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Customer:	Statron	
Project:	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Type:	BESS MSC-1000-620-8	
Product	CONVERTER CONTAINER	
Circuit diagram No:	10354_23A2007	20241105_V1.2

Producer (company):	Freqcon GmbH	53396
Project:	Shell Crosswind BESS FQ 1MW 5MWh Offshore	CT_Ausbau_1 53457 CT_Ausbau_2 53765
Type:	BESS MSC-1000-620-8	CONV 53399
Project manager:	Freqcon_CP	

created on:	17.09.2019			
edited on:	05.11.2024	edited by:	Freqcon_DG	total pages: 498

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&EMZ ++CONV +CIR		Terminals Converter Circuit Breaker cabinet		
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&EMZ ++CT +CTRL_1.3		Terminals Control cabinets Control cabinet 1 Main mounting plate		
	2005	Klemmenplan =UNIT_01++CT+CTRL_1.3-X3.11	05.11.2024	Freqcon_DG
	2006	Klemmenplan =UNIT_01++CT+CTRL_1.3-X3.12	05.11.2024	Freqcon_DG
	2007	Klemmenplan =UNIT_01++CT+CTRL_1.3-X3.13	05.11.2024	Freqcon_DG
	2008	Klemmenplan =UNIT_01++CT+CTRL_1.3-X5	05.11.2024	Freqcon_DG
	2009	Klemmenplan =UNIT_01++CT+CTRL_1.3-X5	05.11.2024	Freqcon_DG
	2010	Klemmenplan =UNIT_01++CT+CTRL_1.3-X5.1	05.11.2024	Freqcon_DG
	2011	Klemmenplan =UNIT_01++CT+CTRL_1.3-150X1	05.11.2024	Freqcon_DG
	2012	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC1	05.11.2024	Freqcon_DG
	2013	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC1	05.11.2024	Freqcon_DG
	2014	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC2	05.11.2024	Freqcon_DG
	2015	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC2	05.11.2024	Freqcon_DG
	2016	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC2	05.11.2024	Freqcon_DG
	2017	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC3	05.11.2024	Freqcon_DG
	2018	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC4	05.11.2024	Freqcon_DG
	2019	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC5.1	05.11.2024	Freqcon_DG
	2020	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC5.2	05.11.2024	Freqcon_DG
	2021	Klemmenplan =UNIT_01++CT+CTRL_1.3-XE	05.11.2024	Freqcon_DG
	2022	Klemmenplan =UNIT_01++CT+CTRL_1.3-XT	05.11.2024	Freqcon_DG
	2023	Klemmenplan =UNIT_01++CT+CTRL_1.3-XT	05.11.2024	Freqcon_DG
	2024	Klemmenplan =UNIT_01++CT+CTRL_1.3-190XT1	05.11.2024	Freqcon_DG
	2025	Klemmenplan =UNIT_01++CT+CTRL_1.3-191XT1	05.11.2024	Freqcon_DG
	2026	Klemmenplan =UNIT_01++CT+CTRL_1.3-XV	05.11.2024	Freqcon_DG
	2027	Klemmenplan =UNIT_01++CT+CTRL_1.3-XV	05.11.2024	Freqcon_DG
&EMZ ++CT +CTRL_1.4		Terminals Control cabinets Control cabinet 1 Right side		
	1000	Klemmenleistenübersicht : =UNIT_01++CT+CTRL_1.4-350X1.21 - =UNIT_01++CT+CTRL_1.4-XV.20	05.11.2024	Freqcon_DG
	2000	Klemmenplan =UNIT_01++CT+CTRL_1.4-350X1.21	05.11.2024	Freqcon_DG

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FREQCON_INHALT_04_de_en

Assignment	Page	Page description	Date	Edited by
&EMZ ++CT +CTRL_1.4		Terminals Control cabinets Control cabinet 1 Right side		
	2001	Klemmenplan =UNIT_01++CT+CTRL_1.4-350X1.21	05.11.2024	Freqcon_DG
	2002	Klemmenplan =UNIT_01++CT+CTRL_1.4-XE2	05.11.2024	Freqcon_DG
	2003	Klemmenplan =UNIT_01++CT+CTRL_1.4-XV.20	05.11.2024	Freqcon_DG
	2004	Klemmenplan =UNIT_01++CT+CTRL_1.4-XV.20	05.11.2024	Freqcon_DG
&EMZ ++CT +CTRL_2.1		Terminals Control cabinets Control cabinet 2 Cabinet door		
	1000	Klemmenleistenübersicht : =UNIT_01++CT+CTRL_2.1-149X1 - =UNIT_01++CT+CTRL_2.1-149X1	05.11.2024	Freqcon_DG
	2000	Klemmenplan =UNIT_01++CT+CTRL_2.1-149X1	05.11.2024	Freqcon_DG
&EMZ ++FAN		Terminals FAN		
	1000	Klemmenleistenübersicht : =UNIT_01++FAN+-52G1-181X1 - =UNIT_01++FAN+-52G1-181X3	05.11.2024	Freqcon_DG
	2000	Klemmenplan =UNIT_01++FAN+-52G1-181X1	05.11.2024	Freqcon_DG
	2001	Klemmenplan =UNIT_01++FAN+-52G1-181X3	05.11.2024	Freqcon_DG

SPECIFICATION

TERMINAL STRIP

-XE1	MAIN POWER SUPPLY 600V AC
-XE2	DC POWER SUPPLY 1000V DC
-XE	MAIN POWER SUPPLY 400V AC
-X1	MAIN POWER 400V/230V AC
-X2	LIGHT CABINET 230V AC
-X3	CONTROL VOLTAGE 24V DC
-14X1	CONTROL VOLTAGE 24V DC (TO DC CONTACTORS)
-X5	LOW-VOLTAGE SIGNALS
-XDC0	24V DC POWER SUPPLY
-XDC1-4	CONTROL VOLTAGE 24V DC (UPS)
-XT	TRANSFER TERMINAL BLOCK 24V DC / 230V AC

WIRING COLOR

L1 / L2 / L3	=	BLACK
N	=	LIGHT BLUE (IEC) / GREY (UL)
PE	=	YELLOW-GREEN
EXTERNAL VOLTAGE	=	ORANGE
CONTROL VOLTAGE 24 V DC	=	DARK BLUE
ANALOG SIGNALS	=	WHITE

PLACE

+CTRL	=	Control cabinet
+CON	=	Converter cabinet
+IND	=	Inductor cabinet
+CIR	=	Circuit breaker cabinet
+COSY	=	Cooling System
+FAN	=	External fan

previous page: &EAB/14

next page: 6a

SPECIFICATION of grounding

	from frame to			
1	**roof & side walls & doors**	**EVD_1**	**Flachband**	**2x25 mm²**
2	**frame**	**EVD_2**	**Flachband**	**2x25 mm²**
3	**base**	**EVD_3**	**Flachband**	**2x25 mm²**
4	**Mounting plate & partitions**	**EVD_4**	**H07-V-K**	**2x25 mm²**
5	**inductors**	**EVD_5**	**H07-V-k**	**2x25 mm²**
6	**Powerstack**	**EVD_6**	**H07-V-K**	**2x25 mm²**
7	**DC Switch & Fuse**	**EVD_7**	**H07-V-K**	**2x25 mm²**
8	**AC Filter**	**EVD_8**	**H07-V-K**	**2x25 mm²**
9	**circuit-breaker**	**EVD_9**	**H07-V-K**	**2x25 mm²**
10	**Freqcon_Fast_Disconektor**	**EVD_10**	**H07-V-K**	**2x25 mm²**
11	**Freqcon_Rectifier_Modul**	**EVD_11**	**H07-V-K**	**2x25 mm²**
12	**capacitor banks**	**EVD_12**	**H07-V-K**	**2x25 mm²**
13	**water distributor**	**EVD_13**	**H07-V-K**	**2x25 mm²**
14	**SPARE**	**EVD_14**	**H07-V-K**	**2x25 mm²**
15	**SPARE**	**EVD_15**	**H07-V-K**	**2x25 mm²**
16	**SPARE**	**EVD_16**	**H07-V-K**	**2x25 mm²**
17	**SPARE**	**EVD_17**	**H07-V-K**	**2x25 mm²**
18	**SPARE**	**EVD_18**	**H07-V-K**	**2x25 mm²**
	from door to			
19	**PROFINET IRT IGBT Interface**	**EVD_19**	**H07-V-K**	**1,5 mm²**
20	**HMI**	**EVD_20**	**H07-V-K**	**1,5 mm²**
21	**SPARE**	**EVD_21**	**H07-V-K**	**??? mm²**
22	**SPARE**	**EVD_22**	**H07-V-K**	**??? mm²**

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next page: &EFA/1a

Editor	Freqcon_JD			Statron	FREQCON	Specification Earthing	20241105_V1.2	= UNIT_01	Converter Container 1
Date	14.06.2024	Norm						& EAC	Explanatory documents
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 6a
Date								+	total: 498

Single line diagram

=UNIT_01++TRA

=UNIT_01++CONV

+AC_DC

+CIR

+IND

+CON

+IND

+CIR

+AC_DC

medium voltage transformer
-18T1
&EFS++TRA/18.2
1,25MVA
6,6kV/0,62 kV AC

Gehäuse Erdung

V1_L1 V1_L2 V1_L3

-78W1 - 78W3
GRID L1 -L3
&EFS++CONV/78.1

NSGAFöu 3x4x50mm²

3WL1112-2BB36-1BJ2-Z
A08+H07+M06+M21+R10

-80Q1
max.
1250 A
&EFS++CONV/80.0

-83U1
Filter Caps 3*600µF
Overvoltage protect
&EFS++CONV/83.2

PT100
201L1 - 203L1
Inductor
1*1000A
0,2mH
&EFS++CONV/201.1

PIII 1_1
-
PIII_1_3
201Q1 - 203Q1
1000A Stack x 3
AC
DC

V1_DC+ V1_DC-
UDC +
UDC N
UDC -

PIII 2_1
-
PIII_2_3
-211Q1
3X250A Stack
DC DC DC DC DC

PT100
-211L1
&EFS++CONV/211.1
0,6mH
3*250A

V3_L2 V3_L3 -231U1 VA_182
&EFS++CONV/231.0
DC Switch & Fuse 3*250A
Filter Caps 3*340µF
-K1 -F1 1500V 300A 1250V 400A
-K7 -F2
-K2 -F5
-K8 -F6
-K3 -F9
-K9 -F10
-C1 -C7 -C13 340µF
V3_L1 VA_186 VA_184

NSGAFöu 6x1x50mm²

-224W10 DC 1.4 + Pos.
-224W11 DC 1.4 - Pos.
-224W12 DC 1.5 + Pos.
-224W13 DC 1.5 - Pos.
-224W14 DC 1.6 + Pos.
-224W15 DC 1.6 - Pos.

HELUTHERM 2x1x70mm²

=UNIT_02++
BAT 1-3
BAT 4-5
BAT 6-8
LFP Battery Modul

V3_DC- V3_Ub -227U1 VA_188
&EFS++CONV/227.0
DC Switch & Fuse 3*250A
Filter Caps 3*340µF
-K1 -F1 1500V 300A 1250V 400A
-K7 -F2
-K2 -F5
-K8 -F6
-K3 -F9
-K9 -F10
-C1 -C7 -C13 340µF
V3_DC+ VA_192 VA_190

-231W10 DC 2.1 + Pos.
-231W11 DC 2.1 - Pos.
-231W12 DC 2.2 + Pos.
-231W13 DC 2.2 - Pos.
-231W14 DC 2.3 + Pos.
-231W15 DC 2.3 - Pos.

BAT 9-11
BAT 1-3
=UNIT_03++

PIII 3_1
-
PIII_3_3
-207Q1
3X250A Stack

PT100
-207L1
&EFS++CONV/207.1
0,6mH
3*250A

V4_L1 V4_L3 -237U1 V4_L2
&EFS++CONV/237.0
DC Switch & Fuse 3*250A
Filter Caps 3*340µF
-K1 -F1 1500V 300A 1250V 400A
-K7 -F2
-K2 -F5
-K8 -F6
-K3 -F9
-K9 -F10
-C1 -C7 -C13 340µF
V4_DC+ V4_DC- V4_Ub

-237W10 DC 2.4 + Pos.
-237W11 DC 2.4 - Pos.
-237W12 DC 2.5 + Pos.
-237W13 DC 2.5 - Pos.
-237W14 DC 2.6 + Pos.
-237W15 DC 2.6 - Pos.

BAT 4-6
BAT 7-8
BAT 9-11

PIII 4_1
-
PIII_4_3
-217Q1
3X250A Stack

PT100
-217L1
&EFS++CONV/217.1
0,6mH
3*250A

N
78W4:N
&EFS++CONV/78.3
PEN
78W5:PE
&EFS++CONV/78.2

UDC_LINK_+ 2a.2 /
UDC_LINK_N 2a.5 /
UDC_LINK_- 2a.2 /

previous page: &EAC/6a
next page: 2a

Editor	Freqcon_JD			Statron	FREQCON	SYSTEMS OVERVIEW	20241105_V1.2
Date	18.06.2024	Norm		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Proved by							
Date							

=	UNIT_01	Converter Container 1
&	EFA	Single line diagram
++		page: 1a
+		total: 498

Single line diagram

Control circuit

++CONV

++CT
+CTRL_1

CTRL

UDC_LINK_+ / 1a.4

UDC_LINK_- / 1a.4

UDC_LINK_N / 1a.4

+4

-173F2 &EFS++CT/173.2 10A

-173F3 &EFS++CT/173.4 1A

-173K2 1500V 30A DC

-173R3 500 Ohm 150 W

-173R4 500 Ohm 150 W

-173K1 1500V 30A DC

-173R1 500 Ohm 150 W

-173R2 500 Ohm 150 W

V1_DC-

V1_DC+

+4

V1_L1 V1_L2 V1_L3

-85U1 &EFS++CT/85.6 L1 L2 L3 DC+ DC-

-171F1 &EFS++CT/171.2 10A

-171K1 &EFS++CT/171.7 1500V 50A DC

-171K2 &EFS++CT/171.8 1500V 50A DC

-171R1 &EFS++CT/171.1 15 Ohm 300W

-171R2 &EFS++CT/171.2 15 Ohm 300W

Grid 400V
inc. overvotage fuse
& Fuse ??A(20A)

+3
Main mounting plate

1-6
-XE
1

-84F2

>+
CTRL_1.1
-84Q1

AC L1,L2,L3

101T1 &EFS++CT/101.2

24V DC supply unit

102G1 &EFS++CT/102.2
24V DC UPS

+24VDC GND

+ 24V DC
24V GND

-102G2 &EFS++CT/102.6 Battery

-103F1 - 103F4 &EFS++CT/103.2 F2, 10A 60VDC

-103F5 &EFS++CT/103.9 F2, 10A 60VDC

-186K1 &EFS++CT/186.6

-186B1 &EFS++CT/186.6

24V Supply
Main PLC
ET200SP

+24V DC
for Control Cabinet

24V GND

Precharge
Resistors

400V AC
Control Cabinet

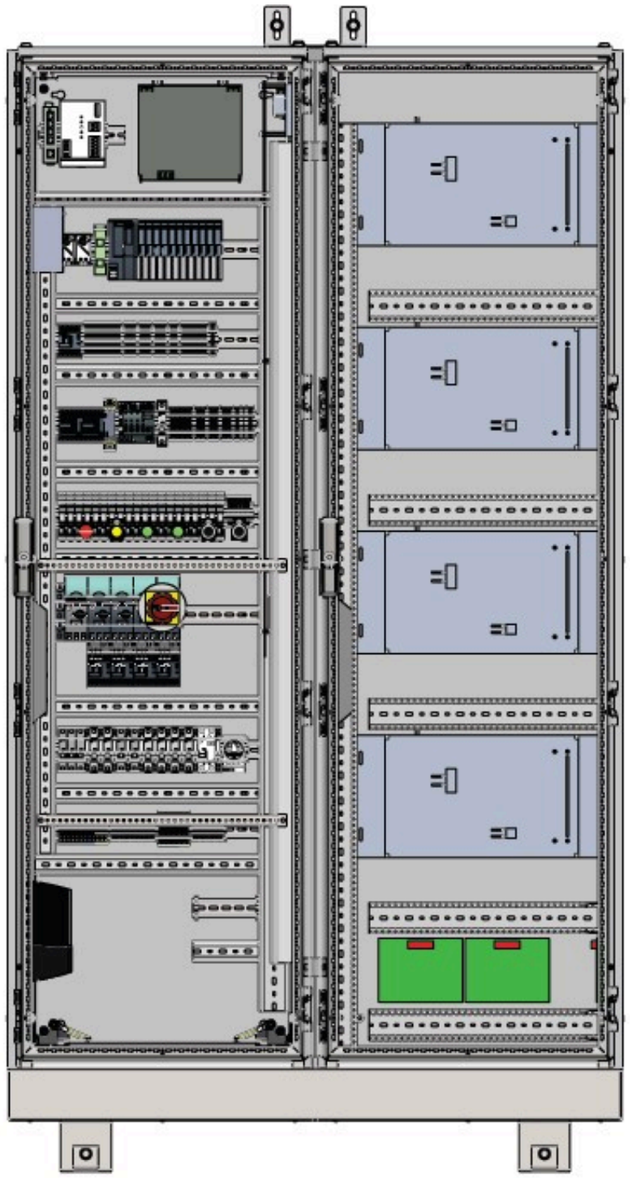
Thermostat
for start PLC

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next page: &ELU/5a

Editor	Freqcon_JD			Statron	FREQCON	SYSTEMS OVERVIEW	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024	Norm						& EFA Single line diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 2a
Date								+	total: 498

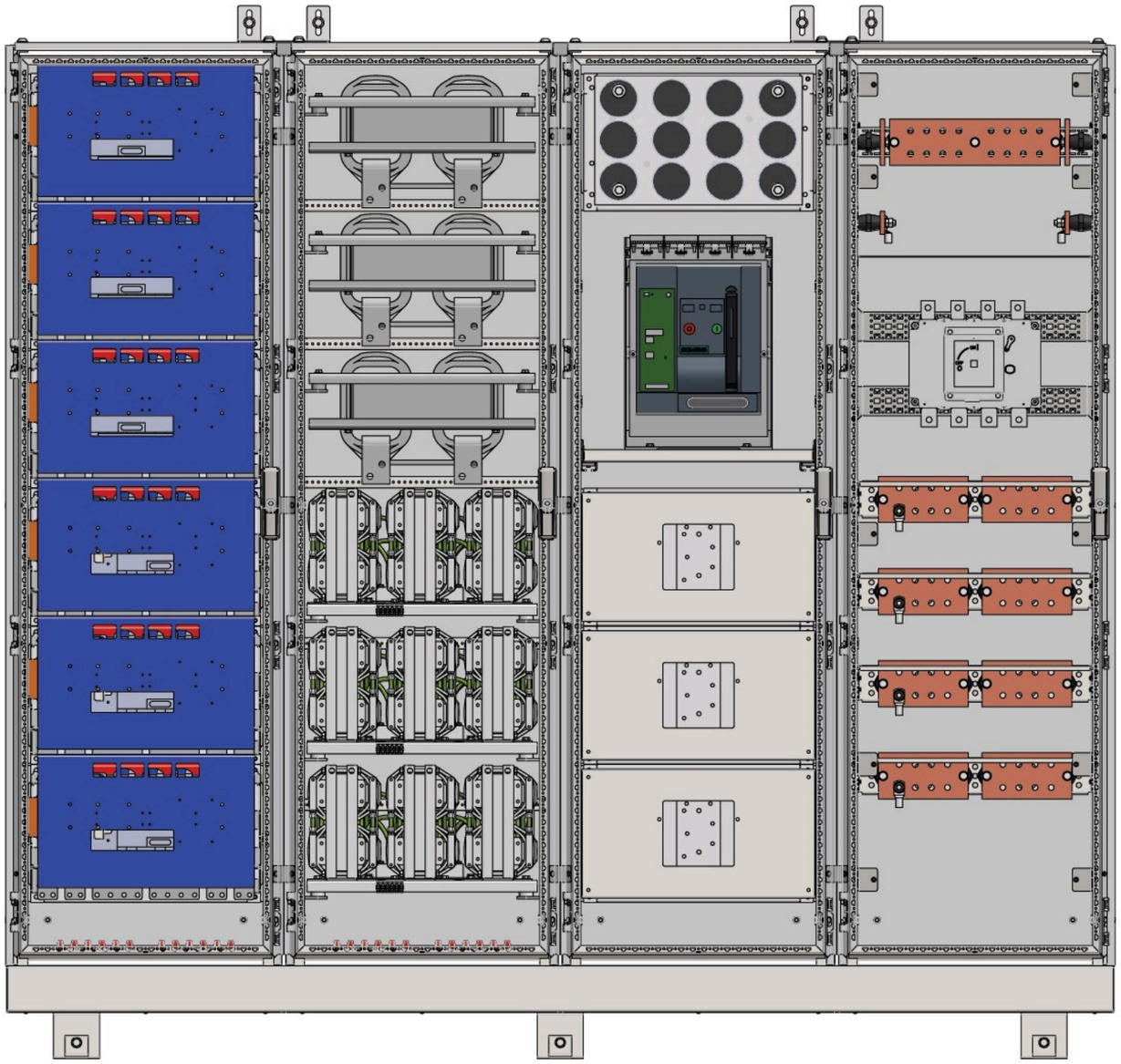
0	1	2	3	4	5	6	7	8	9



+CTRL_1
Control cabinet 1

+CTRL_2
Control cabinet 2

++CT Control cabinets



+CON
Converter cabinet

+IND
Inductor cabinet

+CIR
Circuit Breaker cabinet

+AC_DC
AC and DC connection cabinet

++CONV Converter



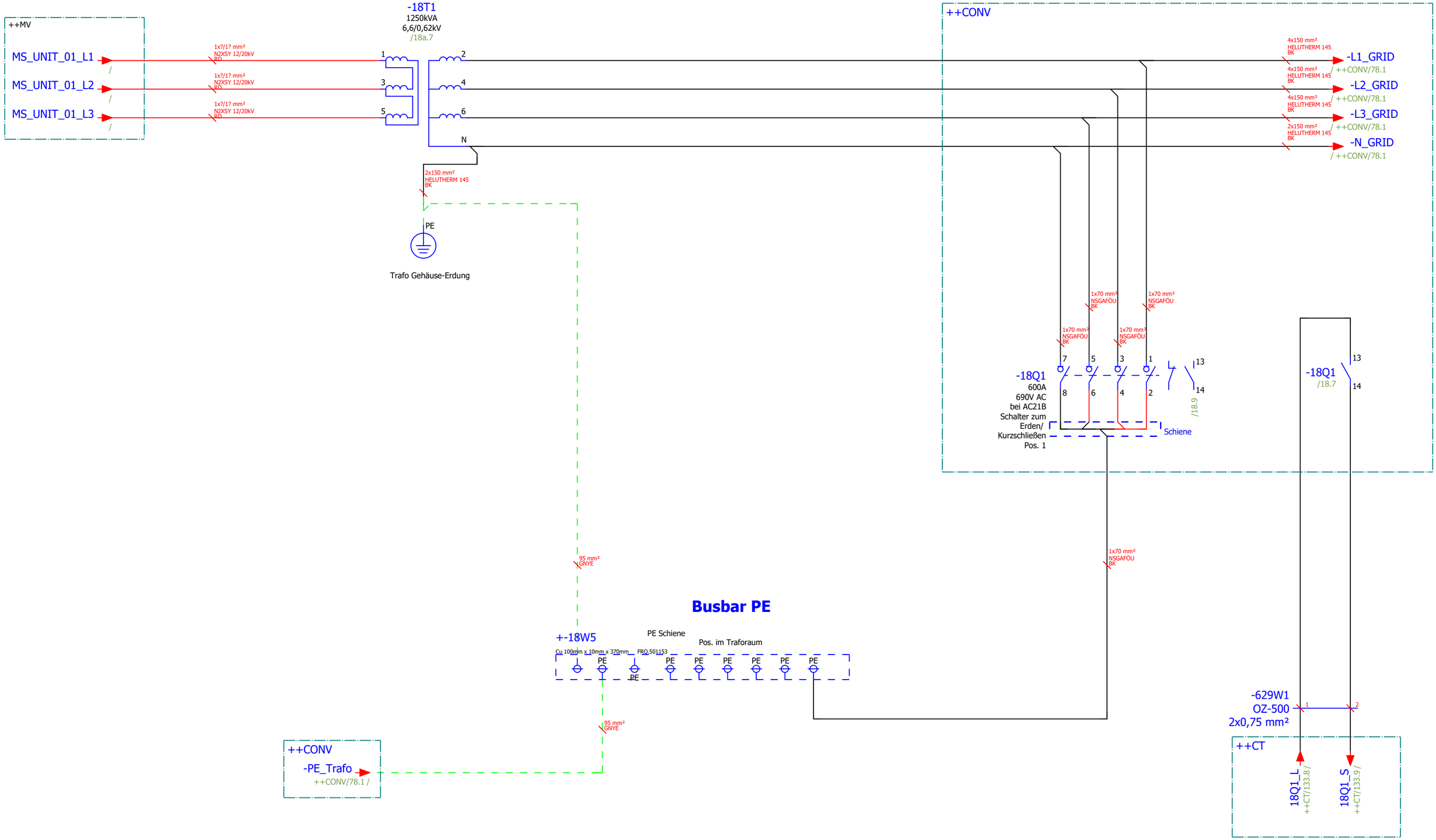


++FAN
FAN

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&EFA/2a

next page:
&EFS++TRA/18

Editor	Freqcon_DG			Statron	FREQCON	CABINETS OVERVIEW	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024	Norm						& ELU	Cabinet Overview
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 5a
Date								+	total: 498



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&ELU++/5a

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18a

Editor	Freqcon_DG			Statron	FREQCON	MV-TRANSFORMER UNIT_01+02	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ TRA medium voltage transformer page: 18
Date								+ total: 498

++CT
+CTRL_1.2
-18B1
PWR07
Trafo-
Temperaturüberwachung
Pos: in Tür +ASC

SUPPLY
24-240V AC DC

ALARM

FAULT

FAN

PT100 SENSORS

CH 1

CH 2

CH 3

CH 4

40 41 42 4 5 6 7 8 9 1 2 3 4 5 6 13 14 15 16 17 18 19 20 21 22 23 24

0,75 mm² RT

-18W2
JZ-500
8G1,5 mm²

1 GNYE 2 3 4 5 6

-18W1
F-CY-OZ (LiY-CY)
10x1,5 mm²
500V
geschirmt

1 2 3 4 5 6 7 8 9

-18T1
/18.2

3x PT100 Fühler in NS-Wicklung Trafo

CH 3 CH 2 CH 1

3 2 1 3 2 1 3 2 1

++CT

-1L+3 ++CT/103.2/
-1PE5 ++CT/103.4/
-1M6 ++CT/103.3/
-PreAlarm ++CT/133.0/
-Trip ++CT/133.0/
-Fault ++CT/133.0/
-Fan ++CT/133.0/

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18

next page:
++CONV/78

Editor	Freqcon_DG			Statron	FREQCON	TEMPERATURE TRANSFORMER UNIT_01+02	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ TRA	medium voltage transformer
Date								+	

page: 18a
total: 498

Grid Busbars L1, L2, L3

++TRA

-L1_GRID ++TRA/18.9 /
-L2_GRID ++TRA/18.9 /
-L3_GRID ++TRA/18.9 /

+AC_DC-78W1 GRID L1 Pos. 1/ Links
Cu 100mm x 10mm x 370mm FRQ.52163 &EFA++/1a.0
+AC_DC-78W2 GRID L2 Pos. 1/ Mitte
Cu 100mm x 10mm x 370mm FRQ.52163
+AC_DC-78W3 GRID L3 Pos. 1/ Rechts
Cu 100mm x 10mm x 370mm FRQ.52163

4x50 mm² NSGAFöu BK → -L1CON1 / 80.0
4x50 mm² NSGAFöu BK → -L2CON1 / 80.0
4x50 mm² NSGAFöu BK → -L3CON1 / 80.0

25 mm² NSGAFöu BK

+AC_DC -78F1 690Vac 100A gL/gG NH00 /78.8
1 3 5 13 21 / 2 4 6 14 22

-1F2 / ++CT/127.4
F3 / 238b.9

-238W7 OZ-500 2x0,75 mm² /238a.2
0,75 mm² BU
+AC_DC -X3.43 20 19
-78W7 OZ-500 2x0,75 mm²
+AC_DC -78F1 /78.6 13 14

+AC_DC -78F2 Typ 1 + Typ 2 400/690 V~ L1 L2 L3 PE PE
+AC_DC -78F3 20A, aR 1 3 5 / 2 4 6
-78W6 OZ-600 3x2,5 mm² 0,6kV/1kV 1 2 3

-CHA_L1 ++CT/85.1 /
-CHA_L2 ++CT/85.1 /
-CHA_L3 ++CT/85.1 /

35 mm² GNYE

Busbars N

-N_GRID ++TRA/18.9 /

+AC_DC-78W4 GRID N &EFA++/1a.1 Pos. unten Links
Cu 50mm x 10mm x 370mm FRQ.50622
2x50 mm² NSGAFöu BK → GRID_N / 99.5

16 mm² NSGA Föu BK
-AC_F_N.1 83.3 /
-AC_F_N.2 83.3 /
-AC_F_N.3 83.3 /

Busbars PE

Einspeisung_IEC_Seite 78
Einbauort_Sicherung in Connection cabinet

+AC_DC-78W5 GRID PE &EFA++/1a.1 Pos. unten rechts
Cu 100mm x 10mm x 370mm FRQ.50070

-PE_Trafo ++TRA/18.2 /

PE PE PE PE PE PE PE PE PE PE PE PE PE PE

95 mm² GNYE
35 mm² GNYE

PE_2_1 238a.1 /
PE_2_2 238a.4 /
PE_2_3 238a.8 /
PE_3_1 228.1 /
PE_3_2 228.4 /
PE_3_3 228.8 /
PE_4_1 238b.1 /
PE_4_2 238b.4 /
PE_4_3 238b.8 /

=UNIT_02 PE_BAT_CONV_1 =UNIT_02++Container/278.5 /
=UNIT_03 PE_BAT_CONV_2 =UNIT_03++Container/278.5 /

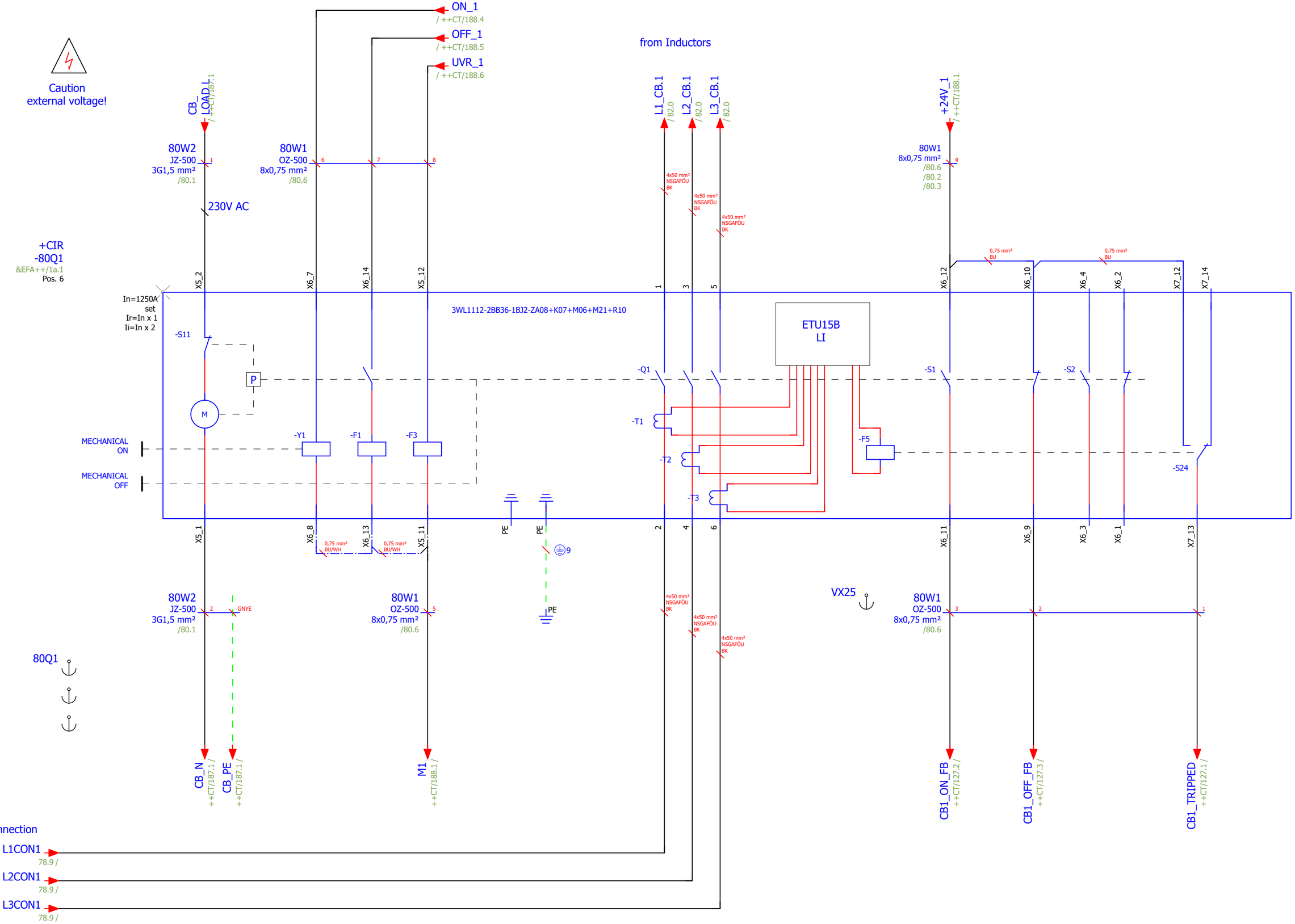
PE Container
PE Cabinet base frame front side
PE Cabinet base frame back side

400V TYP 1

previous page: ++TRA/18a
next page: 80

Editor	Freqcon_JD			Statron	FREQCON	GRID CONNECTION	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter
Date								+	

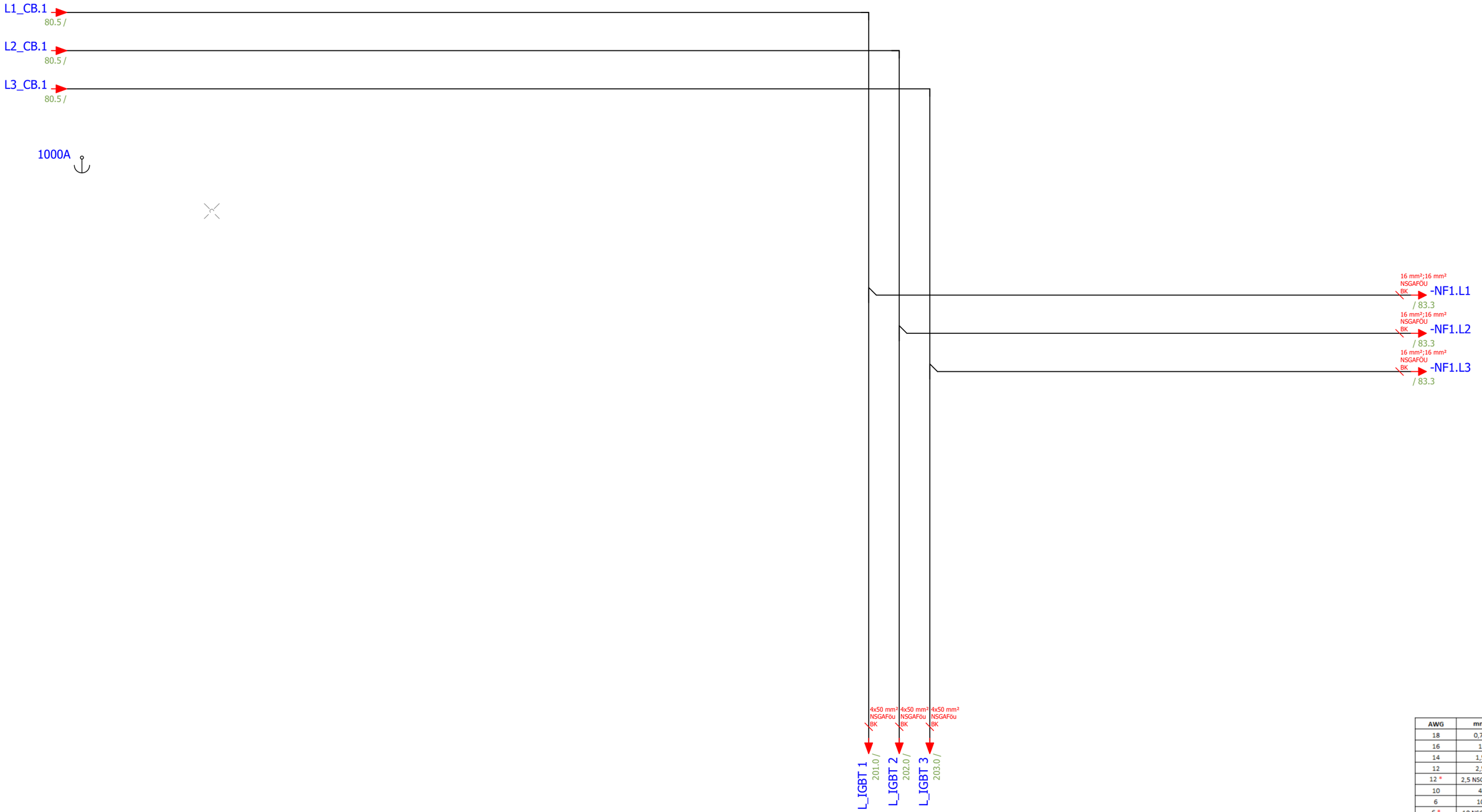
page: 78
total: 498



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Editor	Freqcon_JD			Statron		BG CIRCUIT BREAKER 1000A AC GRID	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 80
Date								+	total: 498



AWG	mm²
18	0,75
16	1
14	1,5
12	2,5
12 *	2,5 NSGAFÖu
10	4
6	10
6 *	10 NSGAFÖu
4	16
2	25
2 *	16 NSGAFÖu
1	35
250 kcmil	95 ALU
2x2	1x70 NSGAFÖu
2x4	2x70 NSGAFÖu
4x250 kcmil	4x70 NSGAFÖu
6x250 kcmil	6x70 NSGAFÖu

*cable into seperate UL protective tube

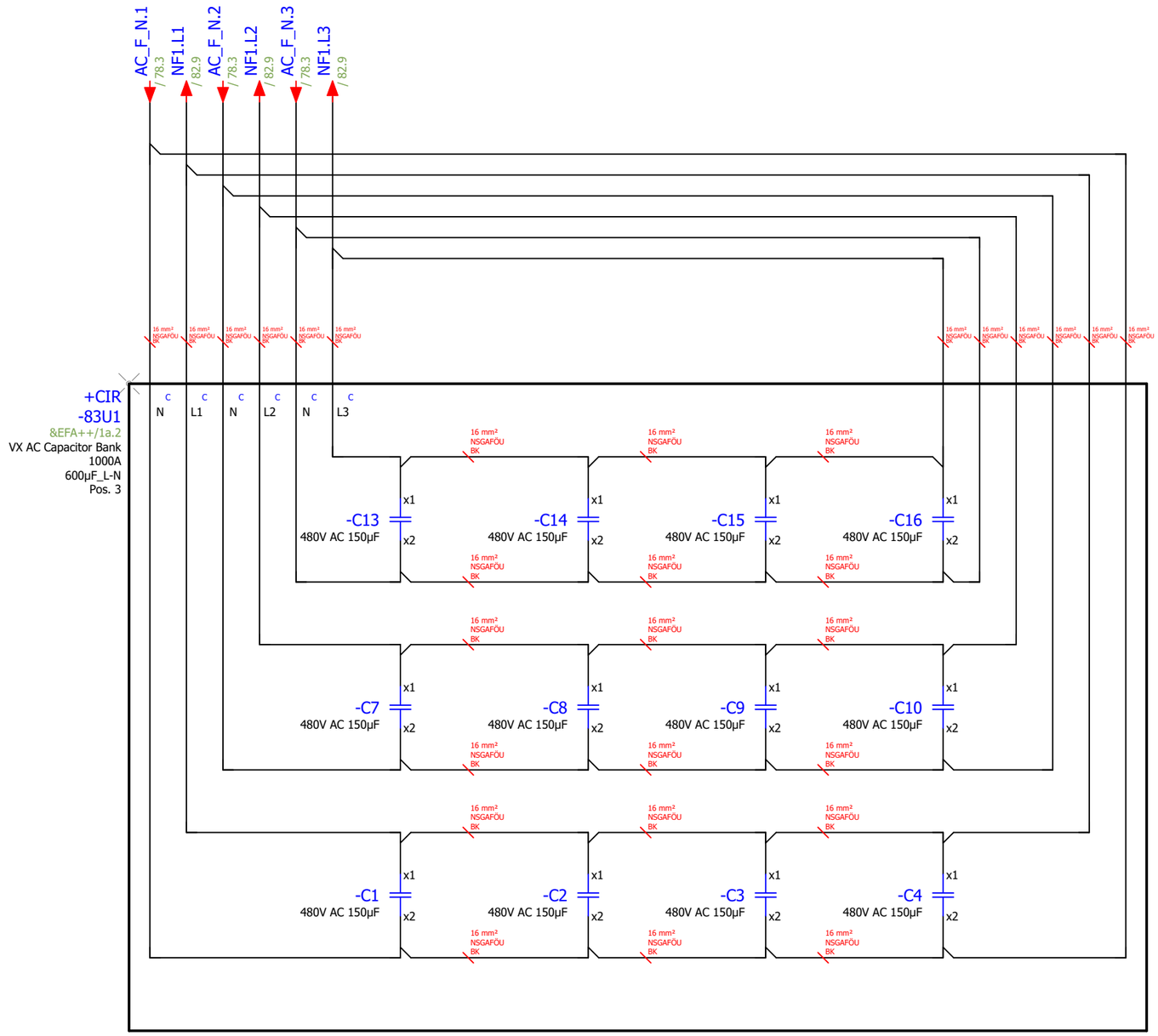
previous page:
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Editor	Freqcon_JD			Statron	FREQCON	PI INDUCTORS GRID SIDE	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter	page: 82
Date								+		total: 498

to polarity bar

behind main breaker



AWG	mm²
18	0,75
16	1
14	1,5
12	2,5
12 *	2,5 NSGAFöu
10	4
6	10
6 *	10 NSGAFöu
4	16
2	25
2 *	16 NSGAFöu
1	35
250 kcmil	95 ALU
2x2	1x70 NSGAFöu
2x4	2x70 NSGAFöu
4x250 kcmil	4x70 NSGAFöu
6x250 kcmil	6x70 NSGAFöu

*cable into seperate UL protective tube

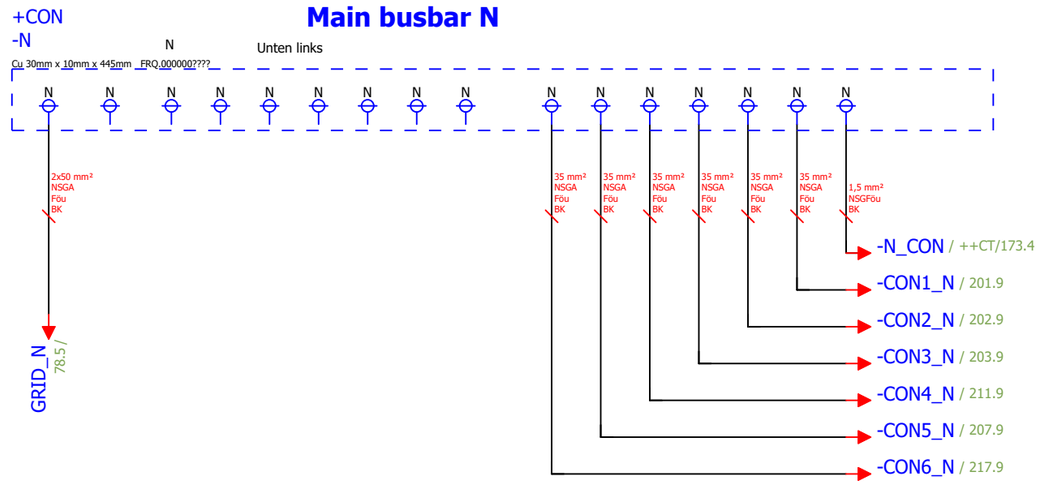
83U1

previous page: 82

next page: 99

Editor	Freqcon_JD			Statron	FREQCON	GRID AC FILTER 3* 600 µF + OVERVOLTAGE PROTECTOR	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter page: 83
Date								+ total: 498

in converter cabinet



1000A

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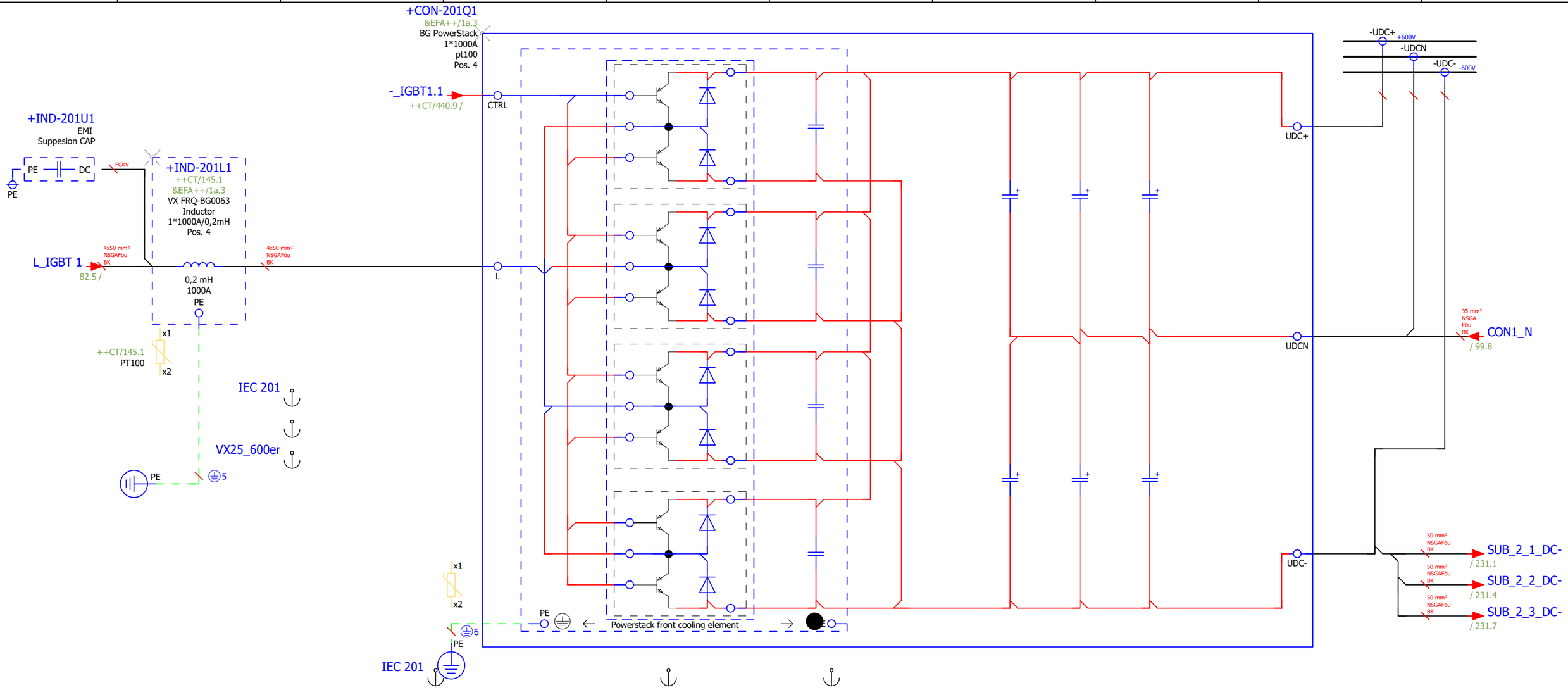
Editor	Freqcon_JD			Statron	FREQCON	BUSBARS N, PE	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 99
Date								+	total: 498

Power Circuits

Pages 200 - 299

- Converter cabinet
- Inductor cabinet
- Circuit Breaker cabinet

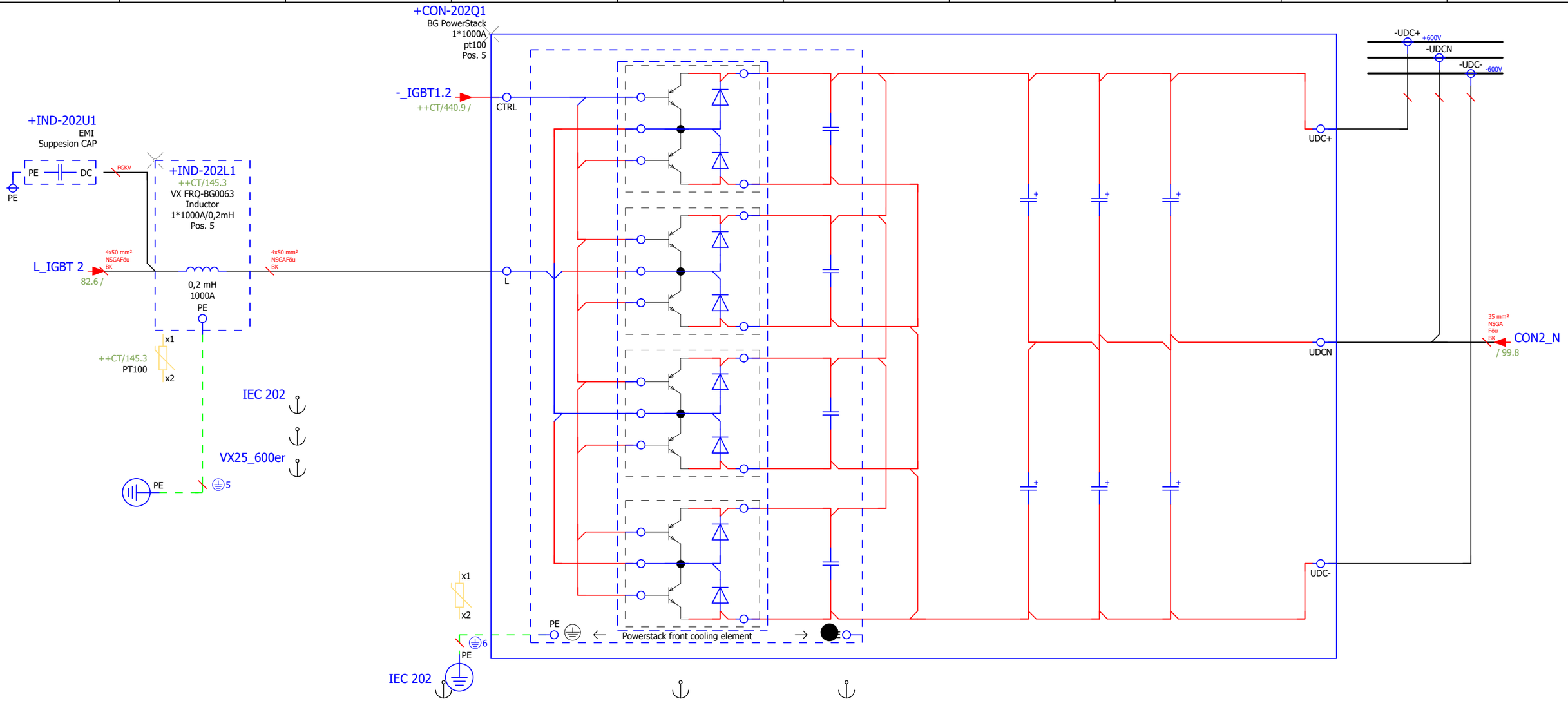
Editor	Freqcon_JD			Statron	FREQCON	POWER CIRCUITS COVER PAGE	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	14.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 200
Date								+	total: 498



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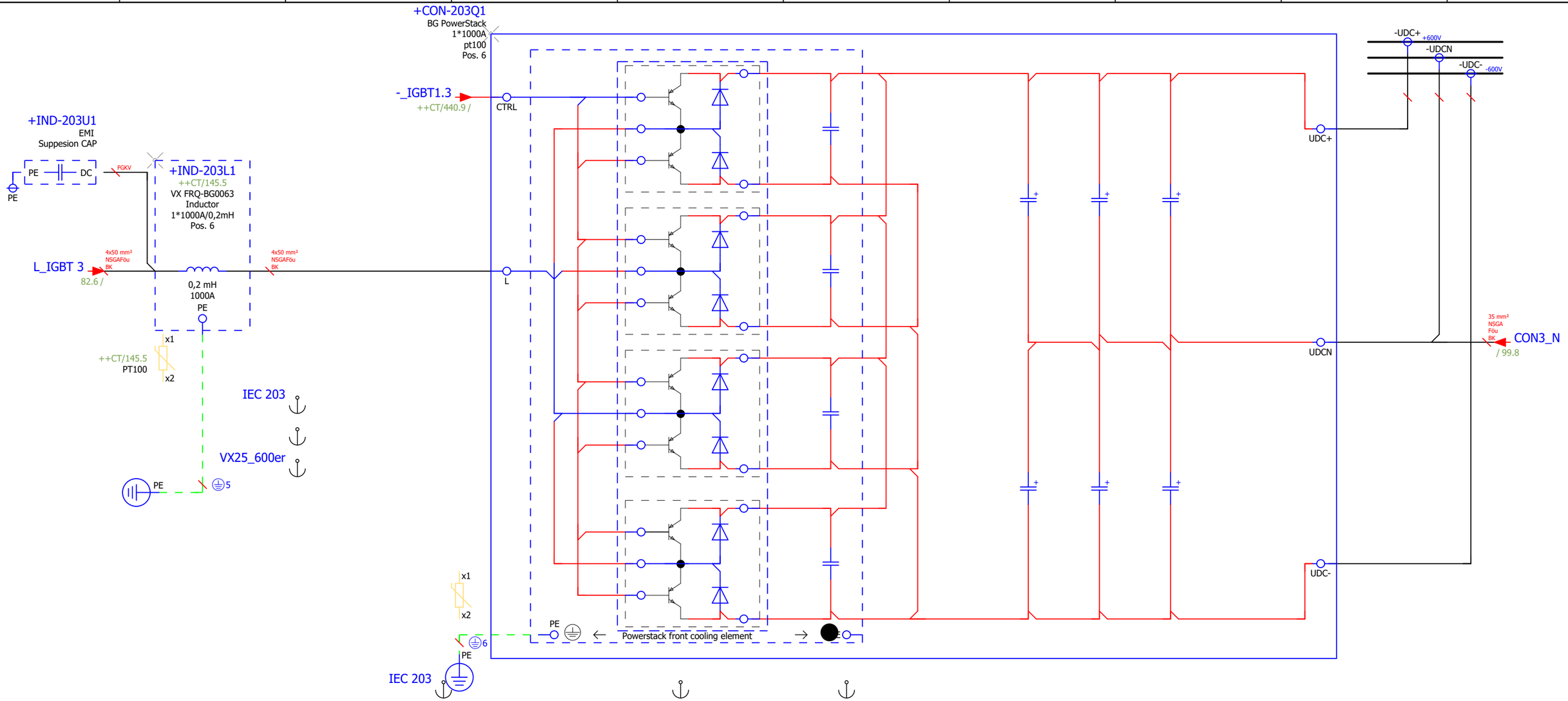
Editor	Freqcon_JD			Statron	FREQCON	IGBT & INDUCTOR FOR GRID PHASE 1	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter page: 201
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	IGBT & INDUCTOR FOR GRID PHASE 2	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 202
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	IGBT & INDUCTOR FOR GRID PHASE 3	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter
Date								+	

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total: 498

+CON-207Q1
&EFA++/1a.4
VX BG PowerStack
3*250A
Pos. 1

-_IGBT3.1_2
207.9 /
CTRL

+IND-207L1
&EFA++/1a.5
VX FRQ-BG0060
Inductor
3*250A/0,6mH
Pos. 1

L_IGBT 3_1
227.0 /
50 mm² NSGAFöu BK
0,6mH
L:1

L_IGBT 3_2
227.3 /
50 mm² NSGAFöu BK
0,6mH
L:2

L_IGBT 3_3
227.6 /
50 mm² NSGAFöu BK
0,6mH
L:3

PE.1 PE.2 PE.3

IEC 204 DC

++CT/146.5
PT100
++CT/146.7
++CT/147.1
x1 x2

VX25

PE
5
6

IEC 204

-UDC+ +600V
-UDCN
-UDC- -600V

UDC+
UDCN
UDC-

35 mm² NSGA Föu BK
CON5_N
/ 99.8

+CON-207Q1-U1
FRQ-M00080-1
Pos. 1

-_IGBT3.1
++CT/442.9 /
X1
25-POL SUB-D SOCKET

-_IGBT3.2
++CT/442.9 /
X2
25-POL SUB-D SOCKET

-_IGBT3.3
++CT/442.9 /
X3
25-POL SUB-D SOCKET

SKiiP 3 Adapter

FRQ-M00080
FREQCON

Shield connect by a ring cable lug
SH

X4
26-POL Stiftleiste (für Flachband) SOCKET

-_IGBT3.1_2
/ 207.3

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Editor	Freqcon_JD			Statron	FREQCON	IGBT & INDUCTOR SUB 3_1 - 3_3	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter page: 207
Date								+ total: 498

+CON-211Q1
&EFA++/1a.4
VX BG PowerStack
3*250A
Pos. 2

-_IGBT2.1_2
211.9 /
CTRL

+IND-211L1
&EFA++/1a.5
VX FRQ-BG0060
Inductor
3*250A/0,6mH
Pos. 2

L_IGBT 2_1
231.0 /
50 mm² NSGAFöu BK
0,6mH
L:1

L_IGBT 2_2
231.3 /
50 mm² NSGAFöu BK
0,6mH
L:2

L_IGBT 2_3
231.6 /
50 mm² NSGAFöu BK
0,6mH
L:3

PE.1 PE.2 PE.3

IEC 211 DC

++CT/145.7
PT100
x1 x2

++CT/146.1
x1 x2

++CT/146.3
x1 x2

VX25

PE
5

PE
5

PE
5

x1
x2

6
PE

IEC 211

-UDC+ +600V
-UDCN
-UDC- -600V

UDC+
UDCN
UDC-

35 mm² NSGA Föu BK
CON4_N
/ 99.8

+CON-211Q1-U1
FRQ-M00080-1
Pos. 1

-_IGBT2.1
++CT/441.9 /
X1
25-POL SUB-D SOCKET

-_IGBT2.2
++CT/441.9 /
X2
25-POL SUB-D SOCKET

-_IGBT2.3
++CT/441.9 /
X3
25-POL SUB-D SOCKET

Shield connect by a ring cable lug
SH

SKiiP 3 Adapter

FRQ-M00080
FREQCON

X4
26-POL Stiftleiste (für Flachband) SOCKET

-_IGBT2.1_2
/ 211.3

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Editor	Freqcon_JD			Statron	FREQCON	IGBT & INDUCTOR SUB 2_1 -2_3	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter page: 211
Date								+ total: 498

+CON-217Q1
&EFA++/1a.4
VX BG PowerStack
3*250A
Pos. 2

-_IGBT4.1_2
217.9 /
CTRL

+IND-217L1
&EFA++/1a.5
VX FRQ-BG0060
Inductor
3*250A/0,6mH
Pos. 2

L_IGBT 4_1
237.0 /
50 mm² NSGAFöu BK
0,6mH
L:1

L_IGBT 4_2
237.3 /
0,6mH
L:2

L_IGBT 4_3
237.6 /
0,6mH
L:3

PE.1 PE.2 PE.3

IEC 211 DC

++CT/147.3
PT100
++CT/148.3
++CT/148.7
x1 x2

VX25

PE
5

x1 x2
6
PE

IEC 211

-UDC+ +600V
-UDCN
-UDC- -600V

UDC+
UDCN
UDC-

35 mm² NSGA Föu BK
CON6_N
/ 99.8

50 mm² NSGAFöu BK
SUB_3_1_DC-
/ 227.1
SUB_3_2_DC-
/ 227.4
SUB_3_3_DC-
/ 227.7
SUB_4_1_DC-
/ 237.1
SUB_4_2_DC-
/ 237.4
SUB_4_3_DC-
/ 237.7

+CON-217Q1-U1
FRQ-M00080-1
Pos. 1

-_IGBT4.1
++CT/443.9 /
X1
25-POL SUB-D SOCKET

-_IGBT4.2
++CT/443.9 /
X2
25-POL SUB-D SOCKET

-_IGBT4.3
++CT/443.9 /
X3
25-POL SUB-D SOCKET

Shield connect by a ring cable lug
SH

SKiiP 3 Adapter

FRQ-M00080
FREQCON

X4
26-POL Stiftleiste (für Flachband) SOCKET
-_IGBT4.1_2
/ 217.3

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Editor	Freqcon_JD			Statron	FREQCON	IGBT & INDUCTOR SUB 4_1 -4_3	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter
Date								+	

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total: 498

VX25

224

Spare connections, if the BSU will be from here 20A supplied.

* cable intro seperate UL protrctive tube

+CIR
-227U1
/227.a.0
&EFA++/1a.6
VX DC switch and Fuse
3*250A
1000V
Pos. 1

L_IGBT 3_1 / 207.0
SUB_3_1_V / ++CT/163.9
SUB_3_1_DC- / 217.9
SUB_3_1_V.1 / ++CT/162.9
L_IGBT 3_2 / 207.0
SUB_3_2_V / ++CT/163.9
SUB_3_2_DC- / 217.9
SUB_3_2_V.1 / ++CT/162.9
L_IGBT 3_3 / 207.0
SUB_3_3_V / ++CT/163.9
SUB_3_3_DC- / 217.9
SUB_3_3_V.1 / ++CT/162.9

227W1 OZ-600 2x0,75 mm²
227W2 OZ-600 2x0,75 mm²
227W3 OZ-600 2x0,75 mm²

50 mm² NSGAFöu BK

PE
PE
Rear mounting plate
7

IGBT1 1+ | V_IGBT1 1+ | UDC [1]- | V_DC1 1+ | V_DC 1-
IGBT2 2+ | V_IGBT2 2+ | UDC [2]- | V_DC2 2+
IGBT3 3+ | V_IGBT3 3+ | UDC [3]- | V_DC3 3+

F3 1A
F4 1A [20A, aR (BSU)]
F0 [20A, aR (BSU)]
F7 1A
F8 1A
F11 1A
F12 1A

2,5 mm² NSGAFöu BK

-C1 -C7 -C13
x1 x2
340µF, 1320V DC Epcos

16 mm² NSGAFöu BK

Front mounting plate
PE
-U1
EMI
Suppesion CAP
16 mm² FGKV
16 mm² in Shrin-kable Tube FGKV
1 2 3 4 5 6

-K1 /227.a.1 1500V 300A
-K7 /227.a.3 1500V 300A
-K2 /227.a.2 1500V 300A
-K8 /227.a.4 1500V 300A
-K3 /227.a.2 1500V 300A
-K9 /227.a.5 1500V 300A
A1 A2

70 mm² NSGAFöu BK

-F1 /227.a.7 1250V 400A 1KN/110 HLS Datenblatt
-F2 /227.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F5 /227.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F6 /227.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F9 /227.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F10 /227.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

IEC

DC1 + / DC1 -
DC2 + / DC2 -
DC3 + / DC3 -

AWG	mm²	*cable into seperate UL protective tube	AWG	mm²
18	0,75		2	25
16	1		2 *	16 NSGAFöu
14	1,5		1	35
12	2,5		250 kcmil	95 ALU
12 *	2,5 NSGAFöu		2x2	1x70 NSGAFöu
10	4		2x4	2x70 NSGAFöu
6	10		4x250 kcmil	4x70 NSGAFöu
6 *	10 NSGAFöu		6x250 kcmil	6x70 NSGAFöu
4	16			

*2
The single conductor must be placed in the protective tube

+AC_DC-227W10 Cu 100mm x 10mm x 195mm FRQ.50604 SUB 3_1 + Pos. =UNIT_02 DC+3_1_BAT / =UNIT_02++ASC/678.7
+AC_DC-227W11 Cu 100mm x 10mm x 195mm FRQ.50604 SUB 3_1 - Pos. DC-3_1_BAT / =UNIT_02++ASC/678.7
DC-3_1 / 228.1
DC+3_1 / 228.1

+AC_DC-227W12 Cu 100mm x 10mm x 195mm FRQ.50604 SUB 3_2 + Pos.
+AC_DC-227W13 Cu 100mm x 10mm x 195mm FRQ.50604 SUB 3_2 - Pos.
DC-3_2 / 228.4
DC+3_2 / 228.4

+AC_DC-227W14 Cu 100mm x 10mm x 195mm FRQ.50604 SUB 3_3 + Pos. =UNIT_03 DC+3_3_BAT / =UNIT_03++ASC/678.0
+AC_DC-227W15 Cu 100mm x 10mm x 195mm FRQ.50604 SUB 3_3 - Pos. DC-3_3_BAT / =UNIT_03++ASC/678.0
DC-3_3 / 228.8
DC+3_3 / 228.7

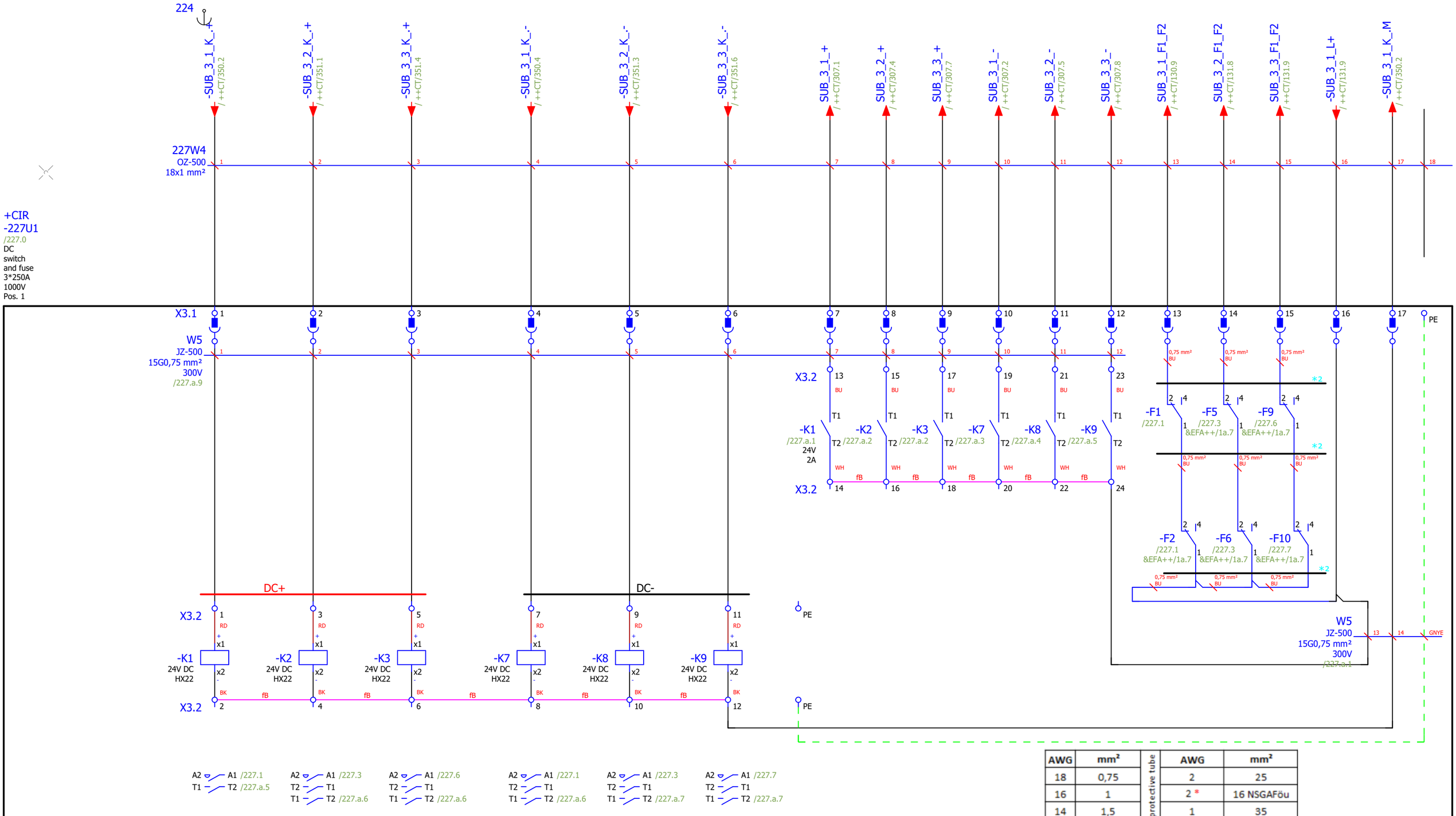
EEC

DC+ and DC- Busbars in Connection cabinet

previous page: 217
next page: 227.a

Editor	Freqcon_JD			Statron	FREQCON	SUBSYSTEM 3_1 - 3_1 DC 3 x 250A	20241105_V1.2
Date	18.06.2024						
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Date							

=	UNIT_01	Converter Container 1	
&	EFS	Circuit diagram	
++	CONV	Converter	page: 227
+			total: 498



AWG	mm²	* cable into seperate UL protective tube	AWG	mm²
18	0,75		2	25
16	1		2 *	16 NSGAFöu
14	1,5		1	35
12	2,5		250 kcmil	95 ALU
12 *	2,5 NSGAFöu		2x2	1x70 NSGAFöu
10	4		2x4	2x70 NSGAFöu
6	10		4x250 kcmil	4x70 NSGAFöu
6 *	10 NSGAFöu		6x250 kcmil	6x70 NSGAFöu
4	16			

*2 The single conductor must be placed in the protective tube

IEC

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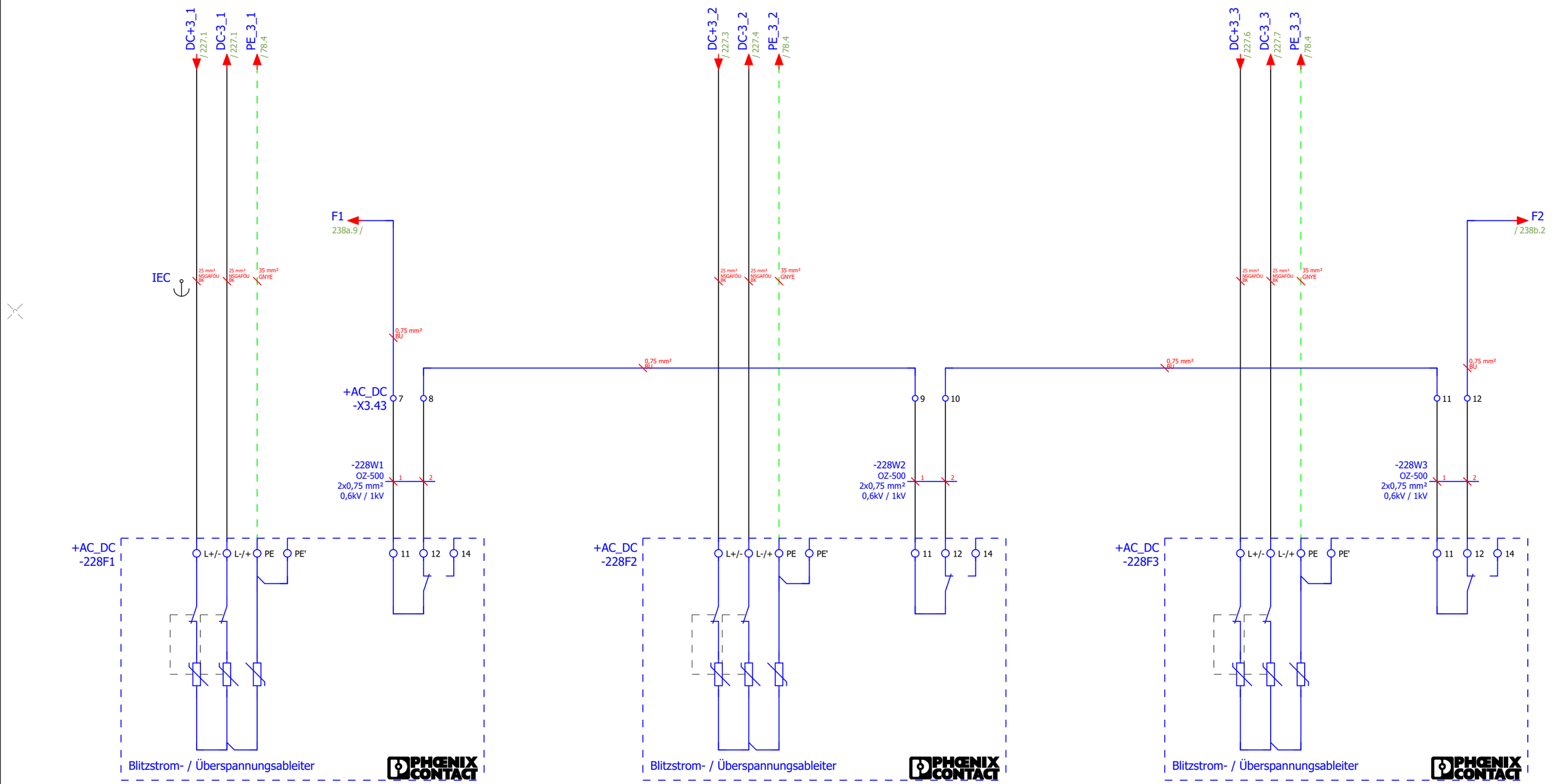
next page: 228

Editor	Freqcon_JD			Statron	FREQCON	SUBSYSTEM 3_1 - 3_1 DC 3 x 250A	20241105_V1.2
Date	18.06.2024						= UNIT_01 Converter Container 1
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			& EFS Circuit diagram
Date						10354_23A2007	++ CONV Converter page: 227.a
							+ total: 498

DC+ and DC- Busbars

DC+ and DC- Busbars

DC+ and DC- Busbars



SURGE ARRESTER
DC SUBSYSTEM 3_1

SURGE ARRESTER
DC SUBSYSTEM 3_2

SURGE ARRESTER
DC SUBSYSTEM 3_3

in Connection cabinet

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227.a

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Editor	Freqcon_JD			Statron	FREQCON	DC SURGE ARRESTER 3_1 - 3_3	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter page: 228
Date								+ total: 498

0	1	2	3	4	5	6	7	8	9

VX25

221

Spare connections,
if the BSU
will be from here
20A supplied.

* cable intro seperate UL protrctive tube

L_IGBT 2_1 / 211.0 | SUB_2_1_V / ++CT/163.9 | SUB_2_1_DC- / 201.9 | SUB_2_1_V.1 / ++CT/162.9

L_IGBT 2_2 / 211.0 | SUB_2_2_V / ++CT/163.9 | SUB_2_2_DC- / 201.9 | SUB_2_2_V.1 / ++CT/162.9

L_IGBT 2_3 / 211.0 | SUB_2_3_V / ++CT/163.9 | SUB_2_3_DC- / 201.9 | SUB_2_3_V.1 / ++CT/162.9

231W1 OZ-600 2x0,75 mm²

231W2 OZ-600 2x0,75 mm²

231W3 OZ-600 2x0,75 mm²

+CIR
-231U1
/231.a.0
&EFA++/1a.6
VX DC
switch
and Fuse
3*250A
1000V
Pos. 2

50 mm² NSGAFöu BK

PE

7

PE

Rear mounting plate

IGBT1 1+ | V_IGBT1 1+ | V_DC1 1+ | V_DC 1-

UDC [1]-

IGBT2 2+ | V_IGBT2 2+ | V_DC2 2+

UDC [2]-

IGBT3 3+ | V_IGBT3 3+ | V_DC3 3+

UDC [3]-

F3 1A

F4 1A [20A, aR (BSU)]

F0 [20A, aR (BSU)]

F7 1A

F8 1A

F11 1A

F12 1A

2,5 mm² NSGAFöu BK

-C1 | -C7 | -C13

x1 x2

340µF, 1320V DC
Epcos

16 mm² NSGAFöu BK

AWG	mm²	*cable into seperate UL protective tube	AWG	mm²
18	0,75		2	25
16	1		2 *	16 NSGAFöu
14	1,5		1	35
12	2,5		250 kcmil	95 ALU
12 *	2,5 NSGAFöu		2x2	1x70 NSGAFöu
10	4		2x4	2x70 NSGAFöu
6	10		4x250 kcmil	4x70 NSGAFöu
6 *	10 NSGAFöu		6x250 kcmil	6x70 NSGAFöu
4	16			

Front mounting plate

PE

-U1
EMI
Suppesion CAP

16 mm² FGKV

16 mm² in Shrin-kable Tube FGKV

-K1 /231.a.1 1500V 300A | -K7 /231.a.3 1500V 300A

-K2 /231.a.2 1500V 300A | -K8 /231.a.4 1500V 300A

-K3 /231.a.2 1500V 300A | -K9 /231.a.5 1500V 300A

A1 A2

70 mm² NSGAFöu BK

-F1 /231.a.7 1250V 400A 1KN/110 HLS Datenblatt

-F2 /231.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

-F5 /231.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

-F6 /231.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

-F9 /231.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

-F10 /231.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

IEC

*2

The single conductor
must be placed
in the protective tube

DC1 + | DC1 -

DC2 + | DC2 -

DC3 + | DC3 -

2,5 mm² NSGAFöu BK

+AC_DC-231W10 Cu 100mm x 10mm x 195mm FRQ 50604 =UNIT_02&EFA++/1a.5

+AC_DC-231W11 Cu 100mm x 10mm x 195mm FRQ 50604 =UNIT_02&EFA++/1a.5

+AC_DC-231W12 Cu 100mm x 10mm x 195mm FRQ 50604 &EFA++/1a.7

+AC_DC-231W13 Cu 100mm x 10mm x 195mm FRQ 50604 &EFA++/1a.7

+AC_DC-231W14 Cu 100mm x 10mm x 195mm FRQ 50604 &EFA++/1a.7 =UNIT_03&EFA++/1a.0

+AC_DC-231W15 Cu 100mm x 10mm x 195mm FRQ 50604 &EFA++/1a.7 =UNIT_03&EFA++/1a.0

SUB 2_1 + =UNIT_02 DC+2_1_BAT / =UNIT_02++ASC/678.0

SUB 2_1 - DC-2_1_BAT / =UNIT_02++ASC/678.0

SUB 2_2 + =UNIT_02 DC+2_2_BAT / =UNIT_02++ASC/678.2

SUB 2_2 - DC-2_2_BAT / =UNIT_02++ASC/678.2

SUB 2_3 + =UNIT_02 DC+2_3_BAT / =UNIT_02++ASC/678.5

SUB 2_3 - DC-2_3_BAT / =UNIT_02++ASC/678.5

DC-2_1 / 238a.1

DC+2_1 / 238a.1

DC-2_2 / 238a.4

DC+2_2 / 238a.4

DC-2_3 / 238a.8

DC+2_3 / 238a.7

EEC

DC+ and DC- Busbars
in Connection cabinet

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next page:
231.a

Editor	Freqcon_JD			Statron	FREQCON	SUBSYSTEM 2_1 - 2_3 DC 3 x 250A	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter page: 231
Date								+ total: 498

231

-SUB_2_1_K_.+ /++CT/150.2
-SUB_2_2_K_.+ /++CT/151.1
-SUB_2_3_K_.+ /++CT/151.4
-SUB_2_1_K_.- /++CT/150.4
-SUB_2_2_K_.- /++CT/151.3
-SUB_2_3_K_.- /++CT/151.6
SUB_2_1_+ /++CT/306.1
SUB_2_2_+ /++CT/306.4
SUB_2_3_+ /++CT/306.7
SUB_2_1_- /++CT/306.2
SUB_2_2_- /++CT/306.5
SUB_2_3_- /++CT/306.8
SUB_2_1_F1_F2 /++CT/129.8
SUB_2_2_F1_F2 /++CT/129.9
SUB_2_3_F1_F2 /++CT/130.8
-SUB_2_1_L+ /++CT/129.9
-SUB_2_1_K_.M /++CT/150.2

231W4
OZ-500
18x1 mm²

+CIR
-231U1
/231.0
DC
switch
and fuse
3*250A
1000V
Pos. 2

X3.1
W5
JZ-500
15G0,75 mm²
300V
/231.a.9

X3.2
-K1 /231.a.1 24V 2A
-K2 /231.a.2
-K3 /231.a.2
-K7 /231.a.3
-K8 /231.a.4
-K9 /231.a.5
BU T1 T2 WH fB

-F1 /231.1
-F5 /231.3 &EFA++/1a.7
-F9 /231.6 &EFA++/1a.7
-F2 /231.1 &EFA++/1a.7
-F6 /231.3 &EFA++/1a.7
-F10 /231.7 &EFA++/1a.7
0,75 mm² BU
*2

W5
JZ-500
15G0,75 mm²
300V
/231.a.1
13 14 GNYE

PE

DC+
DC-
X3.2
-K1 -K2 -K3 -K7 -K8 -K9
24V DC HX22
RD x1 x2 BK fB

A2 A1 /231.1 T1 T2 /231.a.5
A2 A1 /231.3 T2 T1 T1 T2 /231.a.6
A2 A1 /231.6 T2 T1 T1 T2 /231.a.6
A2 A1 /231.1 T2 T1 T1 T2 /231.a.6
A2 A1 /231.3 T2 T1 T1 T2 /231.a.7
A2 A1 /231.7 T2 T1 T1 T2 /231.a.7

AWG	mm²	* cable into seperate UL protective tube	AWG	mm²
18	0,75		2	25
16	1		2 *	16 NSGAFöu
14	1,5		1	35
12	2,5		250 kcmil	95 ALU
12 *	2,5 NSGAFöu		2x2	1x70 NSGAFöu
10	4		2x4	2x70 NSGAFöu
6	10		4x250 kcmil	4x70 NSGAFöu
6 *	10 NSGAFöu		6x250 kcmil	6x70 NSGAFöu
4	16			

*2 The single conductor must be placed in the protective tube

IEC

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Editor	Freqcon_JD			Statron	FREQCON	SUBSYSTEM 2_1 - 2_3 DC 3 x 250A	20241105_V1.2
Date	18.06.2024						= UNIT_01 Converter Container 1
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			& EFS Circuit diagram
Date						10354_23A2007	++ CONV Converter page: 231.a
							+ total: 498

VX25
224

Spare connections,
if the BSU
will be from here
20A supplied.

* cable intro seperate UL protrctive tube

+CIR
-237U1
/237.a.0
&EFA++/1a.6
VX DC
switch
and Fuse
3*250A
1000V
Pos. 3

L_IGBT 4_1 / 217.0
SUB_4_1_V / ++CT/164.9
SUB_4_1_DC- / 217.9
SUB_4_1_V.1 / ++CT/164.9
L_IGBT 4_2 / 217.0
SUB_4_2_V / ++CT/164.9
SUB_4_2_DC- / 217.9
SUB_4_2_V.1 / ++CT/164.9
L_IGBT 4_3 / 217.0
SUB_4_3_V / ++CT/164.9
SUB_4_3_DC- / 217.9
SUB_4_3_V.1 / ++CT/164.9

237W1 OZ-600 2x0,75 mm²
237W1 OZ-600 2x0,75 mm²
237W2 OZ-600 2x0,75 mm²
237W2 OZ-600 2x0,75 mm²
237W3 OZ-600 2x0,75 mm²
237W3 OZ-600 2x0,75 mm²

50 mm² NSGAFöu BK

PE
PE
Rear mounting plate
7

IGBT1 1+ | V_IGBT1 1+ | V_DC1 1+ | V_DC 1-
UDC [1]-
IGBT2 2+ | V_IGBT2 2+ | V_DC2 2+
UDC [2]-
IGBT3 3+ | V_IGBT3 3+ | V_DC3 3+
UDC [3]-

F3 1A
F4 1A [20A, aR (BSU)]
F0 [20A, aR (BSU)]
F7 1A
F8 1A
F11 1A
F12 1A

2,5 mm² NSGAFöu BK
-C1
-C7
-C13
x1 x2
340µF, 1320V DC Epcos
16 mm² NSGAFöu BK

Front mounting plate
-U1
EMI
Suppesion CAP
16 mm² FGKV
1 2 3 4 5 6
16 mm² in Shrin-kable Tube FGKV

-K1 /237.a.1 1500V 300A
-K7 /237.a.3 1500V 300A
-K2 /237.a.2 1500V 300A
-K8 /237.a.4 1500V 300A
-K3 /237.a.2 1500V 300A
-K9 /237.a.5 1500V 300A
70 mm² NSGAFöu BK

-F1 /237.a.7 1250V 400A 1KN/110 HLS Datenblatt
-F2 /237.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F5 /237.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F6 /237.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F9 /237.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS
-F10 /237.a.8 &EFA++/1a.7 1250V 400A 1KN/110 HLS

IEC

DC1 + / DC1 -
DC2 + / DC2 -
DC3 + / DC3 -

*2
The single conductor
must be placed
in the protective tube

AWG	mm²	*cable into seperate UL protective tube	AWG	mm²
18	0,75		2	25
16	1		2 *	16 NSGAFöu
14	1,5		1	35
12	2,5		250 kcmil	95 ALU
12 *	2,5 NSGAFöu		2x2	1x70 NSGAFöu
10	4		2x4	2x70 NSGAFöu
6	10		4x250 kcmil	4x70 NSGAFöu
6 *	10 NSGAFöu		6x250 kcmil	6x70 NSGAFöu
4	16			

EEC

+AC_DC-237W10 SUB 4_1 + Pos. =UNIT_03 → DC+4_1_BAT / =UNIT_03++ASC/678.2
+AC_DC-237W11 SUB 4_1 - Pos. → DC-4_1_BAT / =UNIT_03++ASC/678.2
+AC_DC-237W12 SUB 4_2 + Pos. =UNIT_03 → DC+4_2_BAT / =UNIT_03++ASC/678.5
+AC_DC-237W13 SUB 4_2 - Pos. → DC-4_2_BAT / =UNIT_03++ASC/678.5
+AC_DC-237W14 SUB 4_3 + Pos. =UNIT_03 → DC+4_3_BAT / =UNIT_03++ASC/678.7
+AC_DC-237W15 SUB 4_3 - Pos. → DC-4_3_BAT / =UNIT_03++ASC/678.7

Cu 100mm x 10mm x 195mm FRQ.50604 &EFA++/1a.7 =UNIT_03&EFA++/1a.0
Cu 100mm x 10mm x 195mm FRQ.50604 &EFA++/1a.7 =UNIT_03&EFA++/1a.5

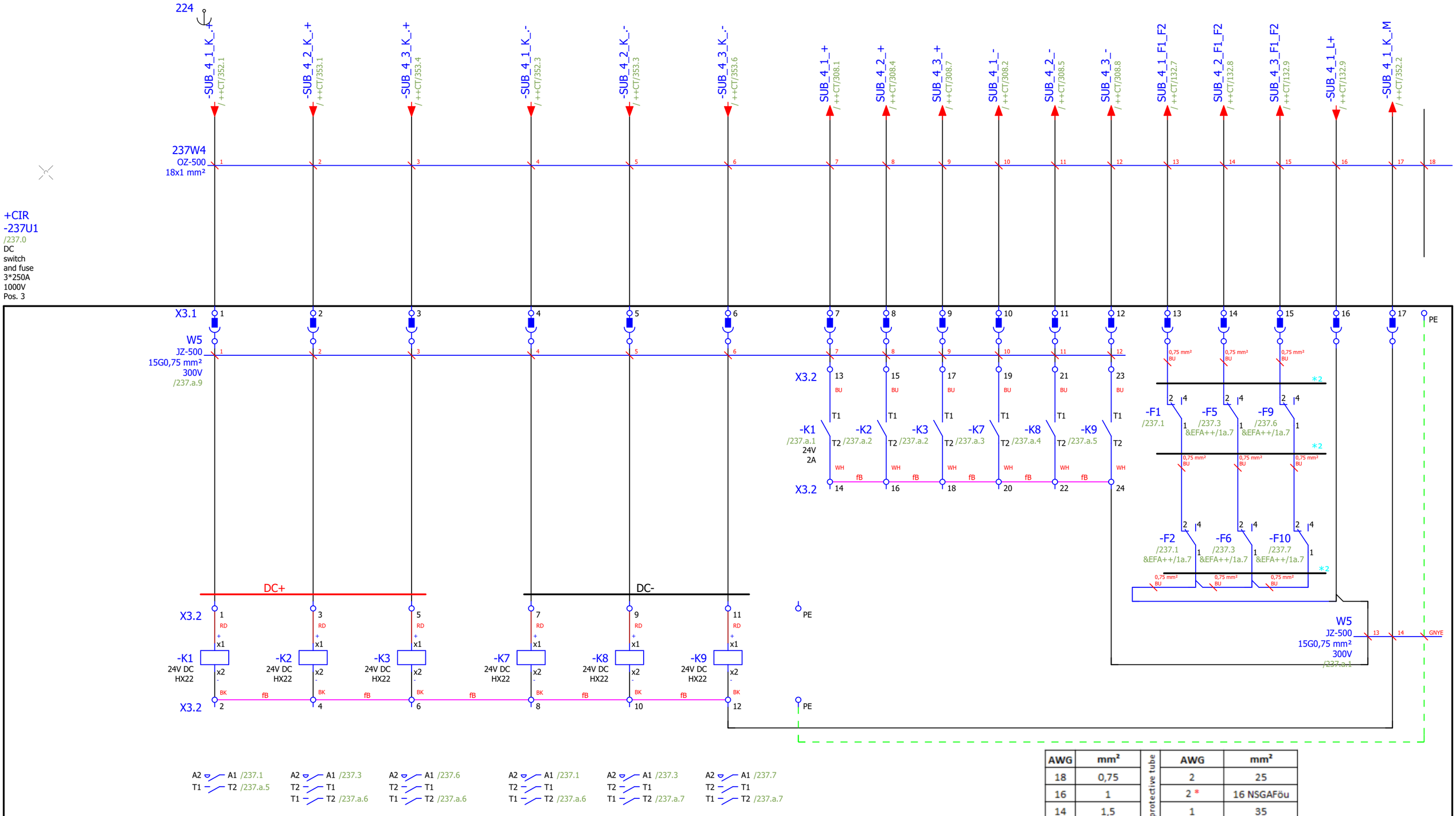
DC+4_1 / 238b.1
DC-4_1 / 238b.1
DC+4_2 / 238b.4
DC-4_2 / 238b.4
DC+4_3 / 238b.7
DC-4_3 / 238b.8

DC+ and DC- Busbars
in Connection cabinet

previous page: 231.a
next page: 237.a

Editor	Freqcon_JD			Statron	FREQCON	SUBSYSTEM 4_1 - 4_3 DC 3 x 250A	20241105_V1.2
Date	18.06.2024						10354_23A2007
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			
Date							

=	UNIT_01	Converter Container 1	
&	EFS	Circuit diagram	
++	CONV	Converter	page: 237
+			total: 498



AWG	mm²	* cable into seperate UL protective tube	AWG	mm²
18	0,75		2	25
16	1		2 *	16 NSGAFöu
14	1,5		1	35
12	2,5		250 kcmil	95 ALU
12 *	2,5 NSGAFöu		2x2	1x70 NSGAFöu
10	4		2x4	2x70 NSGAFöu
6	10		4x250 kcmil	4x70 NSGAFöu
6 *	10 NSGAFöu		6x250 kcmil	6x70 NSGAFöu
4	16			

*2 The single conductor must be placed in the protective tube

IEC

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Editor	Freqcon_DG			Statron	FREQCON	SUBSYSTEM 4_1 - 4_3 DC 3 x 250A	20241105_V1.2
Date	29.07.2024						
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Date							

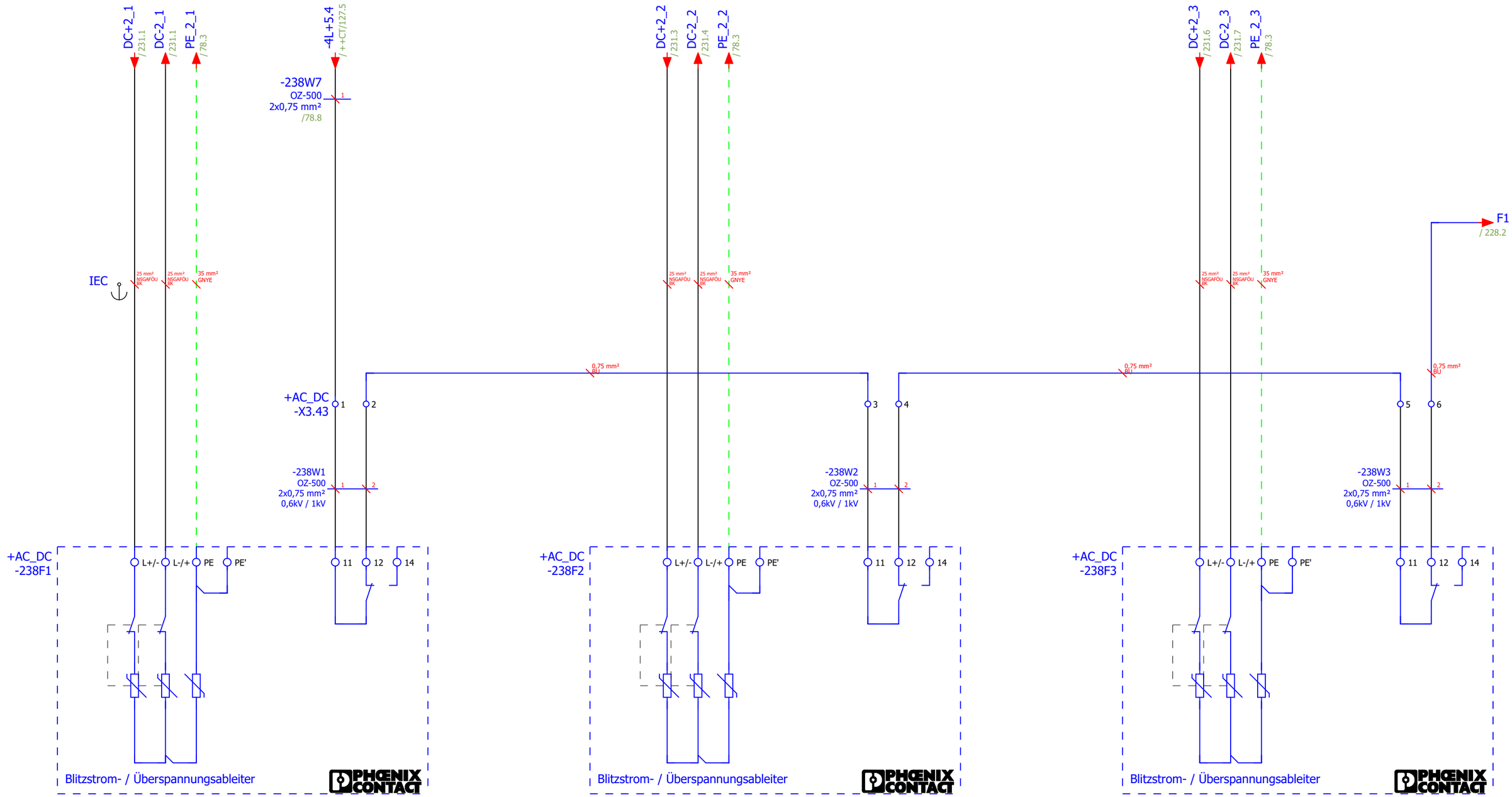
=	UNIT_01	Converter Container 1
&	EFS	Circuit diagram
++	CONV	Converter
+		

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total: 498

DC+ and DC- Busbars

DC+ and DC- Busbars

DC+ and DC- Busbars



SURGE ARRESTER
DC SUBSYSTEM 2_1

SURGE ARRESTER
DC SUBSYSTEM 2_2

SURGE ARRESTER
DC SUBSYSTEM 2_3

in Connection cabinet

previous page:
237.a

next page:
238b

Editor	Freqcon_JD			Statron	FREQCON	DC SURGE ARRESTER 2_1 - 2_3	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 238a
Date								+	total: 498

DC+ and DC- Busbars

DC+4_1 / 237.1
DC-4_1 / 237.1
PE_4_1 / 78.4

IEC

25 mm² NSGAFÖU BK
25 mm² NSGAFÖU BK
35 mm² GNYE

F2
228.9 /

0,75 mm² BU

+AC_DC
-X3.43
13 14

-238W4
OZ-500
2x0,75 mm²
0,6kV / 1kV
1 2

+AC_DC
-238F4
L+/- L-/+ PE PE'
11 12 14

Blitzstrom- / Überspannungsableiter
PHOENIX CONTACT

SURGE ARRESTER
DC SUBSYSTEM 4_1

DC+ and DC- Busbars

DC+4_2 / 237.3
DC-4_2 / 237.4
PE_4_2 / 78.4

25 mm² NSGAFÖU BK
25 mm² NSGAFÖU BK
35 mm² GNYE

0,75 mm² BU

15 16

-238W5
OZ-500
2x0,75 mm²
0,6kV / 1kV
1 2

+AC_DC
-238F5
L+/- L-/+ PE PE'
11 12 14

Blitzstrom- / Überspannungsableiter
PHOENIX CONTACT

SURGE ARRESTER
DC SUBSYSTEM 4_2

DC+ and DC- Busbars

DC+4_3 / 237.6
DC-4_3 / 237.7
PE_4_3 / 78.5

25 mm² NSGAFÖU BK
25 mm² NSGAFÖU BK
35 mm² GNYE

0,75 mm² BU

F3
/ 78.9

17 18

-238W6
OZ-500
2x0,75 mm²
0,6kV / 1kV
1 2

+AC_DC
-238F6
L+/- L-/+ PE PE'
11 12 14

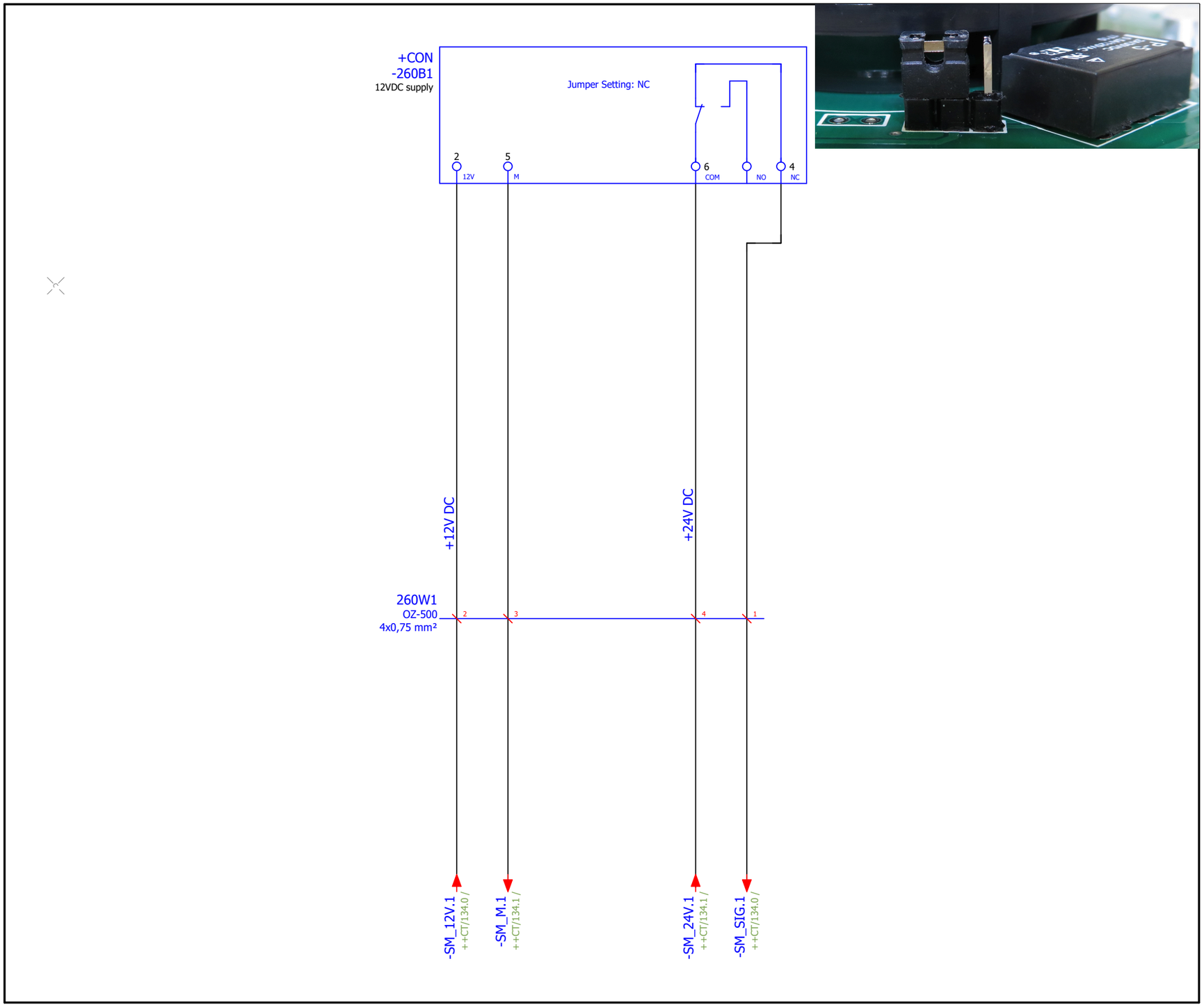
Blitzstrom- / Überspannungsableiter
PHOENIX CONTACT

SURGE ARRESTER
DC SUBSYSTEM 4_3

in Connection cabinet

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Editor	Freqcon_JD			Statron	FREQCON	DC SURGE ARRESTER 4_1 - 4_3	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 238b
Date								+	total: 498

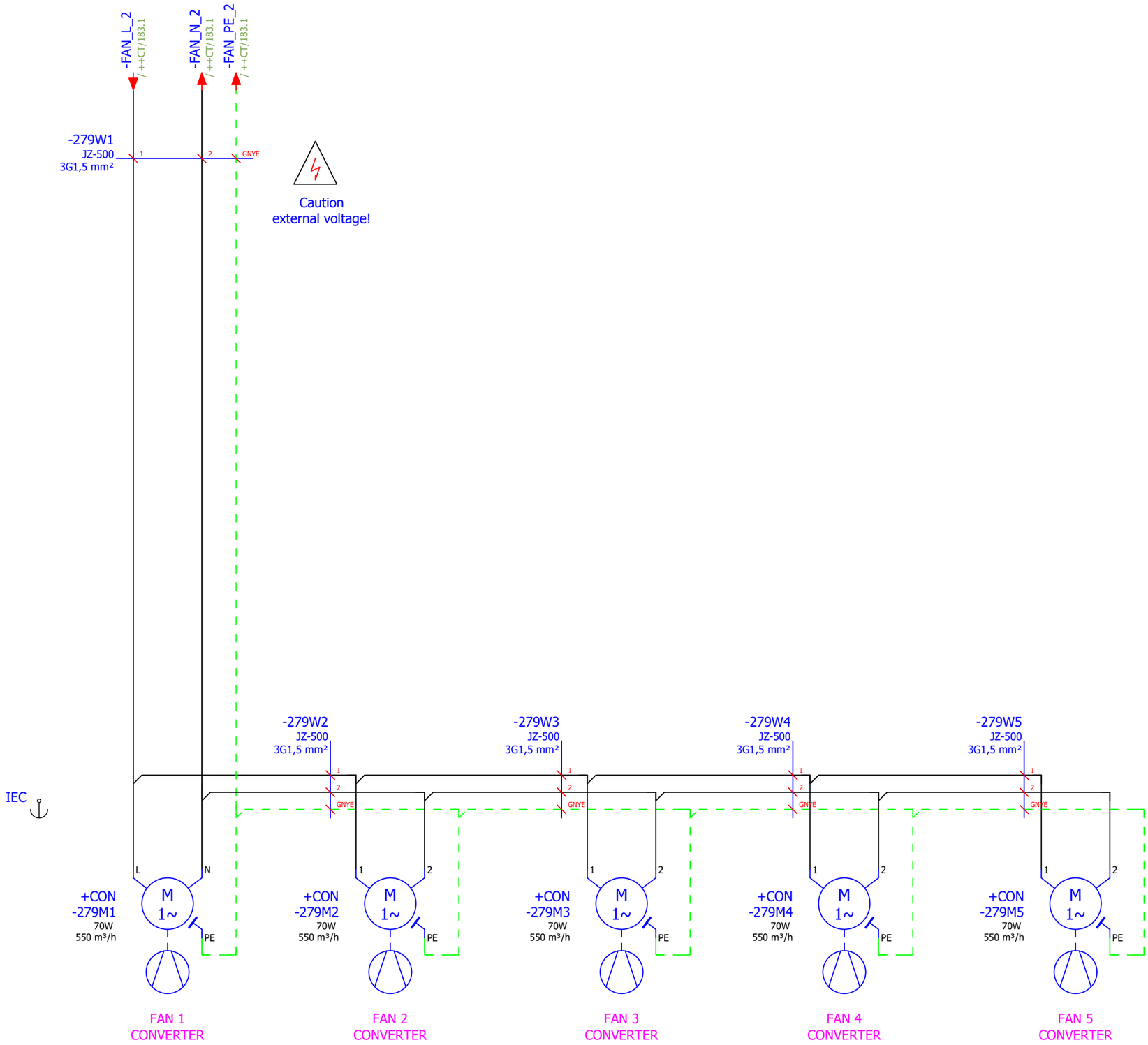


SMOKE DETECTOR
+CON CABINET

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238b

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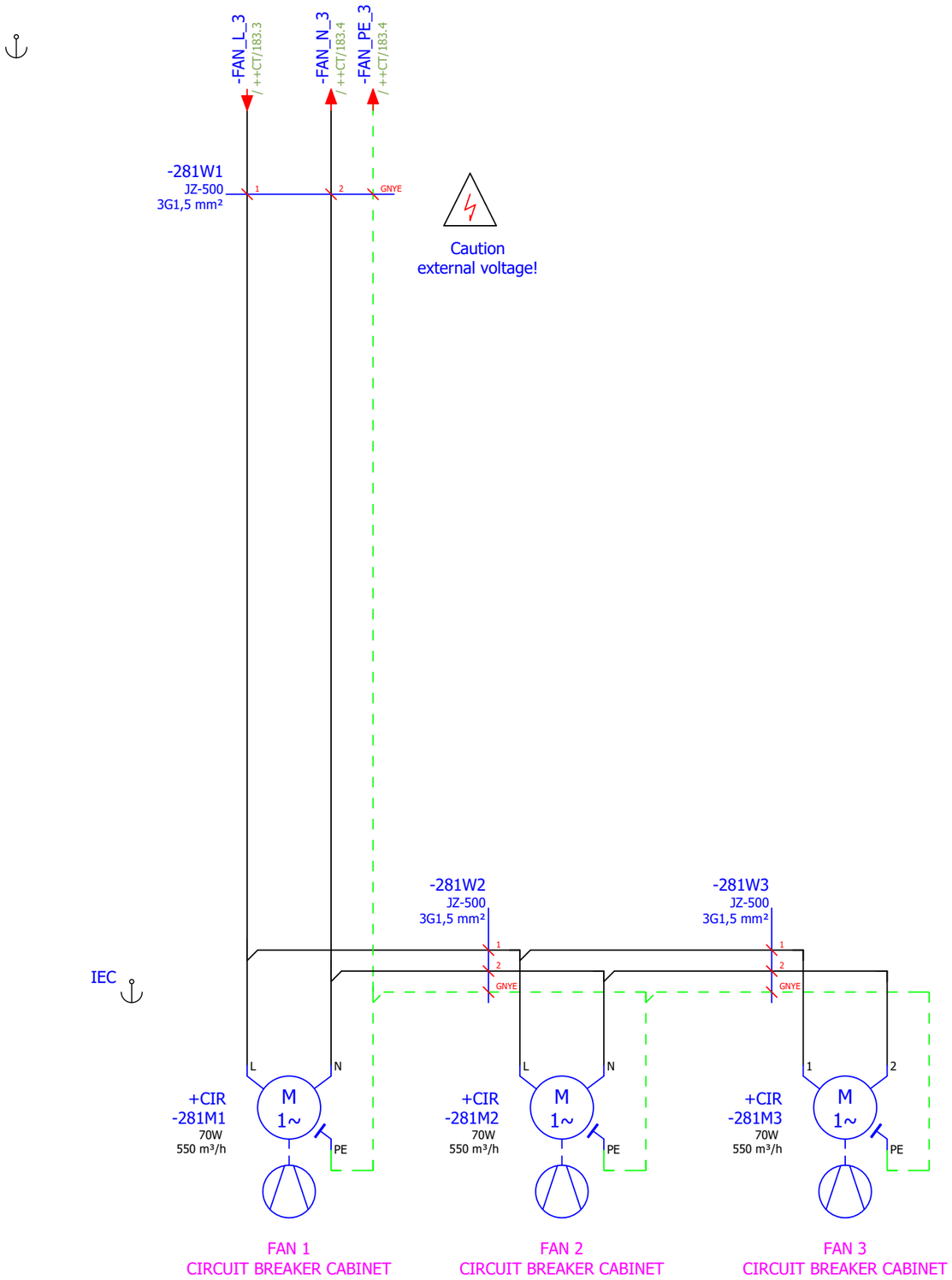
Editor	Freqcon_JD			Statron	FREQCON	SMOKE DETECTOR	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter	page: 260
Date								+		total: 498



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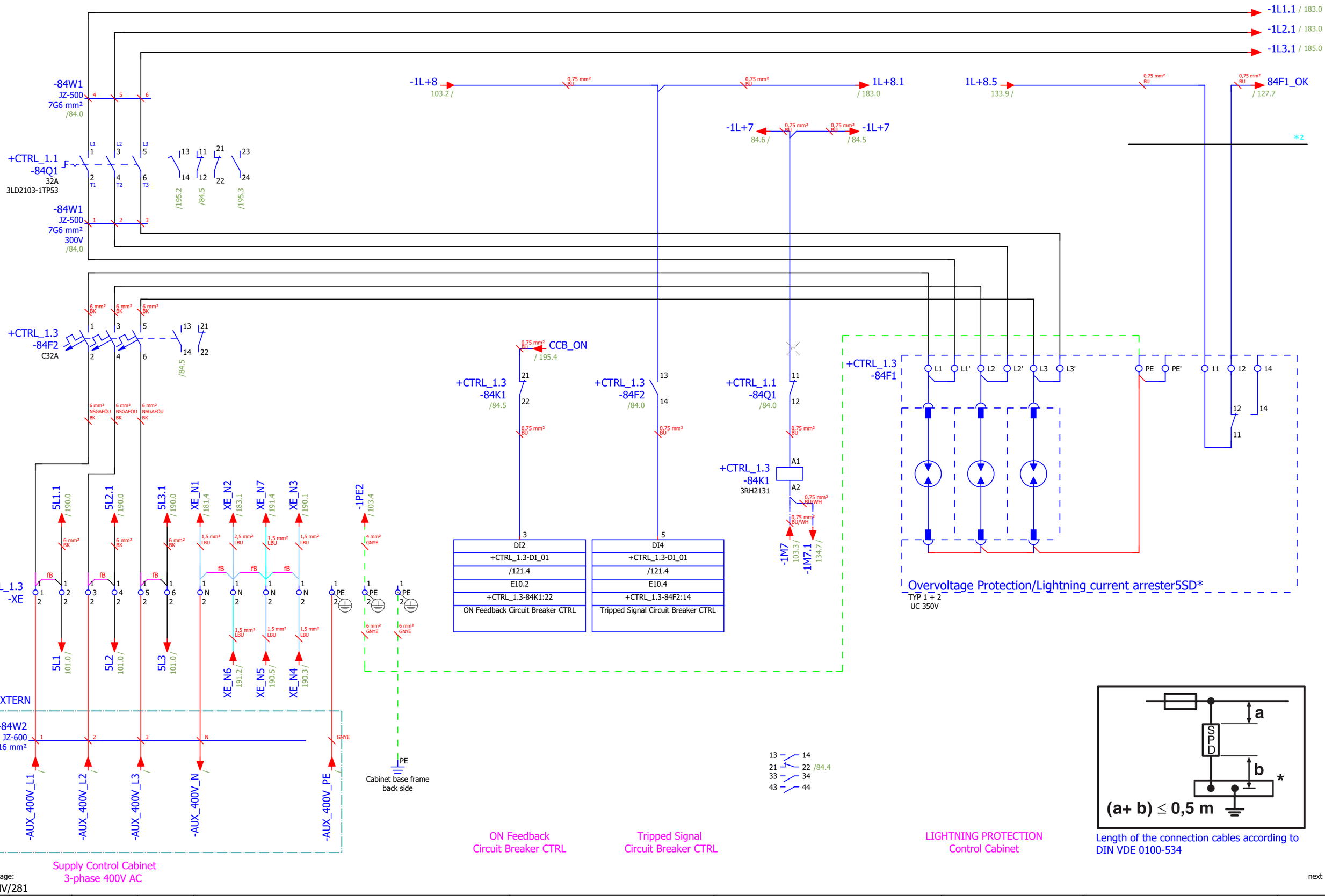
Editor	Freqcon_JD			Statron	FREQCON	CONVERTER CABINET CLIMATE	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 279
Date								+	total: 498



