DI8 | 4.7 | DI8:1 | | NO2 | 5.1 | NO2:1 |
| Temp 2 | | | | Main supply error | | | | Digital scroll valve | | |
| U10 | | U10:1 | UI | DI9 | 4.4 | DI9:1 | | NO3 | | NO3:1 |
| Temp 3 | | | | Low pressure swirch | | | | Oil valve | | |

| | | | | |
|---|---|---|---|---|
| NO4 | 5.2 | NO4:1 | NO11 | 5.5 | NO11:1 |
| Reverse cycle 4 way valve | | | Compressor 1 | | |
| NO5 | | NO5:1 | NO12 | 5.6 | NO12:1 |
| Low pressure difference alarm | | | Compressor 2 | | |
| NO6 | | NO6:1 | NO13 | | NO13:1 |
| ExV alarm | | | Compressor 3 | | |
| NO7 | 5.3 | NO7:1 | | | |
| General alarm | | | | | |
| NO8 | | NO8:1 | | | |
| Out of envelope alarm | | | | | |
| NO9 | | NO9:1 | | | |
| Defrost active | | | | | |
| NO10 | | NO10:1 | | | |
| Discharge higt temp alarm | | | | | |

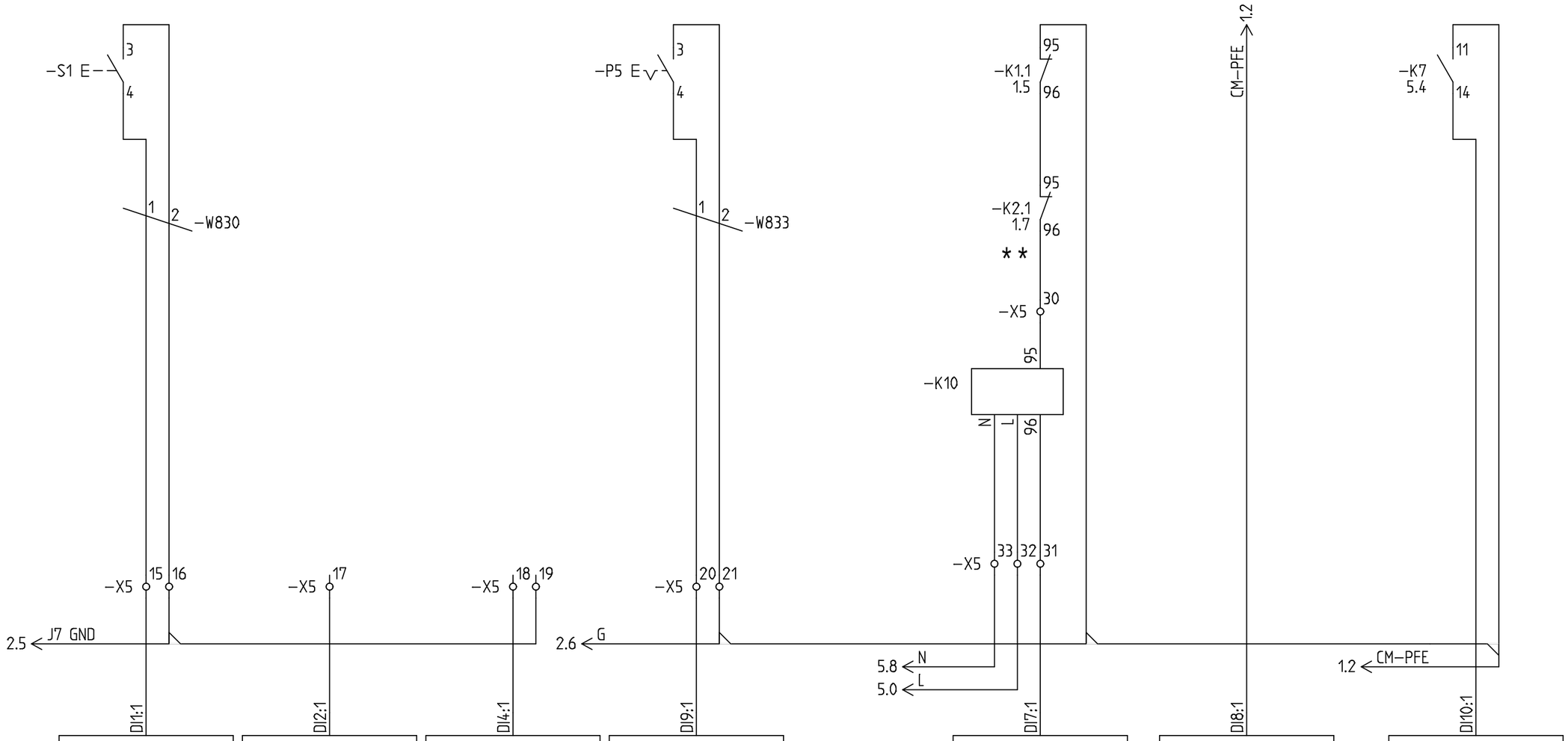
G, G0, pLAN +, pLAN −, pLAN GND, FBus +, FBus −, BMS +, BMS −, BMS GND, J2 GND, J3 GND, J3 +Vdc, J3 +5VR, J4 GND, J4 +Vdc, J4 +5VR, J5 GND, J5 +Vdc, J5 +5VR, J6 GND, J7 GND, J16 NC, J16 C1, J17 C2, J18 C2, J19 C2, J20 C2, J21 C2, J21 V−IN, J22 C6, J23 C7, J24 C8, J25 DI7H, J25 DI7C, J25 DI8H, J26 GND1, J26 GND2, J26 DI9C, J28 C11

24VDC 1.3, 0VDC 1.3, J2 GND 3.0, J3 GND 3.2, J3 +5VR 3.4, J4 GND 3.4, J4 +5VR 3.4, J7 GND 4.0, J17 C2 5.0, J19 C2 5.1, 0VDC 5.2, G 4.3, J23 C7 5.2, J25 DI7C 1.3, J26 GND1 3.6, 24VDC 5.3, J28 C11 1.3

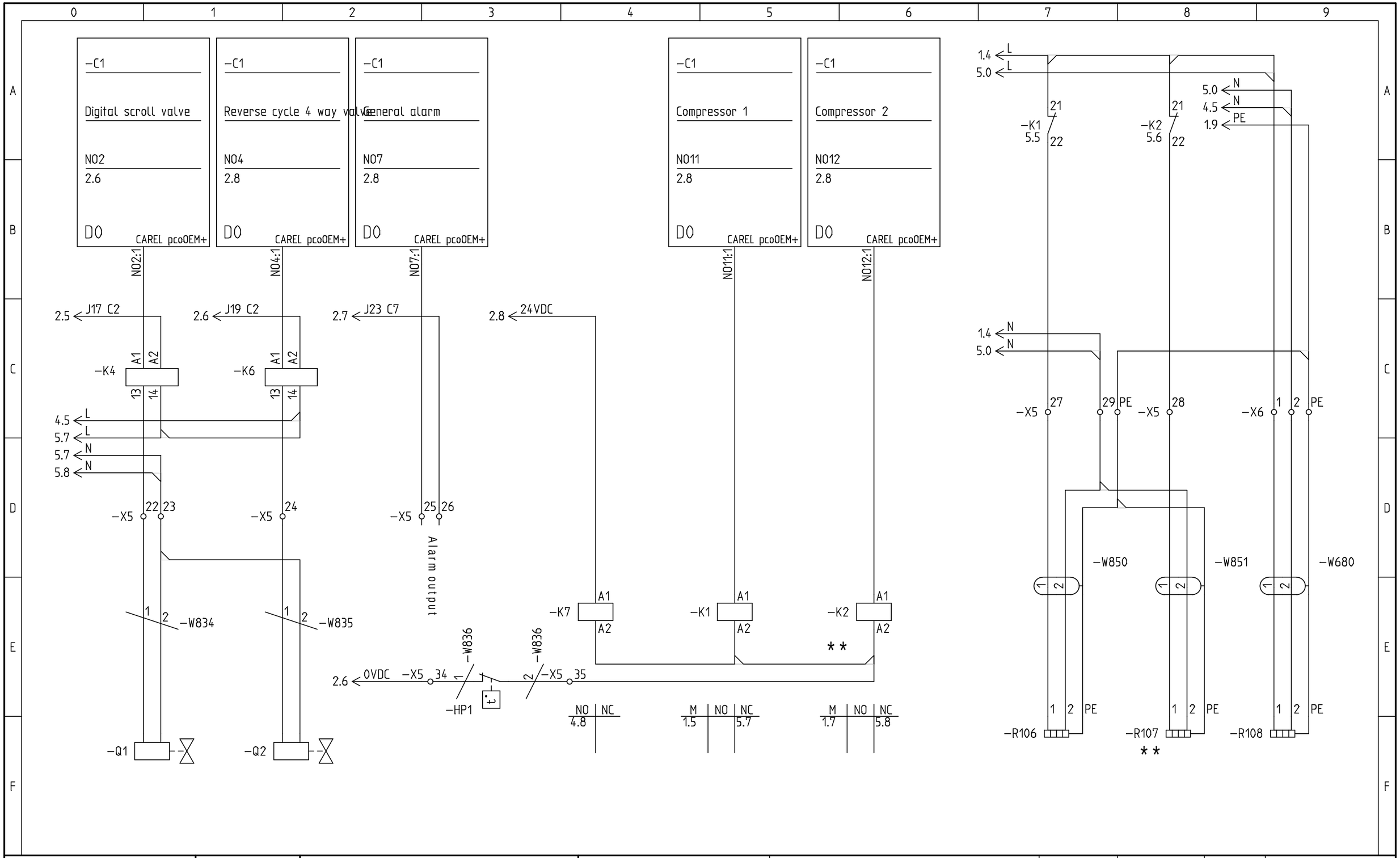
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | Controller | Project: DVU Gen−2 Control system | Drawing no.: | Init.: | Rev Date.: 01−07−2014 | Version.: 01.04 | Sheet: 2 |
| | | Date: 11−03−2014 | Func: =A4 | Place: | Cabinet: | Total sheets: 5 | Next sheet: =A4/3 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | Analog input | Project: DVU Gen-2 Control system | Drawing no.: | Init.: | Rev Date.: 01-07-2014 | Version.: 01.04 | Sheet: 3 |
| | | Date: 11-03-2014 | Func: =A4 | Place: | Cabinet: | Total sheets: 5 | Next sheet: =A4/4 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | | Digital input | Project: DVU Gen-2 Control system | Drawing no.: | Init.: | Rev Date.: 01-07-2014 | Version.: 01.04 | Sheet: 4 |
| | | | Date: 12-03-2014 | Func: =A4 | Place: | Cabinet: | Total sheets: 5 | Next sheet: =A4/5 |




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| systemair | | Outputs | Project: DVU Gen-2 Control system | Drawing no.: | Init.: | Rev Date.: 01-07-2014 | Version.: 01.04 | Sheet: 5 |
| | | | Date: 26-03-2014 | Func: =A4 | Place: | Cabinet: | Total sheets: 5 | Next sheet: |

# List of Documents

| Function (=) | Location (+) | Sheet | Kind of Document | Description | Revision date |
|---|---|---|---|---|---|
| | | 1 | Document list | | 03-06-2015 |
| =A4 | | 1 | Project cover sheet | Frontpage | 11-05-2015 |
| =A4 | | 2 | Project cover sheet | General Description Symbols | 11-05-2015 |
| =A4 | | 3 | Project cover sheet | General Description Wires | 11-05-2015 |
| =A4 | | 1 | Circuit Diagram IEC | Main Power | 11-05-2015 |
| =A4 | | 2 | Circuit Diagram IEC | Controller | 11-05-2015 |
| =A4 | | 3 | Circuit Diagram IEC | Analog input | 11-05-2015 |
| =A4 | | 4 | Circuit Diagram IEC | Digital input | 11-05-2015 |
| =A4 | | 5 | Circuit Diagram IEC | Outputs | 11-05-2015 |
| =A4 | | 1 | Other documents | | |
| =A4 | | 40 | Product list | | 11-05-2015 |
| =A4 | | 41 | Product list | | 11-05-2015 |
| =A4 | | 1 | PLC I/O list | | 11-05-2015 |
| =A4 | | 1 | Wires list | | 11-05-2015 |
| =A4 | | 2 | Wires list | | 11-05-2015 |
| =A4 | | 3 | Wires list | | 11-05-2015 |
| =A4 | | 4 | Wires list | | 11-05-2015 |
| =A4 | | 60 | Terminal Matrix | -X1 | 11-05-2015 |
| =A4 | | 61 | Terminal Matrix | -X2 | 11-05-2015 |
| =A4 | | 62 | Terminal Matrix | -X3 | 11-05-2015 |
| =A4 | | 63 | Terminal Matrix | -X4 | 11-05-2015 |
| =A4 | | 64 | Terminal Matrix | -X5 | 11-05-2015 |
| =A4 | | 65 | Terminal Matrix | -X6 | 11-05-2015 |
| =A4 | | 70 | Cable plan | | 11-05-2015 |
| =A4 | | 71 | Cable plan | | 11-05-2015 |
| =A4 | | 72 | Cable plan | | 11-05-2015 |
| =A4 | | 73 | Cable plan | | 11-05-2015 |
| =A4 | | 74 | Cable plan | | 11-05-2015 |
| | | | | | |
| | | | | | |