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++CT/84

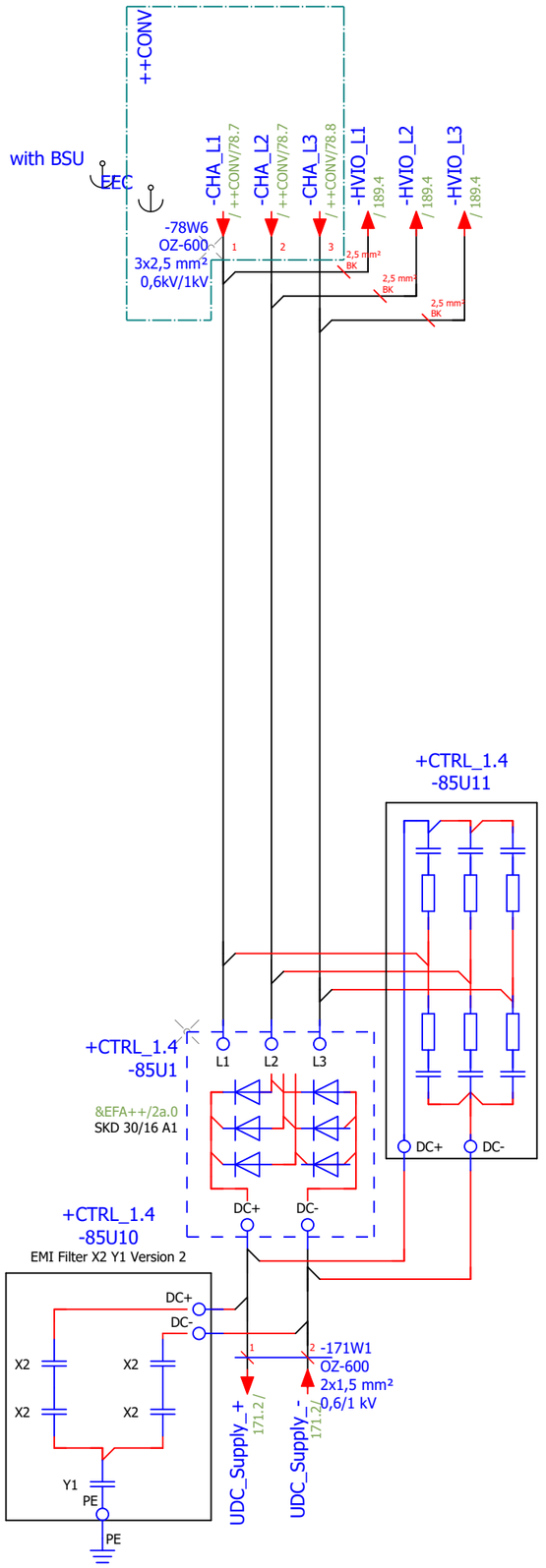
Editor	Freqcon_JD			Statron	FREQCON	CIRCUIT BREAKER CABINET CLIMATE	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter	page: 281
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++CONV/281

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Editor	Freqcon_DG			Statron	FREQCON	FEEDING CONTROL CABINET (CTRL)	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	29.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 84
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earthing via cooling element

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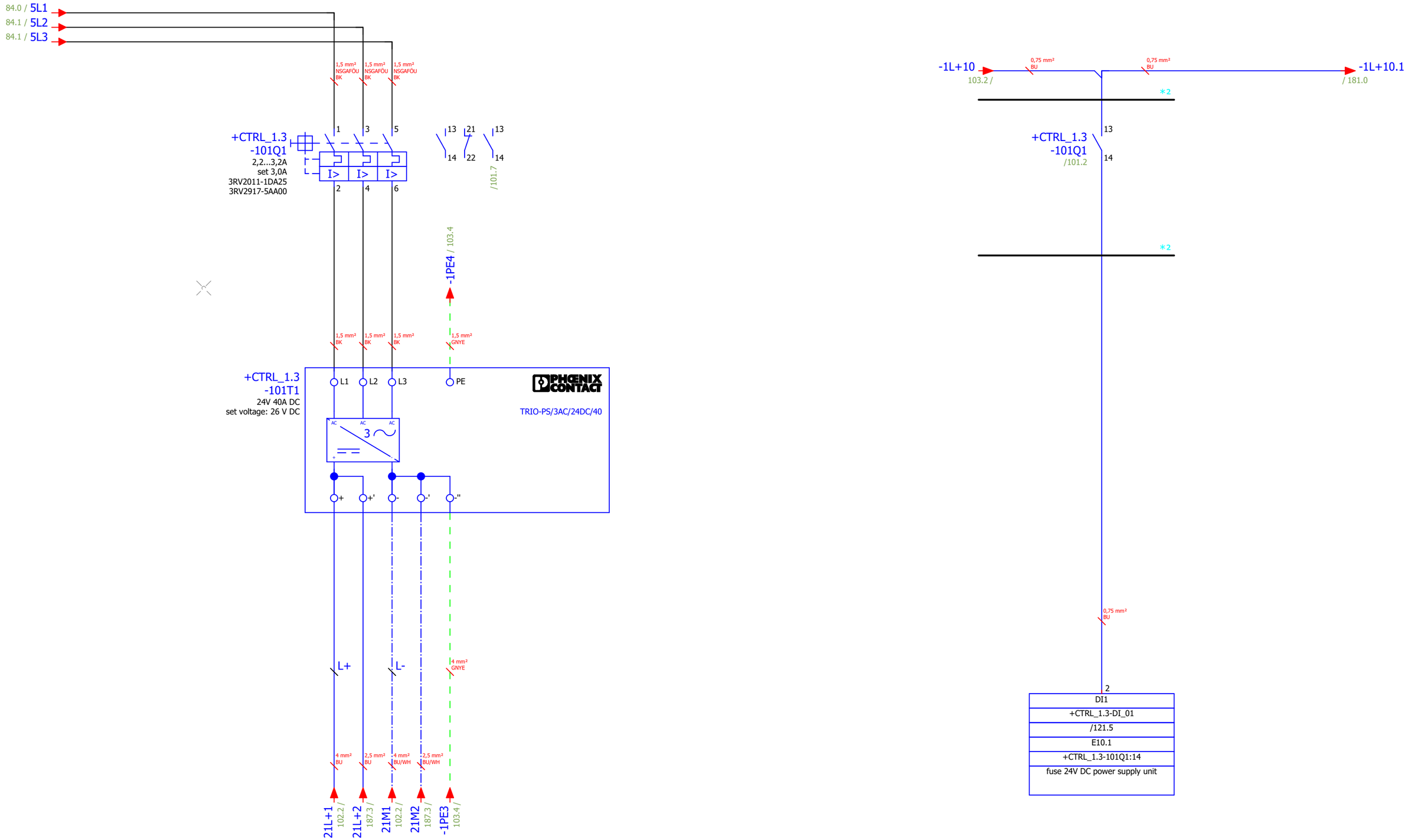
Editor	Freqcon_DG			Statron	FREQCON	SUPPLY UDC	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	29.07.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 85
Date								+		total: 498

Control Cabinet

Pages 100 - 199

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*2

The single conductor must be placed in the protective tube

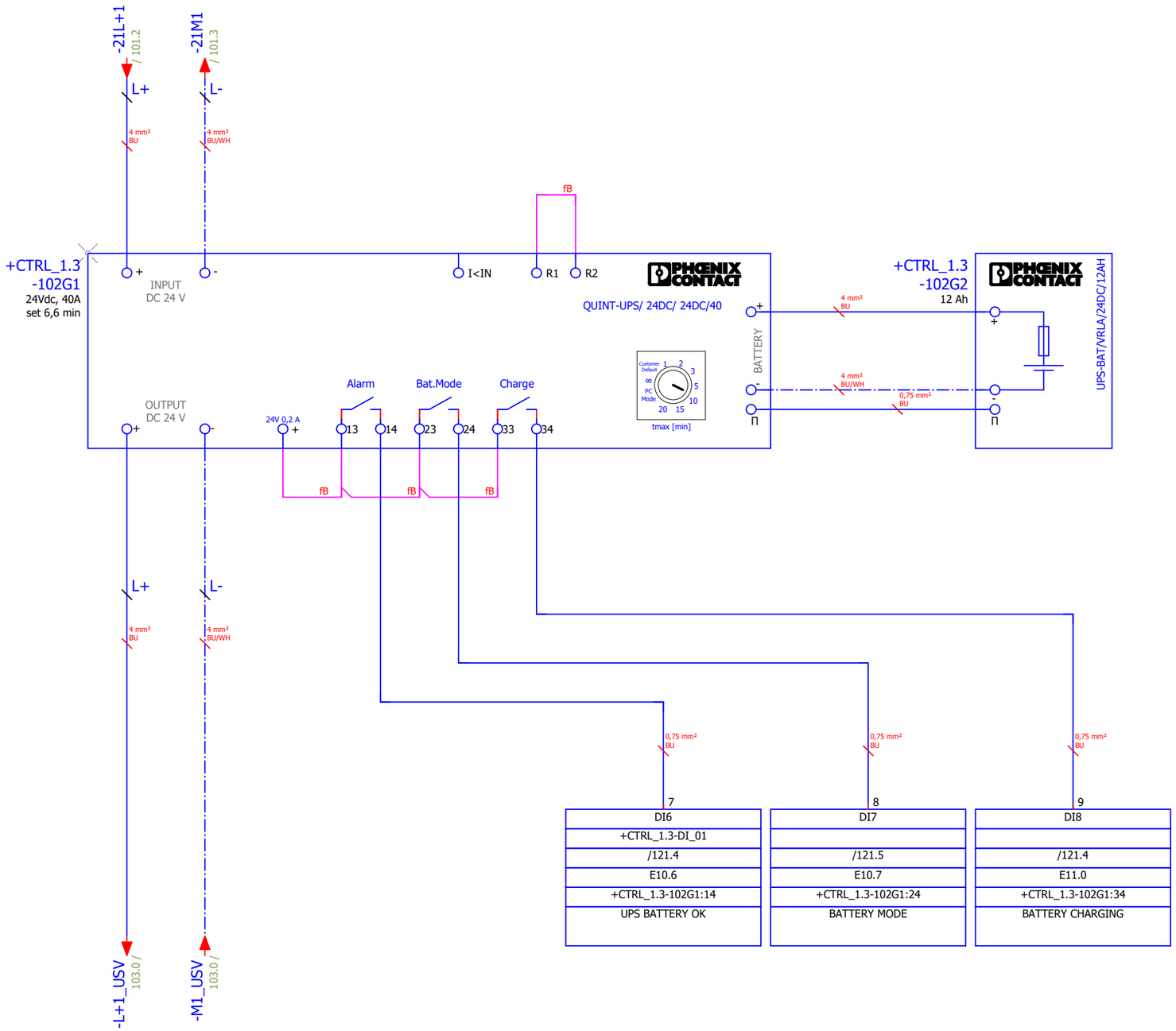
fuse
24V DC power supply unit

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Power supply unit from 400V AC

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Editor	Freqcon_DG			Statron	FREQCON	CONTROL VOLTAGE POWER SUPPLY UNIT	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 101
Date								+	total: 498

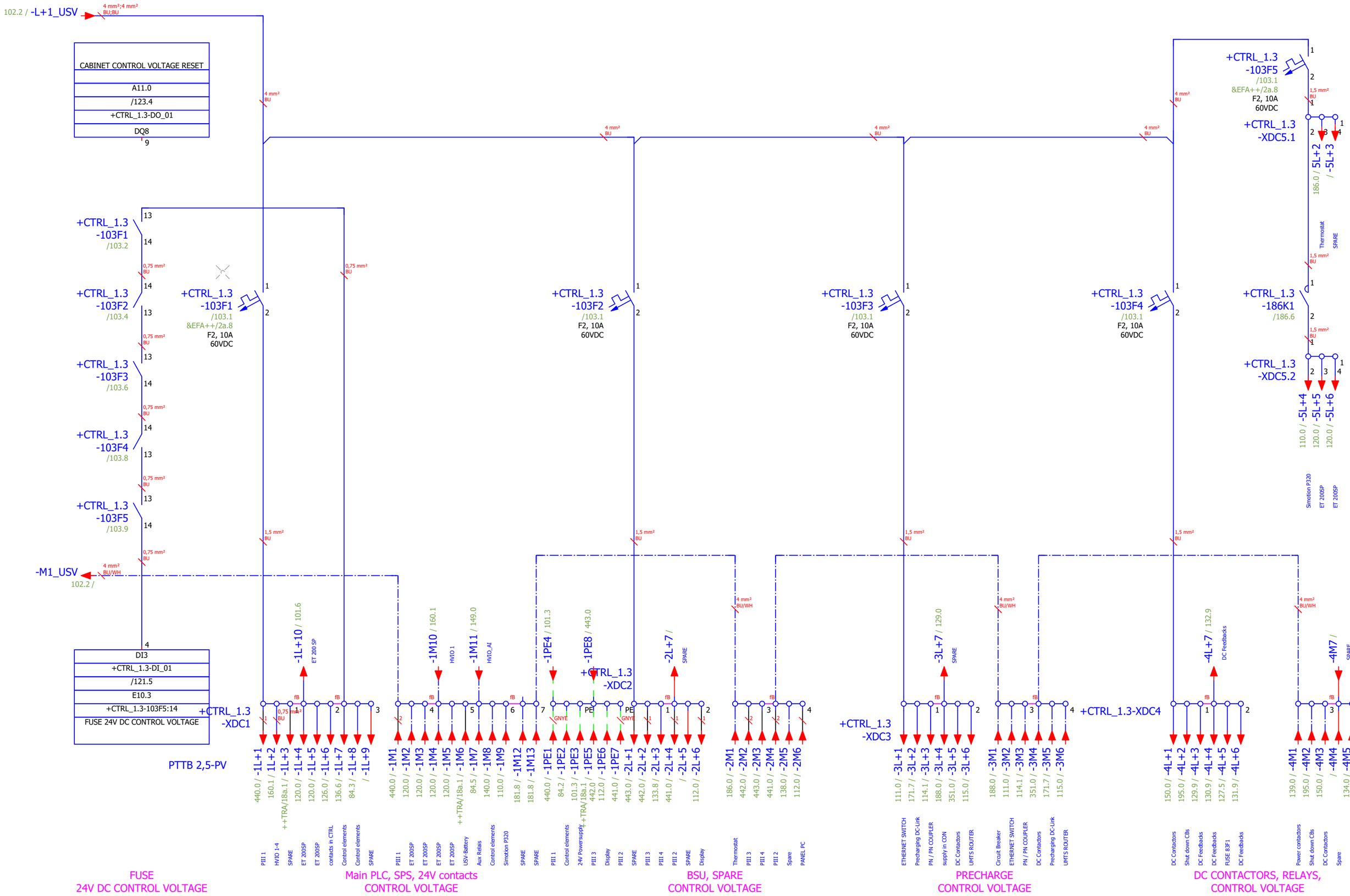


UPS BATTERY OK | BATTERY MODE | BATTERY CHARGING

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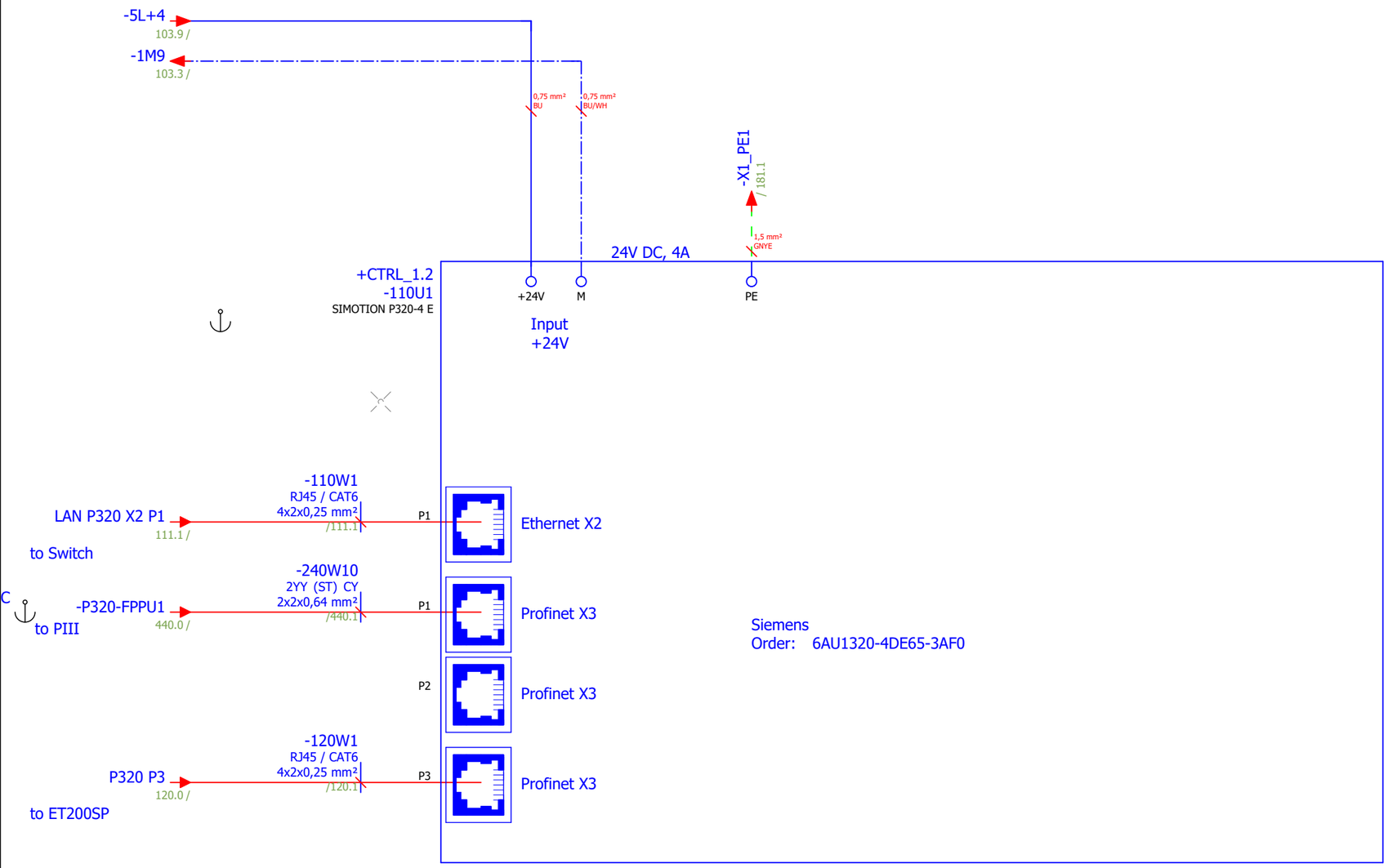
Editor	Freqcon_JD			Statron		CONTROL VOLTAGE UPS	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 102
Date								+ total: 498



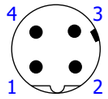
previous page: 102

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Editor	Freqcon_DG			Statron	FREQCON	CONTROL VOLTAGE FUSE	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	29.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 103
Date								+	total: 498



Plug with D-coded



Top view of the pinheader

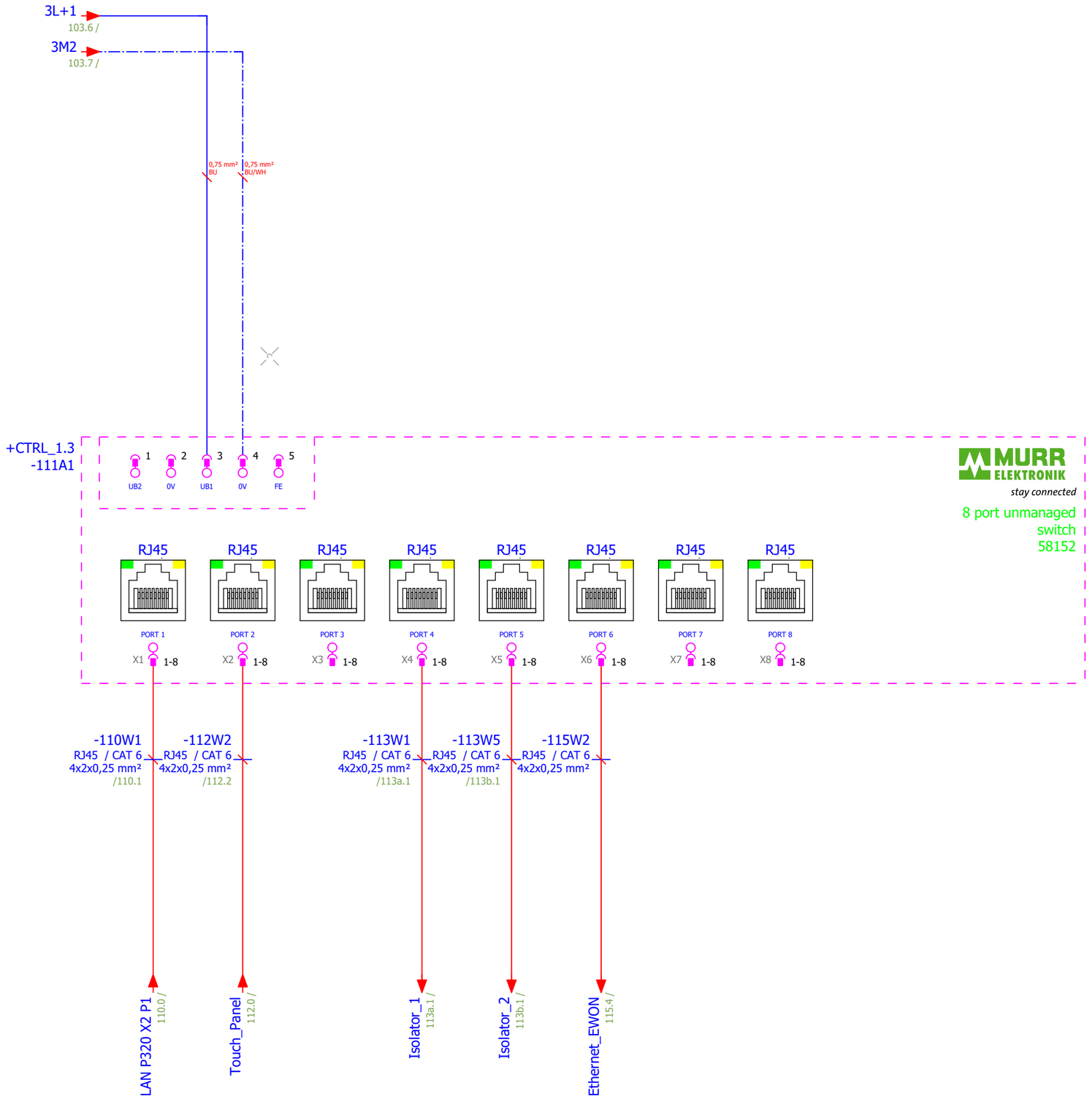
Signal	Colour	RJ45	M12 plug
TD+	yellow	1	1
TD-	orange	2	3
RD+	white	3	2
RD-	blue	6	4

Connection P320 -- PIII

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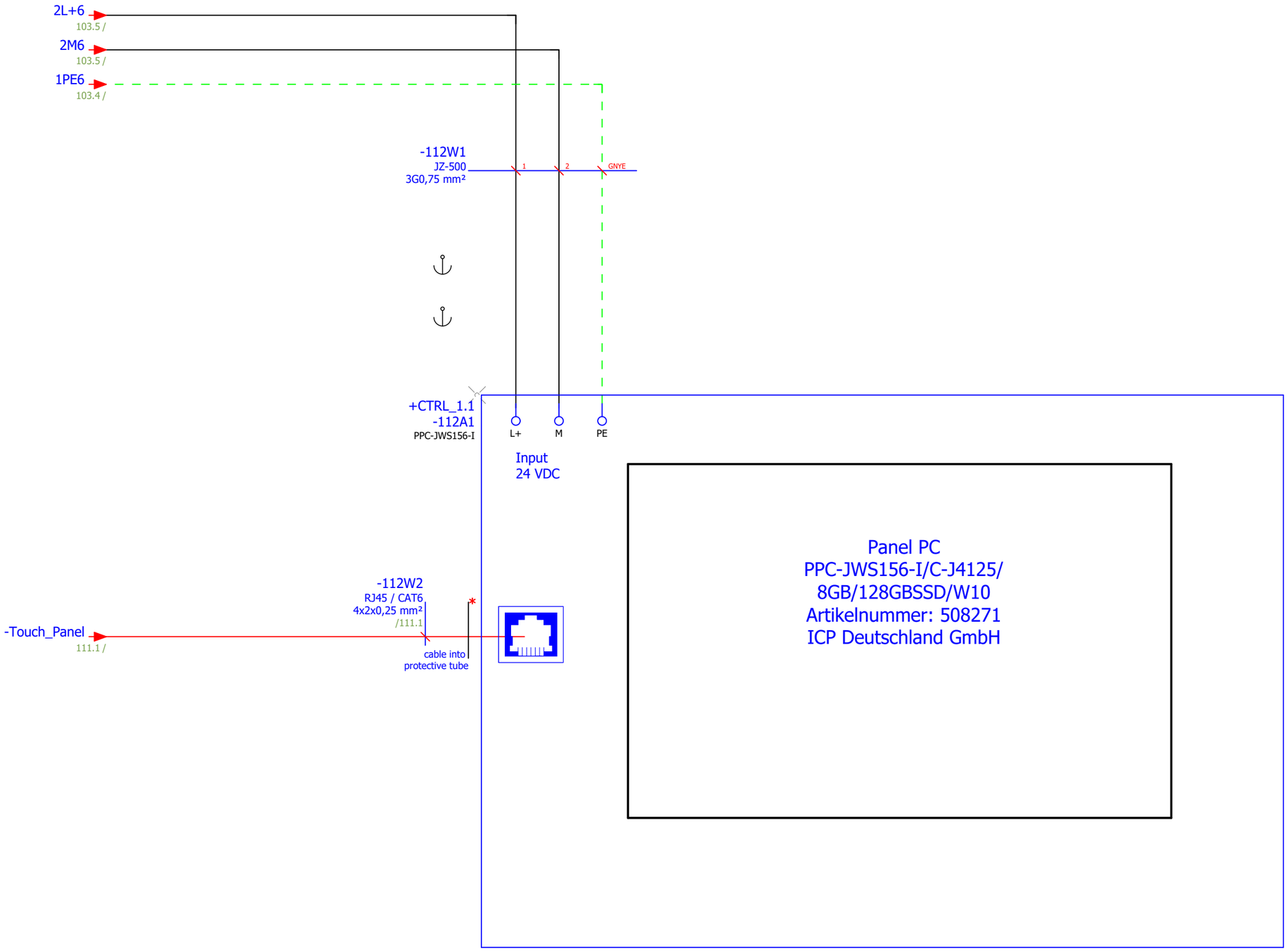
Editor	Freqcon_JD			Statron	FREQCON	MAIN PLC	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	20.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 110
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	ETHERNET SWITCH	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 111
Date								+	total: 498

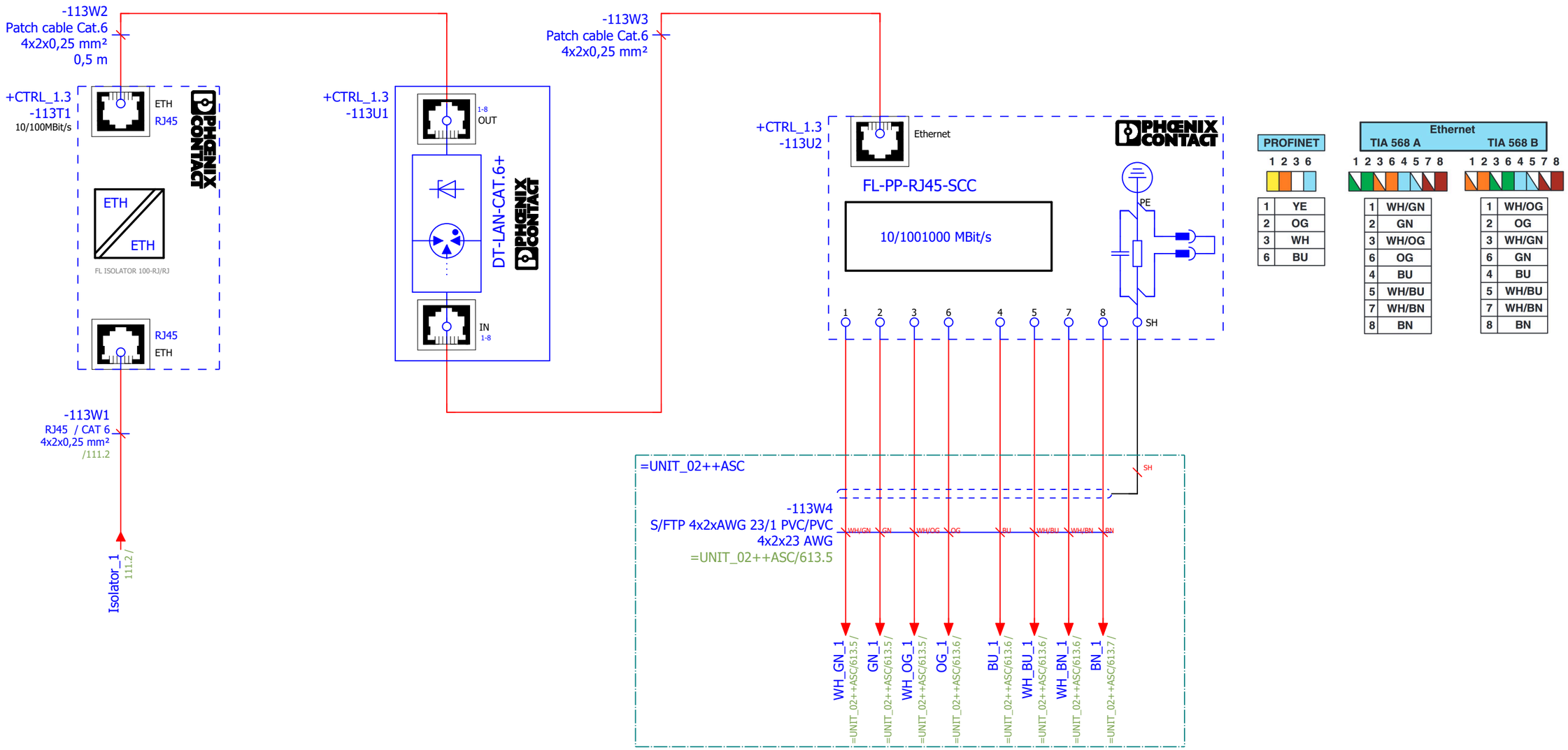


PANEL PC

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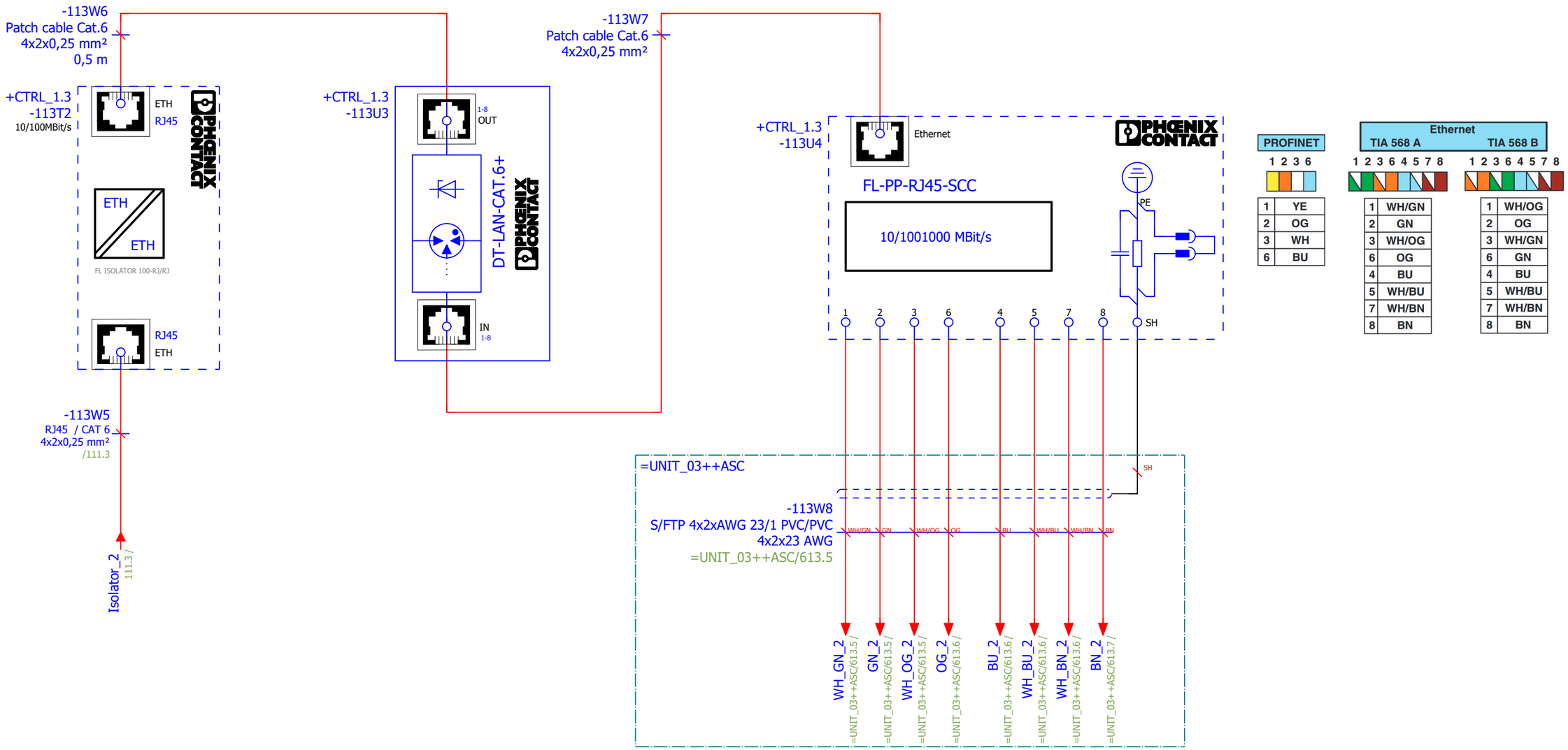
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Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 112
Date								+		total: 498



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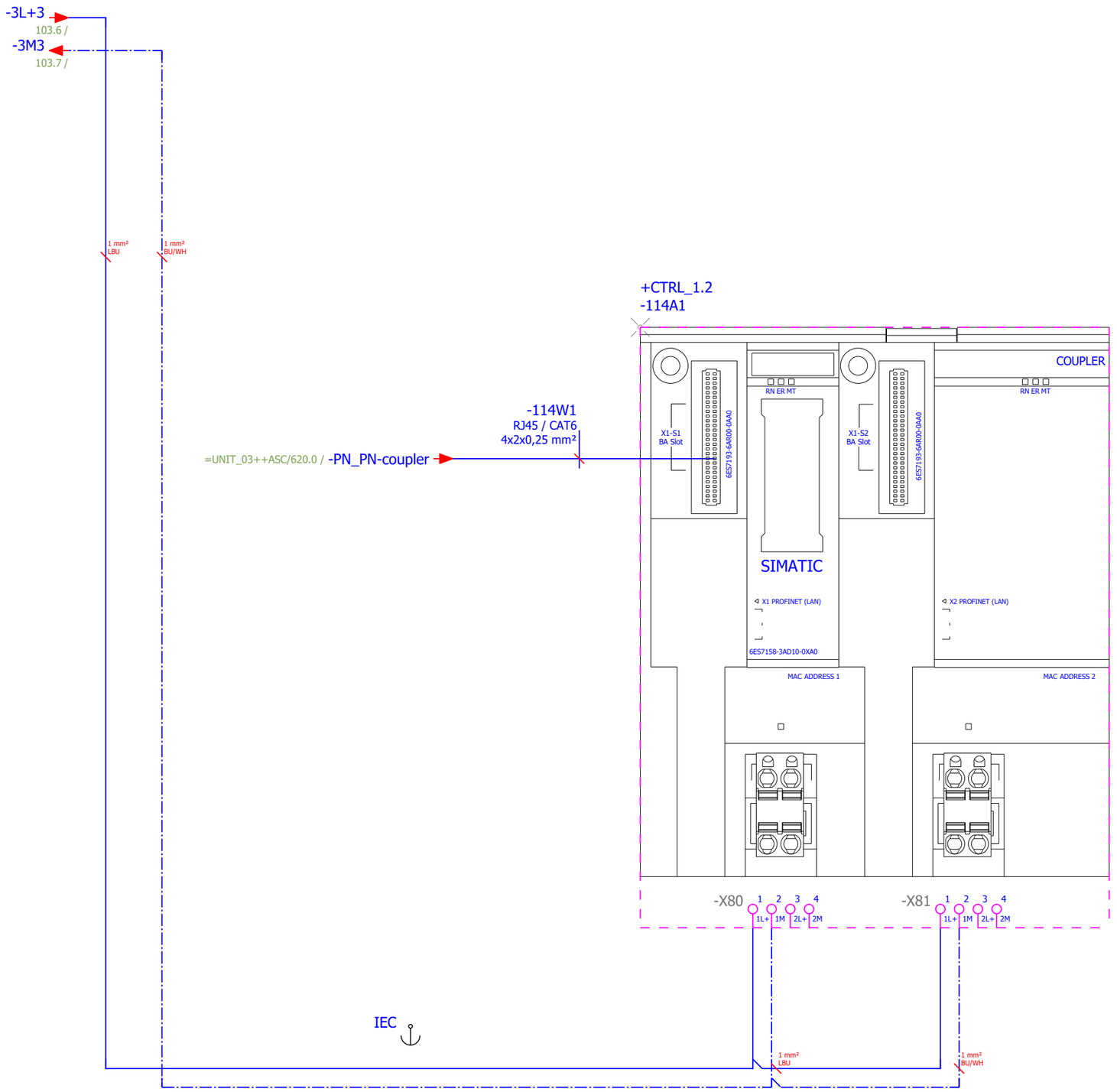
Editor	Freqcon_JD			Statron	FREQCON	ETHERNET / PROFINET ISOLATOR	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 113a
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	ETHERNET / PROFINET ISOLATOR	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 113b
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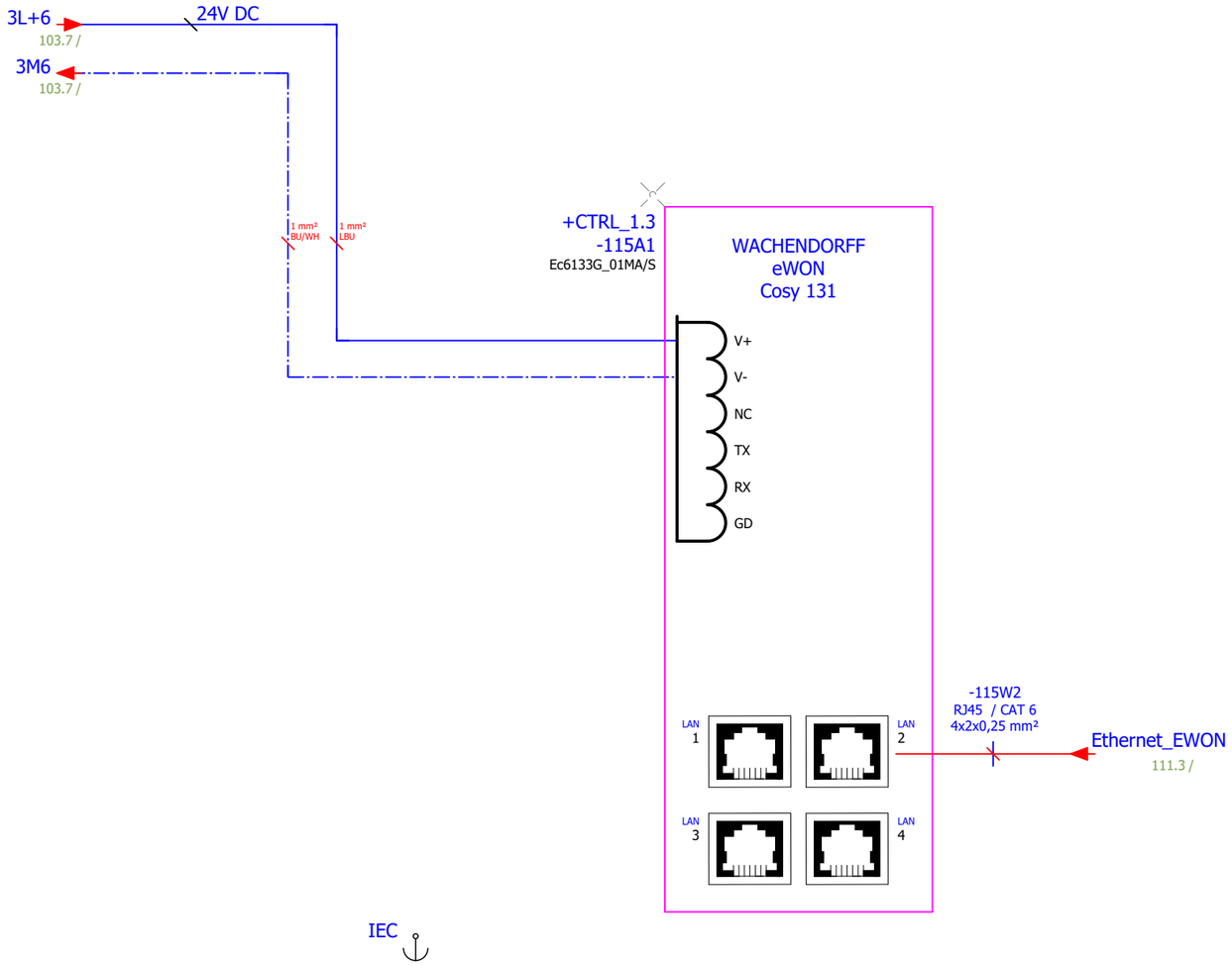


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Editor	Freqcon_JD			Statron	FREQCON	HELMHOLZ	20241105_V1.2	= UNIT_01	Converter Container 1
Date	02.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date								+	

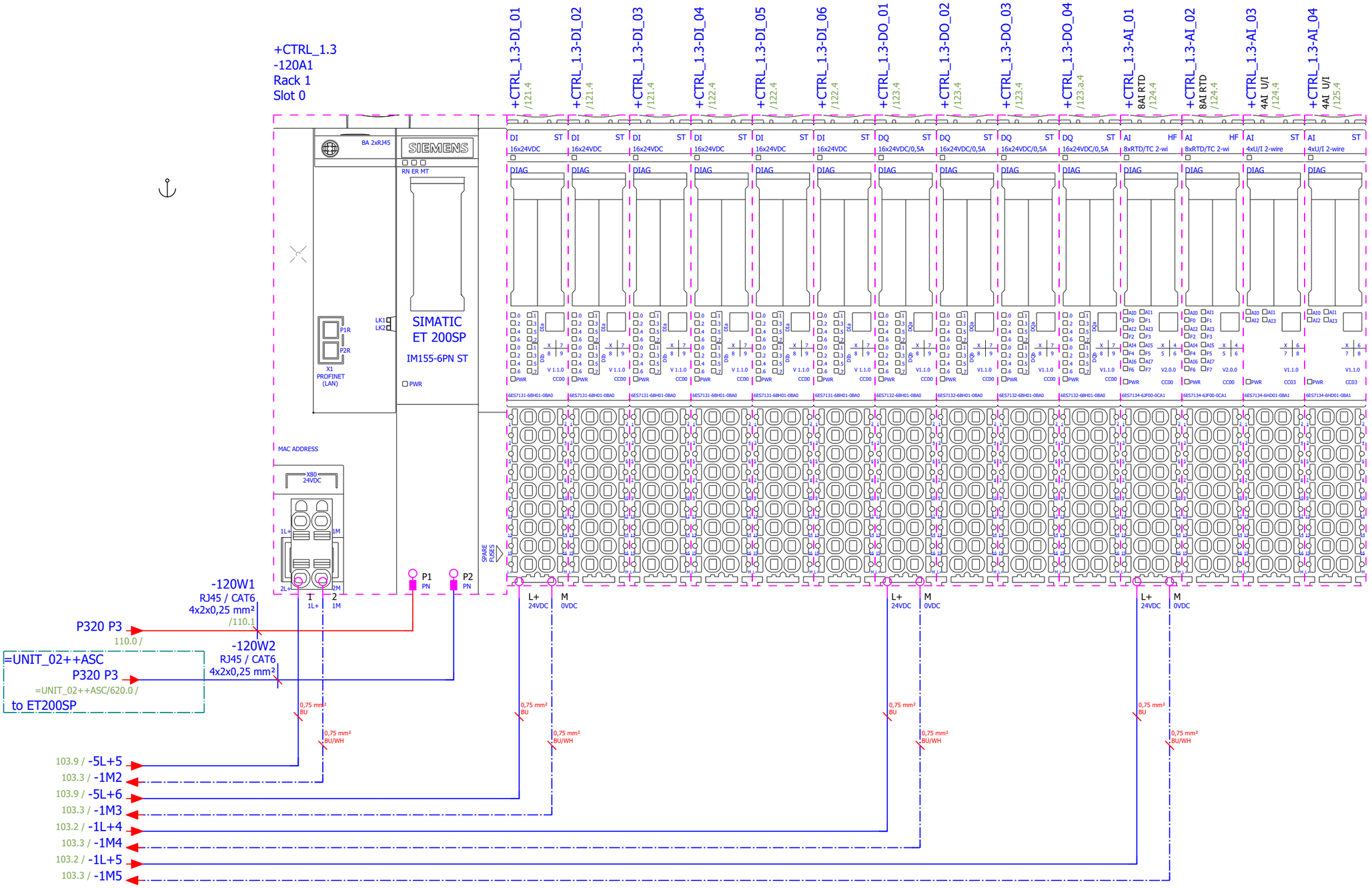
page: 114
total: 498



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Editor	Freqcon_JD			Statron	FREQCON	UMTS ROUTER	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 115
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	ET200 24V DC	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	20.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 120
Date								+		total: 498

+CTRL_1.3-DI_01

/120.3

		DI0 1	E10.0	E10.1 2 DI1	/101.7	fuse 24V DC power supply unit
ON Feedback Circuit Breaker CTRL	/84.4	DI2 3	E10.2	E10.3 4 DI3	/103.1	FUSE 24V DC CONTROL VOLTAGE
Tripped Signal Circuit Breaker CTRL	/84.5	DI4 5	E10.4	E10.5 6 DI5	/127.7	LIGHTNING PROTECTION in Control Cabinet OPTIONAL
UPS BATTERY OK	/102.5	DI6 7	E10.6	E10.7 8 DI7	/102.6	BATTERY MODE
BATTERY CHARGING	/102.7	DI8 9	E11.0	E11.1 10 DI9	/126.1	RESET -126S1
FUSE FOR PUMP	/181.2	DI10 11	E11.2	E11.3 12 DI11	/182.2	FAN 1 HEAT EXCHANGER
FUSE FOR HEATER	/181.5	DI12 13	E11.4	E11.5 14 DI13		
Fuse Fans CON, IND Cabinets	/183.6	DI14 15	E11.6	E11.7 16 DI15	/185.9	supply light, fan, heater, power unit in cabinet
	/120.3	24VDC L+		M 0VDC	/120.3	

+CTRL_1.3-DI_02

/120.3

FAULT SIGNAL SAFETY RELAY	/195.4	DI0 1	E12.0	E12.1 2 DI1	/187.6	FUSES SUPPLY FOR CIRCUIT BREAKER 1+2
CB 1 ON GRID	/127.2	DI2 3	E12.2	E12.3 4 DI3	/127.3	CB 1 OFF GRID
CB 1 Tripped GRID	/127.1	DI4 5	E12.4	E12.5 6 DI5	/127.4	FUSE AND LIGHTNING PROTECTION
Smoke detector CON	/134.0	DI6 7	E12.6	E12.7 8 DI7	/129.0	SUBSYSTEM 2_1_DC + Contactor K1 is on
SUBSYSTEM 2_1_DC -Contactor K7 is on	/129.1	DI8 9	E13.0	E13.1 10 DI9	/129.2	SUBSYSTEM 2_2_DC + Contactor K2 is on
SUBSYSTEM 2_2_DC -Contactor K8 is on	/129.3	DI10 11	E13.2	E13.3 12 DI11	/129.4	SUBSYSTEM 2_3_DC + Contactor K3 is on
SUBSYSTEM 2_3_DC -Contactor K9 is on	/129.5	DI12 13	E13.4	E13.5 14 DI13	/129.6	SUBSYSTEM 2_3_DC + SPARE
SUBSYSTEM 2_DC -SPARE	/129.7	DI14 15	E13.6	E13.7 16 DI15	/129.8	SUBSYSTEM 2_1_DC FUSE OK
		24VDC L+		M 0VDC		

+CTRL_1.3-DI_03

/120.3

SUBSYSTEM 2_2_DC FUSE OK	/129.9	DI0 1	E14.0	E14.1 2 DI1	/130.0	SUBSYSTEM 3_1_DC + Contactor K1 is on
SUBSYSTEM 3_1_DC -Contactor K7 is on	/130.1	DI2 3	E14.2	E14.3 4 DI3	/130.2	SUBSYSTEM 3_2_DC + Contactor K2 is on
SUBSYSTEM 3_2_DC -Contactor K8 is on	/130.3	DI4 5	E14.4	E14.5 6 DI5	/130.4	SUBSYSTEM 3_3_DC + Contactor K3 is on
SUBSYSTEM 3_3_DC -Contactor K9 is on	/130.5	DI6 7	E14.6	E14.7 8 DI7	/130.6	SUBSYSTEM 3_DC + SPARE
SUBSYSTEM 3_DC -SPARE	/130.7	DI8 9	E15.0	E15.1 10 DI9	/130.8	SUBSYSTEM 2_DC FUSE OK
SUBSYSTEM 3_1_DC FUSE OK	/130.9	DI10 11	E15.2	E15.3 12 DI11	/131.0	SUBSYSTEM 4_1_DC + Contactor K1 is on
SUBSYSTEM 4_1_DC -Contactor K7 is on	/131.1	DI12 13	E15.4	E15.5 14 DI13	/131.2	SUBSYSTEM 4_2_DC + Contactor K2 is on
SUBSYSTEM 4_2_DC -Contactor K8 is on	/131.3	DI14 15	E15.6	E15.7 16 DI15	/131.4	SUBSYSTEM 4_3_DC + Contactor K3 is on
		24VDC L+		M 0VDC		

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+CTRL_1.3-DI_04

/120.4

		DI			DI		
SPARE	/133.1	DI0 1	E16.0	E16.1 2 DI1	/133.2	SPARE	
SPARE	/133.3	DI2 3	E16.2	E16.3 4 DI3	/133.4	TRIP	
Earthing switch in On Transformer 620V side	/133.9	DI4 5	E16.4	E16.5 6 DI5			
		DI6 7	E16.6	E16.7 8 DI7			
		DI8 9	E17.0	E17.1 10 DI9			
Fuse 230V AC for Container Air Conditioning	/133.6	DI10 11	E17.2	E17.3 12 DI11	/128.1	CB 2 Tripped ISLAND GRID	
CB 2 ON ISLAND GRID	/128.2	DI12 13	E17.4	E17.5 14 DI13	/128.3	CB 2 OFF ISLAND GRID	
FUSE AND LIGHTNING PROTECTION 2	/128.4	DI14 15	E17.6	E17.7 16 DI15	/182.5	FAN 2 HEAT EXCHANGER (OPTIONAL)	
		24VDC L+		M 0VDC			

+CTRL_1.3-DI_05

/120.4

		DI			DI		
SUBSYSTEM 4_3_DC -Contactor K9 is on	/131.5	DI0 1	E18.0	E18.1 2 DI1	/131.6	SUBSYSTEM 4_DC + SPARE	
SUBSYSTEM 4_DC -SPARE	/131.7	DI2 3	E18.2	E18.3 4 DI3	/131.8	SUBSYSTEM 3_2_DC FUSE OK	
SUBSYSTEM 3_3_DC FUSE OK	/131.9	DI4 5	E18.4	E18.5 6 DI5	/132.0		
	/132.1	DI6 7	E18.6	E18.7 8 DI7	/132.2		
	/132.3	DI8 9	E19.0	E19.1 10 DI9	/132.4		
	/132.5	DI10 11	E19.2	E19.3 12 DI11	/132.6		
SUBSYSTEM 4_1_DC FUSE OK	/132.7	DI12 13	E19.4	E19.5 14 DI13	/132.8	SUBSYSTEM 4_2_DC FUSE OK	
SUBSYSTEM 4_3_DC FUSE OK	/132.9	DI14 15	E19.6	E19.7 16 DI15			
		24VDC L+		M 0VDC			

+CTRL_1.3-DI_06

/120.4

		DI			DI		
Shut-down to BESS	/136.6	DI0 1	E20.0	E20.1 2 DI1			
		DI2 3	E20.2	E20.3 4 DI3			
		DI4 5	E20.4	E20.5 6 DI5			
		DI6 7	E20.6	E20.7 8 DI7			
incoming CB is open	/136.8	DI8 9	E21.0	E21.1 10 DI9	/136.9	cmd island mode	
		DI10 11	E21.2	E21.3 12 DI11			
		DI12 13	E21.4	E21.5 14 DI13			
		DI14 15	E21.6	E21.7 16 DI15			
		24VDC L+		M 0VDC			

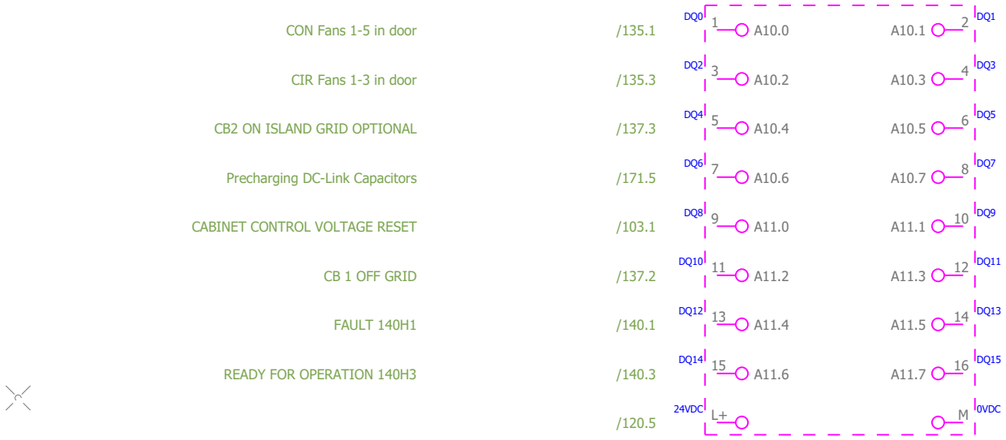
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Editor	Freqcon_JD			Statron		ET200SP DIGITAL INPUTS DI_04 + DI_05	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	14.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 122
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+CTRL_1.3-DO_01

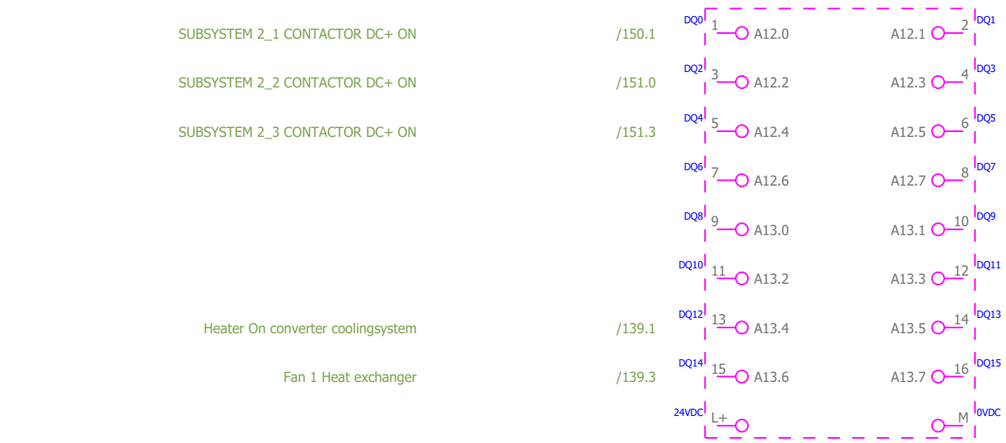
/120.5



CON Fans 1-5 in door	/135.1			/135.2	FAN 1 Control cabinet
CIR Fans 1-3 in door	/135.3			/135.4	SPARE 230V
CB2 ON ISLAND GRID OPTIONAL	/137.3			/137.4	CB 2 OFF ISLAND GRID OPTIONAL
Precharging DC-Link Capacitors	/171.5			/173.6	Discharge CON
CABINET CONTROL VOLTAGE RESET	/103.1			/137.1	CB1 ON GRID
CB 1 OFF GRID	/137.2			/189.1	GRID FAULT
FAULT 140H1	/140.1			/140.2	PREHEATING 140H2
READY FOR OPERATION 140H3	/140.3			/140.4	OPERATING 140H4
	/120.5			/120.5	

+CTRL_1.3-DO_02

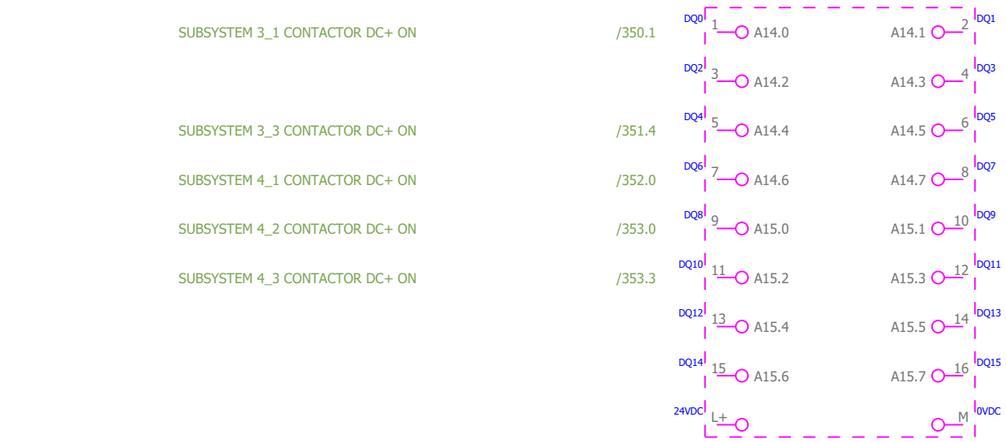
/120.5



SUBSYSTEM 2_1 CONTACTOR DC+ ON	/150.1			/150.3	SUBSYSTEM 2_1 CONTACTOR DC-ON
SUBSYSTEM 2_2 CONTACTOR DC+ ON	/151.0			/151.2	SUBSYSTEM 2_2 CONTACTOR DC-ON
SUBSYSTEM 2_3 CONTACTOR DC+ ON	/151.3			/151.5	SUBSYSTEM 2_3 CONTACTOR DC-ON
				/135.5	SPARE
				/139.4	Fan 2 Heat exchanger optional
Heater On converter coolingsystem	/139.1			/139.2	Pump converter coolingsystem
Fan 1 Heat exchanger	/139.3			/134.8	Reset the smoke detectors

+CTRL_1.3-DO_03

/120.5



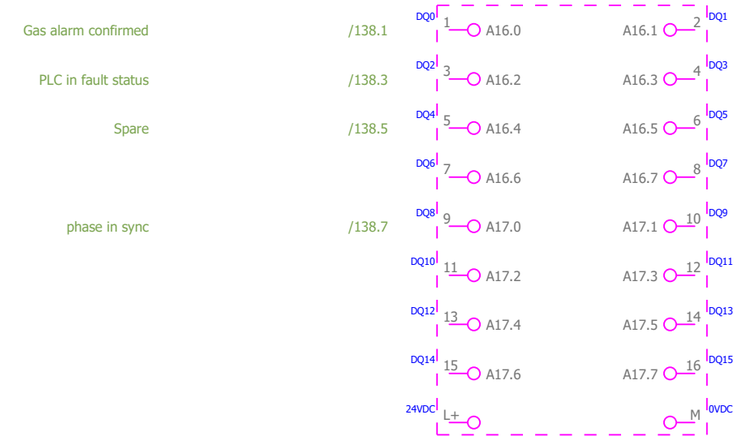
SUBSYSTEM 3_1 CONTACTOR DC+ ON	/350.1			/350.3	SUBSYSTEM 3_1 CONTACTOR DC-ON
SUBSYSTEM 3_3 CONTACTOR DC+ ON	/351.4			/351.5	SUBSYSTEM 3_3 CONTACTOR DC-ON
SUBSYSTEM 4_1 CONTACTOR DC+ ON	/352.0			/352.2	SUBSYSTEM 4_1 CONTACTOR DC-ON
SUBSYSTEM 4_2 CONTACTOR DC+ ON	/353.0			/353.2	SUBSYSTEM 4_2 CONTACTOR DC-ON
SUBSYSTEM 4_3 CONTACTOR DC+ ON	/353.3			/353.5	SUBSYSTEM 4_3 CONTACTOR DC-ON

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+CTRL_1.3-DO_04

/120.6



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Editor	Freqcon_JD			Statron	FREQCON	ET200SP DIGITAL OUTPUTS DO_01 - DO_03	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 123.a
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+CTRL_1.3-AI_01

/120.6

INDUCTOR GRID PHASE L1 TEMPERATURE 1_1	/145.1	M0+	1	PIW150	PIW152	2	M1+	/145.3	INDUCTOR GRID PHASE L2 TEMPERATURE 1_2
INDUCTOR GRID PHASE L3 TEMPERATURE 1_3	/145.5	M2+	3	PIW154	PIW156	4	M3+	/145.7	INDUCTOR DC SUB 2_1 TEMPERATURE 2_1
INDUCTOR DC SUB 2_2 TEMPERATURE 2_2	/146.1	M4+	5	PIW158	PIW160	6	M5+	/146.3	INDUCTOR DC SUB 2_3 TEMPERATURE 2_3
INDUCTOR DC SUB 3_1 TEMPERATURE 3_1	/146.5	M6+	7	PIW162	PIW164	8	M7+	/146.7	INDUCTOR DC SUB 3_2 TEMPERATURE 3_2
INDUCTOR GRID PHASE L1 TEMPERATURE 1_1	/145.1	M0-	9	PIW150	PIW152	10	M1-	/145.3	INDUCTOR GRID PHASE L2 TEMPERATURE 1_2
INDUCTOR GRID PHASE L3 TEMPERATURE 1_3	/145.5	M2-	11	PIW154	PIW156	12	M3-	/145.7	INDUCTOR DC SUB 2_1 TEMPERATURE 2_1
INDUCTOR DC SUB 2_2 TEMPERATURE 2_2	/146.1	M4-	13	PIW158	PIW160	14	M5-	/146.3	INDUCTOR DC SUB 2_3 TEMPERATURE 2_3
INDUCTOR DC SUB 3_1 TEMPERATURE 3_1	/146.5	M6-	15	PIW162	PIW164	16	M7-	/146.7	INDUCTOR DC SUB 3_2 TEMPERATURE 3_2
	/120.6	24VDC	L+		M	0VDC		/120.6	

+CTRL_1.3-AI_02

/120.6

INDUCTOR DC SUB 3_3 TEMPERATURE 3_3	/147.1	M0+	1	PIW166	PIW168	2	M1+	/147.3	INDUCTOR DC SUB 4_1 TEMPERATURE 4_1
CONTROL CABINET TEMPERATURE	/147.5	M2+	3	PIW170	PIW172	4	M3+	/147.7	CONVERTER CABINET TEMPERATURE
COOLING WATER TEMPERATURE	/148.1	M4+	5	PIW174	PIW176	6	M5+	/148.3	INDUCTOR DC SUB 4_2 TEMPERATURE 4_2
CIR CABINET TEMPERATURE	/148.5	M6+	7	PIW178	PIW180	8	M7+	/148.7	INDUCTOR DC SUB 4_3 TEMPERATURE 4_3
INDUCTOR DC SUB 3_3 TEMPERATURE 3_3	/147.1	M0-	9	PIW166	PIW168	10	M1-	/147.3	INDUCTOR DC SUB 4_1 TEMPERATURE 4_1
CONTROL CABINET TEMPERATURE	/147.5	M2-	11	PIW170	PIW172	12	M3-	/147.7	CONVERTER CABINET TEMPERATURE
COOLING WATER TEMPERATURE	/148.1	M4-	13	PIW174	PIW176	14	M5-	/148.3	INDUCTOR DC SUB 4_2 TEMPERATURE 4_2
CIR CABINET TEMPERATURE	/148.5	M6-	15	PIW178	PIW180	16	M7-	/148.7	INDUCTOR DC SUB 4_3 TEMPERATURE 4_3
		24VDC	L+		M	0VDC			

+CTRL_1.3-AI_03

/120.7

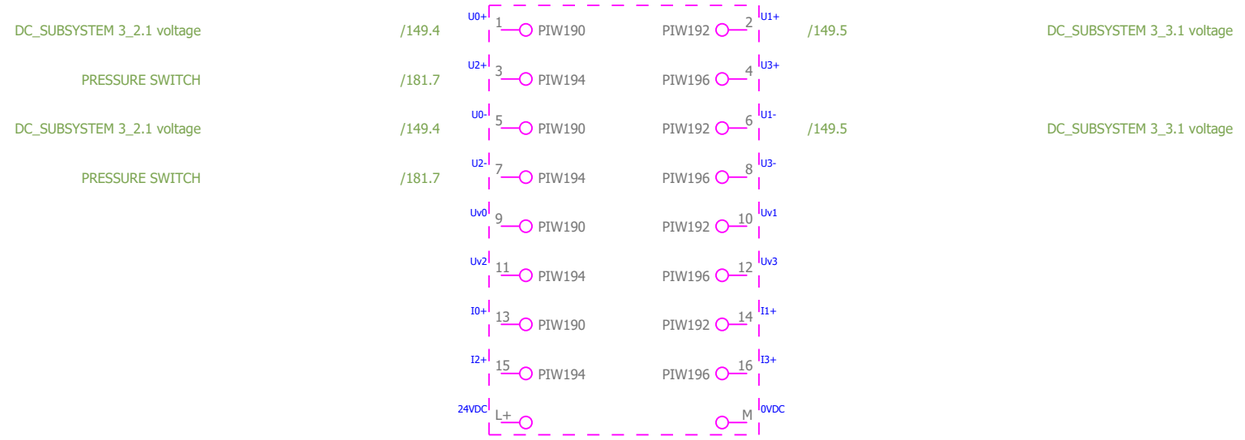
DC_SUBSYSTEM 2_1.1 voltage	/149.0	U0+	1	PIW182	PIW184	2	U1+	/149.1	DC_SUBSYSTEM 2_2.1 voltage
DC_SUBSYSTEM 2_3.1 voltage	/149.2	U2+	3	PIW186	PIW188	4	U3+	/149.3	DC_SUBSYSTEM 3_1.1 voltage
DC_SUBSYSTEM 2_1.1 voltage	/149.0	U0-	5	PIW182	PIW184	6	U1-	/149.1	DC_SUBSYSTEM 2_2.1 voltage
DC_SUBSYSTEM 2_3.1 voltage	/149.2	U2-	7	PIW186	PIW188	8	U3-	/149.3	DC_SUBSYSTEM 3_1.1 voltage
		Uv0	9	PIW182	PIW184	10	Uv1		
		Uv2	11	PIW186	PIW188	12	Uv3		
		I0+	13	PIW182	PIW184	14	I1+		
		I2+	15	PIW186	PIW188	16	I3+		
		24VDC	L+		M	0VDC			

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+CTRL_1.3-AI_04

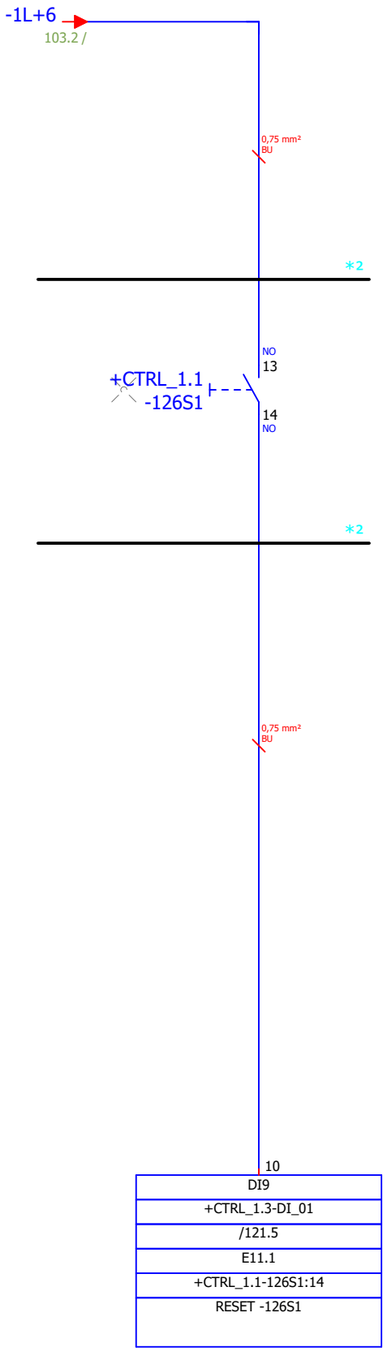
/120.7



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Editor	Freqcon_JD			Statron	FREQCON	ET200SP ANALOG INPUTS AI_04	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	14.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 125
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RESET
-126S1

*2
The single conductor
must be placed
in the protective tube

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Editor	Freqcon_JD			Statron	FREQCON	INPUTS CONTROL ELEMENTS	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	02.07.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 126
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EC

3WL

++CONV

-CB1_TRIPPED / ++CONV/80.8

-CB1_ON_FB / ++CONV/80.7

-CB1_OFF_FB / ++CONV/80.7

-1F2 / ++CONV/78.9

-4L+5.4 / ++CONV/238a.2

-80W1
OZ-500
8x0,75 mm²

-238W7
OZ-500
2x0,75 mm²

-24V_Signal / 189.5

-4L+5.3 / 134.0

84F1_OK / 84.9

+CTRL_1.3
-X3

0,75 mm² BU

fB

bridge

-4L+5 / 103.8

-4L+5.1 / 128.5

DI14	DI2	DI3	DI5
+CTRL_1.3-DI_02	+CTRL_1.3-DI_02		
/121.4	/121.4	/121.5	/121.5
E12.4	E12.2	E12.3	E12.5
++CONV+CIR-80Q1:X7_13	++CONV+CIR-80Q1:X6_11	++CONV+CIR-80Q1:X6_9	++CONV+AC_DC-78F1:13
CB 1 Tripped GRID	CB 1 ON GRID	CB 1 OFF GRID	FUSE AND LIGHTNING PROTECTION

DI5
+CTRL_1.3-DI_01
/121.5
E10.5
+CTRL_1.3-84F1:12
LIGHTNING PROTECTION in Control Cabinet OPTIONAL

Info:
true = not fail,
false = cb tripped
CB = Circuit Breaker

CB 1 Tripped GRID

CB 1 ON GRID

CB 1 OFF GRID

FUSE AND LIGHTNING PROTECTION

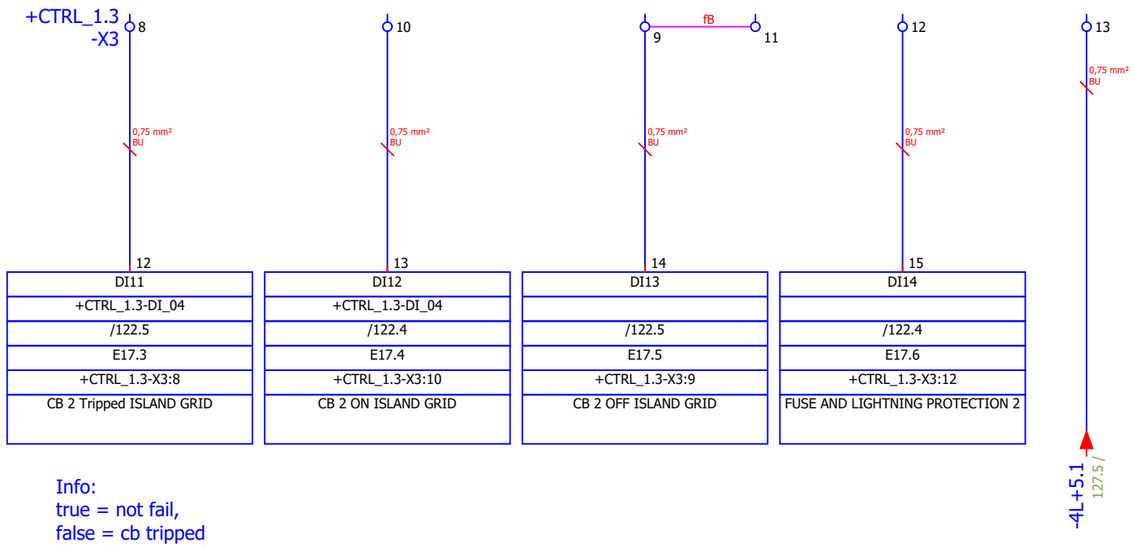
LIGHTNING PROTECTION in Control Cabinet OPTIONAL

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Editor	Freqcon_JD			Statron		DIGITAL INPUTS CB 1	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date								+	

0	1	2	3	4	5	6	7	8	9



Info:
true = not fail,
false = cb tripped
CB = Circuit Breaker

CB 2 Tripped ISLAND GRID

CB 2 ON ISLAND GRID

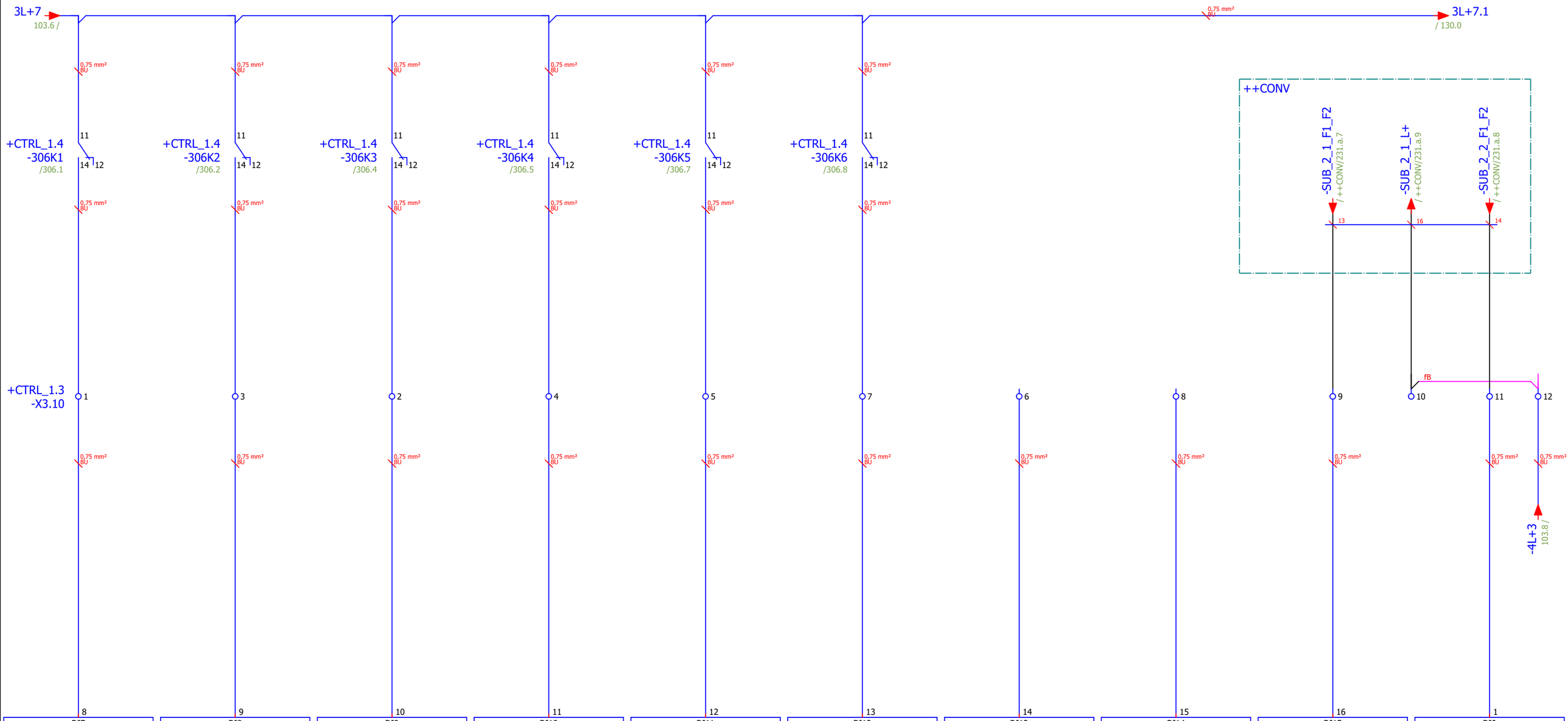
CB 2 OFF ISLAND GRID

FUSE AND LIGHTNING PROTECTION 2

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Editor	Freqcon_JD			Statron		DIGITAL INPUTS CB 2	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 128
Date								+		total: 498



Feedback of DC Contactors

SUBSYSTEM 2_1_DC + Contactor K1 is on

SUBSYSTEM 2_1_DC - Contactor K7 is on

SUBSYSTEM 2_2_DC + Contactor K2 is on

SUBSYSTEM 2_2_DC - Contactor K8 is on

SUBSYSTEM 2_3_DC + Contactor K3 is on

SUBSYSTEM 2_3_DC - Contactor K9 is on

SUBSYSTEM 2_3_DC + SPARE

SUBSYSTEM 2_DC - SPARE

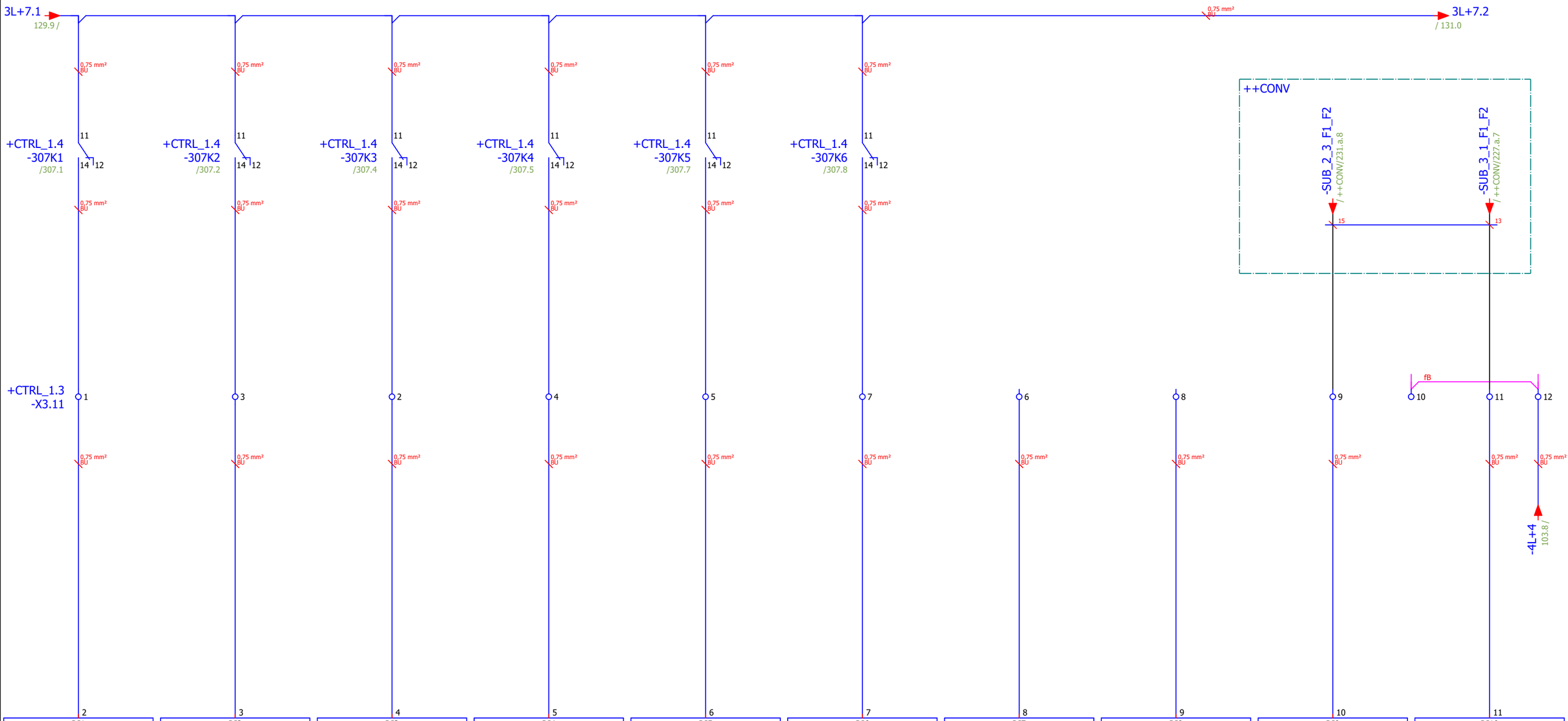
SUBSYSTEM 2_1_DC FUSE OK

SUBSYSTEM 2_2_DC FUSE OK

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Editor	Freqcon_JD			Statron	FREQCON	DIGITAL INPUTS SUBSYSTEM 2_1 / 2_2	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 129
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2	3	4	5	6	7	8	9	10	11
DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	DI9	DI10
+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03
/121.5	/121.4	/121.5	/121.4	/121.5	/121.4	/121.5	/121.4	/121.5	/121.4
E14.1	E14.2	E14.3	E14.4	E14.5	E14.6	E14.7	E15.0	E15.1	E15.2
+CTRL_1.4-307K1:14	+CTRL_1.4-307K2:14	+CTRL_1.4-307K3:14	+CTRL_1.4-307K4:14	+CTRL_1.4-307K5:14	+CTRL_1.4-307K6:14	+CTRL_1.3-X3.11:6	+CTRL_1.3-X3.11:8	++CONV+CIR-231U1-F9:2	++CONV+CIR-227U1-F1:2
SUBSYSTEM 3_1_DC + Contactor K1 is on	SUBSYSTEM 3_1_DC -Contactor K7 is on	SUBSYSTEM 3_2_DC + Contactor K2 is on	SUBSYSTEM 3_2_DC -Contactor K8 is on	SUBSYSTEM 3_3_DC + Contactor K3 is on	SUBSYSTEM 3_3_DC -Contactor K9 is on	SUBSYSTEM 3_DC + SPARE	SUBSYSTEM 3_DC -SPARE	SUBSYSTEM 2_DC FUSE OK	SUBSYSTEM 3_1_DC FUSE OK

Feedback of DC Contactors

SUBSYSTEM 3_1_DC + Contactor K1 is on

SUBSYSTEM 3_1_DC - Contactor K7 is on

SUBSYSTEM 3_2_DC + Contactor K2 is on

SUBSYSTEM 3_2_DC - Contactor K8 is on

SUBSYSTEM 3_3_DC + Contactor K3 is on

SUBSYSTEM 3_3_DC - Contactor K9 is on

SUBSYSTEM 3_DC + SPARE

SUBSYSTEM 3_DC - SPARE

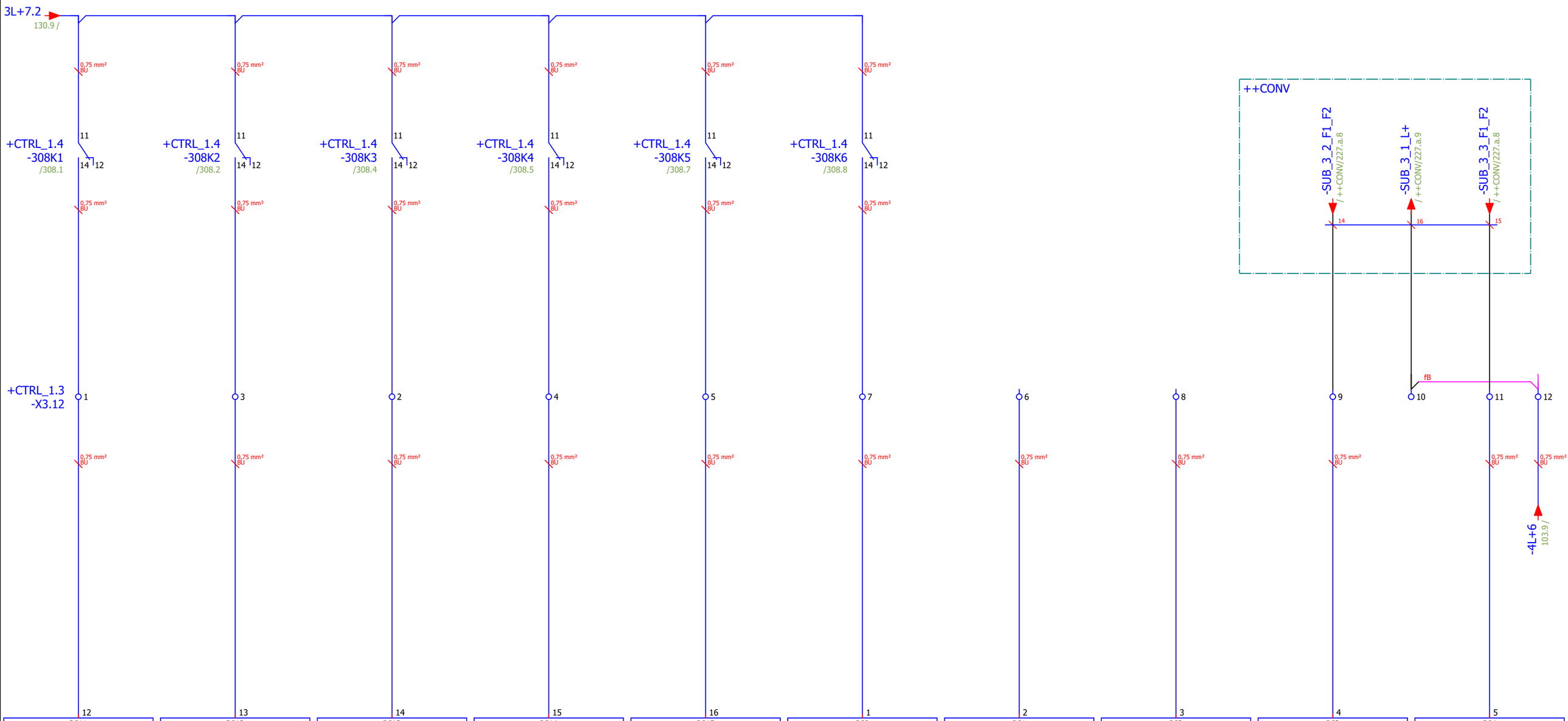
SUBSYSTEM 2_DC FUSE OK

SUBSYSTEM 3_1_DC FUSE OK

previous page: 129

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Editor	Freqcon_JD			Statron	FREQCON	DIGITAL INPUTS SUBSYSTEM 2_3 / 3_1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 130
Date								+ total: 498



DI11	DI12	DI13	DI14	DI15	DI0	DI1	DI2	DI3	DI4
+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_03	+CTRL_1.3-DI_05	+CTRL_1.3-DI_05	+CTRL_1.3-DI_05	+CTRL_1.3-DI_05	+CTRL_1.3-DI_05
/121.5	/121.4	/121.5	/121.4	/121.5	/122.4	/122.5	/122.4	/122.5	/122.4
E15.3	E15.4	E15.5	E15.6	E15.7	E18.0	E18.1	E18.2	E18.3	E18.4
+CTRL_1.4-308K1:14	+CTRL_1.4-308K2:14	+CTRL_1.4-308K3:14	+CTRL_1.4-308K4:14	+CTRL_1.4-308K5:14	+CTRL_1.4-308K6:14	+CTRL_1.3-X3.12:6	+CTRL_1.3-X3.12:8	++CONV+CIR-227U1-F5:2	++CONV+CIR-227U1-F9:2
SUBSYSTEM 4_1_DC + Contactor K1 is on	SUBSYSTEM 4_1_DC -Contactor K7 is on	SUBSYSTEM 4_2_DC + Contactor K2 is on	SUBSYSTEM 4_2_DC -Contactor K8 is on	SUBSYSTEM 4_3_DC + Contactor K3 is on	SUBSYSTEM 4_3_DC -Contactor K9 is on	SUBSYSTEM 4_DC + SPARE	SUBSYSTEM 4_DC -SPARE	SUBSYSTEM 3_2_DC FUSE OK	SUBSYSTEM 3_3_DC FUSE OK

Feedback of DC Contactors

SUBSYSTEM 4_1_DC + Contactor K1 is on

SUBSYSTEM 4_1_DC - Contactor K7 is on

SUBSYSTEM 4_2_DC + Contactor K2 is on

SUBSYSTEM 4_2_DC - Contactor K8 is on

SUBSYSTEM 4_3_DC + Contactor K3 is on

SUBSYSTEM 4_3_DC - Contactor K9 is on

SUBSYSTEM 4_DC + SPARE

SUBSYSTEM 4_DC - SPARE

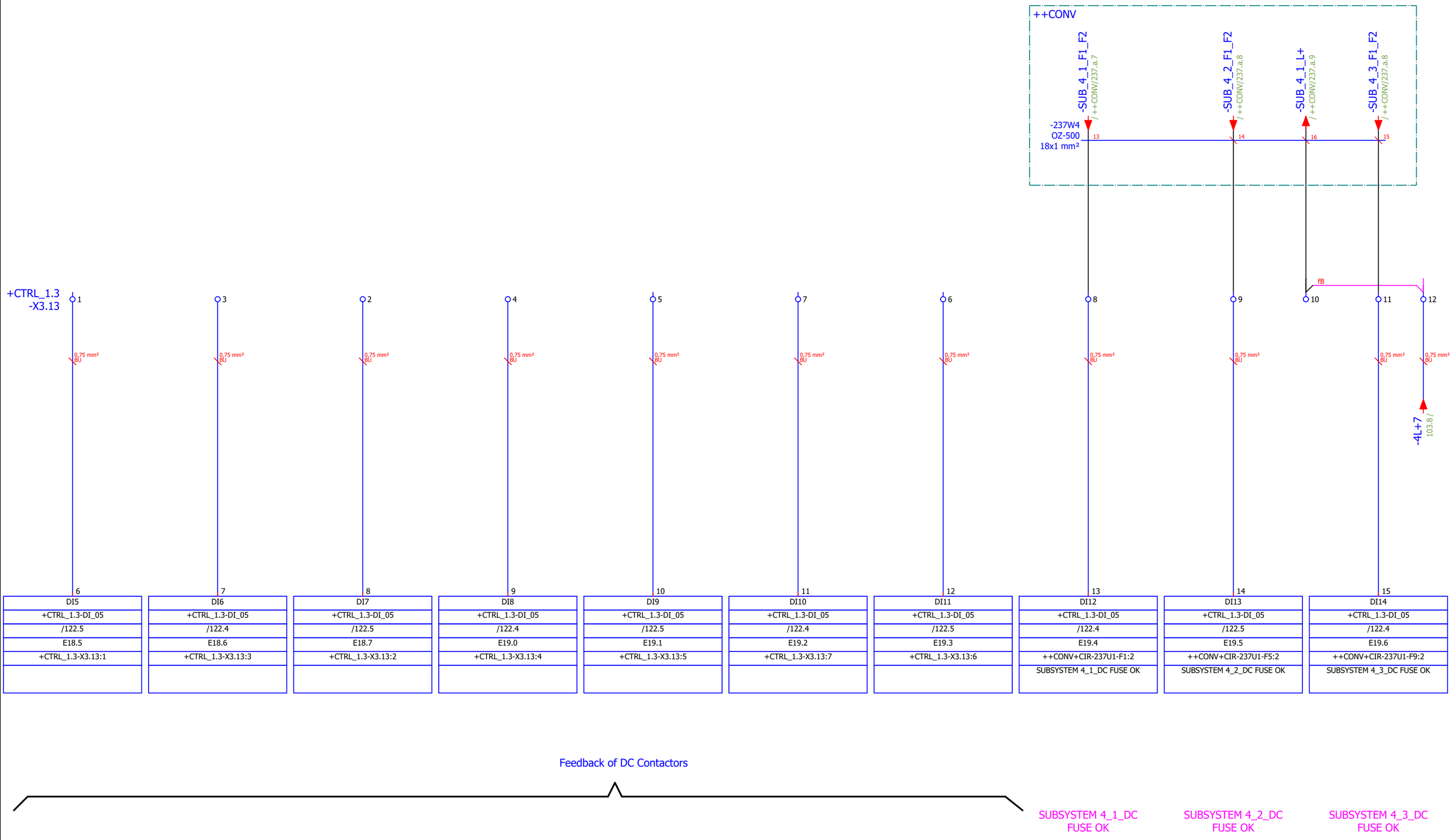
SUBSYSTEM 3_2_DC FUSE OK

SUBSYSTEM 3_3_DC FUSE OK

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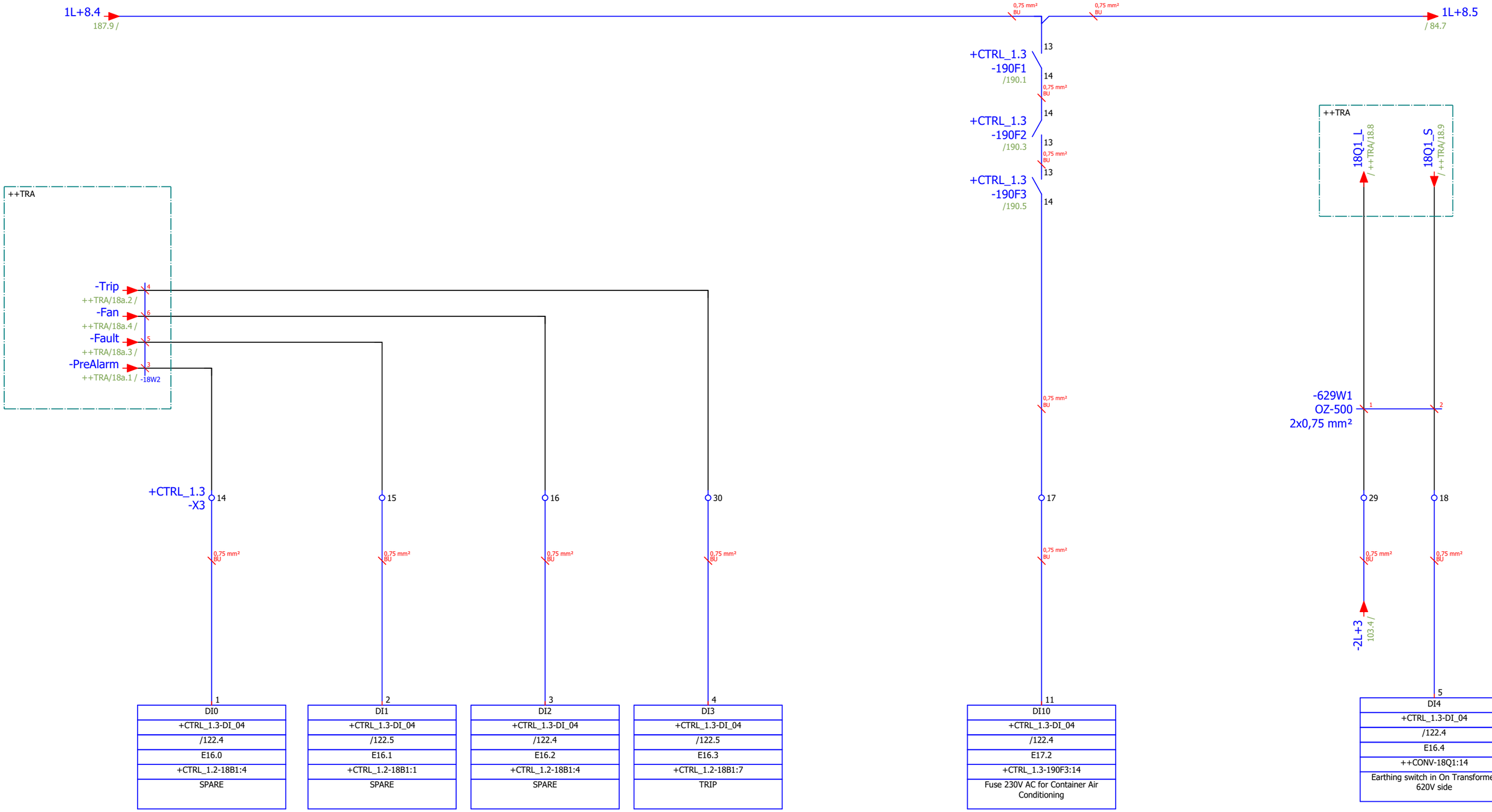
Editor	Freqcon_DG			Statron	FREQCON	DIGITAL INPUTS SUBSYSTEM 3_3 / 4_1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	29.07.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 131
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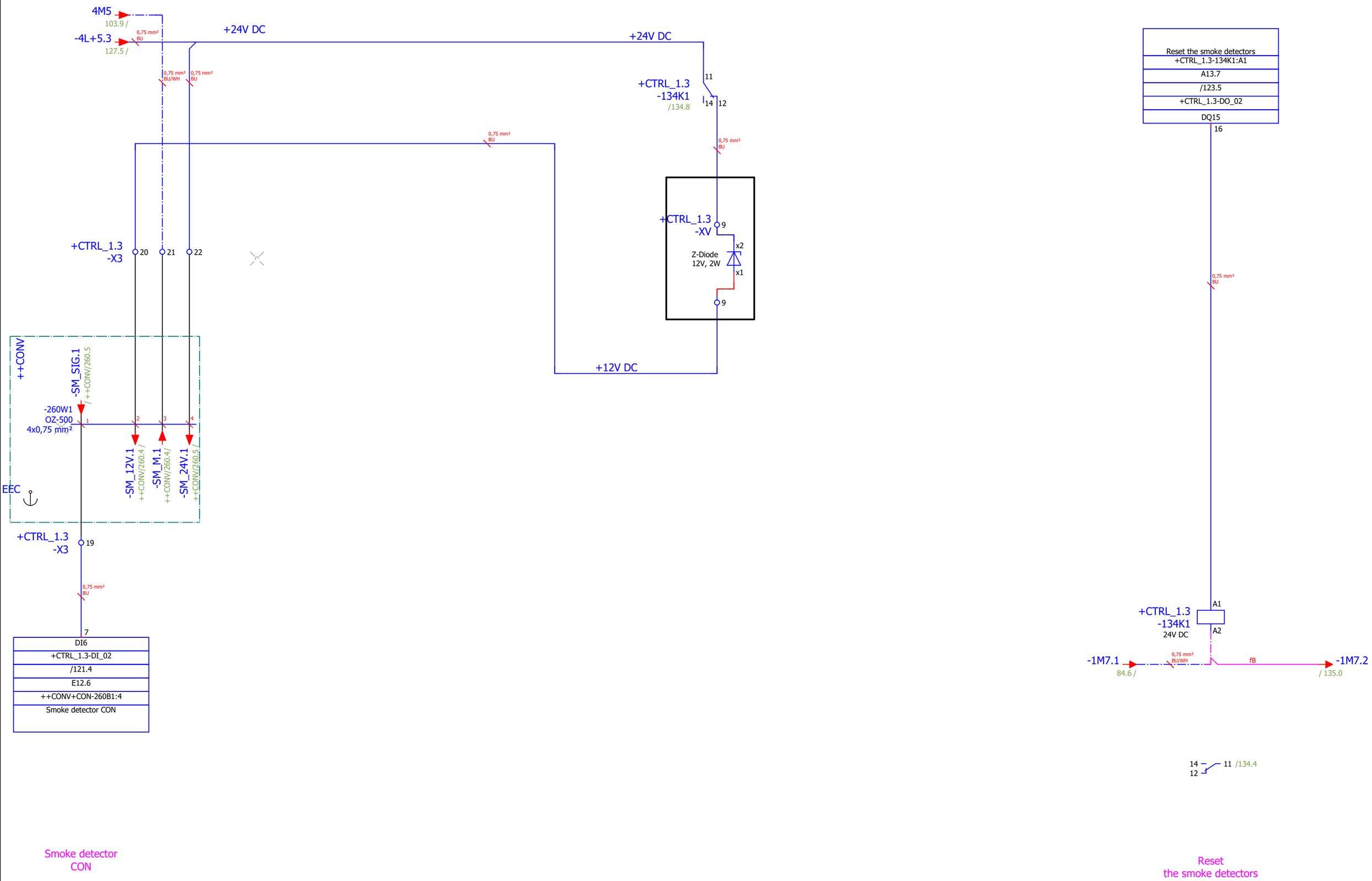
Editor	Freqcon_DG			Statron	FREQCON	DIGITAL INPUTS SUBSYSTEM 4_2 / 4_3	20241105_V1.2	= UNIT_01	Converter Container 1
Date	29.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 132
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Editor	Freqcon_DG			Statron	FREQCON	DIGITAL INPUTS SPARE	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	05.11.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 133
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Smoke detector
CON

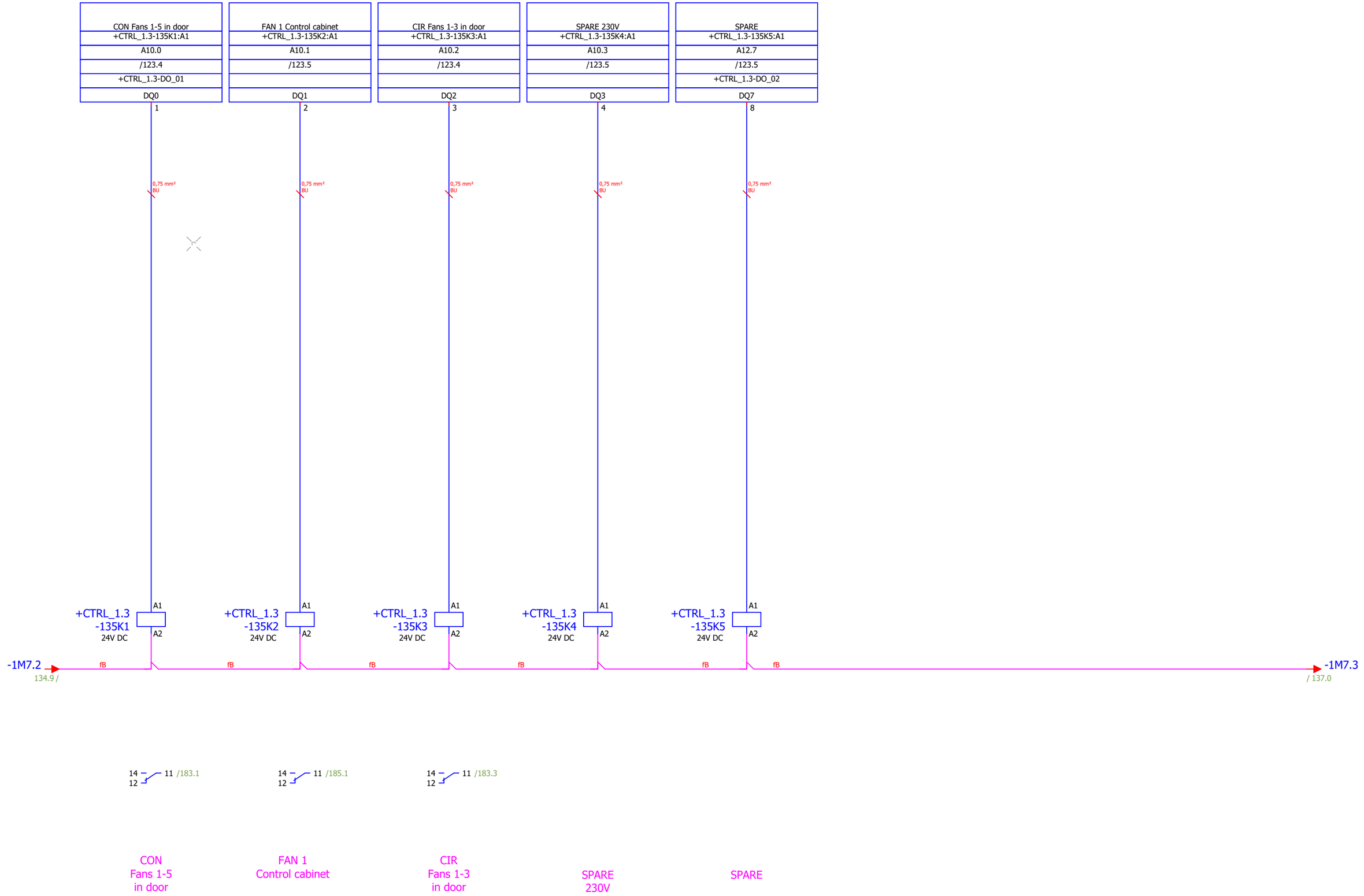
Reset
the smoke detectors

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Editor	Freqcon_JD			Statron	FREQCON	DIGITAL INPUTS SMOKE DETECTORS	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date								+	

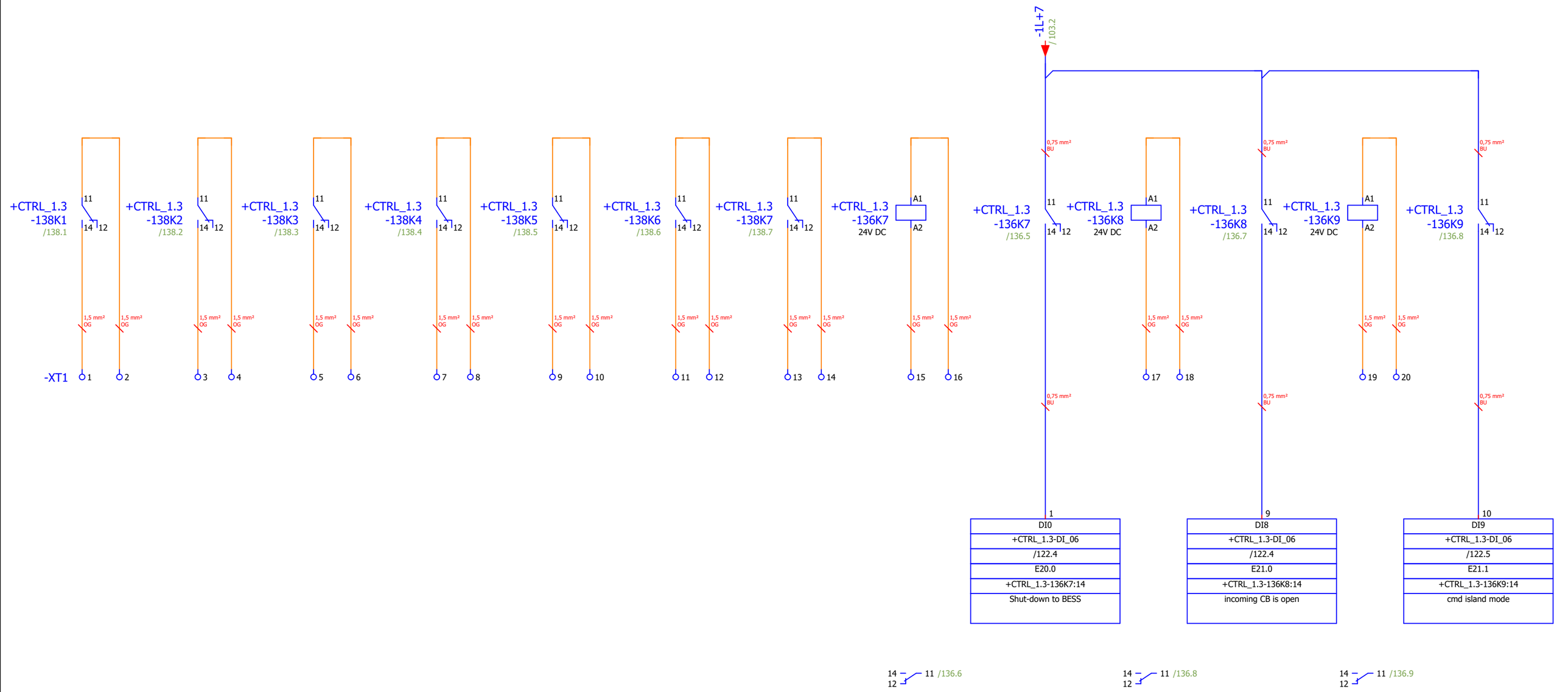
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total: 498



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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS FAN	20241105_V1.2	= UNIT_01	Converter Container 1
Date	19.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 135
Date								+	total: 498

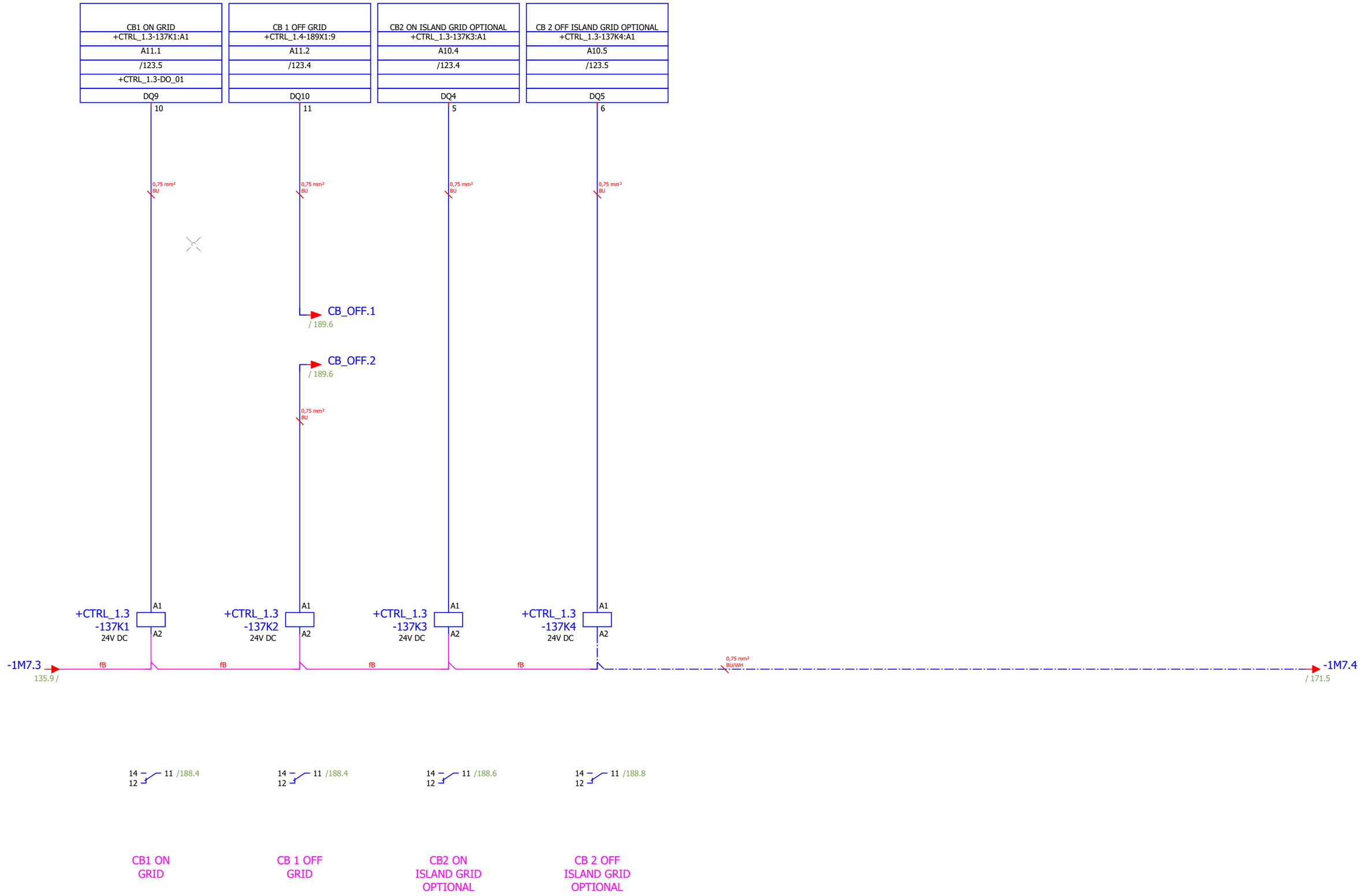


Gas confirmed FGS | Smoke confirmed FGS | PLC fault status SIS | Thermal runaway SIS | Spare | Spare | phase in sync | Shut-down to BESS | Shut-down to BESS | incoming CB is openincoming CB is open | cmd island mode | cmd island mode

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Editor	Freqcon_DG			Statron	FREQCON	OUTPUTS COMMUNICATION	20241105_V1.2	= UNIT_01 Converter Container 1
Date	12.09.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 136
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0	1	2	3	4	5	6	7	8	9



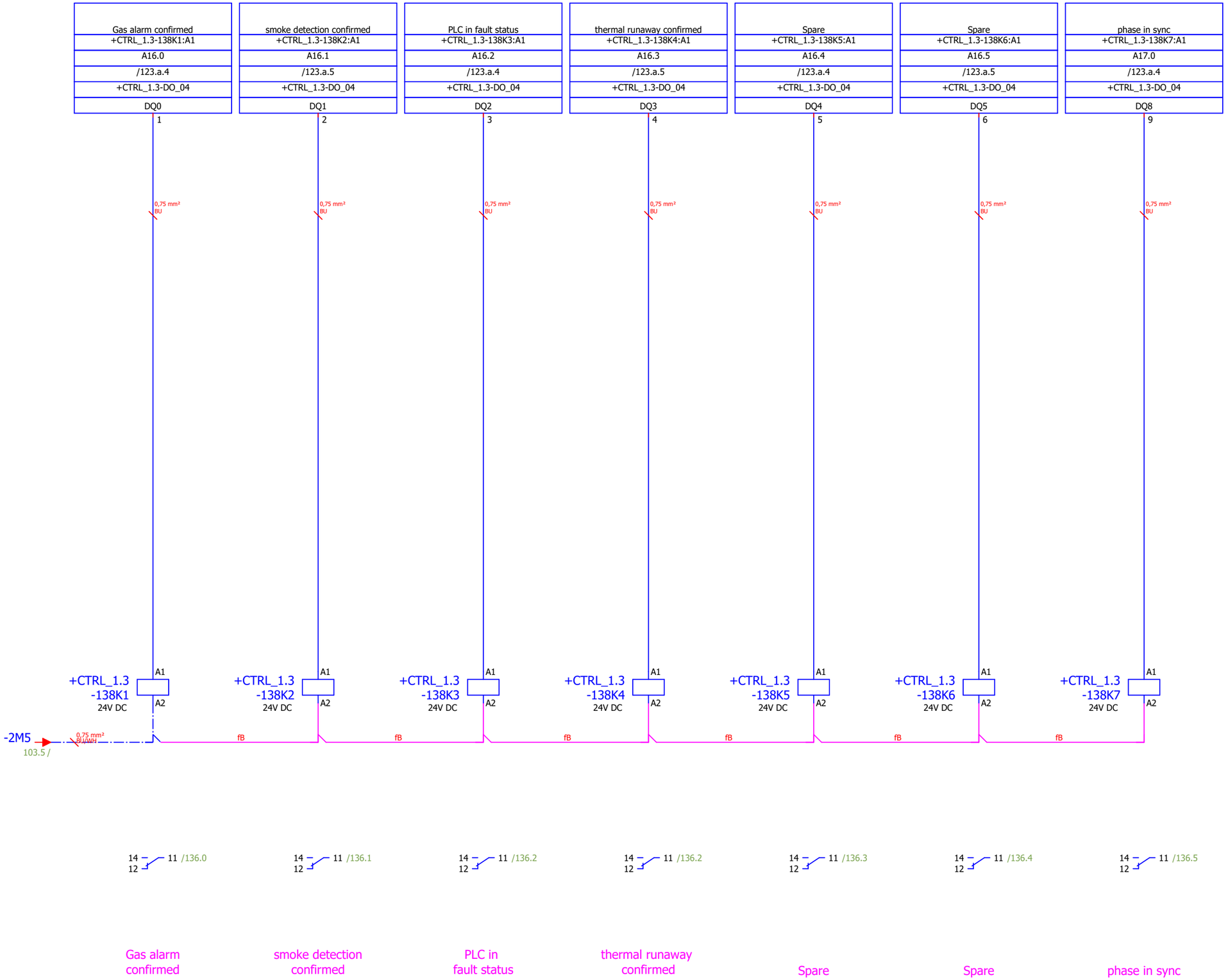
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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS CIRCUIT BREAKER	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date								+	