systemair

| | | | |
|---|---|---|---|
| Project: DVU Gen-2 Control system | Function decription: | Sheet: 1 | Next sheet: |
| Date: 03-06-2015 / Rev.: | Init.: / Drawing no.: | | Total sheets: 1 |

# List of Products

| Product (-) | Type | Manufacture | Document type | Sheet | Path |
|---|---|---|---|---|---|
| -K5 | | | Circuit Diagram IEC | 1 | 2 |
| -F1 | | | Circuit Diagram IEC | 1 | 3 |
| -T1 | | | Circuit Diagram IEC | 1 | 3 |
| -F2 | | | Circuit Diagram IEC | 1 | 5 |
| -K1.1 | | | Circuit Diagram IEC | 1 | 5 |
| -M1 | | | Circuit Diagram IEC | 1 | 5 |
| -K2.1 | | | Circuit Diagram IEC | 1 | 7 |
| -M2 | | | Circuit Diagram IEC | 1 | 7 |
| -P50 | | | Circuit Diagram IEC | 1 | 9 |
| -C1 | | | Circuit Diagram IEC | 2 | 1 |
| -R109 | | | Circuit Diagram IEC | 3 | 1 |
| -R110 | | | Circuit Diagram IEC | 3 | 2 |
| -R111 | | | Circuit Diagram IEC | 3 | 3 |
| -P6 | | | Circuit Diagram IEC | 3 | 4 |
| -P7 | | | Circuit Diagram IEC | 3 | 5 |
| -R112 | | | Circuit Diagram IEC | 3 | 7 |
| -R113 | | | Circuit Diagram IEC | 3 | 8 |
| -S1 | | | Circuit Diagram IEC | 4 | 1 |
| -P5 | | | Circuit Diagram IEC | 4 | 4 |
| -K10 | | | Circuit Diagram IEC | 4 | 6 |
| -K4 | | | Circuit Diagram IEC | 5 | 1 |
| -Q1 | | | Circuit Diagram IEC | 5 | 1 |
| -Q2 | | | Circuit Diagram IEC | 5 | 2 |
| -K6 | | | Circuit Diagram IEC | 5 | 2 |
| -HP1 | | | Circuit Diagram IEC | 5 | 3 |
| -K7 | | | Circuit Diagram IEC | 5 | 4 |
| -K1 | | | Circuit Diagram IEC | 5 | 5 |
| -K2 | | | Circuit Diagram IEC | 5 | 6 |
| -R106 | | | Circuit Diagram IEC | 5 | 7 |
| -R107 | | | Circuit Diagram IEC | 5 | 8 |

# List of Products

| Product (-) | Type | Manufacture | Document type | Sheet | Path |
|---|---|---|---|---|---|
| -R108 | | | Circuit Diagram IEC | 5 | 9 |

systemair

| | |
|---|---|
| Project: | DVU Gen-2 Control system |
| Date: | 03-06-2015 |
| Drawing no.: | |
| Rev.: | |
| Init.: | |
| Page: | 41 |

# 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 | Compressor 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 | 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 | U11 | Discharge temp compressor 2 | | U11:1 | | | =A4-X5:12 | 3 | 7 |
| =A4 | | -C1 | U12 | Discharge temp compressor 3 | | U12:1 | | | =A4-X5:14 | 3 | 8 |

| | | | | | |
|---|---|---|---|---|---|
| systemair | Project: DVU Gen-2 Control system | Function decription: | Sheet: 1 | Next sheet: | |
| | Date: 03-06-2015 | Rev.: | Init.: | Drawing no.: | Total sheets: 1 |

# Wire list

| From | To | Type | Length | No. | Colour | Square |
|---|---|---|---|---|---|---|
| =A4-X1:L2 | =A4-K5:L2 | | | @ | BK | 25 |
| =A4-X1:PE | =A4-X2:PE | | | @ | BK | 1.5 |
| =A4-K1:1 | =A4-F2:2 | | | @ | BK | 25 |
| =A4-K1:3 | =A4-F2:4 | | | @ | BK | 25 |
| =A4-K1:5 | =A4-F2:6 | | | @ | BK | 25 |
| =A4-K2:1 | =A4-F2:2 | | | @ | BK | 25 |
| =A4-K2:3 | =A4-F2:4 | | | @ | BK | 25 |
| =A4-X2:L1 | =A4-K1.1:2 | | | @ | BK | 25 |
| =A4-X2:L2 | =A4-K1.1:4 | | | @ | BK | 1,5 |
| =A4-X2:L3 | =A4-K1.1:6 | | | @ | BK | 10 |
| =A4-X2:PE | =A4-X3:PE | | | @ | BK | 1.5 |
| =A4-X3:L1 | =A4-K2.1:2 | | | @ | BK | 25 |
| =A4-X3:L2 | =A4-K2.1:4 | | | @ | BK | 25 |
| =A4-X3:L3 | =A4-K2.1:6 | | | @ | BK | 25 |
| =A4-F1:2 | =A4-T1:L | | | @ | BK | 1.5 |
| =A4-F1:3 | =A4-X1:N | | | @ | BK | 25 |
| =A4-F2:1 | =A4-X1:L1 | | | @ | BK | 25 |
| =A4-F2:3 | =A4-X1:L2 | | | @ | BK | 25 |
| =A4-F2:3 | =A4-F1:1 | | | @ | BK | 25 |
| =A4-F2:5 | =A4-X1:L3 | | | @ | BK | 25 |
| =A4-F2:6 | =A4-K2:5 | | | @ | BK | 25 |
| =A4-T1:N | =A4-F1:4 | | | @ | BK | 1.5 |
| =A4-C1:DI9:1 | =A4-X5:20 | | | @ | BK | 1.5 |
| =A4-C1:DI1:1 | =A4-X5:15 | | | @ | BK | 1.5 |
| =A4-C1:DI2:1 | =A4-X5:17 | | | @ | BK | 1.5 |
| =A4-C1:DI4:1 | =A4-X5:18 | | | @ | BK | 1.5 |
| =A4-X5:21 | =A4-C1:J21 V-IN | | | @ | BK | 1.5 |
| =A4-X5:21 | =A4-K1.1:95 | | | @ | BK | 1.5 |
| =A4-C1:G | =A4-T1:+ | | | @ | BK | 1.5 |
| =A4-C1:G0 | =A4-T1:- | | | @ | BK | 1.5 |

systemair

DVU

Project: Gen-2 Control system

Date: 03-06-2015

Drawing no.:

Rev.:

Init.:

Page: 1

# Wire list

| From | To | Type | Length | No. | Colour | Square |
|---|---|---|---|---|---|---|
| =A4-C1:G0 | =A4-C1:J21 C2 | | | @ | BK | 1.5 |
| =A4-C1:J19 C2 | =A4-K6:A2 | | | @ | BK | 1.5 |
| =A4-C1:J25 DI7C | =A4-T1:- | | | @ | BK | 1.5 |
| =A4-C1:J25 DI7C | =A4-C1:J26 DI9C | | | @ | BK | 1.5 |
| =A4-C1:J21 V-IN | =A4-C1:G | | | @ | BK | 1.5 |
| =A4-C1:J28 C11 | =A4-T1:+ | | | @ | BK | 1.5 |
| =A4-C1:J28 C11 | =A4-K7:A1 | | | @ | BK | 1.5 |
| =A4-X5:22 | =A4-K4:13 | | | @ | BK | 1.5 |
| =A4-X5:23 | =A4-X6:2 | | | @ | BK | 1.5 |
| =A4-X5:24 | =A4-K6:13 | | | @ | BK | 1.5 |
| =A4-K1:A1 | =A4-C1:NO11:1 | | | @ | BK | 1.5 |
| =A4-K1:A2 | =A4-K2:A2 | | | @ | BK | 1.5 |
| =A4-K2:A1 | =A4-C1:NO12:1 | | | @ | BK | 1.5 |
| =A4-K2:A2 | =A4-X5:35 | | | @ | BK | 1.5 |
| =A4-X5:16 | =A4-C1:J7 GND | | | @ | BK | 1.5 |
| =A4-X5:16 | =A4-X5:19 | | | @ | BK | 1.5 |
| =A4-K5:L1 | =A4-X1:L1 | | | @ | BK | 25 |
| =A4-K5:L3 | =A4-X1:L3 | | | @ | BK | 25 |
| =A4-K5:14 | =A4-K1.1:95 | | | @ | BK | 1.5 |
| =A4-C1:DI7:1 | =A4-X5:31 | | | @ | BK | 1.5 |
| =A4-C1:DI8:1 | =A4-K5:11 | | | @ | BK | 1.5 |
| =A4-K2.1:95 | =A4-K1.1:96 | | | @ | BK | 1.5 |
| =A4-K1.1:1 | =A4-K1:2 | | | @ | BK | 25 |
| =A4-K1.1:3 | =A4-K1:4 | | | @ | BK | 25 |
| =A4-K1.1:5 | =A4-K1:6 | | | @ | BK | 25 |
| =A4-K2.1:1 | =A4-K2:2 | | | @ | BK | 25 |
| =A4-K2.1:3 | =A4-K2:4 | | | @ | BK | 25 |
| =A4-K2.1:5 | =A4-K2:6 | | | @ | BK | 25 |
| =A4-X5:26 | =A4-C1:J23 C7 | | | @ | BK | 1.5 |
| =A4-K1:21 | =A4-F1:2 | | | @ | BK | 1.5 |

# Wire list

| From | To | Type | Length | No. | Colour | Square |
|---|---|---|---|---|---|---|
| =A4-K1:21 | =A4-K2:21 | | | @ | BK | 1.5 |
| =A4-K2:21 | =A4-X6:1 | | | @ | BK | 1.5 |
| =A4-X5:27 | =A4-K1:22 | | | @ | BK | 1.5 |
| =A4-X5:28 | =A4-K2:22 | | | @ | BK | 1.5 |
| =A4-X5:29 | =A4-F1:4 | | | @ | BK | 1.5 |
| =A4-X5:29 | =A4-X5:23 | | | @ | BK | 1.5 |
| =A4-K4:A1 | =A4-C1:NO2:1 | | | @ | BK | 1.5 |
| =A4-K4:A2 | =A4-C1:J17 C2 | | | @ | BK | 1.5 |
| =A4-K4:14 | =A4-K6:14 | | | @ | BK | 1.5 |
| =A4-X6:1 | =A4-K4:14 | | | @ | BK | 1.5 |
| =A4-K6:A1 | =A4-C1:NO4:1 | | | @ | BK | 1.5 |
| =A4-K7:A2 | =A4-K1:A2 | | | @ | BK | 1.5 |
| =A4-K7:11 | =A4-K5:14 | | | @ | BK | 1.5 |
| =A4-K7:14 | =A4-C1:DI10:1 | | | @ | BK | 1.5 |
| =A4-C1:U1:1 | =A4-X5:1 | | | @ | BK | 1.5 |
| =A4-C1:U2:1 | =A4-X5:3 | | | @ | BK | 1.5 |
| =A4-X5:2 | =A4-C1:J2 GND | | | @ | BK | 1.5 |
| =A4-X5:5 | =A4-C1:U4:1 | | | @ | BK | 1.5 |
| =A4-X5:4 | =A4-C1:J3 GND | | | @ | BK | 1.5 |
| =A4-C1:U7:1 | =A4-X5:11 | | | @ | BK | 1.5 |
| =A4-C1:U5:1 | =A4-X5:6 | | | @ | BK | 1.5 |
| =A4-C1:U6:1 | =A4-X5:8 | | | @ | BK | 1.5 |
| =A4-X5:7 | =A4-C1:J3 +5VR | | | @ | BK | 1.5 |
| =A4-X5:10 | =A4-C1:J4 GND | | | @ | BK | 1.5 |
| =A4-X5:9 | =A4-C1:J4 +5VR | | | @ | BK | 1.5 |
| =A4-C1:U11:1 | =A4-X5:12 | | | @ | BK | 1.5 |
| =A4-C1:U12:1 | =A4-X5:14 | | | @ | BK | 1.5 |
| =A4-X5:13 | =A4-C1:J26 GND1 | | | @ | BK | 1.5 |
| =A4-X6:PE | =A4-X3:PE | | | @ | BK | 1.5 |
| -K10:95 | =A4-X5:30 | | | @ | BK | 1.5 |