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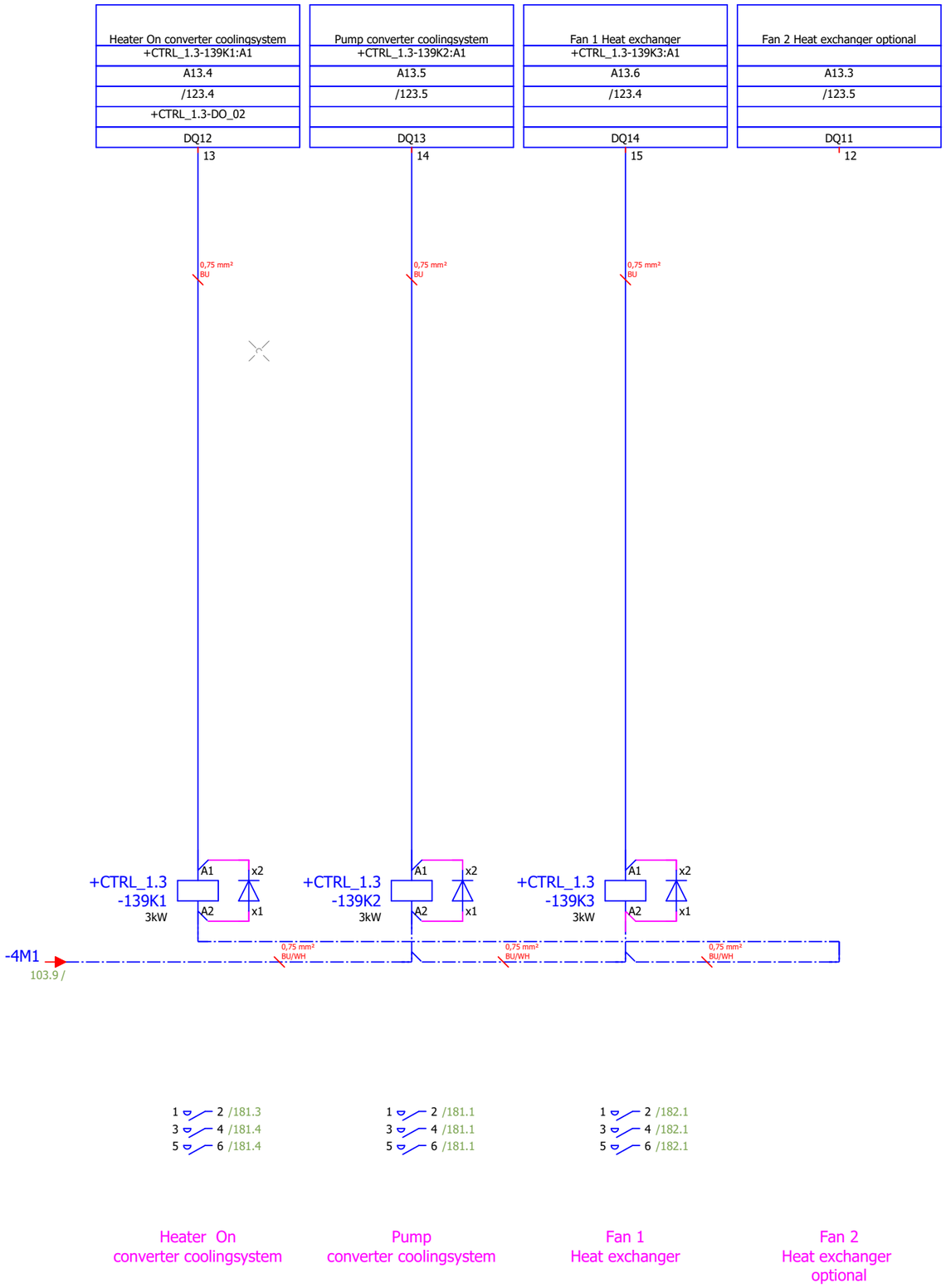
total: 498



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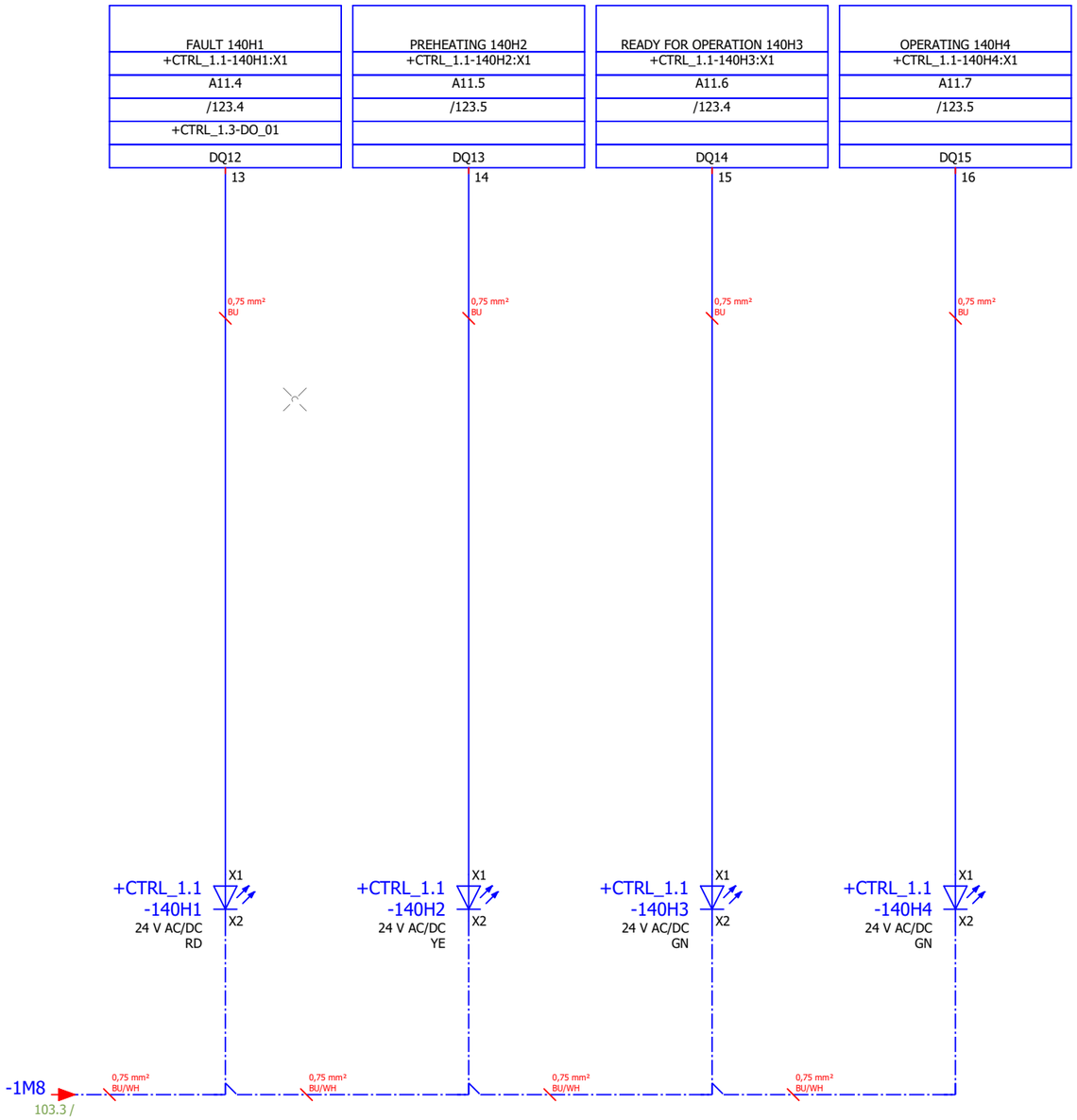
Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS CONTROL ELEMENTS	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	03.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 138
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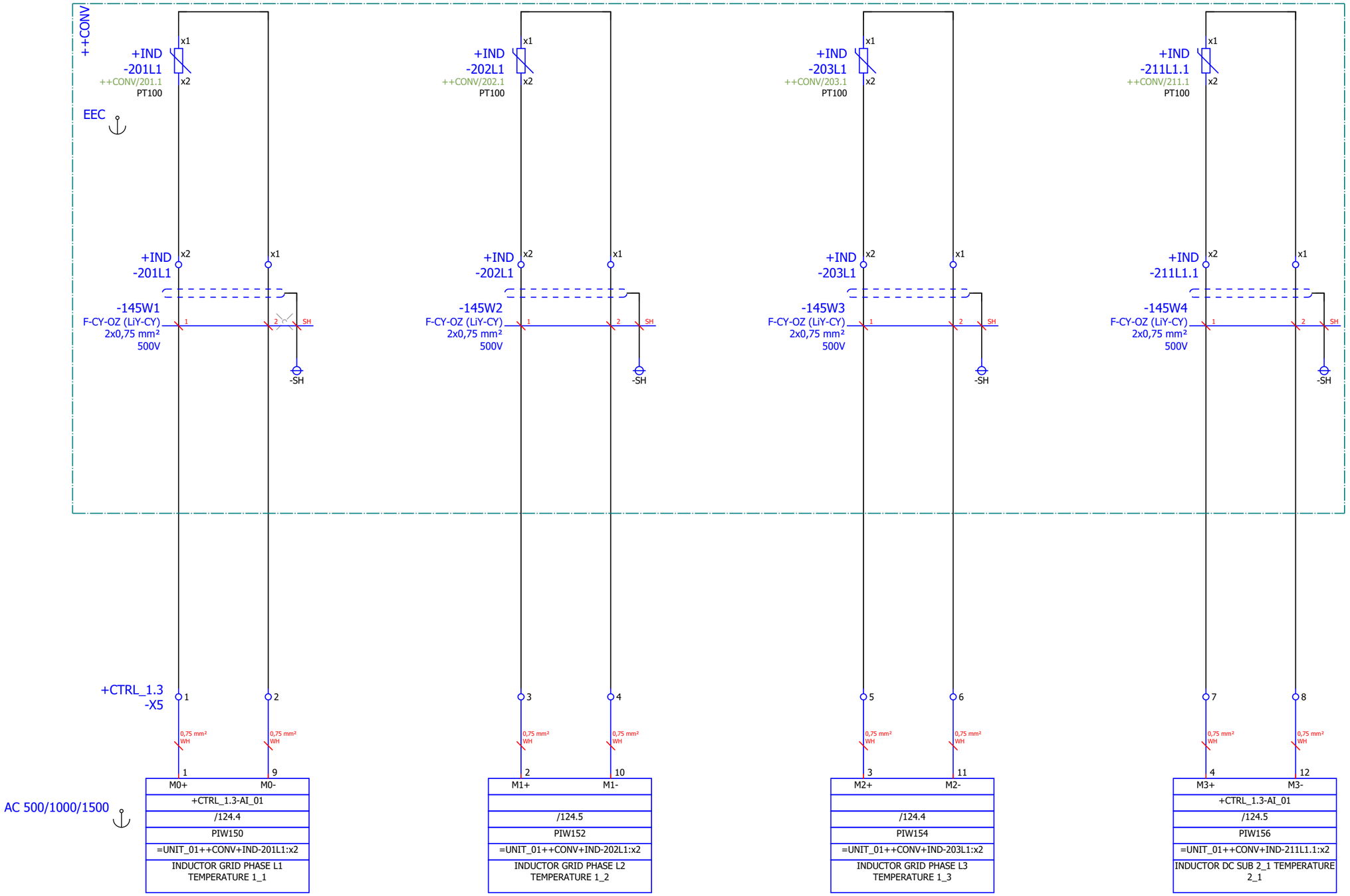
Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS COOLING	20241105_V1.2	= UNIT_01	Converter Container 1
Date	14.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 139
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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS CONTROL ELEMENTS	20241105_V1.2	= UNIT_01 Converter Container 1
Date	14.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 140
Date								+ total: 498



INDUCTOR GRID PHASE L1 TEMPERATURE 1_1

INDUCTOR GRID PHASE L2 TEMPERATURE 1_2

INDUCTOR GRID PHASE L3 TEMPERATURE 1_3

INDUCTOR DC SUB 2_1 TEMPERATURE 2_1

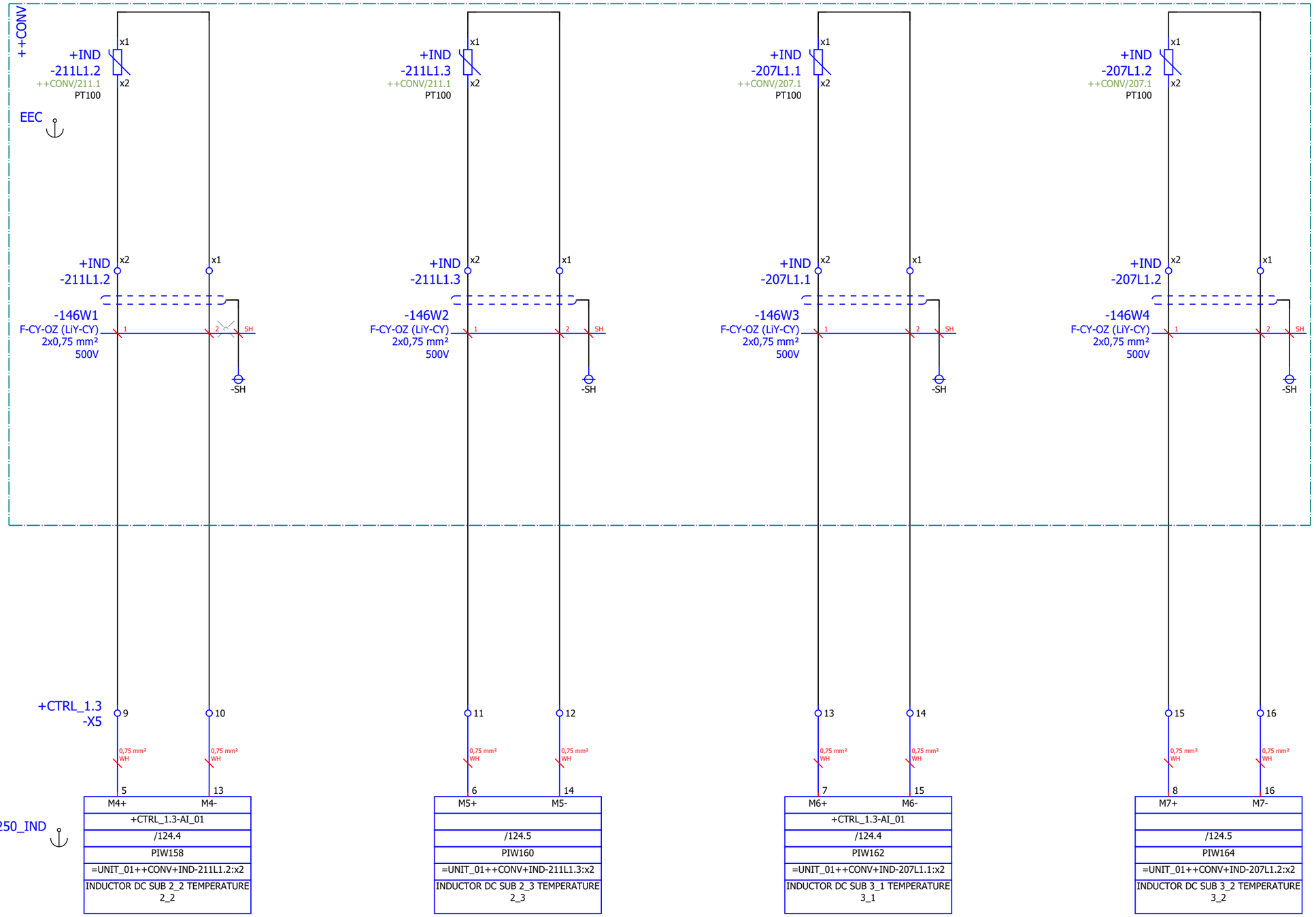
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Editor	Freqcon_JD			Statron	FREQCON	ANALOG INPUTS (TEMPERATURE SUBSYSTEM 1_1 -1_3)	20241105_V1.2	= UNIT_01	Converter Container 1
Date	14.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
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INDUCTOR
DC SUB 2_2
TEMPERATURE 2_2

INDUCTOR
DC SUB 2_3
TEMPERATURE 2_3

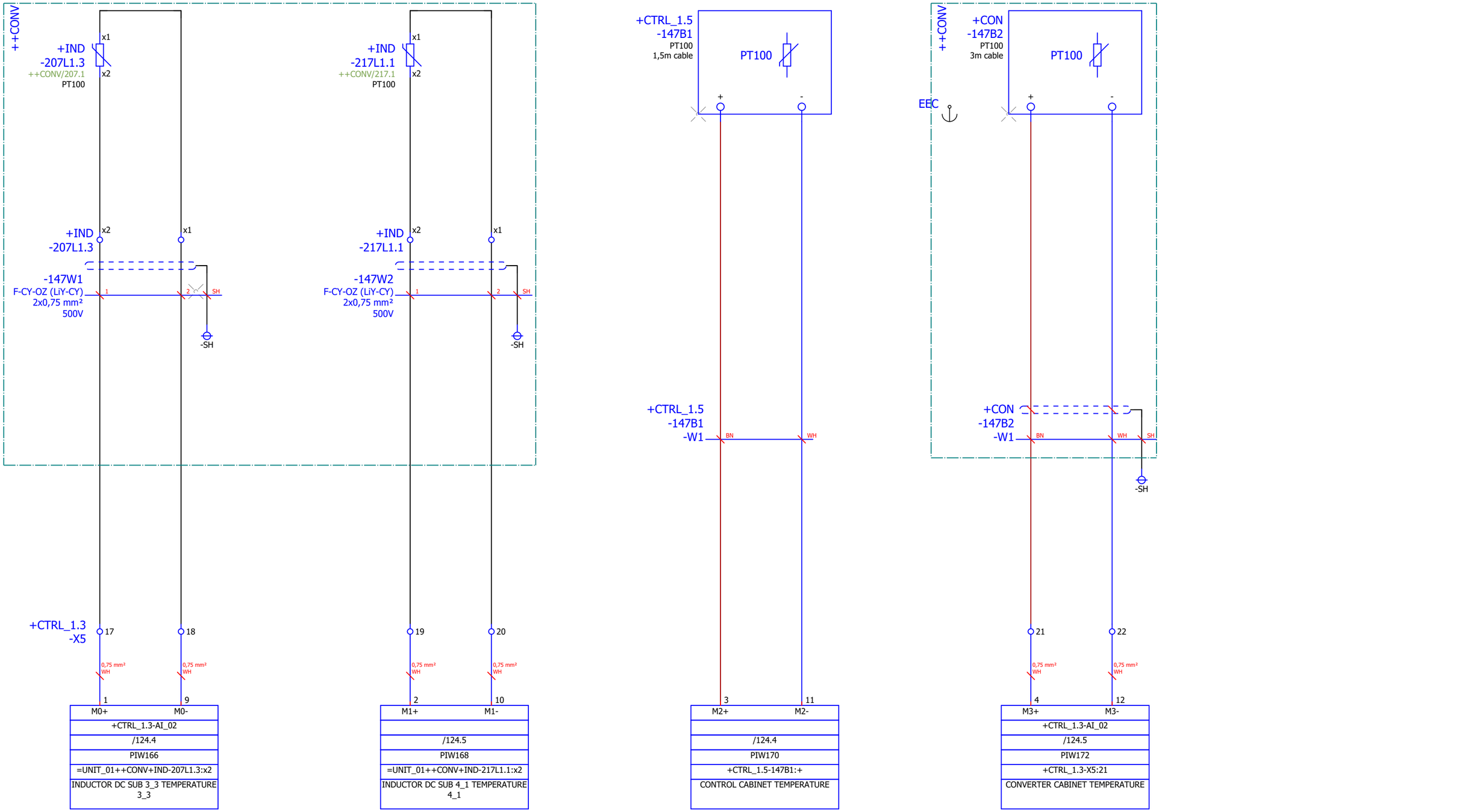
INDUCTOR
DC SUB 3_1
TEMPERATURE 3_1

INDUCTOR
DC SUB 3_2
TEMPERATURE 3_2

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Editor	Freqcon_JD			Statron	FREQCON	ANALOG INPUTS (TEMPERATURE SUBSYSTEM 1_4 -1_6)	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 146
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INDUCTOR DC SUB 3_3 TEMPERATURE 3_3

INDUCTOR DC SUB 4_1 TEMPERATURE 4_1

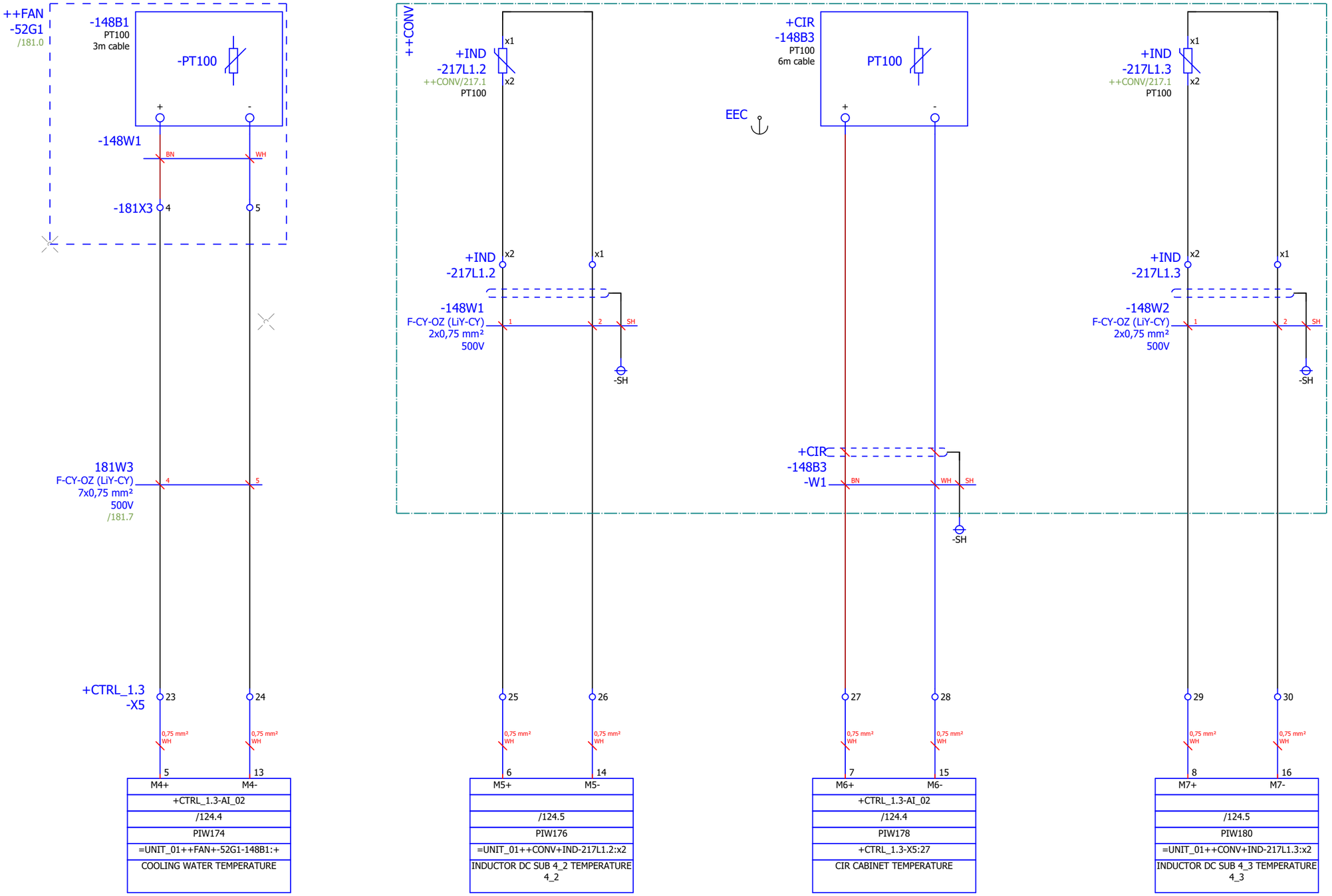
CONTROL CABINET TEMPERATURE

CONVERTER CABINET TEMPERATURE

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Editor	Freqcon_JD			Statron	FREQCON	ANALOG INPUTS CABINET TEMPERATURE	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 147
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COOLING WATER TEMPERATURE

INDUCTOR DC SUB 4_2 TEMPERATURE 4_2

CIR CABINET TEMPERATURE

INDUCTOR DC SUB 4_3 TEMPERATURE 4_3

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-1M11
103.3 /

+CTRL_1.3
-X5.1

fB

1 2

0,75 mm² BU/WH

0,75 mm² WH

1	5	2	6	3	7	4	8	1	5	2	6
U0+	U0-	U1+	U1-	U2+	U2-	U3+	U3-	U0+	U0-	U1+	U1-
+CTRL_1.3-AI_03				+CTRL_1.3-AI_03				+CTRL_1.3-AI_04		+CTRL_1.3-AI_04	
/124.4		/124.5		/124.4		/124.5		/125.4		/125.5	
PIW182		PIW184		PIW186		PIW188		PIW190		PIW192	
+CTRL_1.4-149U1:15		+CTRL_1.4-149U1:16		+CTRL_1.4-149U1:17		+CTRL_1.4-149U1:20		+CTRL_1.4-149U1:19		+CTRL_1.4-149U1:18	
DC_SUBSYSTEM 2_1.1 voltage		DC_SUBSYSTEM 2_2.1 voltage		DC_SUBSYSTEM 2_3.1 voltage		DC_SUBSYSTEM 3_1.1 voltage		DC_SUBSYSTEM 3_2.1 voltage		DC_SUBSYSTEM 3_3.1 voltage	

+CTRL_1.4
-149U1
PXC.2959609

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

Adapter Sub-D 25 Pin Buchse
Terminalblock 27 Pin

25-POL SUB-D SOCKET

11X3

-149W1
pre-assembled D-Sub cable 1:1
/162.7

HVIO_AN
/ 162.9

DC_SUBSYSTEM 2_1.1 voltage

DC_SUBSYSTEM 2_2.1 voltage

DC_SUBSYSTEM 2_3.1 voltage

DC_SUBSYSTEM 3_1.1 voltage

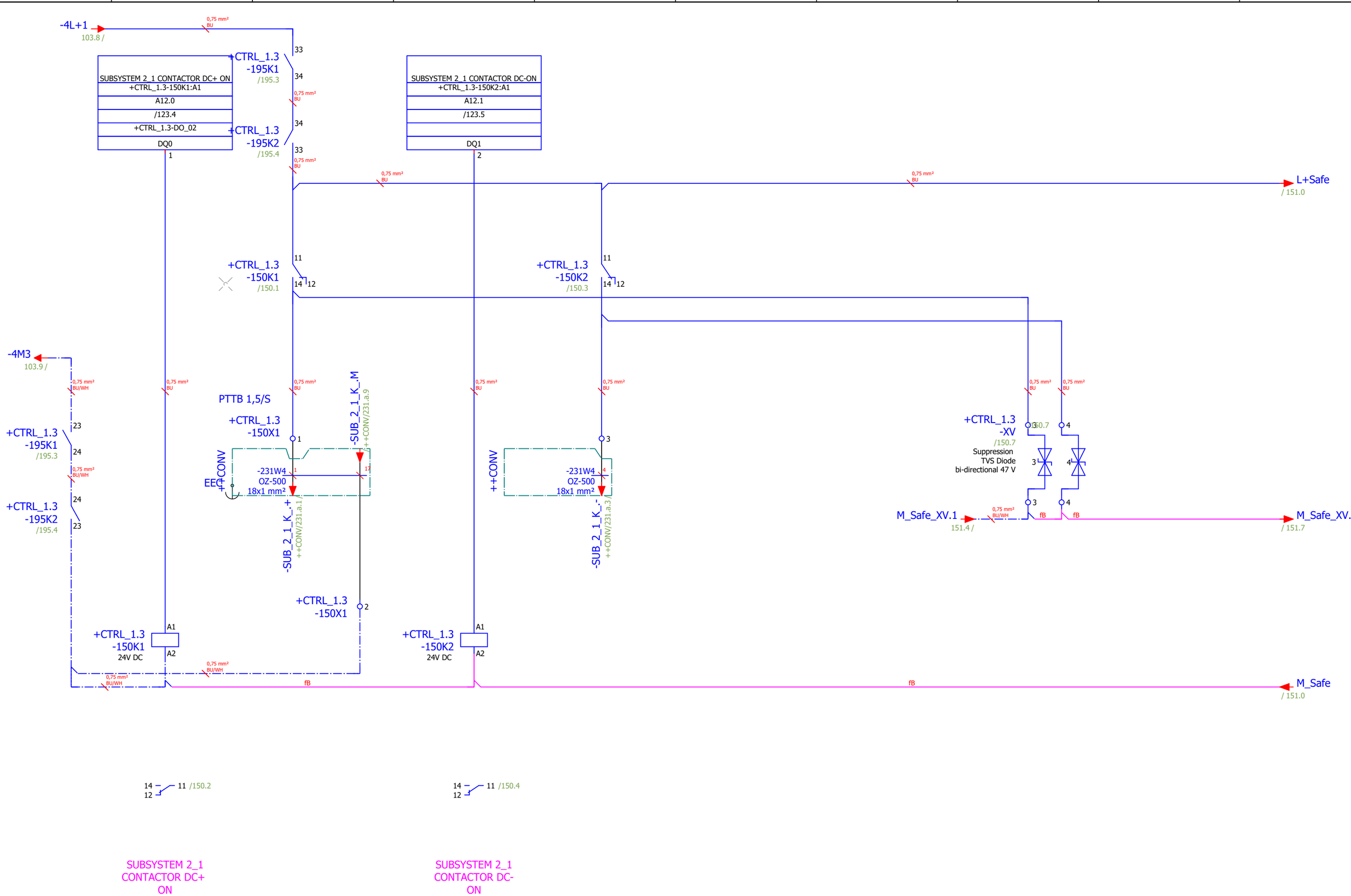
DC_SUBSYSTEM 3_2.1 voltage

DC_SUBSYSTEM 3_3.1 voltage

Voltage measurement

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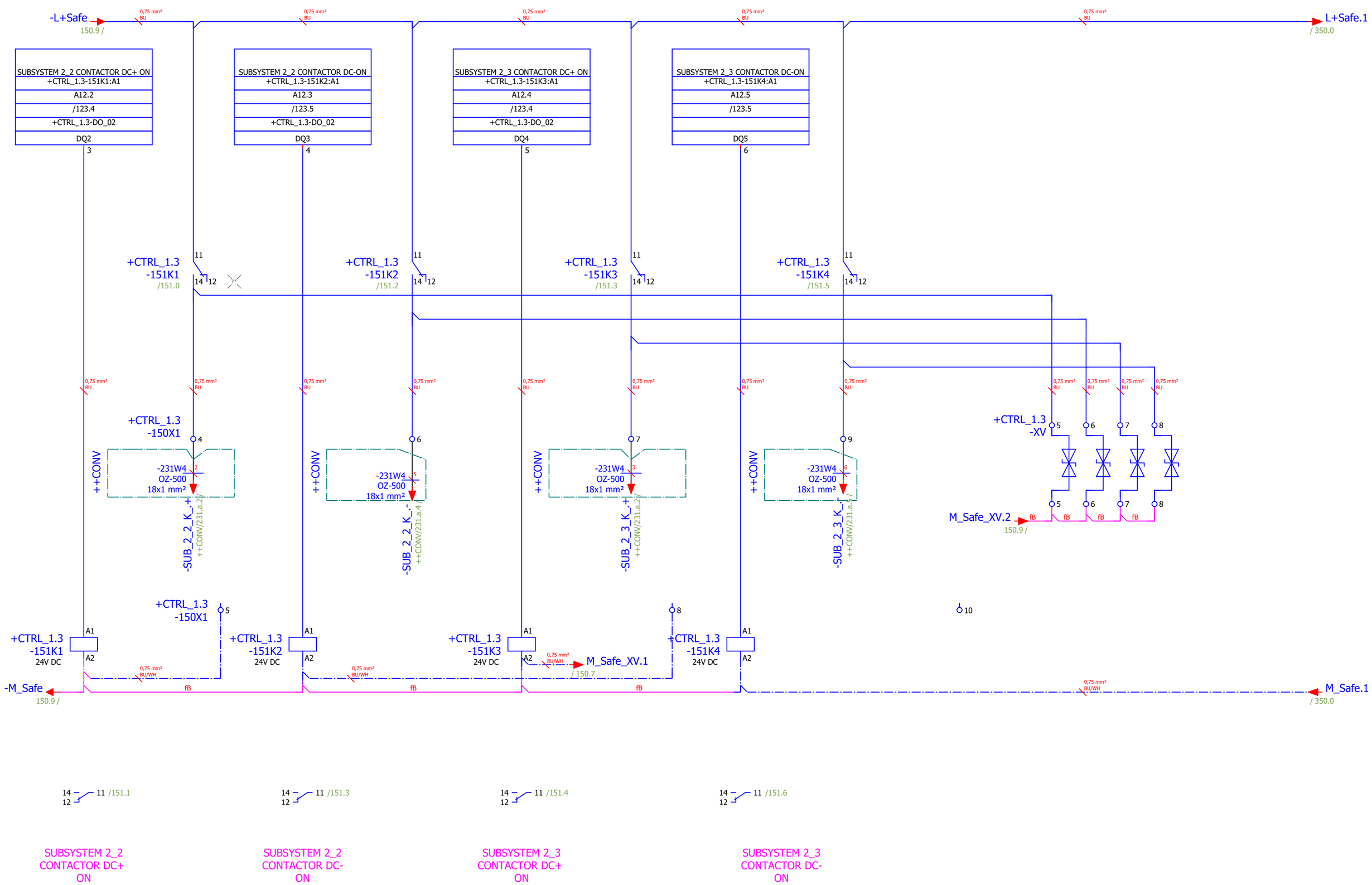
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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS DC CONTACTORS 2_1	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 150
Date								+	total: 498



14 12 11 /151.1

14 12 11 /151.3

14 12 11 /151.4

14 12 11 /151.6

SUBSYSTEM 2_2 CONTACTOR DC+ ON

SUBSYSTEM 2_2 CONTACTOR DC- ON

SUBSYSTEM 2_3 CONTACTOR DC+ ON

SUBSYSTEM 2_3 CONTACTOR DC- ON

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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS DC CONTACTORS 2_2, 2_3	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 151
Date								+	total: 498

0 1 2 3 4 5 6 7 8 9

* cable intro seperate UL protrctive tube

-UDC+_PreCharg
1,5 mm² BK
/ 173.3
-UDC-_PreCharg
1,5 mm² BK
/ 173.3

-UL3.HVIO / 189.4
-UL2.HVIO / 189.4
-UL1.HVIO / 189.4

-HVIO_1_N
173.3 /

-HVIO_2_N
/ 173.3

2,5 mm² LBU
2,5 mm² BK
2,5 mm² BK
2,5 mm² BK

+CTRL_2.1
-160U1
FRQ-M00029-1
HVIO 5.0
ISO
N-DC N-AC

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 (AC) UN 16 17 18 19 L3 20 21 22 23 L2 24 25 26 27 L1 28 29 30 31 32 UB 33 34 35 36 DC- 37 38 39 40 DC+ 41 42 44 (DC) UN

HIGH VOLTAGE I/O MODULE V5.0
FREQCON GmbH

25-POL SUB-D
SOCKET
11X3

+ -

-HVIO_1_L+
/ 161.1
-HVIO_1_L-
/ 161.1

-240W7
pre-assembled D-Sub cable 1:1
/440.8

-HVIO_1
/ 440.9

0,75 mm² BU
0,75 mm² BU/WH

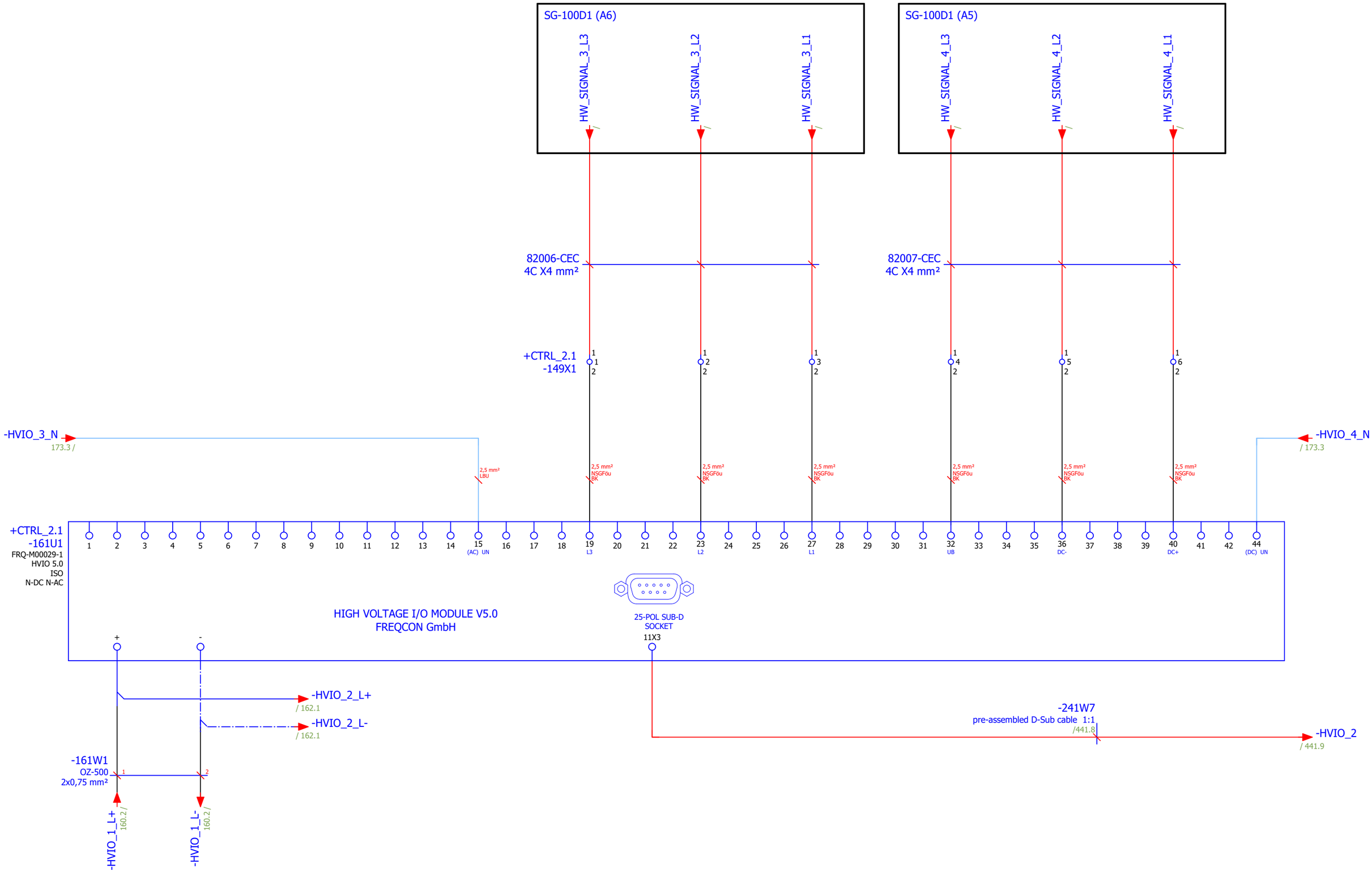
IEC
1L+2 103.2 /
1M10 103.3 /

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Measuring: Grid side voltage / DC-Link

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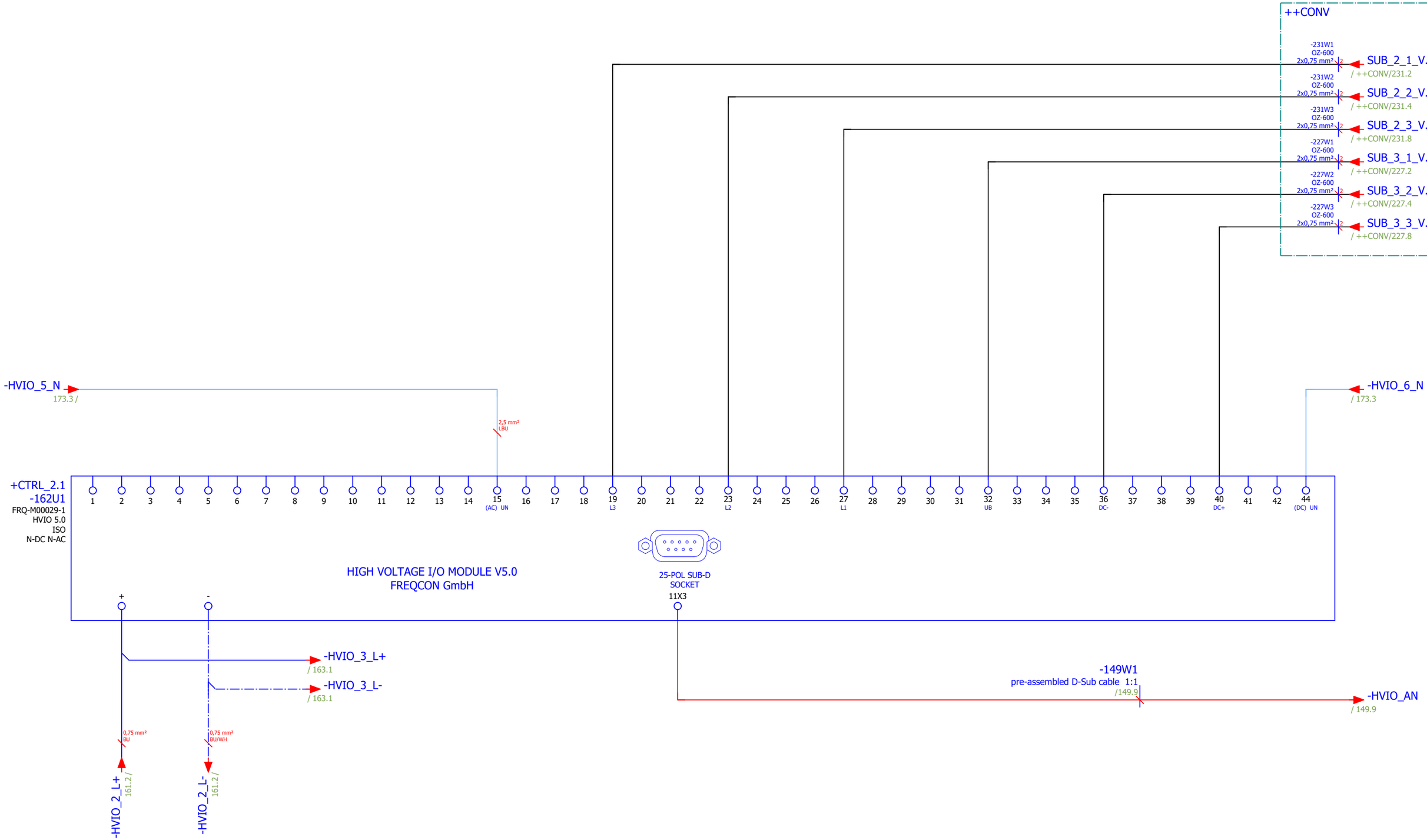
Editor	Freqcon_DG			Statron	FREQCON	INTERFACE HVIO 1	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	29.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 160
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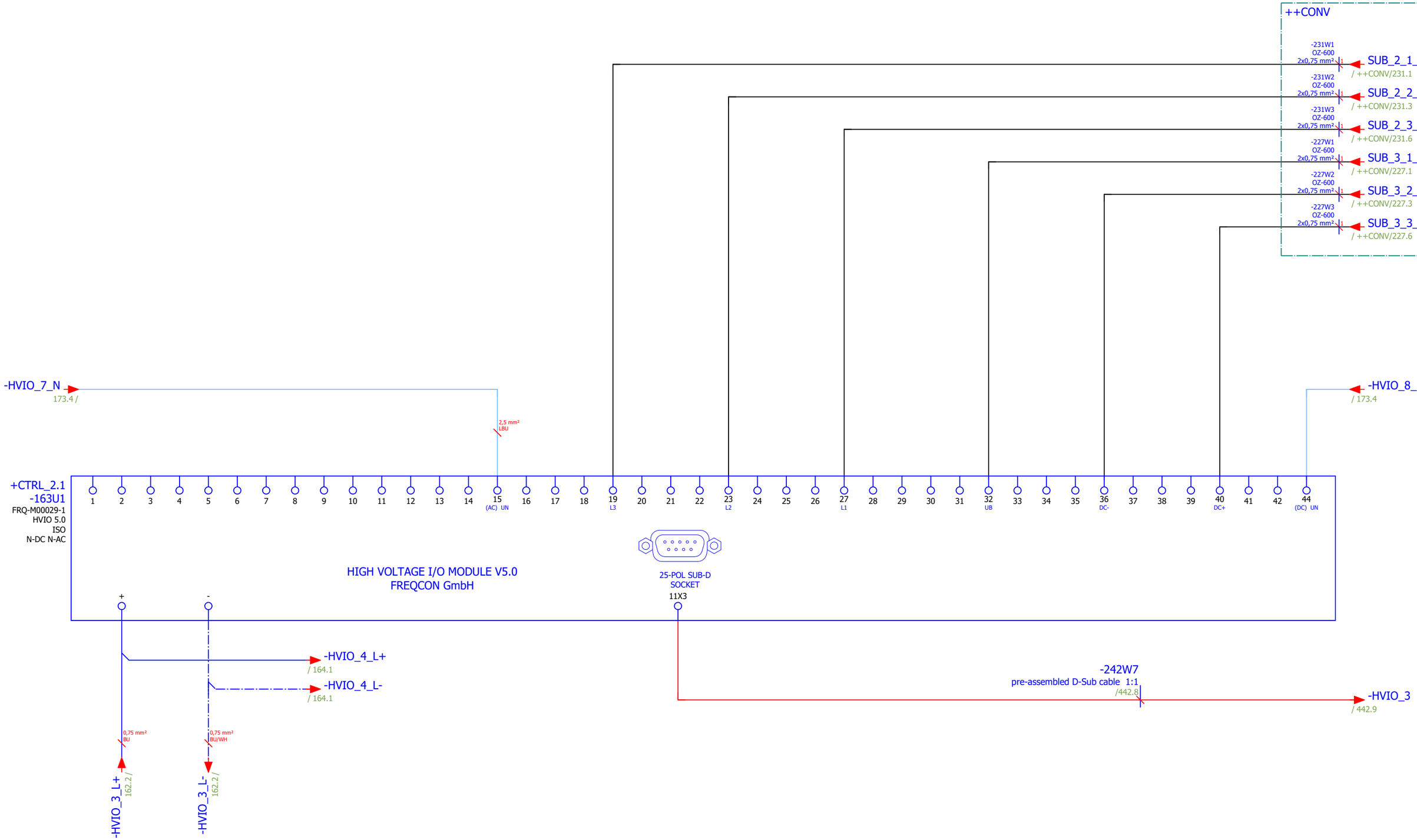
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Date	05.11.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 161
Date								+	total: 498



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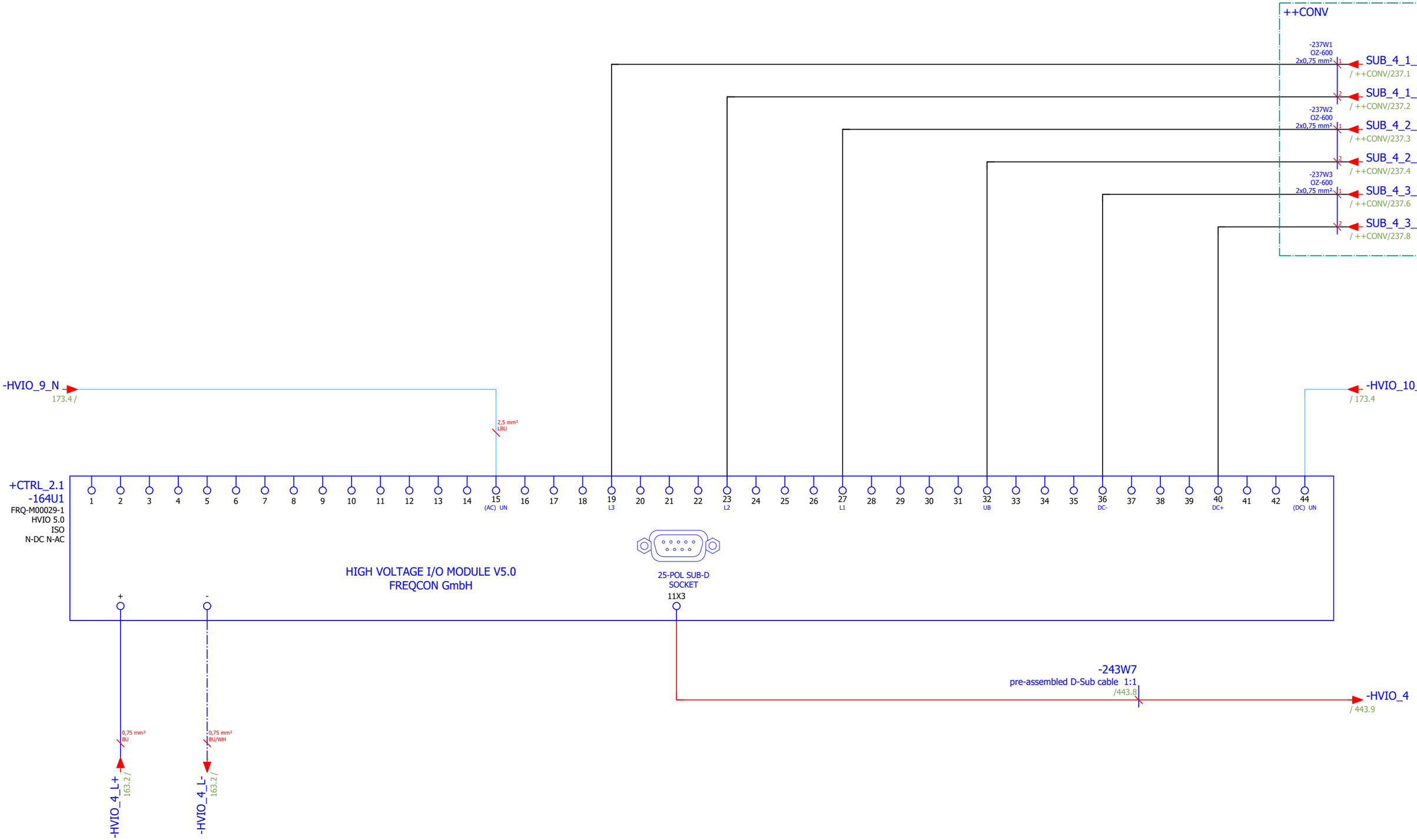
Editor	Freqcon_JD			Statron	FREQCON	INTERFACE HVIO 2 ANALOG	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 162
Date								+	total: 498



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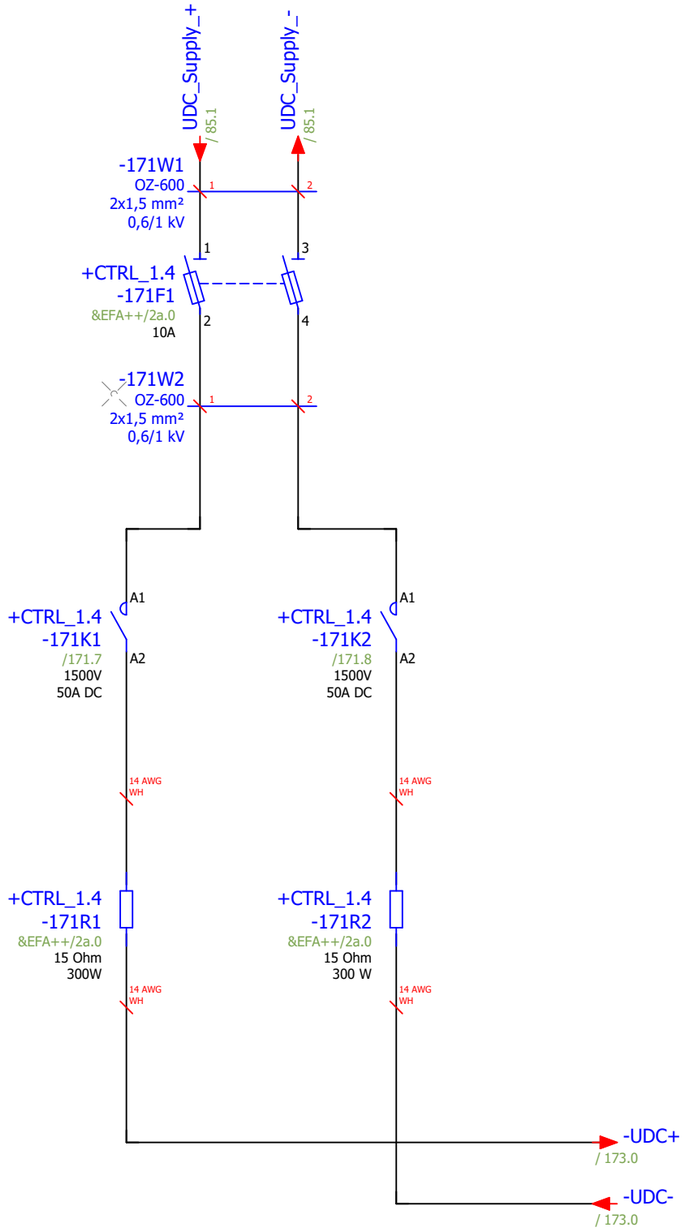
Editor	Freqcon_JD			Statron	FREQCON	INTERFACE HVIO 3	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 163
Date								+	total: 498



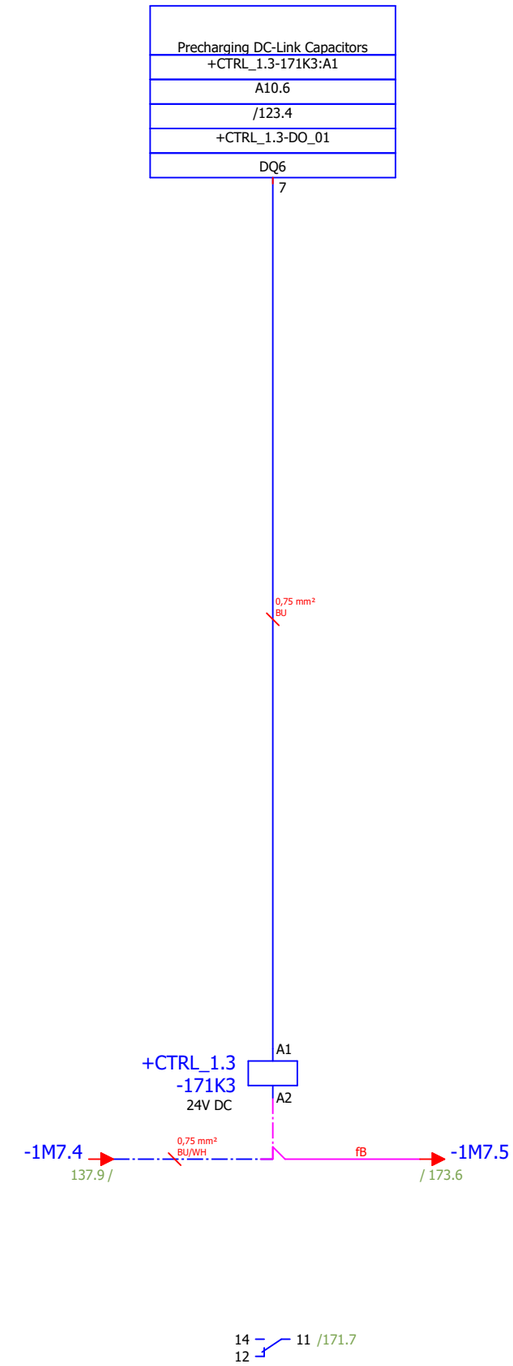
previous page:
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171

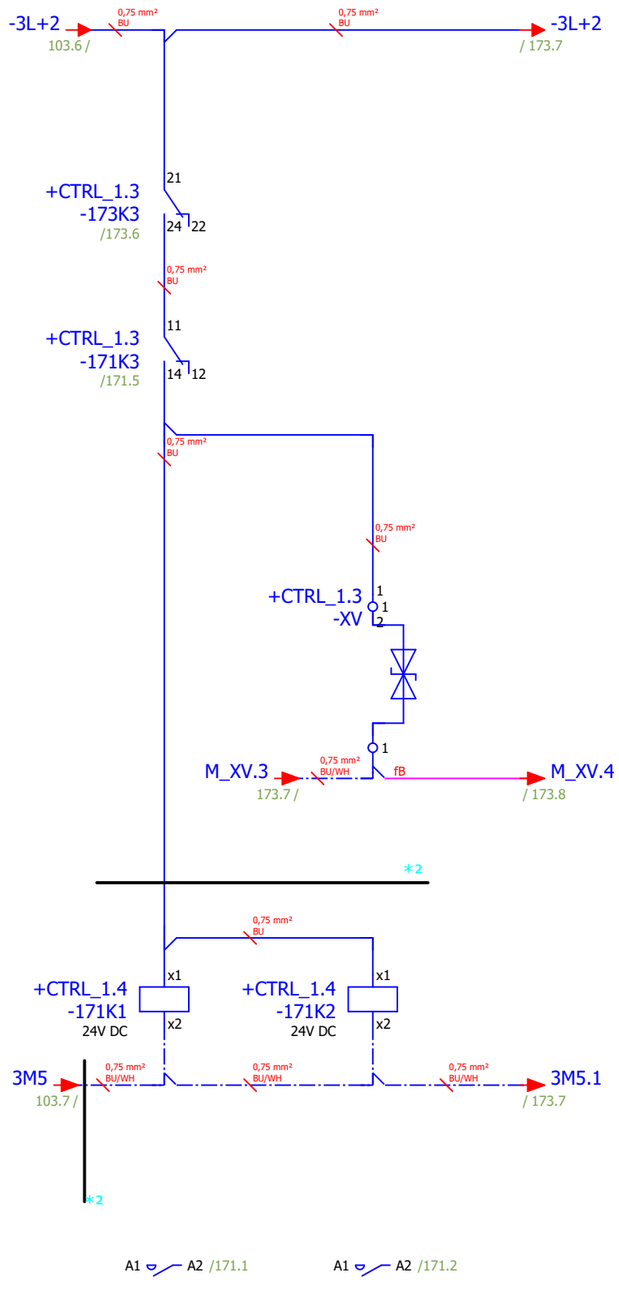
Editor	Freqcon_JD			Statron	FREQCON	INTERFACE HVIO 4	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 164
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RESISTORS
FOR PRECHARGING
from Grid or Battery or DC-Link



Precharging
DC-Link Capacitors

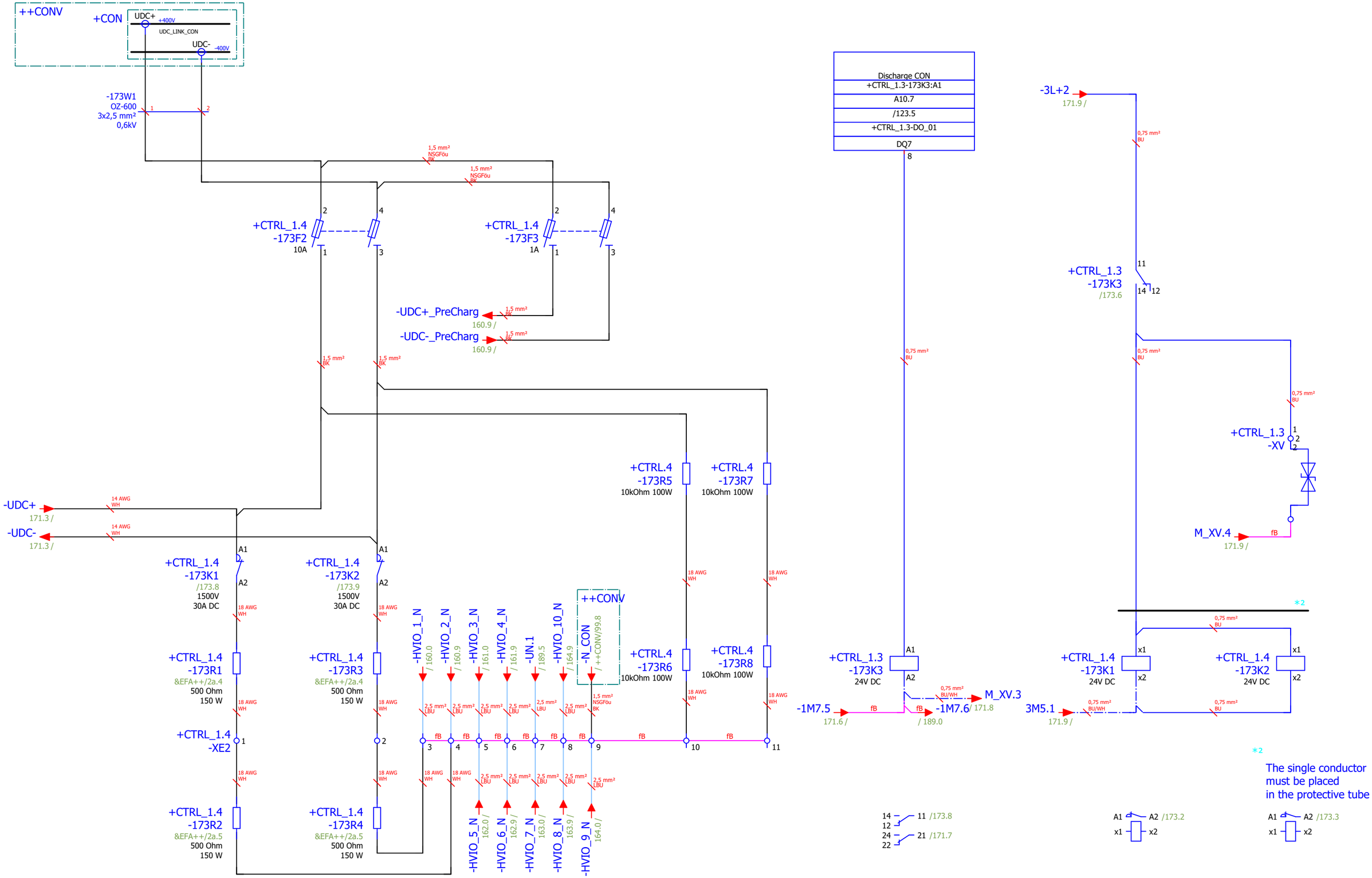


*2 The single conductor must be placed in the protective tube

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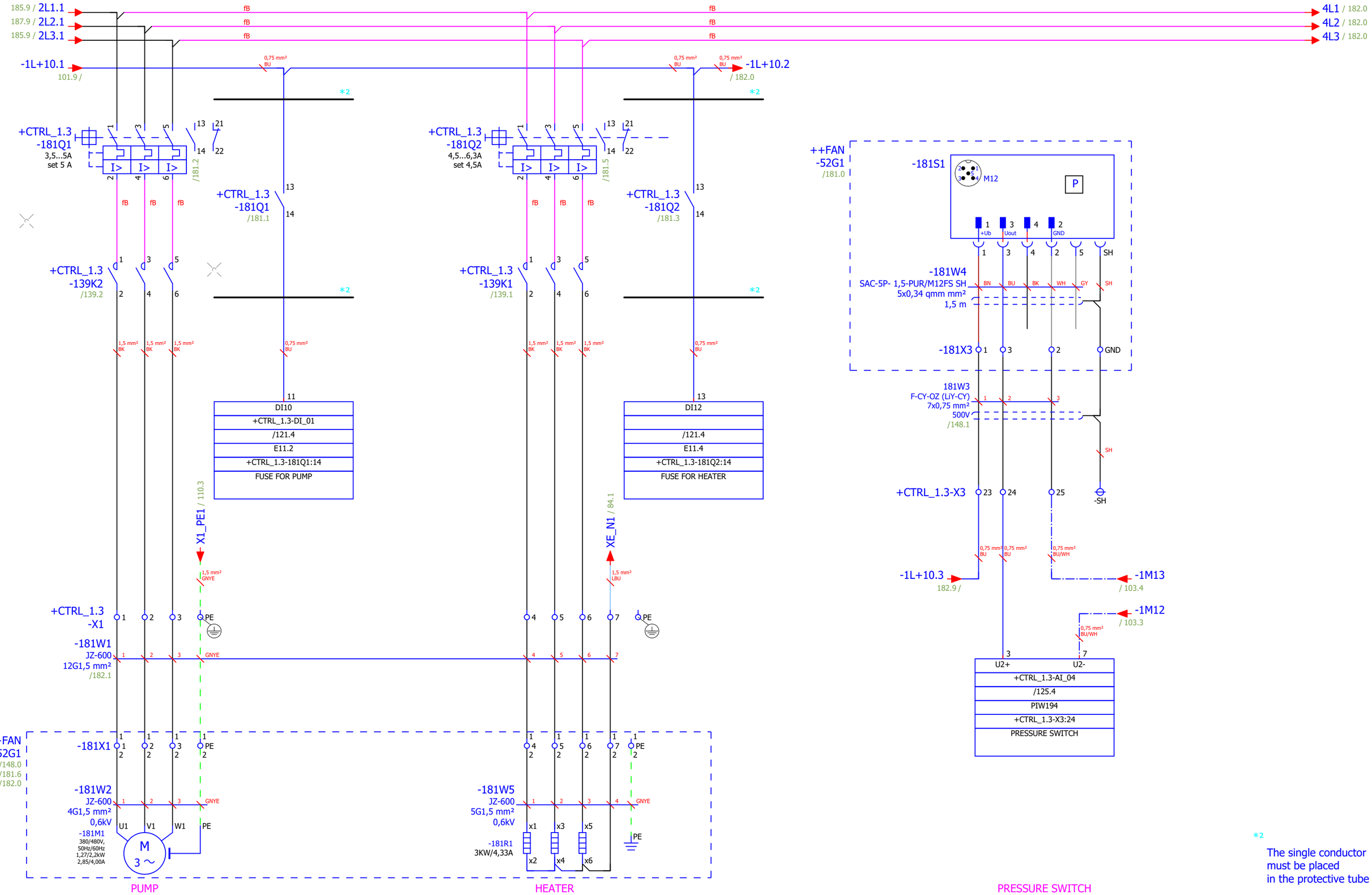
Editor	Freqcon_JD			Statron	FREQCON	PRE-CHARGING UDC	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 171
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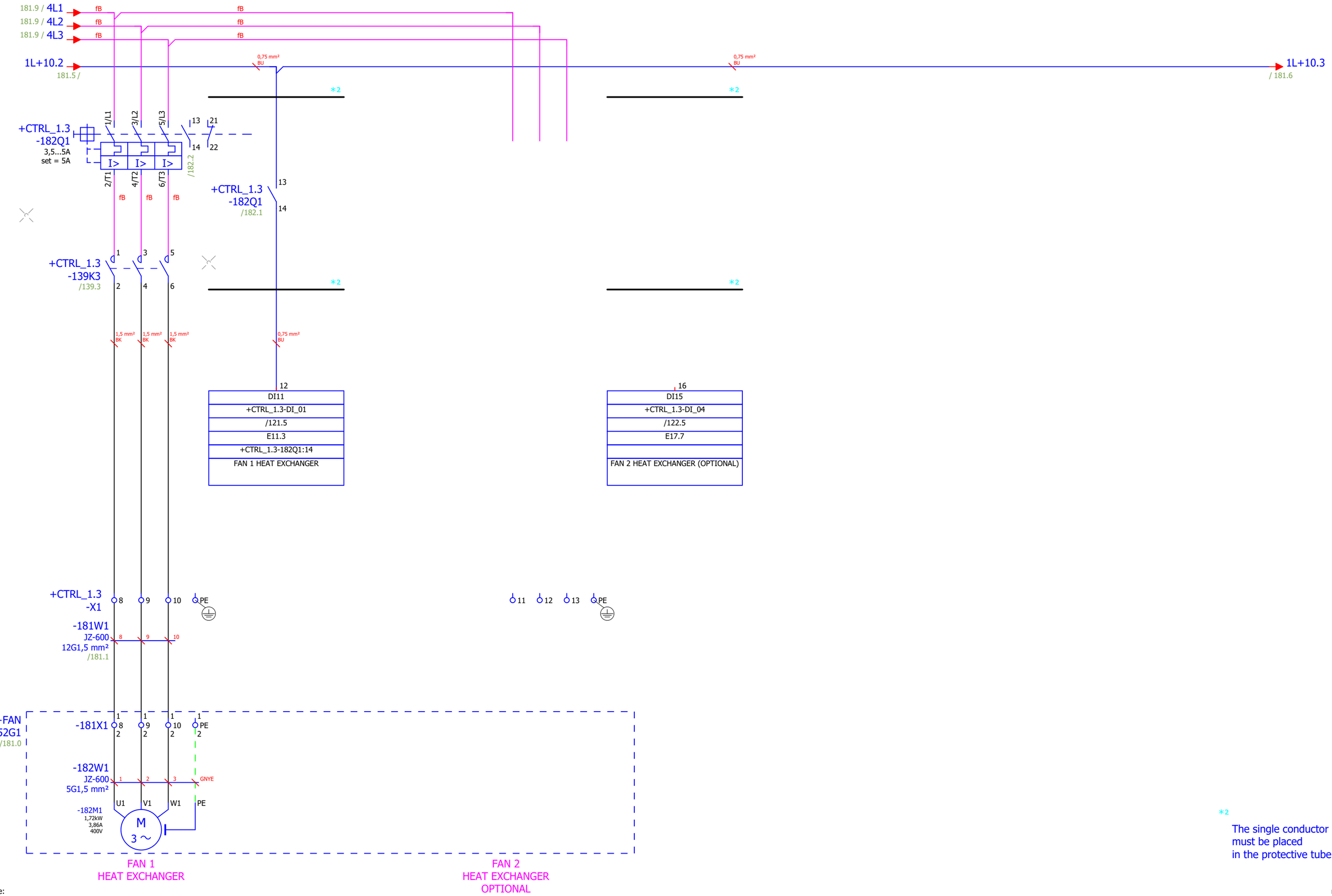
Editor	Freqcon_JD			Statron	FREQCON	DISCHARGE UDC	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 173
Date								+	total: 498



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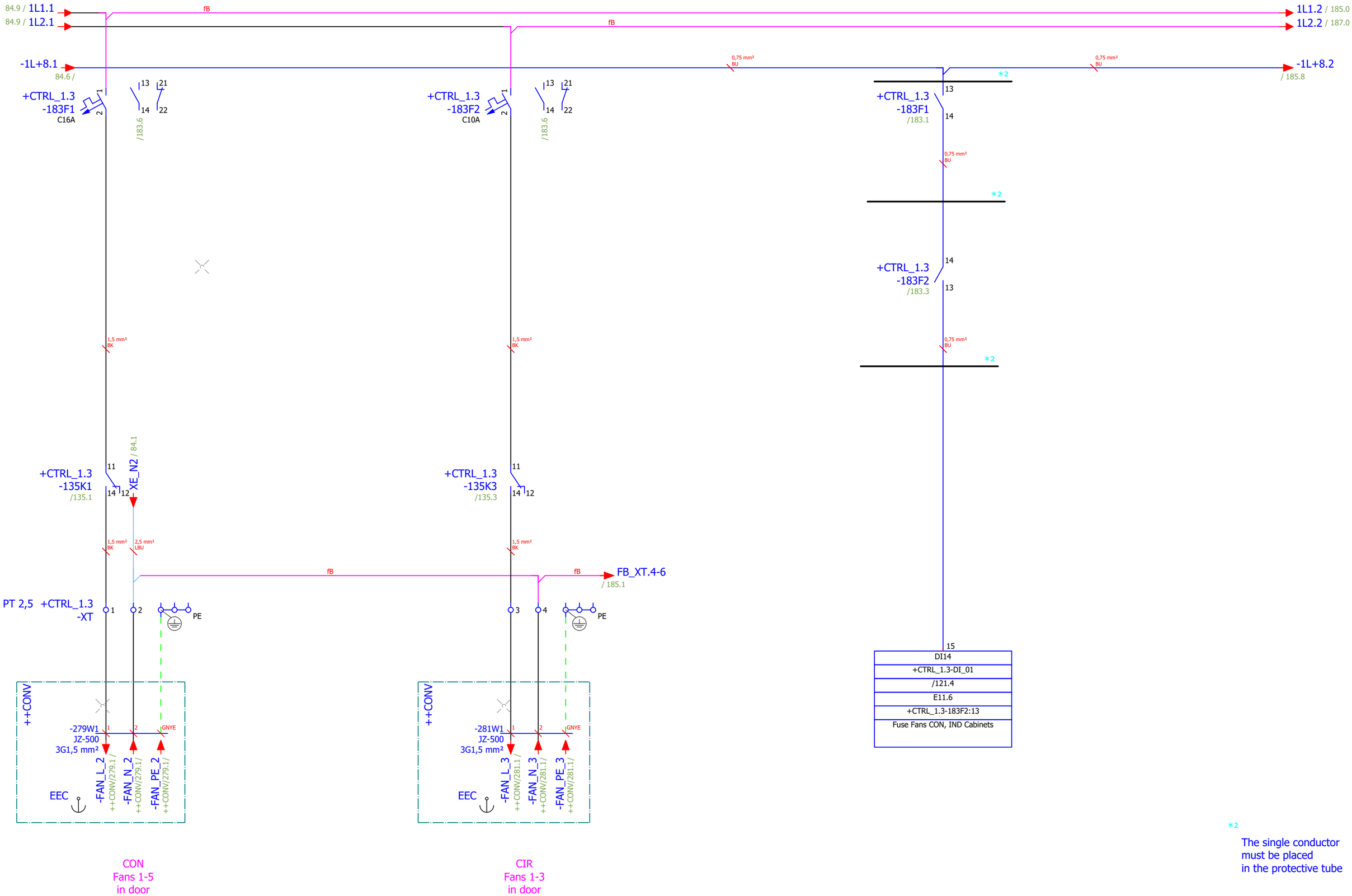
Editor	Freqcon_DG			Statron	FREQCON	WATER SYSTEM	20241105_V1.2	= UNIT_01	Converter Container 1
Date	29.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 181
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Editor	Freqcon_JD			Statron	FREQCON	HEAT EXCHANGER	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 182
Date								+	total: 498

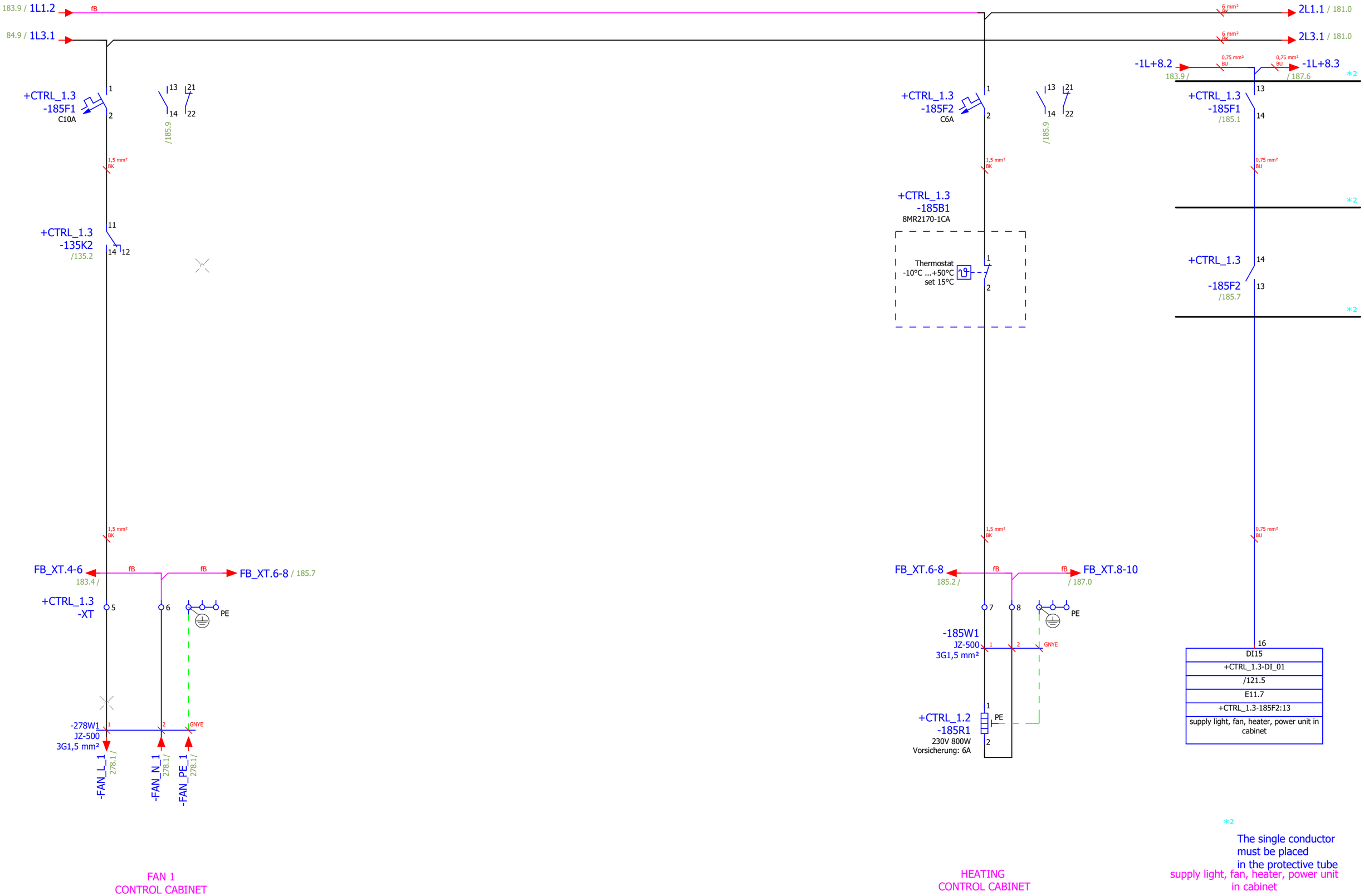


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Editor	Freqcon_DG			Statron	FREQCON	Supply for cabinet fan	20241105_V1.2	= UNIT_01	Converter Container 1
Date	29.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
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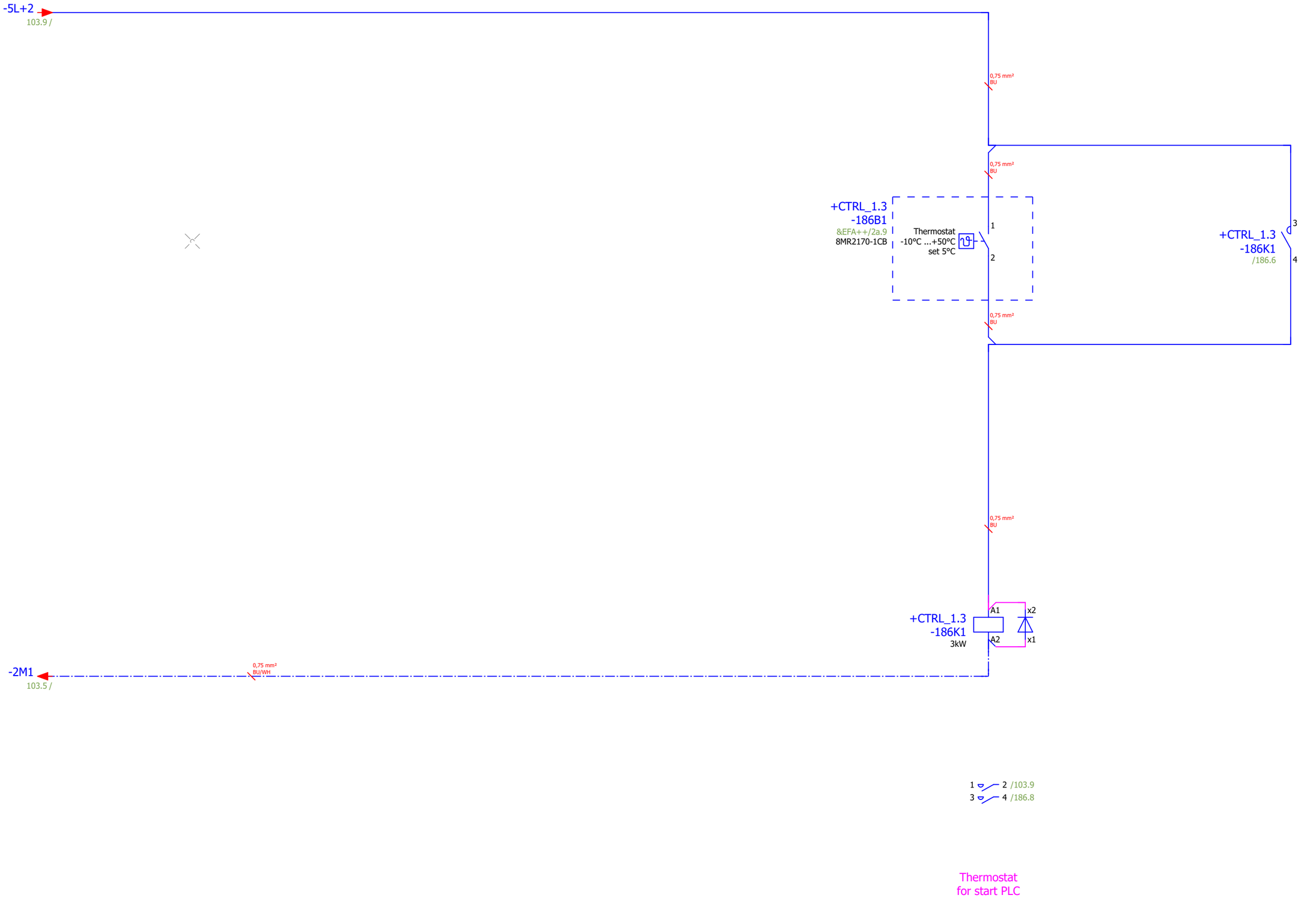
FAN 1
CONTROL CABINET

HEATING
CONTROL CABINET

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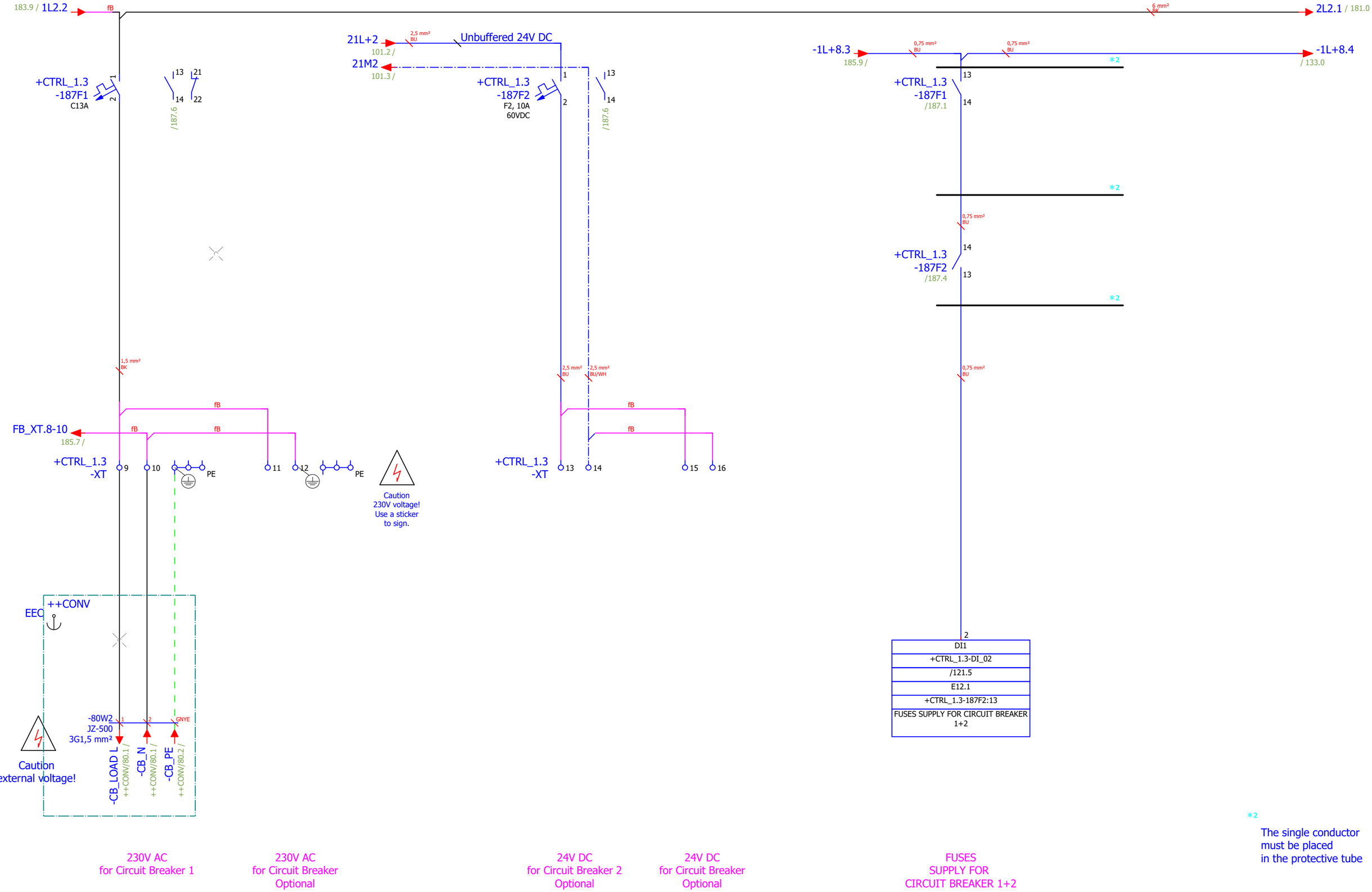
Editor	Freqcon_JD			Statron	FREQCON	FAN / HEATING CONTROL CABINET	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 185
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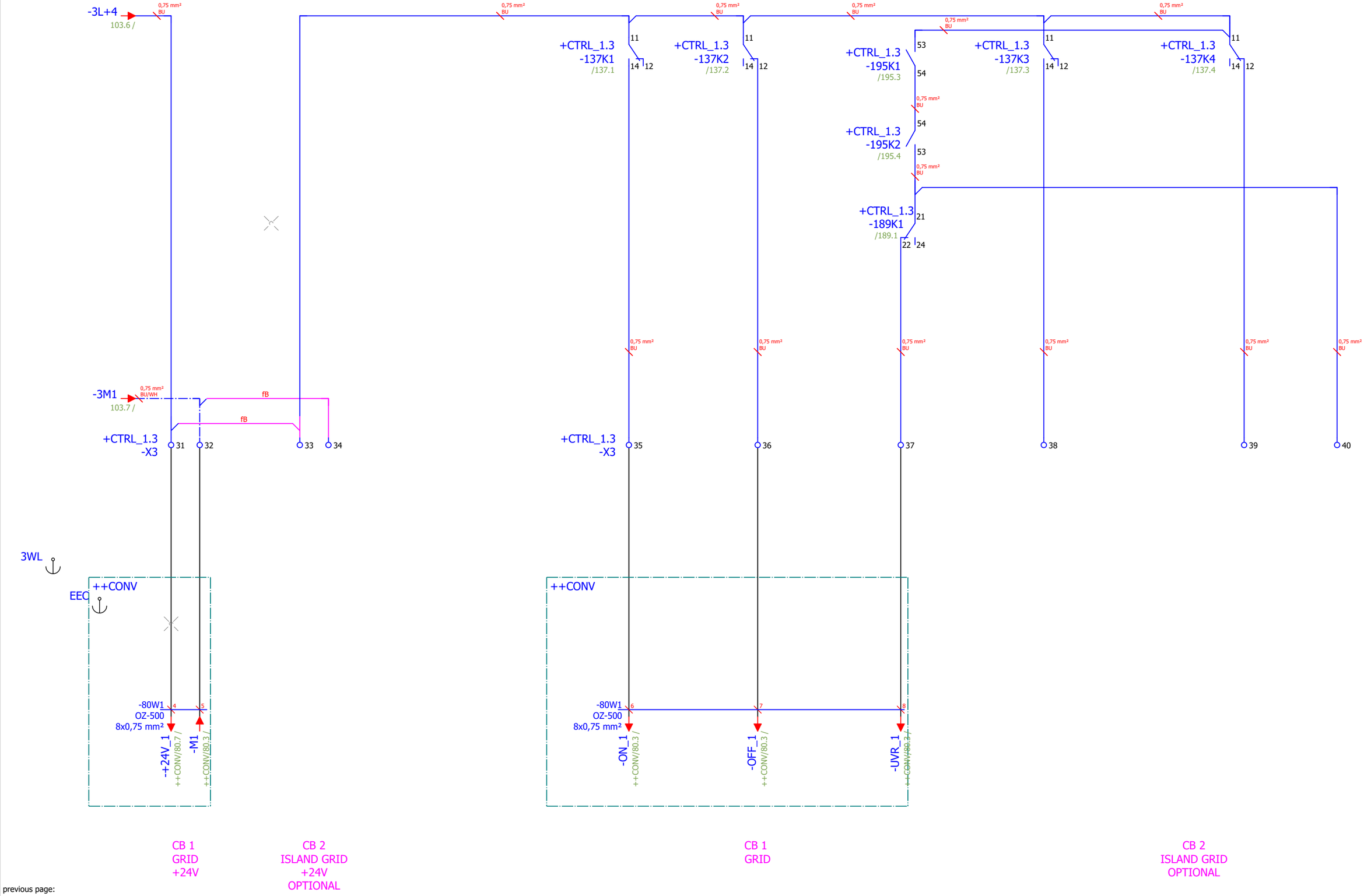
Editor	Freqcon_JD			Statron	FREQCON	THERMOSTAT	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 186
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Editor	Freqcon_JD			Statron	FREQCON	24V DC SUPPLY CB	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CT Control cabinets	page: 187
Date							10354_23A2007	+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	24V DC SUPPLY CON / CB GRID	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 188
Date								+	total: 498

GRID FAULT
+CTRL_1.3-189K1:A1
A11.3
/123.5
+CTRL_1.3-DO_01
DQ11
12

0,75 mm² BU

+CTRL_1.3
-189K1
24V DC
A1
A2

-1M7.6 fB 0,75 mm² BU/WH -M_(GND)
173.6 / / 189.5

14 11 /189.6
12
24 21 /188.6
22

Voltage inputs
3 phases 620V AC

Grid Circuit Breaker:
if OFF then 24V;
if ON then 0V

Grid OK

-UL1.HVIO / 160.5 — 2,5 mm² BK
-UL2.HVIO / 160.5 — 2,5 mm² BK
-UL3.HVIO / 160.4 — 2,5 mm² BK
-UN.1 / 173.4 — 2,5 mm² LBU
-24V_Signal / 127.4 — 0,75 mm² BU
-M_(GND) / 189.1 — 0,75 mm² BU/WH
+CTRL_1.3 -189K1 /189.1 — 0,75 mm² BU (11 / 12 / 14)
CB_OFF.1 / 137.2 — 0,75 mm² BU

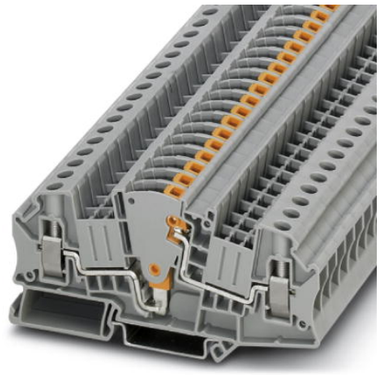
+CTRL_1.4
-189X1
Test disconnect
terminal block
Phoenix Contact
PTME 6

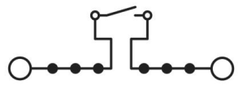
1 2 3 4 5 6 7 8 9

2,5 mm² BK
2,5 mm² BK
2,5 mm² BK
0,75 mm² BU

-HVIO_L1 / 85.1 /
-HVIO_L2 / 85.1 /
-HVIO_L3 / 85.2 /
CB_OFF.2 / 137.2 /

Relais
Circuit Breaker
OFF



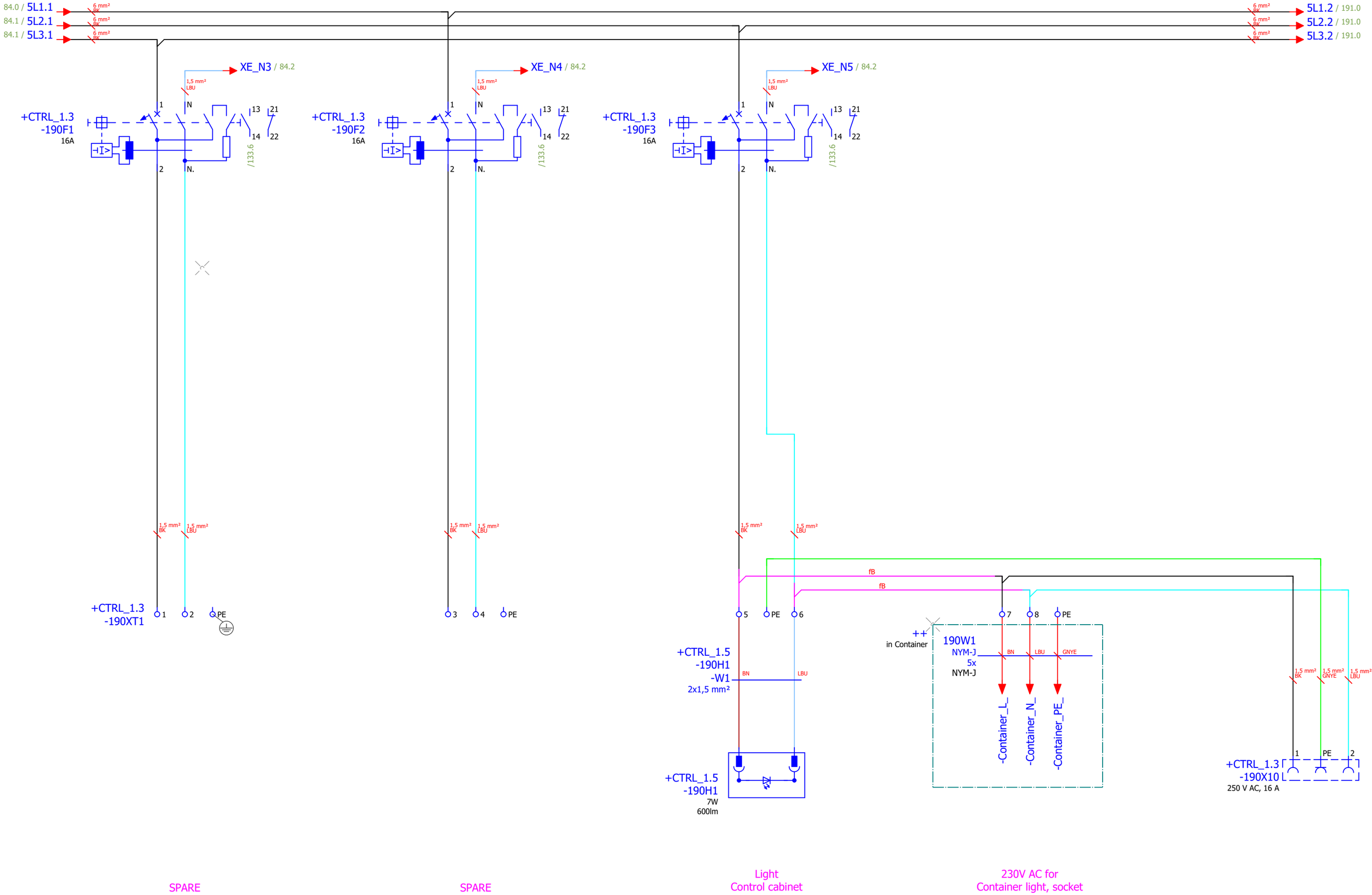


GRID FAULT

Test terminal block for protection tests

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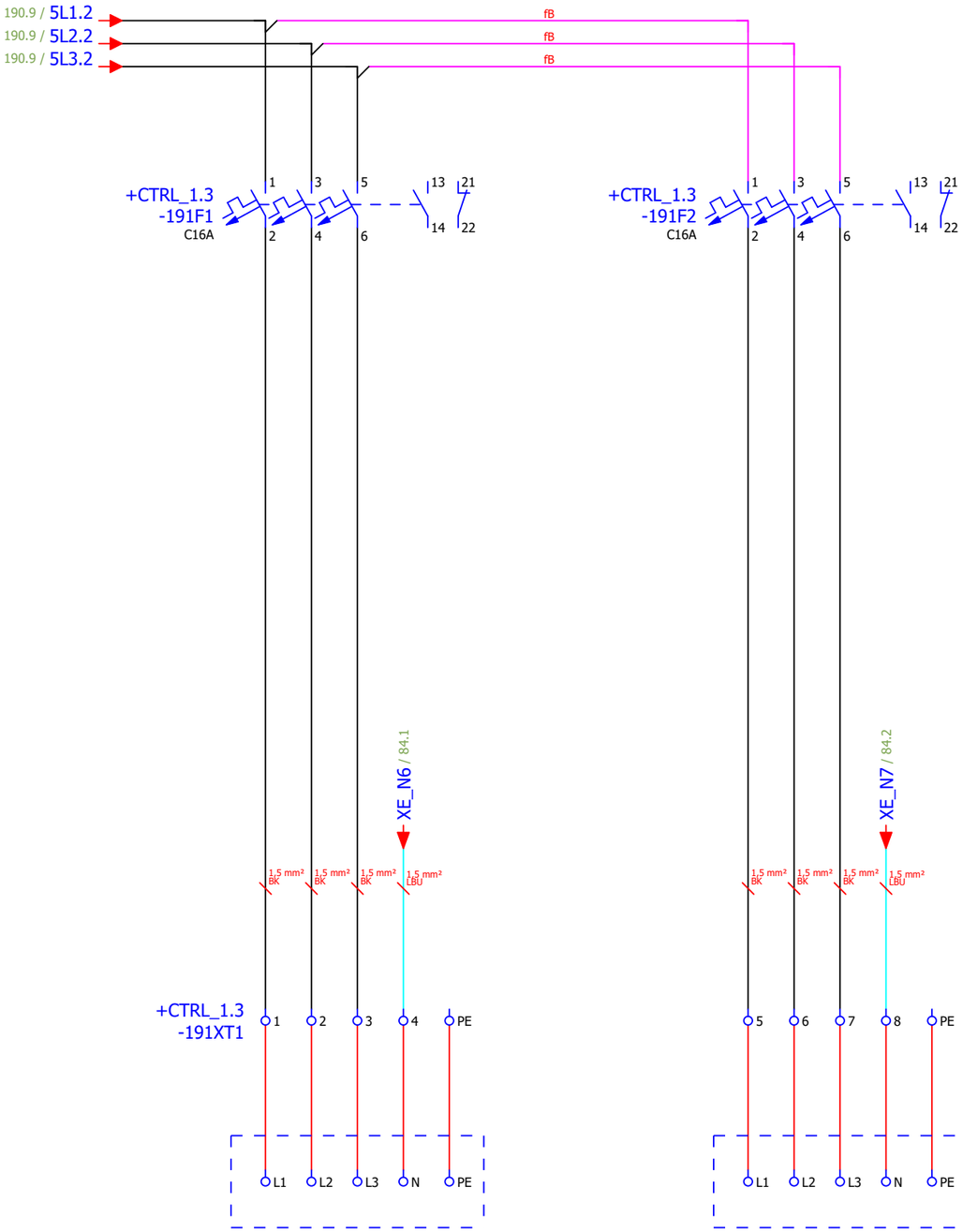
Editor	Freqcon_JD			Statron	FREQCON	TEST TERMINAL BLOCK	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 189
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Editor	Freqcon_DG			Statron	FREQCON	CONTAINER COOLING, LIGHT 230V SUPPLY	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	29.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 190
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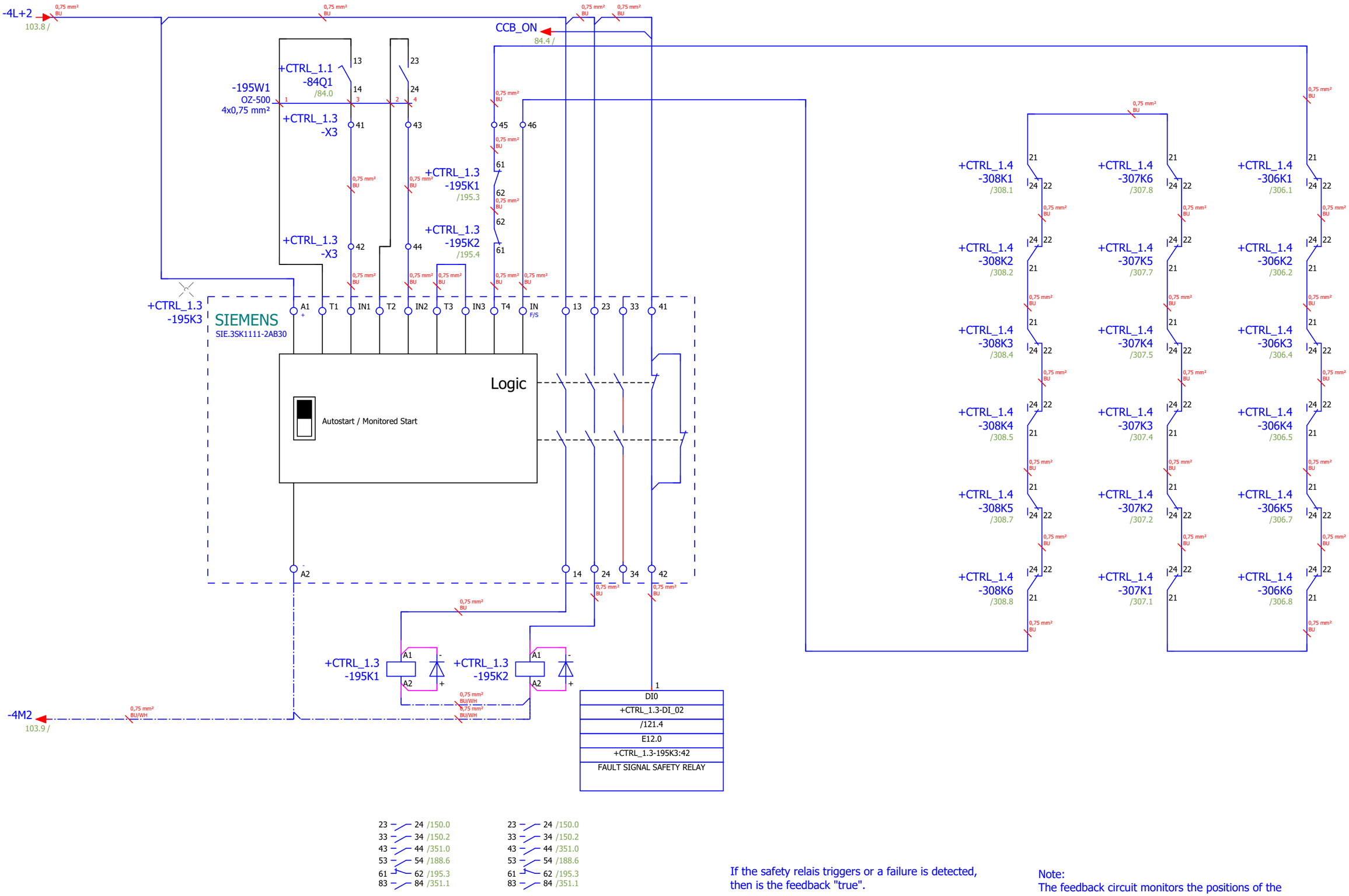
400V AC for
Container Air Conditioning 1

400V AC for
Container Air Conditioning 2

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Editor	Freqcon_DG			Statron	FREQCON	CONTAINER COOLING	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	29.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 191
Date								+	total: 498



23 — 24 /150.0
33 — 34 /150.2
43 — 44 /351.0
53 — 54 /188.6
61 — 62 /195.3
83 — 84 /351.1

23 — 24 /150.0
33 — 34 /150.2
43 — 44 /351.0
53 — 54 /188.6
61 — 62 /195.3
83 — 84 /351.1

SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS

FAULT SIGNAL SAFETY RELAY

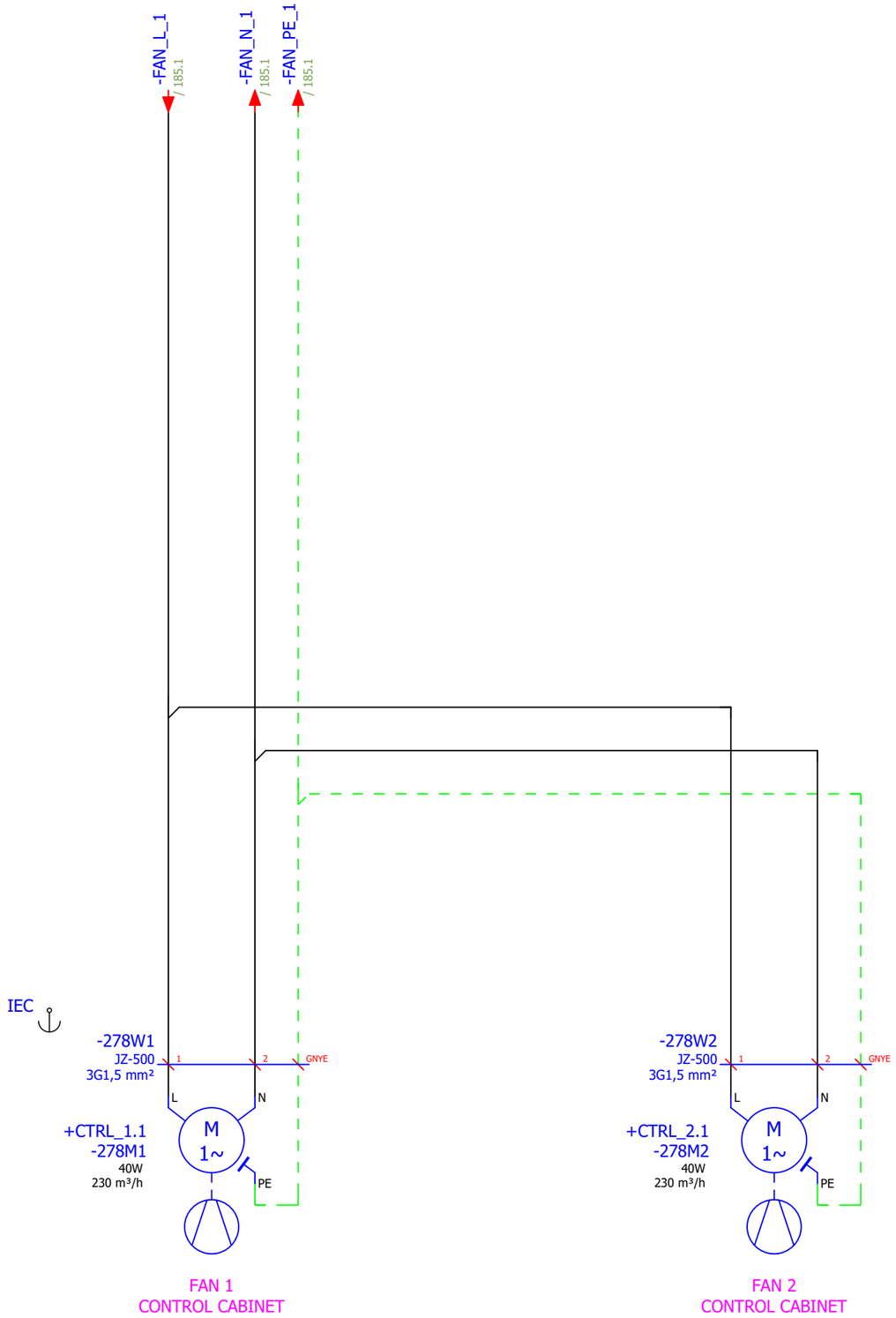
If the safety relais triggers or a failure is detected, then is the feedback "true".

Note:
The feedback circuit monitors the positions of the positive-guided NC contacts on the contactors 195K1 and 195K2. If one of their contacts latsches, then it is not possible to switch the contactors back on.