# Wire list

| From | To | Type | Length | No. | Colour | Square |
|---|---|---|---|---|---|---|
| -K10:96 | =A4-X5:31 | | | @ | BK | 1.5 |
| =A4-X5:30 | =A4-K2.1:96 | | | @ | BK | 1.5 |
| =A4-X5:32 | -K10:L | | | @ | BK | 1.5 |
| =A4-X5:32 | =A4-K6:14 | | | @ | BK | 1.5 |
| =A4-X5:33 | -K10:N | | | @ | BK | 1.5 |
| =A4-X5:33 | =A4-X6:2 | | | @ | BK | 1.5 |
| =A4-X5:PE | =A4-X6:PE | | | @ | BK | 1.5 |
| =A4-C1:N07:1 | =A4-X5:25 | | | @ | BK | 1.5 |

# Terminal Matrix

## Terminal Strip: -X1

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

# Terminal Matrix

Terminal Strip:
## -X2

| Connection 1 | No. | Term. | Connection 2 | Path | Sheet |
|---|---|---|---|---|---|
| -M1:U | L1 | O | -K1.1:2 | 15 | 1 |
| -M1:V | L2 | O | -K1.1:4 | 15 | 1 |
| -M1:W | L3 | O | -K1.1:6 | 15 | 1 |
| -M1:PE | PE | O | -X1:PE | 15 | 1 |
| | | O | -X3:PE | | |

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

| | | | | | | |
|---|---|---|---|---|---|---|
| | | =A4-W801 | 1 | 2 | 3 | 4 |

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

systemair

-X2

| Project: | Drawing no.: | Rev.: | Init.: |
|---|---|---|---|
| DVU Gen-2 Control system | | | |
| Date: 03-06-2015 | Function: =A4 | Location: | Page: 61 |

# Terminal Matrix

Terminal Strip:
## -X3

| Path | 17 | 17 | 17 | 17 |
|---|---|---|---|---|
| Sheet | | | | |

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

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

| Note | Cable type | Cable name | ----- Cable ----- |
|---|---|---|---|
| | | =A4-W802 | 1 2 3 4 |

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

systemair

-X3

| Project: DVU Gen-2 Control system | Drawing no.: | Rev.: | Init.: |
|---|---|---|---|
| Date: 03-06-2015 | Function: =A4 | Location: | Page: 62 |

# Terminal Matrix

Terminal Strip:
## -X4

| Path | 18 | 18 |
|---|---|---|
| Sheet | | |

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

| | | | Connection 2 | No. | Term. | Connection 1 |
|---|---|---|---|---|---|---|
| | | =A4-W650 | | 1 | | -P50:1 |
| | | | | 2 | | -P50:2 |

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

| | | | | | |
|---|---|---|---|---|---|
| systemair | | -X4 | Project: DVU Gen-2 Control system | Drawing no.: | Rev.: | Init.: |
| | | | Date: 03-06-2015 | Function: =A4 | Location: | Page: 63 |

# Terminal Matrix

## Terminal Strip: -X5

| Note | Cable type | Cable name | Connection 2 | No. | Term. | Connection 1 |
|---|---|---|---|---|---|---|
| | | | | | | Path / Sheet |
| | | =A4-W810 | -R109:2 | 1 | O | -C1:U1:1 |
| | | =A4-W811 | -R109:1 | 2 | O | -C1:J2 GND |
| | | =A4-W812 | -R110:1 | | O | |
| | | =A4-W814 | -R110:2 | 3 | O | -C1:U2:1 |
| | | =A4-W815 | -P6:ANG | 4 | O | -C1:J3 GND |
| | | =A4-W816 | -R111:1 | | O | |
| | | =A4-W817 | -R111:2 | 5 | O | -C1:U4:1 |
| | | =A4-W830 | -P6:0-10V | 6 | O | -C1:U5:1 |
| | | =A4-W833 | -P6:5V | 7 | O | -C1:J3 +5VR |
| | | | -P7:0-10V | 8 | O | -C1:U6:1 |
| | | | -P7:5V | 9 | O | -C1:J4 +5VR |
| | | | -P7:ANG | 10 | O | -C1:J4 GND |
| | | | | 11 | O | -C1:U7:1 |
| | | | -R112:2 | 12 | O | -C1:U11:1 |
| | | | -R112:1 | 13 | O | -C1:J26 GND1 |
| | | | -R113:1 | | O | |
| | | | -R113:2 | 14 | O | -C1:U12:1 |
| | | | -S1:4 | 15 | O | -C1:DI1:1 |
| | | | -S1:3 | 16 | O | -C1:J7 GND |
| | | | | 17 | O | -C1:DI2:1 |
| | | | | 18 | O | -C1:DI4:1 |
| | | | | 19 | O | |
| | | | -P5:4 | 20 | O | -C1:DI9:1 |
| | | | | 21 | O | -C1:J21 V-IN |
| | | | -P5:3 | | O | -K1.1:95 |
| | | | -K4:13 | 22 | O | -Q1 |
| | | | | 23 | O | -Q1 |
| | | | -X6:2 | | O | -Q2 |
| | | | -K6:13 | 24 | O | -Q2 |
| | | | -C1:NO7:1 | 25 | O | |
| | | | -C1:J23 C7 | 26 | O | |
| | | | -K1:22 | 27 | O | -R10:6:1 |
| | | | -K2:22 | 28 | O | -R10:7:1 |
| | | | | 29 | O | -R10:6:2 |
| | | | -F1:4 | | O | -R10:7:2 |
| | | | -K2.1:96 | 30 | O | -K10:95 |
| | | | -K10:96 | 31 | O | -C1:DI7:1 |
| | | | -K10:L | 32 | O | -K6:14 |
| | | | -K10:N | 33 | O | -X6:2 |
| | | | | 34 | O | -HP1 |
| | | =A4-W834 | | | | |
| | | =A4-W835 | | | | |
| | | =A4-W836 | | | | |
| | | =A4-W850 | | | | |
| | | =A4-W851 | | | | |