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Editor	Freqcon_DG			Statron	FREQCON	SHUTDOWN CIRCUIT BREAKERS, DC CONTACTORS	20241105_V1.2	= UNIT_01 Converter Container 1
Date	29.07.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 195
Date								+ total: 498



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Editor	Freqcon_DG			Statron	FREQCON	CONTROL CABINET CLIMATE	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	29.07.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 278
Date								+		total: 498

EEC

++CONV

306_PIII
DC_PIII_2-1
-231W4
-D2-500
18x1 mm²

SUB_2_1_+ /++CONV/231.a.5
SUB_2_1_- /++CONV/231.a.6
SUB_2_2_+ /++CONV/231.a.6
SUB_2_2_- /++CONV/231.a.7
SUB_2_3_+ /++CONV/231.a.6
SUB_2_3_- /++CONV/231.a.7

7 10 8 11 9 12

+CTRL_1.4 -306K1 24V DC
+CTRL_1.4 -306K2 24V DC
+CTRL_1.4 -306K3 24V DC
+CTRL_1.4 -306K4 24V DC
+CTRL_1.4 -306K5 24V DC
+CTRL_1.4 -306K6 24V DC

A1 A2

-4M6 103.9 /
0,75 mm² BU/WH
fB
-4M6 / 307.0

14 12 11 /129.0 24 22 21 /195.9
14 12 11 /129.1 24 22 21 /195.9
14 12 11 /129.2 24 22 21 /195.9
14 12 11 /129.3 24 22 21 /195.9
14 12 11 /129.4 24 22 21 /195.9
14 12 11 /129.5 24 22 21 /195.9

SUBSYSTEM 2_1_DC +
Contactor K1 is off

SUBSYSTEM 2_1_DC -
Contactor K7 is off

SUBSYSTEM 2_2_DC +
Contactor K2 is off

SUBSYSTEM 2_2_DC -
Contactor K8 is off

SUBSYSTEM 2_3_DC +
Contactor K3 is off

SUBSYSTEM 2_3_DC -
Contactor K9 is off

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Editor	Freqcon_JD			Statron	FREQCON	Feedback DC contactors 1_4 - 1_6	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 306
Date								+	total: 498

EEC ++CONV

SUB_3_1_+ /++CONV/227.a.5
SUB_3_1_- /++CONV/227.a.6
SUB_3_2_+ /++CONV/227.a.6
SUB_3_2_- /++CONV/227.a.7
SUB_3_3_+ /++CONV/227.a.6
SUB_3_3_- /++CONV/227.a.7

306_PIII
DC_PIII_3-1
-227W4
D2-500
18x1 mm²

7 10 8 11 9 12

+CTRL_1.4 -307K1 24V DC A1 A2
+CTRL_1.4 -307K2 24V DC A1 A2
+CTRL_1.4 -307K3 24V DC A1 A2
+CTRL_1.4 -307K4 24V DC A1 A2
+CTRL_1.4 -307K5 24V DC A1 A2
+CTRL_1.4 -307K6 24V DC A1 A2

-4M6 306.9 / fB fB fB fB fB fB -4M6 / 308.0

14 12 11 /130.0 24 22 21 /195.8
14 12 11 /130.1 24 22 21 /195.8
14 12 11 /130.2 24 22 21 /195.8
14 12 11 /130.3 24 22 21 /195.8
14 12 11 /130.4 24 22 21 /195.8
14 12 11 /130.5 24 22 21 /195.8

SUBSYSTEM 3_1_DC +
Contactor K1 is off

SUBSYSTEM 3_1_DC -
Contactor K7 is off

SUBSYSTEM 3_2_DC +
Contactor K2 is off

SUBSYSTEM 3_2_DC -
Contactor K8 is off

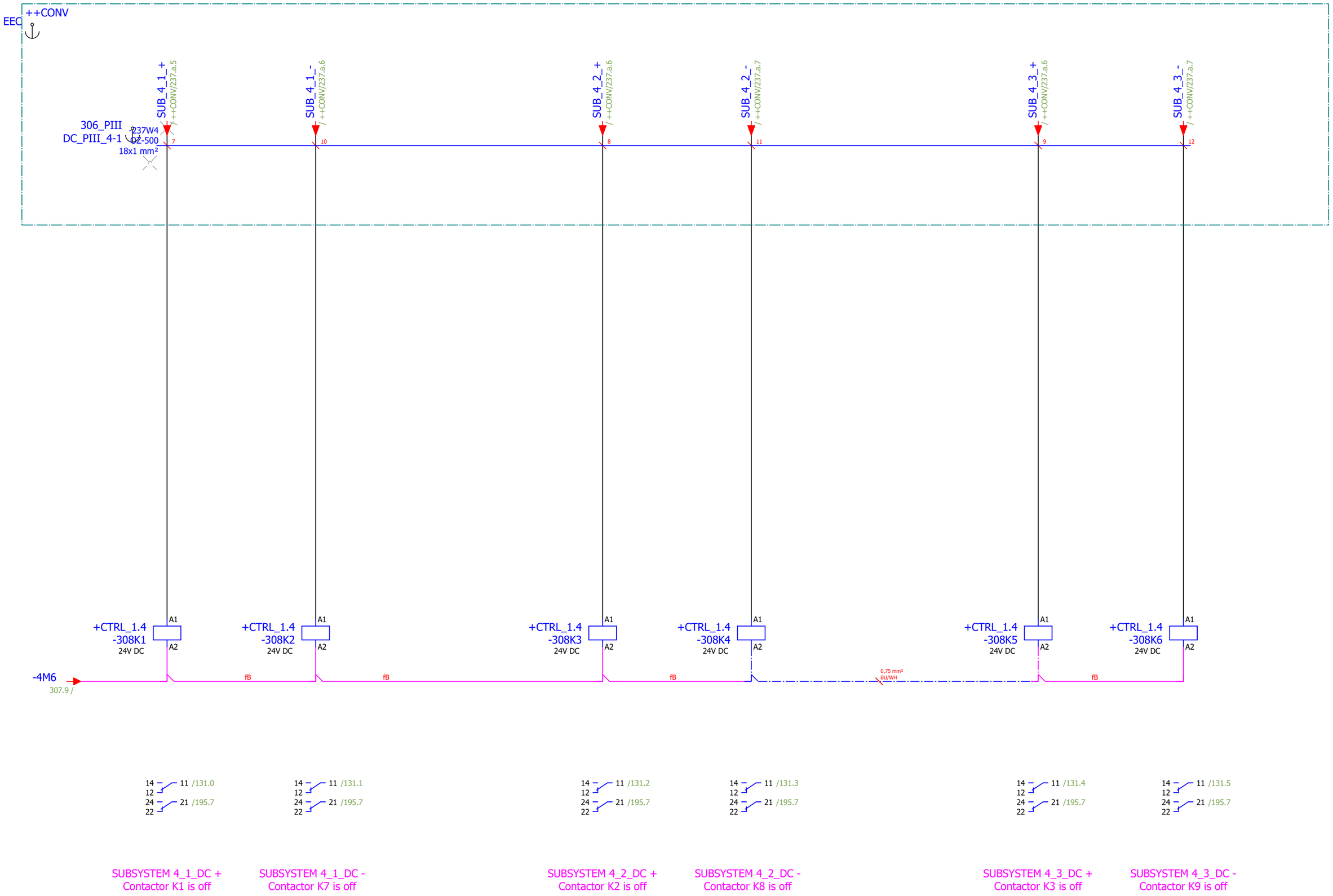
SUBSYSTEM 3_3_DC +
Contactor K3 is off

SUBSYSTEM 3_3_DC -
Contactor K9 is off

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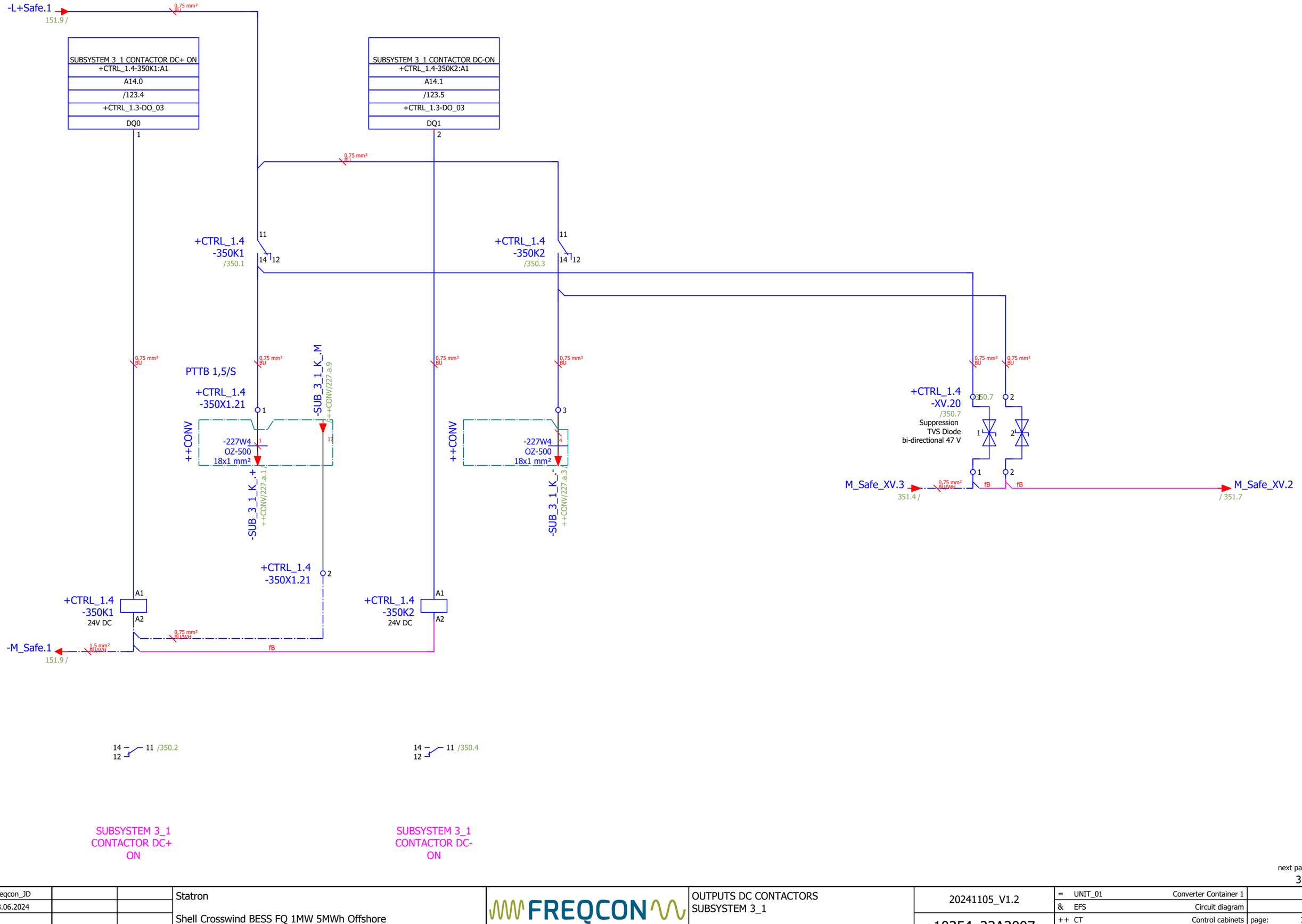
Editor	Freqcon_JD			Statron	FREQCON	Feedback DC contactors 2_1 - 2_3	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 307
Date								+	total: 498



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Editor	Freqcon_DG			Statron	FREQCON	Feedback DC contactors 2_4 - 2_6	20241105_V1.2	= UNIT_01	Converter Container 1
Date	29.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 308
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS DC CONTACTORS SUBSYSTEM 3_1	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 350
Date								+	total: 498

-3L+5
103.7 /

0,75 mm² BU

+CTRL_1.3
-195K1
/195.3

83
84

+CTRL_1.3
-195K2
/195.4

84
83

SUBSYSTEM 3_3 CONTACTOR DC+ ON
+CTRL_1.4-351K3:A1
A14.4
/123.4
+CTRL_1.3-DO_03
DQ4
5

SUBSYSTEM 3_3 CONTACTOR DC-ON
+CTRL_1.4-351K4:A1
A14.5
/123.5
DQ5
6

L+Safe.2
/ 352.0

+CTRL_1.4
-351K1
/351.1

+CTRL_1.4
-351K2
/351.2

+CTRL_1.4
-351K3
/351.4

+CTRL_1.4
-351K4
/351.5

11
14
12

-3M4
103.7 /

0,75 mm² BU/WH

+CTRL_1.3
-195K1
/195.3

43
44

+CTRL_1.3
-195K2
/195.4

44
43

+CTRL_1.4
-350X1.21

4
6
7
9

++CONV

-227W4
OZ-500
18x1 mm²

-SUB_3_2_K_+
++CONV/227.a.2/

-SUB_3_2_K_-
++CONV/227.a.4/

-SUB_3_3_K_+
++CONV/227.a.2/

-SUB_3_3_K_-
++CONV/227.a.5/

+CTRL_1.4
-XV.20
/351.7
Suppression
TVS Diode
bi-directional 47 V

3
4
5
6

M_Safe_XV.2
350.9 /

fB

M_Safe_XV.4
/ 352.7

+CTRL_1.4
-350X1.21

5
8
10

+CTRL_1.4
-351K1
24V DC

+CTRL_1.4
-351K2
24V DC

+CTRL_1.4
-351K3
24V DC

+CTRL_1.4
-351K4
24V DC

A1
A2

M_Safe_XV.3
/ 350.7

M_Safe.2
/ 352.0

14 — 11 /351.1
12

14 — 11 /351.3
12

14 — 11 /351.4
12

14 — 11 /351.6
12

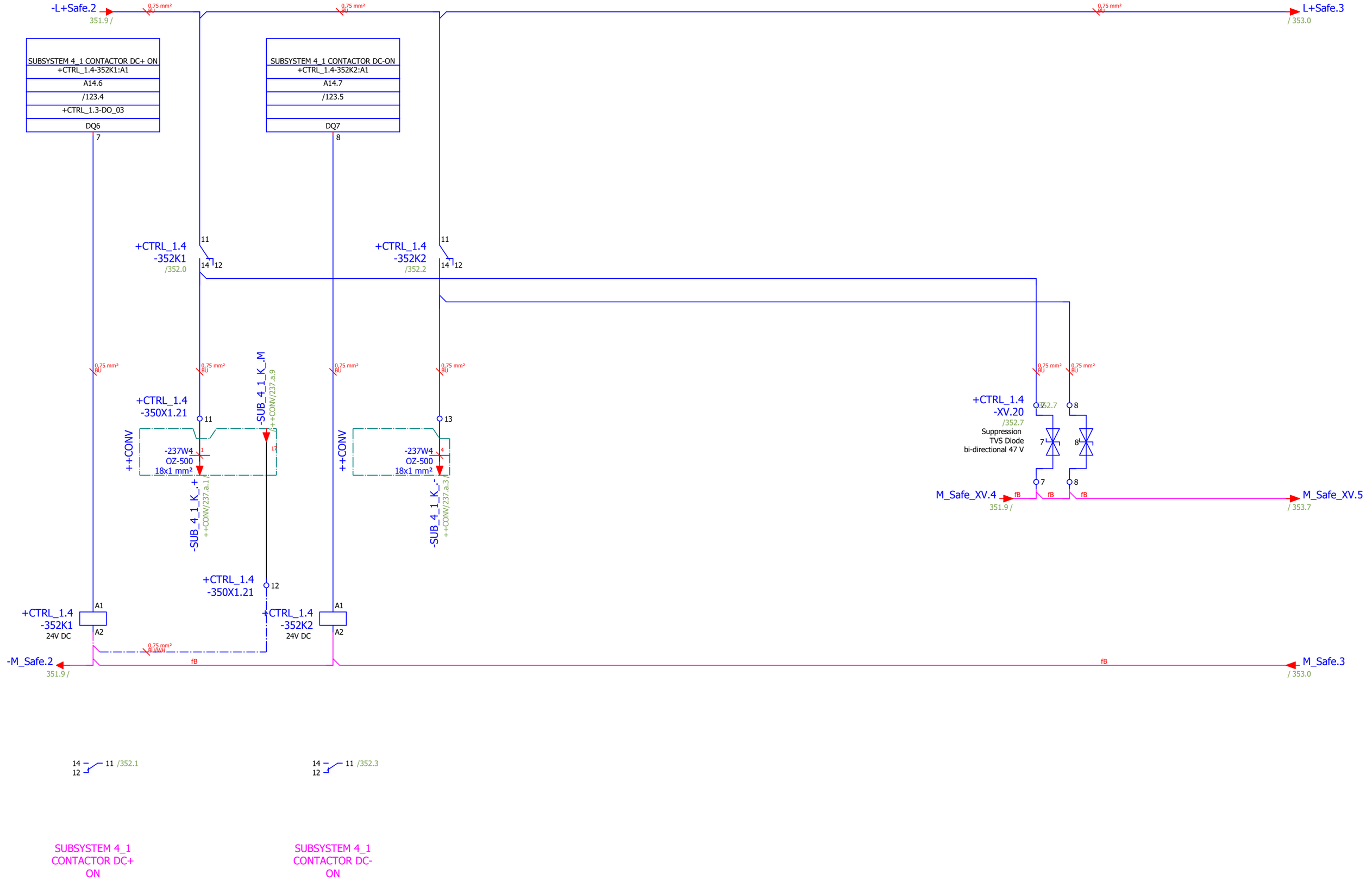
SUBSYSTEM 3_3
CONTACTOR DC+
ON

SUBSYSTEM 3_3
CONTACTOR DC-
ON

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Editor	Freqcon_DG			Statron	FREQCON	OUTPUTS DC CONTACTORS SUBSYSTEM 3_2 - 3_3	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	29.07.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 351
Date								+	total: 498



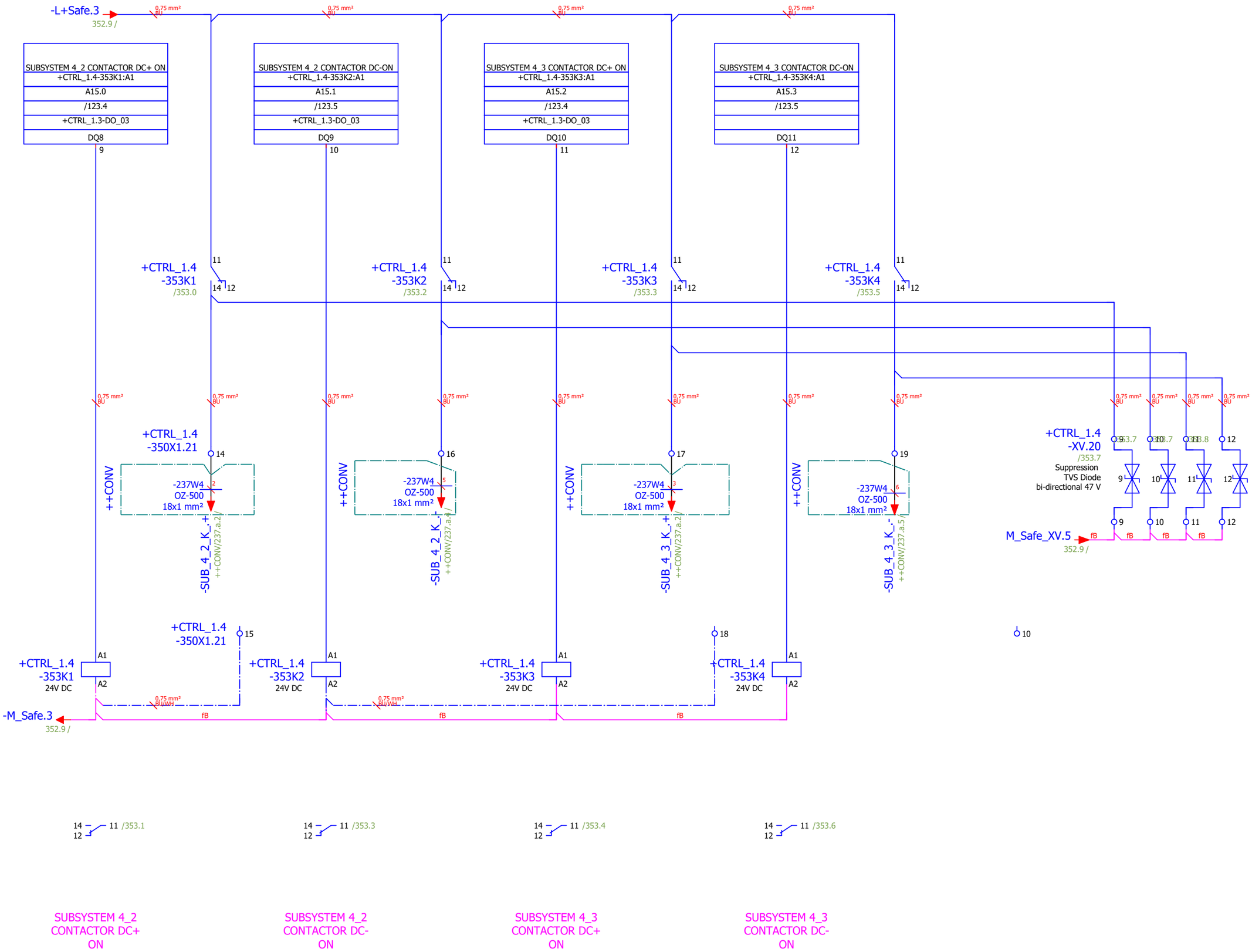
previous page: 351

next page: 353

Editor	Freqcon_DG			Statron	FREQCON	OUTPUTS DC CONTACTORS SUBSYSTEM 4_1	20241105_V1.2	= UNIT_01	Converter Container 1
Date	29.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date								+	

page: 352

total: 498



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Editor	Freqcon_DG			Statron	FREQCON	OUTPUTS DC CONTACTORS SUBSYSTEM 4_2 - 4_3	20241105_V1.2	= UNIT_01 Converter Container 1
Date	29.07.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 353
Date								+ total: 498

-1L+1
103.2 /
-1M1
103.3 /
-1PE1
103.4 /
240W9
JZ-500
3G0,75 mm²
1 2 GNYE

+CTRL_2.1
-240U1
PIII
IGBT IRT Interface
2.6 V4 cabinet
1 3 4 2
4 3 1 2
Ansicht
Stiftleiste
24 VDC

M12 System-
steckverbinder

Ansicht
Buchsenleiste

240W10
2YY (ST) CY
2x2x0,64 mm²
/110.1
-P320-FPPU1
110.0 /
P1
3 4 (IN) 2 1

240W11
2YY (ST) CY
2x2x0,64 mm²
/441.1
-FPPU1-FPPU2
441.0 /
P2
3 4 (OUT) 2 1

M12 System-
steckverbinder

Arc Detect
3 4 2 1

M6 Bolzen
-PE

PE
19

4 3 1 2
Stecker A-Codiert

PIII_1

Converter Control Interface
Type: PIII IGBT IRT Interface 2.6 V4
FRQ 504890

CHOPPER
HVIO
IGBT6
IGBT5
25-POL SUB-D SOCKET
X8 X7 X6 X5

PIII_1

IGBT1 X1
IGBT2 X2
IGBT3 X3
IGBT4 X4
25-POL SUB-D SOCKET

++CONV

240W1
pre-assembled D-Sub cable 1:1
-_IGBT1.1
/ ++CONV/201.3

240W2
pre-assembled D-Sub cable 1:1
-_IGBT1.2
/ ++CONV/202.3

240W3
pre-assembled D-Sub cable 1:1
-_IGBT1.3
/ ++CONV/203.3

IEC

PIII_1

PIII_Version
2_6_V_4

-240W7
pre-assembled D-Sub cable 1:1
/160.7
-HVIO_1
/ 160.9

Signal	Colour	M12 Plug	M12 Plug
TD+	yellow	1	1
TD-	orange	3	3
RD+	white	2	2
RD-	blue	4	4

Connection PIII -- P320

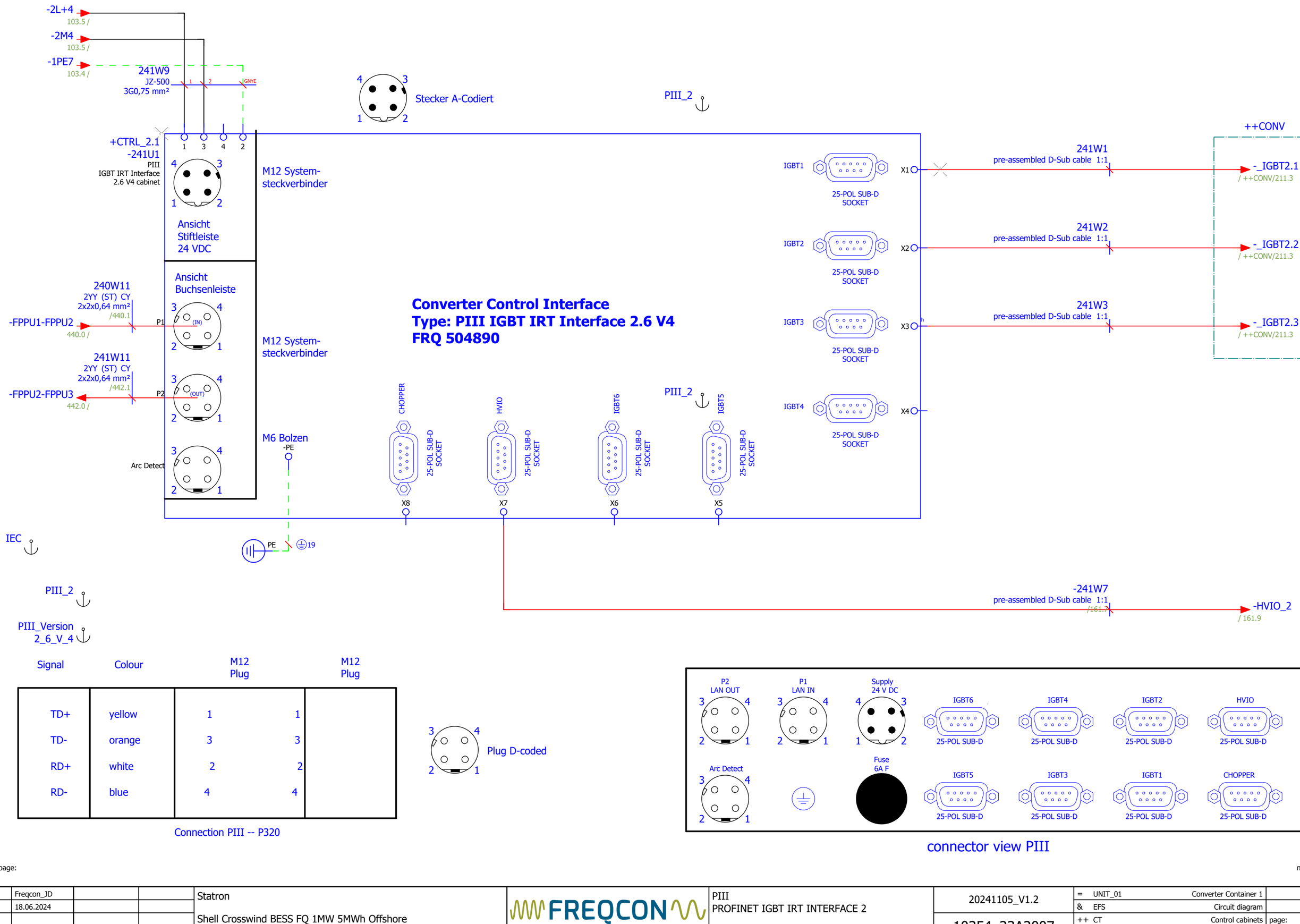
3 4 2 1
Plug D-coded

P2 LAN OUT
P1 LAN IN
Supply 24 V DC
Arc Detect
Fuse 6A F
IGBT6 IGBT4 IGBT2 HVIO
IGBT5 IGBT3 IGBT1 CHOPPER
25-POL SUB-D

connector view PIII

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Editor	Freqcon_JD			Statron	FREQCON	PIII PROFINET IGBT IRT INTERFACE 1	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 440
Date								+		total: 498



Signal	Colour	M12 Plug	M12 Plug
TD+	yellow	1	1
TD-	orange	3	3
RD+	white	2	2
RD-	blue	4	4

Connection PIII -- P320

Plug D-coded

connector view PIII

previous page: 440
next page: 442

Editor	Freqcon_JD			Statron	FREQCON	PIII PROFINET IGBT IRT INTERFACE 2	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 441
Date								+ total: 498

-2L+2
103.4 /
-2M2
103.5 /
-1PE5
103.4 /
242W9
JZ-500
3G0,75 mm²
1 2 GNYE

+CTRL_2.1
-242U1
PIII
IGBT IRT Interface
2.6 V4 cabinet
1 3 4 2
Ansicht
Stiftleiste
24 VDC

Stecker A-Codiert

PIII_3

M12 System-
steckverbinder

Ansicht
Buchsenleiste

241W11
2YY (ST) CY
2x2x0,64 mm²
/441.1
-FPPU2-FPPU3
441.0 /
P1 (IN)

242W11
2YY (ST) CY
2x2x0,64 mm²
/443.1
-FPPU3-FPPU4
443.0 /
P2 (OUT)

M12 System-
steckverbinder

Arc Detect

M6 Bolzen
-PE

PE
19

IEC

PIII_3

PIII_Version
2_6_V_4

Converter Control Interface
Type: PIII IGBT IRT Interface 2.6 V4
FRQ 504890

PIII_2

CHOPPER
HVIO
IGBT6
IGBT5
25-POL SUB-D SOCKET
X8 X7 X6 X5

IGBT1 X1
IGBT2 X2
IGBT3 X3
IGBT4 X4
25-POL SUB-D SOCKET

++CONV

242W1
pre-assembled D-Sub cable 1:1
-_IGBT3.1
/ ++CONV/207.3

242W2
pre-assembled D-Sub cable 1:1
-_IGBT3.2
/ ++CONV/207.3

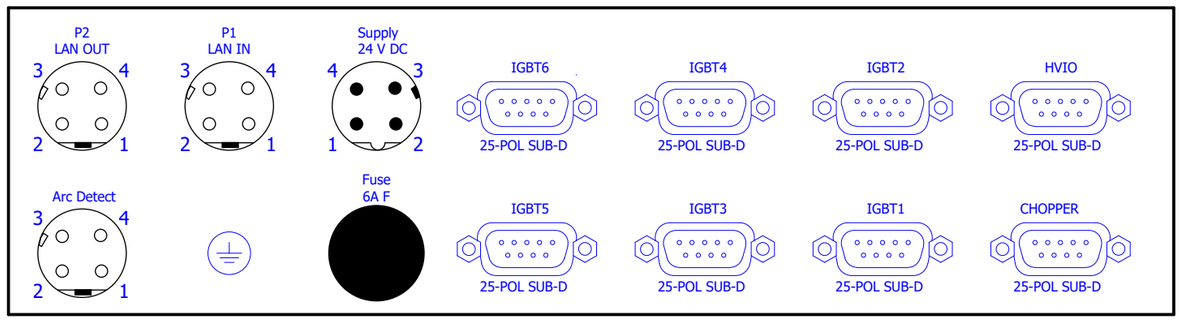
242W3
pre-assembled D-Sub cable 1:1
-_IGBT3.3
/ ++CONV/207.3

-242W7
pre-assembled D-Sub cable 1:1
/163.7
-HVIO_3
/ 163.9

Signal	Colour	M12 Plug	M12 Plug
TD+	yellow	1	1
TD-	orange	3	3
RD+	white	2	2
RD-	blue	4	4

Connection PIII -- P320

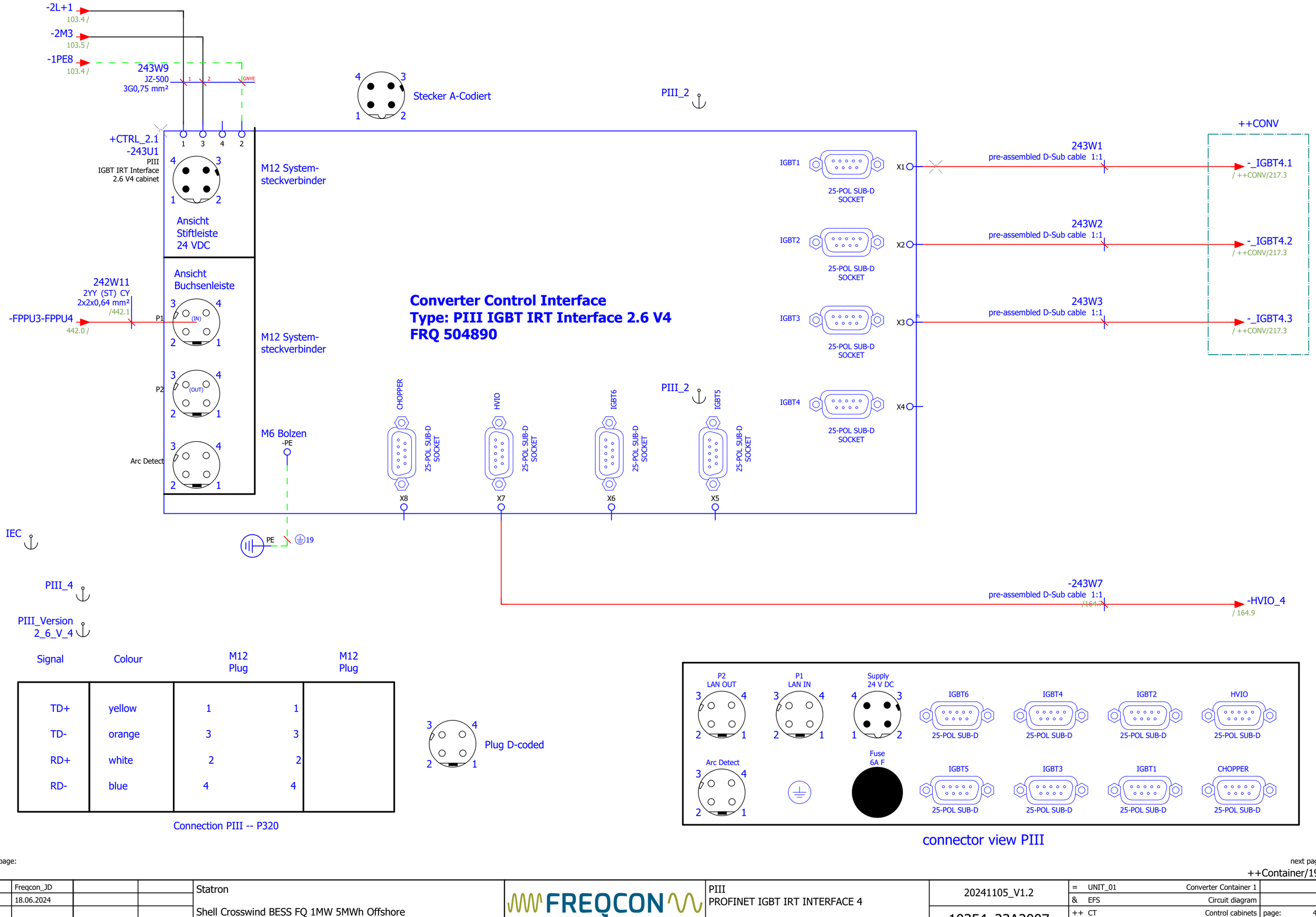
Plug D-coded



connector view PIII

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next page: 443

Editor	Freqcon_JD			Statron	FREQCON	PIII PROFINET IGBT IRT INTERFACE 3	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 442
Date								+		total: 498



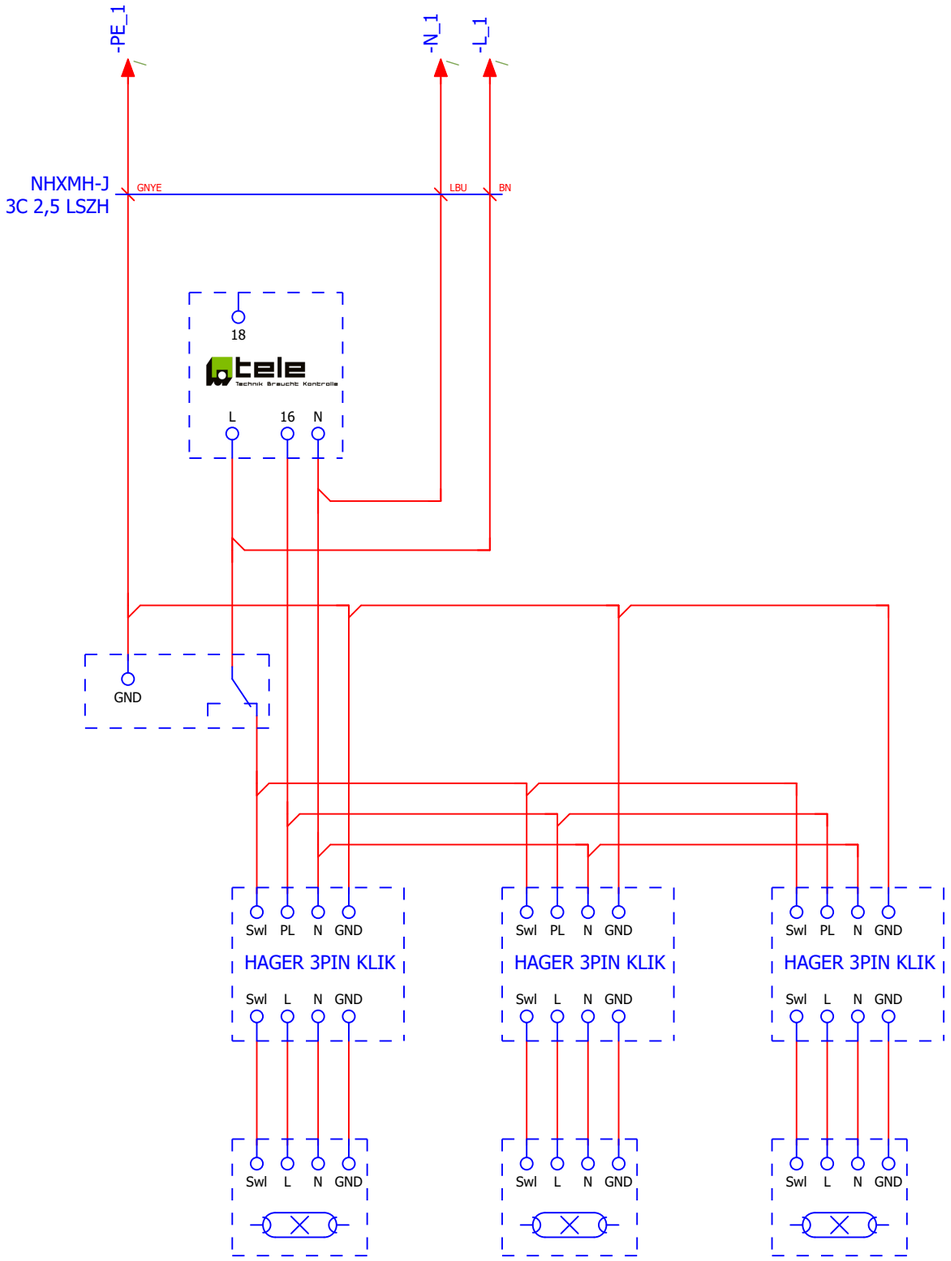
Signal	Colour	M12 Plug	M12 Plug
TD+	yellow	1	1
TD-	orange	3	3
RD+	white	2	2
RD-	blue	4	4

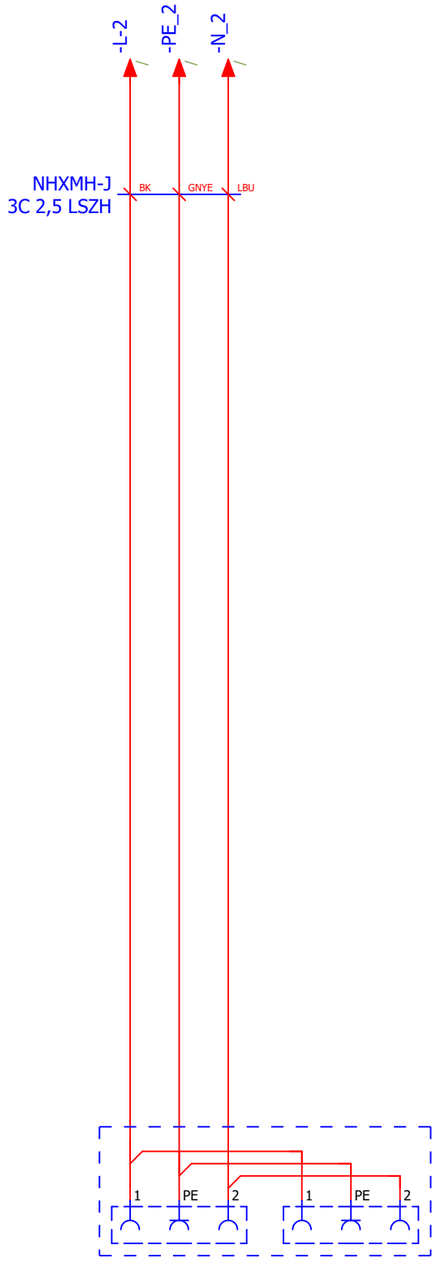
Connection PIII -- P320

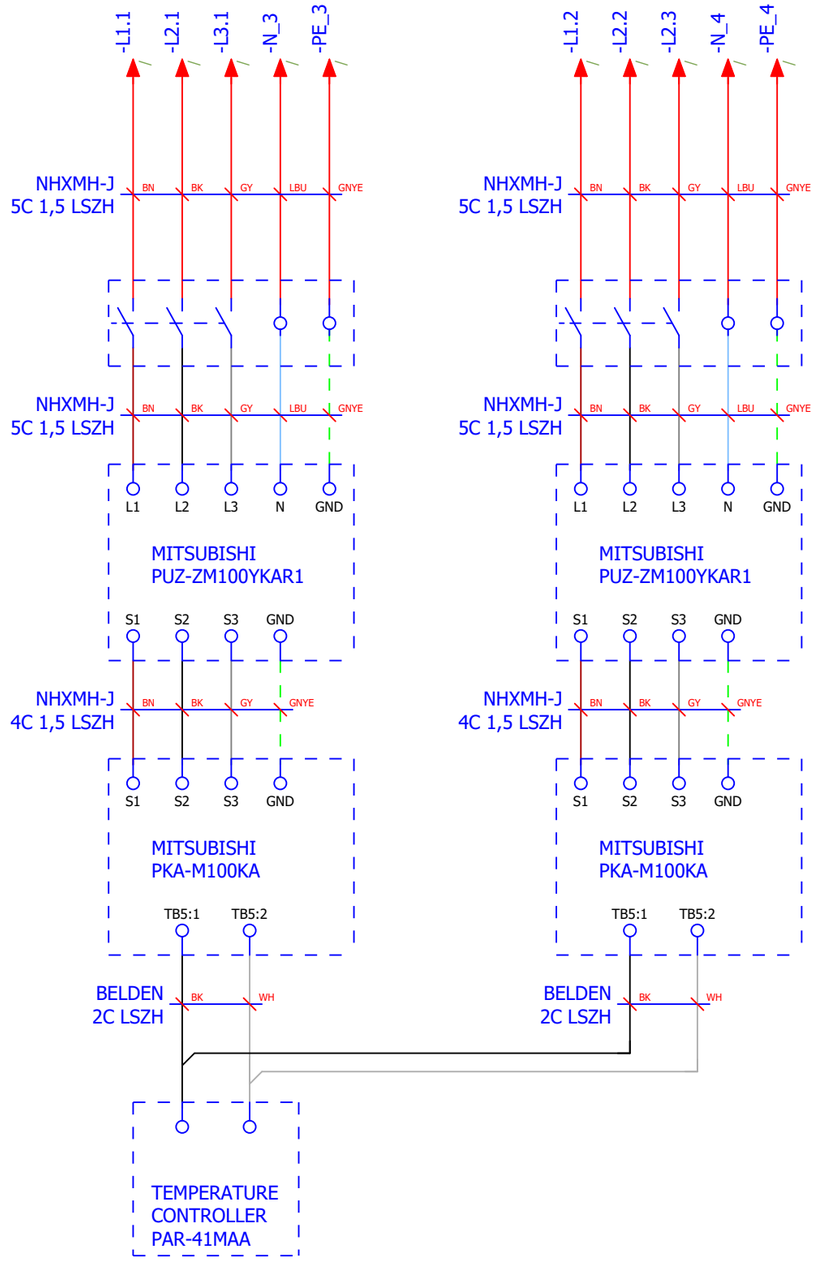
connector view PIII

previous page: 442
next page: ++Container/190

Editor	Freqcon_JD			Statron	FREQCON	PIII PROFINET IGBT IRT INTERFACE 4	20241105_V1.2	= UNIT_01 Converter Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 443
Date								+ total: 498







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++CT/443

next page:
&EPC++TRA/1

Editor	Freqcon_JD			Statron	FREQCON	CONTAINER INSTALLATION	20241105_V1.2	= UNIT_01	Converter Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 190
Date								+	total: 498

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-18T1 &EFS/18.2	1	TMC Transformer 3150kVA-6300V/620V-50Hz-AL-IP00		TMC Transformers	508555	
-18W5 &EFS/18.3	1	Anschlussschiene;100x370mm;Zeichnung 501153B	501153	Freqcon GmbH	501153	

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&EFS++Container/190

next page:
++CONV/1

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-18Q1 &EFS++TRA/18.7	1	Switch-disconnector S6000, AC 600A at 690V AC (AC21B), size 2, 4-pole, to attach to the mounting plate	S6-08003NDO	Pronutec GmbH	10172	
-18Q1 &EFS++TRA/18.7	1	Auxiliary contacts S6000 SIZE 2	D5LAU01	Pronutec GmbH	503044	
-18Q1 &EFS++TRA/18.7	1	Direct handle S6000 SIZE 2	DS-LI21	Pronutec GmbH	503039	

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++TRA/1

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+CON/1

Editor	Freqcon_DG			Statron	FREQCON	PARTS LIST	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	05.11.2024							& EPC Parts List	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 1
Date								+	total: 498

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-147B2 &EFS++CT+/147.7	1	Temperature sensor PT100, cable 3m Silicon	H2-012030-SDS	Fühler Direkt	500648	
-201Q1 &EFS+/201.3	1	*** VX BG PowerStack 1*1000A*** with SkiiP 2414 GB12E4-4DUW	52872	Freqcon GmbH	52872	
-201Q1 &EFS+/201.3	1	D SUB ADAPTER, PLUG-RECEPTACLE, 25-POL, L-COM DG9025MF1	506157	Freqcon GmbH	506157	
-201Q1 &EFS+/201.3	1	SKiiP 2414 GB17E4-4DUW, 1*1000 A	20603236	Semikron	501558	X
-201Q1 &EFS+/201.3	2	Mini feed-through terminal block, Push in, MPT 1,5/S	3248100	Phoenix Contact	501024	X
-201Q1 &EFS+/201.3	2	End clamp CLIPFIX 15	3022263	Phoenix Contact	500935	X
-201Q1 &EFS+/201.3	1	End cover D-MPT 1,5/S	3248120	Phoenix Contact	500899	X
-201Q1-C &EFS+/201.5	4	Snubber capacitor 470nF 5% 1500V Version for SkiiP module (SL)	KPF-271 REV-01	Alcon Electronics Pvt. Ltd.	501406	X
-201Q1-C &EFS+/201.6	1	Film Capacitor 1500µF 700VDC, with PT100 temperature sensor	1025314-54097	FTCap GmbH	504740	X
-201Q1-C &EFS+/201.6;&EFS+/201.7	3	Film Capacitor 1500µF 700VDC	1025173-54097	FTCap GmbH	500662	X
-201Q1-C &EFS+/201.6;&EFS+/201.7	2	Film Capacitor 1500µF 700VDC EC1500µ700d116165KF6_1	1025170-54097	FTCap GmbH	500661	X
-202Q1 &EFS+/202.3	1	*** VX BG PowerStack 1*1000A*** with SkiiP 2414 GB12E4-4DUW	52872	Freqcon GmbH	52872	
-202Q1 &EFS+/202.3	1	D SUB ADAPTER, PLUG-RECEPTACLE, 25-POL, L-COM DG9025MF1	506157	Freqcon GmbH	506157	
-202Q1 &EFS+/202.3	1	SKiiP 2414 GB17E4-4DUW, 1*1000 A	20603236	Semikron	501558	X
-202Q1 &EFS+/202.3	2	Mini feed-through terminal block, Push in, MPT 1,5/S	3248100	Phoenix Contact	501024	X
-202Q1 &EFS+/202.3	2	End clamp CLIPFIX 15	3022263	Phoenix Contact	500935	X
-202Q1 &EFS+/202.3	1	End cover D-MPT 1,5/S	3248120	Phoenix Contact	500899	X
-202Q1-C &EFS+/202.5	4	Snubber capacitor 470nF 5% 1500V Version for SkiiP module (SL)	KPF-271 REV-01	Alcon Electronics Pvt. Ltd.	501406	X
-202Q1-C &EFS+/202.6	1	Film Capacitor 1500µF 700VDC, with PT100 temperature sensor	1025314-54097	FTCap GmbH	504740	X

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2

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-202Q1-C &EFS+/202.6;&EFS+/202.7	3	Film Capacitor 1500µF 700VDC	1025173-54097	FTCap GmbH	500662	X
-202Q1-C &EFS+/202.6;&EFS+/202.7	2	Film Capacitor 1500µF 700VDC EC1500µ700d116165KF6_1	1025170-54097	FTCap GmbH	500661	X
-203Q1 &EFS+/203.3	1	*** VX BG PowerStack 1*1000A*** with SkiiP 2414 GB12E4-4DUW	52872	Freqcon GmbH	52872	
-203Q1 &EFS+/203.3	1	D SUB ADAPTER, PLUG-RECEPTACLE, 25-POL, L-COM DG9025MF1	506157	Freqcon GmbH	506157	
-203Q1 &EFS+/203.3	1	SKiiP 2414 GB17E4-4DUW, 1*1000 A	20603236	Semikron	501558	X
-203Q1 &EFS+/203.3	2	Mini feed-through terminal block, Push in, MPT 1,5/S	3248100	Phoenix Contact	501024	X
-203Q1 &EFS+/203.3	2	End clamp CLIPFIX 15	3022263	Phoenix Contact	500935	X
-203Q1 &EFS+/203.3	1	End cover D-MPT 1,5/S	3248120	Phoenix Contact	500899	X
-203Q1-C &EFS+/203.5	4	Snubber capacitor 470nF 5% 1500V Version for SkiiP module (SL)	KPF-271 REV-01	Alcon Electronics Pvt. Ltd.	501406	X
-203Q1-C &EFS+/203.6	1	Film Capacitor 1500µF 700VDC, with PT100 temperature sensor	1025314-54097	FTCap GmbH	504740	X
-203Q1-C &EFS+/203.6;&EFS+/203.7	3	Film Capacitor 1500µF 700VDC	1025173-54097	FTCap GmbH	500662	X
-203Q1-C &EFS+/203.6;&EFS+/203.7	2	Film Capacitor 1500µF 700VDC EC1500µ700d116165KF6_1	1025170-54097	FTCap GmbH	500661	X
-207Q1 &EFS+/207.3	1	*** VX BG PowerStack 3*250A***	52867	Freqcon GmbH	52867	
-207Q1 &EFS+/207.3	1	SKiiP 603 GD172-3DK1470	20452470	Semikron	501559	X
-207Q1 &EFS+/207.3	2	Mini feed-through terminal block, Push in, MPT 1,5/S	3248100	Phoenix Contact	501024	X
-207Q1 &EFS+/207.3	2	End clamp CLIPFIX 15	3022263	Phoenix Contact	500935	X
-207Q1 &EFS+/207.3	1	End cover D-MPT 1,5/S	3248120	Phoenix Contact	500899	X
-207Q1-C &EFS+/207.5	3	Snubber capacitor 470nF 5% 1500V Version for SkiiP module (SL)	KPF-271 REV-01	Alcon Electronics Pvt. Ltd.	501406	X
-207Q1-C &EFS+/207.6	1	Film Capacitor 1500µF 700VDC, with PT100 temperature sensor	1025314-54097	FTCap GmbH	504740	X

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-207Q1-C &EFS+/207.6;&EFS+/207.7	2	Film Capacitor 1500µF 700VDC	1025173-54097	FTCap GmbH	500662	X
-207Q1-C &EFS+/207.7	1	Film Capacitor 1500µF 700VDC EC1500µ700d116165KF6_1	1025170-54097	FTCap GmbH	500661	X
-207Q1-U1 &EFS+/207.3	1	SKiiP 3 I Adapter	FRQ-M00080-1	Freqcon GmbH	500426	
-211Q1 &EFS+/211.3	1	*** VX BG PowerStack 3*250A***	52867	Freqcon GmbH	52867	
-211Q1 &EFS+/211.3	1	SKiiP 603 GD172-3DK1470	20452470	Semikron	501559	X
-211Q1 &EFS+/211.3	2	Mini feed-through terminal block, Push in, MPT 1,5/S	3248100	Phoenix Contact	501024	X
-211Q1 &EFS+/211.3	2	End clamp CLIPFIX 15	3022263	Phoenix Contact	500935	X
-211Q1 &EFS+/211.3	1	End cover D-MPT 1,5/S	3248120	Phoenix Contact	500899	X
-211Q1-C &EFS+/211.5	3	Snubber capacitor 470nF 5% 1500V Version for SkiiP module (SL)	KPF-271 REV-01	Alcon Electronics Pvt. Ltd.	501406	X
-211Q1-C &EFS+/211.6	1	Film Capacitor 1500µF 700VDC, with PT100 temperature sensor	1025314-54097	FTCap GmbH	504740	X
-211Q1-C &EFS+/211.6;&EFS+/211.7	2	Film Capacitor 1500µF 700VDC	1025173-54097	FTCap GmbH	500662	X
-211Q1-C &EFS+/211.7	1	Film Capacitor 1500µF 700VDC EC1500µ700d116165KF6_1	1025170-54097	FTCap GmbH	500661	X
-211Q1-U1 &EFS+/211.3	1	SKiiP 3 I Adapter	FRQ-M00080-1	Freqcon GmbH	500426	
-217Q1 &EFS+/217.3	1	*** VX BG PowerStack 3*250A***	52867	Freqcon GmbH	52867	
-217Q1 &EFS+/217.3	1	SKiiP 603 GD172-3DK1470	20452470	Semikron	501559	X
-217Q1 &EFS+/217.3	1	DC Adapter 3.3535 (EN-AW 5754) Alu	51524	Freqcon GmbH	51524	
-217Q1 &EFS+/217.3	2	Mini feed-through terminal block, Push in, MPT 1,5/S	3248100	Phoenix Contact	501024	X
-217Q1 &EFS+/217.3	2	End clamp CLIPFIX 15	3022263	Phoenix Contact	500935	X
-217Q1 &EFS+/217.3	1	End cover D-MPT 1,5/S	3248120	Phoenix Contact	500899	X

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-217Q1-C &EFS+/217.5	3	Snubber capacitor 470nF 5% 1500V Version for SkiiP module (SL)	KPF-271 REV-01	Alcon Electronics Pvt. Ltd.	501406	X
-217Q1-C &EFS+/217.6	1	Film Capacitor 1500µF 700VDC, with PT100 temperature sensor	1025314-54097	FTCap GmbH	504740	X
-217Q1-C &EFS+/217.6;&EFS+/217.7	2	Film Capacitor 1500µF 700VDC	1025173-54097	FTCap GmbH	500662	X
-217Q1-C &EFS+/217.7	1	Film Capacitor 1500µF 700VDC EC1500µ700d116165KF6_1	1025170-54097	FTCap GmbH	500661	X
-217Q1-U1 &EFS+/217.3	1	SKiiP 3 I Adapter	FRQ-M00080-1	Freqcon GmbH	500426	
-260B1 &EFS+/260.3	1	Optical smoke detector 12V, with alarm relais	130-60-457	ABUS Security-Center GmbH & Co. KG	500713	X
-279M1 &EFS+/279.1	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-279M2 &EFS+/279.2	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-279M3 &EFS+/279.3	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-279M4 &EFS+/279.5	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-279M5 &EFS+/279.6	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-N &EFS+/99.5	2	Busbar holder for busbars 12x 5 (10)-30x 5 (10) and 6x 6 mm	8US1923-1AA01	Siemens	501271	X

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Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-201L1 &EFS+/201.1	1	*** VX Single phase line Inductor, I= 1x 1000 A LN= 0,2mH ***	53053	Freqcon GmbH	53053	
-201L1 &EFS+/201.1	1	Inductor, 1050A, 0.2mH, 690V, 50/60Hz, 1-phas, 1x PT100, water-cooled	36231	Trafotek Oy	500889	X
-201U1 &EFS+/201.0	1	EMI Suppresion CAP DC	FRQ-M00110	Freqcon GmbH	500449	
-202L1 &EFS+/202.1	1	*** VX Single phase line Inductor, I= 1x 1000 A LN= 0,2mH ***	53053	Freqcon GmbH	53053	
-202L1 &EFS+/202.1	1	Inductor, 1050A, 0.2mH, 690V, 50/60Hz, 1-phas, 1x PT100, water-cooled	36231	Trafotek Oy	500889	X
-202U1 &EFS+/202.0	1	EMI Suppresion CAP DC	FRQ-M00110	Freqcon GmbH	500449	
-203L1 &EFS+/203.1	1	*** VX Single phase line Inductor, I= 1x 1000 A LN= 0,2mH ***	53053	Freqcon GmbH	53053	
-203L1 &EFS+/203.1	1	Inductor, 1050A, 0.2mH, 690V, 50/60Hz, 1-phas, 1x PT100, water-cooled	36231	Trafotek Oy	500889	X
-203U1 &EFS+/203.0	1	EMI Suppresion CAP DC	FRQ-M00110	Freqcon GmbH	500449	
-207L1 &EFS+/207.1	1	*** VX Trible phase line Inductor, I= 3x 250A LN= 0,6mH ***	53046	Freqcon GmbH	53046	
-207L1 &EFS+/207.1	1	3x Single phase line reactor, UN=690 V, 50/60 Hz, LN=0,6 mH, I=263,0 A	37106B	Trafotek Oy	501204	X
-211L1 &EFS+/211.1	1	*** VX Trible phase line Inductor, I= 3x 250A LN= 0,6mH ***	53046	Freqcon GmbH	53046	
-211L1 &EFS+/211.1	1	3x Single phase line reactor, UN=690 V, 50/60 Hz, LN=0,6 mH, I=263,0 A	37106B	Trafotek Oy	501204	X
-217L1 &EFS+/217.1	1	*** VX Trible phase line Inductor, I= 3x 250A LN= 0,6mH ***	53046	Freqcon GmbH	53046	
-217L1 &EFS+/217.1	1	3x Single phase line reactor, UN=690 V, 50/60 Hz, LN=0,6 mH, I=263,0 A	37106B	Trafotek Oy	501204	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-80Q1 &EFS+/80.0	1	*** VX BG Circuit Breaker IEC 1000 A ***	52955	Freqcon GmbH	52955	
-80Q1 &EFS+/80.1	1	Circuit breaker 3WL1112, 1250A, 42kA 690V, size 1, 3-pole, IEC, ETU15B, withdrawable	3WL1112-2BB36-1BJ2-ZA08+K07+M06+M21+R10	Siemens	501430	X
-83U1 &EFS+/83.2	1	*** VX BG AC Capacitor Bank 3 * 600µF ***	52918	Freqcon GmbH	52918	
-83U1-C1 &EFS+/83.4	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C2 &EFS+/83.5	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C3 &EFS+/83.5	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C4 &EFS+/83.6	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C7 &EFS+/83.4	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C8 &EFS+/83.5	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C9 &EFS+/83.5	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C10 &EFS+/83.6	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C13 &EFS+/83.4	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C14 &EFS+/83.5	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C15 &EFS+/83.5	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-83U1-C16 &EFS+/83.6	1	CAPACITORS MKP AC B32362 150µF 680V AC / 480V rms	B32362A4157J080	EPCOS AG	500663	X
-148B3 &EFS++CT+/148.5	1	Temperature sensor PT100, cable 6m Silicon	H2-012060-SDS	Fühler Direkt	500649	
-227U1 &EFS+/227.0	1	*** VX BG DC switch and Fuse 3*250A 1000V***	52882	Freqcon GmbH	52882	
-227U1-C1 &EFS+/227.1	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X
-227U1-C7 &EFS+/227.3	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-227U1-C13 &EFS+/227.7	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X
-227U1-F0 &EFS+/227.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F1 &EFS+/227.1	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-227U1-F1 &EFS+/227.1	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-227U1-F1 &EFS+/227.1	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-227U1-F2 &EFS+/227.1	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-227U1-F2 &EFS+/227.1	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-227U1-F2 &EFS+/227.1	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-227U1-F3 &EFS+/227.1	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F3 &EFS+/227.1	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-227U1-F3 &EFS+/227.1	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-227U1-F4 &EFS+/227.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F4 &EFS+/227.2	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-227U1-F5 &EFS+/227.3	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-227U1-F5 &EFS+/227.3	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-227U1-F5 &EFS+/227.3	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-227U1-F6 &EFS+/227.3	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-227U1-F6 &EFS+/227.3	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-227U1-F6 &EFS+/227.3	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-227U1-F7 &EFS+/227.3	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F7 &EFS+/227.3	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-227U1-F8 &EFS+/227.4	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F8 &EFS+/227.4	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-227U1-F9 &EFS+/227.6	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-227U1-F9 &EFS+/227.6	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-227U1-F9 &EFS+/227.6	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-227U1-F10 &EFS+/227.7	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-227U1-F10 &EFS+/227.7	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-227U1-F10 &EFS+/227.7	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-227U1-F11 &EFS+/227.6	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F11 &EFS+/227.6	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-227U1-F12 &EFS+/227.8	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-227U1-F12 &EFS+/227.8	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-227U1-F12 &EFS+/227.8	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-227U1-K1 &EFS+/227.a.1	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-227U1-K2 &EFS+/227.a.2	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-227U1-K3 &EFS+/227.a.2	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-227U1-K7 &EFS+/227.a.3	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-227U1-K8 &EFS+/227.a.4	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-227U1-K9 &EFS+/227.a.5	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-227U1-U1 &EFS+/227.4	1	EMI Suppresion CAP L1-L3; N; DC + & -	FRQ-M00111	Freqcon GmbH	500450	X
-227U1-X3.1 &EFS+/227.a.0;&EFS+/227.a.9	0					
-227U1-X3.1 &EFS+/227.a.1...&EFS+/227.a.9	17	Feed-through terminal block Push-in PT 2,5/1P	3210033	Phoenix Contact	501390	X
-227U1-X3.1 &EFS+/227.a.1	1	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-L	3210062	Phoenix Contact	504126	X
-227U1-X3.1 &EFS+/227.a.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	X
-227U1-X3.1 &EFS+/227.a.1;&EFS+/227.a.9	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-227U1-X3.1 &EFS+/227.a.1;&EFS+/227.a.9	2	Latching PR	3040559	Phoenix Contact	504066	X
-227U1-X3.1 &EFS+/227.a.2...&EFS+/227.a.9	15	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-M	3210091	Phoenix Contact	504129	X
-227U1-X3.1 &EFS+/227.a.9	1	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-R	3210127	Phoenix Contact	10044	X
-227U1-X3.2 &EFS+/227.a.0	0					
-227U1-X3.2 &EFS+/227.a.1...&EFS+/227.a.7	13	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-227U1-X3.2 &EFS+/227.a.1	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-227U1-X3.2 &EFS+/227.a.1;&EFS+/227.a.7	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-227U1-X3.2 &EFS+/227.a.1;&EFS+/227.a.5	2	Plug-in bridge FBS 10-3,5	3213056	Phoenix Contact	501171	X
-231U1 &EFS+/231.0	1	*** VX BG DC switch and Fuse 3*250A 1000V***	52882	Freqcon GmbH	52882	
-231U1-C1 &EFS+/231.1	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X
-231U1-C7 &EFS+/231.3	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-231U1-C13 &EFS+/231.7	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X
-231U1-F0 &EFS+/231.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F1 &EFS+/231.1	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-231U1-F1 &EFS+/231.1	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-231U1-F1 &EFS+/231.1	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-231U1-F2 &EFS+/231.1	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-231U1-F2 &EFS+/231.1	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-231U1-F2 &EFS+/231.1	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-231U1-F3 &EFS+/231.1	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F3 &EFS+/231.1	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-231U1-F3 &EFS+/231.1	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-231U1-F4 &EFS+/231.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F4 &EFS+/231.2	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-231U1-F5 &EFS+/231.3	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-231U1-F5 &EFS+/231.3	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-231U1-F5 &EFS+/231.3	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-231U1-F6 &EFS+/231.3	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-231U1-F6 &EFS+/231.3	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-231U1-F6 &EFS+/231.3	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-231U1-F7 &EFS+/231.3	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F7 &EFS+/231.3	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-231U1-F8 &EFS+/231.4	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F8 &EFS+/231.4	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-231U1-F9 &EFS+/231.6	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-231U1-F9 &EFS+/231.6	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-231U1-F9 &EFS+/231.6	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-231U1-F10 &EFS+/231.7	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-231U1-F10 &EFS+/231.7	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-231U1-F10 &EFS+/231.7	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-231U1-F11 &EFS+/231.6	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F11 &EFS+/231.6	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-231U1-F12 &EFS+/231.8	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-231U1-F12 &EFS+/231.8	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-231U1-F12 &EFS+/231.8	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-231U1-K1 &EFS+/231.a.1	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-231U1-K2 &EFS+/231.a.2	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-231U1-K3 &EFS+/231.a.2	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-231U1-K7 &EFS+/231.a.3	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-231U1-K8 &EFS+/231.a.4	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-231U1-K9 &EFS+/231.a.5	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-231U1-U1 &EFS+/231.4	1	EMI Suppresion CAP L1-L3; N; DC + & -	FRQ-M00111	Freqcon GmbH	500450	X
-231U1-X3.1 &EFS+/231.a.0;&EFS+/231.a.9	0					
-231U1-X3.1 &EFS+/231.a.1...&EFS+/231.a.9	17	Feed-through terminal block Push-in PT 2,5/1P	3210033	Phoenix Contact	501390	X
-231U1-X3.1 &EFS+/231.a.1	1	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-L	3210062	Phoenix Contact	504126	X
-231U1-X3.1 &EFS+/231.a.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	X
-231U1-X3.1 &EFS+/231.a.1;&EFS+/231.a.9	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-231U1-X3.1 &EFS+/231.a.1;&EFS+/231.a.9	2	Latching PR	3040559	Phoenix Contact	504066	X
-231U1-X3.1 &EFS+/231.a.2...&EFS+/231.a.9	15	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-M	3210091	Phoenix Contact	504129	X
-231U1-X3.1 &EFS+/231.a.9	1	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-R	3210127	Phoenix Contact	10044	X
-231U1-X3.2 &EFS+/231.a.0	0					
-231U1-X3.2 &EFS+/231.a.1...&EFS+/231.a.7	13	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-231U1-X3.2 &EFS+/231.a.1	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-231U1-X3.2 &EFS+/231.a.1;&EFS+/231.a.7	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-231U1-X3.2 &EFS+/231.a.1;&EFS+/231.a.5	2	Plug-in bridge FBS 10-3,5	3213056	Phoenix Contact	501171	X
-237U1 &EFS+/237.0	1	*** VX BG DC switch and Fuse 3*250A 1000V***	52882	Freqcon GmbH	52882	
-237U1-C1 &EFS+/237.1	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X
-237U1-C7 &EFS+/237.3	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-237U1-C13 &EFS+/237.7	1	CAPACITORS MKP DC B2562 340µF 1320V DC	B25620C1347K321	EPCOS AG	501405	X
-237U1-F0 &EFS+/237.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F1 &EFS+/237.1	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-237U1-F1 &EFS+/237.1	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-237U1-F1 &EFS+/237.1	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-237U1-F2 &EFS+/237.1	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-237U1-F2 &EFS+/237.1	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-237U1-F2 &EFS+/237.1	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-237U1-F3 &EFS+/237.1	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F3 &EFS+/237.1	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-237U1-F3 &EFS+/237.1	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-237U1-F4 &EFS+/237.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F4 &EFS+/237.2	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-237U1-F5 &EFS+/237.3	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-237U1-F5 &EFS+/237.3	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-237U1-F5 &EFS+/237.3	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-237U1-F6 &EFS+/237.3	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-237U1-F6 &EFS+/237.3	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-237U1-F6 &EFS+/237.3	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-237U1-F7 &EFS+/237.3	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F7 &EFS+/237.3	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-237U1-F8 &EFS+/237.4	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F8 &EFS+/237.4	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-237U1-F9 &EFS+/237.6	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-237U1-F9 &EFS+/237.6	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-237U1-F9 &EFS+/237.6	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-237U1-F10 &EFS+/237.7	1	HLS Fuse 1250V/400A Size 1KN/110	170M4243	Gemballa Electronics	501537	X
-237U1-F10 &EFS+/237.7	1	Fuse base Bussmann 1250A, 1400V, 110mm center distance, UR 43653	170H3006	Gemballa Electronics	501536	X
-237U1-F10 &EFS+/237.7	1	Microswitch 250V/2A Switch K1	170H0069	Gemballa Electronics	501455	X
-237U1-F11 &EFS+/237.6	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F11 &EFS+/237.6	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-237U1-F12 &EFS+/237.8	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	X
-237U1-F12 &EFS+/237.8	1	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-237U1-F12 &EFS+/237.8	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-237U1-K1 &EFS+/237.a.1	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-237U1-K2 &EFS+/237.a.2	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-237U1-K3 &EFS+/237.a.2	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-237U1-K7 &EFS+/237.a.3	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-237U1-K8 &EFS+/237.a.4	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-237U1-K9 &EFS+/237.a.5	1	HX22 CAB 1500V, 300A, SPST-NO, 24Vdc	GIG/HX22CAB	GIGAVAC	509201	X
-237U1-U1 &EFS+/237.4	1	EMI Suppresion CAP L1-L3; N; DC + & -	FRQ-M00111	Freqcon GmbH	500450	X
-237U1-X3.1 &EFS+/237.a.0;&EFS+/237.a.9	0					
-237U1-X3.1 &EFS+/237.a.1...&EFS+/237.a.9	17	Feed-through terminal block Push-in PT 2,5/1P	3210033	Phoenix Contact	501390	X
-237U1-X3.1 &EFS+/237.a.1	1	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-L	3210062	Phoenix Contact	504126	X
-237U1-X3.1 &EFS+/237.a.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	X
-237U1-X3.1 &EFS+/237.a.1;&EFS+/237.a.9	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-237U1-X3.1 &EFS+/237.a.1;&EFS+/237.a.9	2	Latching PR	3040559	Phoenix Contact	504066	X
-237U1-X3.1 &EFS+/237.a.2...&EFS+/237.a.9	15	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-M	3210091	Phoenix Contact	504129	X
-237U1-X3.1 &EFS+/237.a.9	1	Plug Push-in, 1 Pol., 0,14 mm² - 4 mm², PP-H 2,5/1-R	3210127	Phoenix Contact	10044	X
-237U1-X3.2 &EFS+/237.a.0	0					
-237U1-X3.2 &EFS+/237.a.1...&EFS+/237.a.7	13	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-237U1-X3.2 &EFS+/237.a.1	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-237U1-X3.2 &EFS+/237.a.1;&EFS+/237.a.7	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-237U1-X3.2 &EFS+/237.a.1;&EFS+/237.a.5	2	Plug-in bridge FBS 10-3,5	3213056	Phoenix Contact	501171	X
-281M1 &EFS+/281.1	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-281M2 &EFS+/281.2	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X
-281M3 &EFS+/281.3	1	SK TopTherm fan-and-filter unit, 550/600 m³/h, 230 V, 1~, 50/60 Hz, 70W	3243100	Rittal	500596	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-78F1 &EFS+/78.6	1	Fuse switch disconnector 3NP1, 3-pole, NH00, 160 A, for mounting plate, flat terminal, Fuse monitoring: electromechanical	3NP11331CA11	Siemens	500738	
-78F1 &EFS+/78.6	3	Fuse link 690V AC, 100A, NH00, gL/gG, UL recognized, Bussmann	100NHG00B-690	Gemballa Electronics	501539	
-78F2 &EFS+/78.6	1	SURGE ARRESTER [Typ 1 + Typ 2] PP BC TNC 50-400/690	374504	LEUTRON GmbH	10055	
-78F3 &EFS+/78.7;&EFS+/78.8	3	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779	
-78F3 &EFS+/78.7;&EFS+/78.8	3	SITOR cylindrical fuse link, 10 x 38 mm, 20 A, aR, Un AC: 600 V, Un DC: 700 V, DC according to UL	3NC1020	Siemens	501545	
-78W1 &EFS+/78.3	1	*** BG connection rail 100x370 ***	53190	Freqcon GmbH	53190	
-78W2 &EFS+/78.3	0	*** BG connection rail 100x370 ***	53190	Freqcon GmbH	53190	
-78W3 &EFS+/78.3	0	*** BG connection rail 100x370 ***	53190	Freqcon GmbH	53190	
-78W4 &EFS+/78.3	1	*** VX BG PE + N busbar 50x380 - 600 MTS ***	53290	Freqcon GmbH	53290	
-78W5 &EFS+/78.2	1	*** BG connection rail 100x370 ***	50070	Freqcon GmbH	50070	
-227W10 &EFS+/227.1	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-227W11 &EFS+/227.1	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-227W12 &EFS+/227.4	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-227W13 &EFS+/227.4	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-227W14 &EFS+/227.7	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-227W15 &EFS+/227.7	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-228F1 &EFS+/228.0	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-228F2 &EFS+/228.4	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-228F3 &EFS+/228.7	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-231W10 &EFS+/231.1	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-231W11 &EFS+/231.1	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-231W12 &EFS+/231.4	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-231W13 &EFS+/231.4	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-231W14 &EFS+/231.7	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-231W15 &EFS+/231.7	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-237W10 &EFS+/237.1	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-237W11 &EFS+/237.1	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-237W12 &EFS+/237.4	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-237W13 &EFS+/237.4	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-237W14 &EFS+/237.7	1	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-237W15 &EFS+/237.7	0	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604	
-238F1 &EFS+/238a.0	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-238F2 &EFS+/238a.4	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-238F3 &EFS+/238a.7	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-238F4 &EFS+/238b.0	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-238F5 &EFS+/238b.4	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-238F6 &EFS+/238b.7	1	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130	
-X3.43	20	Multi-level terminal block	3208511	Phoenix Contact	500560	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-XT1 &EFS/136.0...&EFS/136.8	20	Feed-through terminal block	3209510	Phoenix Contact	500583	
-XT1 &EFS/136.0	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-XT1 &EFS/136.0	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XT1 &EFS/136.0	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-84Q1 &EFS+/84.0	1	EMERGENCY STOP SWITCH	3LD2203-1TP53	Siemens	500810	X
-84Q1 &EFS+/84.0	1	Auxiliary switch	3LD9200-5B	Siemens	504922	X
-112A1 &EFS+/112.2	1	Panel PC 15,6" PPC-JWS156-J4125	PPC-JWS156-I/C-J4125/8GB/128GBSSD/W10	ICP	508475	
-126S1 &EFS+/126.1	1	PUSHBUTTON, BLACK, 1 NO	3SU1100-0AB10-3BA0	Siemens	10026	X
-126S1 &EFS+/126.1	1	Marker carriers - CARRIER-EMP 22 (27X12,5)	0827446	Phoenix Contact	500751	X
-140H1 &EFS+/140.1	1	Complete device, round, indicator light RED	3SU1102-6AA20-3AA0	Siemens	10019	X
-140H1 &EFS+/140.1	1	Marker carriers - CARRIER-EMP 22 (27X12,5)	0827446	Phoenix Contact	500751	X
-140H2 &EFS+/140.2	1	Complete device, round, indicator light YELLOW	3SU1102-6AA30-3AA0	Siemens	10021	X
-140H2 &EFS+/140.2	1	Marker carriers - CARRIER-EMP 22 (27X12,5)	0827446	Phoenix Contact	500751	X
-140H3 &EFS+/140.3	1	Complete device, round, indicator light GREEN	3SU1102-6AA40-3AA0	Siemens	10023	X
-140H3 &EFS+/140.3	1	Marker carriers - CARRIER-EMP 22 (27X12,5)	0827446	Phoenix Contact	500751	X
-140H4 &EFS+/140.4	1	Complete device, round, indicator light GREEN	3SU1102-6AA40-3AA0	Siemens	10023	X
-140H4 &EFS+/140.4	1	Marker carriers - CARRIER-EMP 22 (27X12,5)	0827446	Phoenix Contact	500751	X
-278M1 &EFS+/278.1	1	SK TopTherm fan-and-filter unit, 230/250 m³/h, 230 V, 1~, 50/60 Hz, 40W	3241100	Rittal	500594	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-110U1 &EFS+/110.2	1	SIMOTION P320-4 BOX WITH INTEL CORE I3 PROZESSOR; 2 X 1,6 GHZ	6AU1320-4DE65-3AF0	Siemens	500789	
-110U1 &EFS+/110.2	1	Connector RJ45, 4 Pol., Profinet, VS-PN-RJ45-5-Q/IP20	1658435	Phoenix Contact	500806	X
-114A1 &EFS+/114.4	1	SIMATIC PN/PN Coupler	6ES7158-3AD10-0XA0	Siemens	10138	
-114A1 &EFS+/114.4	2	BA 2XRJ45	6ES7193-6AR00-0AA0	Siemens	505628	
-185R1 &EFS+/185.7	1	SK Enclosure heater, 800/870 W, 230 V, 1~, 50/60 Hz, WHD: 103x200x103 mm	3105400	Rittal	500621	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-84F1 &EFS+/84.6	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-84F2 &EFS+/84.0	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	X
-84F2 &EFS+/84.0	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-84K1 &EFS+/84.5	1	CONTACTOR RELAY, 3NO+1NC DC 24V, mit Diode integriert	3RH2131-2FB40	Siemens	501288	X
-101Q1 &EFS+/101.2	1	CIRCUIT-BREAKER SPRING-L. CONN. 3.2A	3RV2011-1DA25	Siemens	501432	X
-101Q1 &EFS+/101.2	1	CABLE CONNECTOR SIZE S00	3RV2917-5AA00	Siemens	500797	X
-101Q1 &EFS+/101.2	1	3-PHASE BUSBAR W. INFEED	3RV2917-1A	Siemens	500799	X
-101Q1 &EFS+/101.2	1	3-phase busbar including extension connector for 3 circuit breakers Size S00 and S0	3RV2917-4B	Siemens	504254	X
-101T1 &EFS+/101.2	1	Power supply unit	2866404	Phoenix Contact	502745	X
-102G1 &EFS+/102.2	1	Uninterruptible power supply	2320241	Phoenix Contact	501836	X
-102G2 &EFS+/102.6	1	Energy storage UPS-BAT/VRLA/24DC/12AH	2320322	Phoenix Contact	501229	X
-103F1 &EFS+/103.2	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	X
-103F2 &EFS+/103.4	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	X
-103F3 &EFS+/103.6	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	X
-103F4 &EFS+/103.8	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	X
-103F5 &EFS+/103.9	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	X
-111A1 &EFS+/111.0	1	Tree 8TX Metall - Unmanaged Switch - 8 Ports	58152	Murrelektronik	10287	
-113T1 &EFS+/113a.1	1	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464	
-113T1 &EFS+/113a.1	1	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-113T2 &EFS+/113b.1	1	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464	
-113T2 &EFS+/113b.1	1	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395	
-113U1 &EFS+/113a.3	1	Surge protection device	2881007	Phoenix Contact	504791	
-113U2 &EFS+/113a.5	1	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214	
-113U3 &EFS+/113b.3	1	Surge protection device	2881007	Phoenix Contact	504791	
-113U4 &EFS+/113b.5	1	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214	
-115A1 &EFS+/115.3	1	Router Ewon Cosy 131, 4G + VPN router, supply 24 VDC UMTS router	WEC6133G	Wachendorff Prozesstechnik GmbH & Co. KG	506838alt	
-120A1 &EFS+/120.1	1	SIMATIC ET 200SP, PROFINET Interface-Module, IM 155-6 PN ST, bundle of Server module + Busadapter	6ES7155-6AA01-0BN0	Siemens	501554	X
-134K1 &EFS+/134.8	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-134K1 &EFS+/134.8	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-135K1 &EFS+/135.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-135K1 &EFS+/135.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-135K2 &EFS+/135.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-135K2 &EFS+/135.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-135K3 &EFS+/135.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-135K3 &EFS+/135.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-135K4 &EFS+/135.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-135K4 &EFS+/135.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-135K5 &EFS+/135.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-135K5 &EFS+/135.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-136K7 &EFS+/136.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-136K8 &EFS+/136.7	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-136K9 &EFS+/136.8	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-137K1 &EFS+/137.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-137K1 &EFS+/137.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-137K2 &EFS+/137.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-137K2 &EFS+/137.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-137K3 &EFS+/137.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-137K3 &EFS+/137.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-137K4 &EFS+/137.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-137K4 &EFS+/137.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-138K1 &EFS+/138.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-138K1 &EFS+/138.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-138K2 &EFS+/138.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-138K2 &EFS+/138.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-138K3 &EFS+/138.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-138K3 &EFS+/138.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-138K4 &EFS+/138.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-138K4 &EFS+/138.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-138K5 &EFS+/138.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-138K5 &EFS+/138.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-138K6 &EFS+/138.6	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-138K6 &EFS+/138.6	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-138K7 &EFS+/138.7	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-138K7 &EFS+/138.7	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-139K1 &EFS+/139.1	1	CONTACTOR,AC3:3KW 1NO DC24V M. DIODE	3RT2015-2FB41	Siemens	501516	X
-139K2 &EFS+/139.2	1	CONTACTOR,AC3:3KW 1NO DC24V M. DIODE	3RT2015-2FB41	Siemens	501516	X
-139K3 &EFS+/139.3	1	CONTACTOR,AC3:3KW 1NO DC24V M. DIODE	3RT2015-2FB41	Siemens	501516	X
-150K1 &EFS+/150.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-150K1 &EFS+/150.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-150K2 &EFS+/150.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-150K2 &EFS+/150.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-150X1 &EFS+/150.1	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-150X1 &EFS+/150.1	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-150X1 &EFS+/150.2;&EFS+/150.4;&EFS+/151.1;&EFS+/151.4;&EFS+/151.6	5	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-151K1 &EFS+/151.0	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-151K1 &EFS+/151.0	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-151K2 &EFS+/151.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-151K2 &EFS+/151.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-151K3 &EFS+/151.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-151K3 &EFS+/151.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-151K4 &EFS+/151.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-151K4 &EFS+/151.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-171K3 &EFS+/171.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-171K3 &EFS+/171.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-173K3 &EFS+/173.6	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-173K3 &EFS+/173.6	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-181Q1 &EFS+/181.1	1	MOTOR PROTECTION S00, A-release 3.5...5 A, N-release 65 A, Spring-type terminal, auxiliary switches 1NO+1NC	3RV2011-1FA25	Siemens	500740	
-181Q1 &EFS+/181.1	1	Link module spring-type Electrical and mechanical for 3RV2011 and 3RT201	3RA2911-2AA00	Siemens	500845	
-181Q1 &EFS+/181.1	1	CABLE CONNECTOR SIZE S00	3RV2917-5AA00	Siemens	500797	
-181Q2 &EFS+/181.3	1	MOTOR PROTECTION S00, A-release 4.5...6.3 A, N-release 82 A, Spring-type terminal, auxiliary switches 1NO+1NC	3RV2011-1GA25	Siemens	500671	
-181Q2 &EFS+/181.3	1	Link module spring-type Electrical and mechanical for 3RV2011 and 3RT201	3RA2911-2AA00	Siemens	500845	
-181Q2 &EFS+/181.3	1	CABLE CONNECTOR SIZE S00	3RV2917-5AA00	Siemens	500797	
-182Q1 &EFS+/182.1	1	MOTOR PROTECTION S00, A-release 3.5...5 A, N-release 65 A, Spring-type terminal, auxiliary switches 1NO+1NC	3RV2011-1FA25	Siemens	500740	
-182Q1 &EFS+/182.1	1	Link module spring-type Electrical and mechanical for 3RV2011 and 3RT201	3RA2911-2AA00	Siemens	500845	
-182Q1 &EFS+/182.1	1	CABLE CONNECTOR SIZE S00	3RV2917-5AA00	Siemens	500797	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-183F1 &EFS+/183.1	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	X
-183F1 &EFS+/183.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-183F1 &EFS+/183.1	1	Pin busbar touch-safe, 16 mm2 3x 1-phase+AUX, 1016 mm long	5ST3714	Siemens	503364	X
-183F1 &EFS+/183.1	2	End cap for pin busbars 2 - 3-phase	5ST3750	Siemens	503570	X
-183F2 &EFS+/183.3	1	CIRCUIT BREAKER 10KA 1POL C10	5SY4110-7	Siemens	500681	X
-183F2 &EFS+/183.3	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-185B1 &EFS+/185.6	1	Thermostat NC contact, -10 to 50 °C	8MR2170-1CA	Siemens	500816	X
-185F1 &EFS+/185.1	1	CIRCUIT BREAKER 10KA 1POL C10	5SY4110-7	Siemens	500681	X
-185F1 &EFS+/185.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-185F2 &EFS+/185.7	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	X
-185F2 &EFS+/185.7	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-186B1 &EFS+/186.6	1	Thermostat NO contact, -10 to 50 °C	8MR2170-1CB	Siemens	501577	X
-186K1 &EFS+/186.6	1	CONTACTOR,AC3:3KW 1NO DC24V M. DIODE	3RT2015-2FB41	Siemens	501516	X
-187F1 &EFS+/187.1	1	CIRCUIT BREAKER 230/400V 10KA 1POL C13	5SY4113-7	Siemens	504323	X
-187F1 &EFS+/187.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-187F2 &EFS+/187.4	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	X
-189K1 &EFS+/189.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-190F1 &EFS+/190.1	1	RCBO elm, TYP A, 230V, 10KA, 1 Pol.+N, 30mA, C, 16A	5SU1354-7KK16	Siemens	500765	X
-190F1 &EFS+/190.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-190F1 &EFS+/190.1	1	Handle coupler for residual current miniature circuit breaker D=70 mm	5ST3805-1	Siemens	500608	X
-190F2 &EFS+/190.3	1	RCBO elm, TYP A, 230V, 10KA, 1 Pol.+N, 30mA, C, 16A	5SU1354-7KK16	Siemens	500765	X
-190F2 &EFS+/190.3	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-190F2 &EFS+/190.3	1	Handle coupler for residual current miniature circuit breaker D=70 mm	5ST3805-1	Siemens	500608	X
-190F3 &EFS+/190.5	1	RCBO elm, TYP A, 230V, 10KA, 1 Pol.+N, 30mA, C, 16A	5SU1354-7KK16	Siemens	500765	X
-190F3 &EFS+/190.5	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-190F3 &EFS+/190.5	1	Handle coupler for residual current miniature circuit breaker D=70 mm	5ST3805-1	Siemens	500608	X
-190X10 &EFS+/190.9	1	5TE6 REG Socket Outlets, 16 A	5TE6800	Siemens	503215	X
-190XT1 &EFS+/190.0	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	X
-190XT1 &EFS+/190.0	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	X
-190XT1 &EFS+/190.1;&EFS+/190.3;&EFS+/190.5;&EFS+/190.7	4	Feed-through terminal block	3209510	Phoenix Contact	500583	X
-190XT1 &EFS+/190.1;&EFS+/190.3;&EFS+/190.5;&EFS+/190.7	4	Feed-through terminal block	3209523	Phoenix Contact	500584	X
-190XT1 &EFS+/190.1;&EFS+/190.5	3	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	X
-190XT1 &EFS+/190.1;&EFS+/190.3;&EFS+/190.5;&EFS+/190.7	4	Ground terminal block	3209536	Phoenix Contact	500813	X
-191F1 &EFS+/191.1	1	CIRCUIT BREAKER 10KA 3POL C16	5SY4316-7	Siemens	503340	X
-191F1 &EFS+/191.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-191F2 &EFS+/191.3	1	CIRCUIT BREAKER 10KA 3POL C16	5SY4316-7	Siemens	503340	X
-191F2 &EFS+/191.3	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	X
-191XT1 &EFS+/191.1;&EFS+/191.3	6	Feed-through terminal block Push-in PT 6	3211813	Phoenix Contact	501388	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-191XT1 &EFS+/191.1	1	End and partition plate for terminal block	3212044	Phoenix Contact	500503	X
-191XT1 &EFS+/191.1	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-191XT1 &EFS+/191.2;&EFS+/191.4	2	Feed-through terminal block Push-in PT 6 BU	3211819	Phoenix Contact	500585	X
-191XT1 &EFS+/191.2;&EFS+/191.4	2	Ground modular terminal block Push-in PT 6-PE	3211822	Phoenix Contact	500725	X
-195K1 &EFS+/195.3	1	SIRIUS contactor relay	3RH2362-2BB40	Siemens	501287	X
-195K1 &EFS+/195.3	1	SURGE SUPPRESSOR, DIODE COMBINATION, DC 12...250V, F. CONT. RELAYS A. MOTOR CONT. SZ S00	3RT29161EH00	Siemens	500534	X
-195K2 &EFS+/195.4	1	SIRIUS contactor relay	3RH2362-2BB40	Siemens	501287	X
-195K2 &EFS+/195.4	1	SURGE SUPPRESSOR, DIODE COMBINATION, DC 12...250V, F. CONT. RELAYS A. MOTOR CONT. SZ S00	3RT29161EH00	Siemens	500534	X
-195K3 &EFS+/195.1	1	SIRIUS SAFETY RELAY STD RELAY 3NO+1NC	3SK1111-2AB30	Siemens	501260	X
-AI_01 &EFS+/120.6	1	ET 200SP, AI 8XRTD/TC 2-WIRE HF	6ES7134-6JF00-0CA1	Siemens	501550	X
-AI_01 &EFS+/120.6	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	X
-AI_02 &EFS+/120.6	1	ET 200SP, AI 8XRTD/TC 2-WIRE HF	6ES7134-6JF00-0CA1	Siemens	501550	X
-AI_02 &EFS+/120.6	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-AI_03 &EFS+/120.7	1	ET 200SP, AI 4XU/I 2-WIRE ST, PU 1	6ES7134-6HD01-0BA1	Siemens	505054	X
-AI_03 &EFS+/120.7	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-AI_04 &EFS+/120.7	1	ET 200SP, AI 4XU/I 2-WIRE ST, PU 1	6ES7134-6HD01-0BA1	Siemens	505054	X
-AI_04 &EFS+/120.7	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DI_01 &EFS+/120.3	1	ET 200SP, DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens		X
-DI_01 &EFS+/120.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-DI_02 &EFS+/120.3	1	ET 200SP, DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens		X
-DI_02 &EFS+/120.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DI_03 &EFS+/120.3	1	ET 200SP, DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens		X
-DI_03 &EFS+/120.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DI_04 &EFS+/120.4	1	ET 200SP, DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens		X
-DI_04 &EFS+/120.4	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DI_05 &EFS+/120.4	1	ET 200SP, DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens		X
-DI_05 &EFS+/120.4	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DI_06 &EFS+/120.4	1	ET 200SP, DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens		X
-DI_06 &EFS+/120.4	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DO_01 &EFS+/120.5	1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397	X
-DO_01 &EFS+/120.5	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	X
-DO_02 &EFS+/120.5	1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397	X
-DO_02 &EFS+/120.5	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	X
-DO_03 &EFS+/120.5	1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397	
-DO_03 &EFS+/120.5	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	
-DO_04 &EFS+/120.6	1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397	
-DO_04 &EFS+/120.6	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	
-X1 &EFS+/181.0	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-X1 &EFS+/181.0	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	X
-X1 &EFS+/181.1;&EFS+/181.3;&EFS+/181.4;&EFS+/182.1;&EFS+/182.3;&EFS+/182.4	12	Feed-through terminal block	3209510	Phoenix Contact	500583	X
-X1 &EFS+/181.4	1	Feed-through terminal block	3209523	Phoenix Contact	500584	X
-X1 &EFS+/181.1;&EFS+/181.4;&EFS+/182.1;&EFS+/182.4	4	Ground terminal block	3209536	Phoenix Contact	500813	X
-X3 &EFS+/127.1	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-X3 &EFS+/127.1	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X3.10 &EFS+/129.0	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-X3.10 &EFS+/129.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X3.10 &EFS+/129.0;&EFS+/129.2;&EFS+/129.4;&EFS+/129.6;&EFS+/129.8;&EFS+/129.9	6	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-X3.10 &EFS+/129.0;&EFS+/129.4;&EFS+/129.6;&EFS+/129.9	4	Plug-in bridge FBS 3-3,5	3213027	Phoenix Contact	503102	X
-X3.11 &EFS+/130.0	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-X3.11 &EFS+/130.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X3.11 &EFS+/130.0;&EFS+/130.2;&EFS+/130.4;&EFS+/130.6;&EFS+/130.8;&EFS+/130.9	6	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-X3.11 &EFS+/130.0;&EFS+/130.4;&EFS+/130.6;&EFS+/130.9	4	Plug-in bridge FBS 3-3,5	3213027	Phoenix Contact	503102	X
-X3.12 &EFS+/131.0	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-X3.12 &EFS+/131.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X3.12 &EFS+/131.0;&EFS+/131.2;&EFS+/131.4;&EFS+/131.6;&EFS+/131.8;&EFS+/131.9	6	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-X3.12 &EFS+/131.0;&EFS+/131.6	4	Plug-in bridge FBS 3-3,5	3213027	Phoenix Contact	503102	X
-X3.13 &EFS+/132.0	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-X3.13 &EFS+/132.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X3.13 &EFS+/132.0;&EFS+/132.2;&EFS+/132.4;&EFS+/132.6;&EFS+/132.8;&EFS+/132.9	6	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-X3.13 &EFS+/132.0;&EFS+/132.6	4	Plug-in bridge FBS 3-3,5	3213027	Phoenix Contact	503102	X
-X3	21	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-X3 &EFS+/127.1;&EFS+/127.5;&EFS+/128.3;&EFS+/188.1	5	Plug-in bridge FBS 2-3,5	3213014	Phoenix Contact	500802	X
-X5 &EFS+/145.0	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	X
-X5 &EFS+/145.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X5.1 &EFS+/149.0	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-X5.1 &EFS+/149.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-X5.1 &EFS+/149.0;&EFS+/149.2	2	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-X5.1 &EFS+/149.0	1	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	X
-X5	15	Multi-level terminal block	3208511	Phoenix Contact	500560	X
-XDC1 &EFS+/103.1	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-XDC1 &EFS+/103.1	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XDC1 &EFS+/103.2;&EFS+/103.3	7	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-XDC1 &EFS+/103.2	1	Plug-in bridge FBS 3-5	3030174	Phoenix Contact	503103	X
-XDC1 &EFS+/103.3	1	Plug-in bridge FBS 4-5	3030187	Phoenix Contact	500801	X
-XDC1 &EFS+/103.4	2	Protective conductor double-level terminal block Push-in PTTB 2,5-PE	3210596	Phoenix Contact	501389	X
-XDC2 &EFS+/103.3	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-XDC2 &EFS+/103.3	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XDC2 &EFS+/103.4;&EFS+/103.5	4	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-XDC2 &EFS+/103.4;&EFS+/103.5	2	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	X
-XDC3 &EFS+/103.5	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-XDC3 &EFS+/103.5	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XDC3 &EFS+/103.6;&EFS+/103.7	4	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-XDC3 &EFS+/103.6;&EFS+/103.7	2	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	X
-XDC4 &EFS+/103.7	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-XDC4 &EFS+/103.7	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XDC4 &EFS+/103.8;&EFS+/103.9	4	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-XDC4 &EFS+/103.8;&EFS+/103.9	2	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	X
-XDC5.1 &EFS+/103.8	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-XDC5.1 &EFS+/103.8	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XDC5.1 &EFS+/103.9	1	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-XDC5.2 &EFS+/103.8	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-XDC5.2 &EFS+/103.8	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XDC5.2 &EFS+/103.9	1	Multi-level terminal block	3210583	Phoenix Contact	501385	X
-XE &EFS+/84.0	1	End and partition plate for terminal block	3212044	Phoenix Contact	500503	X
-XE &EFS+/84.0	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-XE &EFS+/84.0;&EFS+/84.1	6	Feed-through terminal block Push-in PT 6	3211813	Phoenix Contact	501388	X
-XE &EFS+/84.0;&EFS+/84.1	3	Plug-in bridge FBS 2-8	3030284	Phoenix Contact	502068	X
-XE &EFS+/84.1;&EFS+/84.2	4	Feed-through terminal block Push-in PT 6 BU	3211819	Phoenix Contact	500585	X
-XE &EFS+/84.1	1	Plug-in bridge FBS 3-8	3030297	Phoenix Contact	501568	X
-XE &EFS+/84.2;&EFS+/84.3	3	Ground modular terminal block Push-in PT 6-PE	3211822	Phoenix Contact	500725	X
-XT &EFS+/183.0	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-XT &EFS+/183.0	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-XT &EFS+/183.1;&EFS+/183.2;&EFS+/183.3;&EFS+/185.1;&EFS+/185.2;&EFS+/185.7;&EFS+/187.1;&EFS+/187.2;&EFS+/187.4;&EFS+/187.5	8	Multi-level terminal block	3210567	Phoenix Contact	501386	X
-XT &EFS+/183.1	1	Plug-in bridge FBS 10-5	3030213	Phoenix Contact	500547	X
-XT &EFS+/187.4	1	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	X
-XT &EFS+/183.1;&EFS+/183.4;&EFS+/185.1;&EFS+/185.7;&EFS+/187.1;&EFS+/187.2	6	Protective conductor double-level terminal block Push-in PTTB 2,5-PE	3210596	Phoenix Contact	501389	X
-XV &EFS+/171.8	1	End and partition plate for terminal block	3211003	Phoenix Contact	503382	X
-XV &EFS+/171.8	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	X
-XV &EFS+/134.5;&EFS+/150.7;&EFS+/151.7;&EFS+/151.8;&EFS+/171.8;&EFS+/173.9	9	Base terminal for component connector	3210185	Phoenix Contact	500828	X
-XV &EFS+/134.5;&EFS+/150.7;&EFS+/151.7;&EFS+/151.8;&EFS+/171.8;&EFS+/173.9	9	Component plug terminal block	3036796	Phoenix Contact	500533	X
-XV &EFS+/150.7;&EFS+/151.7;&EFS+/151.8;&EFS+/171.8;&EFS+/173.9	8	Suppression diode CB-417, 600W, 47V, -65...+175°C	P6KE47CA	reichelt elektronik GmbH & Co. KG	501574	X
-XV &EFS+/171.8	1	Plug-in bridge FBS 10-5	3030213	Phoenix Contact	500547	X
-XV &EFS+/134.5	1	Diode ZY12 - zener diode, DO-41, plastic, 12V, 2W	17060488	Distrelec Schuricht GmbH	500556	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-85U1 &EFS+/85.0	1	Power Bridge Rectifiers SKD 30/16A1, Vrrm = 1600V, Id = 30A	07122150	Semikron	501556	X
-85U10 &EFS+/85.0	1	EMI Filter X2 Y1 Version 2	505722	Freqcon GmbH	505722	X
-85U11 &EFS+/85.1	1	RC-Brückengleichrichter	507702	Freqcon GmbH	507702	
-149U1 &EFS+/149.5	1	Interface module	2959609	Phoenix Contact	501595	X
-171F1 &EFS+/171.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 2-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7023-4	Siemens	500780	X
-171F1 &EFS+/171.2	2	Fuse link 1000V AC/DC, 10A, 10x38mm, gR, 30kA	5019906-10	Schukat	501540	X
-171K1 &EFS+/171.7	1	DC contactor P115, 50A, 1500V DC, 1-pole, 24Vdc, SPST-NO	GIG/P115CDA	GIGAVAC	501487	X
-171K2 &EFS+/171.8	1	DC contactor P115, 50A, 1500V DC, 1-pole, 24Vdc, SPST-NO	GIG/P115CDA	GIGAVAC	501487	X
-171R1 &EFS+/171.1	1	Power Resistor 15R 10%(K) 300W, alu.-housing, VHPR/UL 300H	110072	Widap AG	501616	X
-171R2 &EFS+/171.2	1	Power Resistor 15R 10%(K) 300W, alu.-housing, VHPR/UL 300H	110072	Widap AG	501616	X
-173F2 &EFS+/173.2	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 2-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7023-4	Siemens	500780	X
-173F2 &EFS+/173.2	2	Fuse link 1000V AC/DC, 10A, 10x38mm, gR, 30kA	5019906-10	Schukat	501540	X
-173F3 &EFS+/173.4	1	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 2-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7023-4	Siemens	500780	X
-173F3 &EFS+/173.4	2	Fuse link 1000V AC/DC, 1A, 10x38mm, gR, 30kA	5019906.1	Schukat	500774	X
-173K1 &EFS+/173.8	1	DC contactor PNC113, 30A, 1500V DC, 1-pole, 24Vdc, SPST-NC	GIG/PNC113CDA	GIGAVAC	501488	X
-173K2 &EFS+/173.9	1	DC contactor PNC113, 30A, 1500V DC, 1-pole, 24Vdc, SPST-NC	GIG/PNC113CDA	GIGAVAC	501488	X
-173R1 &EFS+/173.2	1	Power resistor 500R 10%(K) 150W, alu.-housing, VHPR/UL 200H	110073	Widap AG	501615	X
-173R2 &EFS+/173.2	1	Power resistor 500R 10%(K) 150W, alu.-housing, VHPR/UL 200H	110073	Widap AG	501615	X
-173R3 &EFS+/173.3	1	Power resistor 500R 10%(K) 150W, alu.-housing, VHPR/UL 200H	110073	Widap AG	501615	X

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-173R4 &EFS+/173.3	1	Power resistor 500R 10%(K) 150W, alu.-housing, VHPR/UL 200H	110073	Widap AG	501615	X
-189X1 &EFS+/189.4	9	Disconnect and test disconnect rail-mount terminal block	3035696	Phoenix Contact	54498	X
-189X1 &EFS+/189.4	9	Test adapter - PAIS-4-FIX GY	3032791	Phoenix Contact	501482	X
-189X1 &EFS+/189.4	1	End cover D-DTME 6	3034426	Phoenix Contact	505468	X
-189X1 &EFS+/189.4	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-306K1 &EFS+/306.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-306K1 &EFS+/306.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-306K2 &EFS+/306.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-306K2 &EFS+/306.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-306K3 &EFS+/306.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-306K3 &EFS+/306.4	2	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-306K4 &EFS+/306.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-306K4 &EFS+/306.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-306K5 &EFS+/306.7	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-306K5 &EFS+/306.7	2	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-306K6 &EFS+/306.8	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-306K6 &EFS+/306.8	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-307K1 &EFS+/307.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-307K1 &EFS+/307.1	2	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-307K2 &EFS+/307.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-307K2 &EFS+/307.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-307K3 &EFS+/307.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-307K3 &EFS+/307.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-307K4 &EFS+/307.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-307K4 &EFS+/307.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-307K5 &EFS+/307.7	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-307K5 &EFS+/307.7	2	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-307K6 &EFS+/307.8	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-307K6 &EFS+/307.8	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-308K1 &EFS+/308.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-308K1 &EFS+/308.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-308K2 &EFS+/308.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-308K2 &EFS+/308.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-308K3 &EFS+/308.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-308K3 &EFS+/308.4	2	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-308K4 &EFS+/308.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-308K4 &EFS+/308.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-308K5 &EFS+/308.7	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-308K5 &EFS+/308.7	2	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-308K6 &EFS+/308.8	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-308K6 &EFS+/308.8	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-350K1 &EFS+/350.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-350K1 &EFS+/350.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-350K2 &EFS+/350.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-350K2 &EFS+/350.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-350X1.21 &EFS+/350.1	1	End and partition plate for terminal block	3208579	Phoenix Contact	500504	
-350X1.21 &EFS+/350.1	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	
-350X1.21 &EFS+/350.1 &EFS+/350.2 &EFS+/350.4 &EFS+/350.5 &EFS+/351.1 &EFS+/351.3 &EFS+/351.4 &EFS+/351.5 &EFS+/352.1 &EFS+/352.2 &EFS+/352.4 &EFS+/352.5 &EFS+/353.1 &EFS+/353.3 &EFS+/353.4 &EFS+/353.5 &EFS+/354.1 &EFS+/354.3 &EFS+/354.4 &EFS+/354.5	9	Multi-level terminal block	3208511	Phoenix Contact	500560	
-350X1.21 &EFS+/352.1	0					
-351K1 &EFS+/351.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-351K1 &EFS+/351.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-351K2 &EFS+/351.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	X
-351K2 &EFS+/351.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	X
-351K3 &EFS+/351.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-351K3 &EFS+/351.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-351K4 &EFS+/351.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-351K4 &EFS+/351.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-352K1 &EFS+/352.0	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-352K1 &EFS+/352.0	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-352K2 &EFS+/352.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-352K2 &EFS+/352.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-353K1 &EFS+/353.0	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-353K1 &EFS+/353.0	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-353K2 &EFS+/353.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-353K2 &EFS+/353.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-353K3 &EFS+/353.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-353K3 &EFS+/353.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-353K4 &EFS+/353.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-353K4 &EFS+/353.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-XE2 &EFS+/173.1	0					
-XE2 &EFS+/173.2...&EFS+/173.5	11	Feed-through terminal block Push-in PT 6	3211813	Phoenix Contact	501388	X
-XV.20 &EFS+/350.7;&EFS+/351.7;&EFS+/351.8;&EFS+/352.7;&EFS+/353.7;&EFS+/353.8	12	Base terminal for component connector	3210185	Phoenix Contact	500828	
-XV.20 &EFS+/350.7;&EFS+/351.7;&EFS+/351.8;&EFS+/352.7;&EFS+/353.7;&EFS+/353.8	12	Component plug terminal block	3036796	Phoenix Contact	500533	
-XV.20 &EFS+/350.7;&EFS+/351.7;&EFS+/351.8;&EFS+/352.7;&EFS+/353.7;&EFS+/353.8	12	Suppression diode CB-417, 600W, 47V, -65...+175°C	P6KE47CA	reichelt elektronik GmbH & Co. KG	501574	

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Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-147B1 &EFS+/147.5	1	Temperature sensor PT100, cable 1.5m, PVC	1101-6030-1211-110	S+S Regeltechnik GmbH	501787	X
-190H1 &EFS+/190.5	1	LED system light, Without socket, Length: 337 mm, Input voltage: 100 V - 240 V, 1~, 50 Hz/60 Hz	2500110	Rittal	10007	X
-190H1 &EFS+/190.5	1	Infeed, 2-pole (with socket, without connector), Input voltage: 100 V - 240 V, 1~, 50 Hz/60 Hz	2500420	Rittal	10009	X
-190H1 &EFS+/190.5	1	Door-Operated Switch, Input voltage: 230 V AC, 24 V DC, - 240 V, 1~, 50 Hz/60 Hz,	2500460	Rittal	500736	X

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Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-20BG1 &EFS+/100.2	1	*** VX BG Steuerungseinheit IEC Standard-Batteriecontainer***	53550	Freqcon GmbH	53550	
-20BG1-X &EFS+/100.2	55	End bracket for terminal block	3022276	Phoenix Contact	500588	X

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-149X1 &EFS+/161.4...&EFS+/161.8	6	Feed-through terminal block Push-in PT 4	3211757	Phoenix Contact	500582	X
-149X1 &EFS+/161.4	1	End cover D-ST 4	3030420	Phoenix Contact	500502	
-149X1 &EFS+/161.4	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-149X1 &EFS+/161.4	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	
-160U1 &EFS+/160.0	1	HVIO Modul V5.0;ISO N-DC, N-AC	500390	Freqcon GmbH	500390	
-161U1 &EFS+/161.0	1	HVIO Modul V5.0;ISO N-DC, N-AC	500390	Freqcon GmbH	500390	
-162U1 &EFS+/162.0	1	HVIO Modul V5.0;ISO N-DC, N-AC	500390	Freqcon GmbH	500390	
-163U1 &EFS+/163.0	1	HVIO Modul V5.0;ISO N-DC, N-AC	500390	Freqcon GmbH	500390	
-164U1 &EFS+/164.0	1	HVIO Modul V5.0;ISO N-DC, N-AC	500390	Freqcon GmbH	500390	
-240U1 &EFS+/440.1	1	PIII IGBT IRT Interface 2.6 V4 cabinet	504890	Freqcon GmbH	504890	
-240U1 &EFS+/440.1	1	Connector screw connection, 4 Pol., 4 mm² - 6 mm², SACC-M12FS-4CON-PG7	1681114	Phoenix Contact	500805	
-240U1 &EFS+/440.1	1	Plug connector IE FC M12 PLUG PRO 2X2 M12	6GK1901-0DB20-6AA0	Siemens	500804	
-241U1 &EFS+/441.1	1	PIII IGBT IRT Interface 2.6 V4 cabinet	504890	Freqcon GmbH	504890	
-241U1 &EFS+/441.1	1	Connector screw connection, 4 Pol., 4 mm² - 6 mm², SACC-M12FS-4CON-PG7	1681114	Phoenix Contact	500805	
-241U1 &EFS+/441.1	2	Plug connector IE FC M12 PLUG PRO 2X2 M12	6GK1901-0DB20-6AA0	Siemens	500804	
-242U1 &EFS+/442.1	1	PIII IGBT IRT Interface 2.6 V4 cabinet	504890	Freqcon GmbH	504890	
-242U1 &EFS+/442.1	1	Connector screw connection, 4 Pol., 4 mm² - 6 mm², SACC-M12FS-4CON-PG7	1681114	Phoenix Contact	500805	
-242U1 &EFS+/442.1	2	Plug connector IE FC M12 PLUG PRO 2X2 M12	6GK1901-0DB20-6AA0	Siemens	500804	
-243U1 &EFS+/443.1	1	PIII IGBT IRT Interface 2.6 V4 cabinet	504890	Freqcon GmbH	504890	

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Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-243U1 &EFS+/443.1	1	Connector screw connection, 4 Pol., 4 mm² - 6 mm², SACC-M12FS-4CON-PG7	1681114	Phoenix Contact	500805	
-243U1 &EFS+/443.1	2	Plug connector IE FC M12 PLUG PRO 2X2 M12	6GK1901-0DB20-6AA0	Siemens	500804	
-278M2 &EFS+/278.3	1	SK TopTherm fan-and-filter unit, 230/250 m³/h, 230 V, 1~, 50/60 Hz, 40W	3241100	Rittal	500594	X

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Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-173R5 &EFS+/173.5	1	Power Resistor 100W 1% 10K J	160141	Widap AG	501614	
-173R6 &EFS+/173.5	1	Power Resistor 100W 1% 10K J	160141	Widap AG	501614	
-173R7 &EFS+/173.5	1	Power Resistor 100W 1% 10K J	160141	Widap AG	501614	
-173R8 &EFS+/173.5	1	Power Resistor 100W 1% 10K J	160141	Widap AG	501614	

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Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-52G1 &EFS++CT/181.0;&EFS++CT/181.7	0					
-52G1-148B1 &EFS++CT/148.1	1	Temperature sensor PT100, cable 3m, PVC	1101-6030-1231-110	S+S Regeltechnik GmbH	501575	X
-52G1-181M1 &EFS++CT/181.1	1	Pump CM10-2, 3x380V-415V, 50Hz, 1,27 kW, 2,85-2,9 A, 2.950 - 2.960 rpm / 440V-480V, 60Hz, 2,2 kW, 4,0-3,7A, 3.520-3.530 rpm	99080211	GRUNDFOS GmbH	501409	X
-52G1-181R1 &EFS++CT/181.3	1	Screw-in heater SEHK, 3kW, 400V	106066	Siekerkotte GmbH & Co. KG	500620	X
-52G1-181S1 &EFS++CT/181.7	0					
-52G1-181X1 &EFS++CT/181.0	0					
-52G1-181X1 &EFS++CT/181.1;&EFS++CT/181.3;&EFS++CT/181.4;&EFS++CT/182.1	9	Feed-through terminal block	3209510	Phoenix Contact	500583	X
-52G1-181X1 &EFS++CT/181.3	1	End and partition plate for terminal block	3211003	Phoenix Contact	503382	X
-52G1-181X1 &EFS++CT/181.3	1	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-52G1-181X1 &EFS++CT/181.4	1	Feed-through terminal block	3209523	Phoenix Contact	500584	X
-52G1-181X1 &EFS++CT/181.1;&EFS++CT/181.4;&EFS++CT/182.1	3	Ground terminal block	3209536	Phoenix Contact	500813	X
-52G1-181X3 &EFS++CT/148.1;&EFS++CT/181.7	2	Multi-level terminal block	3210567	Phoenix Contact	501386	X
-52G1-181X3 &EFS++CT/181.7	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	X
-52G1-181X3 &EFS++CT/181.7	2	End bracket for terminal block	3022276	Phoenix Contact	500588	X
-52G1-181X3 &EFS++CT/181.7	1	Terminal strip marker carrier KLM 3-L	0814788	Phoenix Contact	500652	X
-52G1-182M1 &EFS++CT/182.1	1	Heat exchanger 40kW cooling capacity, alluminium, 1,72kW, 3,86A, 400V	FR6555950001	Bondioli & Pavesi S.p.A.	500850	X

Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	Anschlussschiene;100x370mm;Zeichnung 501153B	501153	Freqcon GmbH	501153
1	TMC Transformer 3150kVA-6300V/620V-50Hz-AL-IP00		TMC Transformers	508555

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Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	*** BG connection rail 100x370 ***	50070	Freqcon GmbH	50070
9	*** BG connection rail 100x195 ***	50604	Freqcon GmbH	50604
1	DC Adapter 3.3535 (EN-AW 5754) Alu	51524	Freqcon GmbH	51524
3	*** VX BG PowerStack 3*250A***	52867	Freqcon GmbH	52867
3	*** VX BG PowerStack 1*1000A*** with SkiiP 2414 GB12E4-4DUW	52872	Freqcon GmbH	52872
3	*** VX BG DC switch and Fuse 3*250A 1000V***	52882	Freqcon GmbH	52882
1	*** VX BG AC Capacitor Bank 3 * 600µF ***	52918	Freqcon GmbH	52918
1	*** VX BG Circuit Breaker IEC 1000 A ***	52955	Freqcon GmbH	52955
3	*** VX Trible phase line Inductor, I= 3x 250A LN= 0,6mH ***	53046	Freqcon GmbH	53046
3	*** VX Single phase line Inductor, I= 1x 1000 A LN= 0,2mH ***	53053	Freqcon GmbH	53053
1	*** BG connection rail 100x370 ***	53190	Freqcon GmbH	53190
1	*** VX BG PE + N busbar 50x380 - 600 MTS ***	53290	Freqcon GmbH	53290
3	D SUB ADAPTER, PLUG-RECEPTACLE, 25-POL, L-COM DG9025MF1	506157	Freqcon GmbH	506157
3	SKiiP 3 I Adapter	FRQ-M00080-1	Freqcon GmbH	500426
3	EMI Suppresion CAP DC	FRQ-M00110	Freqcon GmbH	500449
1	Temperature sensor PT100, cable 3m Silicon	H2-012030-SDS	Fühler Direkt	500648
1	Temperature sensor PT100, cable 6m Silicon	H2-012060-SDS	Fühler Direkt	500649
3	Fuse link 690V AC, 100A, NH00, gL/gG, UL recognized, Bussmann	100NHG00B-690	Gemballa Electronics	501539

Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	SURGE ARRESTER [Typ 1 + Typ 2] PP BC TNC 50-400/690	374504	LEUTRON GmbH	10055
1	Auxiliary contacts S6000 SIZE 2	D5LAU01	Pronutec GmbH	503044
1	Direct handle S6000 SIZE 2	DS-LI21	Pronutec GmbH	503039
1	Switch-disconnector S6000, AC 600A at 690V AC (AC21B), size 2, 4-pole, to attach to the mounting plate	S6-08003NDO	Pronutec GmbH	10172
9	Lightning/surge arrester type 1/2 2P 1500VDC	2905640	Phoenix Contact	501130
3	SITOR cylindrical fuse link, 10 x 38 mm, 20 A, aR, Un AC: 600 V, Un DC: 700 V, DC according to UL	3NC1020	Siemens	501545
1	Fuse switch disconnector 3NP1, 3-pole, NH00, 160 A, for mounting plate, flat terminal, Fuse monitoring: electromechanical	3NP11331CA11	Siemens	500738
3	CYLINDRICAL FUSE-HOLDER 10X38 1000V 25A 1-POLE FOR PHOTOVOLTAIC-APPLICATION	3NW7013-4	Siemens	500779

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Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	*** VX BG Steuerungseinheit IEC Standard-Batteriecontainer***	53550	Freqcon GmbH	53550
4	PIII IGBT IRT Interface 2.6 V4 cabinet	504890	Freqcon GmbH	504890
1	RC-Brückengleichrichter	507702	Freqcon GmbH	507702
5	HVIO Modul V5.0;ISO N-DC, N-AC	500390	Freqcon GmbH	500390
1	Panel PC 15,6" PPC-JWS156-J4125	PPC-JWS156-I/C-J4125/8GB/128GBSSD/W10	ICP	508475
1	Tree 8TX Metall - Unmanaged Switch - 8 Ports	58152	Murrelektronik	10287
4	Connector screw connection, 4 Pol., 4 mm² - 6 mm², SACC-M12FS-4CON-PG7	1681114	Phoenix Contact	500805
2	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464
2	Surge protection device	2881007	Phoenix Contact	504791
2	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214
38	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726
41	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803
2	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395
3	Link module spring-type Electrical and mechanical for 3RV2011 and 3RT201	3RA2911-2AA00	Siemens	500845
2	MOTOR PROTECTION S00, A-release 3.5...5 A, N-release 65 A, Spring-type terminal, auxiliary switches 1NO+1NC	3RV2011-1FA25	Siemens	500740
1	MOTOR PROTECTION S00, A-release 4.5...6.3 A, N-release 82 A, Spring-type terminal, auxiliary switches 1NO+1NC	3RV2011-1GA25	Siemens	500671
3	CABLE CONNECTOR SIZE S00	3RV2917-5AA00	Siemens	500797
1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070

Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	SIMOTION P320-4 BOX WITH INTEL CORE I3 PROZESSOR; 2 X 1,6 GHZ	6AU1320-4DE65-3AF0	Siemens	500789
2	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397
1	SIMATIC PN/PN Coupler	6ES7158-3AD10-0XA0	Siemens	10138
2	BA 2XRJ45	6ES7193-6AR00-0AA0	Siemens	505628
2	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787
7	Plug connector IE FC M12 PLUG PRO 2X2 M12	6GK1901-0DB20-6AA0	Siemens	500804
1	Router Ewon Cosy 131, 4G + VPN router, supply 24 VDC UMTS router	WEC6133G	Wachendorff Prozesstechnik G mbH & Co. KG	506838alt
4	Power Resistor 100W 1% 10K J	160141	Widap AG	501614

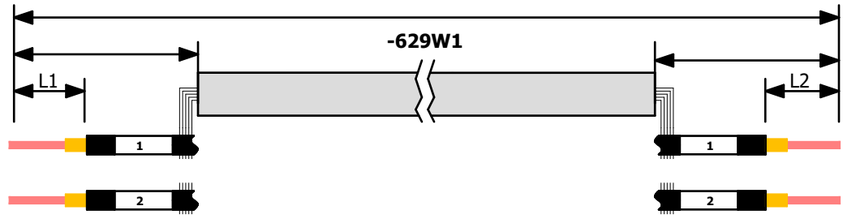
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0	1	2	3	4	5	6	7	8	9