| Note | Cable type | Cable name | ----- Cable ----- |
|---|---|---|---|
| | | =A4-W810 | 1 2 |
| | | =A4-W811 | 2 1 |
| | | =A4-W812 | 2 1 |
| | | =A4-W814 | 1 2 |
| | | =A4-W815 | 2 1 |
| | | =A4-W816 | 1 |
| | | =A4-W817 | 2 3 1 |
| | | =A4-W830 | 1 2 |
| | | =A4-W833 | 1 |
| | | =A4-W834 | 1 2 |
| | | =A4-W835 | 2 1 |
| | | =A4-W836 | 1 |
| | | =A4-W850 | 1 2 |
| | | =A4-W851 | 1 2 |

| Note | Cable type | Cable name | ----- Cable ----- |
|---|---|---|---|
| | | =A4-W810 | 1 1 3 3 2 3 3 3 4 3 4 3 5 3 5 3 5 3 6 3 7 3 7 3 8 1 4 1 4 2 4 3 4 3 4 4 4 4 5 1 5 1 5 2 5 3 5 3 5 7 5 8 5 7 4 6 4 6 4 6 4 6 5 3 |

systemair

| | | | |
|---|---|---|---|
| -X5 | Project: DVU Gen-2 Control system | Drawing no.: | Rev.: / Init.: |
| | Date: 03-06-2015 | Function: =A4 | Location: / Page: 64 |

# Terminal Matrix

Terminal Strip:
## -X5

| Path | 4 | 8 |
|---|---|---|
| Sheet | 5 | 5 |

| Note | Cable type | Cable name | ----- Cable ----- |
|---|---|---|---|
| | | =A4-W836 | 2 |
| | | | |
| | | | |

| Connection 1 | Connection 2 | No. | Term. |
|---|---|---|---|
| -K2:A2 | -HP1 | 35 | 0 |
| -R106:PE | | PE | 0 |
| -R107:PE | -X6:PE | | 0 |
| | | | 0 |
| | | | 0 |
| |

# Terminal Matrix

Terminal Strip:
## -X6

| Path | Sheet |
|---|---|
| 9 | 5 |
| | |
| 9 | 5 |
| | |
| 9 | 5 |

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

| Connection 1 | Term. | No. | Connection 2 |
|---|---|---|---|
| -R108:1 | 0 | 1 | -K2:21 |
| | 0 | | -K4:14 |
| -R108:2 | 0 | 2 | -X5:23 |
| | 0 | | -X5:33 |
| -R108:PE | 0 | PE | -X3:PE |
| | 0 | | -X5:PE |

| Note | Cable type | Cable name | ----- Cable ----- |
|---|---|---|---|
| | | =A4-W680 | 1 / 2 / PE |

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

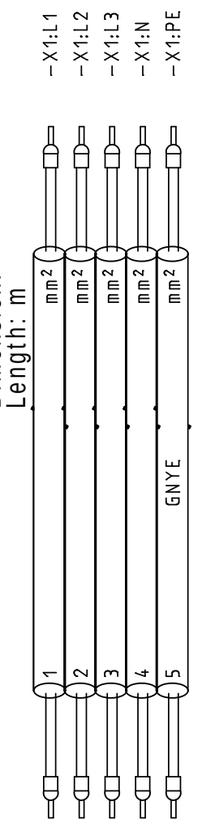
| | | | | | |
|---|---|---|---|---|---|
| systemair | | -X6 | Project: DVU Gen-2 Control system | Drawing no.: | Rev.: / Init.: |
| | | | Date: 03-06-2015 | Function: =A4 | Location: / Page: 66 |

# Cabelplan

| Path | Sheet |
|---|---|
| 0 | 1 |
| 1 | 1 |
| 1 | 1 |
| 1 | 1 |
| 1 | 1 |
| 9 | 1 |
| 9 | 1 |
| 8 | 1 |
| 8 | 1 |
| 9 | 5 |
| 9 | 5 |
| 9 | 5 |
| 5 | 1 |
| 5 | 1 |
| 5 | 1 |
| 5 | 1 |

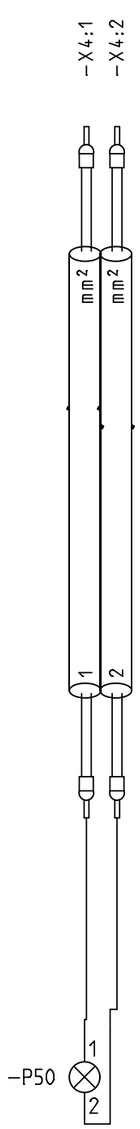
## =A4-W329

Description:
Type:
Dimension: mm²
Length: m




## =A4-W650

Description:
Type:
Dimension: mm²
Length: m

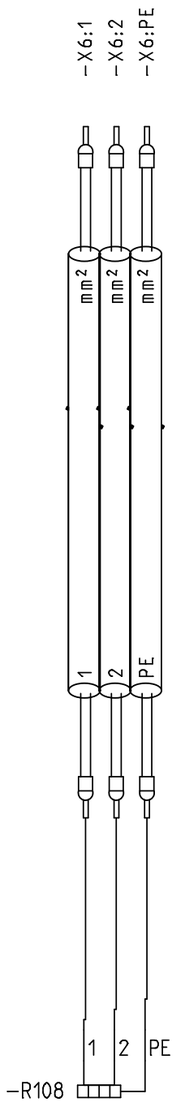



## =A4-W655

Description:
Type:
Dimension: mm²
Length: m

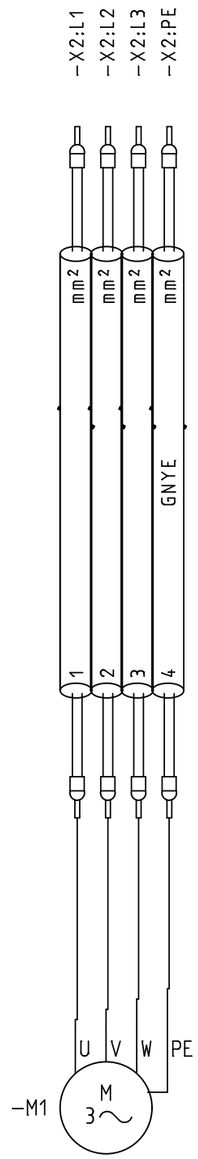
## =A4-W680

Description:
Type:
Dimension: mm²
Length: m




## =A4-W801

Description:
Type:
Dimension: mm²
Length: m



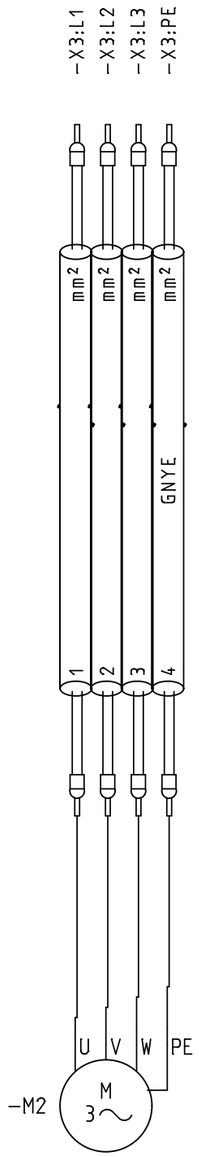

| | | | | |
|---|---|---|---|---|
| systemair | Project: DVU Gen-2 Control system | Int.: | DCC: &EFS | Sheet: 5 |
| | Date: 03-06-2015 | Funk | Dok. number | Page: 70 |

# Cabelplan

| Path | Sheet |
|---|---|
| 7 | 1 |
| 7 | 1 |
| 7 | 1 |
| 7 | 1 |
| 1 | 3 |
| 1 | 3 |
| 2 | 3 |
| 2 | 3 |
| 3 | 3 |
| 3 | 3 |