Cable name =UNIT_01++TRA+-629W1
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	++CT+CTRL_1.3-X3:29	Fuse 230V AC for Container Air Conditioning		
Control cabinet 1	++CT+CTRL_1.3-X3:18	Earthing switch in On Transformer 620V side		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		Fuse 230V AC for Container Air Conditioning	++CONV-18Q1:13	
		Earthing switch in On Transformer 620V side	++CONV-18Q1:14	

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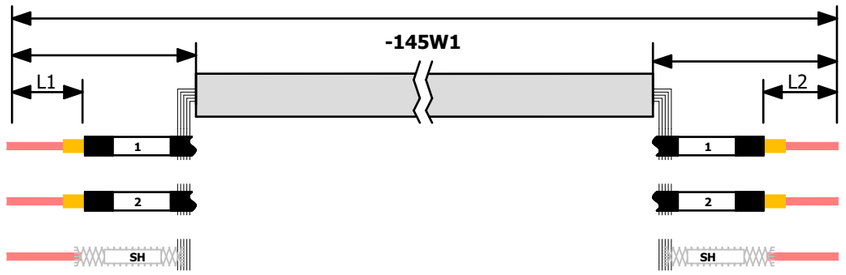
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Editor	Freqcon_DG			Statron		CABEL LIST	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024							& EMB	Cable list
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ TRA	medium voltage transformer
Date								+	

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Cable name =UNIT_01++CONV+-145W1
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

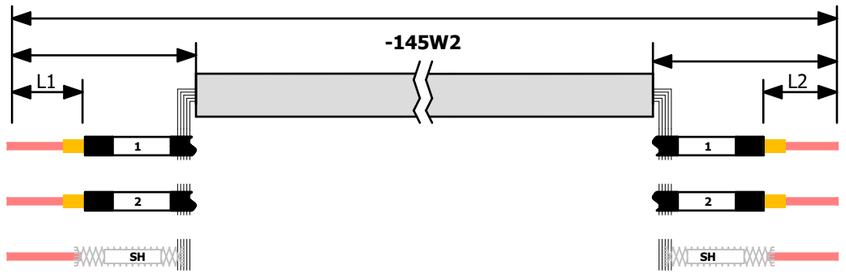


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-201L1:	INDUCTOR GRID PHASE L1 TEMPERATURE 1_1		
Inductor cabinet	+IND-201L1	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR GRID PHASE L1	++CT+CTRL_1.3-X5:1	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:2	*Control cabinet 1*
		=		

Cable name =UNIT_01++CONV+-145W2
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

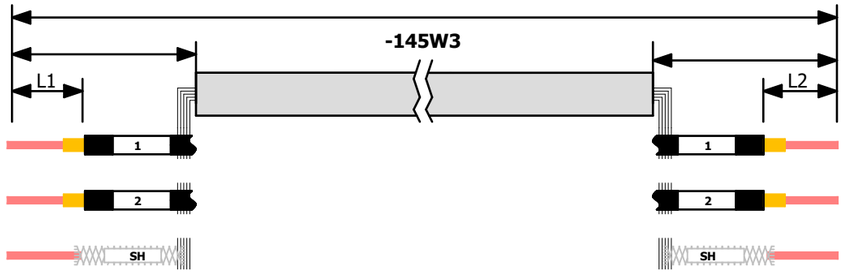


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-202L1:	INDUCTOR GRID PHASE L2 TEMPERATURE 1_2		
Inductor cabinet	+IND-202L1	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR GRID PHASE L2	++CT+CTRL_1.3-X5:3	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:4	*Control cabinet 1*
		=		

Cable name =UNIT_01++CONV+-145W3
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

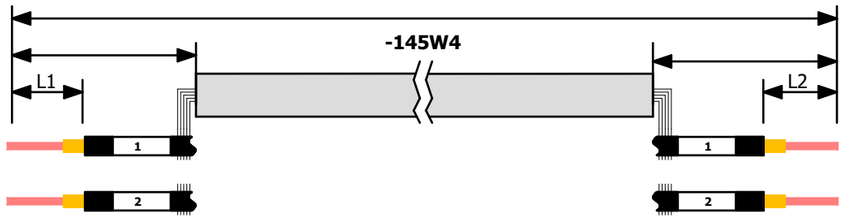


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-203L1:	INDUCTOR GRID PHASE L3 TEMPERATURE 1_3		
Inductor cabinet	+IND-203L1	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR GRID PHASE L3	++CT+CTRL_1.3-X5:5	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:6	*Control cabinet 1*
		=		

Cable name =UNIT_01++CONV+-145W4
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-211L1.1:	INDUCTOR DC SUB 2_1 TEMPERATURE 2_1		
Inductor cabinet	+IND-211L1.1	=		

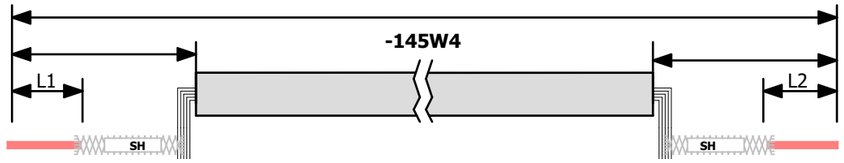
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 2_1	++CT+CTRL_1.3-X5:7	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:8	*Control cabinet 1*

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Cable name =UNIT_01++CONV+-145W4
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-SH	INDUCTOR DC SUB 2_1 TEMPERATURE 2_1		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 2_1		

Cable name =UNIT_01++CONV+-146W1
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-211L1.2	INDUCTOR DC SUB 2_2 TEMPERATURE 2_2		
Inductor cabinet	+IND-211L1.2	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 2_2	++CT+CTRL_1.3-X5:9	***Control cabinet 1***
		=	++CT+CTRL_1.3-X5:10	***Control cabinet 1***
		=		

Cable name =UNIT_01++CONV+-146W2
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

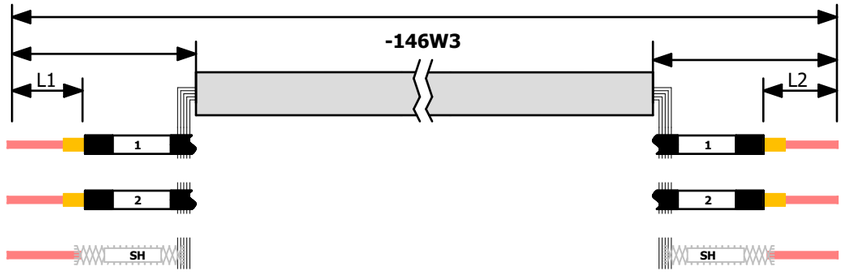


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-211L1.3	INDUCTOR DC SUB 2_3 TEMPERATURE 2_3		
Inductor cabinet	+IND-211L1.3	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 2_3	++CT+CTRL_1.3-X5:11	***Control cabinet 1***
		=	++CT+CTRL_1.3-X5:12	***Control cabinet 1***
		=		

Cable name =UNIT_01++CONV+-146W3
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-207L1.1	INDUCTOR DC SUB 3_1 TEMPERATURE 3_1		
Inductor cabinet	+IND-207L1.1	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 3_1	++CT+CTRL_1.3-X5:13	***Control cabinet 1***
		=	++CT+CTRL_1.3-X5:14	***Control cabinet 1***
		=		

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Cable name =UNIT_01++CONV+-146W4
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

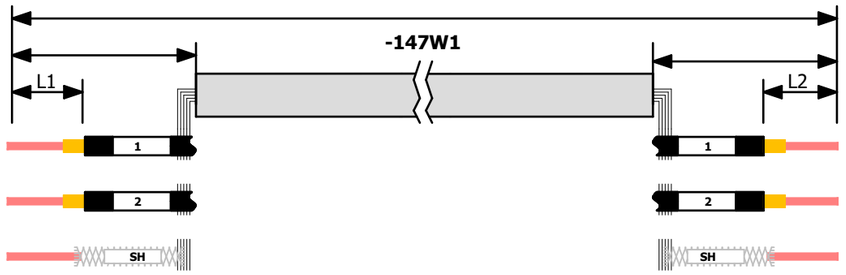


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-207L1.2	INDUCTOR DC SUB 3_2 TEMPERATURE 3_2		
Inductor cabinet	+IND-207L1.2	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 3_2	++CT+CTRL_1.3-X5:15	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:16	*Control cabinet 1*
		=		

Cable name =UNIT_01++CONV+-147W1
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

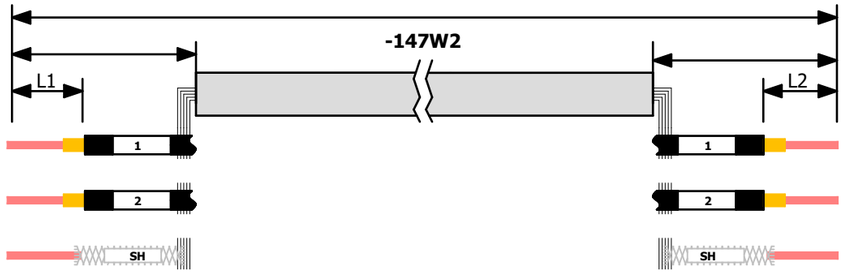


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-207L1.3:	INDUCTOR DC SUB 3_3 TEMPERATURE 3_3		
Inductor cabinet	+IND-207L1.3	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 3_3	++CT+CTRL_1.3-X5:17	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:18	*Control cabinet 1*
		=		

Cable name =UNIT_01++CONV+-147W2
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

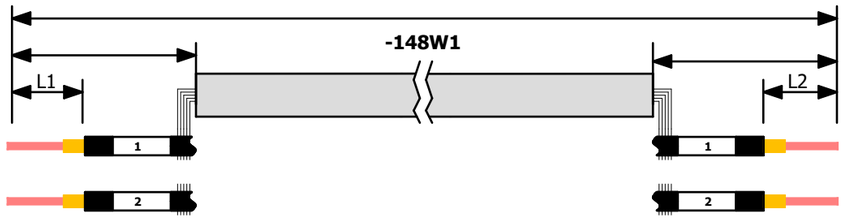


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-217L1.1:	INDUCTOR DC SUB 4_1 TEMPERATURE 4_1		
Inductor cabinet	+IND-217L1.1	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 4_1	++CT+CTRL_1.3-X5:19	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:20	*Control cabinet 1*
		=		

Cable name =UNIT_01++CONV+-148W1
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-217L1.2:	INDUCTOR DC SUB 4_2 TEMPERATURE 4_2		
Inductor cabinet	+IND-217L1.2	=		

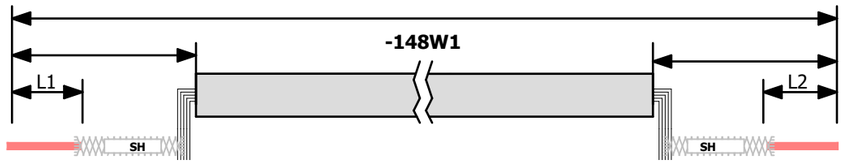
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 4_2	++CT+CTRL_1.3-X5:25	*Control cabinet 1*
		=	++CT+CTRL_1.3-X5:26	*Control cabinet 1*

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_01++CONV+-148W1
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-SH	INDUCTOR DC SUB 4_2 TEMPERATURE 4_2		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 4_2		

Cable name =UNIT_01++CONV+-148W2
Cable type F-CY-OZ (LiY-CY) 2x0,75 mm²
Free conductors

Cable parts HELU.16558
Order number 16558

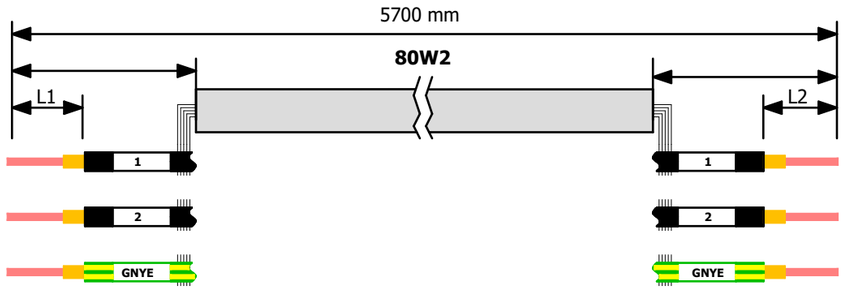


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Inductor cabinet	+IND-217L1.3:	INDUCTOR DC SUB 4_3 TEMPERATURE 4_3		
Inductor cabinet	+IND-217L1.3	=		
	-SH	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		INDUCTOR DC SUB 4_3	++CT+CTRL_1.3-X5:29	***Control cabinet 1***
		=	++CT+CTRL_1.3-X5:30	***Control cabinet 1***
		=		

Cable name =UNIT_01++CONV+-80W2
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

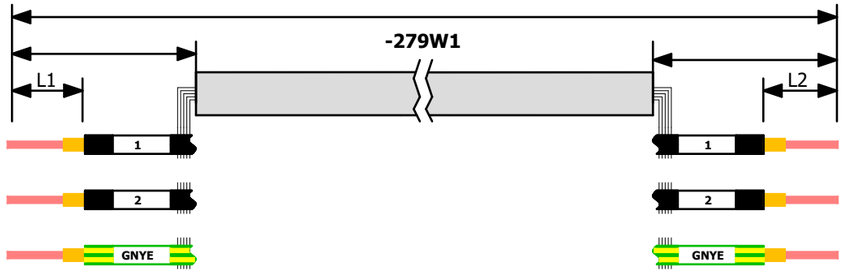


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	++CT+CTRL_1.3-XT:9	230V AC for Circuit Breaker 1	End splice	8 mm
Control cabinet 1	++CT+CTRL_1.3-XT:10	=	End splice	8 mm
Control cabinet 1	++CT+CTRL_1.3-XT:PE	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	230V AC for Circuit Breaker 1	+CIR-80Q1:X5_2	***Circuit Breaker cabinet***
8 mm	stripped	=	+CIR-80Q1:X5_1	***Circuit Breaker cabinet***
		=		

Cable name =UNIT_01++CONV+-279W1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	++CT+CTRL_1.3-XT:1	CON Fans 1-5 in door	stripped	8 mm
Control cabinet 1	++CT+CTRL_1.3-XT:2	=	stripped	8 mm
Control cabinet 1	++CT+CTRL_1.3-XT:PE	=	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	CON Fans 1-5	+CON-279M1:L	***Converter cabinet***
8 mm	stripped	=	+CON-279M1:N	***Converter cabinet***
8 mm	stripped	=	+CON-279M1:PE	***Converter cabinet***

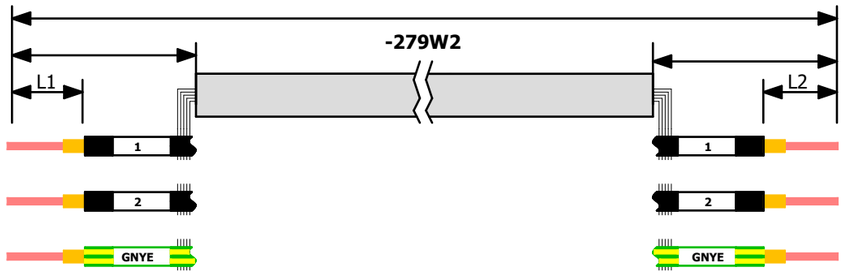
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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++CONV+-279W2
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	+CON-279M1:L	FAN 1 CONVERTER	stripped	8 mm
Converter cabinet	+CON-279M1:N	=	stripped	8 mm
Converter cabinet	+CON-279M1:PE	=	stripped	8 mm

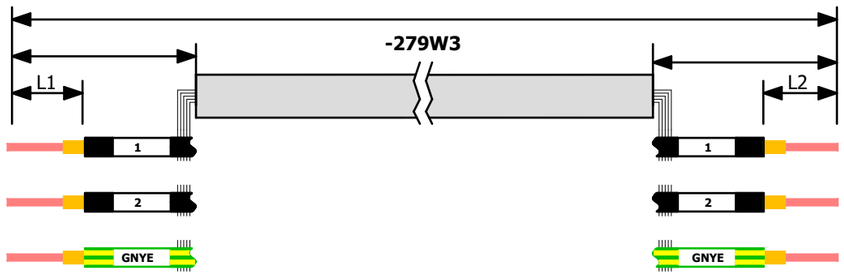


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 1 CONVERTER	+CON-279M2:1	*Converter cabinet*
8 mm	stripped	=	+CON-279M2:2	*Converter cabinet*
8 mm	stripped	=	+CON-279M2:PE	*Converter cabinet*

Cable name =UNIT_01++CONV+-279W3
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	+CON-279M2:1	FAN 2 CONVERTER	stripped	8 mm
Converter cabinet	+CON-279M2:2	=	stripped	8 mm
Converter cabinet	+CON-279M2:PE	=	stripped	8 mm

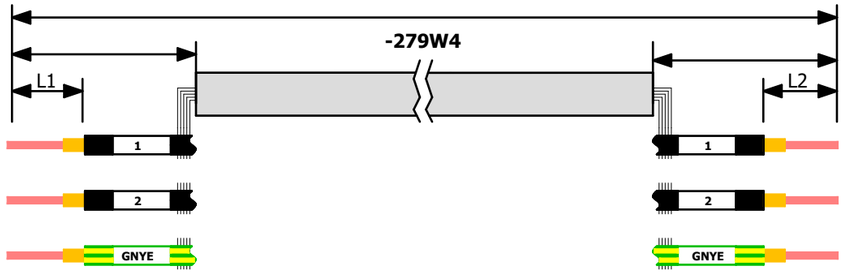


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 2 CONVERTER	+CON-279M3:1	*Converter cabinet*
8 mm	stripped	=	+CON-279M3:2	*Converter cabinet*
8 mm	stripped	=	+CON-279M3:PE	*Converter cabinet*

Cable name =UNIT_01++CONV+-279W4
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	+CON-279M3:1	FAN 3 CONVERTER	stripped	8 mm
Converter cabinet	+CON-279M3:2	=	stripped	8 mm
Converter cabinet	+CON-279M3:PE	=	stripped	8 mm

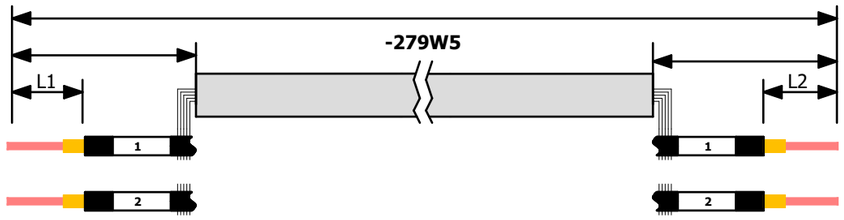


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 3 CONVERTER	+CON-279M4:1	*Converter cabinet*
8 mm	stripped	=	+CON-279M4:2	*Converter cabinet*
8 mm	stripped	=	+CON-279M4:PE	*Converter cabinet*

Cable name =UNIT_01++CONV+-279W5
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	+CON-279M4:1	FAN 4 CONVERTER	stripped	8 mm
Converter cabinet	+CON-279M4:2	=	stripped	8 mm



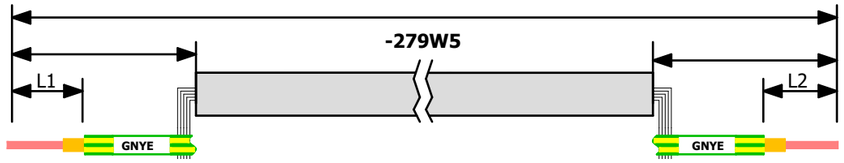
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 4 CONVERTER	+CON-279M5:1	*Converter cabinet*
8 mm	stripped	=	+CON-279M5:2	*Converter cabinet*

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Cable name =UNIT_01++CONV+-279W5
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

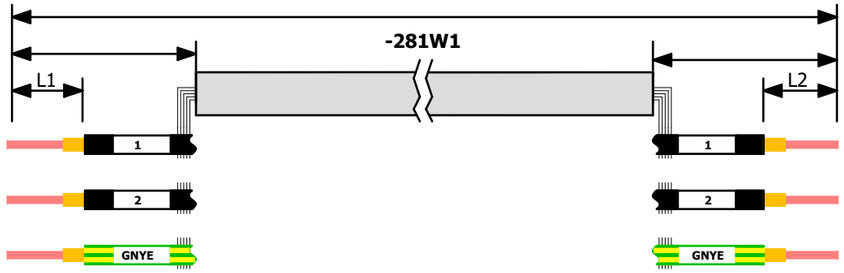


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	+CON-279M4:PE	FAN 4 CONVERTER	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 4 CONVERTER	+CON-279M5:PE	***Converter cabinet***

Cable name =UNIT_01++CONV+-281W1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	++CT+CTRL_1.3-XT:3	CON Fans 1-5 in door	stripped	8 mm
Control cabinet 1	++CT+CTRL_1.3-XT:4	CIR Fans 1-3 in door	stripped	8 mm
Control cabinet 1	++CT+CTRL_1.3-XT:PE	=	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	CON Fans 1-5	+CIR-281M1:L	***Circuit Breaker cabinet***
8 mm	stripped	CIR Fans 1-3	+CIR-281M1:N	***Circuit Breaker cabinet***
8 mm	stripped	=	+CIR-281M1:PE	***Circuit Breaker cabinet***

Cable name =UNIT_01++CONV+-281W2
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

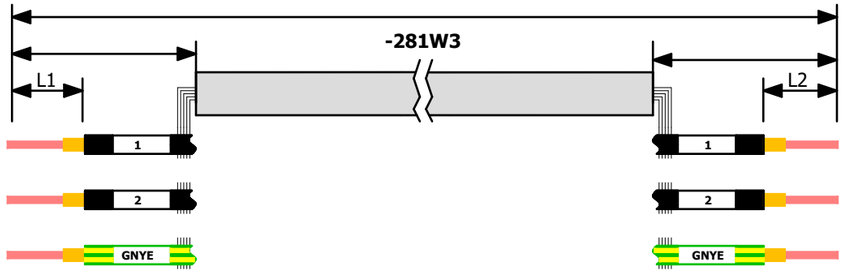


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-281M1:L	FAN 1 CIRCUIT BREAKER CABINET	stripped	8 mm
Circuit Breaker cabinet	+CIR-281M1:N	=	stripped	8 mm
Circuit Breaker cabinet	+CIR-281M1:PE	=	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 1 CIRCUIT BREAKER CABINET	+CIR-281M2:L	***Circuit Breaker cabinet***
8 mm	stripped	=	+CIR-281M2:N	***Circuit Breaker cabinet***
8 mm	stripped	=	+CIR-281M2:PE	***Circuit Breaker cabinet***

Cable name =UNIT_01++CONV+-281W3
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-281M2:L	FAN 2 CIRCUIT BREAKER CABINET	stripped	8 mm
Circuit Breaker cabinet	+CIR-281M2:N	=	stripped	8 mm
Circuit Breaker cabinet	+CIR-281M2:PE	=	stripped	8 mm

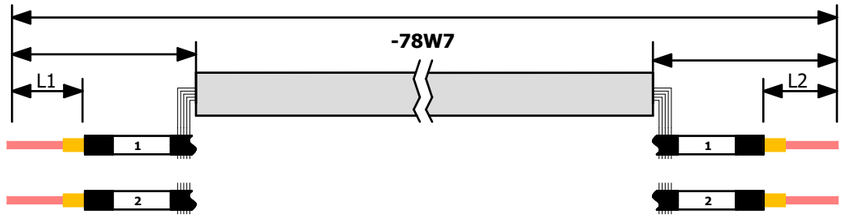
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped	FAN 2 CIRCUIT BREAKER CABINET	+CIR-281M3:1	***Circuit Breaker cabinet***
8 mm	stripped	=	+CIR-281M3:2	***Circuit Breaker cabinet***
8 mm	stripped	=	+CIR-281M3:PE	***Circuit Breaker cabinet***

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Cable name =UNIT_01++CONV+-78W7
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030

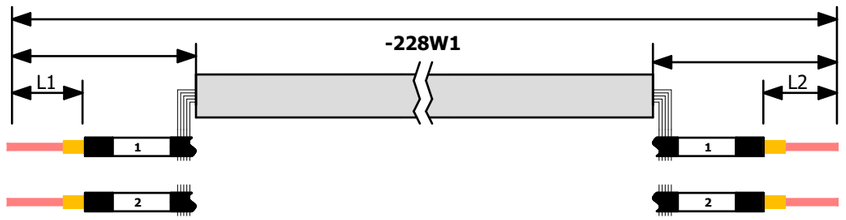


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:20			
AC and DC connection cabinet	+AC_DC-X3.43:19			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+AC_DC-78F1:13	AC and DC connection cabinet
			+AC_DC-78F1:14	AC and DC connection cabinet

Cable name =UNIT_01++CONV+-228W1
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:7	SURGE ARRESTER DC SUBSYSTEM 3_1		
AC and DC connection cabinet	+AC_DC-X3.43:8	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 3_1	+AC_DC-228F1:11	AC and DC connection cabinet
		=	+AC_DC-228F1:12	AC and DC connection cabinet

Cable name =UNIT_01++CONV+-228W2
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030

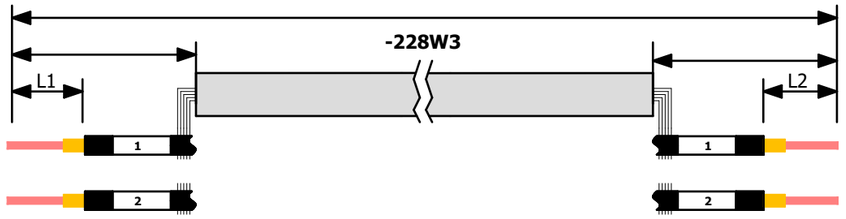


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:9	SURGE ARRESTER DC SUBSYSTEM 3_2		
AC and DC connection cabinet	+AC_DC-X3.43:10	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 3_2	+AC_DC-228F2:11	AC and DC connection cabinet
		=	+AC_DC-228F2:12	AC and DC connection cabinet

Cable name =UNIT_01++CONV+-228W3
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:11	SURGE ARRESTER DC SUBSYSTEM 3_3		
AC and DC connection cabinet	+AC_DC-X3.43:12	=		

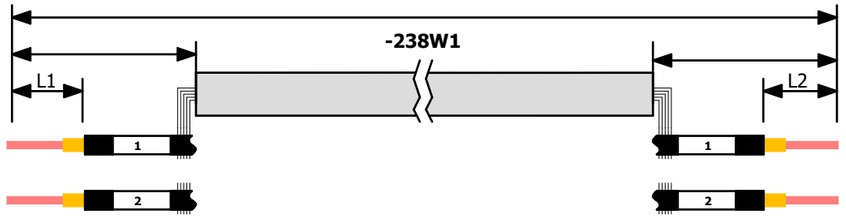
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 3_3	+AC_DC-228F3:11	AC and DC connection cabinet
		=	+AC_DC-228F3:12	AC and DC connection cabinet

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Cable name =UNIT_01++CONV+-238W1
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030

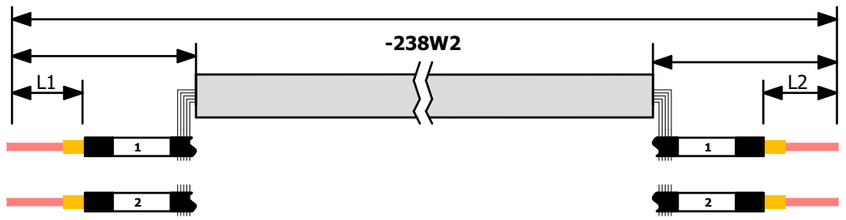


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:1	SURGE ARRESTER DC SUBSYSTEM 2_1		
AC and DC connection cabinet	+AC_DC-X3.43:2	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 2_1	+AC_DC-238F1:11	***AC and DC connection cabinet***
		=	+AC_DC-238F1:12	***AC and DC connection cabinet***

Cable name =UNIT_01++CONV+-238W2
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030

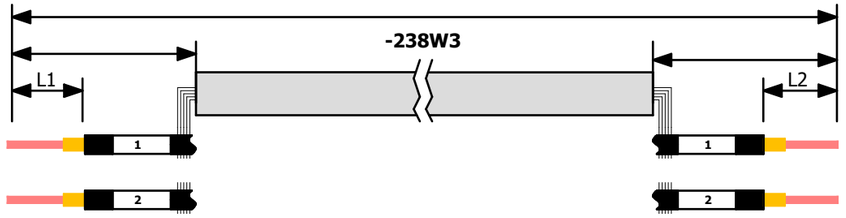


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:3	SURGE ARRESTER DC SUBSYSTEM 2_2		
AC and DC connection cabinet	+AC_DC-X3.43:4	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 2_2	+AC_DC-238F2:11	***AC and DC connection cabinet***
		=	+AC_DC-238F2:12	***AC and DC connection cabinet***

Cable name =UNIT_01++CONV+-238W3
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030

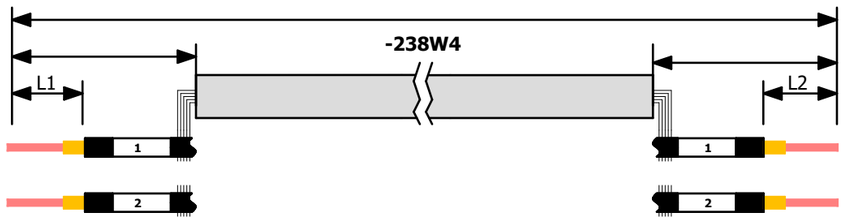


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:5	SURGE ARRESTER DC SUBSYSTEM 2_3		
AC and DC connection cabinet	+AC_DC-X3.43:6	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 2_3	+AC_DC-238F3:11	***AC and DC connection cabinet***
		=	+AC_DC-238F3:12	***AC and DC connection cabinet***

Cable name =UNIT_01++CONV+-238W4
Cable type OZ-500 2x0,75 mm²
Free conductors

Cable parts HELU.10030
Order number 10030

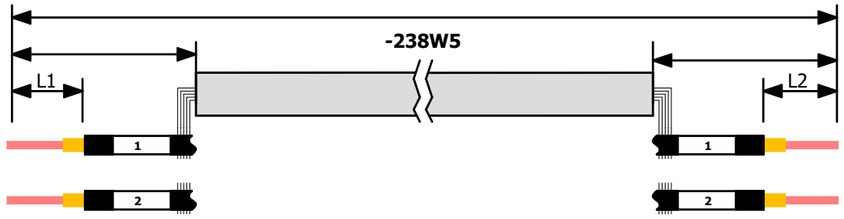


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:13	SURGE ARRESTER DC SUBSYSTEM 4_1		
AC and DC connection cabinet	+AC_DC-X3.43:14	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 4_1	+AC_DC-238F4:11	***AC and DC connection cabinet***
		=	+AC_DC-238F4:12	***AC and DC connection cabinet***

Cable name =UNIT_01++CONV+-238W5
Cable type OZ-500 2x0,75 mm²
Free conductors 2

Cable parts HELU.10030
Order number 10030

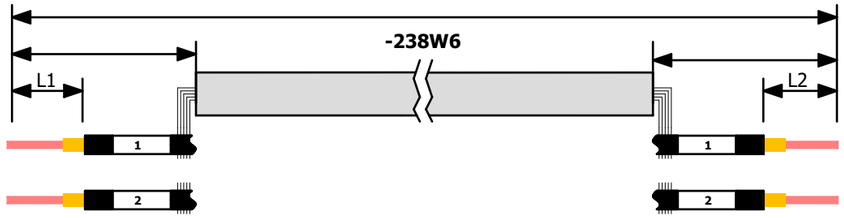


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:15	SURGE ARRESTER DC SUBSYSTEM 4_2		
AC and DC connection cabinet	+AC_DC-X3.43:16	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 4_2	+AC_DC-238F5:11	***AC and DC connection cabinet***
		=	+AC_DC-238F5:12	***AC and DC connection cabinet***

Cable name =UNIT_01++CONV+-238W6
Cable type OZ-500 2x0,75 mm²
Free conductors 2

Cable parts HELU.10030
Order number 10030

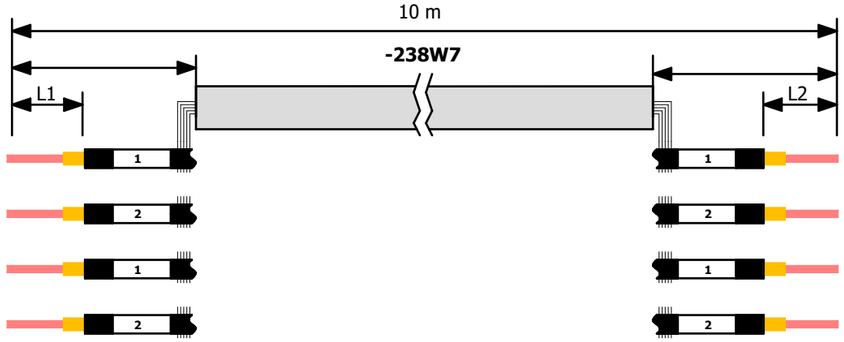


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:17	SURGE ARRESTER DC SUBSYSTEM 4_3		
AC and DC connection cabinet	+AC_DC-X3.43:18	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SURGE ARRESTER DC SUBSYSTEM 4_3	+AC_DC-238F6:11	***AC and DC connection cabinet***
		=	+AC_DC-238F6:12	***AC and DC connection cabinet***

Cable name =UNIT_01++CONV+-238W7
Cable type OZ-500 2x0,75 mm²
Free conductors 2

Cable parts HELU.10030
Order number 10030;10030

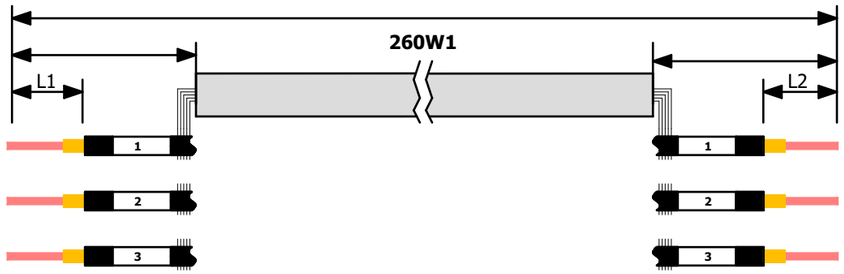


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-X3.43:1	SURGE ARRESTER DC SUBSYSTEM 2_1	stripped	7mm
AC and DC connection cabinet	+AC_DC-X3.43:20		stripped	7mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8mm	stripped	SURGE ARRESTER DC SUBSYSTEM 2_1	++CT+CTRL_1.3-X3:5	***Control cabinet 1***
8mm	stripped		++CT+CTRL_1.3-X3:6	***Control cabinet 1***

Cable name =UNIT_01++CONV+-260W1
Cable type OZ-500 4x0,75 mm²
Free conductors 3

Cable parts HELU.10034
Order number 10034



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	++CT+CTRL_1.3-X3:19	Smoke detector CON		
Control cabinet 1	++CT+CTRL_1.3-X3:20	=		
Control cabinet 1	++CT+CTRL_1.3-X3:21	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		Smoke detector CON	+CON-260B1:4	***Converter cabinet***
		=	+CON-260B1:2	***Converter cabinet***
		=	+CON-260B1:5	***Converter cabinet***

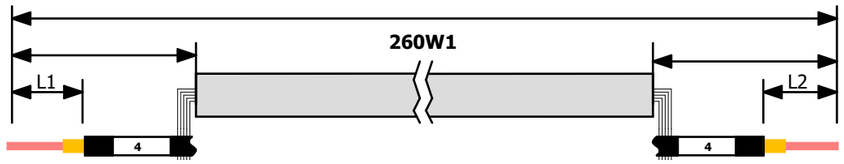
previous page: 8

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++CONV+-260W1
Cable type OZ-500 4x0,75 mm²
Free conductors

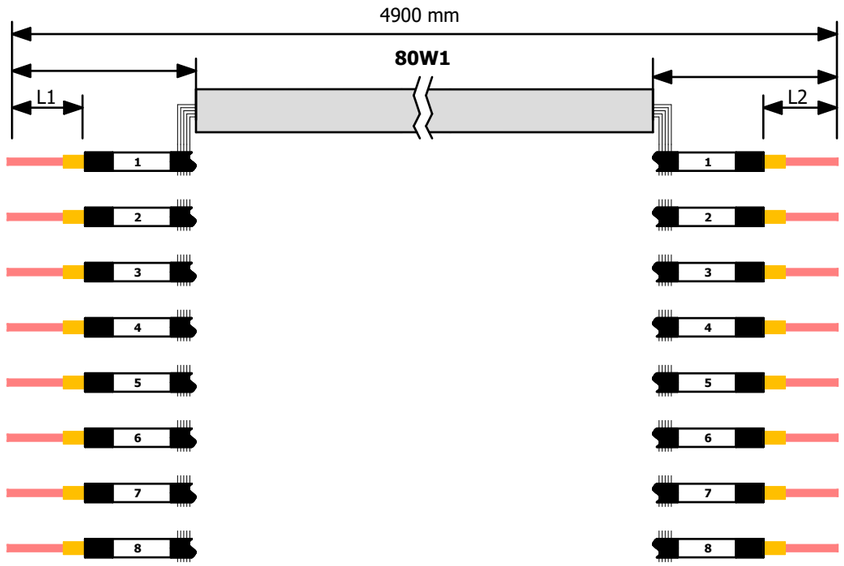
Cable parts HELU.10034
Order number 10034



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Control cabinet 1	++CT+CTRL_1.3-X3:22	Smoke detector CON					Smoke detector CON	+CON-260B1:6	*Converter cabinet*

Cable name =UNIT_01++CONV+-80W1
Cable type OZ-500 8x0,75 mm²
Free conductors

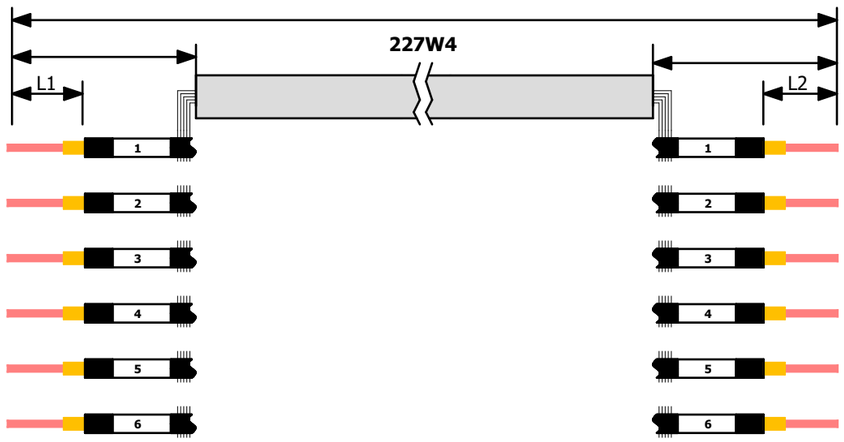
Cable parts HELU.10173
Order number 10173



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Control cabinet 1	++CT+CTRL_1.3-X3:1	CB 1 Tripped GRID	stripped	8 mm	8 mm	stripped	CB 1 Tripped GRID	+CIR-80Q1:X7_13	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:2	CB 1 OFF GRID	stripped	8 mm	8 mm	stripped	CB 1 OFF GRID	+CIR-80Q1:X6_9	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:3	CB 1 ON GRID	stripped	8 mm	8 mm	stripped	CB 1 ON GRID	+CIR-80Q1:X6_11	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:31	CB 1 GRID +24V	stripped	8 mm	8 mm	stripped	CB 1 GRID	+CIR-80Q1:X6_12	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:32	=	stripped	8 mm	8 mm	stripped	=	+CIR-80Q1:X5_11	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:35	CB 2 ISLAND GRID +24V OPTIONAL	stripped	8 mm	8 mm	stripped	CB 2 ISLAND GRID	+CIR-80Q1:X6_7	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:36	CB 1 GRID	stripped	8 mm	8 mm	stripped	CB 1 GRID	+CIR-80Q1:X6_14	*Circuit Breaker cabinet*
Control cabinet 1	++CT+CTRL_1.3-X3:37	=	stripped	8 mm	8 mm	stripped	=	+CIR-80Q1:X5_12	*Circuit Breaker cabinet*

Cable name =UNIT_01++CONV+-227W4
Cable type OZ-500 18x1 mm²
Free conductors

Cable parts HELU.10174
Order number 10174



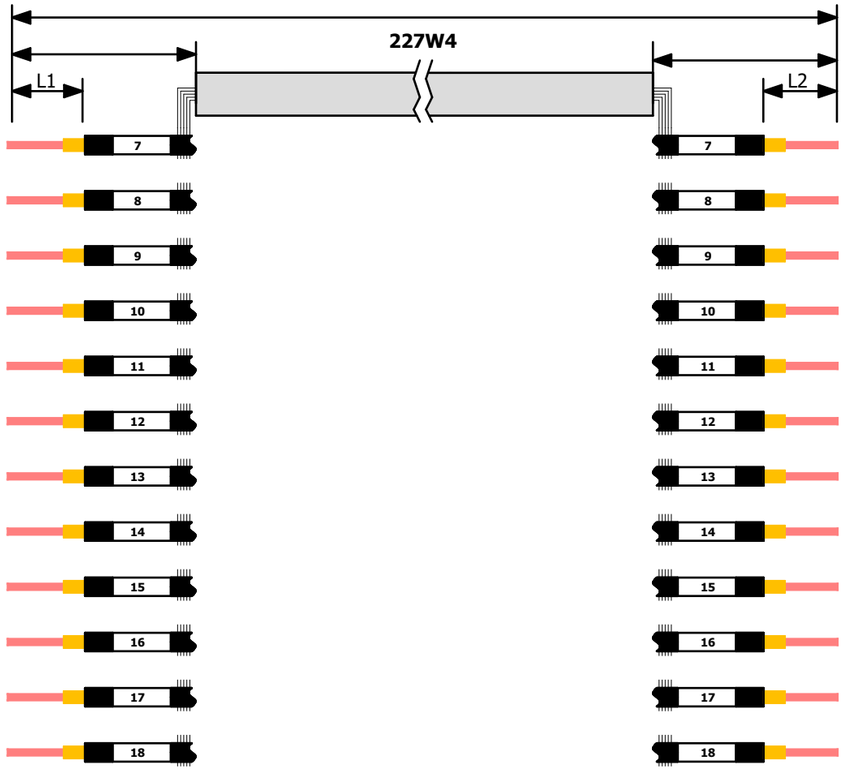
Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	+CIR-227U1-X3.1:1		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:1	*Control cabinet 1*
Circuit Breaker cabinet	+CIR-227U1-X3.1:2		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:4	*Control cabinet 1*
Circuit Breaker cabinet	+CIR-227U1-X3.1:3		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:7	*Control cabinet 1*
Circuit Breaker cabinet	+CIR-227U1-X3.1:4		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:3	*Control cabinet 1*
Circuit Breaker cabinet	+CIR-227U1-X3.1:5		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:6	*Control cabinet 1*
Circuit Breaker cabinet	+CIR-227U1-X3.1:6		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:9	*Control cabinet 1*

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	05.11.2024							& EMB Cable list	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 10
Date								+	total: 498

FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++CONV+-227W4
Cable type OZ-500 18x1 mm²
Free conductors

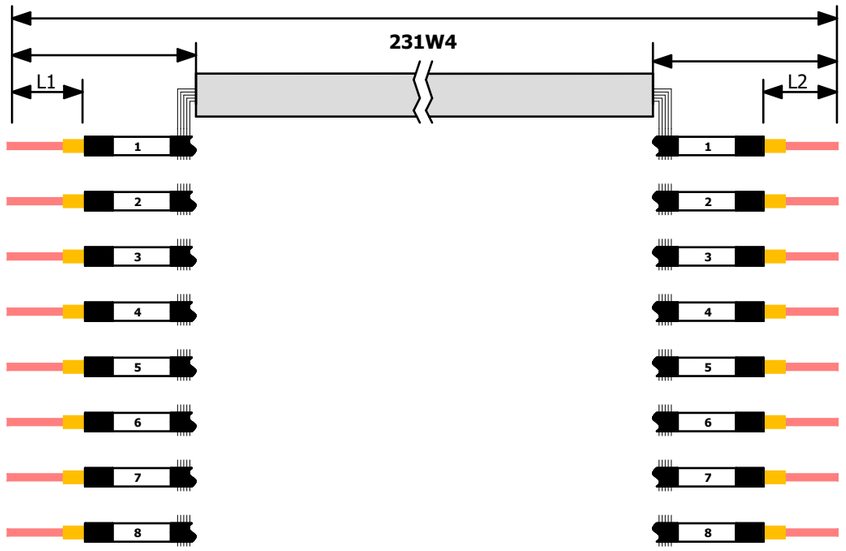
Cable parts HELU.10174
Order number 10174



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	+CIR-227U1-X3.1:7		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-307K1:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:8		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-307K3:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:9		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-307K5:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:10		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-307K2:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:11		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-307K4:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:12		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-307K6:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:13		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.11:11	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:14		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.12:9	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:15		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.12:11	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:16		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.12:10	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-227U1-X3.1:17		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:2	***Control cabinet 1***
			stripped	8 mm	8 mm	stripped			

Cable name =UNIT_01++CONV+-231W4
Cable type OZ-500 18x1 mm²
Free conductors

Cable parts HELU.10174
Order number 10174



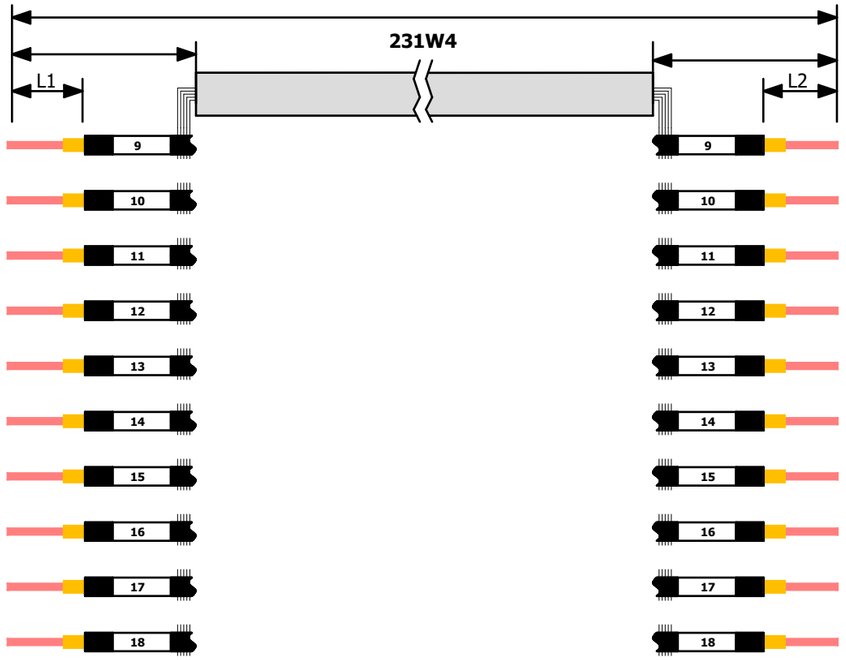
Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	+CIR-231U1-X3.1:1		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:2		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:4	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:3		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:7	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:4		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:3	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:5		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:6	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:6		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:9	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:7		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-306K1:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:8		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-306K3:A1	***Control cabinet 1***

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next page: 12

FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_01++CONV+-231W4
Cable type OZ-500 18x1 mm²
Free conductors

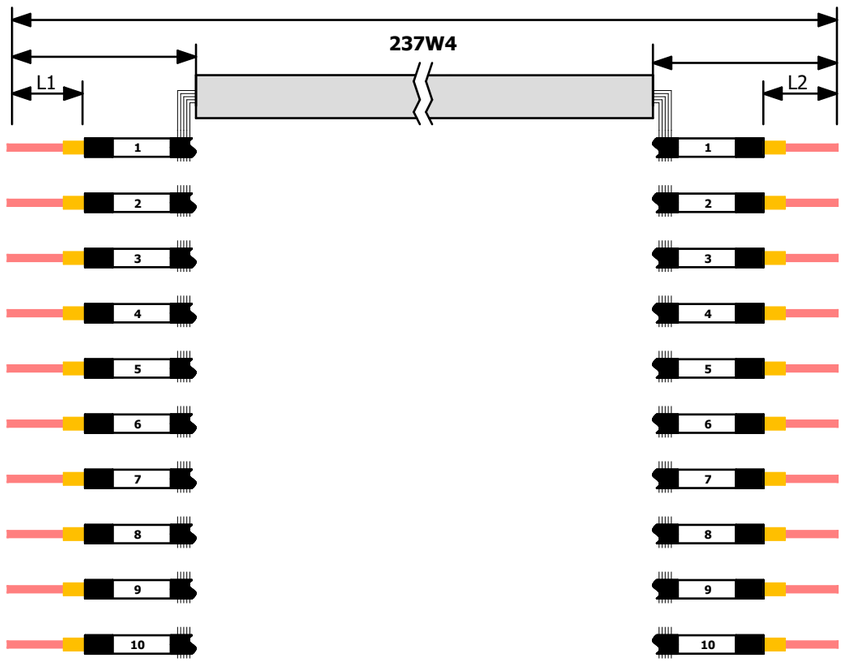
Cable parts HELU.10174
Order number 10174



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	+CIR-231U1-X3.1:9		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-306K5:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:10		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-306K2:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:11		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-306K4:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:12		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-306K6:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:13		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.10:9	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:14		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.10:11	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:15		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.11:9	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:16		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-X3.10:10	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-231U1-X3.1:17		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.3-150X1:2	***Control cabinet 1***
			stripped	8 mm	8 mm	stripped			

Cable name =UNIT_01++CONV+-237W4
Cable type OZ-500 18x1 mm²
Free conductors

Cable parts HELU.10174
Order number 10174



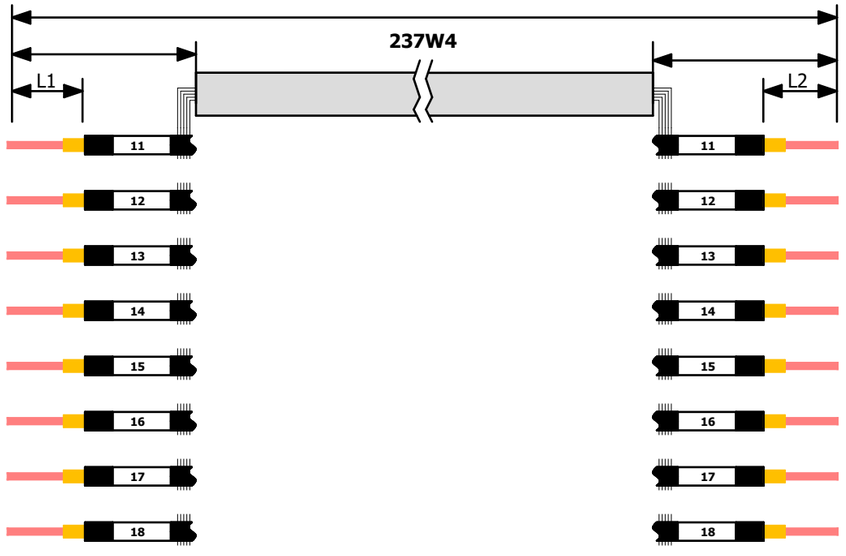
Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	+CIR-237U1-X3.1:1		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:11	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:2		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:14	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:3		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:17	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:4		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:13	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:5		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:16	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:6		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-350X1.21:19	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:7		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-308K1:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:8		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-308K3:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:9		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-308K5:A1	***Control cabinet 1***
Circuit Breaker cabinet	+CIR-237U1-X3.1:10		stripped	8 mm	8 mm	stripped		++CT+CTRL_1.4-308K2:A1	***Control cabinet 1***

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Cable name =UNIT_01++CONV+-237W4
Cable type OZ-500 18x1 mm²
Free conductors

Cable parts HELU.10174
Order number 10174

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-237U1-X3.1:11		stripped	8 mm
Circuit Breaker cabinet	+CIR-237U1-X3.1:12		stripped	8 mm
Circuit Breaker cabinet	+CIR-237U1-X3.1:13		stripped	8 mm
Circuit Breaker cabinet	+CIR-237U1-X3.1:14		stripped	8 mm
Circuit Breaker cabinet	+CIR-237U1-X3.1:15		stripped	8 mm
Circuit Breaker cabinet	+CIR-237U1-X3.1:16		stripped	8 mm
Circuit Breaker cabinet	+CIR-237U1-X3.1:17		stripped	8 mm
			stripped	8 mm

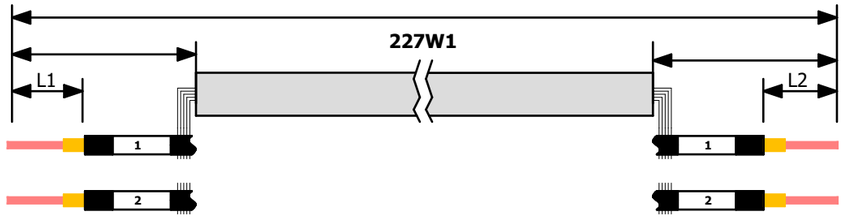


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	stripped		++CT+CTRL_1.4-308K4:A1	*Control cabinet 1*
8 mm	stripped		++CT+CTRL_1.4-308K6:A1	*Control cabinet 1*
8 mm	stripped		++CT+CTRL_1.3-X3.13:8	*Control cabinet 1*
8 mm	stripped		++CT+CTRL_1.3-X3.13:9	*Control cabinet 1*
8 mm	stripped		++CT+CTRL_1.3-X3.13:11	*Control cabinet 1*
8 mm	stripped		++CT+CTRL_1.3-X3.13:10	*Control cabinet 1*
8 mm	stripped		++CT+CTRL_1.4-350X1.21:12	*Control cabinet 1*
8 mm	stripped			

Cable name =UNIT_01++CONV+-227W1
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-227U1-F3:1			
Circuit Breaker cabinet	+CIR-227U1-F4:1			

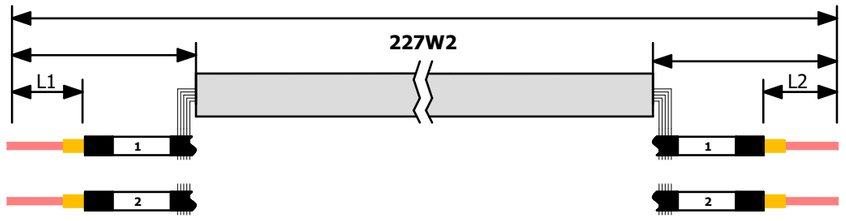


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-163U1:32	*Control cabinet 2*
			++CT+CTRL_2.1-162U1:32	*Control cabinet 2*

Cable name =UNIT_01++CONV+-227W2
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-227U1-F7:1			
Circuit Breaker cabinet	+CIR-227U1-F8:1			



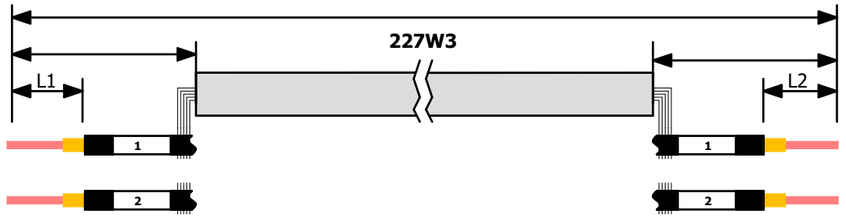
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-163U1:36	*Control cabinet 2*
			++CT+CTRL_2.1-162U1:36	*Control cabinet 2*

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Cable name =UNIT_01++CONV+-227W3
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

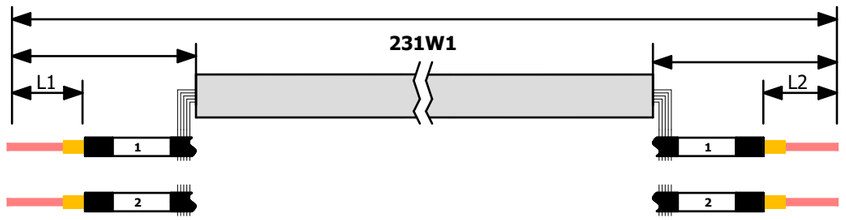


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-227U1-F11:1			
Circuit Breaker cabinet	+CIR-227U1-F12:1			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-163U1:40	*Control cabinet 2*
			++CT+CTRL_2.1-162U1:40	*Control cabinet 2*

Cable name =UNIT_01++CONV+-231W1
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

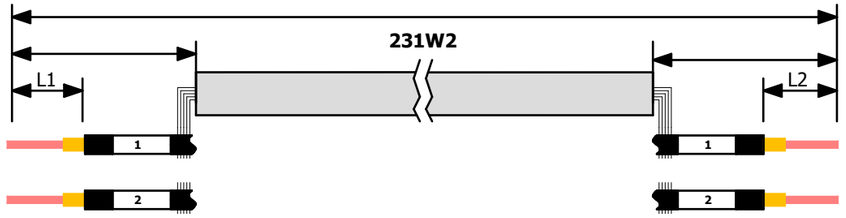


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-231U1-F3:1			
Circuit Breaker cabinet	+CIR-231U1-F4:1			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-163U1:19	*Control cabinet 2*
			++CT+CTRL_2.1-162U1:19	*Control cabinet 2*

Cable name =UNIT_01++CONV+-231W2
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

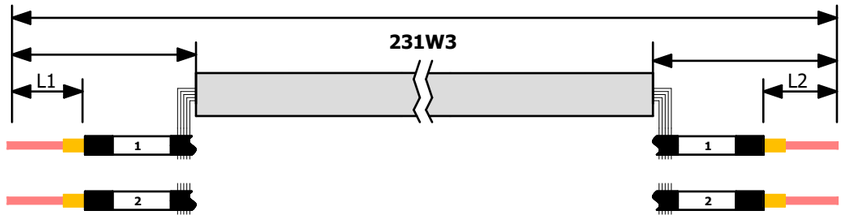


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-231U1-F7:1			
Circuit Breaker cabinet	+CIR-231U1-F8:1			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-163U1:23	*Control cabinet 2*
			++CT+CTRL_2.1-162U1:23	*Control cabinet 2*

Cable name =UNIT_01++CONV+-231W3
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-231U1-F11:1			
Circuit Breaker cabinet	+CIR-231U1-F12:1			

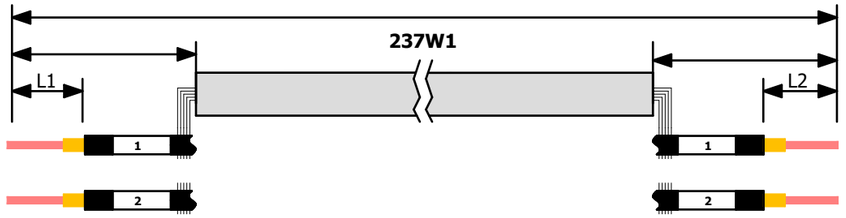
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-163U1:27	*Control cabinet 2*
			++CT+CTRL_2.1-162U1:27	*Control cabinet 2*

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMB	Cable list	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CONV	Converter	page: 14
Date							10354_23A2007	+		total: 498

FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++CONV+-237W1
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

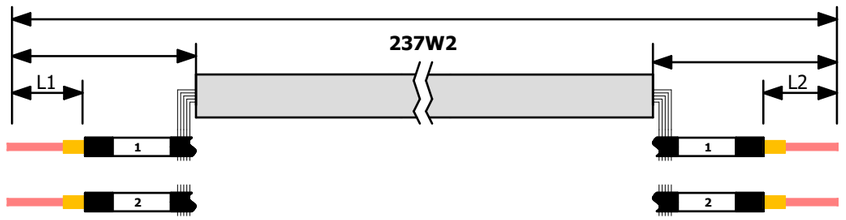


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-237U1-F3:1			
Circuit Breaker cabinet	+CIR-237U1-F4:1			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-164U1:19	*Control cabinet 2*
			++CT+CTRL_2.1-164U1:23	*Control cabinet 2*

Cable name =UNIT_01++CONV+-237W2
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

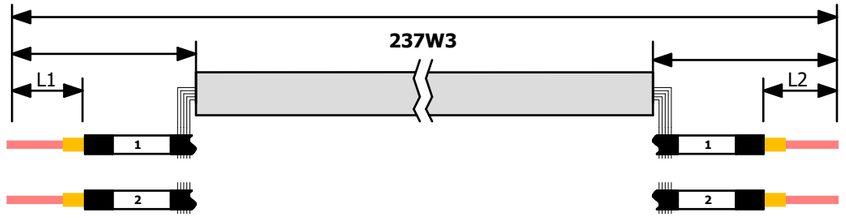


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-237U1-F7:1			
Circuit Breaker cabinet	+CIR-237U1-F8:1			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-164U1:27	*Control cabinet 2*
			++CT+CTRL_2.1-164U1:32	*Control cabinet 2*

Cable name =UNIT_01++CONV+-237W3
Cable type OZ-600 2x0,75 mm²
Free conductors

Cable parts
Order number

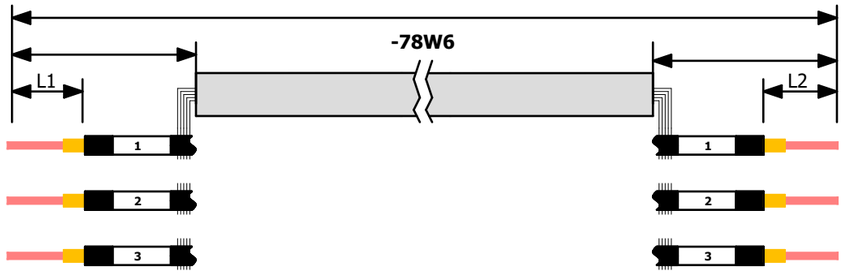


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	+CIR-237U1-F11:1			
Circuit Breaker cabinet	+CIR-237U1-F12:1			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_2.1-164U1:36	*Control cabinet 2*
			++CT+CTRL_2.1-164U1:40	*Control cabinet 2*

Cable name =UNIT_01++CONV+-78W6
Cable type OZ-600 3x2,5 mm²
Free conductors

Cable parts HELU.10691
Order number 10691



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
AC and DC connection cabinet	+AC_DC-78F3:2			
AC and DC connection cabinet	+AC_DC-78F3:4			
AC and DC connection cabinet	+AC_DC-78F3:6			

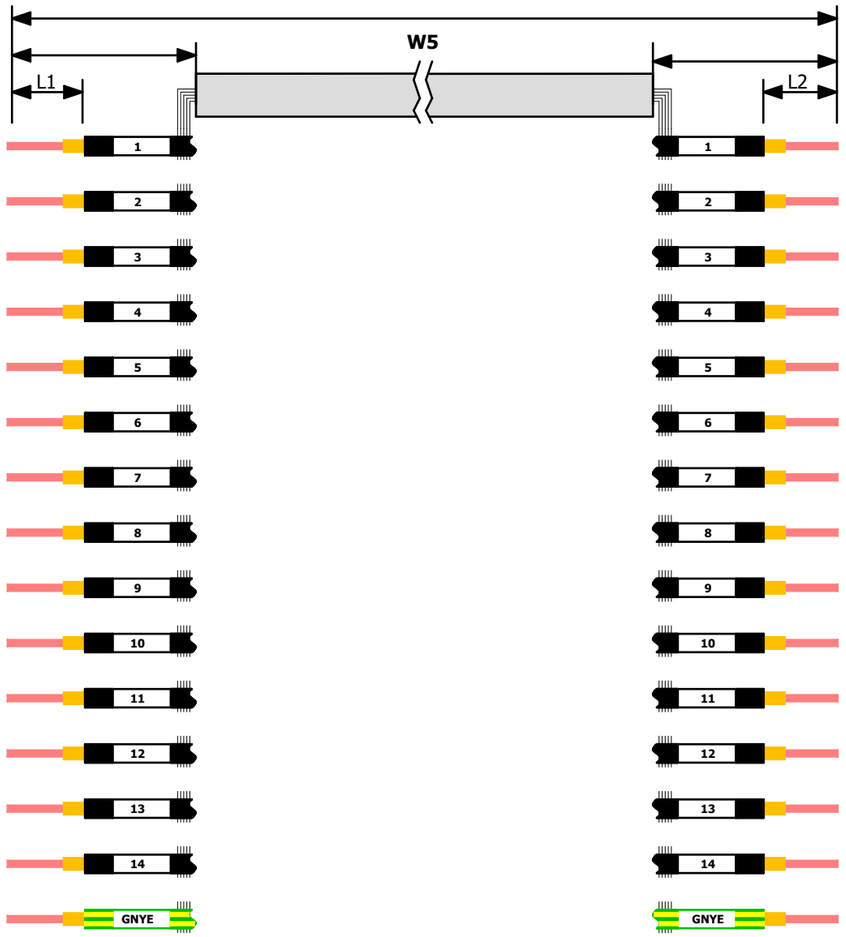
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++CT+CTRL_1.4-85U1:L1	*Control cabinet 1*
			++CT+CTRL_1.4-85U1:L2	*Control cabinet 1*
			++CT+CTRL_1.4-85U1:L3	*Control cabinet 1*

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++CONV+CIR-227U1-W5
Cable type JZ-500 15G0,75 mm²
Free conductors

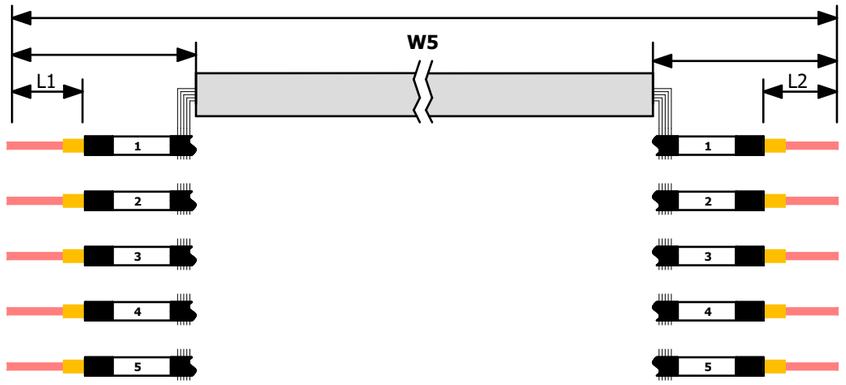
Cable parts HELU.10046
Order number 10046



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	-227U1-X3.1:1							-227U1-X3.2:1	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:2							-227U1-X3.2:3	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:3							-227U1-X3.2:5	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:4							-227U1-X3.2:7	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:5							-227U1-X3.2:9	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:6							-227U1-X3.2:11	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:7							-227U1-X3.2:13	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:8							-227U1-X3.2:15	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:9							-227U1-X3.2:17	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:10							-227U1-X3.2:19	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:11							-227U1-X3.2:21	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:12							-227U1-X3.2:23	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:16							-227U1-X3.2:24	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:17							-227U1-X3.2:12	Circuit Breaker cabinet
Circuit Breaker cabinet	-227U1-X3.1:PE							-227U1-X3.2:PE	Circuit Breaker cabinet

Cable name =UNIT_01++CONV+CIR-231U1-W5
Cable type JZ-500 15G0,75 mm²
Free conductors

Cable parts HELU.10046
Order number 10046



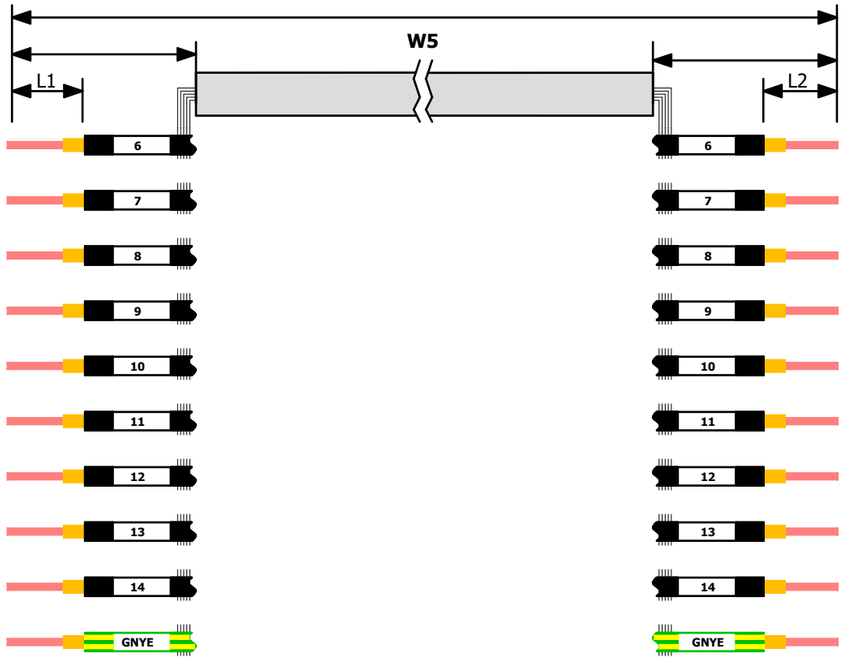
Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Circuit Breaker cabinet	-231U1-X3.1:1							-231U1-X3.2:1	Circuit Breaker cabinet
Circuit Breaker cabinet	-231U1-X3.1:2							-231U1-X3.2:3	Circuit Breaker cabinet
Circuit Breaker cabinet	-231U1-X3.1:3							-231U1-X3.2:5	Circuit Breaker cabinet
Circuit Breaker cabinet	-231U1-X3.1:4							-231U1-X3.2:7	Circuit Breaker cabinet
Circuit Breaker cabinet	-231U1-X3.1:5							-231U1-X3.2:9	Circuit Breaker cabinet

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++CONV+CIR-231U1-W5
Cable type JZ-500 15G0,75 mm²
Free conductors

Cable parts HELU.10046
Order number 10046

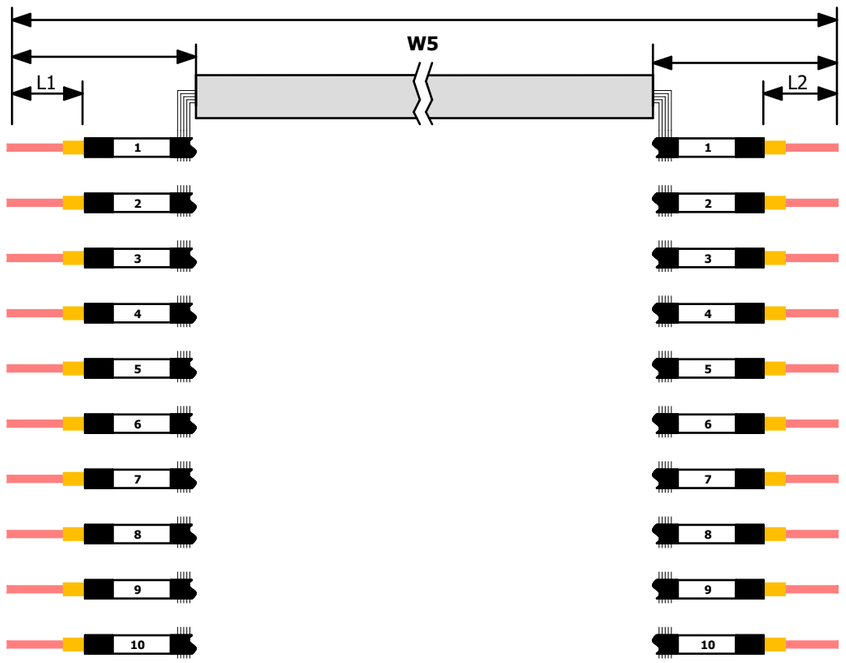


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	-231U1-X3.1:6			
Circuit Breaker cabinet	-231U1-X3.1:7			
Circuit Breaker cabinet	-231U1-X3.1:8			
Circuit Breaker cabinet	-231U1-X3.1:9			
Circuit Breaker cabinet	-231U1-X3.1:10			
Circuit Breaker cabinet	-231U1-X3.1:11			
Circuit Breaker cabinet	-231U1-X3.1:12			
Circuit Breaker cabinet	-231U1-X3.1:16			
Circuit Breaker cabinet	-231U1-X3.1:17			
Circuit Breaker cabinet	-231U1-X3.1:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-231U1-X3.2:11	*Circuit Breaker cabinet*
			-231U1-X3.2:13	*Circuit Breaker cabinet*
			-231U1-X3.2:15	*Circuit Breaker cabinet*
			-231U1-X3.2:17	*Circuit Breaker cabinet*
			-231U1-X3.2:19	*Circuit Breaker cabinet*
			-231U1-X3.2:21	*Circuit Breaker cabinet*
			-231U1-X3.2:23	*Circuit Breaker cabinet*
			-231U1-X3.2:24	*Circuit Breaker cabinet*
			-231U1-X3.2:12	*Circuit Breaker cabinet*
			-231U1-X3.2:PE	*Circuit Breaker cabinet*

Cable name =UNIT_01++CONV+CIR-237U1-W5
Cable type JZ-500 15G0,75 mm²
Free conductors

Cable parts HELU.10046
Order number 10046



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	-237U1-X3.1:1			
Circuit Breaker cabinet	-237U1-X3.1:2			
Circuit Breaker cabinet	-237U1-X3.1:3			
Circuit Breaker cabinet	-237U1-X3.1:4			
Circuit Breaker cabinet	-237U1-X3.1:5			
Circuit Breaker cabinet	-237U1-X3.1:6			
Circuit Breaker cabinet	-237U1-X3.1:7			
Circuit Breaker cabinet	-237U1-X3.1:8			
Circuit Breaker cabinet	-237U1-X3.1:9			
Circuit Breaker cabinet	-237U1-X3.1:10			

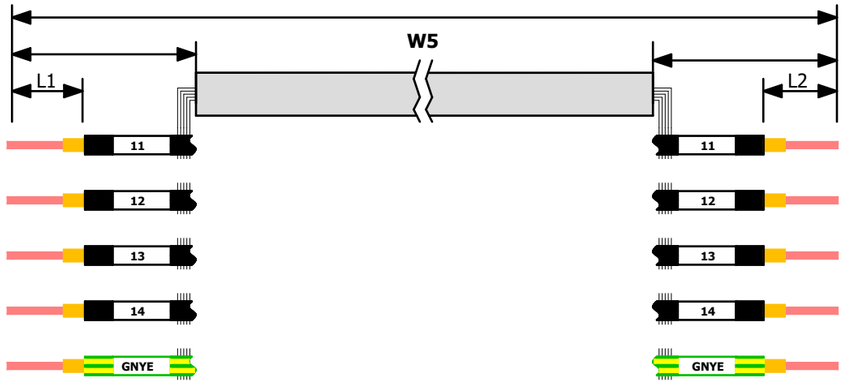
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-237U1-X3.2:1	*Circuit Breaker cabinet*
			-237U1-X3.2:3	*Circuit Breaker cabinet*
			-237U1-X3.2:5	*Circuit Breaker cabinet*
			-237U1-X3.2:7	*Circuit Breaker cabinet*
			-237U1-X3.2:9	*Circuit Breaker cabinet*
			-237U1-X3.2:11	*Circuit Breaker cabinet*
			-237U1-X3.2:13	*Circuit Breaker cabinet*
			-237U1-X3.2:15	*Circuit Breaker cabinet*
			-237U1-X3.2:17	*Circuit Breaker cabinet*
			-237U1-X3.2:19	*Circuit Breaker cabinet*

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Cable name =UNIT_01++CONV+CIR-237U1-W5
Cable type JZ-500 15G0,75 mm²
Free conductors

Cable parts HELU.10046
Order number 10046



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Circuit Breaker cabinet	-237U1-X3.1:11			
Circuit Breaker cabinet	-237U1-X3.1:12			
Circuit Breaker cabinet	-237U1-X3.1:16			
Circuit Breaker cabinet	-237U1-X3.1:17			
Circuit Breaker cabinet	-237U1-X3.1:PE			

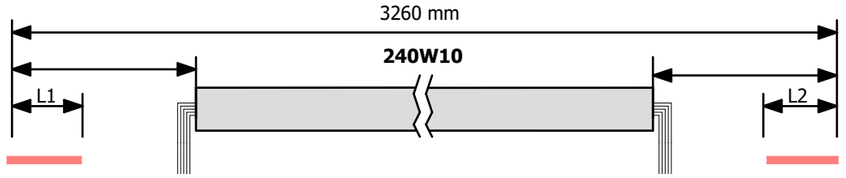
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-237U1-X3.2:21	*Circuit Breaker cabinet*
			-237U1-X3.2:23	*Circuit Breaker cabinet*
			-237U1-X3.2:24	*Circuit Breaker cabinet*
			-237U1-X3.2:12	*Circuit Breaker cabinet*
			-237U1-X3.2:PE	*Circuit Breaker cabinet*

FRQ_Kabelplan_04_gro8_de_en

previous page: 2

next page: ++CT+/1

Cable name =UNIT_01++CT+-240W10
Cable type 2YY (ST) CY 2x2x0,64 mm²
Free conductors 2

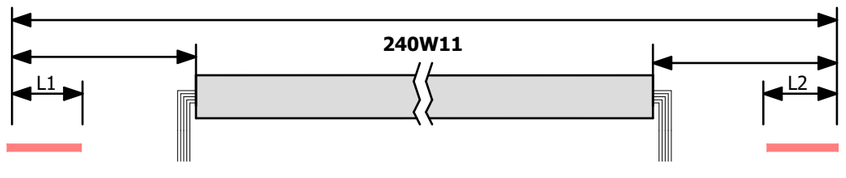


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.2-110U1:P1		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-240U1:P1	*Control cabinet 2*

Cable name =UNIT_01++CT+-240W11
Cable type 2YY (ST) CY 2x2x0,64 mm²
Free conductors 2

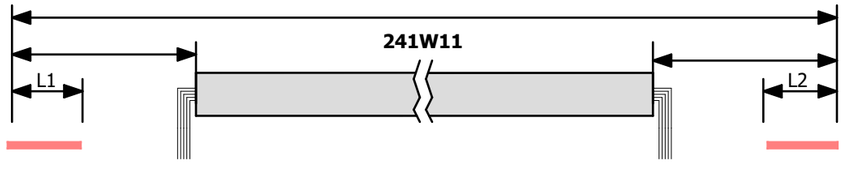


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-240U1:P2		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-241U1:P1	*Control cabinet 2*

Cable name =UNIT_01++CT+-241W11
Cable type 2YY (ST) CY 2x2x0,64 mm²
Free conductors 2

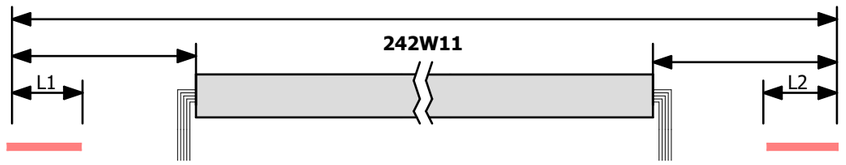


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-241U1:P2		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-242U1:P1	*Control cabinet 2*

Cable name =UNIT_01++CT+-242W11
Cable type 2YY (ST) CY 2x2x0,64 mm²
Free conductors 2

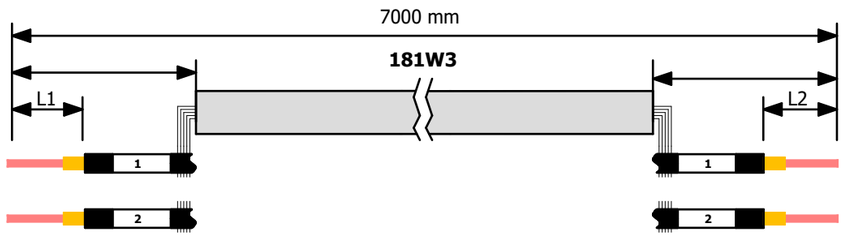


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-242U1:P2		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-243U1:P1	*Control cabinet 2*

Cable name =UNIT_01++CT+-181W3
Cable type F-CY-OZ (LiY-CY) 7x0,75 mm²
Free conductors 2



Cable parts HELU.16563
Order number 16563

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-X3:23	PRESSURE SWITCH	stripped	8 mm
Control cabinet 1	+CTRL_1.3-X3:24	=	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Flat connector	PRESSURE SWITCH	++FAN-52G1-181X3:1	
	Flat connector	=	++FAN-52G1-181X3:3	

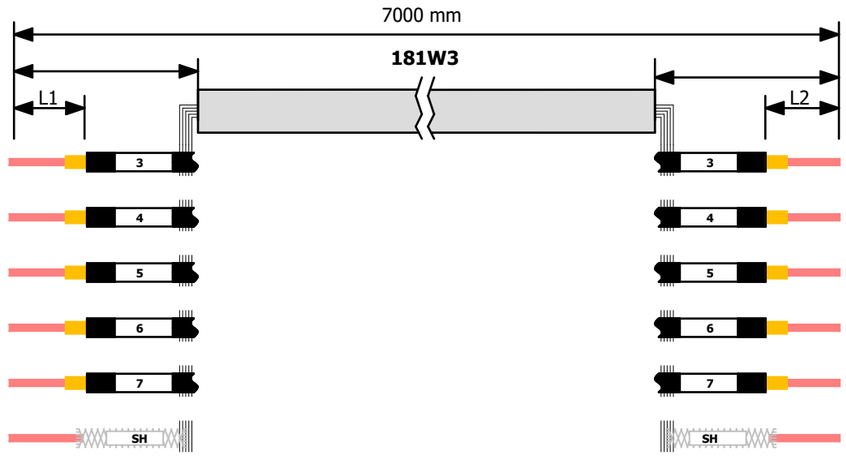
previous page: ++CONV+CIR/3
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Cable name =UNIT_01++CT+-181W3
Cable type F-CY-OZ (LiY-CY) 7x0,75 mm²
Free conductors 2

Cable parts HELU.16563
Order number 16563

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-X3:25	PRESSURE SWITCH	stripped	8 mm
Control cabinet 1	+CTRL_1.3-X5:23	COOLING WATER TEMPERATURE	End splice	8 mm
Control cabinet 1	+CTRL_1.3-X5:24	=	End splice	8 mm

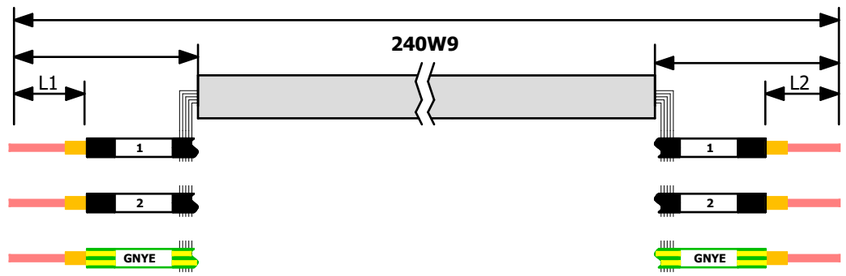


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Flat connector	PRESSURE SWITCH	++FAN-52G1-181X3:2	
8 mm	stripped	COOLING WATER TEMPERATURE	++FAN-52G1-181X3:4	
8 mm	stripped	=	++FAN-52G1-181X3:5	

Cable name =UNIT_01++CT+-240W9
Cable type JZ-500 3G0,75 mm²
Free conductors 3

Cable parts HELU.10031
Order number 10031

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-XDC1:1	FUSE 24V DC CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC1:4	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC1:PE	=	stripped	8 mm

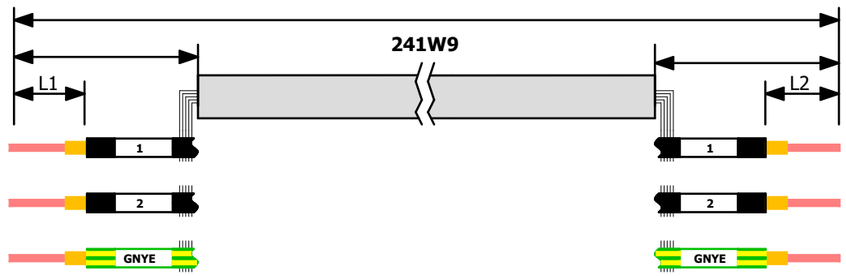


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector	FUSE 24V DC CONTROL VOLTAGE	+CTRL_2.1-240U1:1	***Control cabinet 2***
	Connector	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_2.1-240U1:3	***Control cabinet 2***
	Connector	=	+CTRL_2.1-240U1:2	***Control cabinet 2***

Cable name =UNIT_01++CT+-241W9
Cable type JZ-500 3G0,75 mm²
Free conductors 3

Cable parts HELU.10031
Order number 10031

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-XDC2:2	BSU, SPARE CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC2:4	=	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC1:PE	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	stripped	8 mm



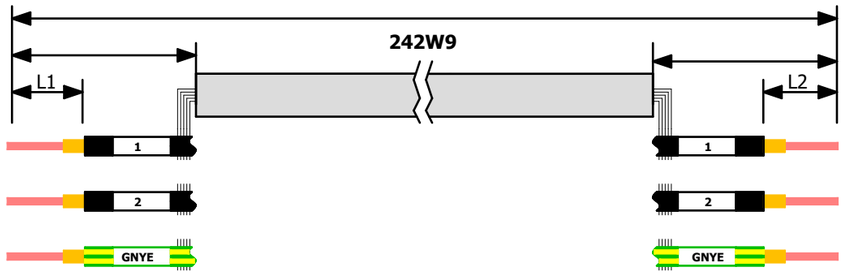
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector	BSU, SPARE CONTROL VOLTAGE	+CTRL_2.1-241U1:1	***Control cabinet 2***
	Connector	=	+CTRL_2.1-241U1:3	***Control cabinet 2***
	Connector	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_2.1-241U1:2	***Control cabinet 2***

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Cable name =UNIT_01++CT+-242W9
Cable type JZ-500 3G0,75 mm²
Free conductors 0

Cable parts HELU.10031
Order number 10031

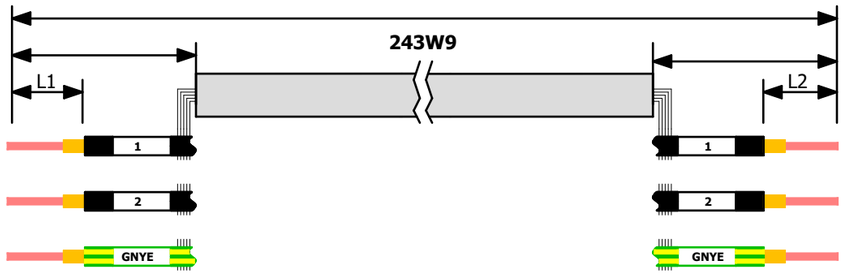


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-XDC2:1	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC2:3	BSU, SPARE CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC1:PE	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_2.1-242U1:1	*Control cabinet 2*
	Connector	BSU, SPARE CONTROL VOLTAGE	+CTRL_2.1-242U1:3	*Control cabinet 2*
	Connector	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_2.1-242U1:2	*Control cabinet 2*

Cable name =UNIT_01++CT+-243W9
Cable type JZ-500 3G0,75 mm²
Free conductors 0

Cable parts HELU.10031
Order number 10031

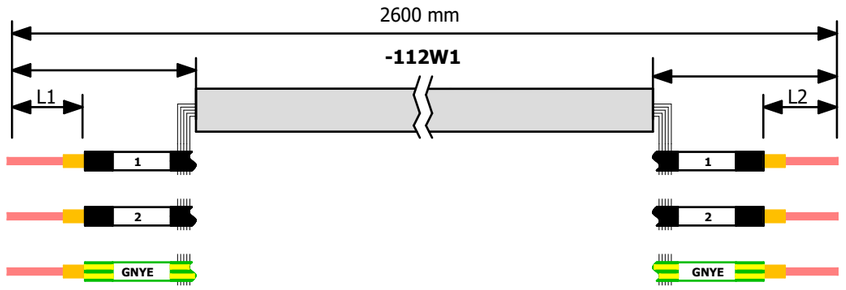


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-XDC2:1	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC2:3	BSU, SPARE CONTROL VOLTAGE	stripped	8 mm
Control cabinet 1	+CTRL_1.3-XDC1:PE	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_2.1-243U1:1	*Control cabinet 2*
	Connector	BSU, SPARE CONTROL VOLTAGE	+CTRL_2.1-243U1:3	*Control cabinet 2*
	Connector	Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_2.1-243U1:2	*Control cabinet 2*

Cable name =UNIT_01++CT+-112W1
Cable type JZ-500 3G0,75 mm²
Free conductors 0

Cable parts HELU.10031
Order number 10031

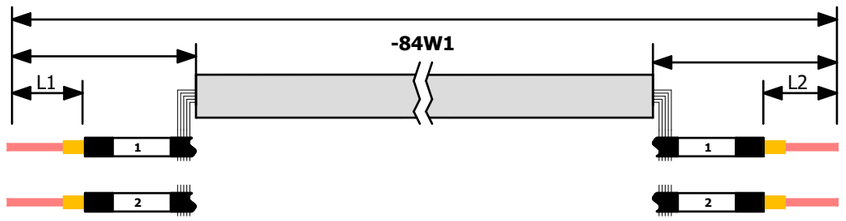


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-XDC2:2	BSU, SPARE CONTROL VOLTAGE		
Control cabinet 1	+CTRL_1.3-XDC2:4	=		
Control cabinet 1	+CTRL_1.3-XDC1:PE	Main PLC, SPS, 24V contacts CONTROL VOLTAGE		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		BSU, SPARE CONTROL VOLTAGE	+CTRL_1.1-112A1:L+	*Control cabinet 1*
		=	+CTRL_1.1-112A1:M	*Control cabinet 1*
		Main PLC, SPS, 24V contacts CONTROL VOLTAGE	+CTRL_1.1-112A1:PE	*Control cabinet 1*

Cable name =UNIT_01++CT+-84W1
Cable type JZ-500 7G6 mm²
Free conductors 1

Cable parts HELU.10150
Order number 10150



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.1-84Q1:2		stripped	8 mm
Control cabinet 1	+CTRL_1.1-84Q1:4		stripped	8 mm

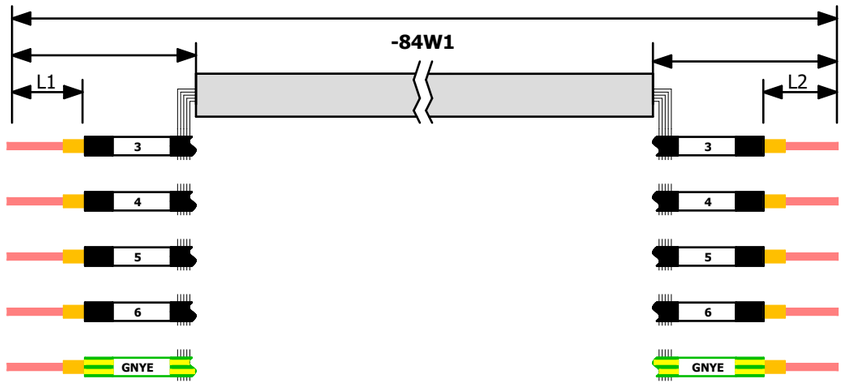
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	End splice		+CTRL_1.3-84F1:L1'	*Control cabinet 1*
8 mm	End splice		+CTRL_1.3-84F1:L2'	*Control cabinet 1*

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Cable name =UNIT_01++CT+-84W1
Cable type JZ-500 7G6 mm²
Free conductors

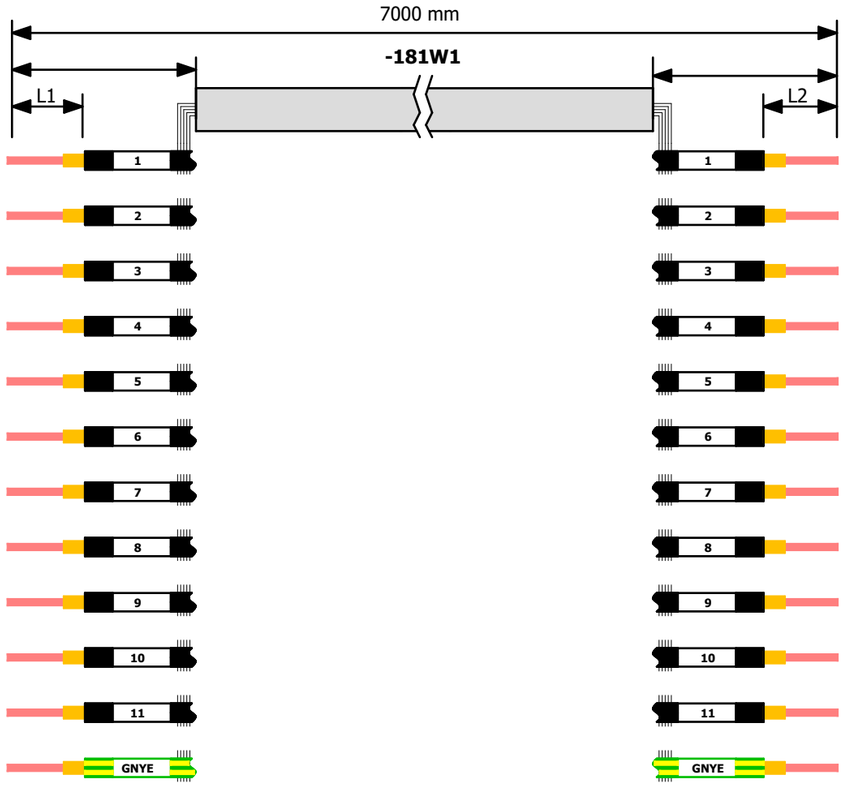
Cable parts HELU.10150
Order number 10150



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Control cabinet 1	+CTRL_1.1-84Q1:6		stripped	8 mm	8 mm	End splice		+CTRL_1.3-84F1:L3'	Control cabinet 1
Control cabinet 1	+CTRL_1.1-84Q1:1		stripped	8 mm	8 mm	End splice		+CTRL_1.3-183F1:1	Control cabinet 1
Control cabinet 1	+CTRL_1.1-84Q1:3		stripped	8 mm	8 mm	End splice		+CTRL_1.3-183F2:1	Control cabinet 1
Control cabinet 1	+CTRL_1.1-84Q1:5		stripped	8 mm	8 mm	End splice		+CTRL_1.3-185F1:1	Control cabinet 1

Cable name =UNIT_01++CT+-181W1
Cable type JZ-600 12G1,5 mm²
Free conductors

Cable parts HELU.10670
Order number 10670



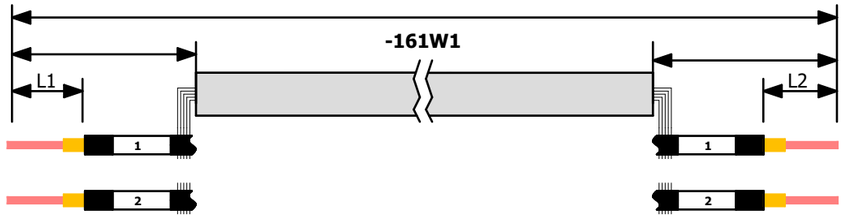
Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Control cabinet 1	+CTRL_1.3-X1:1	PUMP	stripped	8 mm	8 mm	stripped	PUMP	++FAN-52G1-181X1:1:1	
Control cabinet 1	+CTRL_1.3-X1:2	=	stripped	8 mm	8 mm	stripped	=	++FAN-52G1-181X1:2:1	
Control cabinet 1	+CTRL_1.3-X1:3	=	stripped	8 mm	8 mm	stripped	=	++FAN-52G1-181X1:3:1	
Control cabinet 1	+CTRL_1.3-X1:4	FUSE FOR PUMP	stripped	8 mm	8 mm	stripped	FUSE FOR PUMP	++FAN-52G1-181X1:4:1	
Control cabinet 1	+CTRL_1.3-X1:5	HEATER	stripped	8 mm	8 mm	stripped	HEATER	++FAN-52G1-181X1:5:1	
Control cabinet 1	+CTRL_1.3-X1:6	=	stripped	8 mm	8 mm	stripped	=	++FAN-52G1-181X1:6:1	
Control cabinet 1	+CTRL_1.3-X1:7	=	stripped	8 mm	8 mm	stripped	=	++FAN-52G1-181X1:7:1	
Control cabinet 1	+CTRL_1.3-X1:8	FAN 1 HEAT EXCHANGER	stripped	8 mm	8 mm	End splice	FAN 1 HEAT EXCHANGER	++FAN-52G1-181X1:8:1	
Control cabinet 1	+CTRL_1.3-X1:9	=	stripped	8 mm	8 mm	End splice	=	++FAN-52G1-181X1:9:1	
Control cabinet 1	+CTRL_1.3-X1:10	=	stripped	8 mm	8 mm	End splice	=	++FAN-52G1-181X1:10:1	
Control cabinet 1	+CTRL_1.3-X1:PE	PUMP	stripped	8 mm	8 mm	stripped	PUMP	++FAN-52G1-181X1:PE:1	

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	05.11.2024							& EMB Cable list	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets	page: 4
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Cable name =UNIT_01++CT+-161W1
Cable type OZ-500 2x0,75 mm²
Free conductors 0

Cable parts HELU.10030
Order number 10030

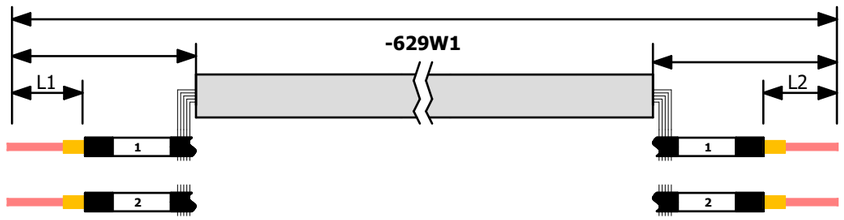


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-160U1:+			
Control cabinet 2	+CTRL_2.1-160U1:-			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_2.1-161U1:+	*Control cabinet 2*
			+CTRL_2.1-161U1:-	*Control cabinet 2*

Cable name =UNIT_01++CT+-629W1
Cable type OZ-500 2x0,75 mm²
Free conductors 2

Cable parts HELU.10030
Order number 10030



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_01++CT+-195W1
Cable type OZ-500 4x0,75 mm²
Free conductors 0

Cable parts HELU.10034
Order number 10034

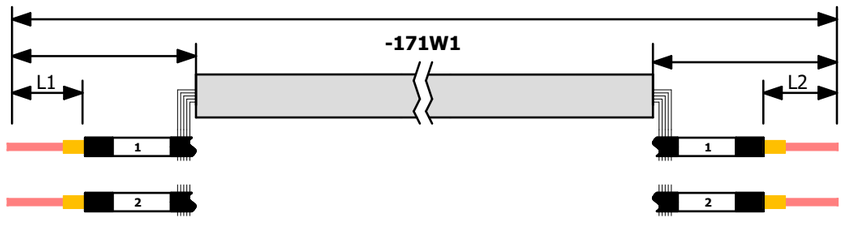


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.1-84Q1:13	SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS		
Control cabinet 1	+CTRL_1.1-84Q1:23			
Control cabinet 1	+CTRL_1.1-84Q1:14	SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS		
Control cabinet 1	+CTRL_1.1-84Q1:24			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS	+CTRL_1.3-195K3:T1	*Control cabinet 1*
			+CTRL_1.3-195K3:T2	*Control cabinet 1*
		SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS	+CTRL_1.3-X3:41	*Control cabinet 1*
			+CTRL_1.3-X3:43	*Control cabinet 1*

Cable name =UNIT_01++CT+-171W1
Cable type OZ-600 2x1,5 mm²
Free conductors 2

Cable parts HELU.10656
Order number 10656



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.4-171F1:1			
Control cabinet 1	+CTRL_1.4-171F1:3			

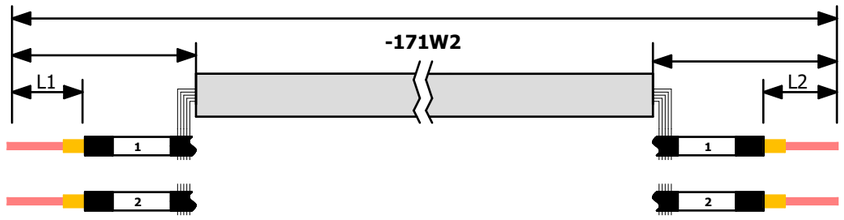
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.4-85U1:DC+	*Control cabinet 1*
			+CTRL_1.4-85U1:DC-	*Control cabinet 1*

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Cable name =UNIT_01++CT+-171W2
Cable type OZ-600 2x1,5 mm²
Free conductors 2

Cable parts HELU.10656
Order number 10656

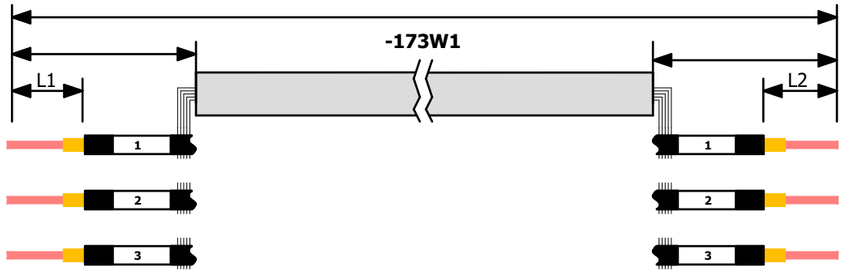


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.4-171F1:2			
Control cabinet 1	+CTRL_1.4-171F1:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.4-171K1:A1	*Control cabinet 1*
			+CTRL_1.4-171K2:A1	*Control cabinet 1*

Cable name =UNIT_01++CT+-173W1
Cable type OZ-600 3x2,5 mm²
Free conductors 3

Cable parts HELU.10691
Order number 10691

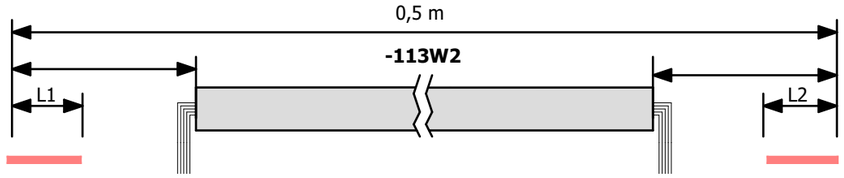


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-UDC+			
Converter cabinet	++CONV+CON-UDC-			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.4-173F2:2	*Control cabinet 1*
			+CTRL_1.4-173F2:4	*Control cabinet 1*

Cable name =UNIT_01++CT+-113W2
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors 8

Cable parts REI.PATCH-C6 05 GN
Order number PATCH-C6 05 GN

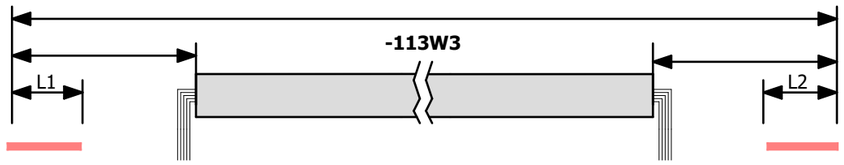


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-113T1:7			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.3-113U1:OUT	*Control cabinet 1*

Cable name =UNIT_01++CT+-113W3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors 8

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-113U1:IN			

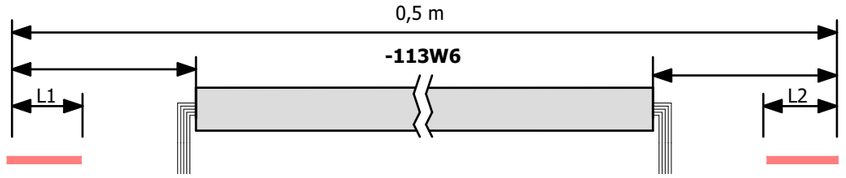
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.3-113U2:8	*Control cabinet 1*

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMB Cable list
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 6
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Cable name =UNIT_01++CT+-113W6
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 05 GN
Order number PATCH-C6 05 GN

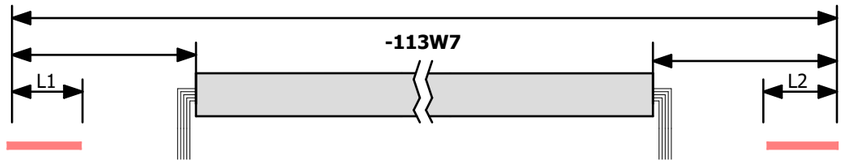


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-113T2:7			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.3-113U3:OUT	*Control cabinet 1*

Cable name =UNIT_01++CT+-113W7
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts
Order number

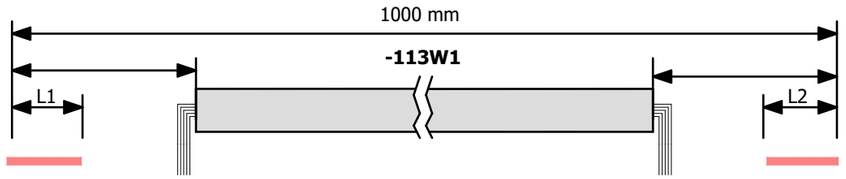


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-113U3:IN			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			+CTRL_1.3-113U4:8	*Control cabinet 1*

Cable name =UNIT_01++CT+-113W1
Cable type RJ45 / CAT 6 4x2x0,25 mm²
Free conductors

Cable parts
Order number

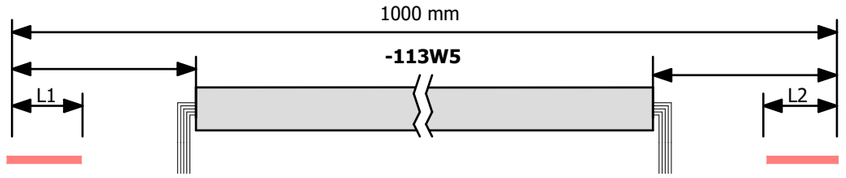


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-111A1:X4:1-8		RJ45 connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	RJ45 connector		+CTRL_1.3-113T1:15	*Control cabinet 1*

Cable name =UNIT_01++CT+-113W5
Cable type RJ45 / CAT 6 4x2x0,25 mm²
Free conductors

Cable parts
Order number

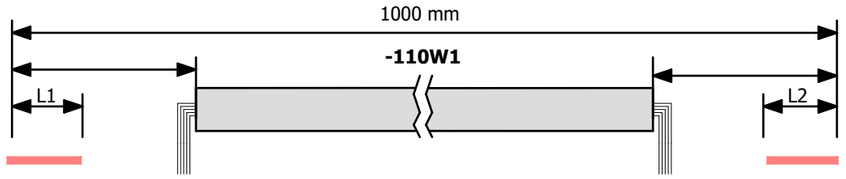


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.3-111A1:X5:1-8		RJ45 connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	RJ45 connector		+CTRL_1.3-113T2:15	*Control cabinet 1*

Cable name =UNIT_01++CT+-110W1
Cable type RJ45 / CAT6 4x2x0,25 mm²
Free conductors

Cable parts
Order number



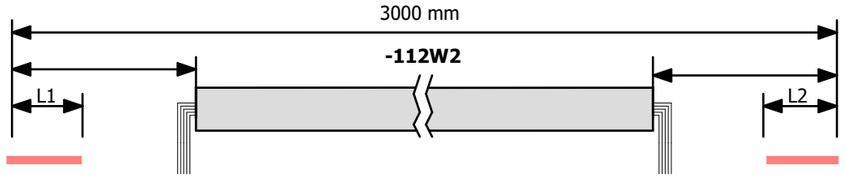
Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.2-110U1:P1		RJ45 connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	RJ45 connector		+CTRL_1.3-111A1:X1:1-8	*Control cabinet 1*

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_01	Converter Container 1	
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Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CT	Control cabinets	page: 7
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Cable name =UNIT_01++CT+-112W2
Cable type RJ45 / CAT6 4x2x0,25 mm²
Free conductors

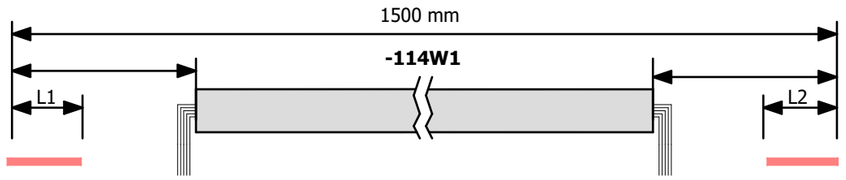


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.1-112A1		RJ45 connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	RJ45 connector		+CTRL_1.3-111A1:X2:1-8	*Control cabinet 1*

Cable name =UNIT_01++CT+-114W1
Cable type RJ45 / CAT6 4x2x0,25 mm²
Free conductors

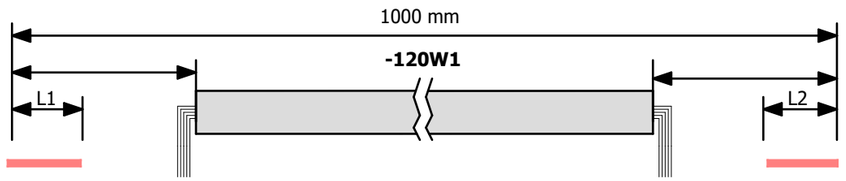


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.2-114A1		RJ45 connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	RJ45 connector		=UNIT_03++ASC-620A1:-X1:P2	

Cable name =UNIT_01++CT+-120W1
Cable type RJ45 / CAT6 4x2x0,25 mm²
Free conductors

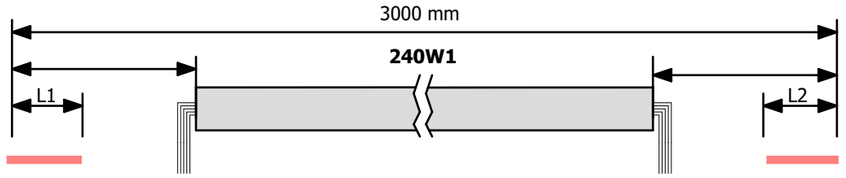


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.2-110U1:P3		RJ45 connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	RJ45 connector		+CTRL_1.3-120A1:-X1:P1	*Control cabinet 1*

Cable name =UNIT_01++CT+-240W1
Cable type pre-assembled D-Sub cable 1:1
Free conductors

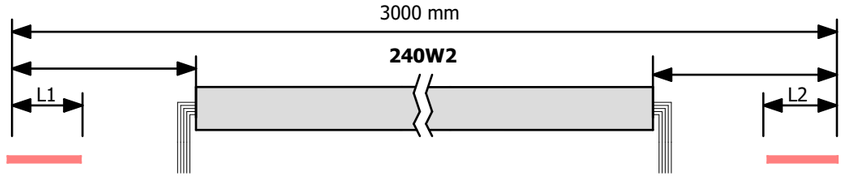


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-201Q1:CTRL		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-240U1:X1	*Control cabinet 2*

Cable name =UNIT_01++CT+-240W2
Cable type pre-assembled D-Sub cable 1:1
Free conductors



Cable parts
Order number

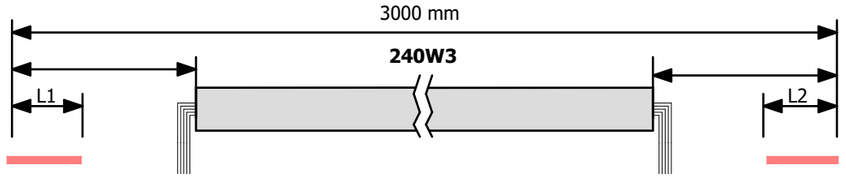
Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-202Q1:CTRL		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-240U1:X2	*Control cabinet 2*

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Cable name =UNIT_01++CT+-240W3
Cable type pre-assembled D-Sub cable 1:1
Free conductors

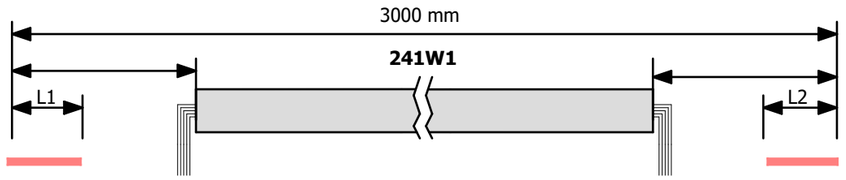


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-203Q1:CTRL		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-240U1:X3	***Control cabinet 2***

Cable name =UNIT_01++CT+-241W1
Cable type pre-assembled D-Sub cable 1:1
Free conductors

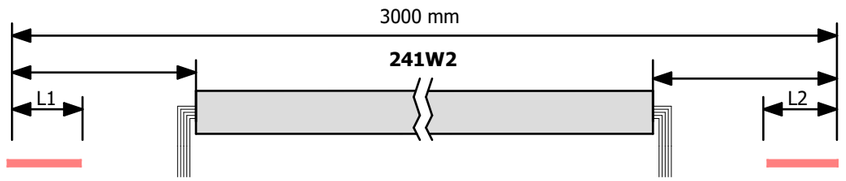


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-211Q1-U1:X1		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-241U1:X1	***Control cabinet 2***

Cable name =UNIT_01++CT+-241W2
Cable type pre-assembled D-Sub cable 1:1
Free conductors

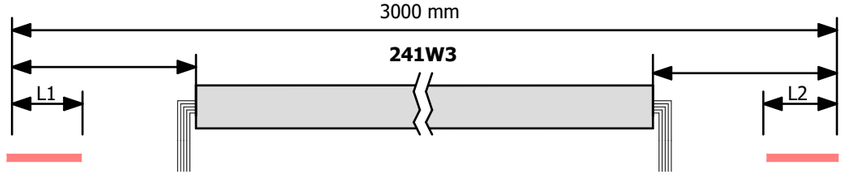


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-211Q1-U1:X2		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-241U1:X2	***Control cabinet 2***

Cable name =UNIT_01++CT+-241W3
Cable type pre-assembled D-Sub cable 1:1
Free conductors

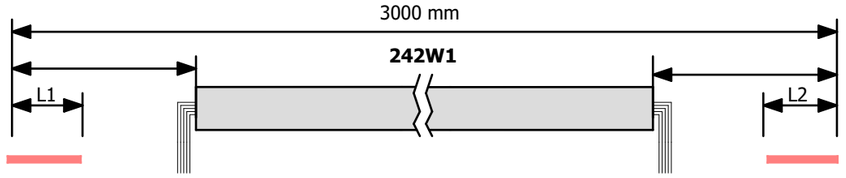


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-211Q1-U1:X3		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-241U1:X3	***Control cabinet 2***

Cable name =UNIT_01++CT+-242W1
Cable type pre-assembled D-Sub cable 1:1
Free conductors



Cable parts
Order number

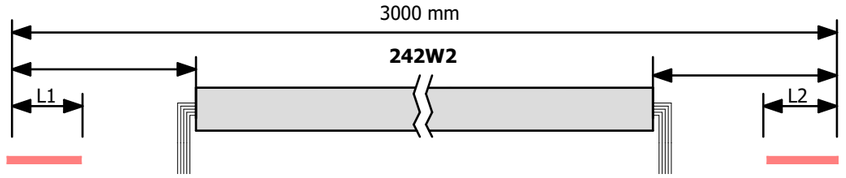
Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-207Q1-U1:X1		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-242U1:X1	***Control cabinet 2***

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_01++CT+-242W2
Cable type pre-assembled D-Sub cable 1:1
Free conductors

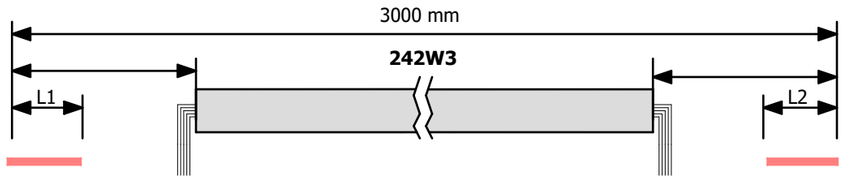


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-207Q1-U1:X2		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-242U1:X2	***Control cabinet 2***

Cable name =UNIT_01++CT+-242W3
Cable type pre-assembled D-Sub cable 1:1
Free conductors

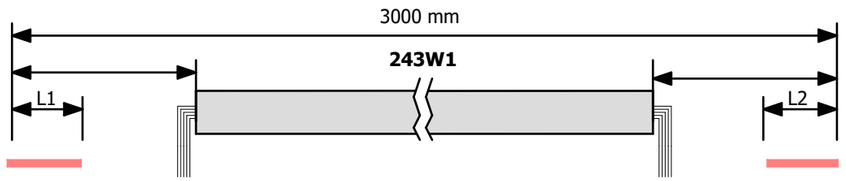


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-207Q1-U1:X3		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-242U1:X3	***Control cabinet 2***

Cable name =UNIT_01++CT+-243W1
Cable type pre-assembled D-Sub cable 1:1
Free conductors

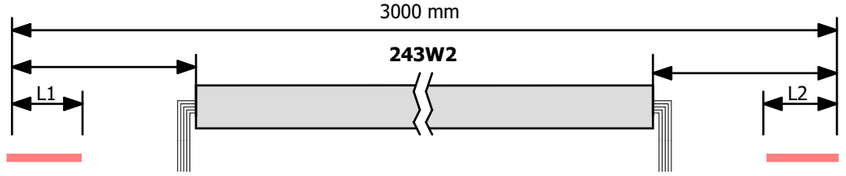


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-217Q1-U1:X1		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-243U1:X1	***Control cabinet 2***

Cable name =UNIT_01++CT+-243W2
Cable type pre-assembled D-Sub cable 1:1
Free conductors

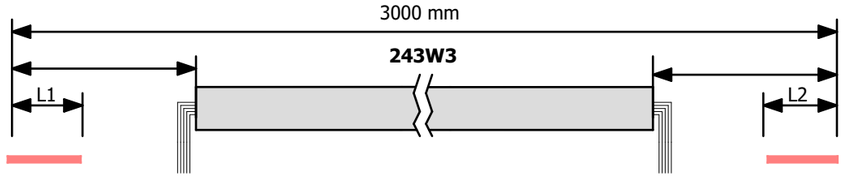


Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-217Q1-U1:X2		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-243U1:X2	***Control cabinet 2***

Cable name =UNIT_01++CT+-243W3
Cable type pre-assembled D-Sub cable 1:1
Free conductors



Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Converter cabinet	++CONV+CON-217Q1-U1:X3		Connector	

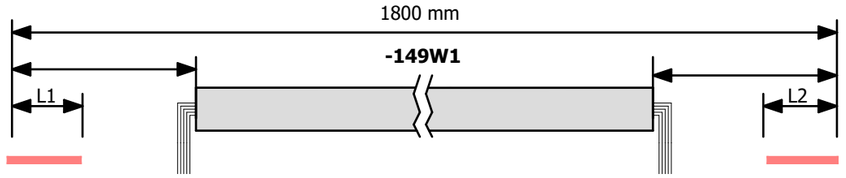
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-243U1:X3	***Control cabinet 2***

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_01++CT+-149W1
Cable type pre-assembled D-Sub cable 1:1
Free conductors

Cable parts DIS.671476
Order number

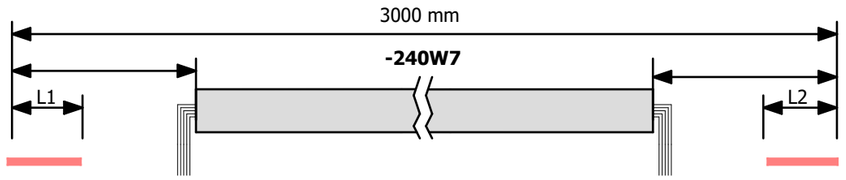


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	+CTRL_1.4-149U1:11X3		Connecor	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Female connector		+CTRL_2.1-162U1:11X3	*Control cabinet 2*

Cable name =UNIT_01++CT+-240W7
Cable type pre-assembled D-Sub cable 1:1
Free conductors

Cable parts DIS.125-30-097
Order number 125-30-097

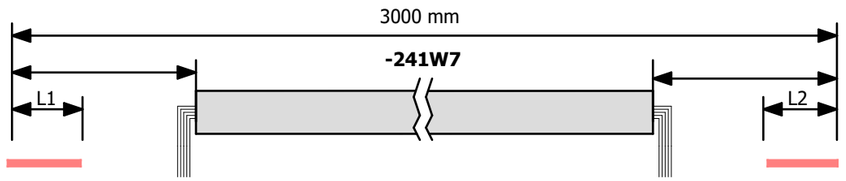


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-160U1:11X3		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-240U1:X7	*Control cabinet 2*

Cable name =UNIT_01++CT+-241W7
Cable type pre-assembled D-Sub cable 1:1
Free conductors

Cable parts DIS.125-30-097
Order number 125-30-097

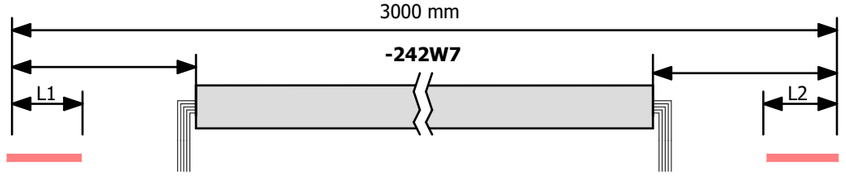


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-161U1:11X3		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-241U1:X7	*Control cabinet 2*

Cable name =UNIT_01++CT+-242W7
Cable type pre-assembled D-Sub cable 1:1
Free conductors

Cable parts DIS.125-30-097
Order number 125-30-097

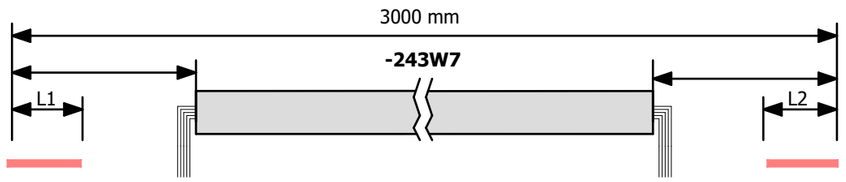


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-163U1:11X3		Connector	

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-242U1:X7	*Control cabinet 2*

Cable name =UNIT_01++CT+-243W7
Cable type pre-assembled D-Sub cable 1:1
Free conductors

Cable parts DIS.125-30-097
Order number 125-30-097



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 2	+CTRL_2.1-164U1:11X3		Connector	

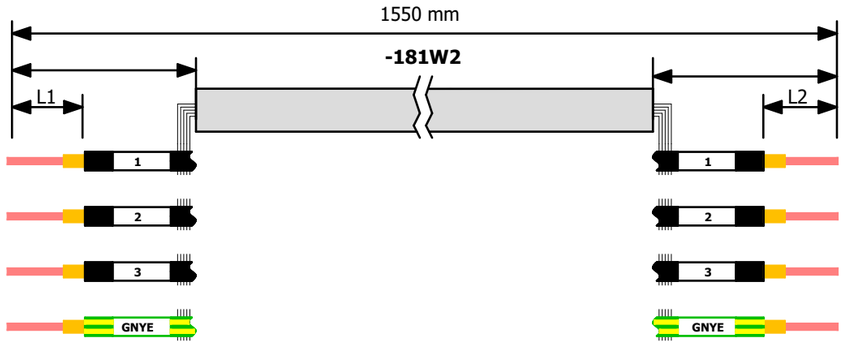
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	Connector		+CTRL_2.1-243U1:X7	*Control cabinet 2*

previous page: 10
next page: ++FAN/1

FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_01++FAN+-52G1-181W2
Cable type JZ-600 4G1,5 mm²
Free conductors

Cable parts HELU.10659
Order number 10659

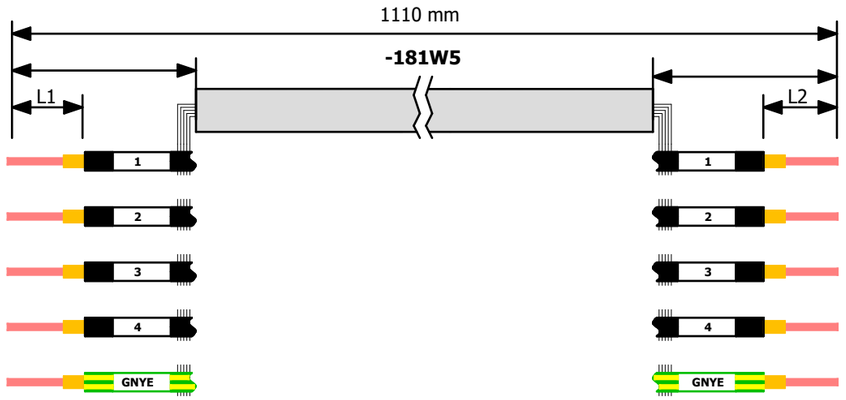


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-52G1-181X1:1:2	PUMP	stripped	8 mm
	-52G1-181X1:2:2	=	stripped	8 mm
	-52G1-181X1:3:2	=	stripped	8 mm
	-52G1-181X1:PE:2	=	stripped	8 mm

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
5 mm	Ring cable lug M4	PUMP	-52G1-181M1:U1	
5 mm	Ring cable lug M4	=	-52G1-181M1:V1	
5 mm	Ring cable lug M4	=	-52G1-181M1:W1	
5 mm	Ring cable lug M4	=	-52G1-181M1:PE	

Cable name =UNIT_01++FAN+-52G1-181W5
Cable type JZ-600 5G1,5 mm²
Free conductors

Cable parts HELU.10661
Order number 10661

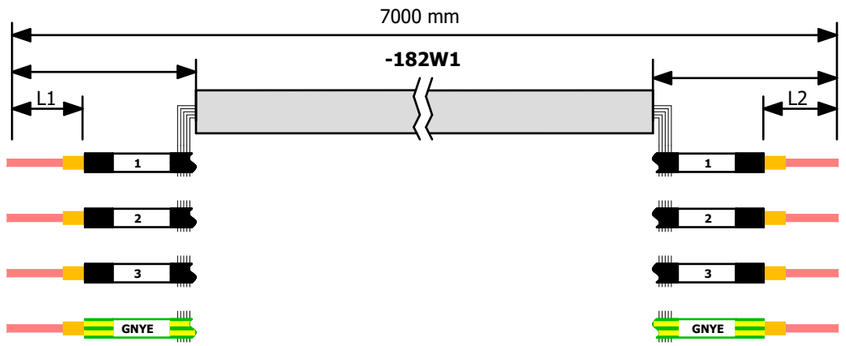


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-52G1-181X1:4:2	FUSE FOR PUMP	stripped	8 mm
	-52G1-181X1:5:2	HEATER	stripped	8 mm
	-52G1-181X1:6:2	=	stripped	8 mm
	-52G1-181X1:7:2	=	stripped	8 mm
	-52G1-181X1:PE:2	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
5 mm	Ring cable lug M4	FUSE FOR PUMP	-52G1-181R1:x1	
5 mm	Ring cable lug M4	HEATER	-52G1-181R1:x3	
5 mm	Ring cable lug M4	=	-52G1-181R1:x5	
5 mm	Ring cable lug M4	=	-52G1-181R1:x6	
		=	-52G1-181R1:PE	

Cable name =UNIT_01++FAN+-52G1-182W1
Cable type JZ-600 5G1,5 mm²
Free conductors

Cable parts HELU.10659
Order number 10659



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-52G1-181X1:8:2	FAN 1 HEAT EXCHANGER	stripped	8 mm
	-52G1-181X1:9:2	=	stripped	8 mm
	-52G1-181X1:10:2	=	stripped	8 mm
	-52G1-181X1:PE:2	=	stripped	8 mm

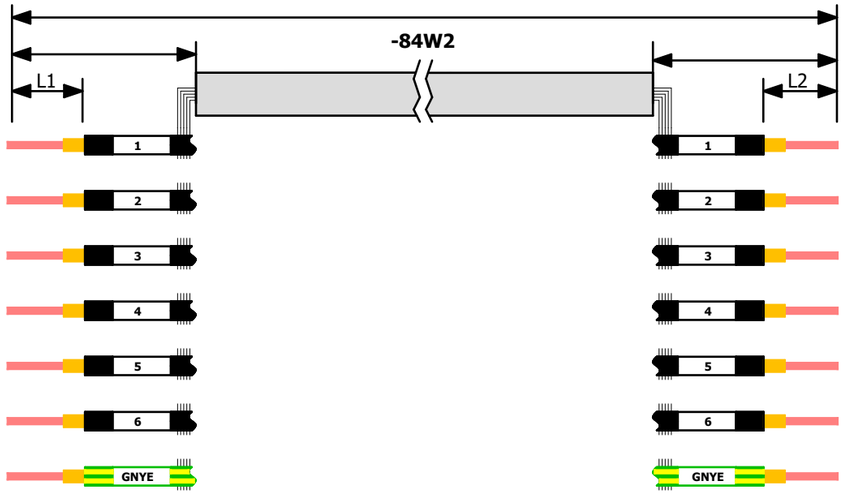
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
8 mm	End splice	FAN 1 HEAT EXCHANGER	-52G1-182M1:U1	
8 mm	End splice	=	-52G1-182M1:V1	
8 mm	End splice	=	-52G1-182M1:W1	
8 mm	End splice	=	-52G1-182M1:PE	

previous page: ++CT/11
next page: ++EXTERN/1

FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_01++EXTERN+-84W2
Cable type JZ-600 5G16 mm²
Free conductors 7

Cable parts HELU.10150
Order number 10150



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

previous page:
++FAN/1

next page:
&EMZ++CONV+IND/1000

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	05.11.2024							& EMB Cable list	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ EXTERN	page: 1
Date								+	total: 498

FRQ_Kabelplan_04_groß_de_en

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-207L1.1				0	0	2	=UNIT_01&EMZ++CONV+IND/2000
-207L1.2				0	0	2	=UNIT_01&EMZ++CONV+IND/2001
-207L1.3				0	0	2	=UNIT_01&EMZ++CONV+IND/2002
-211L1.1				0	0	2	=UNIT_01&EMZ++CONV+IND/2003
-211L1.2				0	0	2	=UNIT_01&EMZ++CONV+IND/2004
-211L1.3				0	0	2	=UNIT_01&EMZ++CONV+IND/2005
-217L1.1				0	0	2	=UNIT_01&EMZ++CONV+IND/2006
-217L1.2				0	0	2	=UNIT_01&EMZ++CONV+IND/2007
-217L1.3				0	0	2	=UNIT_01&EMZ++CONV+IND/2008

previous page:
&EMB++EXTERN+/1

next page:
2000

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_01++CONV+IND-207L1.1

Cable name: -146W3
Cable type: F-CY-OZ (LiY-CY)

Function text				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Page / column
INDUCTOR DC SUB 3_1 TEMPERATURE 3_1			1		++CT+CTRL_1.3-X5	13		•	-207L1.1	x2		&EFS++CT+/146.5
=			2		++CT+CTRL_1.3-X5	14		•	-207L1.1	x1		&EFS++CT+/146.5

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_01++CONV+IND-207L1.1

20241105_V1.2

10354_23A2007

=	UNIT_01	Converter Container 1
&	EMZ	Terminals
++	CONV	Converter
+	IND	Inductor cabinet

Terminal diagram

Freqcon_F13_001_02

Function text			-146W4 / F-CY-OZ (LiY-CY)	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
					Strip =UNIT_01++CONV+IND-207L1.2							
INDUCTOR DC SUB 3_2 TEMPERATURE 3_2			1		++CT+CTRL_1.3-X5	15		•	-207L1.2	x2		&EFS++CT+/146.7
=			2		++CT+CTRL_1.3-X5	16		•	-207L1.2	x1		&EFS++CT+/146.7

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CONV+IND-207L1.2
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by		FREQCON	10354_23A2007
Date			

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2001
+	IND	Inductor cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_01++CONV+IND-207L1.3

Cable name: -147W1
Cable type: F-CY-OZ (LiY-CY)

Function text			Terminal no.	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Page / column
INDUCTOR DC SUB 3_3 TEMPERATURE 3_3			1	++CT+CTRL_1.3-X5	17		•	-207L1.3	x2	&EFS++CT+/147.1
=			2	++CT+CTRL_1.3-X5	18		•	-207L1.3	x1	&EFS++CT+/147.1

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CONV+IND-207L1.3
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2002
+	IND	Inductor cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CONV+IND-211L1.1

Cable name: -145W4
Cable type: F-CY-OZ (LiY-CY)

Function text				Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
INDUCTOR DC SUB 2_1 TEMPERATURE 2_1			1		++CT+CTRL_1.3-X5	7		•	-211L1.1	x2		&EFS++CT+/145.7
=			2		++CT+CTRL_1.3-X5	8		•	-211L1.1	x1		&EFS++CT+/145.7

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+IND-211L1.2

Function text			-146W1 / F-CY-OZ (LiY-CY)	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
INDUCTOR DC SUB 2_2 TEMPERATURE 2_2			1		++CT+CTRL_1.3-X5	9		•	-211L1.2	x2		&EFS++CT+/146.1
=			2		++CT+CTRL_1.3-X5	10		•	-211L1.2	x1		&EFS++CT+/146.1

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_01++CONV+IND-211L1.2	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024					& EMZ	Terminals
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter	page: 2004
Date						+ IND	Inductor cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Function text			-146W2 / F-CY-OZ (LiY-CY)	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
					Strip =UNIT_01++CONV+IND-211L1.3							
INDUCTOR DC SUB 2_3 TEMPERATURE 2_3			1		++CT+CTRL_1.3-X5	11		•	-211L1.3	x2		&EFS++CT+/146.3
=			2		++CT+CTRL_1.3-X5	12		•	-211L1.3	x1		&EFS++CT+/146.3

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CONV+IND-211L1.3
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2005
+	IND	Inductor cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Cable name: -147W2
Cable type: F-CY-OZ (LiY-CY)

Strip =UNIT_01++CONV+IND-217L1.1

Function text				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Page / column
INDUCTOR DC SUB 4_1 TEMPERATURE 4_1			1		++CT+CTRL_1.3-X5	19		•	-217L1.1	x2		&EFS++CT+/147.3
=			2		++CT+CTRL_1.3-X5	20		•	-217L1.1	x1		&EFS++CT+/147.3

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+IND-217L1.2

Cable name: -148W1

Cable type: F-CY-OZ (LiY-CY)

Function text				Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Page / column
INDUCTOR DC SUB 4_2 TEMPERATURE 4_2			1	++CT+CTRL_1.3-X5	25		▪	-217L1.2	x2	&EFS++CT+/148.3
=			2	++CT+CTRL_1.3-X5	26		▪	-217L1.2	x1	&EFS++CT+/148.3

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_01++CONV+IND-217L1.2	20241105_V1.2	= UNIT_01 Converter Container 1	
Date	05.11.2024					& EMZ Terminals	
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter	page: 2007
Date						+ IND Inductor cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Function text		-148W2 / F-CY-OZ (LiY-CY)	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
				Strip =UNIT_01++CONV+IND-217L1.3							
INDUCTOR DC SUB 4_3 TEMPERATURE 4_3		1		++CT+CTRL_1.3-X5	29		▮	-217L1.3	x2		&EFS++CT+/148.7
=		2		++CT+CTRL_1.3-X5	30		▮	-217L1.3	x1		&EFS++CT+/148.7

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

Klemmenplan =UNIT_01++CONV+IND-217L1.3

20241105_V1.2

10354_23A2007

=	UNIT_01	Converter Container 1		
&	EMZ	Terminals		
++	CONV	Converter	page:	2008
+	IND	Inductor cabinet	total:	498

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-227U1-X3.1	DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen	1	PE	1	0	18	=UNIT_01&EMZ++CONV+CIR/2000
-227U1-X3.2	=	1	PE	2	0	52	=UNIT_01&EMZ++CONV+CIR/2001
-231U1-X3.1	=	1	PE	1	0	18	=UNIT_01&EMZ++CONV+CIR/2003
-231U1-X3.2	=	1	PE	2	0	52	=UNIT_01&EMZ++CONV+CIR/2004
-237U1-X3.1	=	1	PE	1	0	18	=UNIT_01&EMZ++CONV+CIR/2006
-237U1-X3.2	=	1	PE	2	0	52	=UNIT_01&EMZ++CONV+CIR/2007

previous page: +IND/2008

next page: 2000

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+CIR-227U1-X3.1

DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Function text			-227W4	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	-227U1-W5	Page / column
			0Z-500	Cable type							Cable type	1Z-500	
			1		++CT+CTRL_1.4-350X1.21	1	1	,	-227U1-X3.2	1		1	&EFS+/227.a.1
			2		++CT+CTRL_1.4-350X1.21	4	2	,	-227U1-X3.2	3		2	&EFS+/227.a.2
			3		++CT+CTRL_1.4-350X1.21	7	3	,	-227U1-X3.2	5		3	&EFS+/227.a.2
			4		++CT+CTRL_1.4-350X1.21	3	4	,	-227U1-X3.2	7		4	&EFS+/227.a.3
			5		++CT+CTRL_1.4-350X1.21	6	5	,	-227U1-X3.2	9		5	&EFS+/227.a.4
			6		++CT+CTRL_1.4-350X1.21	9	6	,	-227U1-X3.2	11		6	&EFS+/227.a.5
			7		++CT+CTRL_1.4-307K1	A1	7	,	-227U1-X3.2	13		7	&EFS+/227.a.5
			8		++CT+CTRL_1.4-307K3	A1	8	,	-227U1-X3.2	15		8	&EFS+/227.a.6
			9		++CT+CTRL_1.4-307K5	A1	9	,	-227U1-X3.2	17		9	&EFS+/227.a.6
			10		++CT+CTRL_1.4-307K2	A1	10	,	-227U1-X3.2	19		10	&EFS+/227.a.6
			11		++CT+CTRL_1.4-307K4	A1	11	,	-227U1-X3.2	21		11	&EFS+/227.a.7
			12		++CT+CTRL_1.4-307K6	A1	12	,	-227U1-X3.2	23		12	&EFS+/227.a.7
			13		++CT+CTRL_1.3-X3.11	11	13	,	-227U1-F1	2			&EFS+/227.a.7
			14		++CT+CTRL_1.3-X3.12	9	14	,	-227U1-F5	2			&EFS+/227.a.8
			15		++CT+CTRL_1.3-X3.12	11	15	,	-227U1-F9	2			&EFS+/227.a.8
			16		++CT+CTRL_1.3-X3.12	10	16	,	-227U1-F2	1			&EFS+/227.a.9
									-227U1-X3.2	24		13	
			17		++CT+CTRL_1.4-350X1.21	2	17	,	-227U1-X3.2	12		14	&EFS+/227.a.9
							PE	,	-227U1-X3.2	PE		GNYE	&EFS+/227.a.9

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CONV+CIR-227U1-X3.1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV Converter — page: 2000
Date								+ CIR Circuit Breaker cabinet — total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+CIR-227U1-X3.2

DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Function text				Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	-227U1-W5										Page / column
				Cable type							Cable type	JZ-500										
							1		-227U1-X3.1	1		1										&EFS+/227.a.1
							2															&EFS+/227.a.1
							3		-227U1-X3.1	2		2										&EFS+/227.a.2
							4															&EFS+/227.a.2
							5		-227U1-X3.1	3		3										&EFS+/227.a.2
							6															&EFS+/227.a.2
							7		-227U1-X3.1	4		4										&EFS+/227.a.3
							8															&EFS+/227.a.3
							9		-227U1-X3.1	5		5										&EFS+/227.a.4
							10															&EFS+/227.a.4
							11		-227U1-X3.1	6		6										&EFS+/227.a.5
							12		-227U1-X3.1	17		14										&EFS+/227.a.5
							13		-227U1-X3.1	7		7										&EFS+/227.a.5
							14															&EFS+/227.a.5
							15		-227U1-X3.1	8		8										&EFS+/227.a.6
							16															&EFS+/227.a.6
							17		-227U1-X3.1	9		9										&EFS+/227.a.6

previous page: 2000

next page: 2002

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CONV+CIR-227U1-X3.2	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CONV	Converter	page: 2001
Date							10354_23A2007	+ CIR	Circuit Breaker cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+CIR-227U1-X3.2

DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Cable name: -227U1-W5

Cable type: JZ-500

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-227U1-W5 / JZ-500	Page / column
			18					&EFS+/227.a.6
			19		-227U1-X3.1	10	10	&EFS+/227.a.6
			20					&EFS+/227.a.6
			21		-227U1-X3.1	11	11	&EFS+/227.a.7
			22					&EFS+/227.a.7
			23		-227U1-X3.1	12	12	&EFS+/227.a.7
			24		-227U1-X3.1	16	13	&EFS+/227.a.7
			PE					&EFS+/227.a.5
			PE		-227U1-X3.1	PE	GNYE	&EFS+/227.a.5

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CONV+CIR-227U1-X3.2
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2002
+	CIR	Circuit Breaker cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+CIR-231U1-X3.1

DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Function text			-231W4	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	-231U1-W5	Page / column
			0Z-500	Cable type							Cable type	JZ-500	
			1		++CT+CTRL_1.3-150X1	1	1	,	-231U1-X3.2	1		1	&EFS+/231.a.1
			2		++CT+CTRL_1.3-150X1	4	2	,	-231U1-X3.2	3		2	&EFS+/231.a.2
			3		++CT+CTRL_1.3-150X1	7	3	,	-231U1-X3.2	5		3	&EFS+/231.a.2
			4		++CT+CTRL_1.3-150X1	3	4	,	-231U1-X3.2	7		4	&EFS+/231.a.3
			5		++CT+CTRL_1.3-150X1	6	5	,	-231U1-X3.2	9		5	&EFS+/231.a.4
			6		++CT+CTRL_1.3-150X1	9	6	,	-231U1-X3.2	11		6	&EFS+/231.a.5
			7		++CT+CTRL_1.4-306K1	A1	7	,	-231U1-X3.2	13		7	&EFS+/231.a.5
			8		++CT+CTRL_1.4-306K3	A1	8	,	-231U1-X3.2	15		8	&EFS+/231.a.6
			9		++CT+CTRL_1.4-306K5	A1	9	,	-231U1-X3.2	17		9	&EFS+/231.a.6
			10		++CT+CTRL_1.4-306K2	A1	10	,	-231U1-X3.2	19		10	&EFS+/231.a.6
			11		++CT+CTRL_1.4-306K4	A1	11	,	-231U1-X3.2	21		11	&EFS+/231.a.7
			12		++CT+CTRL_1.4-306K6	A1	12	,	-231U1-X3.2	23		12	&EFS+/231.a.7
			13		++CT+CTRL_1.3-X3.10	9	13	,	-231U1-F1	2			&EFS+/231.a.7
			14		++CT+CTRL_1.3-X3.10	11	14	,	-231U1-F5	2			&EFS+/231.a.8
			15		++CT+CTRL_1.3-X3.11	9	15	,	-231U1-F9	2			&EFS+/231.a.8
			16		++CT+CTRL_1.3-X3.10	10	16	,	-231U1-F2	1			&EFS+/231.a.9
									-231U1-X3.2	24		13	
			17		++CT+CTRL_1.3-150X1	2	17	,	-231U1-X3.2	12		14	&EFS+/231.a.9
							PE	,	-231U1-X3.2	PE		GNYE	&EFS+/231.a.9

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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+CIR-231U1-X3.2

DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Cable type	Page / column
										-231U1-W5	JZ-500	
					1		-231U1-X3.1	1		1		&EFS+/231.a.1
					2							&EFS+/231.a.1
					3		-231U1-X3.1	2		2		&EFS+/231.a.2
					4							&EFS+/231.a.2
					5		-231U1-X3.1	3		3		&EFS+/231.a.2
					6							&EFS+/231.a.2
					7		-231U1-X3.1	4		4		&EFS+/231.a.3
					8							&EFS+/231.a.3
					9		-231U1-X3.1	5		5		&EFS+/231.a.4
					10							&EFS+/231.a.4
					11		-231U1-X3.1	6		6		&EFS+/231.a.5
					12		-231U1-X3.1	17		14		&EFS+/231.a.5
					13		-231U1-X3.1	7		7		&EFS+/231.a.5
					14							&EFS+/231.a.5
					15		-231U1-X3.1	8		8		&EFS+/231.a.6
					16							&EFS+/231.a.6
					17		-231U1-X3.1	9		9		&EFS+/231.a.6

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next page: 2005

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CONV+CIR-231U1-X3.2
DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	-231U1-W5 / JZ-500	Page / column
				18						&EFS+/231.a.6
				19		-231U1-X3.1	10		10	&EFS+/231.a.6
				20						&EFS+/231.a.6
				21		-231U1-X3.1	11		11	&EFS+/231.a.7
				22						&EFS+/231.a.7
				23		-231U1-X3.1	12		12	&EFS+/231.a.7
				24		-231U1-X3.1	16		13	&EFS+/231.a.7
				PE						&EFS+/231.a.5
				PE		-231U1-X3.1	PE		GNYE	&EFS+/231.a.5

Editor	Freqcon_DG	Statron	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

Klemmenplan
=UNIT_01++CONV+CIR-231U1-X3.2

20241105_V1.2

10354_23A2007

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2005
+	CIR	Circuit Breaker cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Function text			-237W4	Cable name	Strip =UNIT_01++CONV+CIR-237U1-X3.1 DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen						Cable name	-237U1-W5										Page / column
			0Z-500	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	JZ-500										
			1		++CT+CTRL_1.4-350X1.21	11	1	,	-237U1-X3.2	1		1										&EFS+/237.a.1
			2		++CT+CTRL_1.4-350X1.21	14	2	,	-237U1-X3.2	3		2										&EFS+/237.a.2
			3		++CT+CTRL_1.4-350X1.21	17	3	,	-237U1-X3.2	5		3										&EFS+/237.a.2
			4		++CT+CTRL_1.4-350X1.21	13	4	,	-237U1-X3.2	7		4										&EFS+/237.a.3
			5		++CT+CTRL_1.4-350X1.21	16	5	,	-237U1-X3.2	9		5										&EFS+/237.a.4
			6		++CT+CTRL_1.4-350X1.21	19	6	,	-237U1-X3.2	11		6										&EFS+/237.a.5
			7		++CT+CTRL_1.4-308K1	A1	7	,	-237U1-X3.2	13		7										&EFS+/237.a.5
			8		++CT+CTRL_1.4-308K3	A1	8	,	-237U1-X3.2	15		8										&EFS+/237.a.6
			9		++CT+CTRL_1.4-308K5	A1	9	,	-237U1-X3.2	17		9										&EFS+/237.a.6
			10		++CT+CTRL_1.4-308K2	A1	10	,	-237U1-X3.2	19		10										&EFS+/237.a.6
			11		++CT+CTRL_1.4-308K4	A1	11	,	-237U1-X3.2	21		11										&EFS+/237.a.7
			12		++CT+CTRL_1.4-308K6	A1	12	,	-237U1-X3.2	23		12										&EFS+/237.a.7
			13		++CT+CTRL_1.3-X3.13	8	13	,	-237U1-F1	2												&EFS+/237.a.7
			14		++CT+CTRL_1.3-X3.13	9	14	,	-237U1-F5	2												&EFS+/237.a.8
			15		++CT+CTRL_1.3-X3.13	11	15	,	-237U1-F9	2												&EFS+/237.a.8
			16		++CT+CTRL_1.3-X3.13	10	16	,	-237U1-F2	1												&EFS+/237.a.9
									-237U1-X3.2	24		13										
			17		++CT+CTRL_1.4-350X1.21	12	17	,	-237U1-X3.2	12		14										&EFS+/237.a.9
							PE	,	-237U1-X3.2	PE		GNYE										&EFS+/237.a.9

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2005

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2007

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CONV+CIR-237U1-X3.1	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CONV	Converter	page: 2006
Date								+ CIR	Circuit Breaker cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CONV+CIR-237U1-X3.2

DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Function text				Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	-237U1-W5										Page / column
				Cable type							Cable type	JZ-500										
							1		-237U1-X3.1	1		1										&EFS+/237.a.1
							2															&EFS+/237.a.1
							3		-237U1-X3.1	2		2										&EFS+/237.a.2
							4															&EFS+/237.a.2
							5		-237U1-X3.1	3		3										&EFS+/237.a.2
							6															&EFS+/237.a.2
							7		-237U1-X3.1	4		4										&EFS+/237.a.3
							8															&EFS+/237.a.3
							9		-237U1-X3.1	5		5										&EFS+/237.a.4
							10															&EFS+/237.a.4
							11		-237U1-X3.1	6		6										&EFS+/237.a.5
							12		-237U1-X3.1	17		14										&EFS+/237.a.5
							13		-237U1-X3.1	7		7										&EFS+/237.a.5
							14															&EFS+/237.a.5
							15		-237U1-X3.1	8		8										&EFS+/237.a.6
							16															&EFS+/237.a.6
							17		-237U1-X3.1	9		9										&EFS+/237.a.6

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next page: 2008

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CONV+CIR-237U1-X3.2
DC Schalter + Sicherungen-Ansteuerungen und Rückmeldungen

Cable name: -237U1-W5
Cable type: JZ-500

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-237U1-W5 (JZ-500)	Page / column
			18					&EFS+/237.a.6
			19		-237U1-X3.1	10	10	&EFS+/237.a.6
			20					&EFS+/237.a.6
			21		-237U1-X3.1	11	11	&EFS+/237.a.7
			22					&EFS+/237.a.7
			23		-237U1-X3.1	12	12	&EFS+/237.a.7
			24		-237U1-X3.1	16	13	&EFS+/237.a.7
			PE					&EFS+/237.a.5
			PE		-237U1-X3.1	PE	GNYE	&EFS+/237.a.5

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CONV+CIR-237U1-X3.2
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2008
+	CIR	Circuit Breaker cabinet	total: 498

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-X3.43		1	20	0	0	60	=UNIT_01&EMZ++CONV+AC_DC/2000

previous page:
+CIR/2008

next page:
2000

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_01++CONV+AC_DC-X3.43

Cable name: -238W3, -238W2, -238W1 (left); -238W7 (right)
Cable type: OZ-500, OZ-500, OZ-500 (left); OZ-500 (right)

Function text	-238W3 OZ-500	-238W2 OZ-500	-238W1 OZ-500	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-238W7 OZ-500	Page / column
SURGE ARRESTER DC SUBSYSTEM 2_1			1	-238F1	11	1		++CT+CTRL_1.3-X3	5	1	&EFS+/238a.2
SURGE ARRESTER DC SUBSYSTEM 2_1			2	-238F1	12	2		-X3.43	3		&EFS+/238a.2
SURGE ARRESTER DC SUBSYSTEM 2_2		1		-238F2	11	3		-X3.43	2		&EFS+/238a.5
SURGE ARRESTER DC SUBSYSTEM 2_2		2		-238F2	12	4		-X3.43	5		&EFS+/238a.5
SURGE ARRESTER DC SUBSYSTEM 2_3	1			-238F3	11	5		-X3.43	4		&EFS+/238a.9
SURGE ARRESTER DC SUBSYSTEM 2_3	2			-238F3	12	6		-X3.43	7		&EFS+/238a.9

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_01++CONV+AC_DC-X3.43

Function text	-228W3 OZ-500	-228W2 OZ-500	-228W1 OZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
SURGE ARRESTER DC SUBSYSTEM 3_1			1		-228F1	11	7		-X3.43	6		&EFS+/228.2
SURGE ARRESTER DC SUBSYSTEM 3_1			2		-228F1	12	8		-X3.43	9		&EFS+/228.2
SURGE ARRESTER DC SUBSYSTEM 3_2		1			-228F2	11	9		-X3.43	8		&EFS+/228.5
SURGE ARRESTER DC SUBSYSTEM 3_2		2			-228F2	12	10		-X3.43	11		&EFS+/228.5
SURGE ARRESTER DC SUBSYSTEM 3_3	1				-228F3	11	11		-X3.43	10		&EFS+/228.9
SURGE ARRESTER DC SUBSYSTEM 3_3	2				-228F3	12	12		-X3.43	13		&EFS+/228.9

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CONV+AC_DC-X3.43

Function text	-238W6 OZ-500	-238W5 OZ-500	-238W4 OZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
SURGE ARRESTER DC SUBSYSTEM 4_1			1		-238F4	11	13		-X3.43	12		&EFS+/238b.2
SURGE ARRESTER DC SUBSYSTEM 4_1			2		-238F4	12	14		-X3.43	15		&EFS+/238b.2
SURGE ARRESTER DC SUBSYSTEM 4_2		1			-238F5	11	15		-X3.43	14		&EFS+/238b.5
SURGE ARRESTER DC SUBSYSTEM 4_2		2			-238F5	12	16		-X3.43	17		&EFS+/238b.5
SURGE ARRESTER DC SUBSYSTEM 4_3	1				-238F6	11	17		-X3.43	16		&EFS+/238b.9
SURGE ARRESTER DC SUBSYSTEM 4_3	2				-238F6	12	18		-X3.43	19		&EFS+/238b.9

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CONV+AC_DC-X3.43
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by		20241105_V1.2	
Date		10354_23A2007	

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2002
+	AC_DC	AC and DC connection cabinet	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CONV+AC_DC-X3.43

Cable name: -78W7 | Cable type: OZ-500 (left); Cable name: -238W7 | Cable type: OZ-500 (right)

Function text			-78W7 / OZ-500	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-238W7 / OZ-500	Page / column
			2	-78F1	14	19		-X3.43	18		&EFS+/78.8
			1	-78F1	13	20		++CT+CTRL_1.3-X3	6	2	&EFS+/78.8

Editor	Freqcon_DG			Statron
Date	05.11.2024			Shell Crosswind BESS FQ 1MW 5MWh Offshore
Proved by				
Date				

FREQCON

Klemmenplan
=UNIT_01++CONV+AC_DC-X3.43

20241105_V1.2

10354_23A2007

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CONV	Converter	page: 2003
+	AC_DC	AC and DC connection cabinet	total: 498

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-XT1		1	20	0	0	40	=UNIT_01&EMZ++CT/2000

previous page:
++CONV+AC_DC/2003

next page:
2000

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+-XT1

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
Gas confirmed FGS					1	,	+CTRL_1.3-138K1	14			&EFS/136.0
						,					
Gas confirmed FGS					2	,	+CTRL_1.3-138K1	11			&EFS/136.0
						,					
Smoke confirmed FGS					3	,	+CTRL_1.3-138K2	14			&EFS/136.1
						,					
Smoke confirmed FGS					4	,	+CTRL_1.3-138K2	11			&EFS/136.1
						,					
PLC fault status SIS					5	,	+CTRL_1.3-138K3	14			&EFS/136.2
						,					
PLC fault status SIS					6	,	+CTRL_1.3-138K3	11			&EFS/136.2
						,					
PLC fault status SIS					7	,	+CTRL_1.3-138K4	14			&EFS/136.2
						,					
Spare					8	,	+CTRL_1.3-138K4	11			&EFS/136.3
						,					
Spare					9	,	+CTRL_1.3-138K5	14			&EFS/136.3
						,					
Spare					10	,	+CTRL_1.3-138K5	11			&EFS/136.3
						,					
Spare					11	,	+CTRL_1.3-138K6	14			&EFS/136.4
						,					
Spare					12	,	+CTRL_1.3-138K6	11			&EFS/136.4
						,					
phase in sync					13	,	+CTRL_1.3-138K7	14			&EFS/136.5
						,					
phase in sync					14	,	+CTRL_1.3-138K7	11			&EFS/136.5
						,					
phase in sync					15	,	+CTRL_1.3-136K7	A2			&EFS/136.5
						,					
Shut-down to BESS					16	,	+CTRL_1.3-136K7	A1			&EFS/136.6
						,					
incoming CB is open					17	,	+CTRL_1.3-136K8	A2			&EFS/136.7
						,					
incoming CB is open					18	,	+CTRL_1.3-136K8	A1			&EFS/136.7

previous page: 1000

next page: 2001

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CT+-XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
					•				
incoming CB is open				19	•	+CTRL_1.3-136K9	A2		&EFS/136.8
					•				
incoming CB is open				20	•	+CTRL_1.3-136K9	A1		&EFS/136.8
					•				

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-X1	Hauptsteuerstromkreis 400V/230V AC	1	PE	8	1	34	=UNIT_01&EMZ++CT+CTRL_1.3/2000
-X3	CONTROL VOLTAGE 24V DC	1	46	0	0	85	=UNIT_01&EMZ++CT+CTRL_1.3/2001
-X3.10	Rückmeldung DC Schütze Subsystem 1_4	1	12	0	0	24	=UNIT_01&EMZ++CT+CTRL_1.3/2004
-X3.11	=	1	12	0	0	24	=UNIT_01&EMZ++CT+CTRL_1.3/2005
-X3.12	=	1	12	0	0	24	=UNIT_01&EMZ++CT+CTRL_1.3/2006
-X3.13	Rückmeldung DC Schütze Subsystem 1_6	1	12	0	0	24	=UNIT_01&EMZ++CT+CTRL_1.3/2007
-X5	Kleinspannungssignale	1	30	0	0	60	=UNIT_01&EMZ++CT+CTRL_1.3/2008
-X5.1	DC Subsystem Spannungsmessung	1	2	0	0	6	=UNIT_01&EMZ++CT+CTRL_1.3/2010
-150X1	Subsysteme DC Schütz EIN	1	10	0	0	20	=UNIT_01&EMZ++CT+CTRL_1.3/2011
-XDC1	Steuerspannung 24VDC (USV) DC1	1	PE	2	0	23	=UNIT_01&EMZ++CT+CTRL_1.3/2012
-XDC2	Steuerspannung 24VDC (USV) DC2	1	4	0	0	12	=UNIT_01&EMZ++CT+CTRL_1.3/2014
-XDC3	Steuerspannung 24VDC (USV) DC3	1	4	0	0	12	=UNIT_01&EMZ++CT+CTRL_1.3/2017
-XDC4	Steuerspannung 24VDC (USV) DC4	1	4	0	0	12	=UNIT_01&EMZ++CT+CTRL_1.3/2018
-XDC5.1	Steuerspannung 24VDC (USV) DC5.1	1	1	0	0	3	=UNIT_01&EMZ++CT+CTRL_1.3/2019
-XDC5.2	Steuerspannung 24VDC (USV) DC5.2	1	1	0	0	3	=UNIT_01&EMZ++CT+CTRL_1.3/2020
-XE	Hauptstromversorgung 400V AC	1	6	3	4	14	=UNIT_01&EMZ++CT+CTRL_1.3/2021
-XT	Transfer Klemmenblock 24VDC/230VAC	1	16	6	0	38	=UNIT_01&EMZ++CT+CTRL_1.3/2022
-190XT1	230VAC Beleuchtung/Klimaanlage Container/Schrank	1	PE	8	4	24	=UNIT_01&EMZ++CT+CTRL_1.3/2024
-191XT1		1	PE	2	2	10	=UNIT_01&EMZ++CT+CTRL_1.3/2025
-XV	Suppression TVS Diode	1	4	0	0	36	=UNIT_01&EMZ++CT+CTRL_1.3/2026

previous page: +/2001

next page: 2000

Editor	Freqcon_DG			Statron	FREQCON	Klemmenleistenübersicht : =UNIT_01++CT+CTRL_1.3-X1 - =UNIT_01++CT+CTRL_1.3-XV	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 1000
Date								+ CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X1

Hauptsteuerstromkreis 400V/230V AC

Function text			-181W1	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	Page / column
			1Z-600	Cable type							Cable type	
PUMP			1		++FAN-52G1-181X1	1:1	1	,	-139K2	2		&EFS+/181.1
								,				
PUMP			2		++FAN-52G1-181X1	2:1	2	,	-139K2	4		&EFS+/181.1
								,				
PUMP			3		++FAN-52G1-181X1	3:1	3	,	-139K2	6		&EFS+/181.1
								,				
PUMP			GNYE		++FAN-52G1-181X1	PE:1	PE	,	+.2-110U1-PE			&EFS+/181.1
								,				
FUSE FOR PUMP			4		++FAN-52G1-181X1	4:1	4	,	-139K1	2		&EFS+/181.3
								,				
HEATER			5		++FAN-52G1-181X1	5:1	5	,	-139K1	4		&EFS+/181.4
								,				
HEATER			6		++FAN-52G1-181X1	6:1	6	,	-139K1	6		&EFS+/181.4
								,				
HEATER			7		++FAN-52G1-181X1	7:1	7	,	-XE	N:1		&EFS+/181.4
								,				
HEATER							PE	,				&EFS+/181.4
								,				
FAN 1 HEAT EXCHANGER			8		++FAN-52G1-181X1	8:1	8	,	-139K3	2		&EFS+/182.1
								,				
FAN 1 HEAT EXCHANGER			9		++FAN-52G1-181X1	9:1	9	,	-139K3	4		&EFS+/182.1
								,				
FAN 1 HEAT EXCHANGER			10		++FAN-52G1-181X1	10:1	10	,	-139K3	6		&EFS+/182.1
								,				
FAN 1 HEAT EXCHANGER							PE	,				&EFS+/182.1
								,				
FAN 2 HEAT EXCHANGER OPTIONAL							11	,				&EFS+/182.3
								,				
FAN 2 HEAT EXCHANGER OPTIONAL							12	,				&EFS+/182.4
								,				
FAN 2 HEAT EXCHANGER OPTIONAL							13	,				&EFS+/182.4
								,				
FAN 2 HEAT EXCHANGER OPTIONAL							PE	,				&EFS+/182.4
								,				

previous page: 1000

next page: 2001

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X3

CONTROL VOLTAGE 24V DC

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	++CONV-80W1	++CONV-238W7	Page / column
										OZ-500	OZ-500		
CB 1 Tripped GRID			-DI_02	5	1		++CONV+CIR-80Q1	X7_13		1			&EFS+/127.1
CB 1 OFF GRID			-DI_02	4	2		++CONV+CIR-80Q1	X6_9		2			&EFS+/127.3
CB 1 ON GRID			-DI_02	3	3		++CONV+CIR-80Q1	X6_11		3			&EFS+/127.2
FUSE AND LIGHTNING PROTECTION					4		+.4-189X1	5					&EFS+/127.4
=			-XDC4	2	5		++CONV+AC_DC-X3.43	1			1		&EFS+/127.5
FUSE AND LIGHTNING PROTECTION			-DI_02	6	6		++CONV+AC_DC-X3.43	20			2		&EFS+/127.4
=			-X3	13	7		-134K1	11					&EFS+/127.5
CB 2 Tripped ISLAND GRID			-DI_04	12	8								&EFS+/128.1
CB 2 OFF ISLAND GRID			-DI_04	14	9								&EFS+/128.3
CB 2 ON ISLAND GRID			-DI_04	13	10								&EFS+/128.2
FUSE AND LIGHTNING PROTECTION 2					11								&EFS+/128.4
FUSE AND LIGHTNING PROTECTION 2			-DI_04	15	12								&EFS+/128.4
=			-X3	7	13								&EFS+/128.5
SPARE			-DI_04	1	14		+.2-18B1	4					&EFS+/133.1
SPARE			-DI_04	2	15		+.2-18B1	1					&EFS+/133.2
SPARE			-DI_04	3	16		+.2-18B1	4					&EFS+/133.3
Fuse 230V AC for Container Air Conditioning			-DI_04	11	17		-190F3	14					&EFS+/133.6

previous page: 2000

next page: 2002

Terminal diagram

Freqcon_F13_001_02

Function text	++CONV-80W1 OZ-500	-181W3 F-CY-OZ (LIY-CY)	++CONV-260W1 OZ-500	Cable name Cable type	Strip =UNIT_01++CT+CTRL_1.3-X3 CONTROL VOLTAGE 24V DC Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name Cable type	++TRA-629W1 OZ-500	++CONV-260W1 OZ-500	-181W3 F-CY-OZ (LIY-CY)	Page / column
Earthing switch in On Transformer 620V side					-DI_04	5	18	,	++CONV-18Q1	14		2			&EFS+/133.9
Smoke detector CON					-DI_02	7	19	,	++CONV+CON-260B1	4			1		&EFS+/134.0
								,							
								,							
Smoke detector CON			2		++CONV+CON-260B1	2	20	,	-XV	9					&EFS+/134.0
=			3		++CONV+CON-260B1	5	21	,	-XDC4	4					&EFS+/134.1
								,							
								,							
Smoke detector CON			4		++CONV+CON-260B1	6	22	,	-134K1	11					&EFS+/134.1
PRESSURE SWITCH					-182Q1	13	23	,	++FAN-52G1-181X3	1				1	&EFS+/181.7
								,							
								,							
PRESSURE SWITCH		2			++FAN-52G1-181X3	3	24	,	-AI_04	3					&EFS+/181.7
=		3			++FAN-52G1-181X3	2	25	,	-XDC1	7					&EFS+/181.7
Fuse 230V AC for Container Air Conditioning					-XDC2	1	29	,	++CONV-18Q1	13		1			&EFS+/133.8
								,							
								,							
TRIP					-DI_04	4	30	,	+.2-18B1	7					&EFS+/133.4
CB 1 GRID +24V	4				++CONV+CIR-80Q1	X6_12	31		-XDC3	2					&EFS+/188.1
								,							
CB 1 GRID +24V	5				++CONV+CIR-80Q1	X5_11	32		-XDC3	3					&EFS+/188.1
CB 2 ISLAND GRID +24V OPTIONAL							33		-137K1	11					&EFS+/188.2
								,							
CB 2 ISLAND GRID +24V OPTIONAL							34								&EFS+/188.2
=	6				++CONV+CIR-80Q1	X6_7	35	,	-137K1	14					&EFS+/188.4
								,							
								,							
CB 1 GRID	7				++CONV+CIR-80Q1	X6_14	36	,	-137K2	12					&EFS+/188.5
=	8				++CONV+CIR-80Q1	X5_12	37	,	-189K1	22					&EFS+/188.6
								,							
								,							
CB 1 GRID							38	,	-137K3	14					&EFS+/188.6
CB 2 ISLAND GRID OPTIONAL							39	,	-137K4	12					&EFS+/188.8

previous page: 2001

next page: 2003

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CT+CTRL_1.3-X3
CONTROL VOLTAGE 24V DC

Cable name: -195W1
Cable type: OZ-500

Function text	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-195W1 / OZ-500	Page / column
CB 2 ISLAND GRID OPTIONAL				40		-189K1	21		&EFS+/188.8
SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS		-X3	42	41		+.1-84Q1	14	3	&EFS+/195.2
SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS		-195K3	IN1	42		-X3	41		&EFS+/195.2
=		-X3	44	43		+.1-84Q1	24	4	&EFS+/195.3
SHUTDOWN CIRCUIT BREAKERS / DC CONTACTORS		-195K3	IN2	44		-X3	43		&EFS+/195.3
=		-195K1	61	45		+.4-306K1	21		&EFS+/195.3
FAULT SIGNAL SAFETY RELAY		-195K3	IN	46		+.4-308K6	21		&EFS+/195.4

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_01++CT+CTRL_1.3-X3
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CT	Control cabinets	page: 2003
+	CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X3.10

Rückmeldung DC Schütze Subsystem 1_4

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Cable type	Page / column
										++CONV-231W4	OZ-500	
SUBSYSTEM 2_1_DC + Contactor K1 is on			-DI_02	8	1		+.4-306K1	14				&EFS+/129.0
SUBSYSTEM 2_2_DC + Contactor K2 is on			+.4-306K3	14	2		-DI_02	10				&EFS+/129.2
SUBSYSTEM 2_1_DC -Contactor K7 is on			+.4-306K2	14	3		-DI_02	9				&EFS+/129.1
SUBSYSTEM 2_2_DC -Contactor K8 is on			+.4-306K4	14	4		-DI_02	11				&EFS+/129.3
SUBSYSTEM 2_3_DC + Contactor K3 is on			-DI_02	12	5		+.4-306K5	14				&EFS+/129.4
SUBSYSTEM 2_3_DC + SPARE			-DI_02	14	6							&EFS+/129.6
SUBSYSTEM 2_3_DC -Contactor K9 is on			-DI_02	13	7		+.4-306K6	14				&EFS+/129.5
SUBSYSTEM 2_DC -SPARE			-DI_02	15	8							&EFS+/129.7
SUBSYSTEM 2_1_DC FUSE OK			-DI_02	16	9		++CONV+CIR-231U1-X3.1	13		13		&EFS+/129.8
SUBSYSTEM 2_2_DC FUSE OK					10		++CONV+CIR-231U1-X3.1	16		16		&EFS+/129.9
SUBSYSTEM 2_2_DC FUSE OK			-DI_03	1	11		++CONV+CIR-231U1-X3.1	14		14		&EFS+/129.9
=			-XDC4	1	12							&EFS+/129.9

previous page: 2003

next page: 2005

Editor	Freqcon_DG			Statron		Klemmenplan =UNIT_01++CT+CTRL_1.3-X3.10	20241105_V1.2
Date	05.11.2024						
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Date							

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CT	Control cabinets	page: 2004
+	CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X3.11

Rückmeldung DC Schütze Subsystem 1_4

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Cable type	Page / column
										++CONV-231W4	OZ-500	
										++CONV-227W4	OZ-500	
SUBSYSTEM 3_1_DC + Contactor K1 is on			-DI_03	2	1		+.4-307K1	14				&EFS+/130.0
SUBSYSTEM 3_2_DC + Contactor K2 is on			+.4-307K3	14	2		-DI_03	4				&EFS+/130.2
SUBSYSTEM 3_1_DC -Contactor K7 is on			+.4-307K2	14	3		-DI_03	3				&EFS+/130.1
SUBSYSTEM 3_2_DC -Contactor K8 is on			+.4-307K4	14	4		-DI_03	5				&EFS+/130.3
SUBSYSTEM 3_3_DC + Contactor K3 is on			-DI_03	6	5		+.4-307K5	14				&EFS+/130.4
SUBSYSTEM 3_DC + SPARE			-DI_03	8	6							&EFS+/130.6
SUBSYSTEM 3_3_DC -Contactor K9 is on			-DI_03	7	7		+.4-307K6	14				&EFS+/130.5
SUBSYSTEM 3_DC -SPARE			-DI_03	9	8							&EFS+/130.7
SUBSYSTEM 2_DC FUSE OK			-DI_03	10	9		++CONV+CIR-231U1-X3.1	15		15		&EFS+/130.8
SUBSYSTEM 3_1_DC FUSE OK					10							&EFS+/130.9
SUBSYSTEM 3_1_DC FUSE OK			-DI_03	11	11		++CONV+CIR-227U1-X3.1	13			13	&EFS+/130.9
=			-XDC4	2	12							&EFS+/130.9

previous page: 2004

next page: 2006

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X3.12

Rückmeldung DC Schütze Subsystem 1_4

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name ++CONV-227W4	OZ-500	Page / column
SUBSYSTEM 4_1_DC + Contactor K1 is on			-DI_03	12	1		+.4-308K1	14				&EFS+/131.0
SUBSYSTEM 4_2_DC + Contactor K2 is on			+.4-308K3	14	2		-DI_03	14				&EFS+/131.2
SUBSYSTEM 4_1_DC -Contactor K7 is on			+.4-308K2	14	3		-DI_03	13				&EFS+/131.1
SUBSYSTEM 4_2_DC -Contactor K8 is on			+.4-308K4	14	4		-DI_03	15				&EFS+/131.3
SUBSYSTEM 4_3_DC + Contactor K3 is on			-DI_03	16	5		+.4-308K5	14				&EFS+/131.4
SUBSYSTEM 4_DC + SPARE			-DI_05	2	6							&EFS+/131.6
SUBSYSTEM 4_3_DC -Contactor K9 is on			-DI_05	1	7		+.4-308K6	14				&EFS+/131.5
SUBSYSTEM 4_DC -SPARE			-DI_05	3	8							&EFS+/131.7
SUBSYSTEM 3_2_DC FUSE OK			-DI_05	4	9		++CONV+CIR-227U1-X3.1	14		14		&EFS+/131.8
SUBSYSTEM 3_3_DC FUSE OK					10		++CONV+CIR-227U1-X3.1	16		16		&EFS+/131.9
=			-DI_05	5	11		++CONV+CIR-227U1-X3.1	15		15		&EFS+/131.9
SUBSYSTEM 3_3_DC FUSE OK			-XDC4	2	12							&EFS+/131.9

previous page: 2005

next page: 2007

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X3.13

Rückmeldung DC Schütze Subsystem 1_6

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name ++CONV-237W4	OZ-500	Page / column
			-DI_05	6	1							&EFS+/132.0
					2		-DI_05	8				&EFS+/132.2
					3		-DI_05	7				&EFS+/132.1
					4		-DI_05	9				&EFS+/132.3
			-DI_05	10	5							&EFS+/132.4
			-DI_05	12	6							&EFS+/132.6
			-DI_05	11	7							&EFS+/132.5
SUBSYSTEM 4_1_DC FUSE OK			-DI_05	13	8		++CONV+CIR-237U1-X3.1	13		13		&EFS+/132.7
SUBSYSTEM 4_2_DC FUSE OK			-DI_05	14	9		++CONV+CIR-237U1-X3.1	14		14		&EFS+/132.8
SUBSYSTEM 4_3_DC FUSE OK					10		++CONV+CIR-237U1-X3.1	16		16		&EFS+/132.9
=			-DI_05	15	11		++CONV+CIR-237U1-X3.1	15		15		&EFS+/132.9
SUBSYSTEM 4_3_DC FUSE OK			-XDC4	2	12							&EFS+/132.9

previous page: 2006

next page: 2008

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X5

Kleinspannungssignale

Function text				Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	++CONV-145W1	++CONV-145W2	++CONV-145W3	++CONV-145W4	++CONV-146W1	++CONV-146W2	++CONV-146W3	++CONV-146W4	++CONV-147W1			Page / column
				Cable type							Cable type	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)			
INDUCTOR GRID PHASE L1 TEMPERATURE 1_1					-AI_01	1	1	,	++CONV+IND-201L1			1											&EFS+/145.1
								,															
								,															
INDUCTOR GRID PHASE L1 TEMPERATURE 1_1					-AI_01	9	2	,	++CONV+IND-201L1			2											&EFS+/145.1
INDUCTOR GRID PHASE L2 TEMPERATURE 1_2					-AI_01	2	3	,	++CONV+IND-202L1				1										&EFS+/145.3
								,															
								,															
INDUCTOR GRID PHASE L2 TEMPERATURE 1_2					-AI_01	10	4	,	++CONV+IND-202L1				2										&EFS+/145.3
INDUCTOR GRID PHASE L3 TEMPERATURE 1_3					-AI_01	3	5	,	++CONV+IND-203L1					1									&EFS+/145.5
								,															
								,															
								,															
								,															
INDUCTOR GRID PHASE L3 TEMPERATURE 1_3					-AI_01	11	6	,	++CONV+IND-203L1					2									&EFS+/145.5
INDUCTOR DC SUB 2_1 TEMPERATURE 2_1					-AI_01	4	7	,	++CONV+IND-211L1.1						1								&EFS+/145.7
								,															
								,															
INDUCTOR DC SUB 2_1 TEMPERATURE 2_1					-AI_01	12	8	,	++CONV+IND-211L1.1						2								&EFS+/145.7
INDUCTOR DC SUB 2_2 TEMPERATURE 2_2					-AI_01	5	9	,	++CONV+IND-211L1.2							1							&EFS+/146.1
								,															
								,															
INDUCTOR DC SUB 2_2 TEMPERATURE 2_2					-AI_01	13	10	,	++CONV+IND-211L1.2							2							&EFS+/146.1
INDUCTOR DC SUB 2_3 TEMPERATURE 2_3					-AI_01	6	11	,	++CONV+IND-211L1.3								1						&EFS+/146.3
								,															
								,															
INDUCTOR DC SUB 2_3 TEMPERATURE 2_3					-AI_01	14	12	,	++CONV+IND-211L1.3								2						&EFS+/146.3
INDUCTOR DC SUB 3_1 TEMPERATURE 3_1					-AI_01	7	13	,	++CONV+IND-207L1.1									1					&EFS+/146.5
								,															
								,															
INDUCTOR DC SUB 3_1 TEMPERATURE 3_1					-AI_01	15	14	,	++CONV+IND-207L1.1									2					&EFS+/146.5
INDUCTOR DC SUB 3_2 TEMPERATURE 3_2					-AI_01	8	15	,	++CONV+IND-207L1.2										1				&EFS+/146.7
								,															
								,															
INDUCTOR DC SUB 3_2 TEMPERATURE 3_2					-AI_01	16	16	,	++CONV+IND-207L1.2										2				&EFS+/146.7
INDUCTOR DC SUB 3_3 TEMPERATURE 3_3					-AI_02	1	17	,	++CONV+IND-207L1.3											1			&EFS+/147.1
								,															
								,															

previous page: 2007

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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X5

Kleinspannungssignale

Function text				Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	++CONV-147W1	++CONV-147W2	-181W3	++CONV-148W1	++CONV-148W2							Page / column
				Cable type							Cable type	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)	F-CY-OZ (LIY-CY)							
INDUCTOR DC SUB 3_3 TEMPERATURE 3_3					-AI_02	9	18	,	++CONV+IND-207L1.3			2											&EFS+/147.1
INDUCTOR DC SUB 4_1 TEMPERATURE 4_1					-AI_02	2	19	,	++CONV+IND-217L1.1				1										&EFS+/147.3
								,															
								,															
INDUCTOR DC SUB 4_1 TEMPERATURE 4_1					-AI_02	10	20	,	++CONV+IND-217L1.1				2										&EFS+/147.3
CONVERTER CABINET TEMPERATURE					-AI_02	4	21	,	++CONV+CON-147B2	+													&EFS+/147.7
								,															
								,															
CONVERTER CABINET TEMPERATURE					-AI_02	12	22	,	++CONV+CON-147B2	-													&EFS+/147.7
COOLING WATER TEMPERATURE					-AI_02	5	23	,	++FAN-52G1-181X3	4				4									&EFS+/148.1
								,															
COOLING WATER TEMPERATURE					-AI_02	5	23	,	++FAN-52G1-181X3	4				4									&EFS+/148.1
								,															
								,															
COOLING WATER TEMPERATURE					-AI_02	13	24	,	++FAN-52G1-181X3	5				5									&EFS+/148.1
INDUCTOR DC SUB 4_2 TEMPERATURE 4_2					-AI_02	6	25	,	++CONV+IND-217L1.2						1								&EFS+/148.3
								,															
								,															
INDUCTOR DC SUB 4_2 TEMPERATURE 4_2					-AI_02	14	26	,	++CONV+IND-217L1.2						2								&EFS+/148.3
CIR CABINET TEMPERATURE					-AI_02	7	27	,	++CONV+CIR-148B3	+													&EFS+/148.5
								,															
								,															
CIR CABINET TEMPERATURE					-AI_02	15	28	,	++CONV+CIR-148B3	-													&EFS+/148.5
INDUCTOR DC SUB 4_3 TEMPERATURE 4_3					-AI_02	8	29	,	++CONV+IND-217L1.3							1							&EFS+/148.7
								,															
								,															
INDUCTOR DC SUB 4_3 TEMPERATURE 4_3					-AI_02	16	30	,	++CONV+IND-217L1.3							2							&EFS+/148.7

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-X5	20241105_V1.2
Date	05.11.2024						
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Date							

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	CT	Control cabinets	page: 2009
+	CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-X5.1

DC Subsystem Spannungsmessung

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
DC_SUBSYSTEM 2_1.1 voltage			-AI_03	5	1		-AI_04	6			&EFS+/149.0
			-XDC1	6							
			-AI_03	6							
DC_SUBSYSTEM 2_3.1 voltage			-AI_03	7	2		+.4-149U1	14			&EFS+/149.2
			-AI_04	5							
			-AI_03	8							

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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-150X1

Subsysteme DC Schütz EIN

Function text			++CONV-231W4	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	++CONV-231W4	Page / column
			OZ-500	Cable type							Cable type	OZ-500	
SUBSYSTEM 2_1 CONTACTOR DC+ ON			1		++CONV+CIR-231U1-X3.1	1	1	,	-150K1	14			&EFS+/150.2
								,					
								,					
SUBSYSTEM 2_1 CONTACTOR DC+ ON					-195K2	23	2	,	++CONV+CIR-231U1-X3.1	17		17	&EFS+/150.2
SUBSYSTEM 2_1 CONTACTOR DC-ON			4		++CONV+CIR-231U1-X3.1	4	3	,	-150K2	14			&EFS+/150.4
								,					
								,					
SUBSYSTEM 2_2 CONTACTOR DC+ ON			2		++CONV+CIR-231U1-X3.1	2	4	,	-151K1	14			&EFS+/151.1
=					-151K1	A2	5	,					&EFS+/151.1
								,					
								,					
								,					
SUBSYSTEM 2_3 CONTACTOR DC+ ON			5		++CONV+CIR-231U1-X3.1	5	6	,	-151K2	14			&EFS+/151.3
=			3		++CONV+CIR-231U1-X3.1	3	7	,	-151K3	14			&EFS+/151.4
								,					
								,					
SUBSYSTEM 2_3 CONTACTOR DC+ ON					-151K2	A2	8	,					&EFS+/151.4
SUBSYSTEM 2_3 CONTACTOR DC-ON			6		++CONV+CIR-231U1-X3.1	6	9	,	-151K4	14			&EFS+/151.6
								,					
								,					
SUBSYSTEM 2_3 CONTACTOR DC-ON							10	,					&EFS+/151.6

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Editor	Freqcon_DG			Statron		Klemmenplan	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024					=UNIT_01++CT+CTRL_1.3-150X1		& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CT Control cabinets
Date							10354_23A2007	+ CTRL_1.3 Main mounting plate

page: 2011

total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC1

Steuerspannung 24VDC (USV) DC1

Function text	-240W9	1Z-500	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Page / column
	Cable name	Cable type							
FUSE 24V DC CONTROL VOLTAGE	1		+CTRL_2.1-240U1	1	1		-103F1	2	&EFS+/103.2
			+CTRL_2.1-160U1	+					
			+.2-18B1	40					
FUSE 24V DC CONTROL VOLTAGE			-DO_01	L+	2		-101Q1	13	&EFS+/103.2
			-AI_01	L+					
			+.1-126S1	13					
FUSE 24V DC CONTROL VOLTAGE			-136K7	11	3		-103F1	13	&EFS+/103.2
			-84F2	13					
Main PLC, SPS, 24V contacts CONTROL VOLTAGE	2		+CTRL_2.1-240U1	3	4		-102G1	OUTPUT DC 24 V:-	&EFS+/103.3
			-120A1	-X80:2					
			-DI_01	M					
Main PLC, SPS, 24V contacts CONTROL VOLTAGE			-DO_01	M	5		+CTRL_2.1-160U1	-	&EFS+/103.3
			-AI_01	M					
			+.2-18B1	42					
Main PLC, SPS, 24V contacts CONTROL VOLTAGE			-84K1	A2	6		-X5.1	1	&EFS+/103.3
			+.1-140H1	X2					
			+.2-110U1	M					
Main PLC, SPS, 24V contacts CONTROL VOLTAGE			-AI_04	7	7				&EFS+/103.3
			-XDC2	3					
			-X3	25					
Main PLC, SPS, 24V contacts CONTROL VOLTAGE	GNYE		+CTRL_2.1-240U1	2	PE		-101T1	PE	&EFS+/103.4

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 2012
Date								+ CTRL_1.3 Main mounting plate total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC1

Steuerspannung 24VDC (USV) DC1

Function text	-241W9 JZ-500	-112W1 JZ-500	-242W9 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	-243W9 JZ-500	Page / column
					-XE	PE:1							
					-101T1	-"							
Main PLC, SPS, 24V contacts CONTROL VOLTAGE					+.2-18B1	41	PE	,	+CTRL_2.1-243U1	2		GNYE	&EFS+/103.4
			GNYE		+CTRL_2.1-242U1	2							
		GNYE			+.1-112A1	PE							
	GNYE				+CTRL_2.1-241U1	2							

previous page: 2012

next page: 2014

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets — page: 2013
Date								+ CTRL_1.3 Main mounting plate — total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC2

Steuerspannung 24VDC (USV) DC2

Function text	-241W9 / JZ-500	-242W9 / JZ-500	-243W9 / JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Main PLC, SPS, 24V contacts CONTROL VOLTAGE			1		+CTRL_2.1-243U1	1	1		-103F2	2		&EFS+/103.4
		1			+CTRL_2.1-242U1	1						
					-X3	29						
BSU, SPARE CONTROL VOLTAGE	1				+CTRL_2.1-241U1	1	2					&EFS+/103.5

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next page: 2015

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC2	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets — page: 2014
Date								+ CTRL_1.3 Main mounting plate — total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	-243W9 JZ-500	-242W9 JZ-500	-112W1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
			1		+.1-112A1	L+						
BSU, SPARE CONTROL VOLTAGE					-186K1	A2	3		-XDC1	7		&EFS+/103.5
		2			+CTRL_2.1-242U1	3						
	2				+CTRL_2.1-243U1	3						

Strip
=UNIT_01++CT+CTRL_1.3-XDC2
Steuerspannung 24VDC (USV) DC2

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC2

Steuerspannung 24VDC (USV) DC2

Function text		-112W1	-241W9	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	Page / column
		1Z-500	1Z-500	Cable type							Cable type	
BSU, SPARE CONTROL VOLTAGE			2		+CTRL_2.1-241U1	3	4		-XDC3	3		&EFS+/103.5
					-138K1	A2						
		2			+.1-112A1	M						

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Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC2	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024					& EMZ	Terminals
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date						+ CTRL_1.3	Main mounting plate

page: 2016

total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC3

Steuerspannung 24VDC (USV) DC3

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
BSU, SPARE CONTROL VOLTAGE			-111A1	3	1		-103F3	2			&EFS+/103.6
			-173K3	21							
			+.2-114A1	-X80:1							
BSU, SPARE CONTROL VOLTAGE			-X3	31	2		+.4-306K1	11			&EFS+/103.6
			-195K1	83							
			-115A1	V+							
PRECHARGE CONTROL VOLTAGE			-X3	32	3		-XDC2	4			&EFS+/103.7
			-111A1	4							
			+.2-114A1	-X80:2							
PRECHARGE CONTROL VOLTAGE			-195K1	43	4		-XDC4	3			&EFS+/103.7
			+.4-171K1	x2							
			-115A1	V-							

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC3	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 2017
Date								+ CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC4

Steuerspannung 24VDC (USV) DC4

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
PRECHARGE CONTROL VOLTAGE			-195K1	33	1		-103F4	2			&EFS+/103.8
			-195K3	A1							
			-X3.10	12							
PRECHARGE CONTROL VOLTAGE			-X3.11	12	2		-X3.13	12			&EFS+/103.8
			-X3	5							
			-X3.12	12							
DC CONTACTORS, RELAYS, CONTROL VOLTAGE			-139K2	A2	3		-XDC3	4			&EFS+/103.9
			-195K3	A2							
			-195K1	23							
DC CONTACTORS, RELAYS, CONTROL VOLTAGE			-X3	21	4						&EFS+/103.9
			+.4-306K1	A2							

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Editor	Freqcon_DG			Statron		Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC4	20241105_V1.2	=	UNIT_01	Converter Container 1	
Date	05.11.2024							&	EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++	CT	Control cabinets	page: 2018
Date							10354_23A2007	+	CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC5.1

Steuerspannung 24VDC (USV) DC5.1

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
DC CONTACTORS, RELAYS, CONTROL VOLTAGE			-186K1	1	1	,	-103F5	2			&EFS+/103.9
			-186K1	3							
						,					
						,					

previous page:
2018

next page:
2020

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC5.1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets — page: 2019
Date								+ CTRL_1.3 Main mounting plate — total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XDC5.2

Steuerspannung 24VDC (USV) DC5.2

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
DC CONTACTORS, RELAYS, CONTROL VOLTAGE			+.2-110U1	+24V	1	,	-186K1	2			&EFS+/103.9
			-120A1	-X80:1							
			-DI_01	L+							
						,					
						,					

previous page: 2019

next page: 2021

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XDC5.2	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024					& EMZ	Terminals
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets page: 2020
Date						+ CTRL_1.3	Main mounting plate total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XE

Hauptstromversorgung 400V AC

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
					1		-84F2	2			&EFS+/84.0
1-6					1						&EFA+++/2a.4
Supply Control Cabinet 3-phase 400V AC					N		-X1	7			&EFS+/84.1
=			-191XT1	4	N		-XT	2			&EFS+/84.1
=			-190F3	N	N		-191XT1	8			&EFS+/84.2
=			-190F2	N	N		-190F1	N			&EFS+/84.2
=					PE						&EFS+/84.2
=			-84F1	PE	PE		-XDC1	PE			&EFS+/84.2
=				PE	PE						&EFS+/84.3
			-101Q1	1	2		-190F2	1			&EFS+/84.0
					3		-84F2	4			&EFS+/84.0
Supply Control Cabinet 3-phase 400V AC			-101Q1	3	4		-190F3	1			&EFS+/84.1
=					5		-84F2	6			&EFS+/84.1
=			-101Q1	5	6		-190F1	1			&EFS+/84.1

previous page: 2020

next page: 2022

Editor	Freqcon_DG			Statron		Klemmenplan =UNIT_01++CT+CTRL_1.3-XE	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CT	Control cabinets	page: 2021
Date							10354_23A2007	+ CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XT

Transfer Klemmenblock 24VDC/230VAC

Function text	-278W1	++CONV-281W1	++CONV-279W1	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	++CONV-279W1	++CONV-281W1	-278W1								Page / column
	1Z-500	1Z-500	1Z-500	Cable type							Cable type	1Z-500	1Z-500	1Z-500								
CON Fans 1-5 in door			1		++CONV+CON-279M1	L	1		-135K1	14												&EFS+/183.1
CON Fans 1-5 in door			2		++CONV+CON-279M1	N	2		-XE	N:1												&EFS+/183.1
=							PE		++CONV+CON-279M1	PE		GNYE										&EFS+/183.1
=		1			++CONV+CIR-281M1	L	3		-135K3	14												&EFS+/183.3
CIR Fans 1-3 in door		2			++CONV+CIR-281M1	N	4															&EFS+/183.4
=							PE		++CONV+CIR-281M1	PE			GNYE									&EFS+/183.4
FAN 1 CONTROL CABINET	1				+.1-278M1	L	5		-135K2	14												&EFS+/185.1
FAN 1 CONTROL CABINET	2				+.1-278M1	N	6															&EFS+/185.1
=							PE		+.1-278M1	PE			GNYE									&EFS+/185.1

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next page: 2023

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XT	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore				++ CT	Control cabinets	page: 2022
Date							10354_23A2007	+ CTRL_1.3	Main mounting plate	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XT

Transfer Klemmenblock 24VDC/230VAC

Function text	++CONV-80W2	-185W1	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	-185W1	++CONV-80W2	Page / column
	1Z-500	1Z-500	Cable type							Cable type	1Z-500	1Z-500	
HEATING CONTROL CABINET		1		+.2-185R1	1	7		-185B1	2				&EFS+/185.7
HEATING CONTROL CABINET		2		+.2-185R1	2	8							&EFS+/185.7
=						PE		+.2-185R1	PE		GNYE		&EFS+/185.7
230V AC for Circuit Breaker 1	1			++CONV+CIR-80Q1	X5_2	9		-187F1	2				&EFS+/187.1
230V AC for Circuit Breaker 1	2			++CONV+CIR-80Q1	X5_1	10							&EFS+/187.1
=						PE						GNYE	&EFS+/187.1
230V AC for Circuit Breaker Optional						11							&EFS+/187.2
230V AC for Circuit Breaker Optional						12							&EFS+/187.2
=						PE							&EFS+/187.2
24V DC for Circuit Breaker 2 Optional						13		-187F2	2				&EFS+/187.4
24V DC for Circuit Breaker 2 Optional						14		-101T1	-'				&EFS+/187.4
24V DC for Circuit Breaker Optional						15							&EFS+/187.5
24V DC for Circuit Breaker Optional						16							&EFS+/187.5

previous page: 2022

next page: 2024

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-XT	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 2023
Date								+ CTRL_1.3 Main mounting plate total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-190XT1

230VAC Beleuchtung/Klimaanlage Container/Schrank

Function text			+.5-190H1-W1	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
				Cable type									
SPARE							1	,	-190F1	2			&EFS+/190.1
								,					
SPARE							2	,	-190F1	N.			&EFS+/190.1
								,					
SPARE							PE	,					&EFS+/190.1
								,					
SPARE							3	,	-190F2	2			&EFS+/190.3
								,					
SPARE							4	,	-190F2	N.			&EFS+/190.3
								,					
SPARE							PE	,					&EFS+/190.3
								,					
SPARE							PE	,					&EFS+/190.3
								,					
Light Control cabinet			BN		+.5-190H1		5	,	-190F3	2			&EFS+/190.5
								,					
Light Control cabinet							PE	,	-190X10	PE			&EFS+/190.5
								,					
Light Control cabinet			LBU		+.5-190H1		6	,	-190F3	N.			&EFS+/190.5
								,					
230V AC for Container light, socket							7	,	-190X10	1			&EFS+/190.7
								,					
230V AC for Container light, socket							8	,	-190X10	2			&EFS+/190.7
								,					
230V AC for Container light, socket							PE	,					&EFS+/190.7
								,					

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next page: 2025

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_01++CT+CTRL_1.3-191XT1					Cable name												Page / column
				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type												
400V AC for Container Air Conditioning 1							1	,	-191F1	2												&EFS+/191.1
=							2	,	-191F1	4												&EFS+/191.1
=							3	,	-191F1	6												&EFS+/191.1
=							4	,	-XE	N:2												&EFS+/191.2
=							PE	,														&EFS+/191.2
400V AC for Container Air Conditioning 2							5	,	-191F2	2												&EFS+/191.3
=							6	,	-191F2	4												&EFS+/191.3
=							7	,	-191F2	6												&EFS+/191.3
=							8	,	-XE	N:1												&EFS+/191.4
=							PE	,														&EFS+/191.4

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next page: 2026

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.3-191XT1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT Control cabinets page: 2025
Date								+ CTRL_1.3 Main mounting plate total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.3-XV

Suppression TVS Diode

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
Suppression TVS Diode bi-directional 47 V					1		-171K3	14			&EFS+/171.8
Suppression TVS Diode bi-directional 47 V					5						&EFS+/151.7
Suppression TVS Diode bi-directional 47 V					6						&EFS+/151.7
Suppression TVS Diode bi-directional 47 V					7						&EFS+/151.7
Suppression TVS Diode bi-directional 47 V					8						&EFS+/151.8
Suppression TVS Diode bi-directional 47 V					9						&EFS+/134.5
Suppression TVS Diode bi-directional 47 V					2		-173K3	14			&EFS+/173.9
Suppression TVS Diode bi-directional 47 V					3						&EFS+/150.7
Suppression TVS Diode bi-directional 47 V					4						&EFS+/150.7

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next page: 2027

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CT+CTRL_1.3-XV
Suppression TVS Diode

Function text				Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type												Page / column

Editor	Freqcon_DG			Statron	Klemmenplan =UNIT_01++CT+CTRL_1.3-XV	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024						& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore		10354_23A2007	++ CT Control cabinets; page: 2027
Date							+ CTRL_1.3 Main mounting plate; total: 498

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-350X1.21	Subsysteme DC Schütz EIN	1	19	0	0	38	=UNIT_01&EMZ++CT+CTRL_1.4/2000
-XE2	Gleichstromversorgung 1000VDC	1	11	0	0	11	=UNIT_01&EMZ++CT+CTRL_1.4/2002
-XV.20		1	12	0	0	48	=UNIT_01&EMZ++CT+CTRL_1.4/2003

previous page: +.3/2027

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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.4-350X1.21

Subsystem DC Schütz EIN

Function text		++CONV-237W4 OZ-500	++CONV-227W4 OZ-500	Cable name Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name Cable type	++CONV-227W4 OZ-500	++CONV-237W4 OZ-500	Page / column
SUBSYSTEM 3_1 CONTACTOR DC+ ON			1		++CONV+CIR-227U1-X3.1	1	1	,	-350K1	14				&EFS+/350.2
								,						
								,						
SUBSYSTEM 3_1 CONTACTOR DC+ ON					-350K1	A2	2	,	++CONV+CIR-227U1-X3.1	17		17		&EFS+/350.2
SUBSYSTEM 3_1 CONTACTOR DC-ON			4		++CONV+CIR-227U1-X3.1	4	3	,	-350K2	14				&EFS+/350.4
								,						
								,						
			2		++CONV+CIR-227U1-X3.1	2	4	,	-351K1	14				&EFS+/351.1
					+.3-195K2	43	5	,						&EFS+/351.1
								,						
								,						
								,						
								,						
SUBSYSTEM 3_3 CONTACTOR DC+ ON			5		++CONV+CIR-227U1-X3.1	5	6	,	-351K2	14				&EFS+/351.3
=			3		++CONV+CIR-227U1-X3.1	3	7	,	-351K3	14				&EFS+/351.4
								,						
								,						
SUBSYSTEM 3_3 CONTACTOR DC-ON							8	,						&EFS+/351.5
=			6		++CONV+CIR-227U1-X3.1	6	9	,	-351K4	14				&EFS+/351.6
								,						
								,						
SUBSYSTEM 3_3 CONTACTOR DC-ON							10	,						&EFS+/351.7
SUBSYSTEM 4_3 CONTACTOR DC-ON							10	,						&EFS+/353.6
SUBSYSTEM 4_1 CONTACTOR DC+ ON		1			++CONV+CIR-237U1-X3.1	1	11	,	-352K1	14				&EFS+/352.1
SUBSYSTEM 4_1 CONTACTOR DC-ON					-352K1	A2	12	,	++CONV+CIR-237U1-X3.1	17			17	&EFS+/352.2
=		4			++CONV+CIR-237U1-X3.1	4	13	,	-352K2	14				&EFS+/352.3
								,						
								,						
SUBSYSTEM 4_2 CONTACTOR DC+ ON		2			++CONV+CIR-237U1-X3.1	2	14	,	-353K1	14				&EFS+/353.1
=					-353K1	A2	15	,						&EFS+/353.1
								,						
								,						
SUBSYSTEM 4_3 CONTACTOR DC+ ON		5			++CONV+CIR-237U1-X3.1	5	16	,	-353K2	14				&EFS+/353.3
=		3			++CONV+CIR-237U1-X3.1	3	17	,	-353K3	14				&EFS+/353.4
								,						
								,						
SUBSYSTEM 4_3 CONTACTOR DC+ ON					-353K2	A2	18	,						&EFS+/353.4

previous page: 1000

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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.4-350X1.21

Subsysteme DC Schütz EIN

Function text			++CONV-237W4	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	Page / column
			0Z-500	Cable type							Cable type	
SUBSYSTEM 4_3 CONTACTOR DC-ON			6		++CONV+CIR-237U1-X3.1	6	19	,	-353K4	14		&EFS+/353.6
								,				
								,				

previous page:
2000

next page:
2002

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.4-350X1.21	20241105_V1.2
Date	05.11.2024						
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Date							

=	UNIT_01	Converter Container 1		
&	EMZ	Terminals		
++	CT	Control cabinets	page:	2001
+	CTRL_1.4	Right side	total:	498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.4-XE2

Gleichstromversorgung 1000VDC

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
RESISTORS FOR DISCHARGING UDC+			-173R2		1		-173R1				&EFS+/173.2
RESISTORS FOR DISCHARGING UDC-			-173R4		2		-173R3				&EFS+/173.3
=			-173R4		3		+CTRL_2.1-160U1	15			&EFS+/173.3
=			-173R2		4		+CTRL_2.1-160U1	44			&EFS+/173.3
=			+CTRL_2.1-162U1	15	5		+CTRL_2.1-161U1	15			&EFS+/173.3
=			+CTRL_2.1-162U1	44	6		+CTRL_2.1-161U1	44			&EFS+/173.3
=			+CTRL_2.1-163U1	15	7		-189X1	4			&EFS+/173.4
=			+CTRL_2.1-163U1	44	8		+CTRL_2.1-164U1	44			&EFS+/173.4
=			+CTRL_2.1-164U1	15	9		++CONV+CON-N	N			&EFS+/173.4
=					10		+CTRL.4-173R6				&EFS+/173.5
=					11		+CTRL.4-173R8				&EFS+/173.5

previous page: 2001

next page: 2003

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_1.4-XE2	20241105_V1.2	= UNIT_01	Converter Container 1
Date	05.11.2024					& EMZ	Terminals
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets
Date						+ CTRL_1.4	Right side

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++CT+CTRL_1.4-XV.20

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
Suppression TVS Diode bi-directional 47 V					1						&EFS+/350.7
Suppression TVS Diode bi-directional 47 V					2						&EFS+/350.7
Suppression TVS Diode bi-directional 47 V					3						&EFS+/351.7
Suppression TVS Diode bi-directional 47 V					4						&EFS+/351.7
Suppression TVS Diode bi-directional 47 V					5						&EFS+/351.8
Suppression TVS Diode bi-directional 47 V					6						&EFS+/351.8
Suppression TVS Diode bi-directional 47 V					7						&EFS+/352.7
Suppression TVS Diode bi-directional 47 V					8						&EFS+/352.7
Suppression TVS Diode bi-directional 47 V					9						&EFS+/353.7

previous page: 2002

next page: 2004

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_01++CT+CTRL_1.4-XV.20

Function text	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Page / column
Suppression TVS Diode bi-directional 47 V				10					&EFS+/353.7
Suppression TVS Diode bi-directional 47 V				11					&EFS+/353.7
Suppression TVS Diode bi-directional 47 V				12					&EFS+/353.8

Editor	Freqcon_DG	Statron	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

FREQCON

Klemmenplan =UNIT_01++CT+CTRL_1.4-XV.20

20241105_V1.2

10354_23A2007

=	UNIT_01	Converter Container 1		
&	EMZ	Terminals		
++	CT	Control cabinets	page:	2004
+	CTRL_1.4	Right side	total:	498

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-149X1		1	6	0	0	6	=UNIT_01&EMZ++CT+CTRL_2.1/2000

previous page:
+CTRL_1.4/2004

next page:
2000

Editor	Freqcon_DG			Statron	FREQCON	Klemmenleistenübersicht : =UNIT_01++CT+CTRL_2.1-149X1 - =UNIT_01++CT+CTRL_2.1-149X1	20241105_V1.2	= UNIT_01	Converter Container 1	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ CT	Control cabinets	page: 1000
Date								+ CTRL_2.1	Cabinet door	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_01++CT+CTRL_2.1-149X1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
		-161U1	19	1	▪				&EFS+/161.4
		-161U1	23	2	▪				&EFS+/161.5
		-161U1	27	3	▪				&EFS+/161.5
		-161U1	32	4	▪				&EFS+/161.6
		-161U1	36	5	▪				&EFS+/161.7
		-161U1	40	6	▪				&EFS+/161.8

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_01++CT+CTRL_2.1-149X1	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	& EMZ Terminals
Proved by						++ CT Control cabinets — page: 2000
Date						+ CTRL_2.1 Cabinet door — total: 498

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-52G1-181X1	400VAC Wassersystem	1	PE	3	1	14	=UNIT_01&EMZ++FAN/2000
-52G1-181X3		1	GND	0	0	10	=UNIT_01&EMZ++FAN/2001

previous page:
++CT+CTRL_2.1/2000

next page:
2000

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_01++FAN+-52G1-181X1

400VAC Wassersystem

Function text	-52G1-182W1	-52G1-181W5	-52G1-181W2	Cable name	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	++CT-181W1	Page / column
	1Z-600	1Z-600	1Z-600	Cable type							Cable type	1Z-600	
PUMP			1		-52G1-181M1	U1	1	,	++CT+CTRL_1.3-X1	1		1	&EFS++CT/181.1
=			2		-52G1-181M1	V1	2	,	++CT+CTRL_1.3-X1	2		2	&EFS++CT/181.1
=			3		-52G1-181M1	W1	3	,	++CT+CTRL_1.3-X1	3		3	&EFS++CT/181.1
FUSE FOR PUMP		1			-52G1-181R1	x1	4	,	++CT+CTRL_1.3-X1	4		4	&EFS++CT/181.3
HEATER		2			-52G1-181R1	x3	5	,	++CT+CTRL_1.3-X1	5		5	&EFS++CT/181.4
=		3			-52G1-181R1	x5	6	,	++CT+CTRL_1.3-X1	6		6	&EFS++CT/181.4
=		4			-52G1-181R1	x6	7	,	++CT+CTRL_1.3-X1	7		7	&EFS++CT/181.4
								,					
FAN 1 HEAT EXCHANGER	1				-52G1-182M1	U1	8	,	++CT+CTRL_1.3-X1	8		8	&EFS++CT/182.1
=	2				-52G1-182M1	V1	9	,	++CT+CTRL_1.3-X1	9		9	&EFS++CT/182.1
=	3				-52G1-182M1	W1	10	,	++CT+CTRL_1.3-X1	10		10	&EFS++CT/182.1
PUMP			GNYE		-52G1-181M1	PE	PE	,	++CT+CTRL_1.3-X1	PE		GNYE	&EFS++CT/181.1
HEATER		GNYE			-52G1-181R1	PE	PE	,					&EFS++CT/181.4
FAN 1 HEAT EXCHANGER	GNYE				-52G1-182M1	PE	PE	,					&EFS++CT/182.1

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next page: 2001

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++FAN+-52G1-181X1	20241105_V1.2
Date	05.11.2024			Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Proved by							
Date							

=	UNIT_01	Converter Container 1	
&	EMZ	Terminals	
++	FAN	FAN	page: 2000
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Function text			++CT-181W3	Cable name	Strip =UNIT_01++FAN+-52G1-181X3					Cable name	++CT-181W3										Page / column
			F-CY-OZ (LIY-CY)	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	F-CY-OZ (LIY-CY)										
PRESSURE SWITCH			1		++CT+CTRL_1.3-X3	23	1	,	-52G1	1												&EFS++CT/181.7
								,														
								,														
PRESSURE SWITCH					-52G1	2	2	,	++CT+CTRL_1.3-X3	25		3										&EFS++CT/181.7
=					-52G1	3	3	,	++CT+CTRL_1.3-X3	24		2										&EFS++CT/181.7
COOLING WATER TEMPERATURE			4		++CT+CTRL_1.3-X5	23	4	,	-52G1-148B1	+												&EFS++CT/148.1
								,														
								,														
COOLING WATER TEMPERATURE			5		++CT+CTRL_1.3-X5	24	5	,	-52G1-148B1	-												&EFS++CT/148.1
PRESSURE SWITCH					-52G1	SH	GND	,														&EFS++CT/181.7
PRESSURE SWITCH					-52G1	SH	GND	,														&EFS++CT/181.7

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next page: =UNIT_02&EAA++/1

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_01++FAN+-52G1-181X3	20241105_V1.2	= UNIT_01 Converter Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ FAN FAN page: 2001
Date								+ total: 498

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FREQCON

Customer:	Statron
Project:	Shell Crosswind BESS FQ 1MW 5MWh Offshore
Type:	BESS MSC-1000-620-8
Product	BATTERY CONTAINER 1
Circuit diagram No:	10354_23A2007 20241105_V1.2
Producer (company):	Freqcon GmbH 53406 ASC 53409
Project:	Shell Crosswind BESS FQ 1MW 5MWh Offshore
Type:	BESS MSC-1000-620-8
Project manager:	Freqcon_CP

created on: 17.09.2019
edited on: 05.11.2024 edited by: Freqcon_DG total pages: 498

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	2	INDEX	05.11.2024	Freqcon_DG
	3	INDEX	05.11.2024	Freqcon_DG
	4	INDEX	05.11.2024	Freqcon_DG
	5	INDEX	05.11.2024	Freqcon_DG
	6	INDEX	05.11.2024	Freqcon_DG
&EAC		Explanatory documents		
	1a	Specification	14.06.2024	Freqcon_JD
	6a	Specification Earthing	14.06.2024	Freqcon_JD
&EFA		Single line diagram		
	1a	SYSTEMS OVERVIEW	18.06.2024	Freqcon_JD
	2a	SYSTEMS OVERVIEW	05.11.2024	Freqcon_DG
	3a	SYSTEMS OVERVIEW	18.06.2024	Freqcon_JD
&ELU		Cabinet Overview		
	5a	Container overview	14.06.2024	Freqcon_JD
&EFS ++Container		Circuit diagram		
	190	CONTAINER INSTALLATION	18.06.2024	Freqcon_JD
	191	CONTAINER INSTALLATION	18.06.2024	Freqcon_JD

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	193	CONTAINER INSTALLATION	18.06.2024	Freqcon_JD
	278	EARTHING CONTAINER	08.10.2024	Freqcon_DG
	290	BATTERY CABINETS 1-3	18.06.2024	Freqcon_JD
	291	BATTERY CABINETS 4+5	18.06.2024	Freqcon_JD
	292	BATTERY CABINETS 6-8	18.06.2024	Freqcon_JD
	293	BATTERY CABINETS 9-11	18.06.2024	Freqcon_JD
&EFS ++ASC		Circuit diagram auxillary cabinet		
	601	CONTROL VOLTAGE POWER SUPPLY UNIT	05.11.2024	Freqcon_DG
	602	CONTROL VOLTAGE UPS	05.11.2024	Freqcon_DG
	603	CONTROL VOLTAGE FUSE	05.11.2024	Freqcon_DG
	611	ETHERNET SWITCH	18.06.2024	Freqcon_JD
	613	ETHERNET / PROFINET ISOLATOR	18.06.2024	Freqcon_JD
	620	ET200 24V DC ASC	20.06.2024	Freqcon_JD
	621	ET200SP DIGITAL INPUTS DI_21 + DI_22	14.06.2024	Freqcon_JD
	623	ET200SP DIGITAL OUTPUTS DO_21	14.06.2024	Freqcon_JD
	624	ET200SP ANALOG INPUTS AI_21	14.06.2024	Freqcon_JD
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	636	OUTPUTS FIRE DAMPER	18.06.2024	Freqcon_JD
	669	SMOKE POTENTIAL-FREE CONTACTS	18.06.2024	Freqcon_JD
	670	GAS POTENTIAL-FREE CONTACTS	18.06.2024	Freqcon_JD
	678	DC BATTERY CABINETS	18.06.2024	Freqcon_JD
	680a	STATIONARY GAS DETECTOR BAT 1-4	14.06.2024	Freqcon_JD
	680b	STATIONARY GAS DETECTOR BAT 5-8	18.06.2024	Freqcon_JD
	680c	STATIONARY GAS DETECTOR BAT 9-11	18.06.2024	Freqcon_JD
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&EFS ++ASC		Circuit diagram auxillary cabinet		
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	688	AUXILIARY SUPPLY 400V / 230V AC DISTRIBUTION	08.10.2024	Freqcon_DG
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	691	CONTAINER COOLING / LIGHTNING	05.11.2024	Freqcon_DG
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	1	PARTS LIST	05.11.2024	Freqcon_DG
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	1	PARTS LIST	05.11.2024	Freqcon_DG
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	4	PARTS LIST	05.11.2024	Freqcon_DG
	5	PARTS LIST	05.11.2024	Freqcon_DG
	6	PARTS LIST	05.11.2024	Freqcon_DG
	7	PARTS LIST	05.11.2024	Freqcon_DG
&EPA ++Container		Summarized part list		
	1	SUMMARIZED PARTS LIST	05.11.2024	Freqcon_DG
&EPA ++ASC		Summarized part list auxillary cabinet		
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	2	SUMMARIZED PARTS LIST	05.11.2024	Freqcon_DG

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&EMB ++Container		Cable list		
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	2	CABEL LIST	05.11.2024	Freqcon_DG
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&EMB ++ASC		Cable list auxillary cabinet		
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	3	CABEL LIST	05.11.2024	Freqcon_DG
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	5	CABEL LIST	05.11.2024	Freqcon_DG
	6	CABEL LIST	05.11.2024	Freqcon_DG
	7	CABEL LIST	05.11.2024	Freqcon_DG
	8	CABEL LIST	05.11.2024	Freqcon_DG
	9	CABEL LIST	05.11.2024	Freqcon_DG
	10	CABEL LIST	05.11.2024	Freqcon_DG
&EMZ ++ASC		Terminals auxillary cabinet		
	1000	Klemmenleistenübersicht : =UNIT_02++ASC+-X5.1 - =UNIT_02++ASC+-690XT1	05.11.2024	Freqcon_DG
	2000	Klemmenplan =UNIT_02++ASC+-X5.1	05.11.2024	Freqcon_DG
	2001	Klemmenplan =UNIT_02++ASC+-X5.2	05.11.2024	Freqcon_DG

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	2006	Klemmenplan =UNIT_02++ASC+-XES	05.11.2024	Freqcon_DG
	2007	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2008	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2009	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2010	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2011	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2012	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2013	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2014	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2015	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2016	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2017	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2018	Klemmenplan =UNIT_02++ASC+-369XT	05.11.2024	Freqcon_DG
	2019	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
	2020	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
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	2022	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
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	2024	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
	2025	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
	2026	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
	2027	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
	2028	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG

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	2029	Klemmenplan =UNIT_02++ASC+-687XT1	05.11.2024	Freqcon_DG
	2030	Klemmenplan =UNIT_02++ASC+-690XT1	05.11.2024	Freqcon_DG
	2031	Klemmenplan =UNIT_02++ASC+-690XT1	05.11.2024	Freqcon_DG
	2032	Klemmenplan =UNIT_02++ASC+-690XT1	05.11.2024	Freqcon_DG
	2033	Klemmenplan =UNIT_02++ASC+-690XT1	05.11.2024	Freqcon_DG
	2034	Klemmenplan =UNIT_02++ASC+-690XT1	05.11.2024	Freqcon_DG

SPECIFICATION

TERMINAL STRIP

-XE1	MAIN POWER SUPPLY 600V AC
-XE2	DC POWER SUPPLY 1000V DC
-XE	MAIN POWER SUPPLY 400V AC
-X1	MAIN POWER 400V/230V AC
-X2	LIGHT CABINET 230V AC
-X3	CONTROL VOLTAGE 24V DC
-14X1	CONTROL VOLTAGE 24V DC (TO DC CONTACTORS)
-X5	LOW-VOLTAGE SIGNALS
-XDC0	24V DC POWER SUPPLY
-XDC1-4	CONTROL VOLTAGE 24V DC (UPS)
-XT	TRANSFER TERMINAL BLOCK 24V DC / 230V AC

WIRING COLOR

L1 / L2 / L3	=	BLACK
N	=	LIGHT BLUE (IEC) / GREY (UL)
PE	=	YELLOW-GREEN
EXTERNAL VOLTAGE	=	ORANGE
CONTROL VOLTAGE 24 V DC	=	DARK BLUE
ANALOG SIGNALS	=	WHITE

PLACE

+CTRL	=	Control cabinet
+CON	=	Converter cabinet
+IND	=	Inductor cabinet
+CIR	=	Circuit breaker cabinet
+COSY	=	Cooling System
+FAN	=	External fan

previous page: &EAB/6

next page: 6a

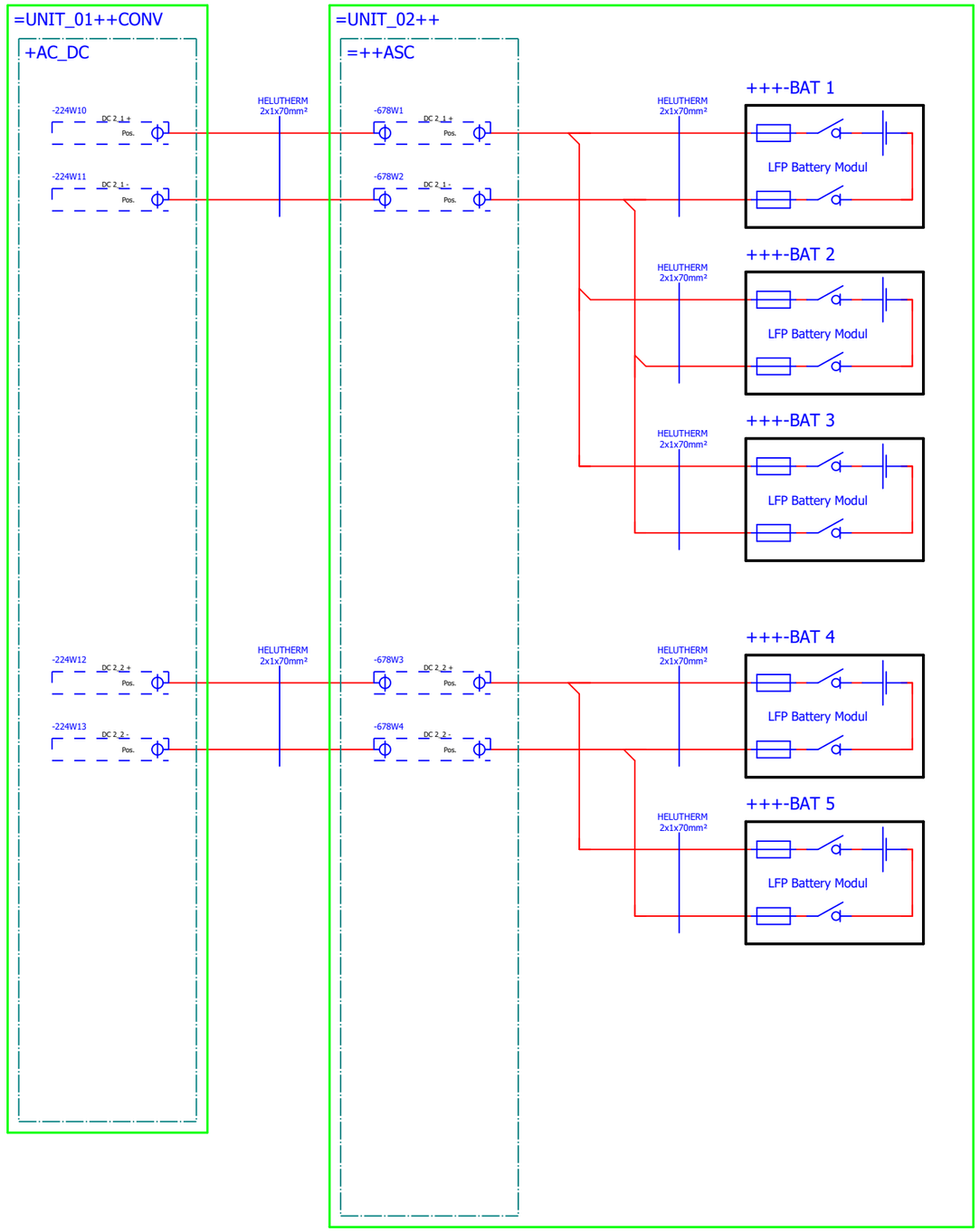
SPECIFICATION of grounding

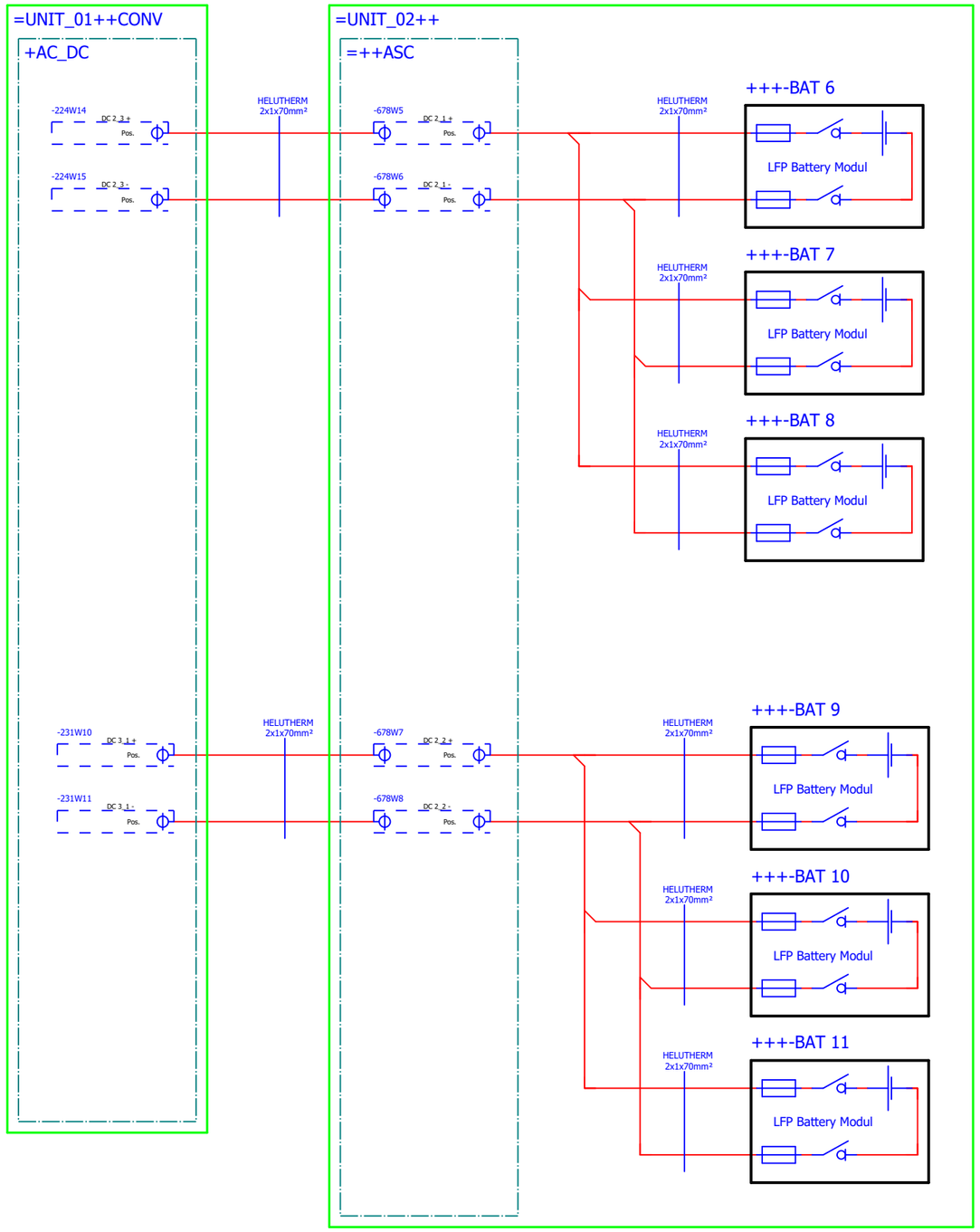
	from frame to			
1	**roof & side walls & doors**	**EVD_1**	**Flachband**	**2x25 mm²**
2	**frame**	**EVD_2**	**Flachband**	**2x25 mm²**
3	**base**	**EVD_3**	**Flachband**	**2x25 mm²**
4	**Mounting plate & partitions**	**EVD_4**	**H07-V-K**	**2x25 mm²**
5	**inductors**	**EVD_5**	**H07-V-k**	**2x25 mm²**
6	**Powerstack**	**EVD_6**	**H07-V-K**	**2x25 mm²**
7	**DC Switch & Fuse**	**EVD_7**	**H07-V-K**	**2x25 mm²**
8	**AC Filter**	**EVD_8**	**H07-V-K**	**2x25 mm²**
9	**circuit-breaker**	**EVD_9**	**H07-V-K**	**2x25 mm²**
10	**Freqcon_Fast_Disconektor**	**EVD_10**	**H07-V-K**	**2x25 mm²**
11	**Freqcon_Rectifier_Modul**	**EVD_11**	**H07-V-K**	**2x25 mm²**
12	**capacitor banks**	**EVD_12**	**H07-V-K**	**2x25 mm²**
13	**water distributor**	**EVD_13**	**H07-V-K**	**2x25 mm²**
14	**SPARE**	**EVD_14**	**H07-V-K**	**2x25 mm²**
15	**SPARE**	**EVD_15**	**H07-V-K**	**2x25 mm²**
16	**SPARE**	**EVD_16**	**H07-V-K**	**2x25 mm²**
17	**SPARE**	**EVD_17**	**H07-V-K**	**2x25 mm²**
18	**SPARE**	**EVD_18**	**H07-V-K**	**2x25 mm²**
	from door to			
19	**PROFINET IRT IGBT Interface**	**EVD_19**	**H07-V-K**	**1,5 mm²**
20	**HMI**	**EVD_20**	**H07-V-K**	**1,5 mm²**
21	**SPARE**	**EVD_21**	**H07-V-K**	**??? mm²**
22	**SPARE**	**EVD_22**	**H07-V-K**	**??? mm²**

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Single line diagram





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&EAC/6a

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2a

Editor	Freqcon_JD			Statron	FREQCON	SYSTEMS OVERVIEW	20241105_V1.2	= UNIT_02 Battery Container 1
Date	18.06.2024	Norm						& EFA Single line diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ page: 1a
Date								+ total: 498

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Single line diagram

Control circuit

++ASC

400V

-XES

-684F3 &EFS++ASC/684.2 C32A

-684F1 &EFS++ASC/684.0 C32A

-684F2 &EFS++ASC/684.5 TYP 1 + 2 SPD

-601F1 &EFS++ASC/601.1 TYP 1 + 2 SPD

-684F4 &EFS++ASC/685.0 C32A

-684F5 &EFS++ASC/685.5 TYP 1 + 2 SPD

-691F1 &EFS++ASC/691.1 C6A

-691F2 &EFS++ASC/691.3 C6A

-691F3 &EFS++ASC/691.4 C6A

-690F1 &EFS++ASC/690.1 16A

-690F3 &EFS++ASC/690.5 C6A

-690F4 &EFS++ASC/690.7 C6A

-690F5 &EFS++ASC/690.8 C6A

-691F4 &EFS++ASC/691.5 C16A

-690F2 &EFS++ASC/690.3 16A

-101Q1

-687F1 &EFS++ASC/687.1 C16A

-687F2 &EFS++ASC/687.3 C16A

-687F3 &EFS++ASC/687.4 C16A

-687F4 &EFS++ASC/687.5 C16A

-687F5 &EFS++ASC/687.7 C16A

-636K1 &EFS++ASC/636.1

-636K2 &EFS++ASC/636.2

-636K3 &EFS++ASC/636.4

M 1~

1/N/PE

1/N/PE

1/N/PE

1/N/PE 1/N/PE

20 A

Battery cabinet 1

Battery cabinet 2

Battery cabinet 3

Battery cabinet 4

Battery cabinet 5

-687F6 &EFS++ASC/687.8 C16A

-688F1 &EFS++ASC/688.1 C16A

-688F2 &EFS++ASC/688.2 C16A

-688F3 &EFS++ASC/688.4 C16A

-688F4 &EFS++ASC/688.5 C16A

-688F5 &EFS++ASC/688.7 C16A

Battery cabinet 6

Battery cabinet 7

Battery cabinet 8

Battery cabinet 9

Battery cabinet 10

Battery cabinet 11

Exhaust Unit / shut-off flap Bat 1-4

Exhaust Unit / shut-off flap Bat 5-8

Exhaust Unit / shut-off flap Bat 9-11

Container Internal Lighting

crane 1

crane 2

crane 3

Cooling Units

Container Sockets

Power Supply

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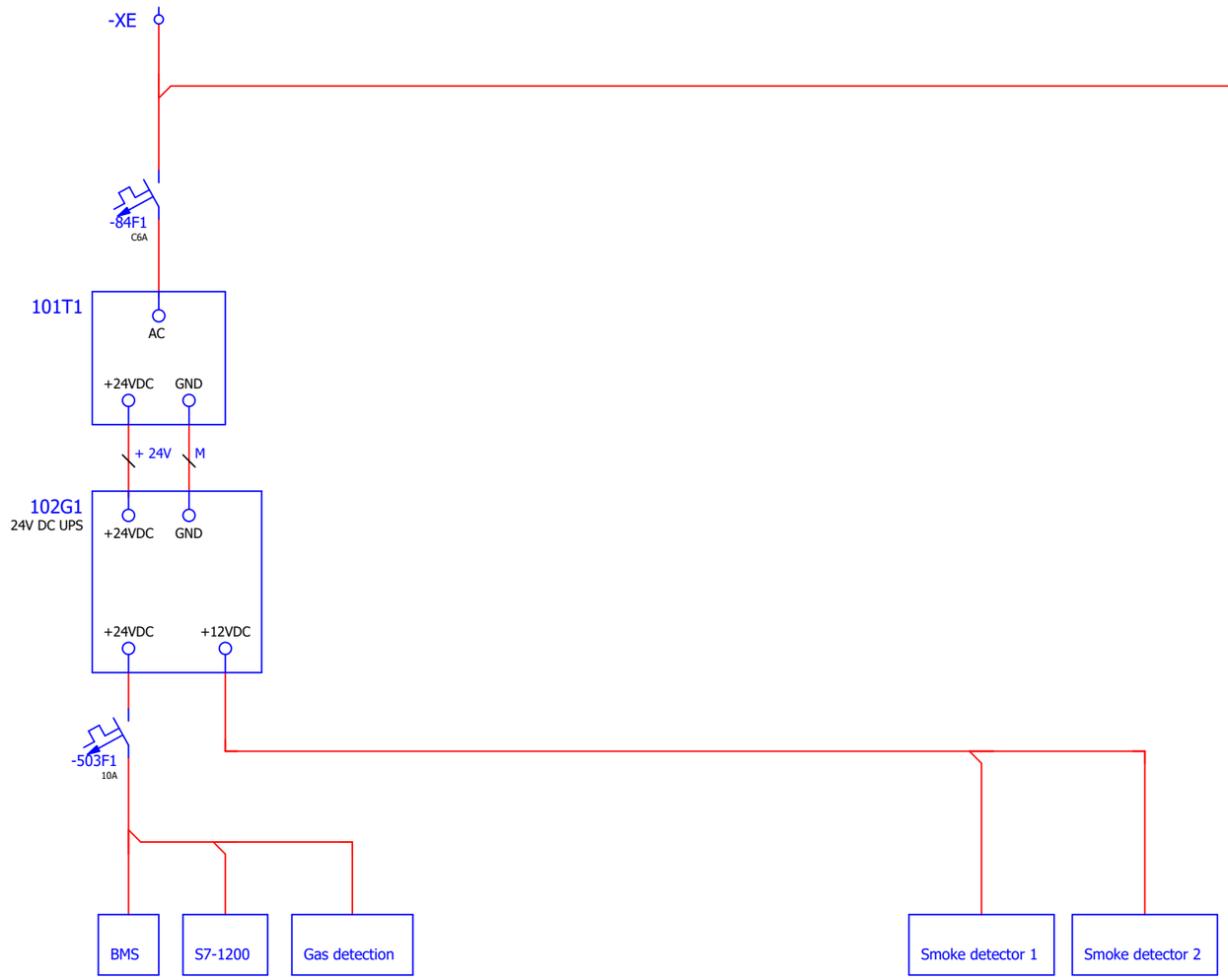
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Editor	Freqcon_DG			Statron	FREQCON	SYSTEMS OVERVIEW	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	05.11.2024	Norm						& EFA Single line diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 2a
Date								+	total: 498