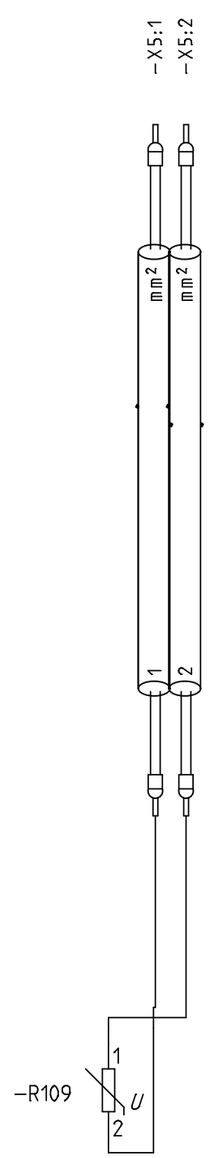
## =A4-W802

Description:
Type:
Dimension:
Length: m



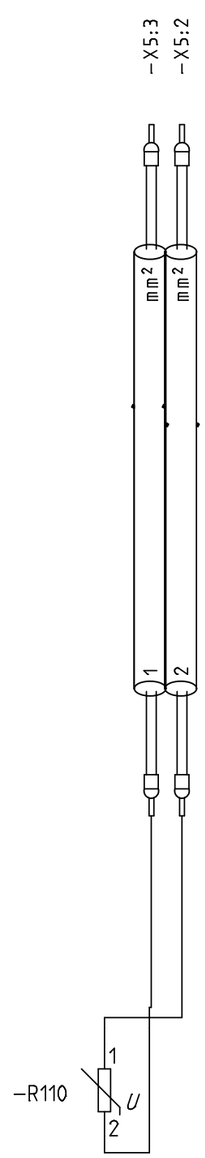

## =A4-W810

Description:
Type:
Dimension:
Length: m



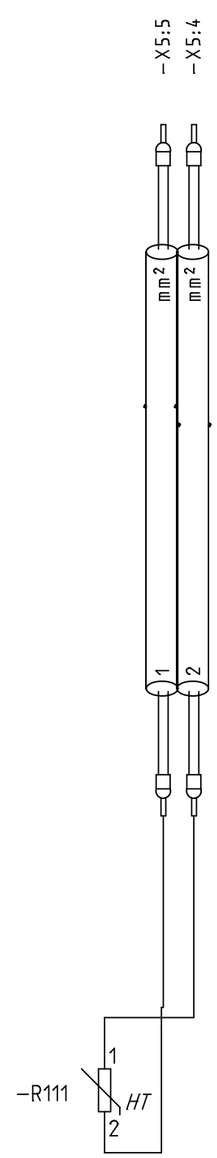

## =A4-W811

Description:
Type:
Dimension:
Length: m



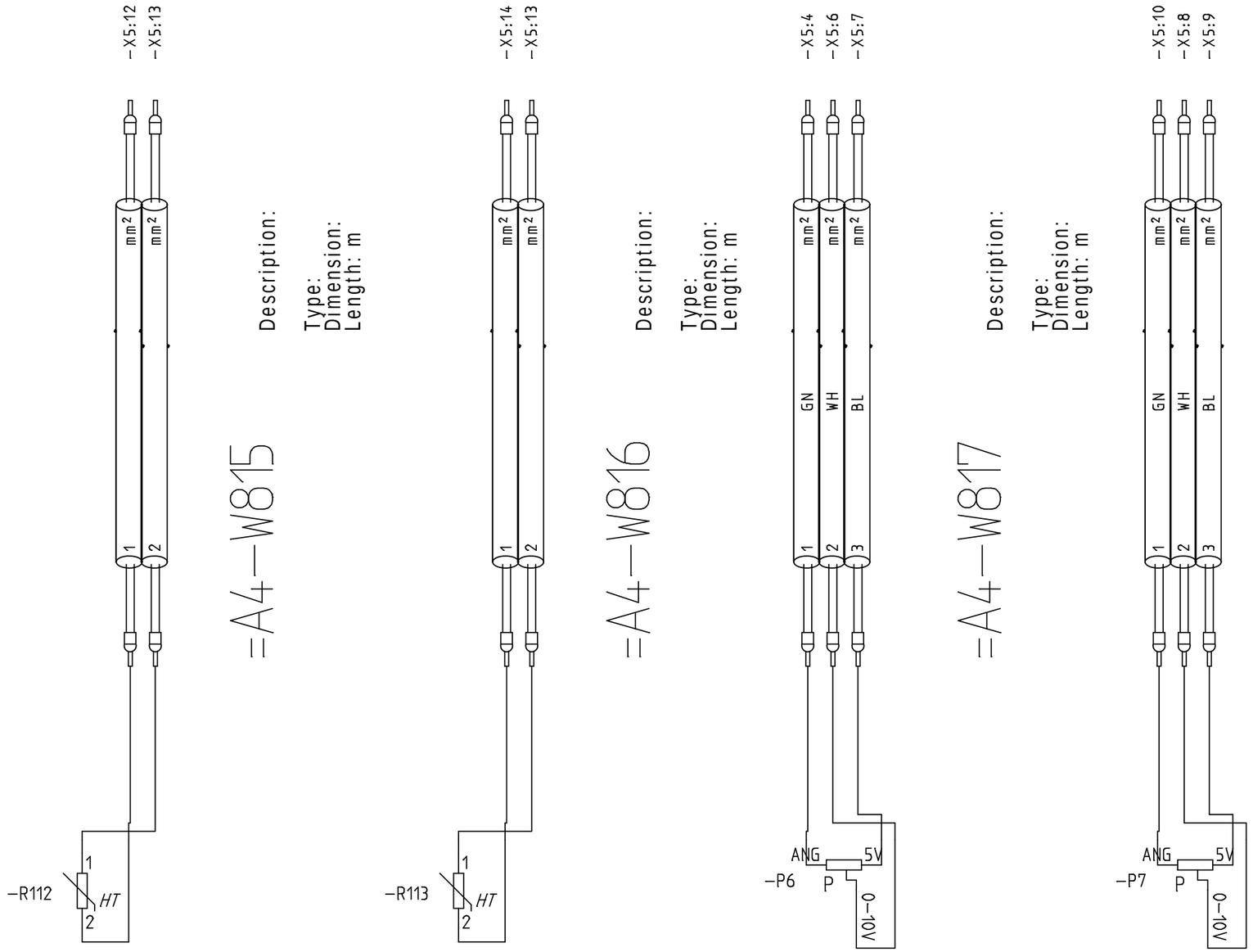

## =A4-W812

Description:
Type:
Dimension:
Length: m



# Cabelplan

| | Sheet | Path |
|---|---|---|
| =A4-W814 | 3 | 7 |
| =A4-W815 | 3 | 7 |
| =A4-W816 | 3 | 8 |
| =A4-W817 | 3 | 8 |
| | 3 | 4 |
| | 3 | 4 |
| | 3 | 4 |
| | 3 | 5 |
| | 3 | 5 |
| | 3 | 5 |




systemair

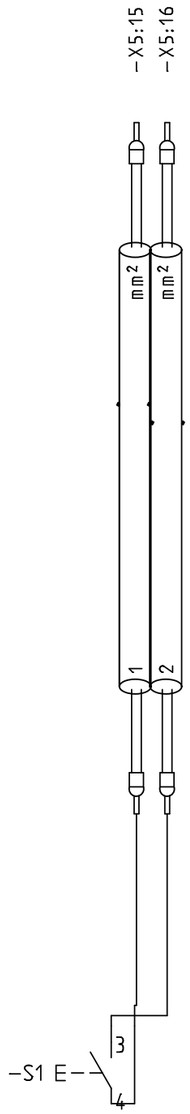
| Project | Int.: | DCC | Sheet |
|---|---|---|---|
| DVU Gen-2 Control system | | &EFS | 5 |
| Date 03-06-2015 | Funk | Dok. number | Page 72 |

# Cabelplan

| | Path | Sheet |
|---|---|---|
| | 1 | 4 |
| | 1 | 4 |
| | 4 | 4 |
| | 4 | 4 |
| | 1 | 5 |
| | 1 | 5 |
| | 2 | 5 |
| | 2 | 5 |
| | 3 | 5 |
| | 3 | 5 |

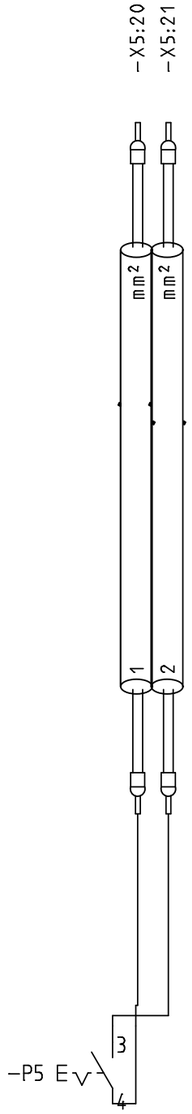
## =A4-W830

Description:
Type:
Dimension:
Length: m



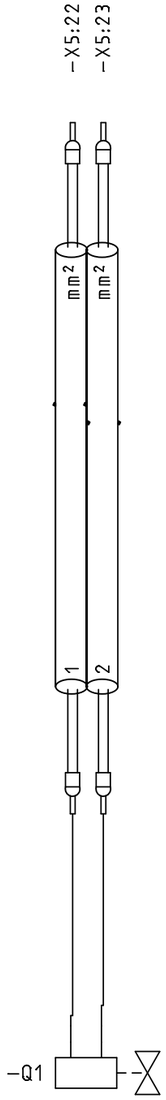

## =A4-W833

Description:
Type:
Dimension:
Length: m



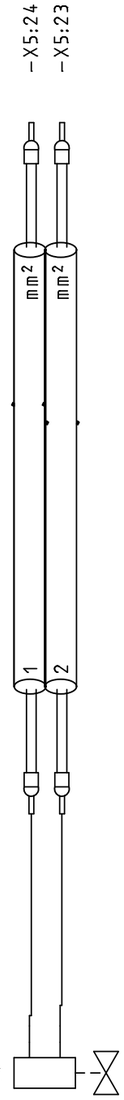

## =A4-W834

Description:
Type:
Dimension:
Length: m



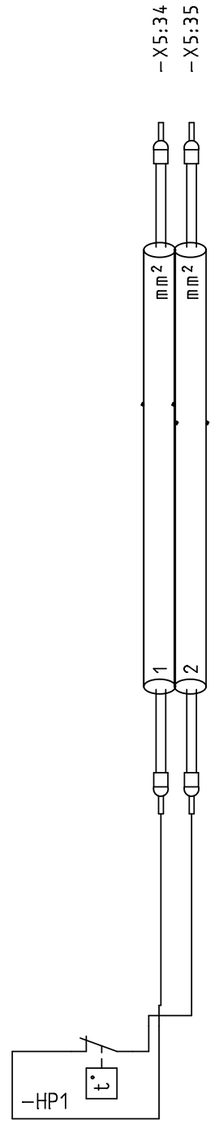

## =A4-W835

Description:
Type:
Dimension:
Length: m




## =A4-W836

Description:
Type:
Dimension:
Length: m




| | | | | | |
|---|---|---|---|---|---|
| systemair | | Project: DVU Gen-2 Control system | Int.: | DCC: &EFS | Sheet: 5 |
| | | Date: 03-06-2015 | Funk | Dok. number | Page: 73 |

| | | |