Single line diagram

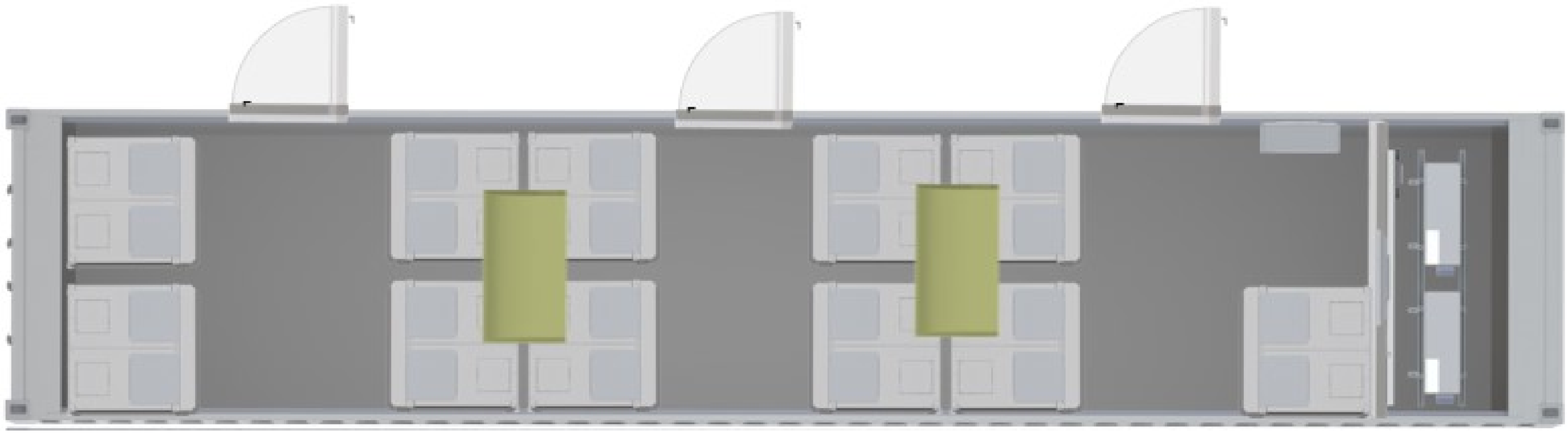
Control circuit

Battery Cabinet



Editor	Freqcon_JD			Statron	FREQCON	SYSTEMS OVERVIEW	20241105_V1.2	= UNIT_02	Battery Container 1
Date	18.06.2024	Norm						& EFA	Single line diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 3a
Date								+	total: 498

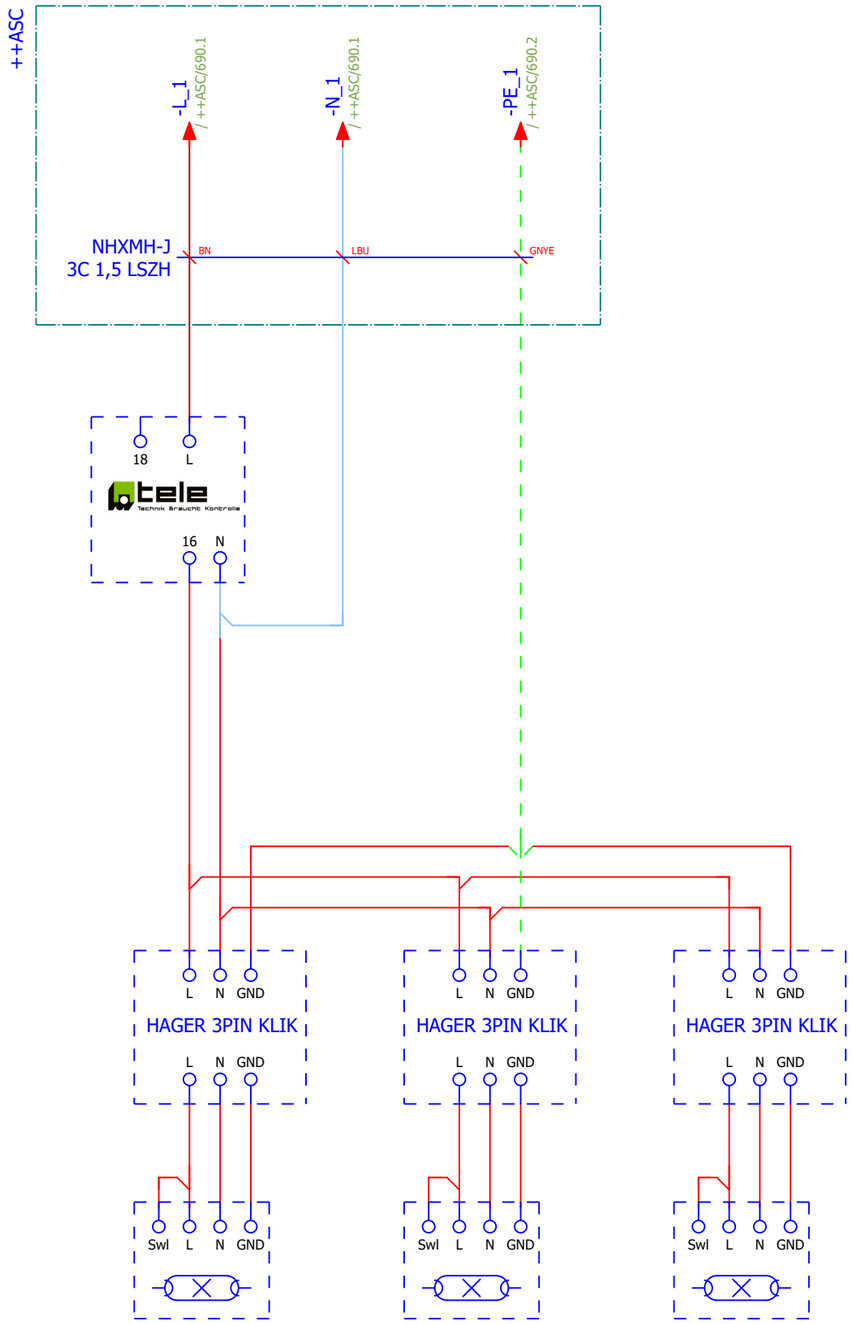
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next page:
&EFS++Container/190

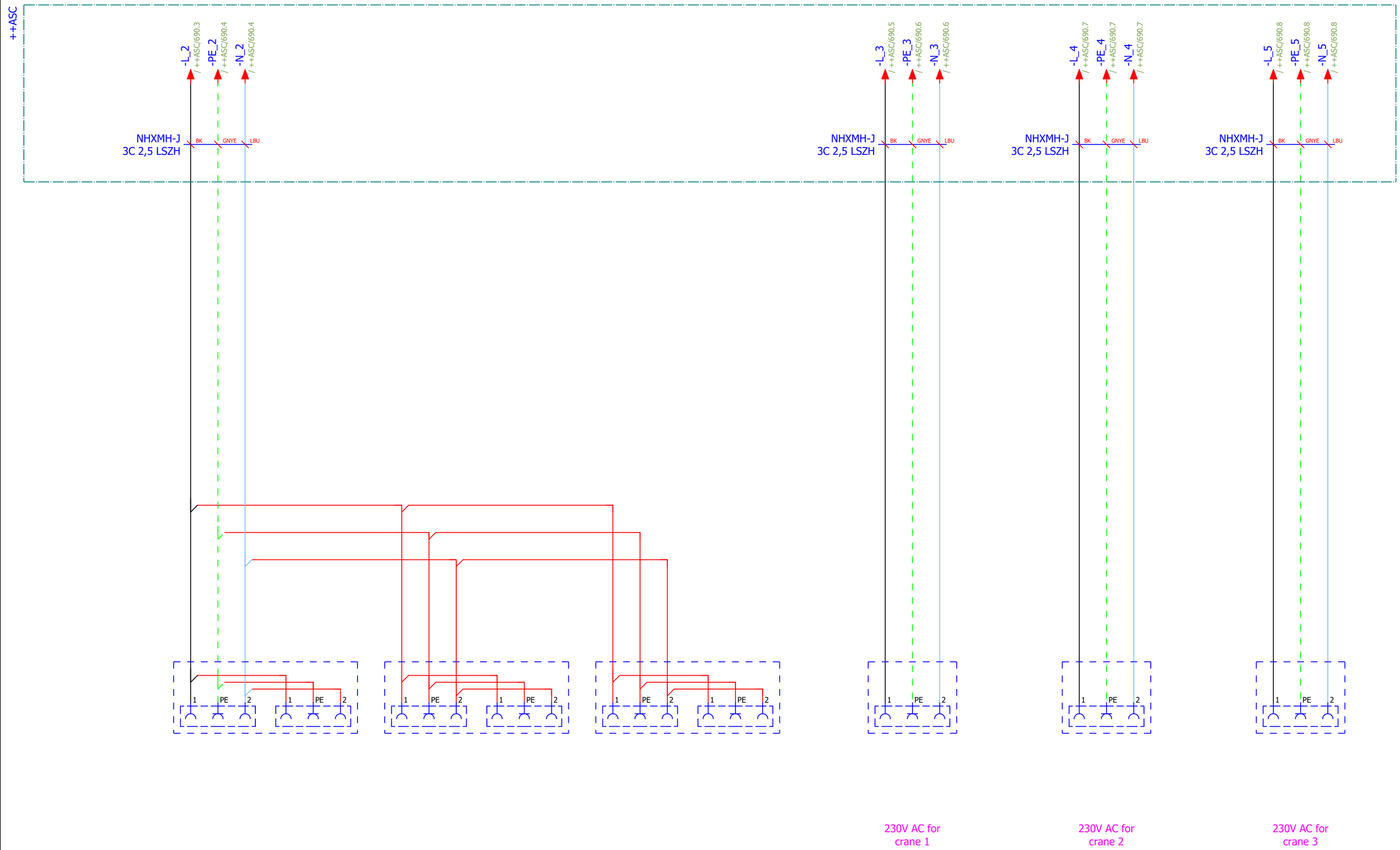
Editor	Freqcon_JD			Statron	FREQCON	Container overview	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	14.06.2024	Norm						& ELU Cabinet Overview	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 5a
Date								+	total: 498



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&ELU++/5a

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Editor	Freqcon_JD			Statron	FREQCON	CONTAINER INSTALLATION	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 190
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	CONTAINER INSTALLATION	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 191
Date								+	total: 498

++ASC

-L_6 / ++ASC/691.1
-N_6 / ++ASC/691.1
-PE_6 / ++ASC/691.2

NHXMH-J
3C 1,5 LSZH
BK LBU GNYE

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

BELDEN 9842
LSZH
WH BU WH BU

Junction Box
next to fan motor

230V AC for
Exhaust Unit
Battery cabinets 1-4

-L_6 / ++ASC/691.1
-N_6 / ++ASC/691.1
-PE_6 / ++ASC/691.2

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

230V AC for
shut-off flap
Battery cabinets 1-4

-L_7 / ++ASC/691.3
-N_7 / ++ASC/691.3
-PE_7 / ++ASC/691.3

NHXMH-J
3C 1,5 LSZH
BK LBU GNYE

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

BELDEN 9842
LSZH
WH BU WH BU

Junction Box
next to fan motor

230V AC for
Exhaust Unit
Battery cabinets 5-8

-L_7 / ++ASC/691.3
-N_7 / ++ASC/691.3
-PE_7 / ++ASC/691.3

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

230V AC for
shut-off flap
Battery cabinets 5-8

-L_8 / ++ASC/691.4
-N_8 / ++ASC/691.4
-PE_8 / ++ASC/691.4

NHXMH-J
3C 1,5 LSZH
BK LBU GNYE

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

BELDEN 9842
LSZH
WH BU WH BU

Junction Box
next to fan motor

230V AC for
Exhaust Unit
Battery cabinets 9-11

-L_8 / ++ASC/691.4
-N_8 / ++ASC/691.4
-PE_8 / ++ASC/691.4

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

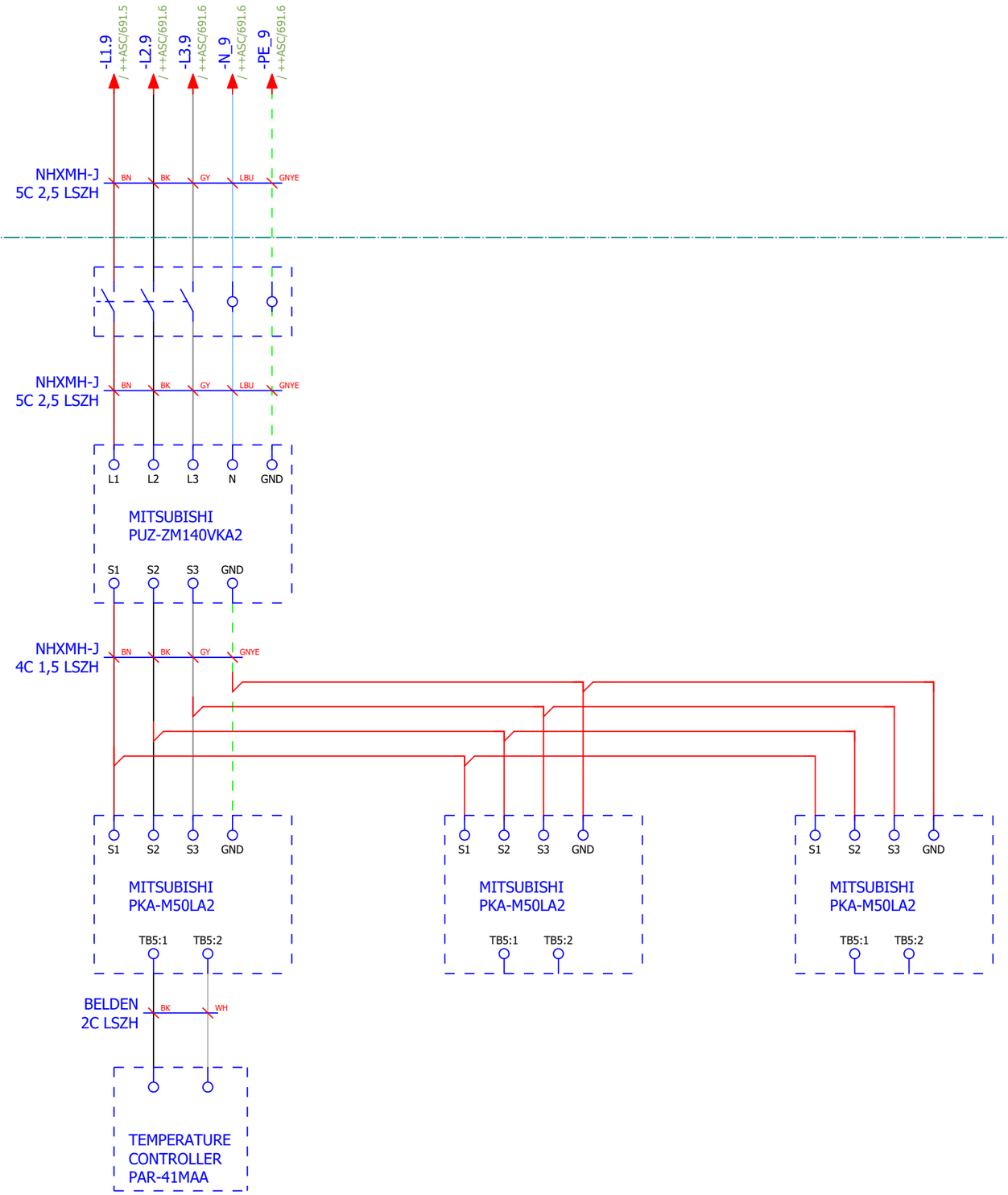
230V AC for
shut-off flap
Battery cabinets 9-11

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193

Editor	Freqcon_JD			Statron	FREQCON	CONTAINER INSTALLATION	20241105_V1.2	= UNIT_02	Battery Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 192
Date								+	total: 498

++ASC

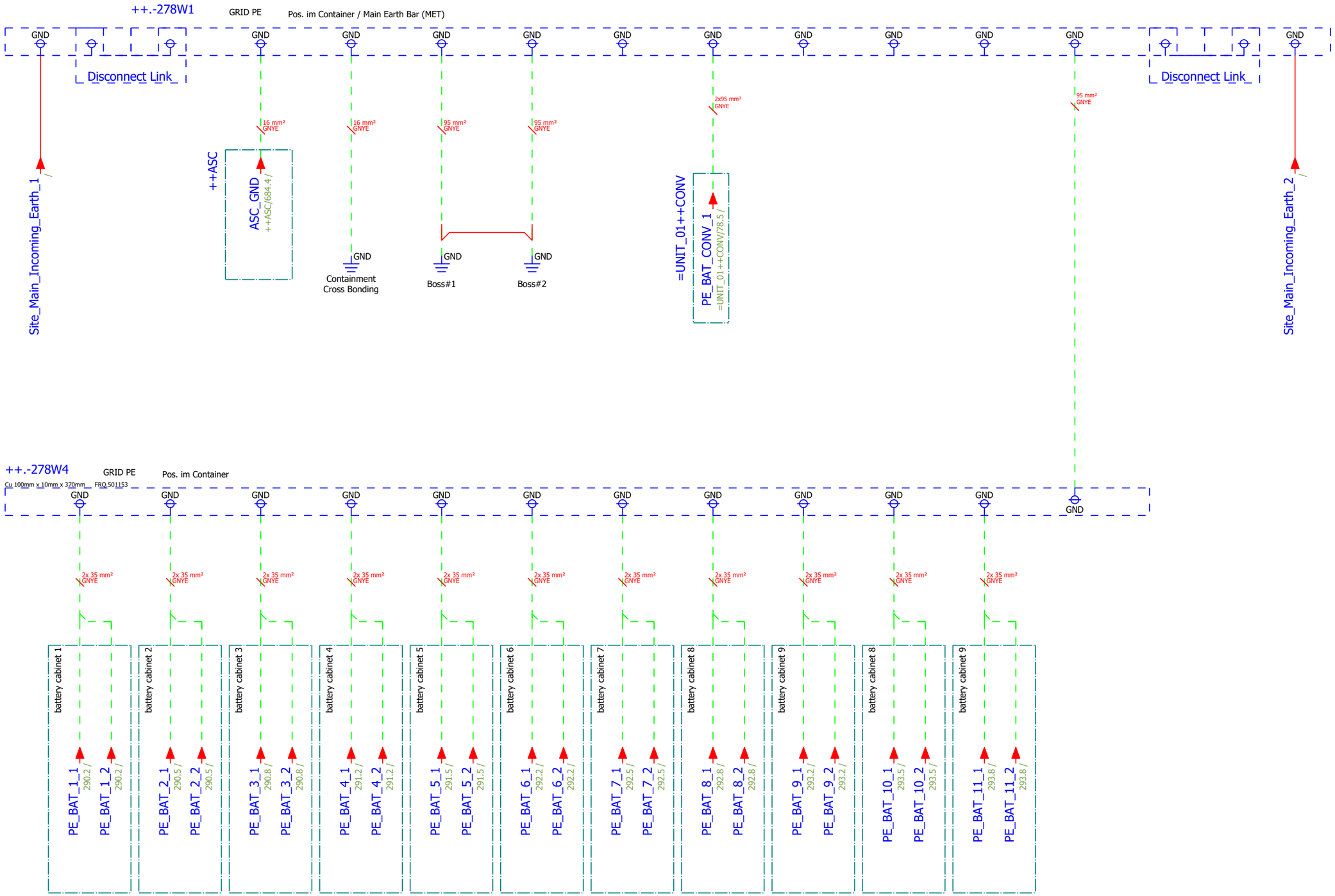


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next page: 278

Editor	Freqcon_JD			Statron	FREQCON	CONTAINER INSTALLATION	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 193
Date								+	total: 498

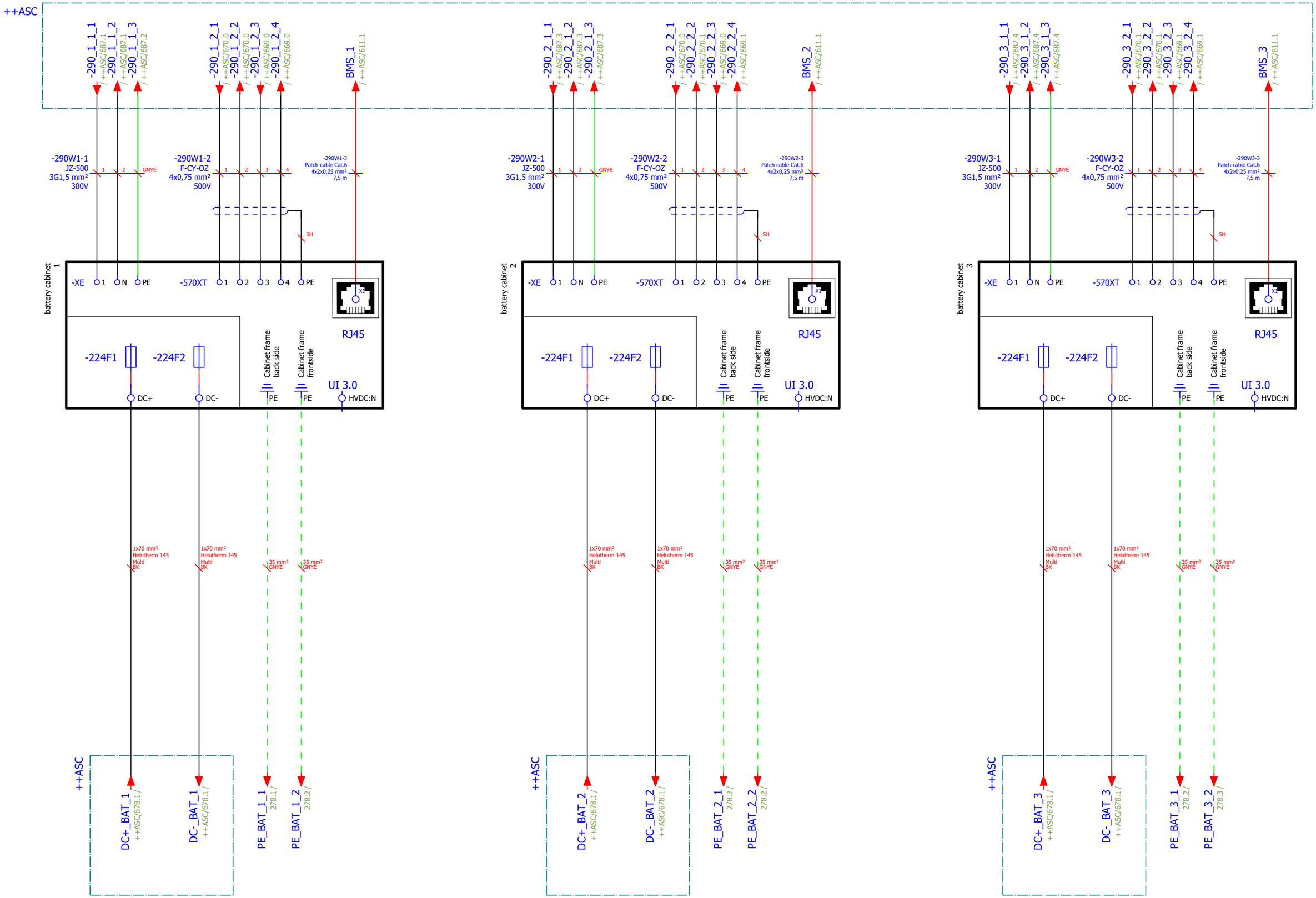
Busbars PE



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next page: 290

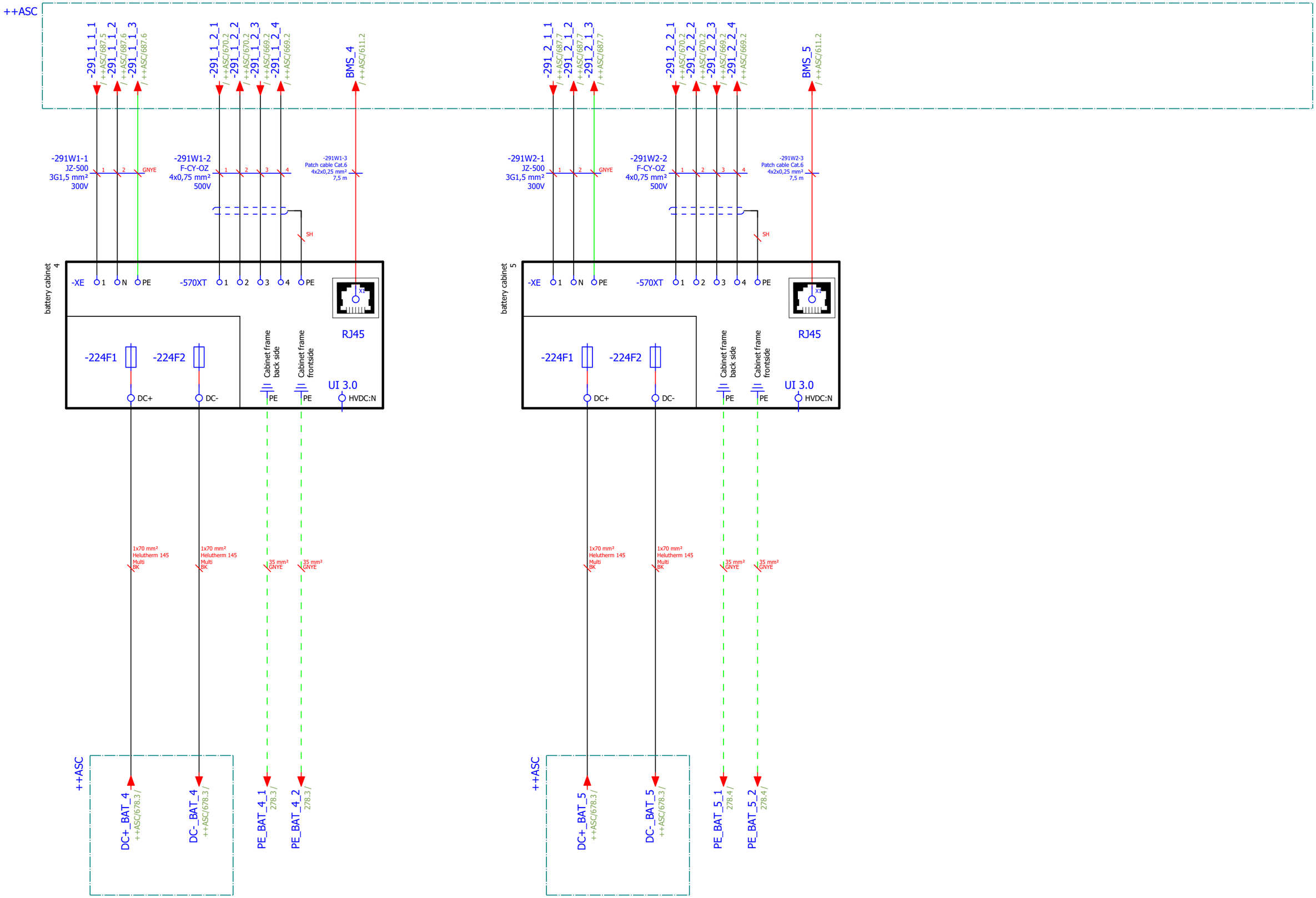
Editor	Freqcon_DG			Statron	FREQCON	EARTHING CONTAINER	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	08.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 278
Date								+	total: 498



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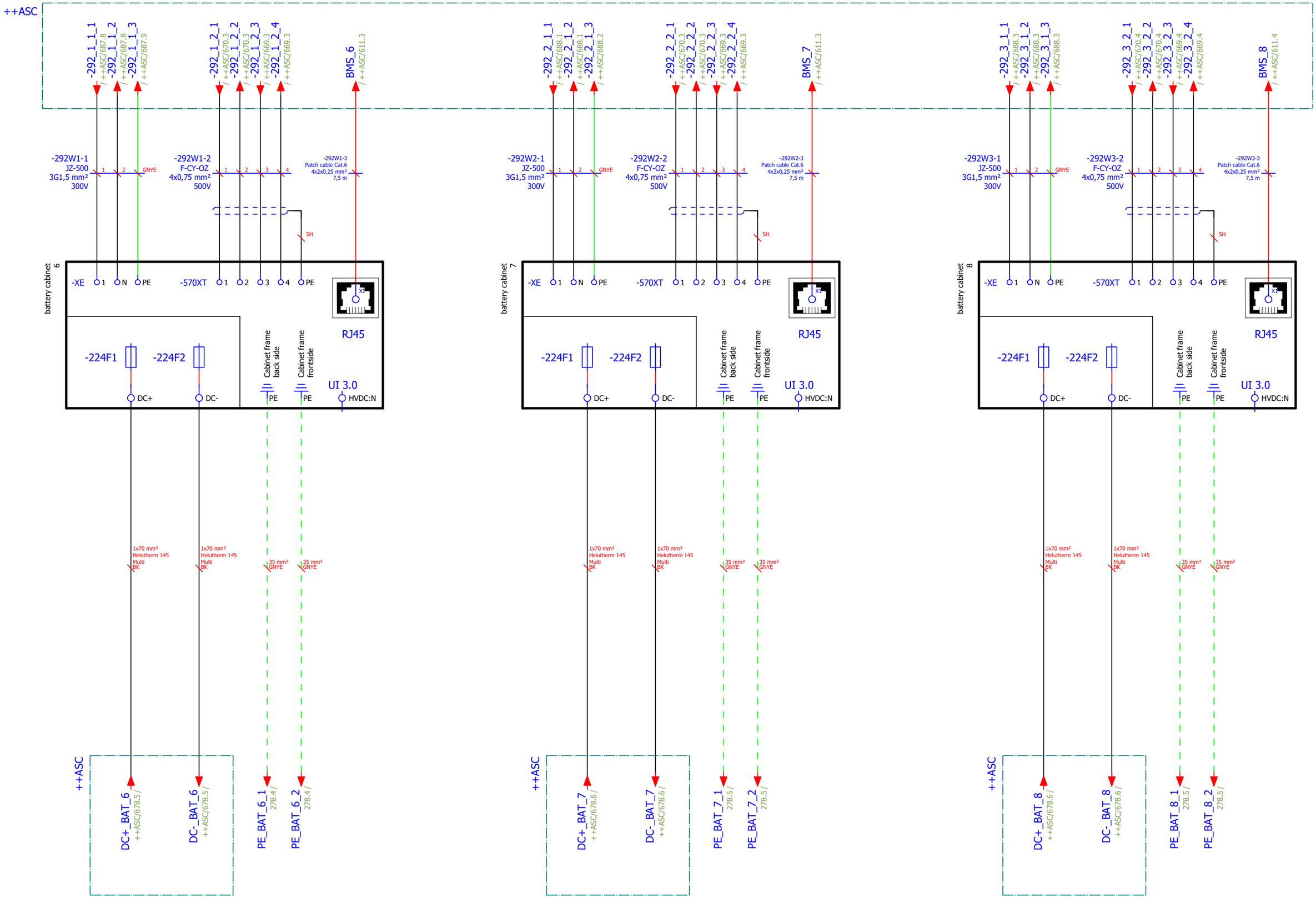
Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 1-3	20241105_V1.2	= UNIT_02	Battery Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 290
Date								+	total: 498



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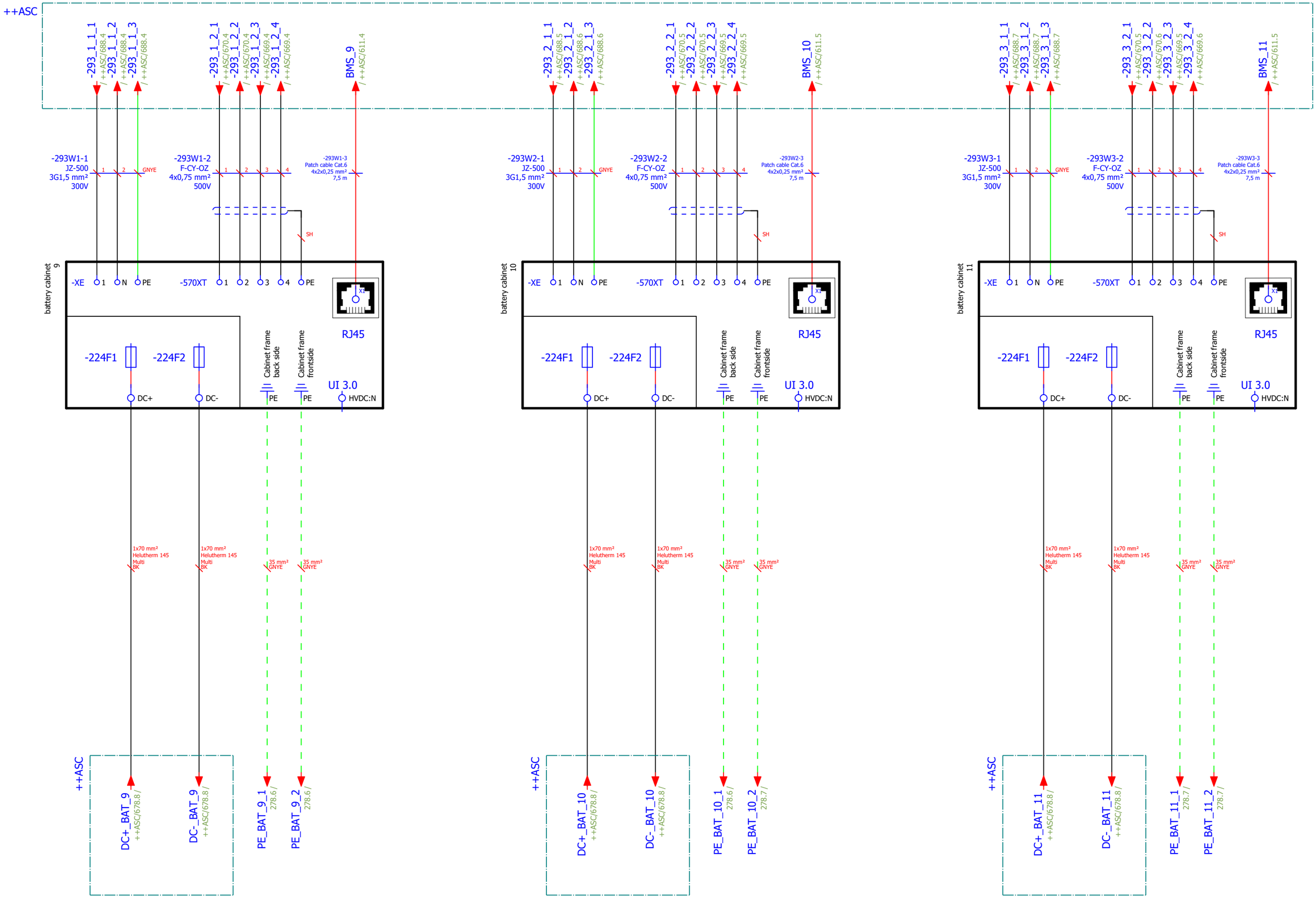
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Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 291
Date								+	total: 498



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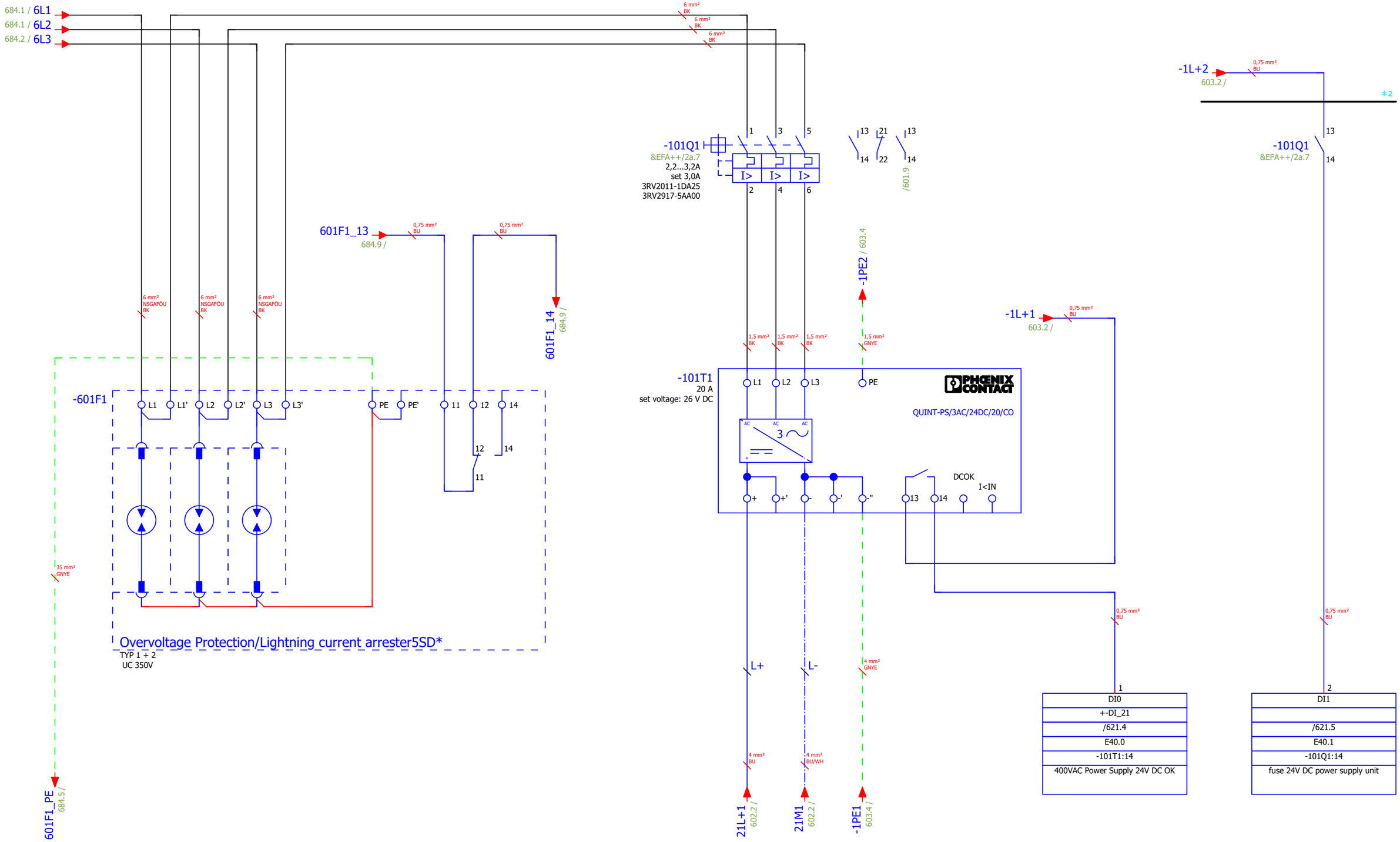
Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 6-8	20241105_V1.2	= UNIT_02 Battery Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container page: 292
Date								+ total: 498



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++ASC/601

Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 9-11	20241105_V1.2	= UNIT_02 Battery Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container page: 293
Date								+ total: 498



400VAC Power Supply 24V DC OK

fuse 24V DC power supply unit

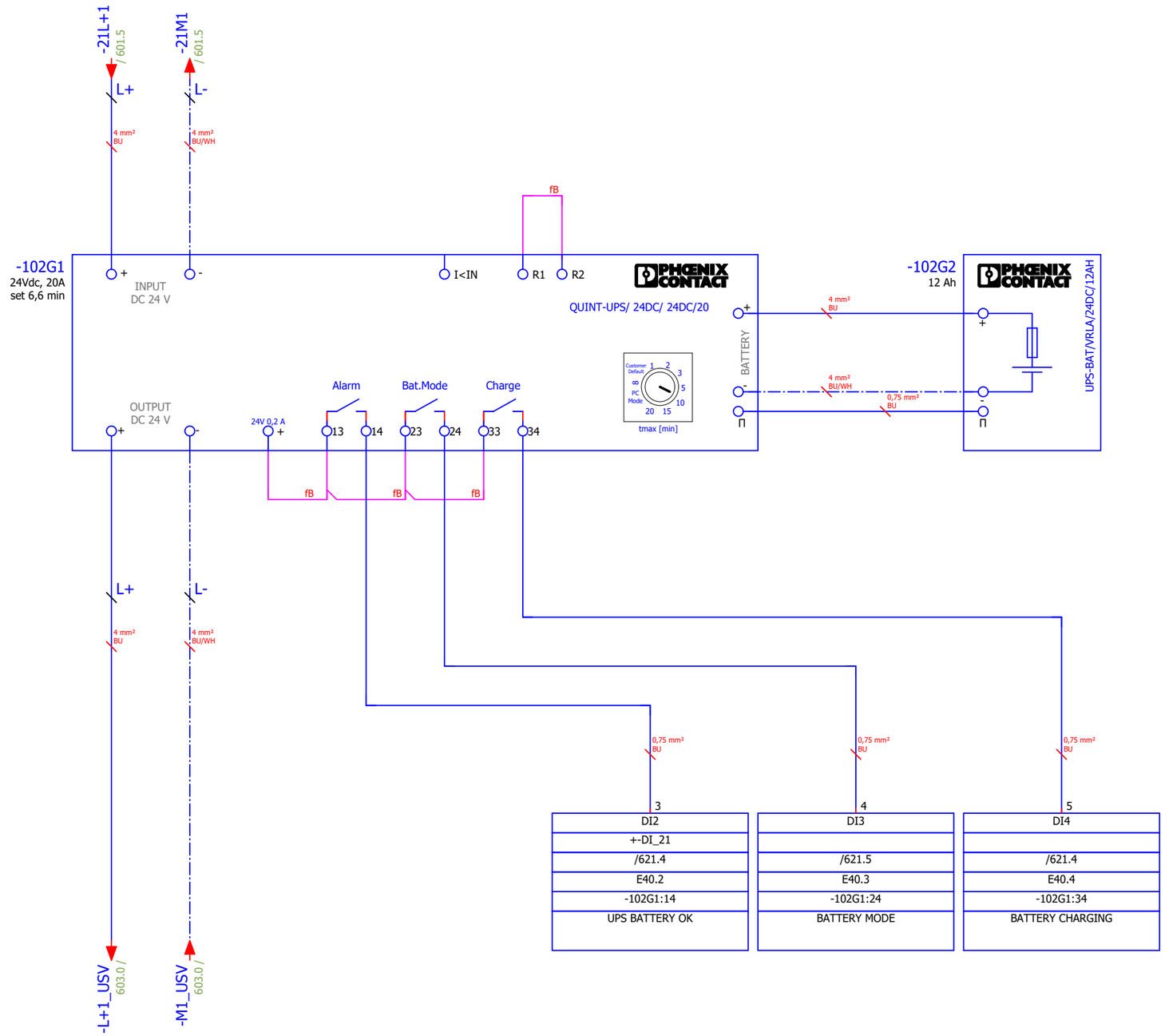
previous page:
++Container/293

Power supply unit from 400V AC

next page:
602

Editor	Freqcon_DG			Statron	FREQCON	CONTROL VOLTAGE POWER SUPPLY UNIT	20241105_V1.2	= UNIT_02	Battery Container 1
Date	05.11.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

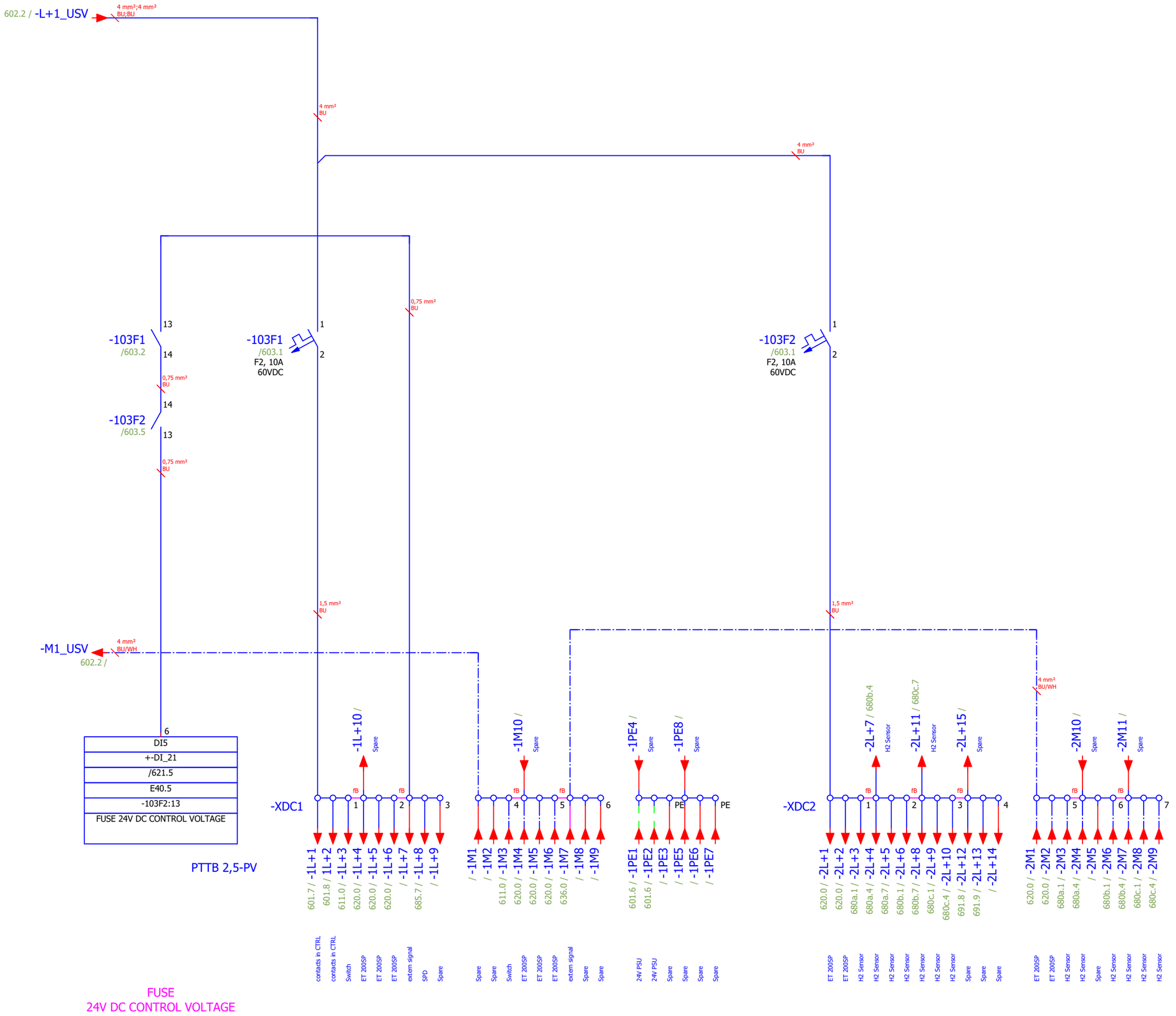
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total: 498



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603

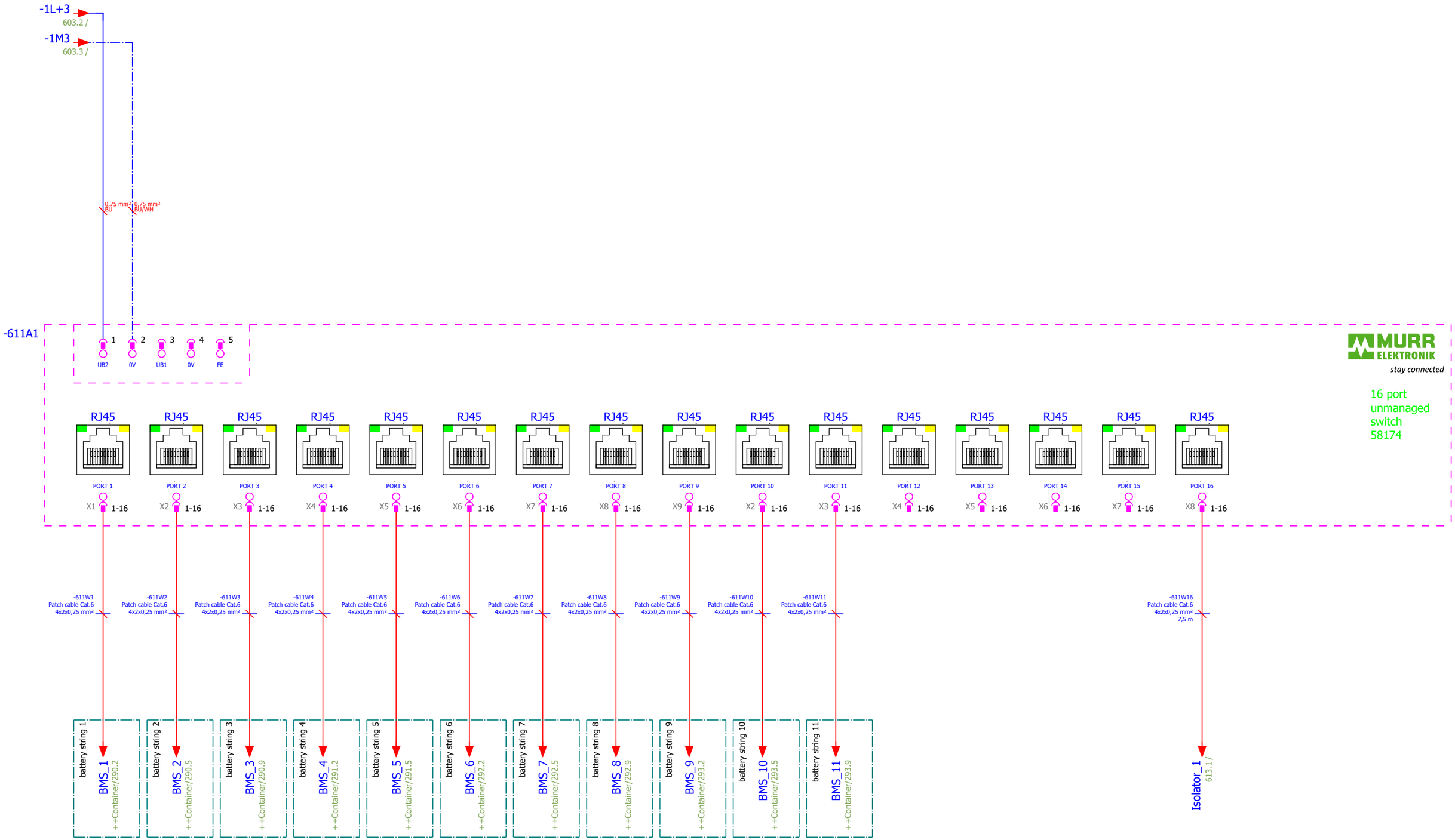
Editor	Freqcon_DG			Statron	FREQCON	CONTROL VOLTAGE UPS	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet — page: 602
Date								+ — total: 498



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611

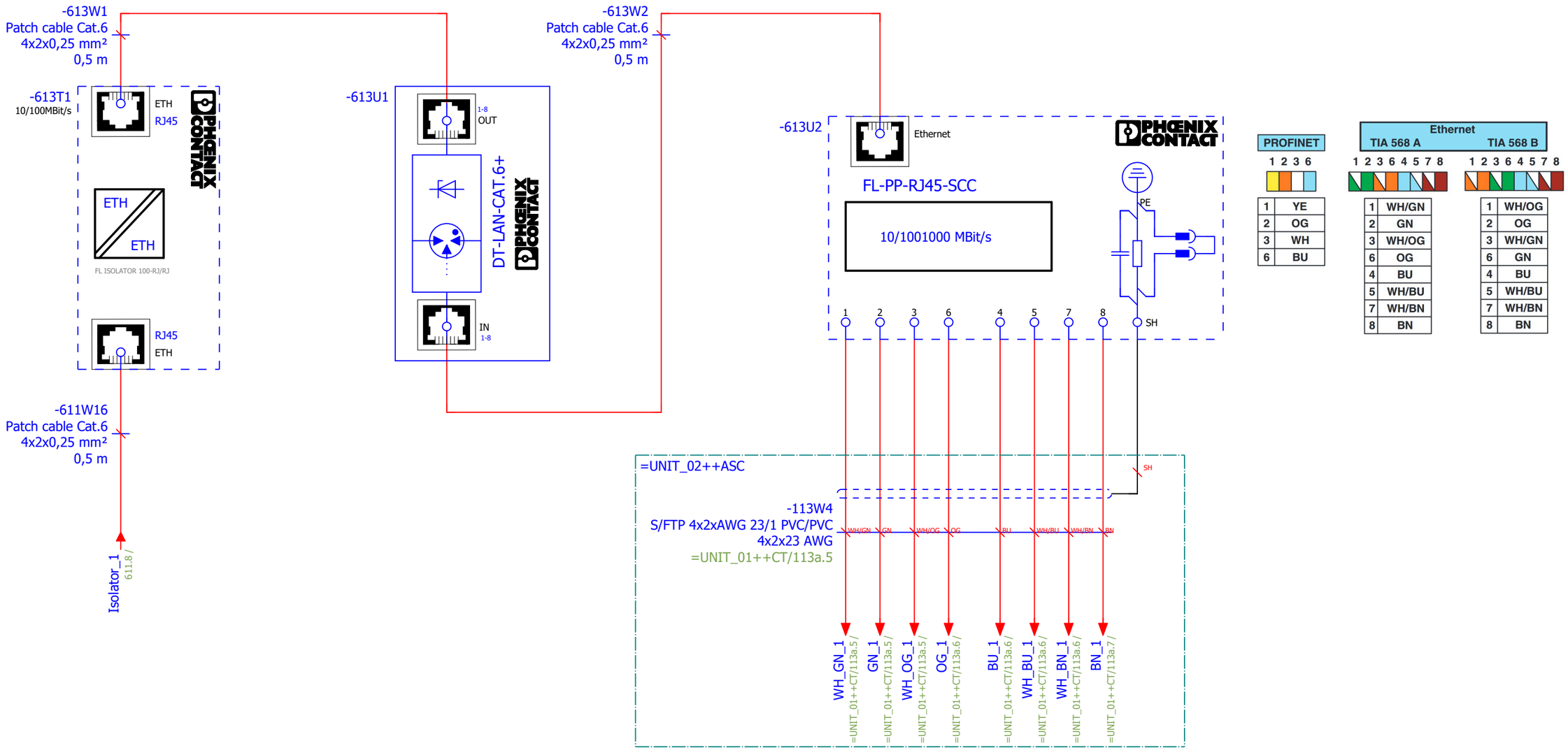
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Date	05.11.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxiliary cabinet	page: 603
Date								+	total: 498



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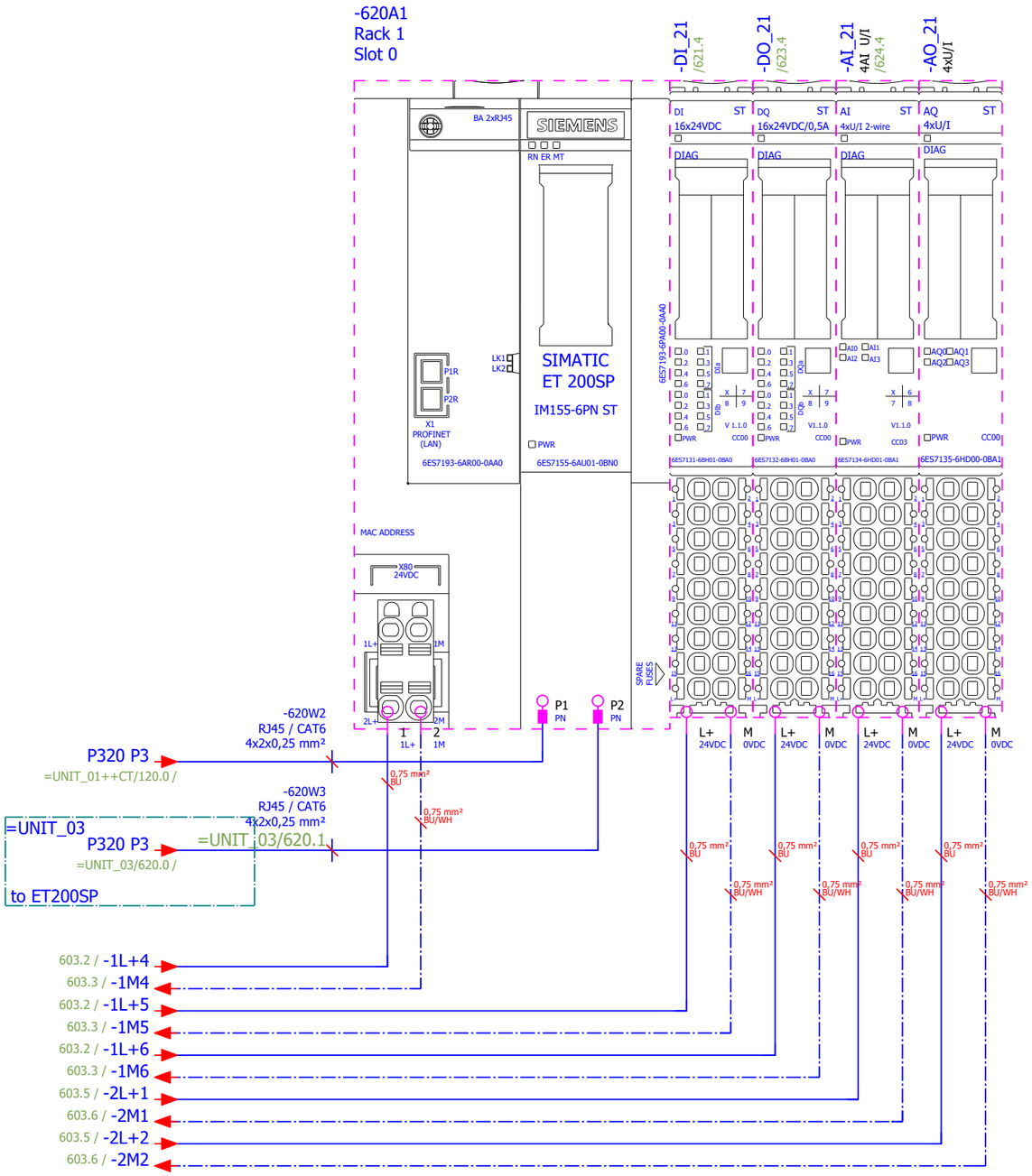
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Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 611
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	ETHERNET / PROFINET ISOLATOR	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 613
Date								+	total: 498



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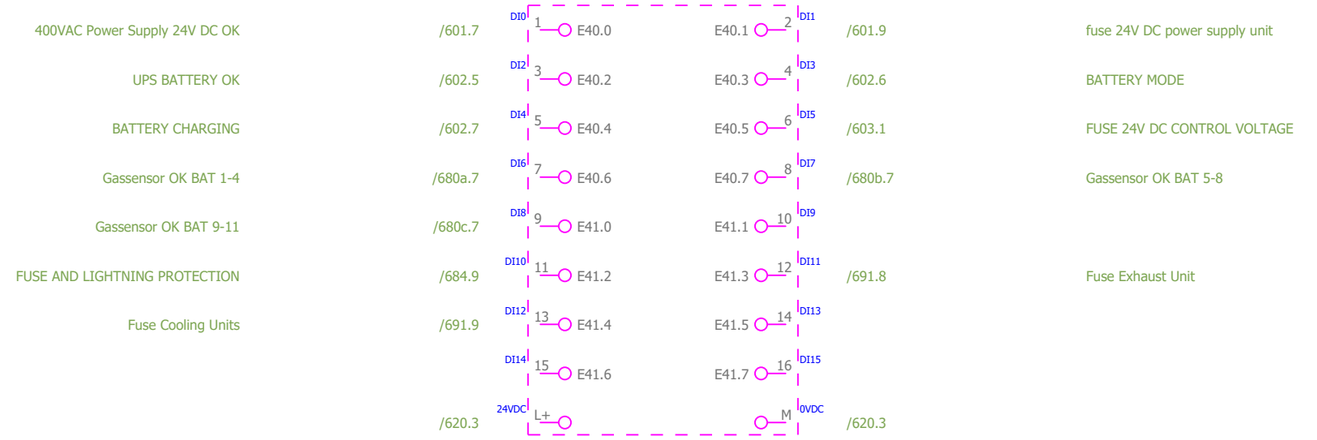
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Date	20.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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total: 498

0	1	2	3	4	5	6	7	8	9

-DI_21

/620.3



400VAC Power Supply 24V DC OK	/601.7				/601.9	fuse 24V DC power supply unit
UPS BATTERY OK	/602.5				/602.6	BATTERY MODE
BATTERY CHARGING	/602.7				/603.1	FUSE 24V DC CONTROL VOLTAGE
Gassensor OK BAT 1-4	/680a.7				/680b.7	Gassensor OK BAT 5-8
Gassensor OK BAT 9-11	/680c.7					
FUSE AND LIGHTNING PROTECTION	/684.9				/691.8	Fuse Exhaust Unit
Fuse Cooling Units	/691.9					
	/620.3				/620.3	

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Editor	Freqcon_JD			Statron	FREQCON	ET200SP DIGITAL INPUTS DI_21 + DI_22	20241105_V1.2	= UNIT_02	Battery Container 1
Date	14.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

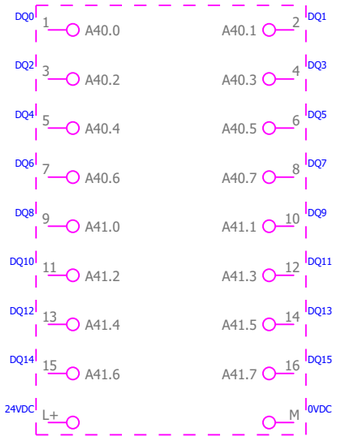
page: 621

total: 498

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-DO_21

/620.3



230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4 /636.1

230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11 /636.4

/620.3

/636.2 230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8

/620.3

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Editor	Freqcon_JD			Statron	FREQCON	ET200SP DIGITAL OUTPUTS DO_21	20241105_V1.2	= UNIT_02	Battery Container 1
Date	14.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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-AI_21

/620.3



gas concentration BAT 1-4 /680a.2

gas concentration BAT 9-11 /680c.2

gas concentration BAT 1-4 /680a.2

gas concentration BAT 9-11 /680c.2

/620.3

gas concentration BAT 5-8 /680b.2

gas concentration BAT 5-8 /680b.2

/620.4

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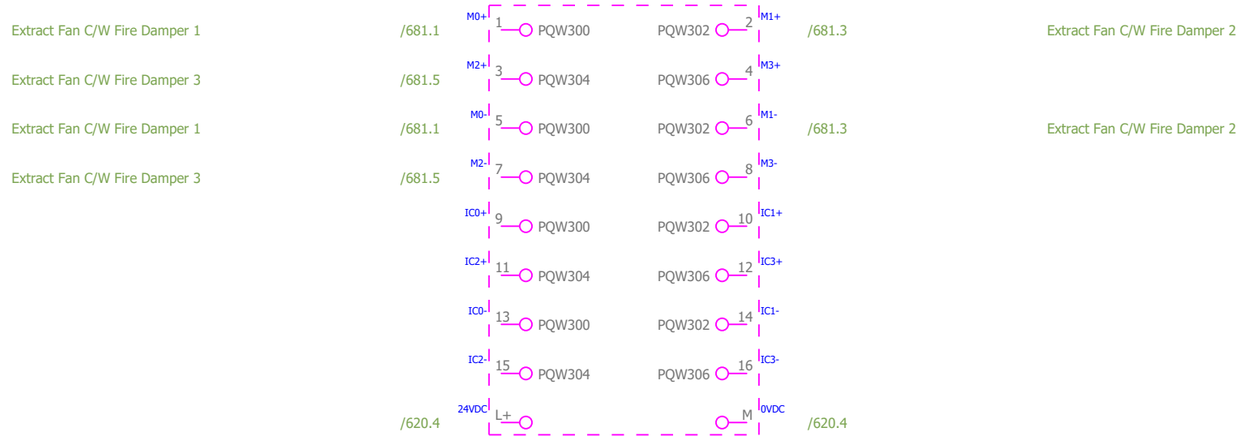
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Editor	Freqcon_JD			Statron	FREQCON	ET200SP ANALOG INPUTS AI_21	20241105_V1.2	= UNIT_02 Battery Container 1
Date	14.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet page: 624
Date								+ total: 498

0	1	2	3	4	5	6	7	8	9

-AO_21

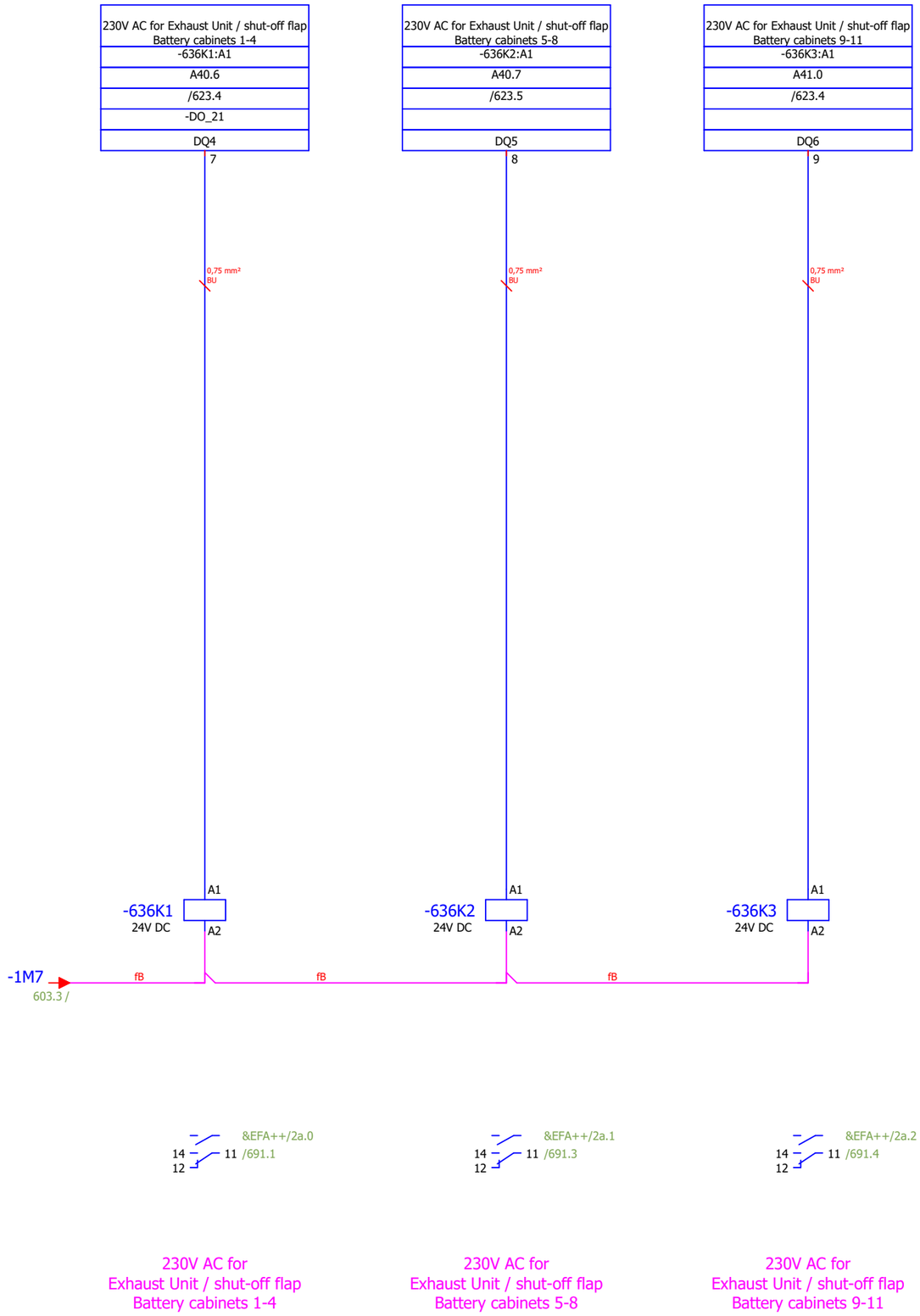
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Editor	Freqcon_JD			Statron	FREQCON	ET200SP ANALOG OUTPUTS AO_21	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	14.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 625
Date								+	total: 498

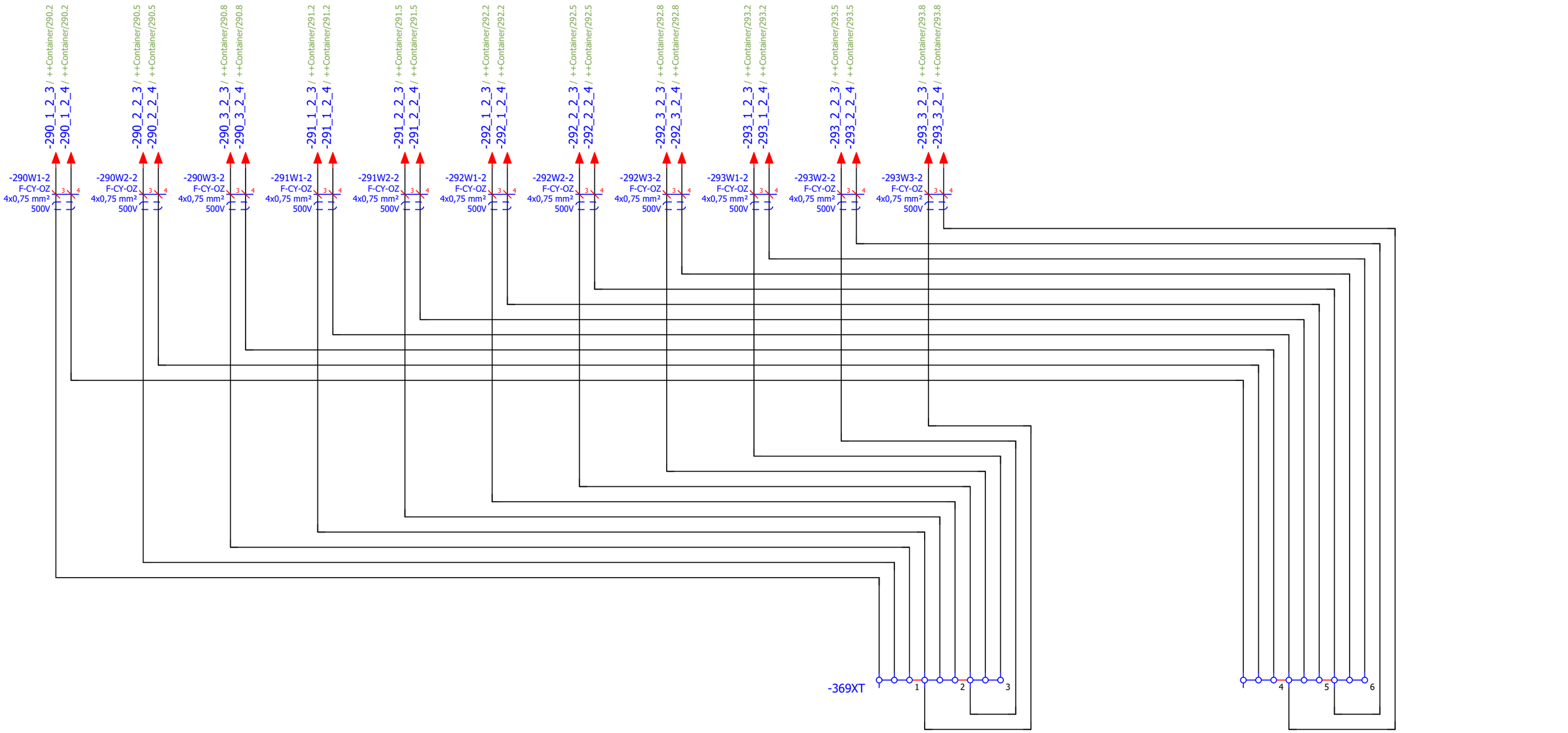


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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS FIRE DAMPER	20241105_V1.2	= UNIT_02	Battery Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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total: 498



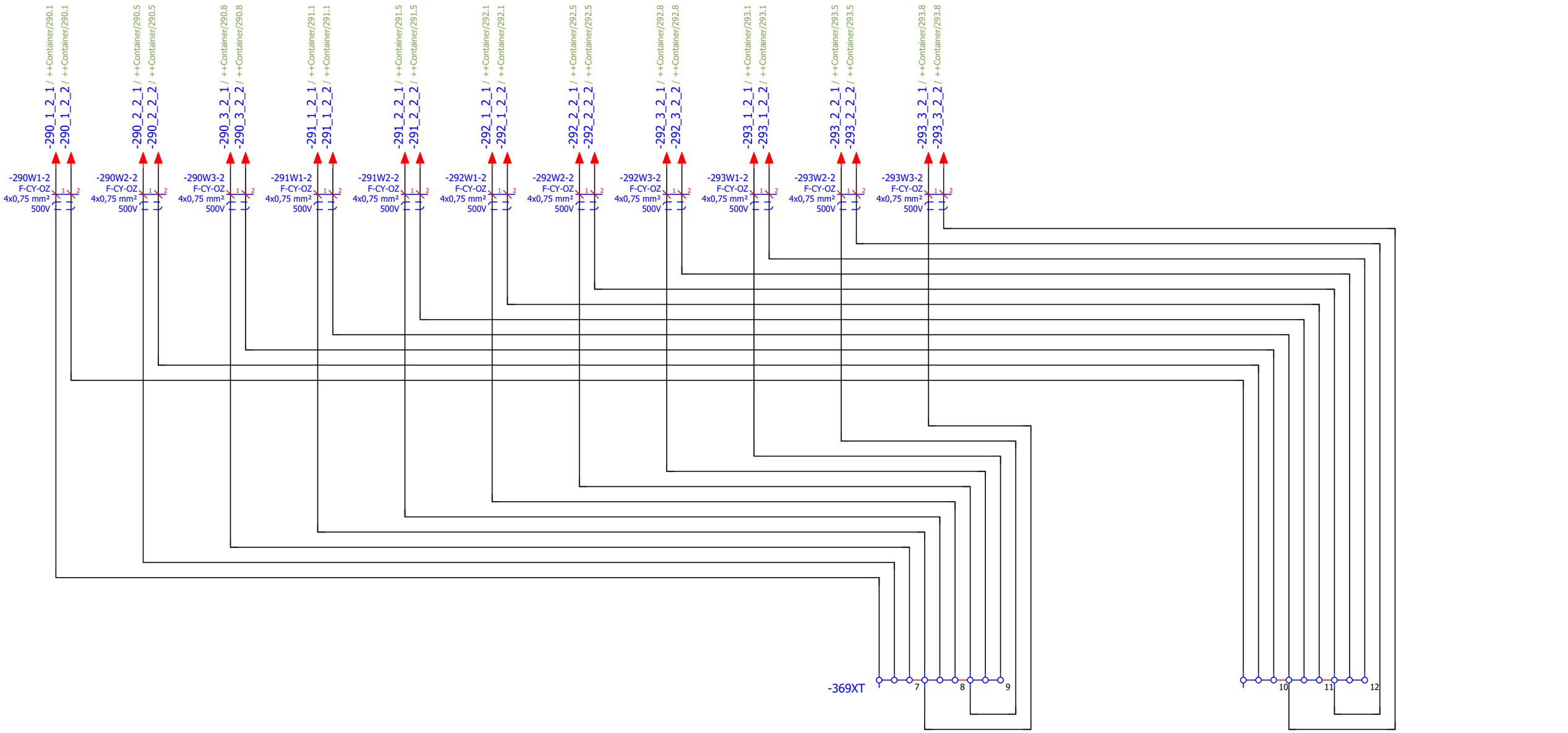
battery cabinet smoke detector
potential-free contacts
customer

battery cabinet smoke detector
potential-free contacts
customer

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Editor	Freqcon_JD			Statron	FREQCON	SMOKE POTENTIAL-FREE CONTACTS	20241105_V1.2	= UNIT_02	Battery Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	



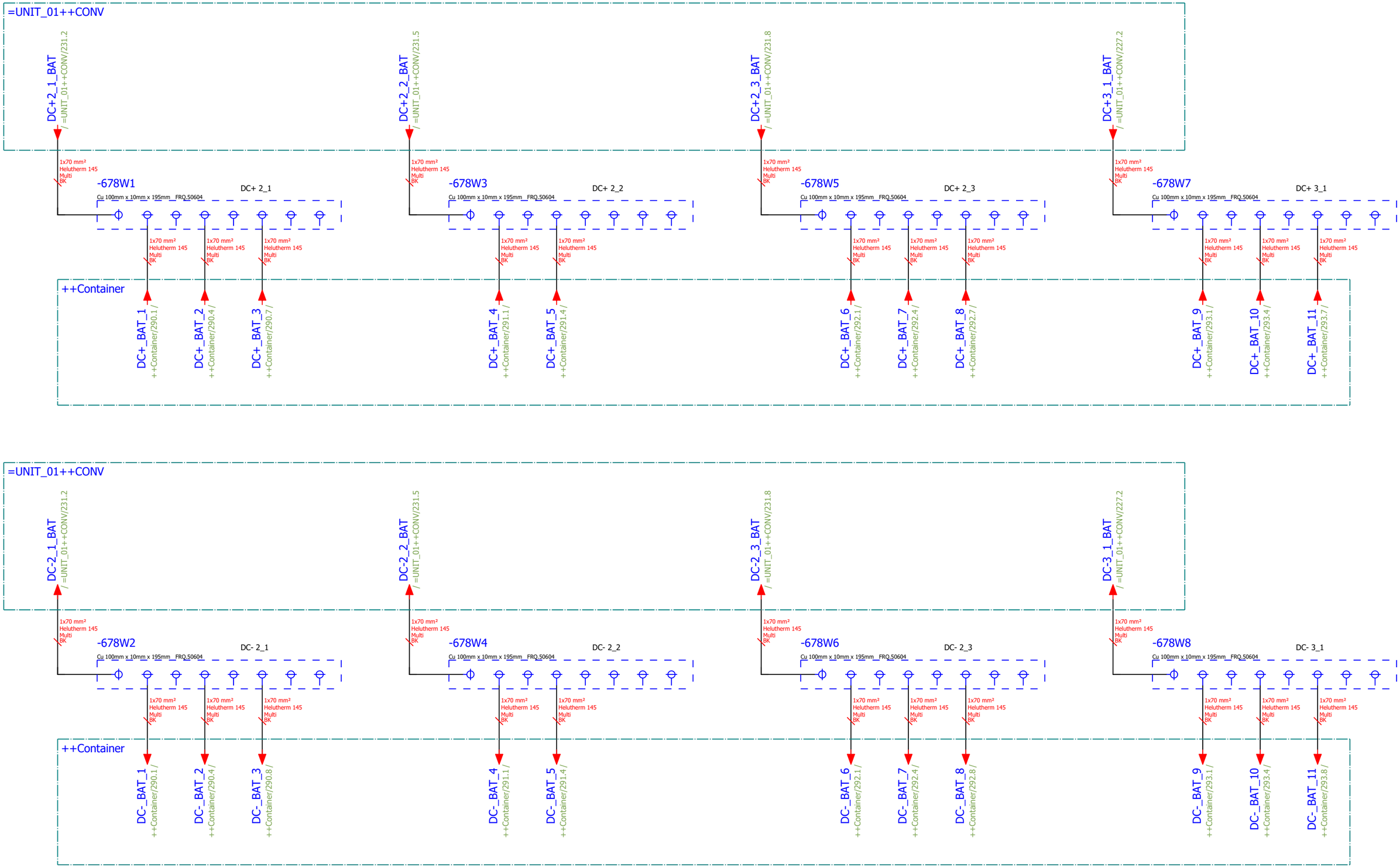
battery cabinet gas
potential-free contacts
customer

battery cabinet gas
potential-free contacts
customer

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Editor	Freqcon_JD			Statron	FREQCON	GAS POTENTIAL-FREE CONTACTS	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 670
Date								+	total: 498



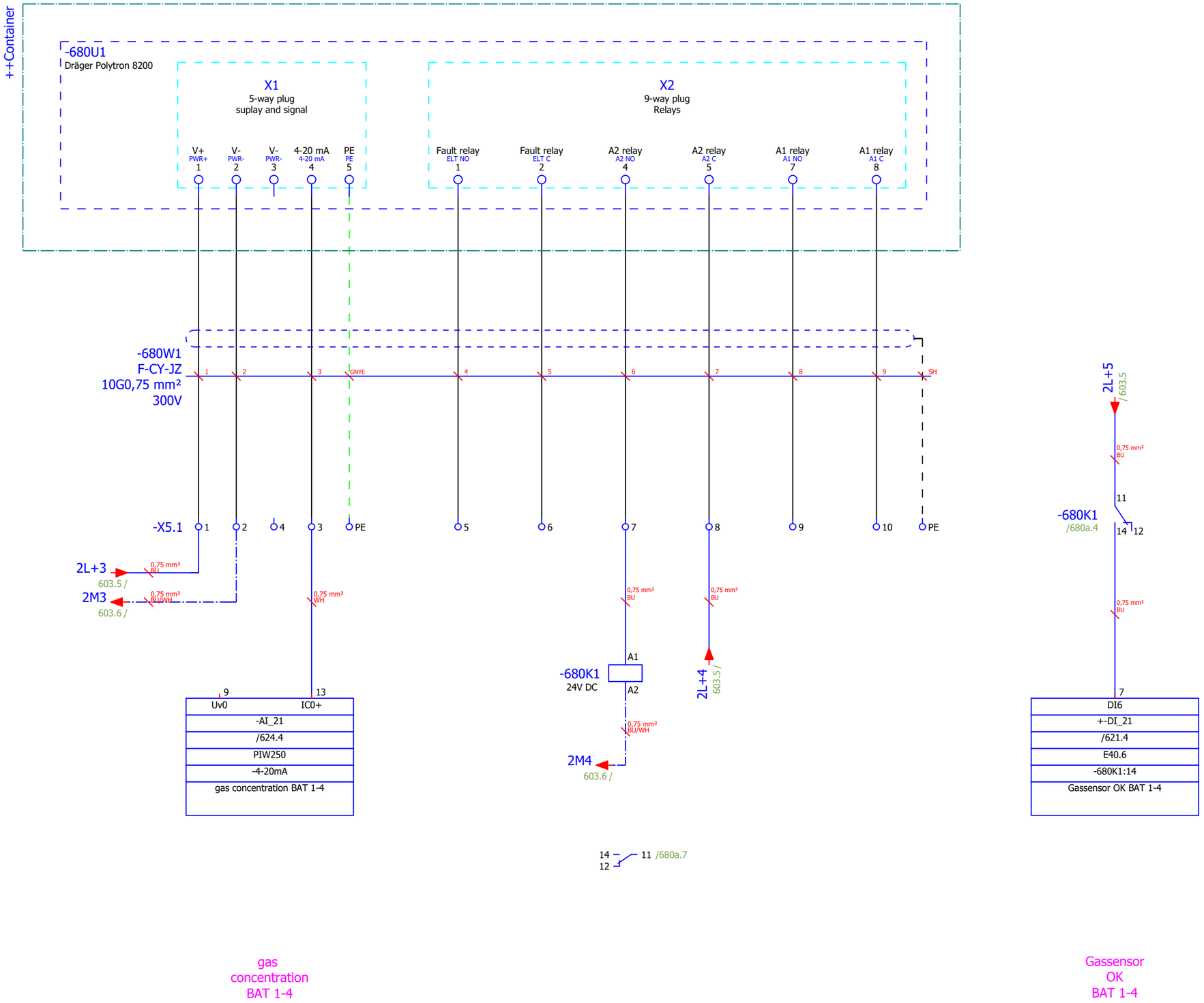
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Editor	Freqcon_JD			Statron	FREQCON	DC BATTERY CABINETS	20241105_V1.2	= UNIT_02	Battery Container 1
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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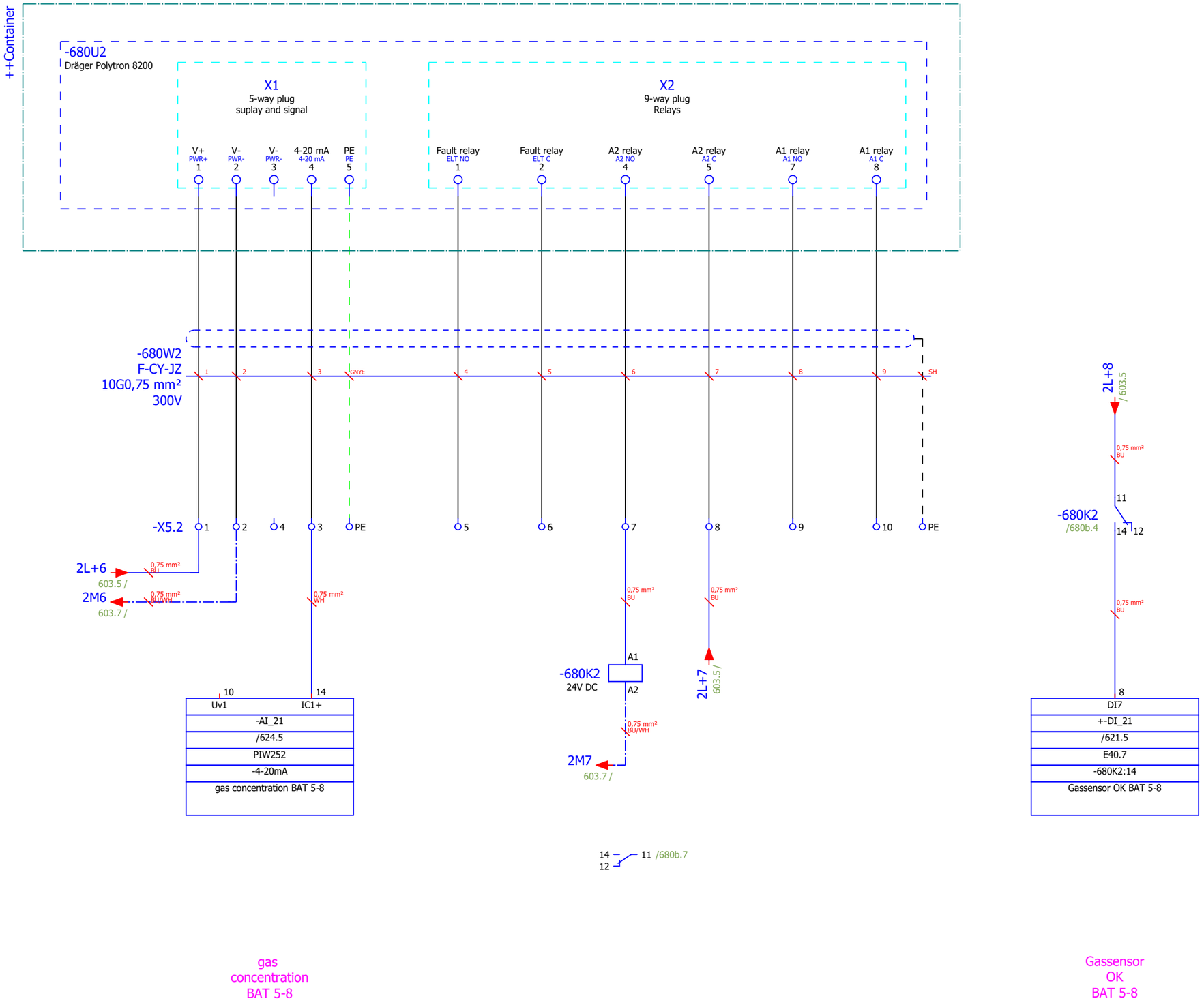
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Editor	Freqcon_JD			Statron	FREQCON	STATIONARY GAS DETECTOR BAT 1-4	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	14.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 680a
Date								+	total: 498



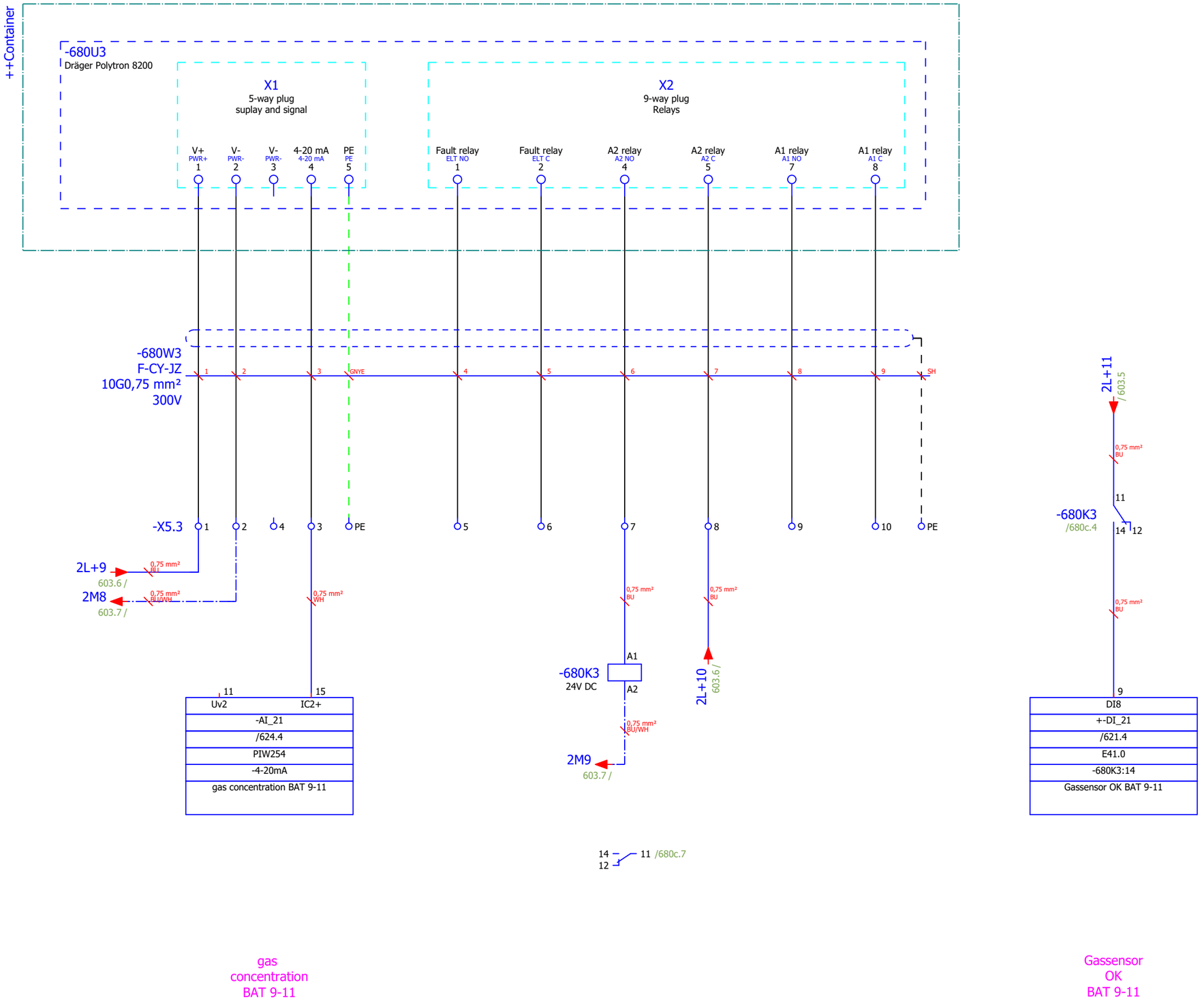
gas concentration BAT 5-8

Gassensor OK BAT 5-8

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Editor	Freqcon_JD			Statron	FREQCON	STATIONARY GAS DETECTOR BAT 5-8	20241105_V1.2	= UNIT_02 Battery Container 1
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet — page: 680b
Date								+ — total: 498



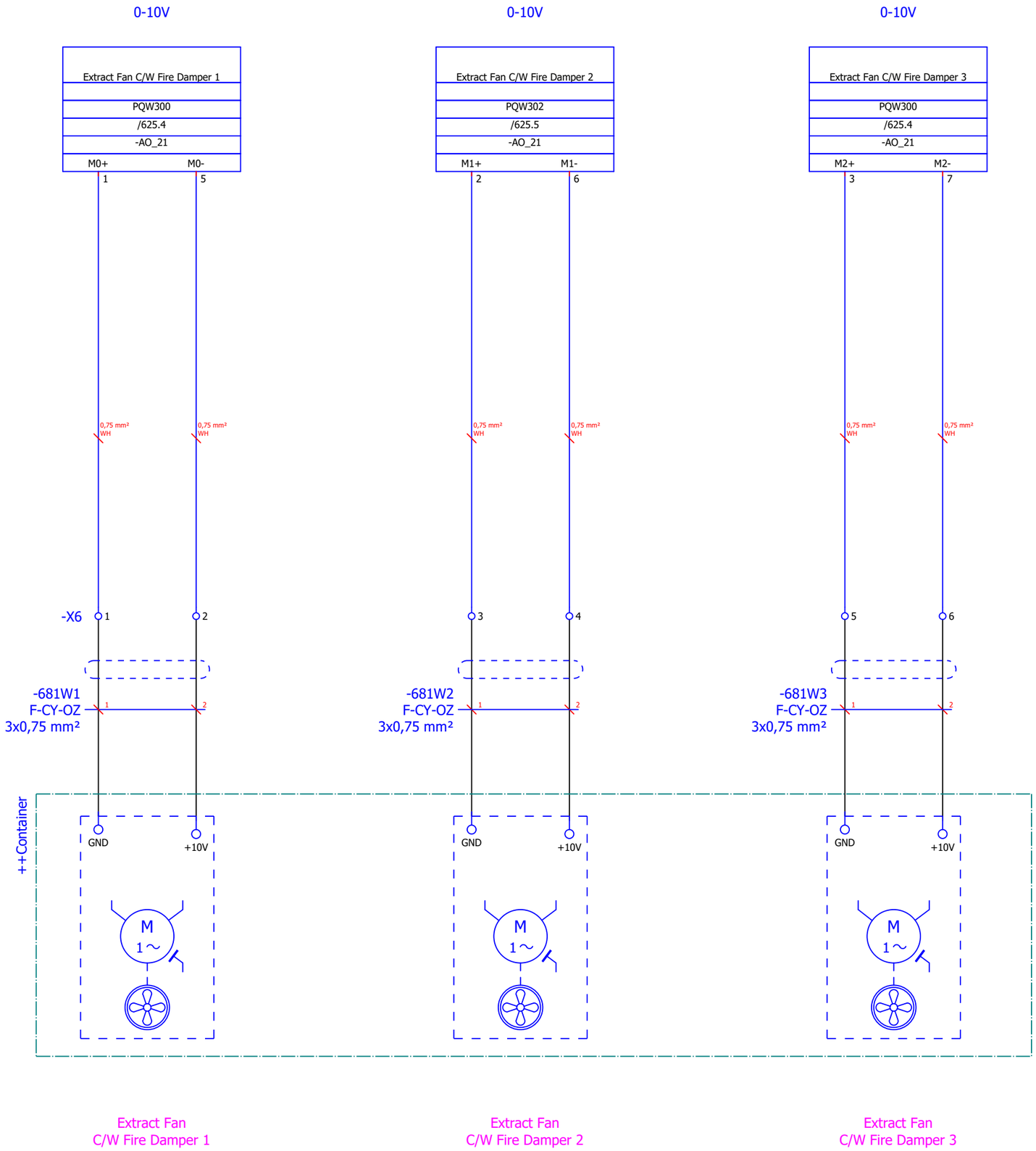
gas concentration BAT 9-11

Gassensor OK BAT 9-11

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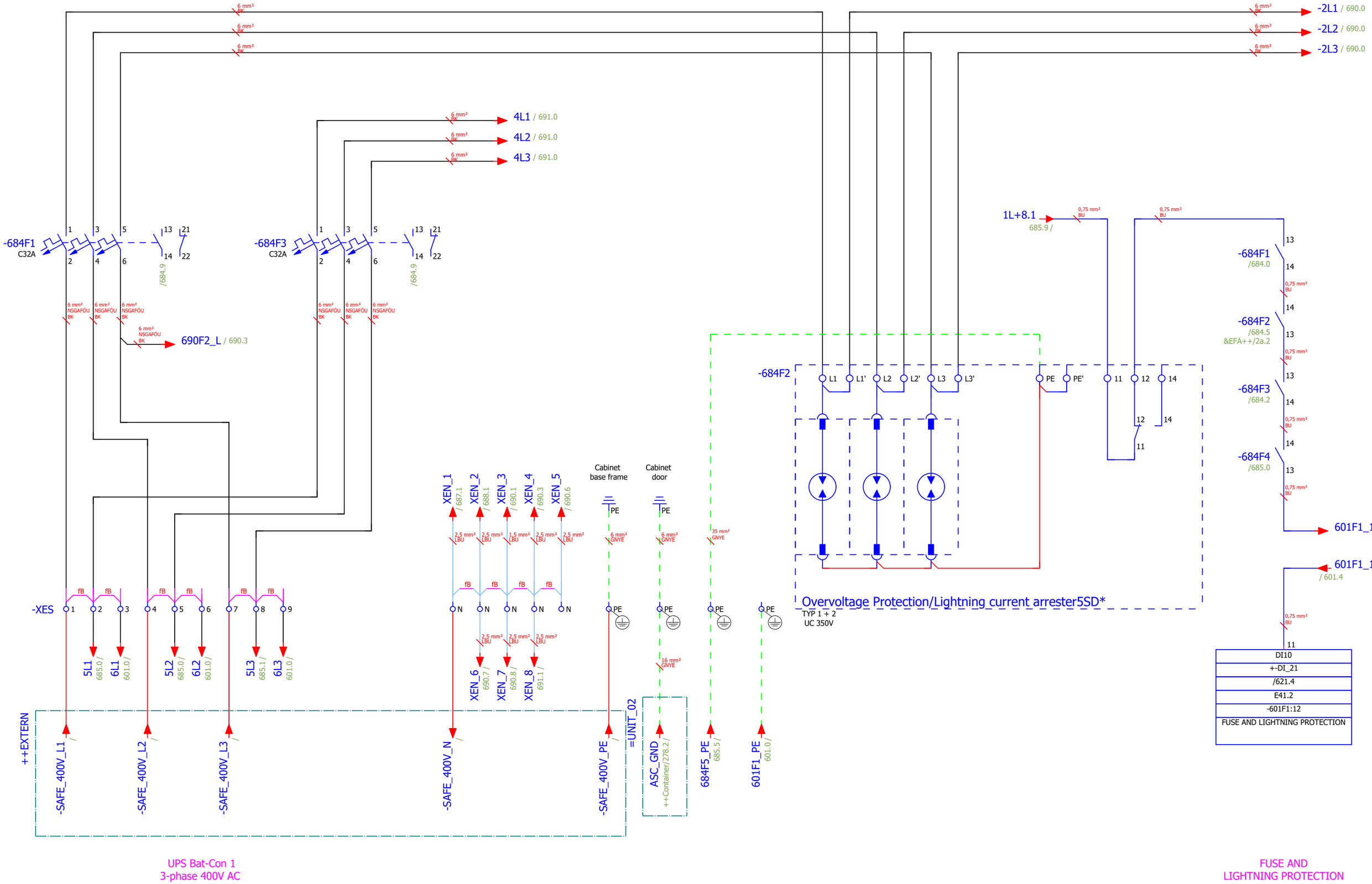
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Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 680c
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	EXTRACT FAN FIRE DAMPER	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	14.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 681
Date								+	total: 498



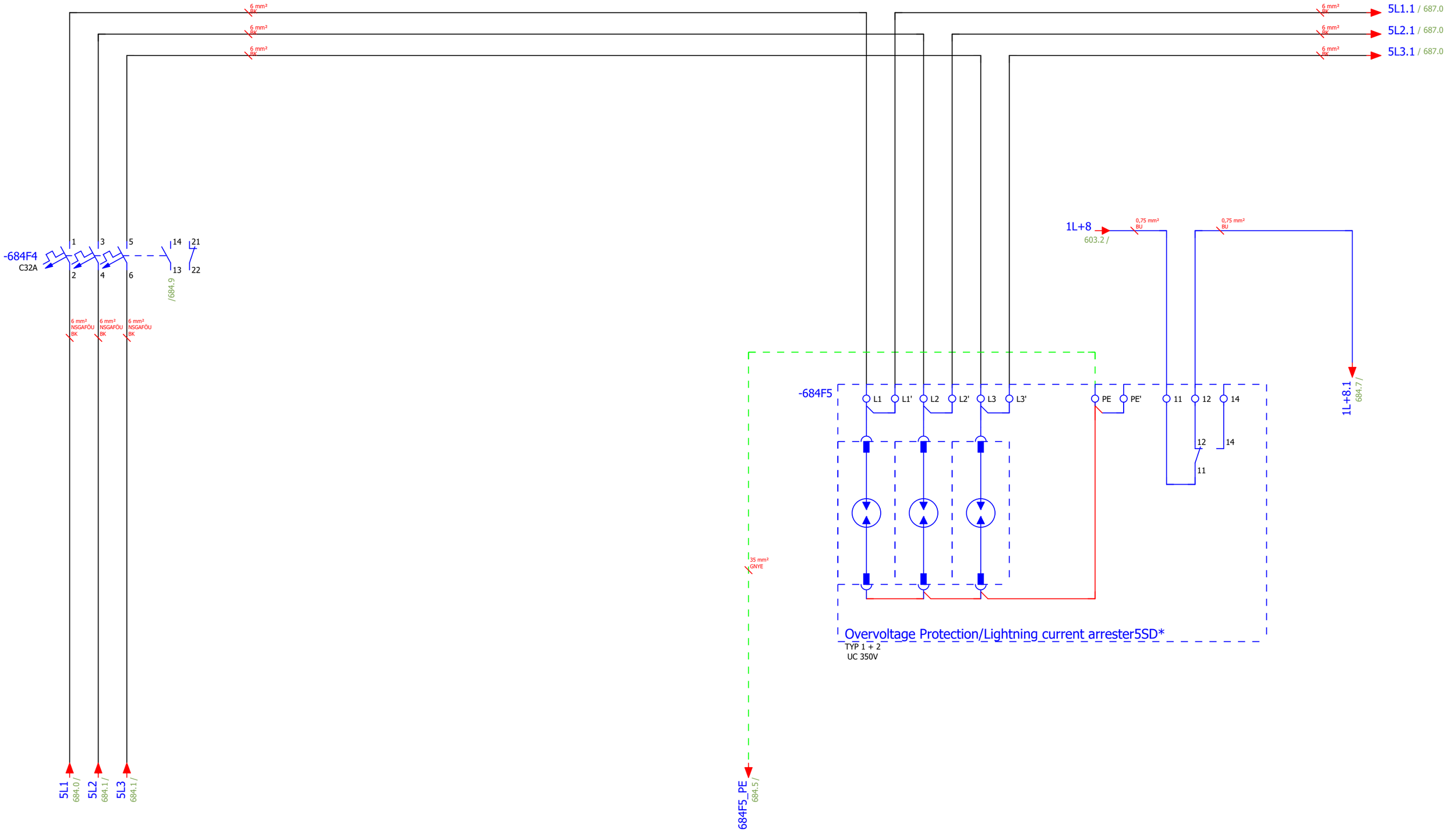
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Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V AC	20241105_V1.2	= UNIT_02	Battery Container 1
Date	05.11.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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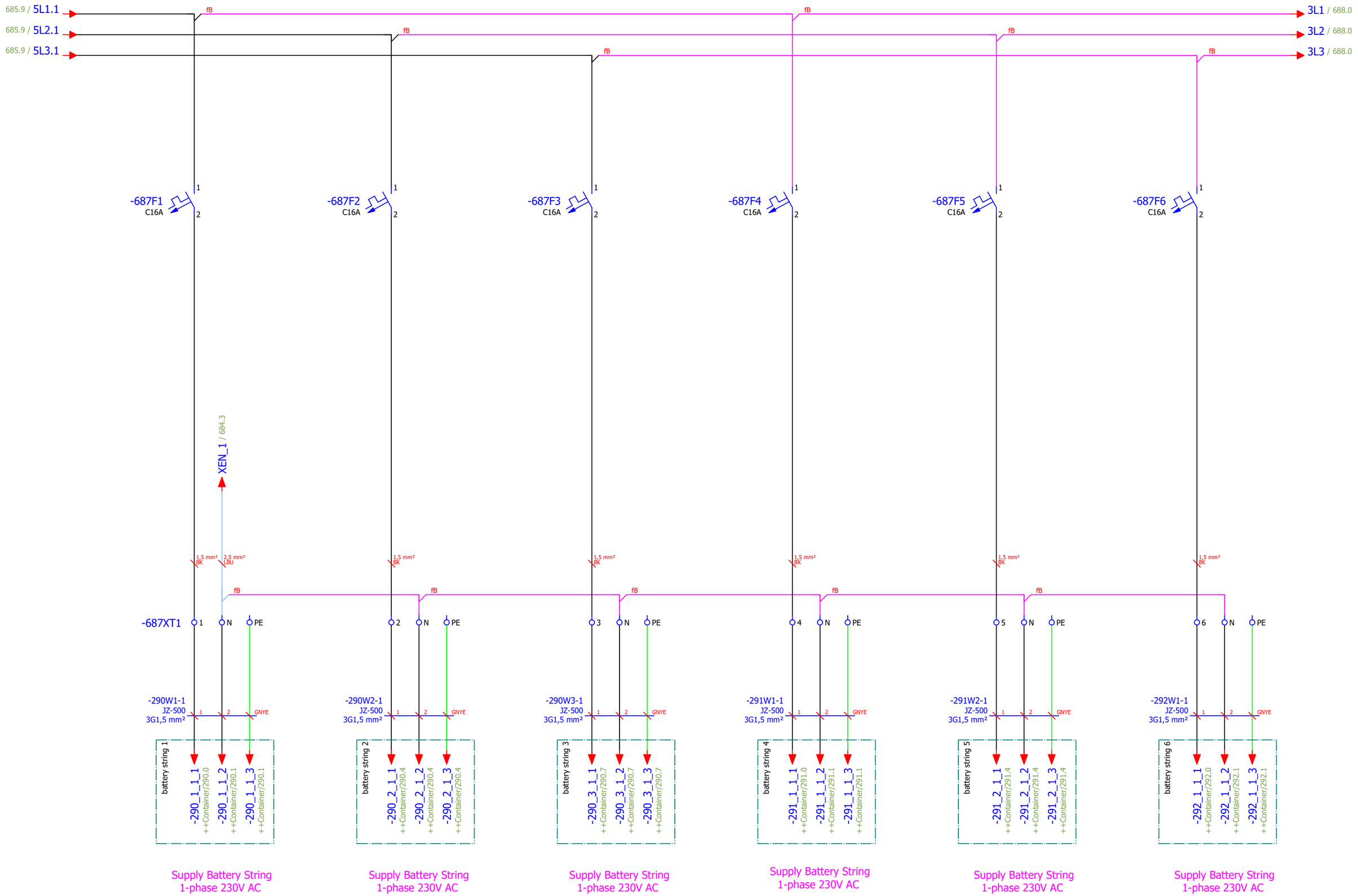
total: 498



FUSE AND
LIGHTNING PROTECTION

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Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V AC	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	05.11.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 685
Date								+	total: 498



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Editor	Freqcon_DG			Statron		AUXILIARY SUPPLY 400V / 230V AC DISTRIBUTION	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	08.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 687
Date								+	total: 498

687.9 / 3L1
687.9 / 3L2
687.9 / 3L3

-688F1 C16A
-688F2 C16A
-688F3 C16A
-688F4 C16A
-688F5 C16A

XEN_2 / 684.3

-687XT1 7 N PE
-687XT1 8 N PE
-687XT1 9 N PE
-687XT1 10 N PE
-687XT1 11 N PE

-292W2-1 JZ-500 3G1,5 mm²
-292W3-1 JZ-500 3G1,5 mm²
-293W1-1 JZ-500 3G1,5 mm²
-293W2-1 JZ-500 3G1,5 mm²
-293W3-1 JZ-500 3G1,5 mm²

battery string 7
-292_2_1_1 ++Container/292.4
-292_2_1_2 ++Container/292.4
-292_2_1_3 ++Container/292.4

battery string 8
-292_3_1_1 ++Container/292.7
-292_3_1_2 ++Container/292.7
-292_3_1_3 ++Container/292.7

battery string 9
-293_1_1_1 ++Container/293.0
-293_1_1_2 ++Container/293.1
-293_1_1_3 ++Container/293.1

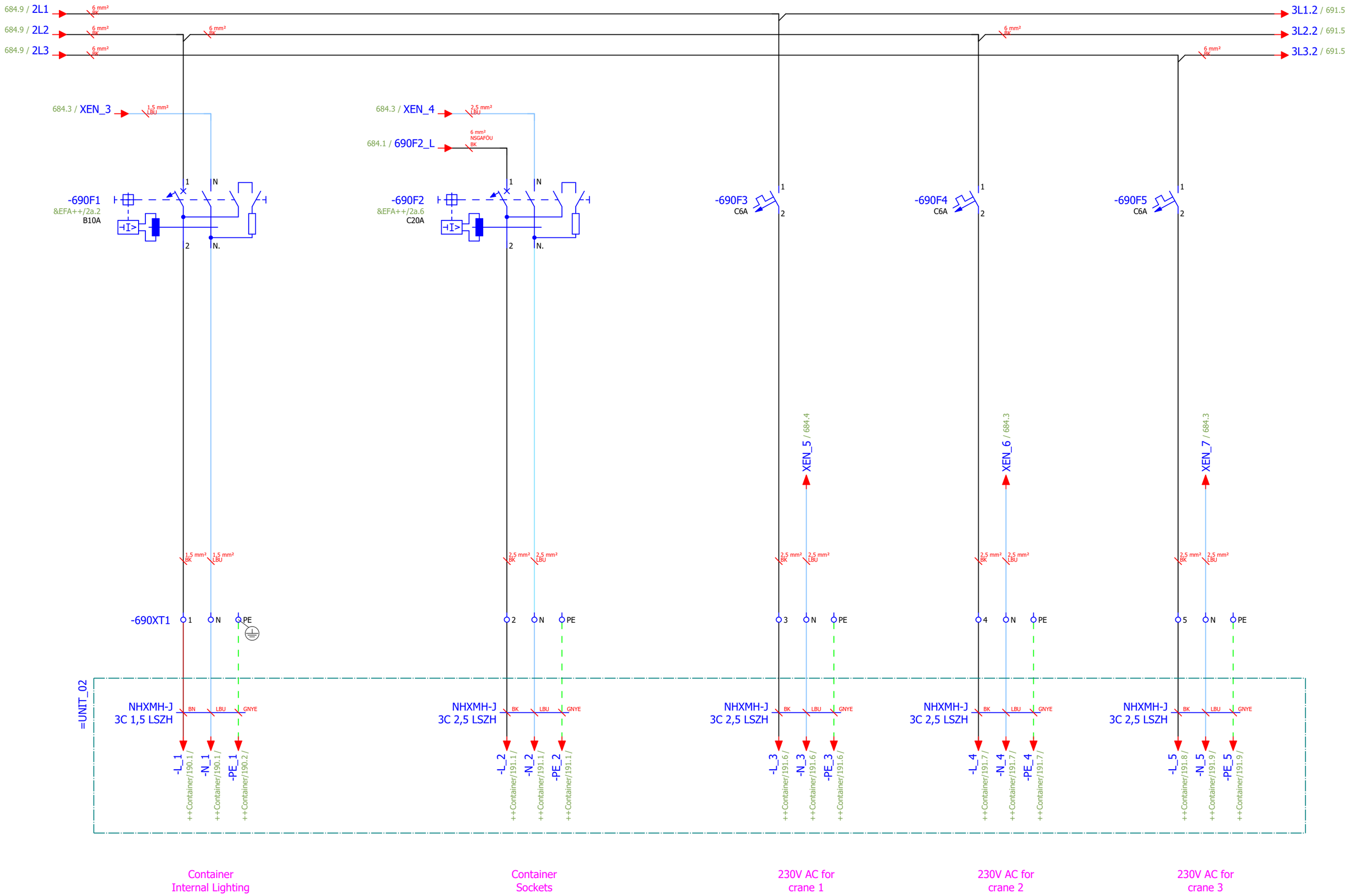
battery string 10
-293_2_1_1 ++Container/293.4
-293_2_1_2 ++Container/293.4
-293_2_1_3 ++Container/293.4

battery string 11
-293_3_1_1 ++Container/293.7
-293_3_1_2 ++Container/293.7
-293_3_1_3 ++Container/293.7

Supply Battery String 1-phase 230V AC
Supply Battery String 1-phase 230V AC
Supply Battery String 1-phase 230V AC
Supply Battery String 1-phase 230V AC
Supply Battery String 1-phase 230V AC

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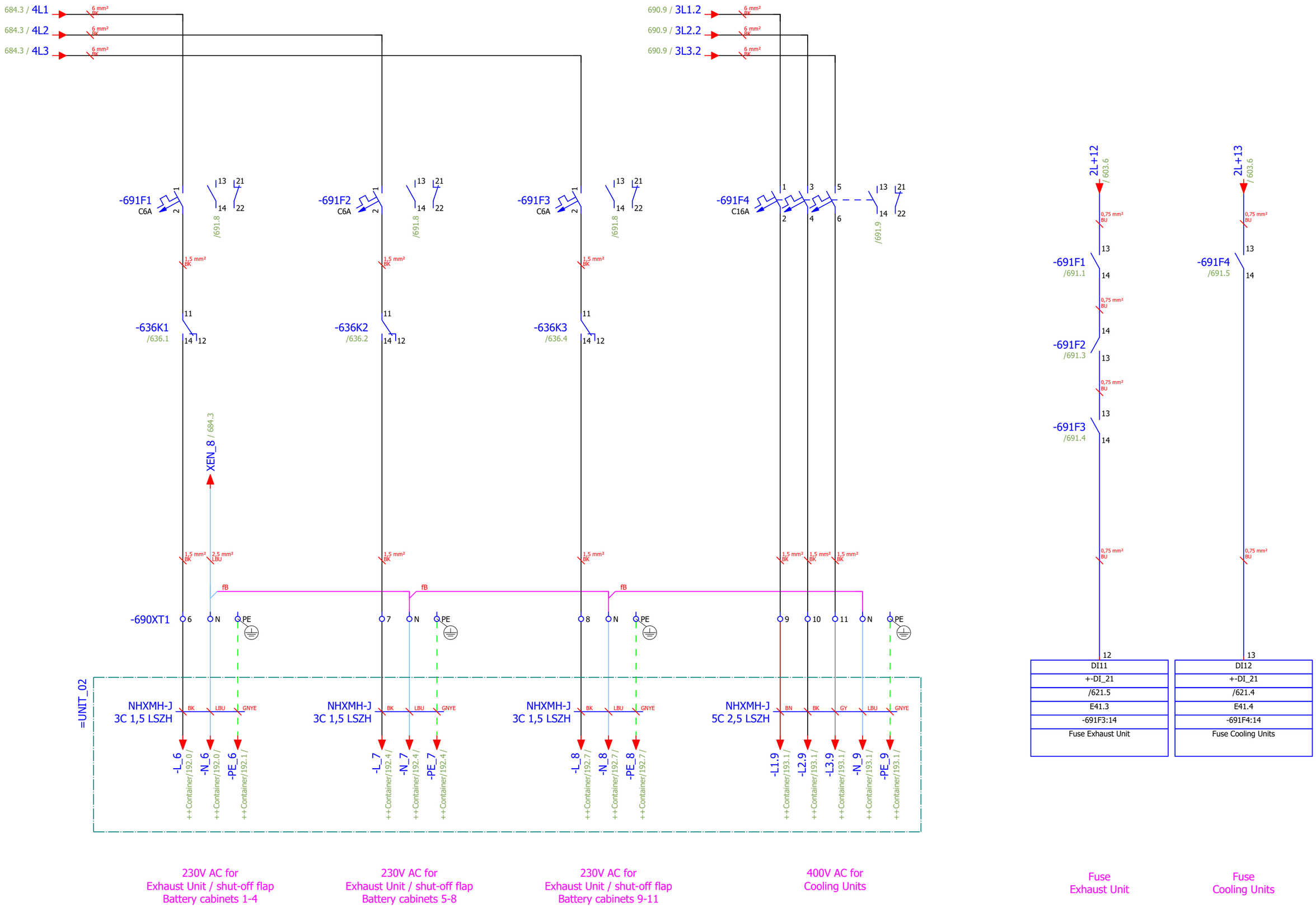
Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V / 230V AC DISTRIBUTION	20241105_V1.2	= UNIT_02 Battery Container 1	
Date	08.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 688
Date								+	total: 498



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Editor	Freqcon_DG			Statron	FREQCON	CONTAINER COOLING / LIGHTNING	20241105_V1.2	= UNIT_02	Battery Container 1	
Date	29.10.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet	page: 690
Date								+		total: 498



230V AC for
Exhaust Unit / shut-off flap
Battery cabinets 1-4

230V AC for
Exhaust Unit / shut-off flap
Battery cabinets 5-8

230V AC for
Exhaust Unit / shut-off flap
Battery cabinets 9-11

400V AC for
Cooling Units

Fuse
Exhaust Unit

Fuse
Cooling Units

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next page: &EPC++Container/1

Editor	Freqcon_DG			Statron	FREQCON	CONTAINER COOLING / LIGHTNING	20241105_V1.2	= UNIT_02	Battery Container 1	
Date	05.11.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet	page: 691
Date								+		total: 498

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-680U1 &EFS++ASC/680a.1	1	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321	
-680U2 &EFS++ASC/680b.1	1	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321	
-680U3 &EFS++ASC/680c.1	1	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321	

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&EFS++ASC/691

next page:
++ASC/1

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-101Q1 &EFA++/2a.7;&EFS/601.5	2	CIRCUIT-BREAKER SPRING-L. CONN. 3.2A	3RV2011-1DA25	Siemens	501432	
-101T1 &EFS/601.5	1	Power supply QUINT-PS/3AC/24DC/20/CO, with protective coating	2320924	Phoenix Contact	501573	
-102G1 &EFS/602.2	1	Uninterruptible power supply QUINT-UPS/ 24DC/ 24DC/20	2320238	Phoenix Contact	501598	
-102G2 &EFS/602.6	1	Energy storage UPS-BAT/VRLA/24DC/12AH	2320322	Phoenix Contact	501229	
-103F1 &EFS/603.2	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	
-103F2 &EFS/603.5	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	
-369XT &EFS/669.5...&EFS/669.8;&EFS/670.5...&EFS/670.8	12	Multi-level terminal block	3210583	Phoenix Contact	501385	
-369XT &EFS/669.5;&EFS/669.7;&EFS/670.5;&EFS/670.7	4	Plug-in bridge FBS 10-5	3030213	Phoenix Contact	500547	
-369XT &EFS/669.5	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-601F1 &EFS/601.1	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-611A1 &EFS/611.0	1	TREE 16 TX Metall 2GE 14 FE - Unmanaged Gigabit Switch - 16 Ports/	58174	Murrelektronik	10286	
-613T1 &EFS/613.1	1	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464	
-613T1 &EFS/613.1	1	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395	
-613U1 &EFS/613.3	1	Surge protection device	2881007	Phoenix Contact	504791	
-613U2 &EFS/613.5	1	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214	
-620A1 &EFS/620.1	1	SIMATIC ET 200SP, PROFINET Interface-Module, IM 155-6 PN ST, bundle of Server module + Busadapter	6ES7155-6AA01-0BN0	Siemens	501554	
-636K1 &EFS/636.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-636K1 &EFS/636.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-636K2 &EFS/636.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-636K2 &EFS/636.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-636K3 &EFS/636.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-636K3 &EFS/636.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-680K1 &EFS/680a.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-680K2 &EFS/680b.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-680K3 &EFS/680c.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-684F1 &EFS/684.0	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	
-684F1 &EFS/684.0	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-684F2 &EFS/684.5	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-684F3 &EFS/684.2	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	
-684F3 &EFS/684.2	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-684F4 &EFS/685.0	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	
-684F4 &EFS/685.0	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-684F5 &EFS/685.5	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-687F1 &EFS/687.1	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F1 &EFS/687.1	1	PIN BUS BAR SHOCKHAZARD SAFETY, 16QMM 3 PHASE+HS	5ST3712	Siemens	10274	
-687F1 &EFS/687.1	2	End cap for pin busbars 2 - 3-phase	5ST3750	Siemens	503570	
-687F2 &EFS/687.3	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F3 &EFS/687.4	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-687F4 &EFS/687.5	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F5 &EFS/687.7	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F6 &EFS/687.8	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687XT1 &EFS/687.1;&EFS/687.2;...&EFS/687.5;&EFS/687.7;&EFS/687.8;&EFS/688.1;&EFS/688.3;...&EFS/688.5;&EFS/688.7	11	Feed-through terminal block	3209510	Phoenix Contact	500583	
-687XT1 &EFS/687.1	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-687XT1 &EFS/687.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-687XT1 &EFS/687.1;&EFS/687.3;&EFS/687.4;&EFS/687A...&EFS/687.8;&EFS/688.1;&EFS/688.3;&EFS/688.4;&EFS/688.6;&EFS/688.7	11	Feed-through terminal block	3209523	Phoenix Contact	500584	
-687XT1 &EFS/687.1	1	Plug-in bridge FBS 10-5	3030213	Phoenix Contact	500547	
-687XT1 &EFS/688.1	1	Plug-in bridge FBS 5-5	3030190	Phoenix Contact	500545	
-687XT1 &EFS/687.2;...&EFS/687.4;&EFS/687.6;&EFS/687.7;&EFS/687.8;&EFS/688.2;...&EFS/688.4;&EFS/688.6;&EFS/688.7	11	Ground terminal block	3209536	Phoenix Contact	500813	
-688F1 &EFS/688.1	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F2 &EFS/688.3	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F3 &EFS/688.4	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F4 &EFS/688.5	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F5 &EFS/688.7	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-690F1 &EFS/690.1	1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, B-char, In: 10 A, Un AC: 230 V	5SU1354-6KK10	Siemens	10440	
-690F2 &EFS/690.3	1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, C-char, In: 20 A, Un AC: 230 V	5SU1354-7KK20	Siemens	10441	
-690F3 &EFS/690.5	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-690F4 &EFS/690.7	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-690F5 &EFS/690.8	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	35	Feed-through terminal block	3209510	Phoenix Contact	500583	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	35	Feed-through terminal block	3209523	Phoenix Contact	500584	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	35	Ground terminal block	3209536	Phoenix Contact	500813	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	7	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	14	End bracket for terminal block	3022276	Phoenix Contact	500588	
-691F1 &EFS/691.1	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-691F1 &EFS/691.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-691F2 &EFS/691.3	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-691F2 &EFS/691.3	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-691F3 &EFS/691.4	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-691F3 &EFS/691.4	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-691F4 &EFS/691.5	1	CIRCUIT BREAKER 10KA 3POL C16	5SY4316-7	Siemens	503340	X
-691F4 &EFS/691.5	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-AI_21 &EFS/620.3	1	ET 200SP, AI 4XU/I 2-WIRE ST, PU 1	6ES7134-6HD01-0BA1	Siemens	505054	
-AI_21 &EFS/620.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-AO_21 &EFS/620.4	1	AQ 4XU/I ST	6ES7135-6HD00-0BA1	Siemens	504291	
-AO_21 &EFS/620.4	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-DI_21 &EFS/620.3	1	SIMATIC ET 200SP DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens	500788	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-DI_21 &EFS/620.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-DO_21 &EFS/620.3	1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397	
-DO_21 &EFS/620.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-X5.1 &EFS/680a.2...&EFS/680a.5	10	Feed-through terminal block	3209510	Phoenix Contact	500583	
-X5.1 &EFS/680a.2	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X5.1 &EFS/680a.2	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X5.1 &EFS/680a.2	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-X5.1 &EFS/680a.2;&EFS/680a.6	2	Ground terminal block	3209536	Phoenix Contact	500813	
-X5.2 &EFS/680b.2...&EFS/680b.5	10	Feed-through terminal block	3209510	Phoenix Contact	500583	
-X5.2 &EFS/680b.2	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X5.2 &EFS/680b.2	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X5.2 &EFS/680b.2	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-X5.2 &EFS/680b.2;&EFS/680b.6	2	Ground terminal block	3209536	Phoenix Contact	500813	
-X5.3 &EFS/680c.2...&EFS/680c.5	10	Feed-through terminal block	3209510	Phoenix Contact	500583	
-X5.3 &EFS/680c.2	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X5.3 &EFS/680c.2	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X5.3 &EFS/680c.2	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-X5.3 &EFS/680c.2;&EFS/680c.6	2	Ground terminal block	3209536	Phoenix Contact	500813	
-X6 &EFS/681.1;&EFS/681.3;&EFS/681.5	6	Feed-through terminal block	3209510	Phoenix Contact	500583	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-X6 &EFS/681.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X6 &EFS/681.1	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X6 &EFS/681.1	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-XDC1 &EFS/603.2;&EFS/603.3	6	Multi-level terminal block	3210583	Phoenix Contact	501385	
-XDC1 &EFS/603.2;&EFS/603.3	2	Plug-in bridge FBS 3-5	3030174	Phoenix Contact	503103	
-XDC1 &EFS/603.2	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XDC1 &EFS/603.2	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	
-XDC1 &EFS/603.4	2	Protective conductor double-level terminal block Push-in PTTB 2,5-PE	3210596	Phoenix Contact	501389	
-XDC2 &EFS/603.5...&EFS/603.7	7	Multi-level terminal block	3210583	Phoenix Contact	501385	
-XDC2 &EFS/603.5	1	Plug-in bridge FBS 4-5	3030187	Phoenix Contact	500801	
-XDC2 &EFS/603.5	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XDC2 &EFS/603.5	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	
-XDC2 &EFS/603.6	1	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	
-XDC2 &EFS/603.6	1	Plug-in bridge FBS 3-5	3030174	Phoenix Contact	503103	
-XES &EFS/684.0...&EFS/684.2	9	Feed-through terminal block Push-in PT 6	3211813	Phoenix Contact	501388	
-XES &EFS/684.0;&EFS/684.1	4	Plug-in bridge FBS 2-8	3030284	Phoenix Contact	502068	
-XES &EFS/684.0	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XES &EFS/684.0	1	End and partition plate for terminal block	3212044	Phoenix Contact	500503	
-XES &EFS/684.3;&EFS/684.4	5	Feed-through terminal block Push-in PT 6 BU	3211819	Phoenix Contact	500585	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-XES &EFS/684.3	1	Plug-in bridge FBS 5-8	3030310	Phoenix Contact	504375	
-XES &EFS/684.4;&EFS/684.5	4	Ground modular terminal block Push-in PT 6-PE	3211822	Phoenix Contact	500725	

Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
3	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321

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Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	TREE 16 TX Metall 2GE 14 FE - Unmanaged Gigabit Switch - 16 Ports/	58174	Murrelektronik	10286
1	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464
1	Uninterruptible power supply QUINT-UPS/ 24DC/ 24DC/20	2320238	Phoenix Contact	501598
1	Energy storage UPS-BAT/VRLA/24DC/12AH	2320322	Phoenix Contact	501229
1	Power supply QUINT-PS/3AC/24DC/20/CO, with protective coating	2320924	Phoenix Contact	501573
1	Surge protection device	2881007	Phoenix Contact	504791
1	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214
6	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726
3	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803
1	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395
2	CIRCUIT-BREAKER SPRING-L. CONN. 3.2A	3RV2011-1DA25	Siemens	501432
3	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070
7	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737
1	PIN BUS BAR SHOCKHAZARD SAFETY, 16QMM 3 PHASE+HS	5ST3712	Siemens	10274
2	End cap for pin busbars 2 - 3-phase	5ST3750	Siemens	503570
1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, B-char, In: 10 A, Un AC: 230 V	5SU1354-6KK10	Siemens	10440
1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, C-char, In: 20 A, Un AC: 230 V	5SU1354-7KK20	Siemens	10441
2	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086

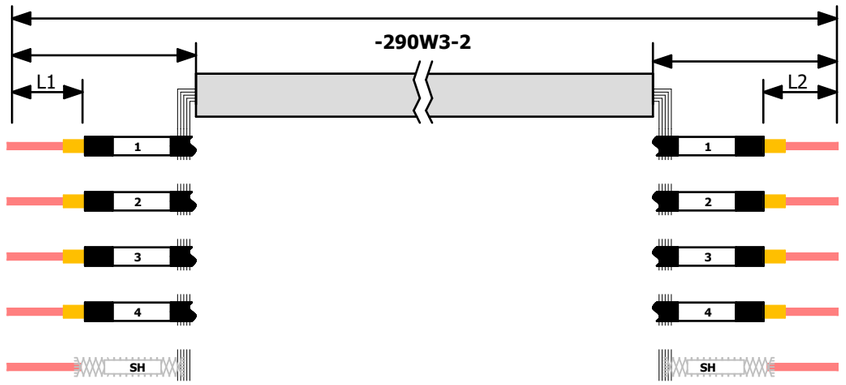
Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
6	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682
11	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569
3	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272
1	SIMATIC ET 200SP DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens	500788
1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397
1	ET 200SP, AI 4XU/I 2-WIRE ST, PU 1	6ES7134-6HD01-0BA1	Siemens	505054
1	AQ 4XU/I ST	6ES7135-6HD00-0BA1	Siemens	504291
1	SIMATIC ET 200SP, PROFINET Interface-Module, IM 155-6 PN ST, bundle of Server module + Busadapter	6ES7155-6AA01-0BN0	Siemens	501554
4	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786

Cable name =UNIT_02++Container+-290W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

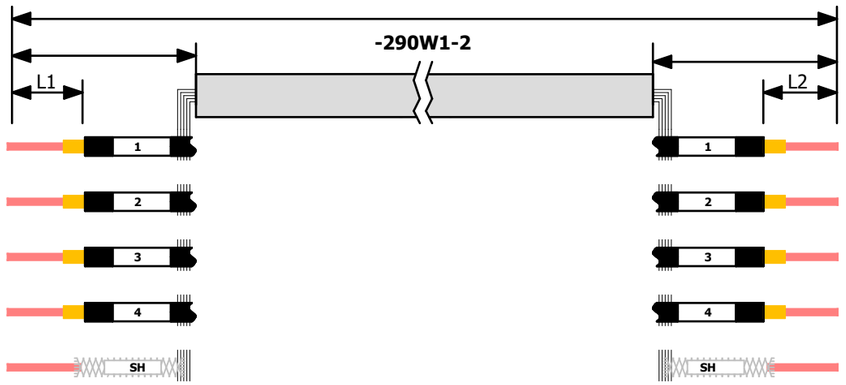


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:7	
			++ASC-369XT:10	
			++ASC-369XT:1	
			++ASC-369XT:4	

Cable name =UNIT_02++Container+-290W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

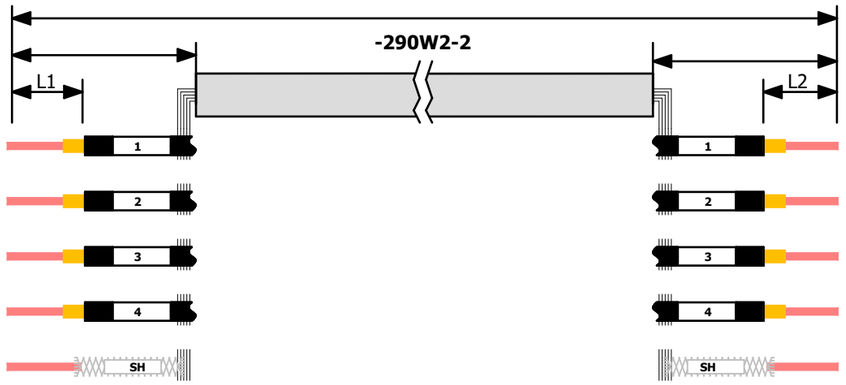


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:7	
			++ASC-369XT:10	
			++ASC-369XT:1	
			++ASC-369XT:4	

Cable name =UNIT_02++Container+-290W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:7	
			++ASC-369XT:10	
			++ASC-369XT:1	
			++ASC-369XT:4	

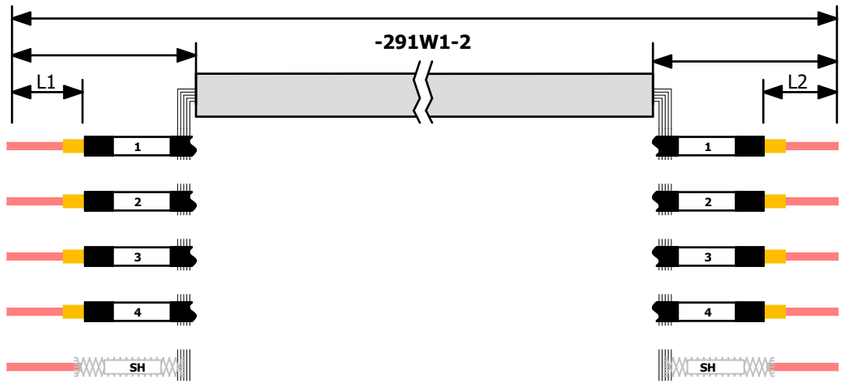
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2

FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_02++Container+-291W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

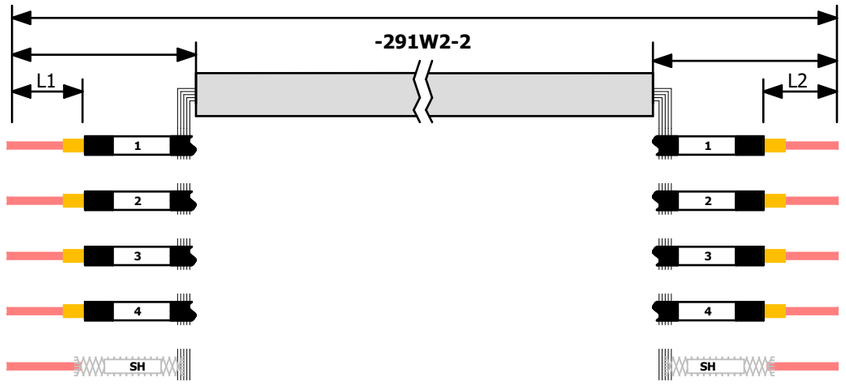


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

Cable name =UNIT_02++Container+-291W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

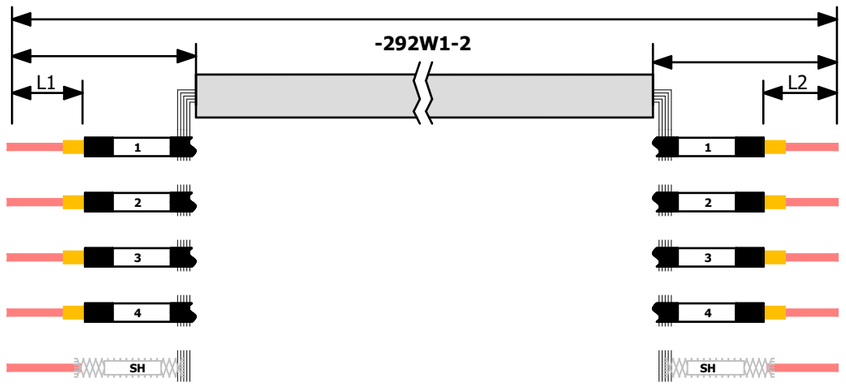


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

Cable name =UNIT_02++Container+-292W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

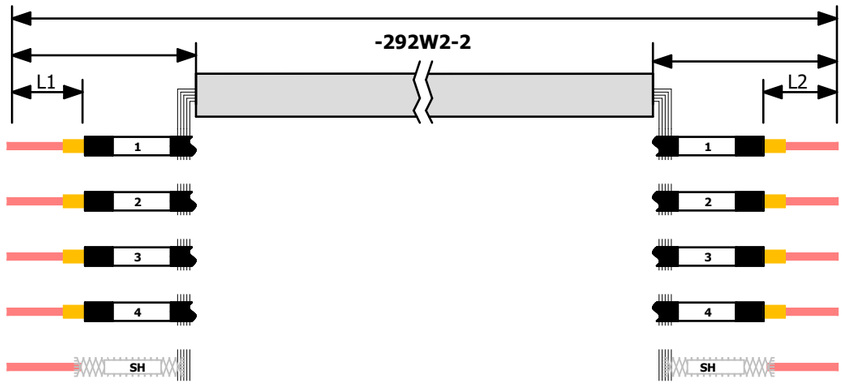
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++Container+-292W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

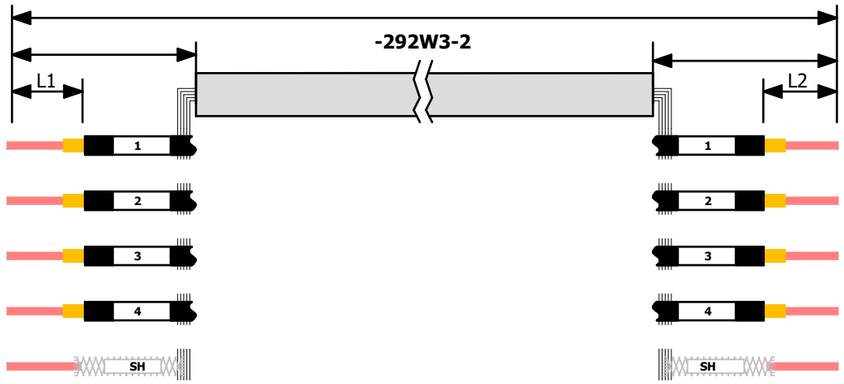


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

Cable name =UNIT_02++Container+-292W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

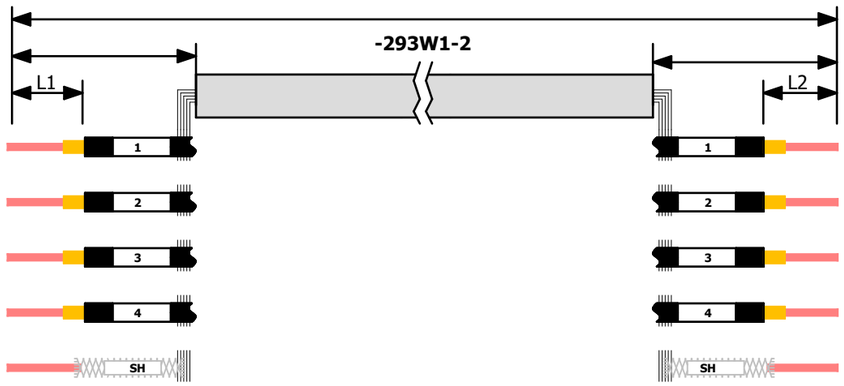


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

Cable name =UNIT_02++Container+-293W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

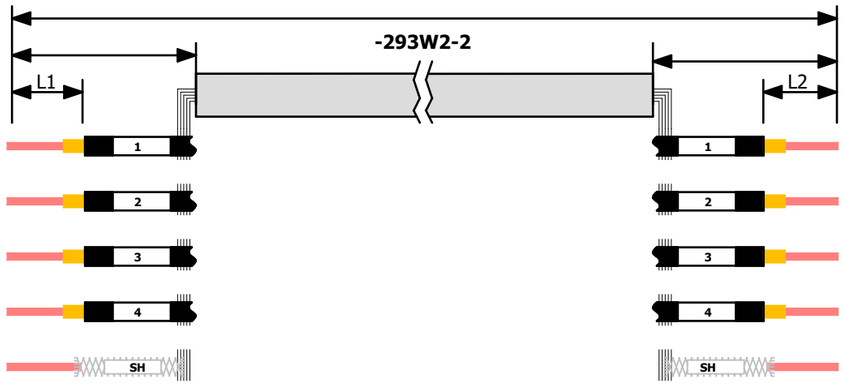
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++Container+-293W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

Cable name =UNIT_02++Container+-293W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

Cable name =UNIT_02++Container+-290W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

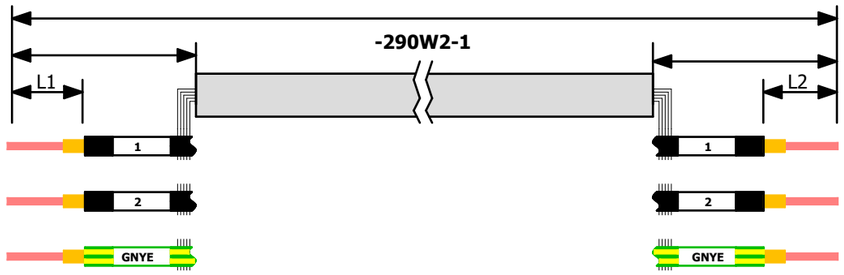
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:1	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++Container+-290W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:2	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-290W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

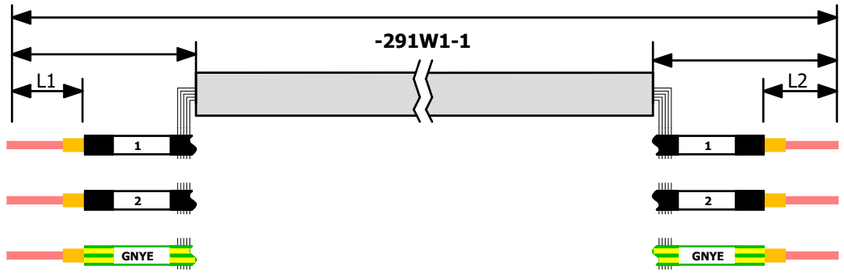


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:3	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-291W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

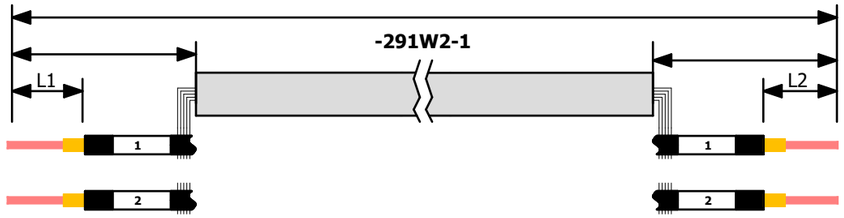


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:4	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-291W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			

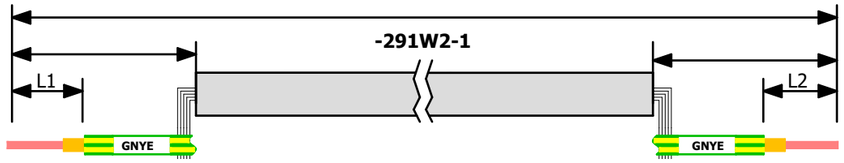
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:5	
			++ASC-687XT1:N	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++Container+-291W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

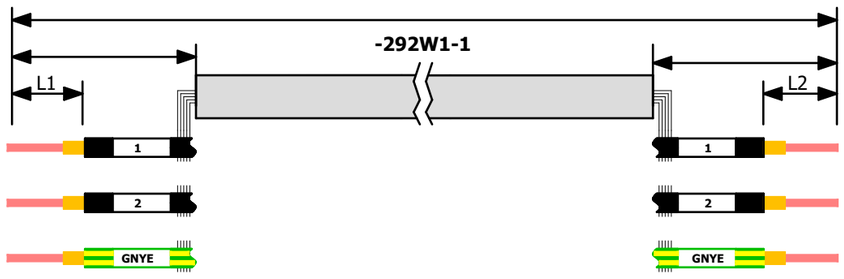


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-292W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

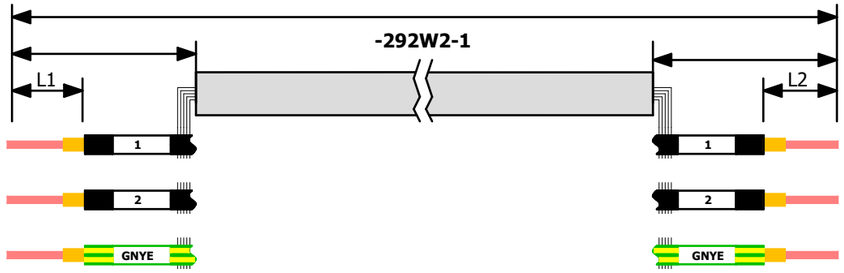


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:6	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-292W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

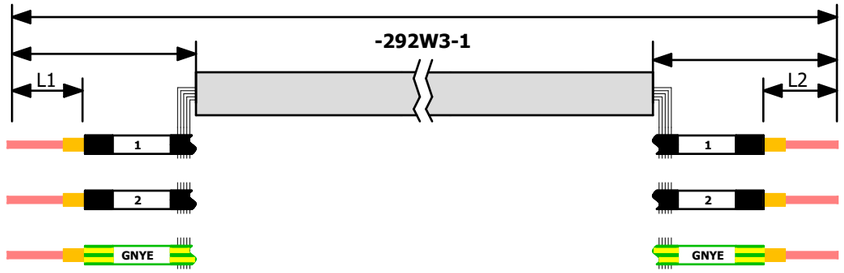


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:7	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-292W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

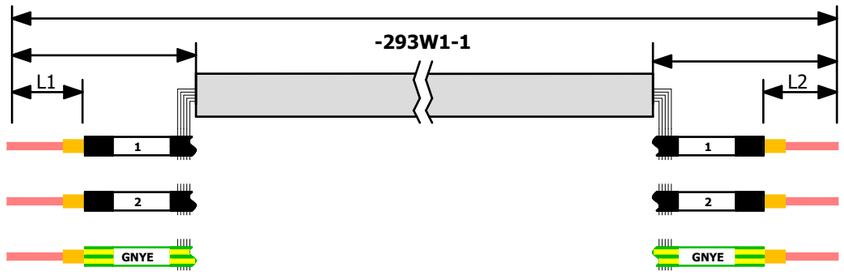
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:8	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++Container+-293W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:9	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-293W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

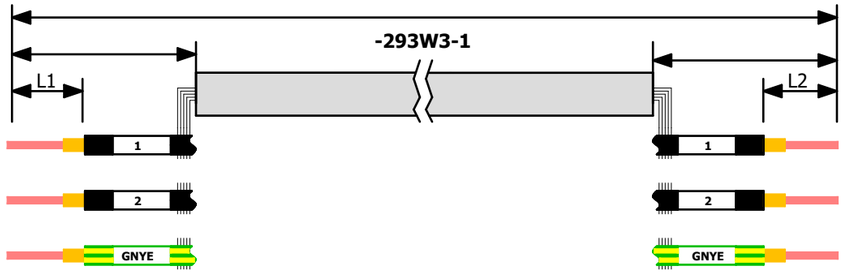


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:10	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-293W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

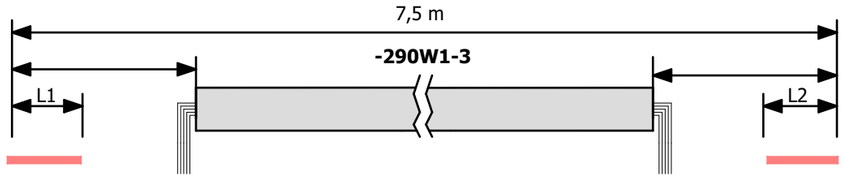


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:11	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_02++Container+-290W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

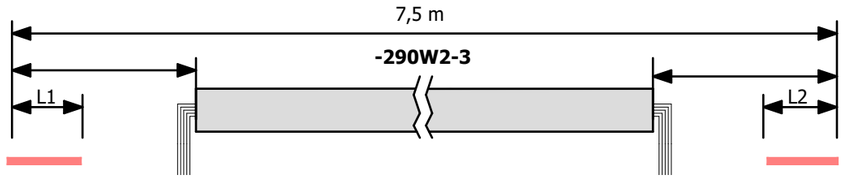
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X1:1-16	

previous page: 6
next page: 8

FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++Container+-290W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

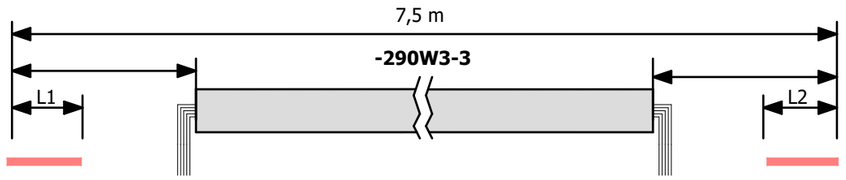


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X2:1-16	

Cable name =UNIT_02++Container+-290W3-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

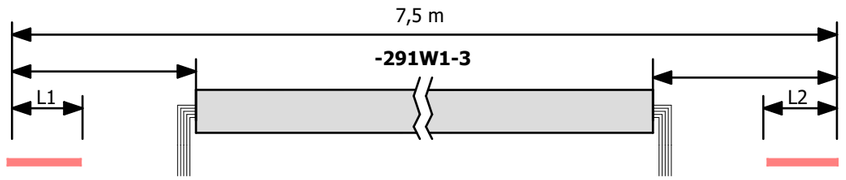


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X3:1-16	

Cable name =UNIT_02++Container+-291W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

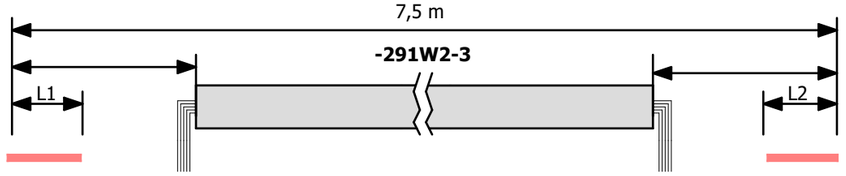


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X4:1-16	

Cable name =UNIT_02++Container+-291W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

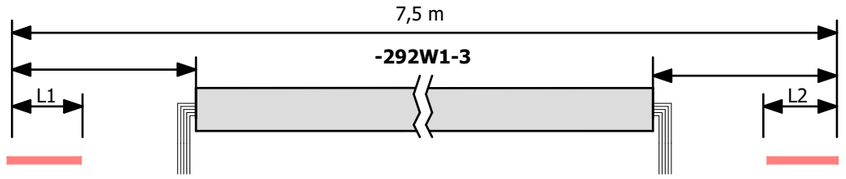


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X5:1-16	

Cable name =UNIT_02++Container+-292W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

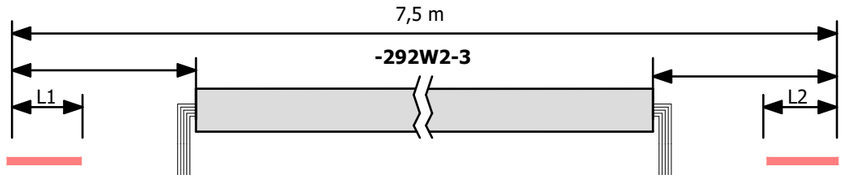
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X6:1-16	

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_02	Battery Container 1
Date	05.11.2024							& EMB	Cable list
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 8
Date								+	total: 498

FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_02++Container+-292W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

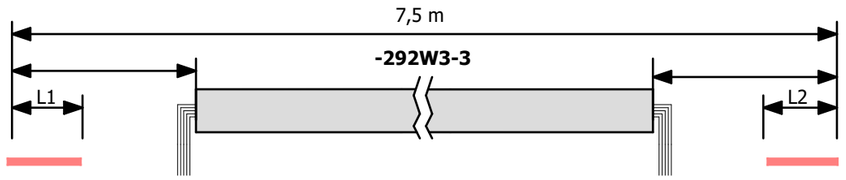


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X7:1-16	

Cable name =UNIT_02++Container+-292W3-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

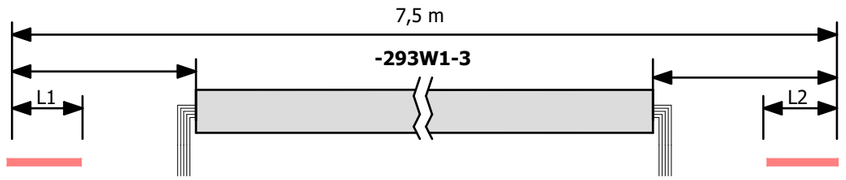


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X8:1-16	

Cable name =UNIT_02++Container+-293W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

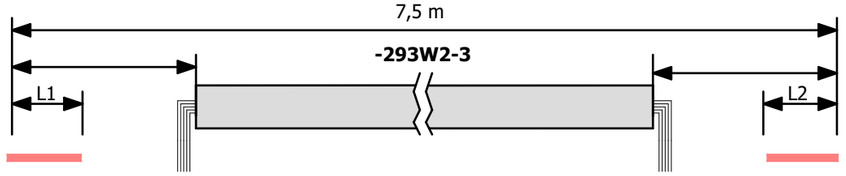


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X9:1-16	

Cable name =UNIT_02++Container+-293W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

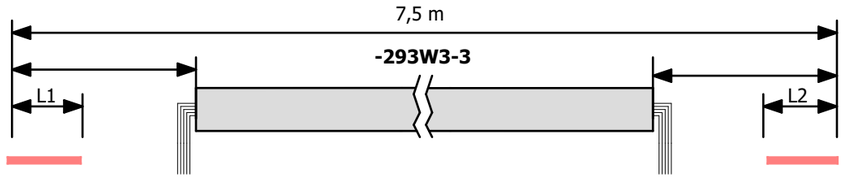


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X2:1-16	

Cable name =UNIT_02++Container+-293W3-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

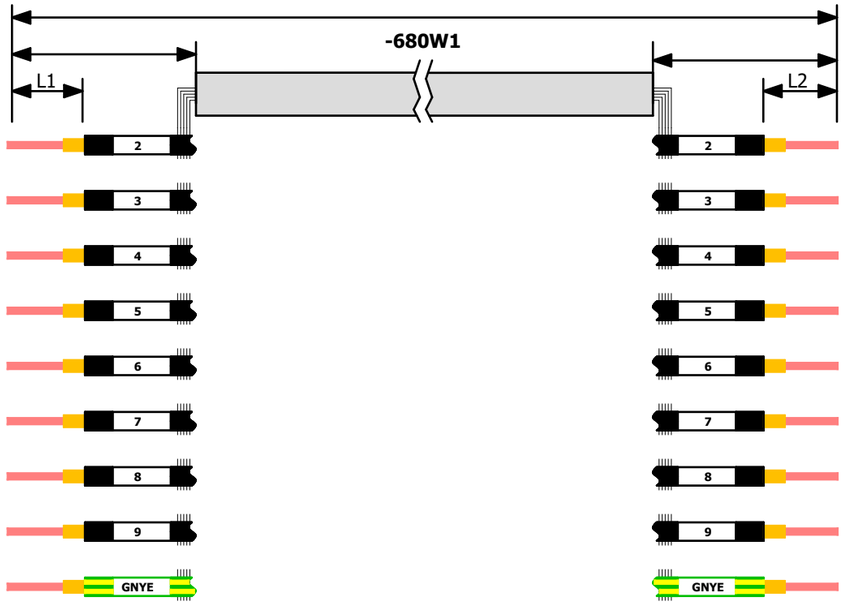
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X3:1-16	

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next page: ++ASC/1

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Cable name =UNIT_02++ASC+-680W1
Cable type F-CY-JZ 10G0,75 mm²
Free conductors

Cable parts
Order number

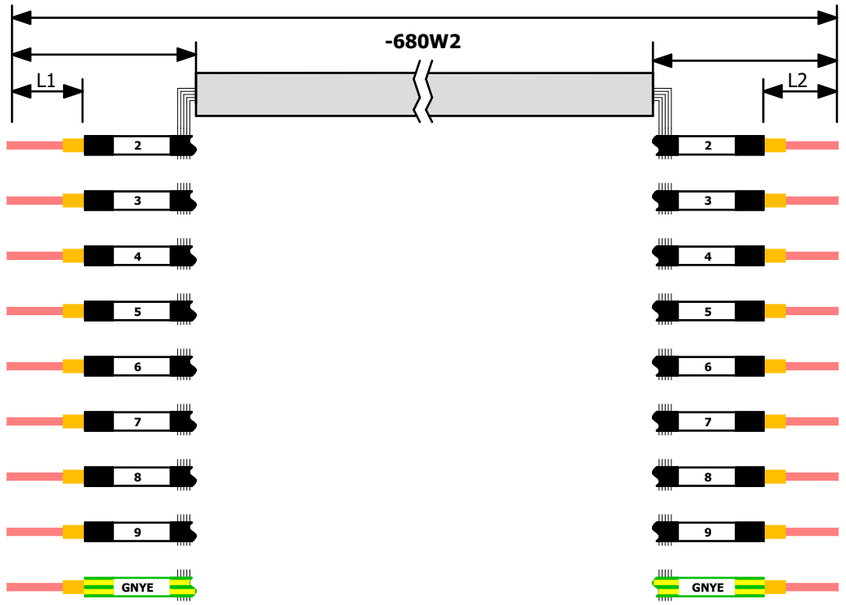


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-X5.1:2	gas concentration BAT 1-4		
	-X5.1:3	=		
	-X5.1:5	=		
	-X5.1:6	=		
	-X5.1:7	=		
	-X5.1:8	=		
	-X5.1:9	=		
	-X5.1:10	=		
	-X5.1:PE	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		gas concentration	++Container-680U1-X1:2	
		=	++Container-680U1-X1:4	
		=	++Container-680U1-X2:1	
		=	++Container-680U1-X2:2	
		=	++Container-680U1-X2:4	
		=	++Container-680U1-X2:5	
		=	++Container-680U1-X2:7	
		=	++Container-680U1-X2:8	
		=	++Container-680U1-X1:5	

Cable name =UNIT_02++ASC+-680W2
Cable type F-CY-JZ 10G0,75 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-X5.2:2	gas concentration BAT 5-8		
	-X5.2:3	=		
	-X5.2:5	=		
	-X5.2:6	=		
	-X5.2:7	=		
	-X5.2:8	=		
	-X5.2:9	=		
	-X5.2:10	=		
	-X5.2:PE	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		gas concentration	++Container-680U2-X1:2	
		=	++Container-680U2-X1:4	
		=	++Container-680U2-X2:1	
		=	++Container-680U2-X2:2	
		=	++Container-680U2-X2:4	
		=	++Container-680U2-X2:5	
		=	++Container-680U2-X2:7	
		=	++Container-680U2-X2:8	
		=	++Container-680U2-X1:5	

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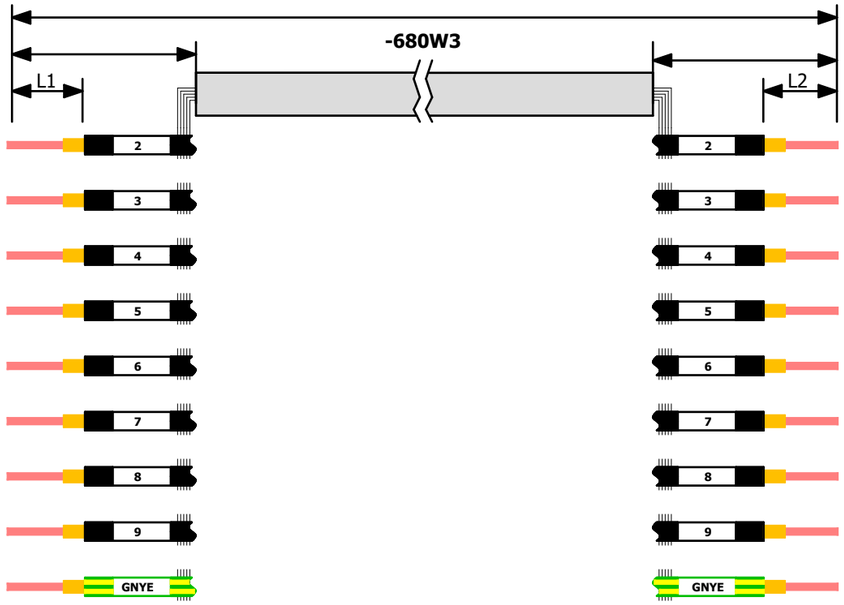
previous page:
++Container/9

next page:
2

Cable name =UNIT_02++ASC+-680W3
Cable type F-CY-JZ 10G0,75 mm²
Free conductors 9

Cable parts
Order number

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-X5.3:2	gas concentration BAT 9-11		
	-X5.3:3	=		
	-X5.3:5	=		
	-X5.3:6	=		
	-X5.3:7	=		
	-X5.3:8	=		
	-X5.3:9	=		
	-X5.3:10	=		
	-X5.3:PE	=		

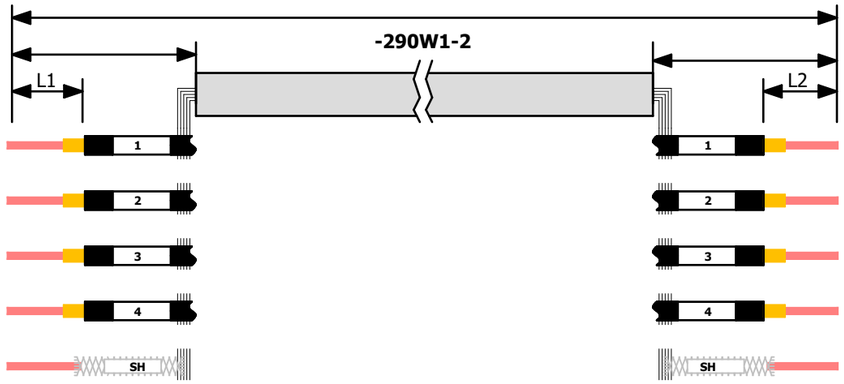


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		gas concentration	++Container-680U3-X1:2	
		=	++Container-680U3-X1:4	
		=	++Container-680U3-X2:1	
		=	++Container-680U3-X2:2	
		=	++Container-680U3-X2:4	
		=	++Container-680U3-X2:5	
		=	++Container-680U3-X2:7	
		=	++Container-680U3-X2:8	
		=	++Container-680U3-X1:5	

Cable name =UNIT_02++ASC+-290W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]

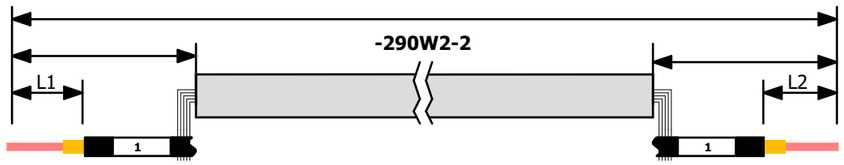


L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-290W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]



L2 [mm]	wire end handling	Function text target	Target	Mounting location:

previous page: 1
next page: 3

FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_02++ASC+-290W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]

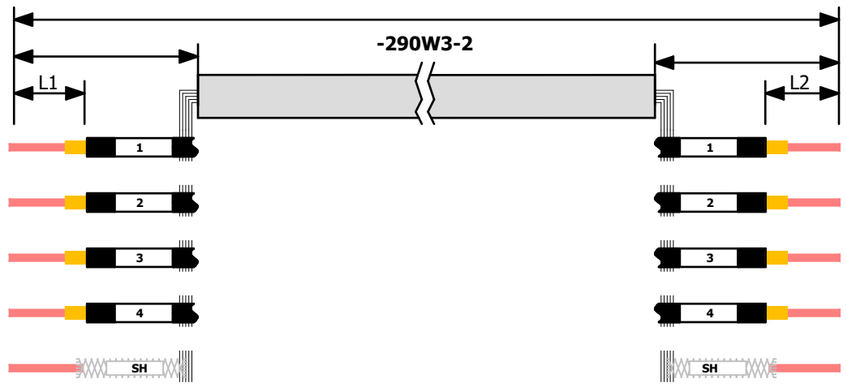


L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-290W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]

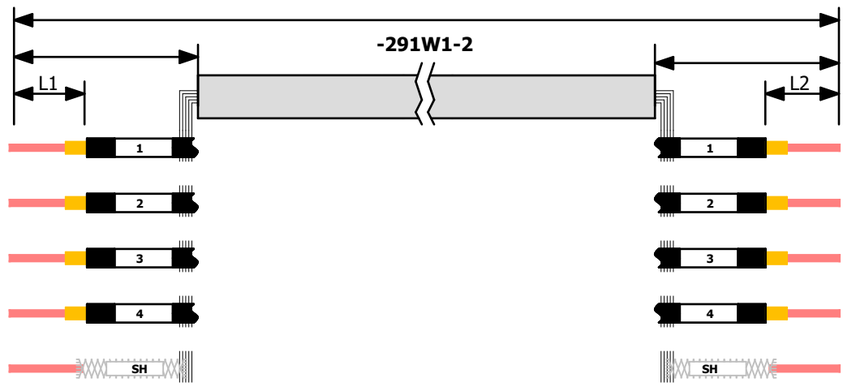


L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-291W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]



L2 [mm]	wire end handling	Function text target	Target	Mounting location:

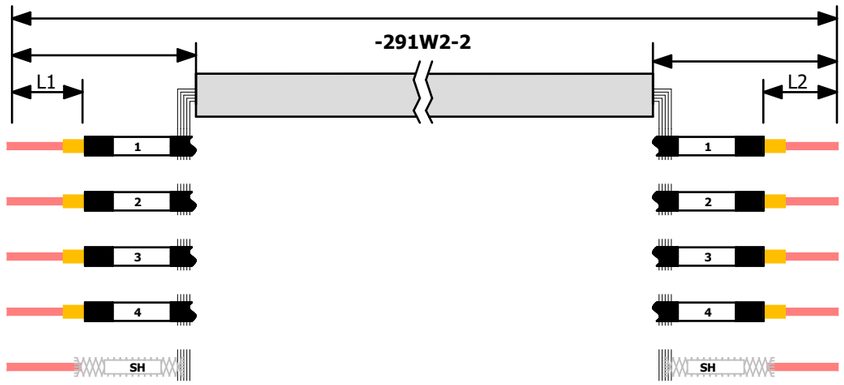
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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++ASC+-291W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

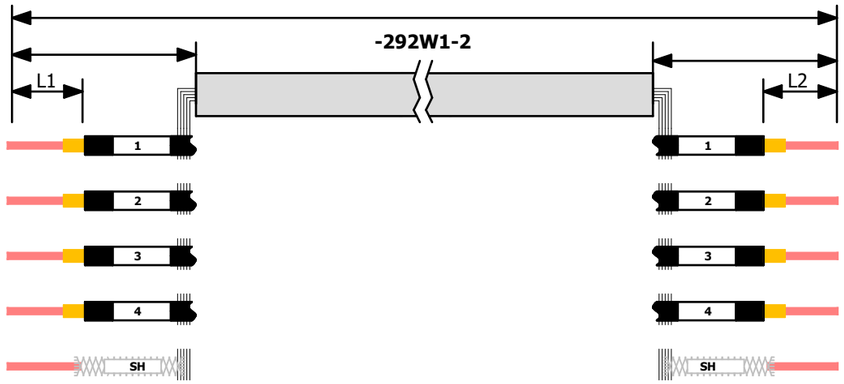


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-292W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

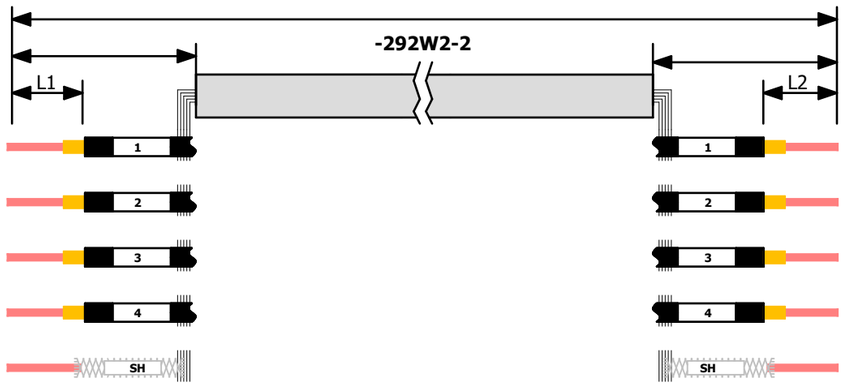


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-292W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

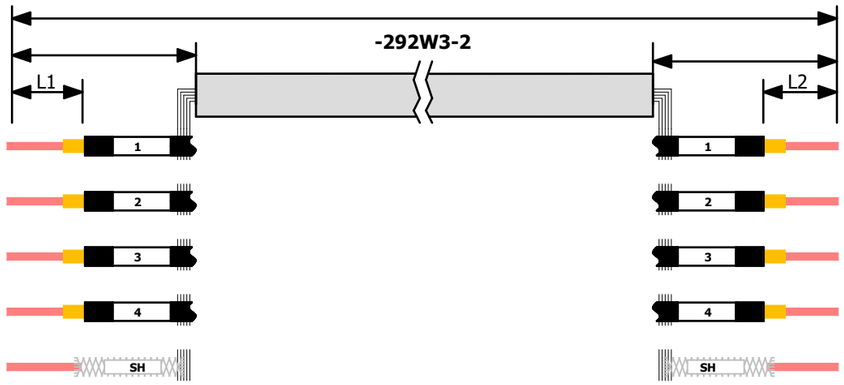
L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++ASC+-292W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

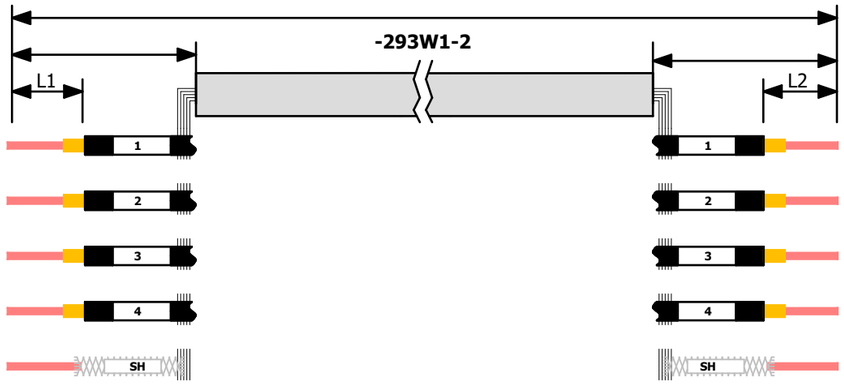


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-293W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

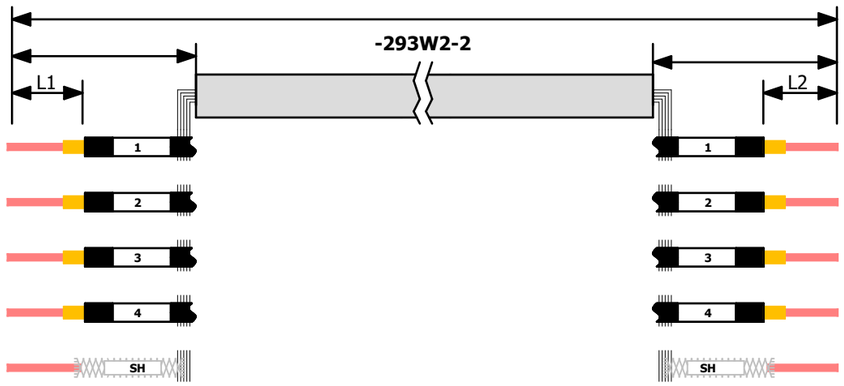


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-293W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

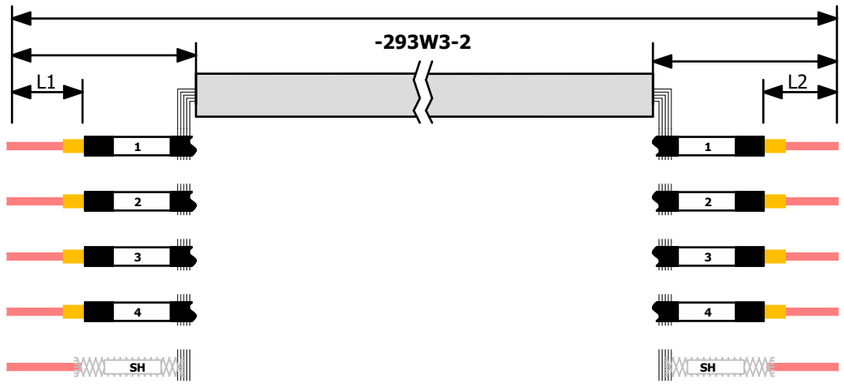
previous page: 4
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Cable name =UNIT_02++ASC+-293W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

Mounting location:	Source	Function text source	wire end handling	L1 [mm]

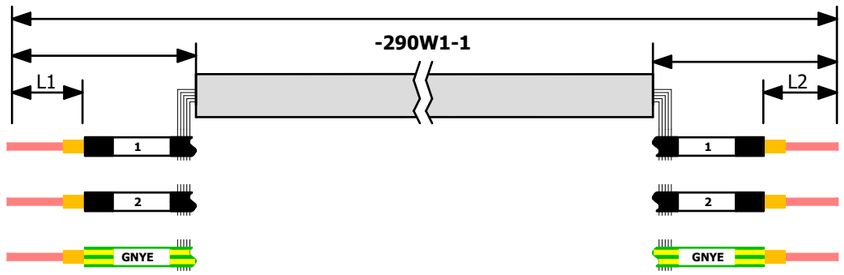


L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-290W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]

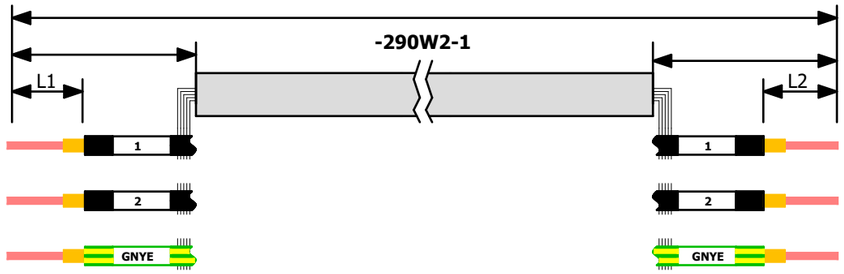


L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-290W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]



L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++ASC+-290W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

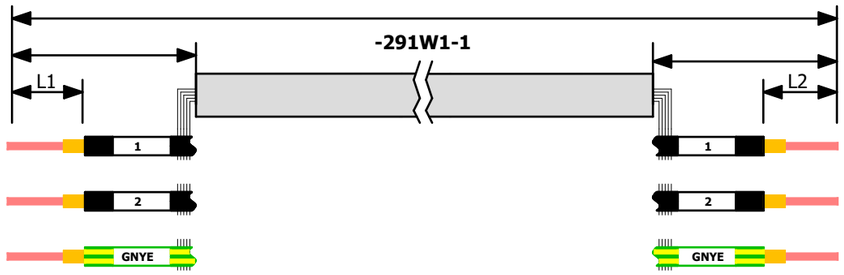


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-291W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

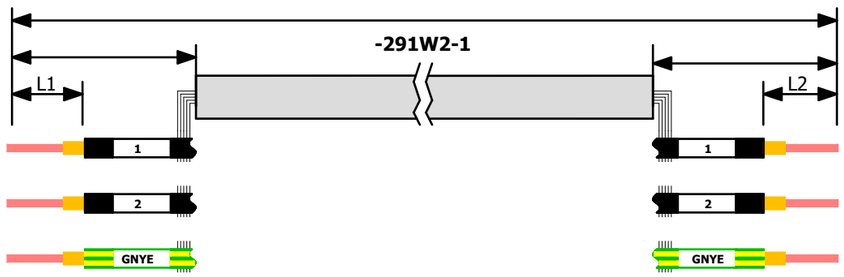


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-291W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

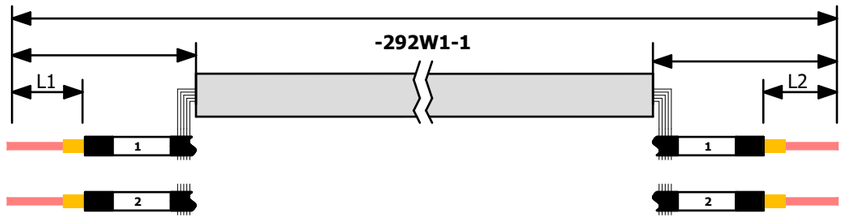


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-292W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

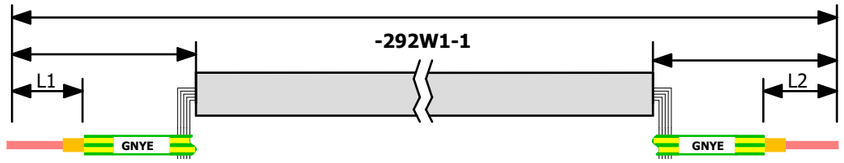
previous page: 6

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_02++ASC+-292W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 2

Cable parts HELU.10091
Order number 10091

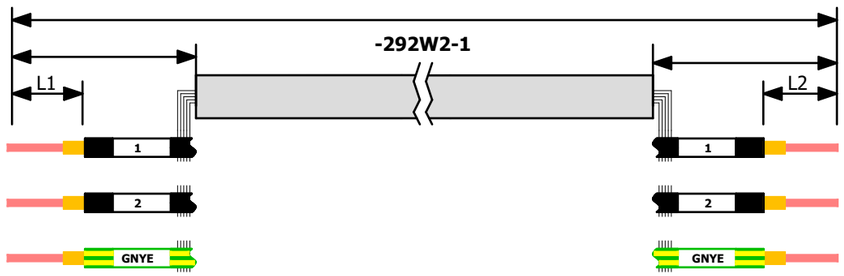


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-292W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 2

Cable parts HELU.10091
Order number 10091

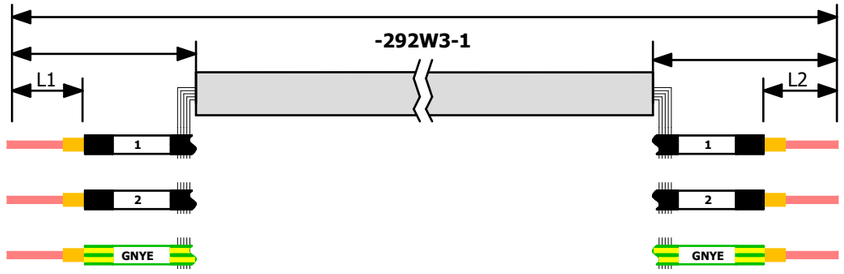


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-292W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors 2

Cable parts HELU.10091
Order number 10091

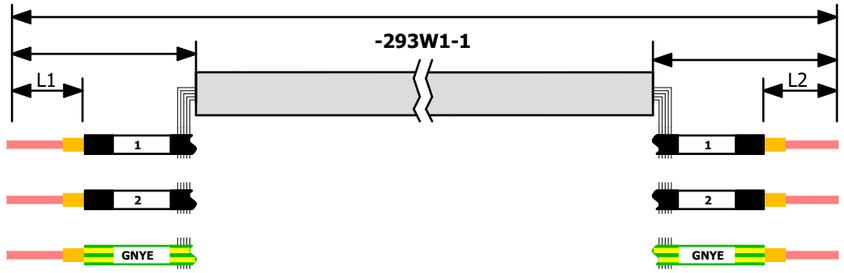


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-293W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 2

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_02++ASC+-293W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]



L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-293W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

Mounting location:	Source	Function text source	wire end handling	L1 [mm]

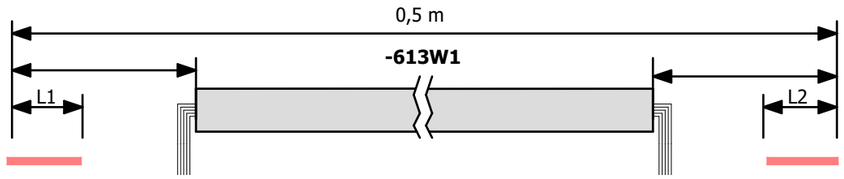


L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_02++ASC+-613W1
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors 8

Cable parts REI.PATCH-C6 05 GN
Order number PATCH-C6 05 GN

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-613T1:7			

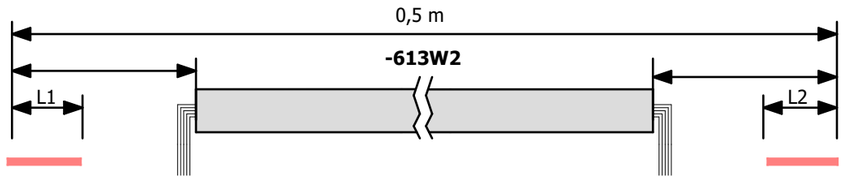


L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-613U1:OUT	

Cable name =UNIT_02++ASC+-613W2
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors 8

Cable parts REI.PATCH-C6 05 GN
Order number PATCH-C6 05 GN

Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-613U1:IN			



L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-613U2:8	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_02++ASC+-620W3
Cable type RJ45 / CAT6 4x2x0,25 mm²
Free conductors

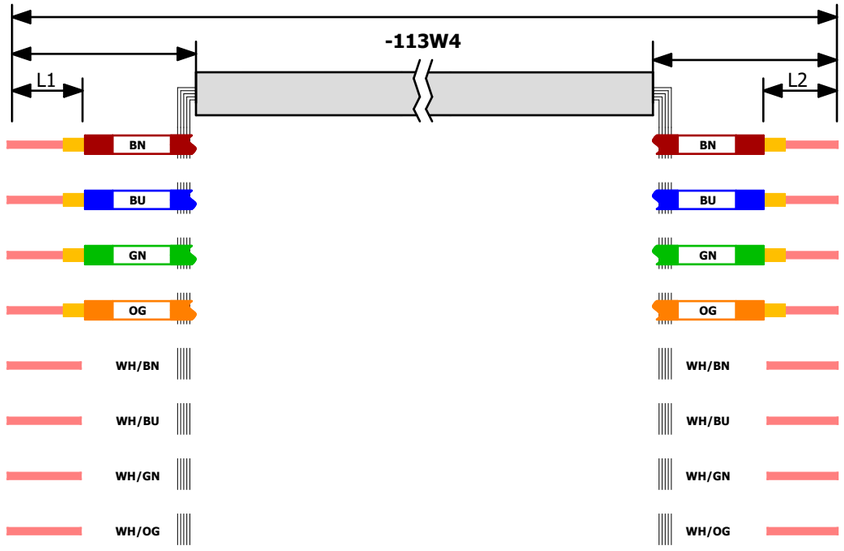
Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	-620A1:-X1:P2							=UNIT_03-620A1:-X1:P1	

Cable name =UNIT_02++ASC+-113W4
Cable type S/FTP 4x2xAWG 23/1 PVC/PVC 4x2x23 AWG
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:8							-613U2:8	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:4							-613U2:4	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:2							-613U2:2	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:6							-613U2:6	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:7							-613U2:7	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:5							-613U2:5	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:1							-613U2:1	
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U2:3							-613U2:3	

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next page: &EMZ/1000

FRQ_Kabelplan_04_groß_de_en

Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-X5.1		1	PE	4	0	24	=UNIT_02&EMZ++ASC/2000
-X5.2		1	PE	4	0	24	=UNIT_02&EMZ++ASC/2001
-X5.3		1	PE	4	0	24	=UNIT_02&EMZ++ASC/2002
-X6		1	6	0	0	12	=UNIT_02&EMZ++ASC/2003
-XDC1		1	PE	2	0	20	=UNIT_02&EMZ++ASC/2004
-XDC2		1	7	0	0	21	=UNIT_02&EMZ++ASC/2005
-XES		1	9	4	5	18	=UNIT_02&EMZ++ASC/2006
-369XT		1	12	0	0	36	=UNIT_02&EMZ++ASC/2007
-687XT1		1	PE	22	11	66	=UNIT_02&EMZ++ASC/2019
-690XT1		1	PE	44	4	134	=UNIT_02&EMZ++ASC/2030

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&EMB/10

next page:
2000

Editor	Freqcon_DG			Statron	FREQCON	Klemmenleistenübersicht : =UNIT_02++ASC+-X5.1 - =UNIT_02++ASC+-690XT1	20241105_V1.2	= UNIT_02	Battery Container 1
Date	05.11.2024							& EMZ	Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-X5.1

Cable name: -680W1 — Cable type: F-CY-JZ

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-680W1 / F-CY-JZ	Page / column
gas concentration BAT 1-4	-XDC2	1	1	▪	++Container-680U1-X1	1		&EFS/680a.2
gas concentration BAT 1-4	-XDC2	5	2	▪	++Container-680U1-X1	2	2	&EFS/680a.2
gas concentration BAT 1-4	-AI_21	13	3	▪	++Container-680U1-X1	4	3	&EFS/680a.2
gas concentration BAT 1-4			4	▪				&EFS/680a.2
gas concentration BAT 1-4			5	▪	++Container-680U1-X2	1	4	&EFS/680a.3
gas concentration BAT 1-4			6	▪	++Container-680U1-X2	2	5	&EFS/680a.3
gas concentration BAT 1-4	-680K1	A1	7	▪	++Container-680U1-X2	4	6	&EFS/680a.4
gas concentration BAT 1-4	-XDC2	2	8	▪	++Container-680U1-X2	5	7	&EFS/680a.4
gas concentration BAT 1-4			9	▪	++Container-680U1-X2	7	8	&EFS/680a.5
gas concentration BAT 1-4			10	▪	++Container-680U1-X2	8	9	&EFS/680a.5
gas concentration BAT 1-4			PE	▪	++Container-680U1-X1	5	GNYE	&EFS/680a.2
gas concentration BAT 1-4			PE	▪	-480W1			&EFS/680a.6

Editor	Freqcon_DG	Statron	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

Klemmenplan =UNIT_02++ASC+-X5.1

20241105_V1.2

10354_23A2007

=	UNIT_02	Battery Container 1
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-X5.2

Cable name: -680W2
Cable type: F-CY-JZ

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-680W2 / F-CY-JZ	Page / column
gas concentration BAT 5-8	-XDC2	2	1		++Container-680U2-X1	1		&EFS/680b.2
gas concentration BAT 5-8	-XDC2	6	2		++Container-680U2-X1	2	2	&EFS/680b.2
gas concentration BAT 5-8	-AI_21	14	3		++Container-680U2-X1	4	3	&EFS/680b.2
gas concentration BAT 5-8			4					&EFS/680b.2
gas concentration BAT 5-8			5		++Container-680U2-X2	1	4	&EFS/680b.3
gas concentration BAT 5-8			6		++Container-680U2-X2	2	5	&EFS/680b.3
gas concentration BAT 5-8	-680K2	A1	7		++Container-680U2-X2	4	6	&EFS/680b.4
gas concentration BAT 5-8	-XDC2	2	8		++Container-680U2-X2	5	7	&EFS/680b.4
gas concentration BAT 5-8			9		++Container-680U2-X2	7	8	&EFS/680b.5
gas concentration BAT 5-8			10		++Container-680U2-X2	8	9	&EFS/680b.5
gas concentration BAT 5-8			PE		++Container-680U2-X1	5	GNYE	&EFS/680b.2
gas concentration BAT 5-8			PE		-480W1			&EFS/680b.6

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_02++ASC+-X5.2
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by		FREQCON	10354_23A2007
Date			

= UNIT_02 Battery Container 1
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-X5.3

Cable name: -680W3 | Cable type: F-CY-JZ

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-680W3 F-CY-JZ	Page / column
gas concentration BAT 9-11	-XDC2	3	1	▪	++Container-680U3-X1	1		&EFS/680c.2
gas concentration BAT 9-11	-XDC2	7	2	▪	++Container-680U3-X1	2	2	&EFS/680c.2
gas concentration BAT 9-11	-AI_21	15	3	▪	++Container-680U3-X1	4	3	&EFS/680c.2
gas concentration BAT 9-11			4	▪				&EFS/680c.2
gas concentration BAT 9-11			5	▪	++Container-680U3-X2	1	4	&EFS/680c.3
gas concentration BAT 9-11			6	▪	++Container-680U3-X2	2	5	&EFS/680c.3
gas concentration BAT 9-11	-680K3	A1	7	▪	++Container-680U3-X2	4	6	&EFS/680c.4
gas concentration BAT 9-11	-XDC2	3	8	▪	++Container-680U3-X2	5	7	&EFS/680c.4
gas concentration BAT 9-11			9	▪	++Container-680U3-X2	7	8	&EFS/680c.5
gas concentration BAT 9-11			10	▪	++Container-680U3-X2	8	9	&EFS/680c.5
gas concentration BAT 9-11			PE	▪	++Container-680U3-X1	5	GNYE	&EFS/680c.2
gas concentration BAT 9-11			PE	▪	-480W1			&EFS/680c.6

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_02++ASC+-X5.3
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

FREQCON

=	UNIT_02	Battery Container 1
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_02++ASC+-X6 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name												Page / column
				Cable type							Cable type												
Extract Fan C/W Fire Damper 1						GND	1	,	-AO_21	1													&EFS/681.1
								,															
Extract Fan C/W Fire Damper 1						+10V	2	,	-AO_21	5													&EFS/681.1
								,															
Extract Fan C/W Fire Damper 2						GND	3	,	-AO_21	2													&EFS/681.3
								,															
Extract Fan C/W Fire Damper 2						+10V	4	,	-AO_21	6													&EFS/681.3
								,															
Extract Fan C/W Fire Damper 3						GND	5	,	-AO_21	3													&EFS/681.5
								,															
Extract Fan C/W Fire Damper 3						+10V	6	,	-AO_21	7													&EFS/681.5
								,															
Extract Fan C/W Fire Damper 3						+10V	6	,	-AO_21	7													&EFS/681.5

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Terminal diagram

Freqcon_F13_001_02

Function text	Cable name	Cable type	Strip =UNIT_02++ASC+-XDC1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	Cable type	Page / column
FUSE 24V DC CONTROL VOLTAGE			-101T1	13	1		-103F1	2			&EFS/603.2
			-101Q1	13							
			-611A1	1							
FUSE 24V DC CONTROL VOLTAGE			-620A1	-X80:1	2						&EFS/603.2
			-DI_21	L+							
			-DO_21	L+							
FUSE 24V DC CONTROL VOLTAGE			-684F5	11	3		-103F1	13			&EFS/603.2
FUSE 24V DC CONTROL VOLTAGE			-611A1	2	4		-102G1	OUTPUT DC 24 V:-			&EFS/603.3
FUSE 24V DC CONTROL VOLTAGE			-620A1	-X80:2	5						&EFS/603.3
			-DI_21	M							
			-DO_21	M							
FUSE 24V DC CONTROL VOLTAGE			-636K1	A2	6		-XDC2	5			&EFS/603.3
FUSE 24V DC CONTROL VOLTAGE			-101T1	-"	PE						&EFS/603.4
			-101T1	PE							
FUSE 24V DC CONTROL VOLTAGE					PE						&EFS/603.4

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Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_02++ASC+-XDC2						Cable name												Page / column
				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type												
FUSE 24V DC CONTROL VOLTAGE					-AI_21	L+	1		-103F2	2													&EFS/603.5
					-AO_21	L+																	
					-X5.1	1																	
FUSE 24V DC CONTROL VOLTAGE					-X5.1	8	2		-X5.2	8													&EFS/603.5
					-680K1	11																	
					-X5.2	1																	
FUSE 24V DC CONTROL VOLTAGE					-680K2	11	3		-680K3	11													&EFS/603.5
					-X5.3	1																	
					-X5.3	8																	
FUSE 24V DC CONTROL VOLTAGE					-691F1	13	4																&EFS/603.6
					-691F4	13																	
FUSE 24V DC CONTROL VOLTAGE					-AI_21	M	5		-XDC1	6													&EFS/603.6
					-AO_21	M																	
					-X5.1	2																	
FUSE 24V DC CONTROL VOLTAGE					-680K1	A2	6																&EFS/603.6
					-X5.2	2																	
FUSE 24V DC CONTROL VOLTAGE					-680K2	A2	7																&EFS/603.7
					-X5.3	2																	
					-680K3	A2																	

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Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_02++ASC+-XES

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
				1		-684F1	2		&EFS/684.0
UPS Bat-Con 1 3-phase 400V AC				N		-687XT1	N		&EFS/684.3
=		-690XT1	N	N		-687XT1	N		&EFS/684.3
=		-690XT1	N	N		-690F1	N		&EFS/684.3
=		-690XT1	N	N		-690F2	N		&EFS/684.3
=				N		-690XT1	N		&EFS/684.4
=				PE			PE		&EFS/684.4
=		++Container-278W1	GND	PE			PE		&EFS/684.4
=		-684F5	PE	PE		-684F2	PE		&EFS/684.5
=		-601F1	PE	PE					&EFS/684.5
		-684F4	2	2		-684F3	2		&EFS/684.0
UPS Bat-Con 1 3-phase 400V AC		-601F1	L1	3					&EFS/684.1
=				4		-684F1	4		&EFS/684.1
=		-684F4	4	5		-684F3	4		&EFS/684.1
=		-601F1	L2	6					&EFS/684.1
=				7		-684F1	6		&EFS/684.1
=		-684F4	6	8		-684F3	6		&EFS/684.1
=		-601F1	L3	9					&EFS/684.2

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet smoke detector potential-free contacts customer			3		++Container-570XT	3	1					&EFS/669.5
		3			++Container-570XT	3						
	3				++Container-570XT	3						

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next page: 2008

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2007

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Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W1-2 F-CY-OZ	++Container-291W2-2 F-CY-OZ	++Container-291W1-2 F-CY-OZ	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			3		++Container-570XT	3	2		++Container-570XT	3		3	&EFS/669.5
		3			++Container-570XT	3							
	3				++Container-570XT	3							

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2008

total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-293W1-2 F-CY-OZ	++Container-292W3-2 F-CY-OZ	++Container-292W2-2 F-CY-OZ	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			3		++Container-570XT	3	3		++Container-570XT	3		3	&EFS/669.6
		3			++Container-570XT	3							
	3				++Container-570XT	3							

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2009

total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet smoke detector potential-free contacts customer			4		++Container-570XT	4	4					&EFS/669.7
		4			++Container-570XT	4						
	4				++Container-570XT	4						

previous page: 2009

next page: 2011

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2010

total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-369XT

Function text	++Container-292W1-2 F-CY-OZ	++Container-291W2-2 F-CY-OZ	++Container-291W1-2 F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			4		++Container-570XT	4	5		++Container-570XT	4		4	&EFS/669.8
		4			++Container-570XT	4							
	4				++Container-570XT	4							

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_02++ASC+-369XT
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

20241105_V1.2

10354_23A2007

=	UNIT_02	Battery Container 1	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2011
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-293W1-2 F-CY-OZ	++Container-292W3-2 F-CY-OZ	++Container-292W2-2 F-CY-OZ	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			4		++Container-570XT	4	6		++Container-570XT	4		4	&EFS/669.8
		4			++Container-570XT	4							
	4				++Container-570XT	4							

previous page: 2011

next page: 2013

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2012

total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet gas potential-free contacts customer			1		++Container-570XT	1	7					&EFS/670.5
		1			++Container-570XT	1						
	1				++Container-570XT	1						

previous page: 2012

next page: 2014

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2013

total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W1-2 F-CY-OZ	++Container-291W2-2 F-CY-OZ	++Container-291W1-2 F-CY-OZ	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	++Container-293W3-2 F-CY-OZ	Page / column
battery cabinet gas potential-free contacts customer			1	++Container-570XT	1	8		++Container-570XT	1	1	&EFS/670.5
		1		++Container-570XT	1						
	1			++Container-570XT	1						

Strip =UNIT_02++ASC+-369XT

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_02++ASC+-369XT
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

= UNIT_02	Battery Container 1	
& EMZ	Terminals	
++ ASC	auxillary cabinet	page: 2014
+		total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-369XT

Function text	++Container-293W1-2 (F-CY-OZ)	++Container-292W3-2 (F-CY-OZ)	++Container-292W2-2 (F-CY-OZ)	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 (F-CY-OZ)	Page / column
battery cabinet gas potential-free contacts customer			1		++Container-570XT	1	9		++Container-570XT	1		1	&EFS/670.6
		1			++Container-570XT	1							
	1				++Container-570XT	1							

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_02++ASC+-369XT
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by		FREQCON	10354_23A2007
Date			

=	UNIT_02	Battery Container 1	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2015
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet gas potential-free contacts customer			2		++Container-570XT	2	10					&EFS/670.7
		2			++Container-570XT	2						
	2				++Container-570XT	2						

previous page: 2015

next page: 2017

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W1-2 F-CY-OZ	++Container-291W2-2 F-CY-OZ	++Container-291W1-2 F-CY-OZ	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 F-CY-OZ	Page / column
battery cabinet gas potential-free contacts customer			2		++Container-570XT	2	11		++Container-570XT	2		2	&EFS/670.8
		2			++Container-570XT	2							
	2				++Container-570XT	2							

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2016

next page:
2018

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2017
total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-293W1-2 F-CY-OZ	++Container-292W3-2 F-CY-OZ	++Container-292W2-2 F-CY-OZ	Cable name / Cable type	Strip =UNIT_02++ASC+-369XT Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-OZ	Page / column
battery cabinet gas potential-free contacts customer			2		++Container-570XT	2	12		++Container-570XT	2		2	&EFS/670.8
		2			++Container-570XT	2							
	2				++Container-570XT	2							

previous page:
2017

next page:
2019

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-369XT	20241105_V1.2
Date	05.11.2024						
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007
Date							

=	UNIT_02	Battery Container 1	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2018
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_02++ASC+-687XT1

Function text	++Container-290W3-1 JZ-500	++Container-290W2-1 JZ-500	++Container-290W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	1		-687F1	2		&EFS/687.1
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	2		-687F2	2		&EFS/687.3
Supply Battery String 1-phase 230V AC	1				++Container-XE	1	3		-687F3	2		&EFS/687.4

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_02++ASC+-687XT1
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_02	Battery Container 1	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2019
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-687XT1

Function text	++Container-292W1-1 JZ-500	++Container-291W2-1 JZ-500	++Container-291W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	4		-687F4	2		&EFS/687.5
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	5		-687F5	2		&EFS/687.7
Supply Battery String 1-phase 230V AC	1				++Container-XE	1	6		-687F6	2		&EFS/687.8

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_02++ASC+-687XT1

20241105_V1.2

10354_23A2007

=	UNIT_02	Battery Container 1
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-687XT1

Function text	++Container-293W1-1 JZ-500	++Container-292W3-1 JZ-500	++Container-292W2-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	7		-688F1	2		&EFS/688.1
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	8		-688F2	2		&EFS/688.3
Supply Battery String 1-phase 230V AC	1				++Container-XE	1	9		-688F3	2		&EFS/688.4

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_02++ASC+-687XT1

20241105_V1.2

10354_23A2007

=	UNIT_02	Battery Container 1
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W1-1 JZ-500	++Container-293W3-1 JZ-500	++Container-293W2-1 JZ-500	Cable name / Cable type	Strip =UNIT_02++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	10		-688F4	2		&EFS/688.5
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	11		-688F5	2		&EFS/688.7
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N		-XES	N		&EFS/687.1

previous page: 2021

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-687XT1	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-291W1-1 -1Z-500	++Container-290W3-1 -1Z-500	++Container-290W2-1 -1Z-500	Cable name / Cable type	Strip =UNIT_02++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/687.3
Supply Battery String 1-phase 230V AC		2			++Container-XE	N	N					&EFS/687.4
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N					&EFS/687.6

previous page: 2022

next page: 2024

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-687XT1	20241105_V1.2	= UNIT_02	Battery Container 1
Date	05.11.2024					& EMZ	Terminals
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date						+	

page: 2023 of total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W2-1 JZ-500	++Container-292W1-1 JZ-500	++Container-291W2-1 JZ-500	Cable name / Cable type	Strip =UNIT_02++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/687.7
Supply Battery String 1-phase 230V AC		2			++Container-XE	N	N					&EFS/687.8
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N		-XES	N		&EFS/688.1

previous page: 2023

next page: 2025

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-687XT1	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2024 / total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-293W2-1 JZ-500	++Container-293W1-1 JZ-500	++Container-292W3-1 JZ-500	Cable name / Cable type	Strip =UNIT_02++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/688.3
Supply Battery String 1-phase 230V AC		2			++Container-XE	N	N					&EFS/688.4
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N					&EFS/688.6

previous page: 2024

next page: 2026

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_02++ASC+-687XT1	20241105_V1.2	= UNIT_02 Battery Container 1
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_02++ASC+-687XT1

Function text	++Container-290W2-1 JZ-500	++Container-290W1-1 JZ-500	++Container-293W3-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/688.7
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/687.2
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/687.3

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron
Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_02++ASC+-687XT1

20241105_V1.2
10354_23A2007

=	UNIT_02	Battery Container 1	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2026
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-687XT1

Function text	++Container-291W2-1 JZ-500	++Container-291W1-1 JZ-500	++Container-290W3-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			GNYE		++Container-XE	PE	PE					&EFS/687.4
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/687.6
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/687.7

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-687XT1

Function text	++Container-292W3-1 JZ-500	++Container-292W2-1 JZ-500	++Container-292W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			GNYE		++Container-XE	PE	PE					&EFS/687.9
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/688.2
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/688.3

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_02++ASC+-687XT1

Function text	++Container-293W3-1 JZ-500	++Container-293W2-1 JZ-500	++Container-293W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			GNYE		++Container-XE	PE	PE	.				&EFS/688.4
								.				
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE	.				&EFS/688.6
								.				
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE	.				&EFS/688.7
								.				

Editor	Freqcon_DG		
Date	05.11.2024		
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Date			

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Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_02++ASC+-687XT1

20241105_V1.2

10354_23A2007

=	UNIT_02	Battery Container 1
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_02++ASC+-690XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Container Internal Lighting			L	1		-690F1	2		&EFS/690.1
Container Internal Lighting			1	2		-690F2	2		&EFS/690.3
Container Sockets			1	3		-690F3	2		&EFS/690.5
230V AC for crane 2			1	4		-690F4	2		&EFS/690.7
230V AC for crane 3			1	5		-690F5	2		&EFS/690.8
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4			L	6		-636K1	14		&EFS/691.1
			L						

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

Klemmenplan =UNIT_02++ASC+-690XT1

20241105_V1.2

10354_23A2007

=	UNIT_02	Battery Container 1		
&	EMZ	Terminals		
++	ASC	auxillary cabinet	page:	2030
+			total:	498

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_02++ASC+-690XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name	Cable type	Page / column
								,					
								,					
230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8						L	7	,	-636K2	14			&EFS/691.3
						L							
								,					
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230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11						L	8	,	-636K3	14			&EFS/691.4
						L							
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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_02++ASC+-690XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11				9		-691F4	2		&EFS/691.5
400V AC for Cooling Units				10		-691F4	4		&EFS/691.6
400V AC for Cooling Units				11		-691F4	6		&EFS/691.6

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_02++ASC+-690XT1

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Page / column
Container Sockets		2	N		-690F2	N.	&EFS/690.4
=		PE	PE				&EFS/690.4
230V AC for crane 1		2	N		-XES	N	&EFS/690.6
=		PE	PE				&EFS/690.6
230V AC for crane 2		2	N		-XES	N	&EFS/690.7
=		PE	PE				&EFS/690.7
230V AC for crane 3		2	N		-XES	N	&EFS/690.8
=		PE	PE				&EFS/690.8
Container Internal Lighting		N	N		-690F1	N.	&EFS/690.1
=		GND	PE				&EFS/690.2
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4		N	N		-XES	N	&EFS/691.1
		N					
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4		GND	PE				&EFS/691.2
		GND					
230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8		N	N				&EFS/691.3
		N					
230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8		GND	PE				&EFS/691.3
		GND					
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11		N	N				&EFS/691.4
		N					
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11		GND	PE				&EFS/691.4

Editor: Freqcon_DG
Date: 05.11.2024
Proved by:
Date:

Statron
Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_02++ASC+-690XT1

20241105_V1.2
10354_23A2007

= UNIT_02 Battery Container 1
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_02++ASC+-690XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
			GND						
400V AC for Cooling Units				N					&EFS/691.6
=				PE					&EFS/691.6

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Customer:	Statron	
Project:	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Type:	BESS MSC-1000-620-8	
Product	BATTERY CONTAINER 2	
Circuit diagram No:	10354_23A2007	20241105_V1.2

Producer (company):	Freqcon GmbH	53412 ASC 53409
Project:	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Type:	BESS MSC-1000-620-8	
Project manager:	Freqcon_CP	

created on: 17.09.2019
edited on: 05.11.2024 edited by: Freqcon_DG total pages: 498

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	6	PARTS LIST	05.11.2024	Freqcon_DG
	7	PARTS LIST	05.11.2024	Freqcon_DG
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	3	CABEL LIST	05.11.2024	Freqcon_DG
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	5	CABEL LIST	05.11.2024	Freqcon_DG
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	2009	Klemmenplan =UNIT_03++ASC+-369XT	05.11.2024	Freqcon_DG
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	2022	Klemmenplan =UNIT_03++ASC+-687XT1	05.11.2024	Freqcon_DG
	2023	Klemmenplan =UNIT_03++ASC+-687XT1	05.11.2024	Freqcon_DG
	2024	Klemmenplan =UNIT_03++ASC+-687XT1	05.11.2024	Freqcon_DG
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SPECIFICATION

TERMINAL STRIP

-XE1	MAIN POWER SUPPLY 600V AC
-XE2	DC POWER SUPPLY 1000V DC
-XE	MAIN POWER SUPPLY 400V AC
-X1	MAIN POWER 400V/230V AC
-X2	LIGHT CABINET 230V AC
-X3	CONTROL VOLTAGE 24V DC
-14X1	CONTROL VOLTAGE 24V DC (TO DC CONTACTORS)
-X5	LOW-VOLTAGE SIGNALS
-XDC0	24V DC POWER SUPPLY
-XDC1-4	CONTROL VOLTAGE 24V DC (UPS)
-XT	TRANSFER TERMINAL BLOCK 24V DC / 230V AC

WIRING COLOR

L1 / L2 / L3	=	BLACK
N	=	LIGHT BLUE (IEC) / GREY (UL)
PE	=	YELLOW-GREEN
EXTERNAL VOLTAGE	=	ORANGE
CONTROL VOLTAGE 24 V DC	=	DARK BLUE
ANALOG SIGNALS	=	WHITE

PLACE

+CTRL	=	Control cabinet
+CON	=	Converter cabinet
+IND	=	Inductor cabinet
+CIR	=	Circuit breaker cabinet
+COSY	=	Cooling System
+FAN	=	External fan

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next page: 6a

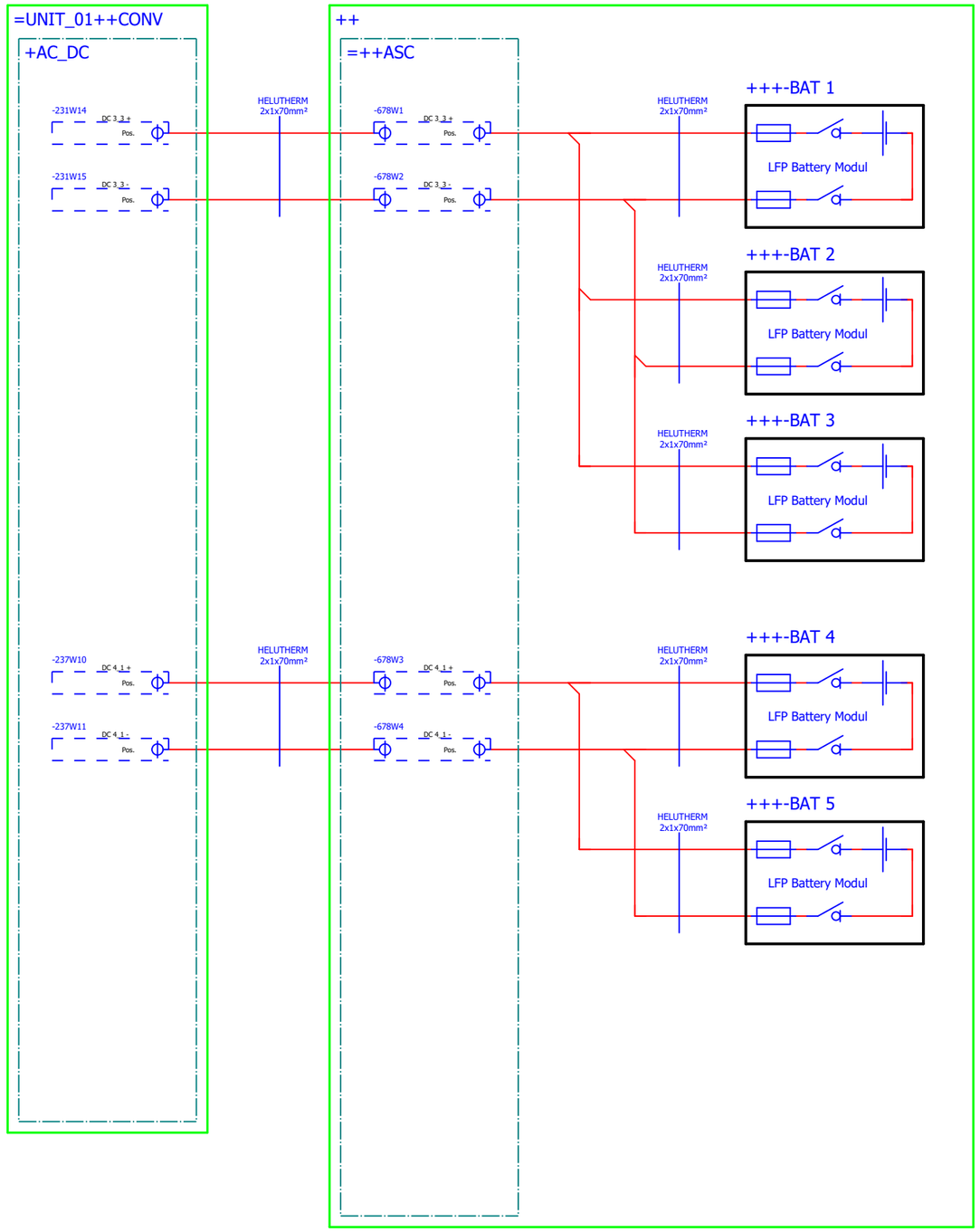
SPECIFICATION of grounding

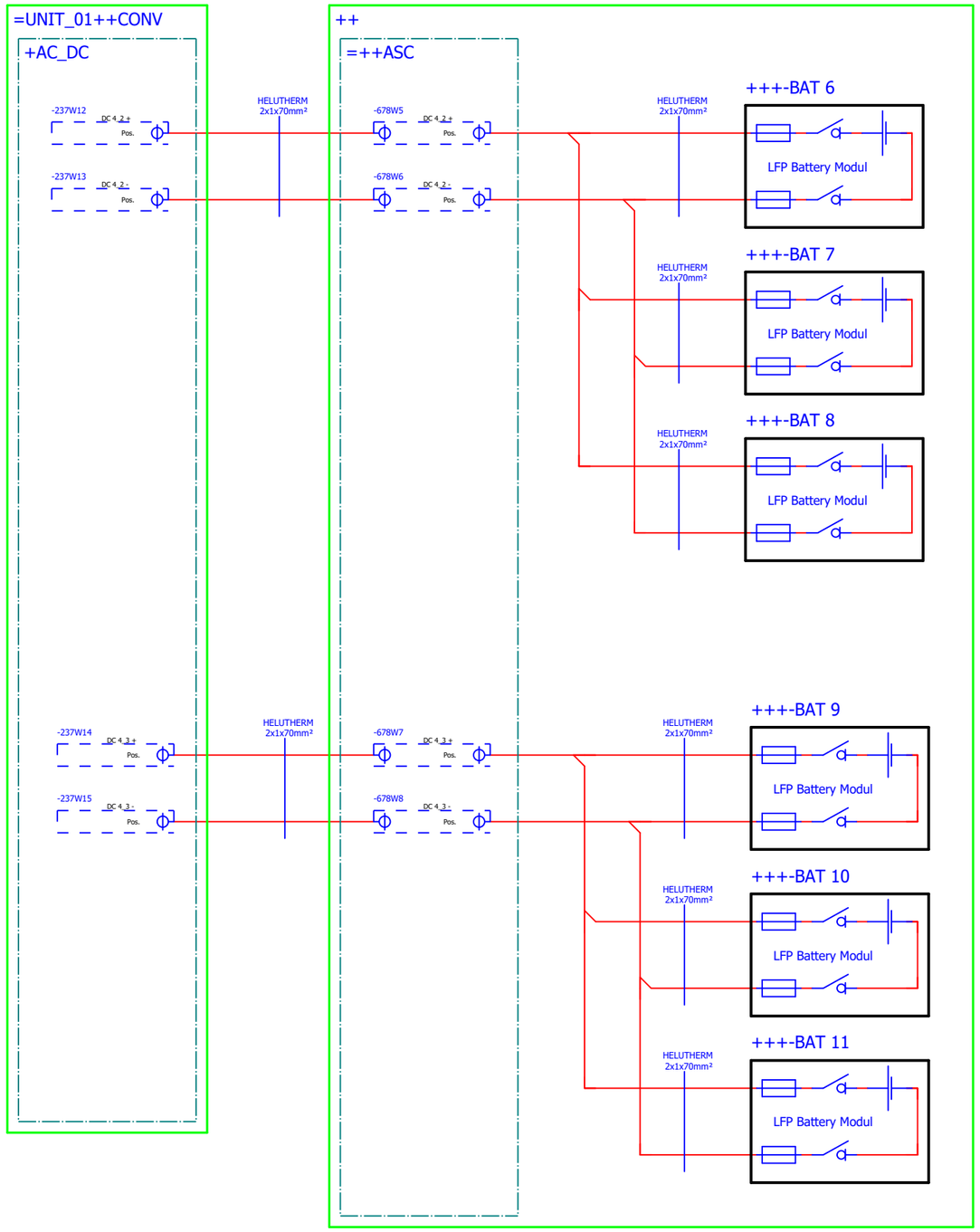
	from frame to			
1	**roof & side walls & doors**	**EVD_1**	**Flachband**	**2x25 mm²**
2	**frame**	**EVD_2**	**Flachband**	**2x25 mm²**
3	**base**	**EVD_3**	**Flachband**	**2x25 mm²**
4	**Mounting plate & partitions**	**EVD_4**	**H07-V-K**	**2x25 mm²**
5	**inductors**	**EVD_5**	**H07-V-k**	**2x25 mm²**
6	**Powerstack**	**EVD_6**	**H07-V-K**	**2x25 mm²**
7	**DC Switch & Fuse**	**EVD_7**	**H07-V-K**	**2x25 mm²**
8	**AC Filter**	**EVD_8**	**H07-V-K**	**2x25 mm²**
9	**circuit-breaker**	**EVD_9**	**H07-V-K**	**2x25 mm²**
10	**Freqcon_Fast_Disconektor**	**EVD_10**	**H07-V-K**	**2x25 mm²**
11	**Freqcon_Rectifier_Modul**	**EVD_11**	**H07-V-K**	**2x25 mm²**
12	**capacitor banks**	**EVD_12**	**H07-V-K**	**2x25 mm²**
13	**water distributor**	**EVD_13**	**H07-V-K**	**2x25 mm²**
14	**SPARE**	**EVD_14**	**H07-V-K**	**2x25 mm²**
15	**SPARE**	**EVD_15**	**H07-V-K**	**2x25 mm²**
16	**SPARE**	**EVD_16**	**H07-V-K**	**2x25 mm²**
17	**SPARE**	**EVD_17**	**H07-V-K**	**2x25 mm²**
18	**SPARE**	**EVD_18**	**H07-V-K**	**2x25 mm²**
	from door to			
19	**PROFINET IRT IGBT Interface**	**EVD_19**	**H07-V-K**	**1,5 mm²**
20	**HMI**	**EVD_20**	**H07-V-K**	**1,5 mm²**
21	**SPARE**	**EVD_21**	**H07-V-K**	**??? mm²**
22	**SPARE**	**EVD_22**	**H07-V-K**	**??? mm²**

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Single line diagram





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Date	18.06.2024	Norm						& EFA Single line diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ page: 1a
Date								+ total: 498

Single line diagram

Control circuit

++ASC

400V

-XES

-684F3 &EFS++ASC/684.2 C32A

-684F1 &EFS++ASC/684.0 C32A

-684F2 &EFS++ASC/684.5 TYP 1 + 2 SPD

-601F1 &EFS++ASC/601.1 TYP 1 + 2 SPD

-684F4 &EFS++ASC/685.0 C32A

-684F5 &EFS++ASC/685.5 TYP 1 + 2 SPD

-691F1 &EFS++ASC/691.1 C6A

-691F2 &EFS++ASC/691.3 C6A

-691F3 &EFS++ASC/691.4 C6A

-690F1 &EFS++ASC/690.1 16A

-690F3 &EFS++ASC/690.5 C6A

-690F4 &EFS++ASC/690.7 C6A

-690F5 &EFS++ASC/690.8 C6A

-691F4 &EFS++ASC/691.5 C16A

-690F2 &EFS++ASC/690.3 16A

-101Q1

-687F1 &EFS++ASC/687.1 C16A

-687F2 &EFS++ASC/687.3 C16A

-687F3 &EFS++ASC/687.4 C16A

-687F4 &EFS++ASC/687.5 C16A

-687F5 &EFS++ASC/687.7 C16A

-636K1 &EFS++ASC/636.1

-636K2 &EFS++ASC/636.2

-636K3 &EFS++ASC/636.4

M 1~

1/N/PE

1/N/PE

1/N/PE

1/N/PE 1/N/PE

20 A

Battery cabinet 1

Battery cabinet 2

Battery cabinet 3

Battery cabinet 4

Battery cabinet 5

-687F6 &EFS++ASC/687.8 C16A

-688F1 &EFS++ASC/688.1 C16A

-688F2 &EFS++ASC/688.2 C16A

-688F3 &EFS++ASC/688.4 C16A

-688F4 &EFS++ASC/688.5 C16A

-688F5 &EFS++ASC/688.7 C16A

Battery cabinet 6

Battery cabinet 7

Battery cabinet 8

Battery cabinet 9

Battery cabinet 10

Battery cabinet 11

Exhaust Unit / shut-off flap Bat 1-4

Exhaust Unit / shut-off flap Bat 5-8

Exhaust Unit / shut-off flap Bat 9-11

Container Internal Lighting

crane 1

crane 2

crane 3

Cooling Units

Container Sockets

Power Supply

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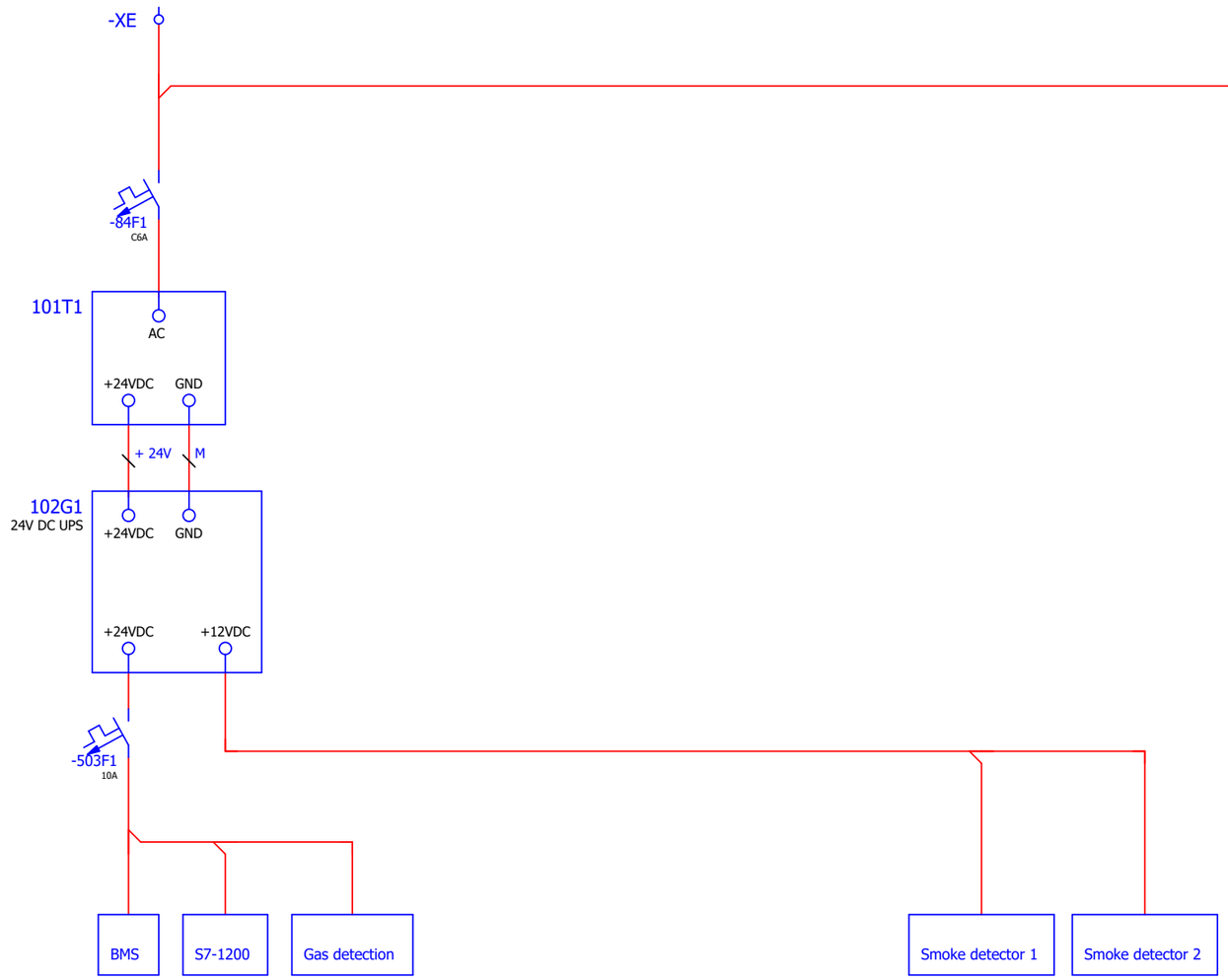
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Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ page: 2a
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Single line diagram

Control circuit

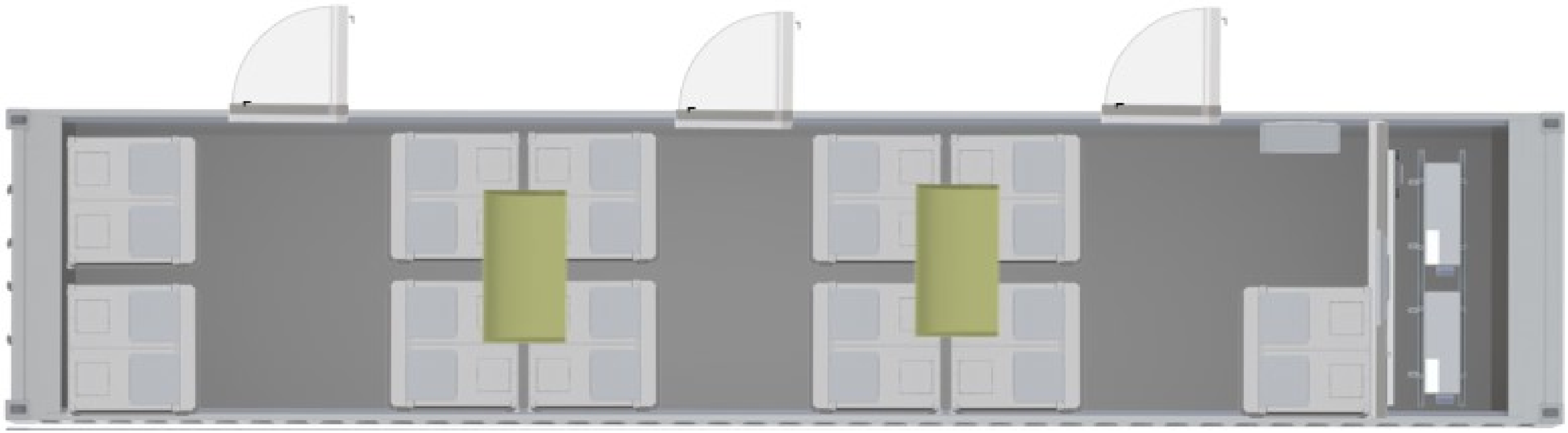
Battery Cabinet



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2a

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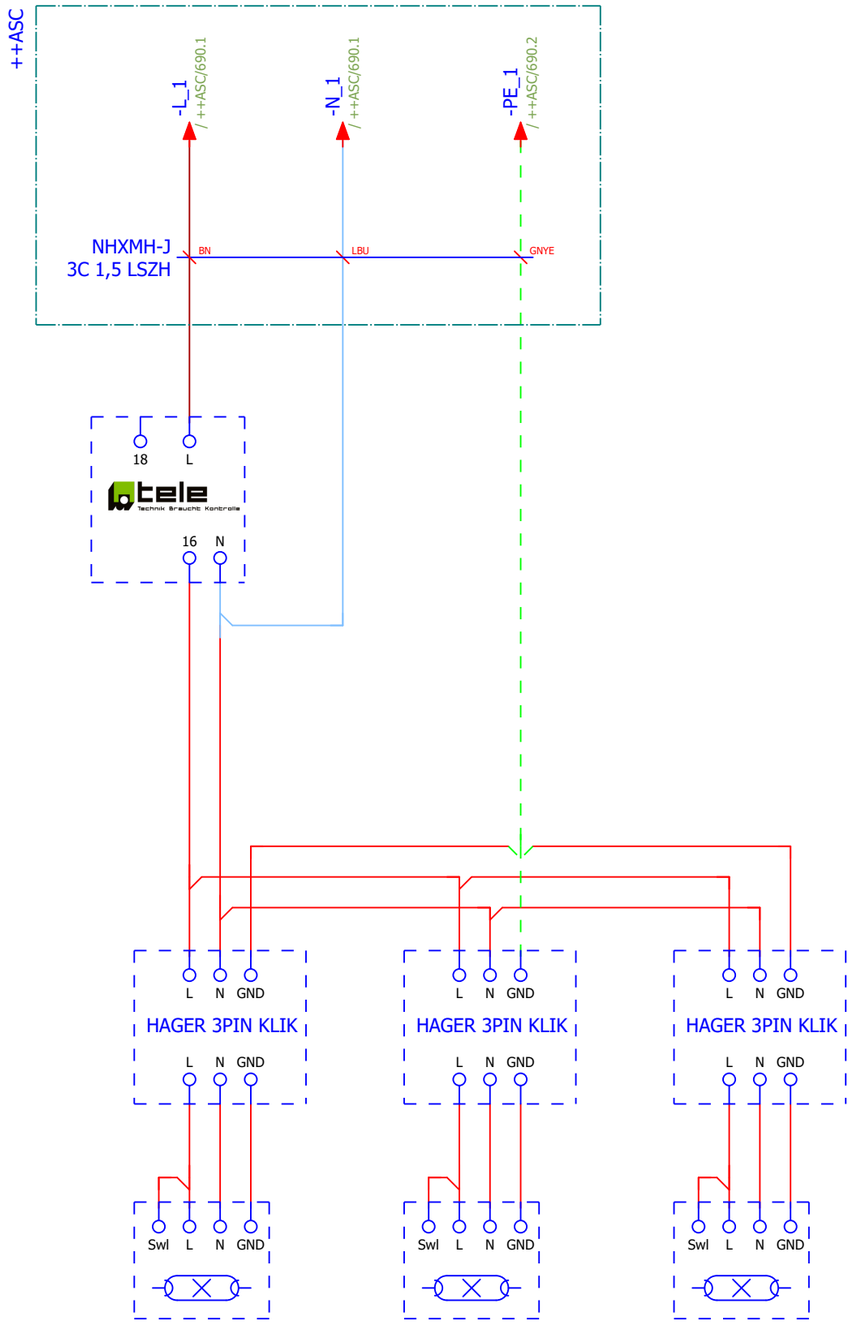
0	1	2	3	4	5	6	7	8	9



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&EFS++Container/190

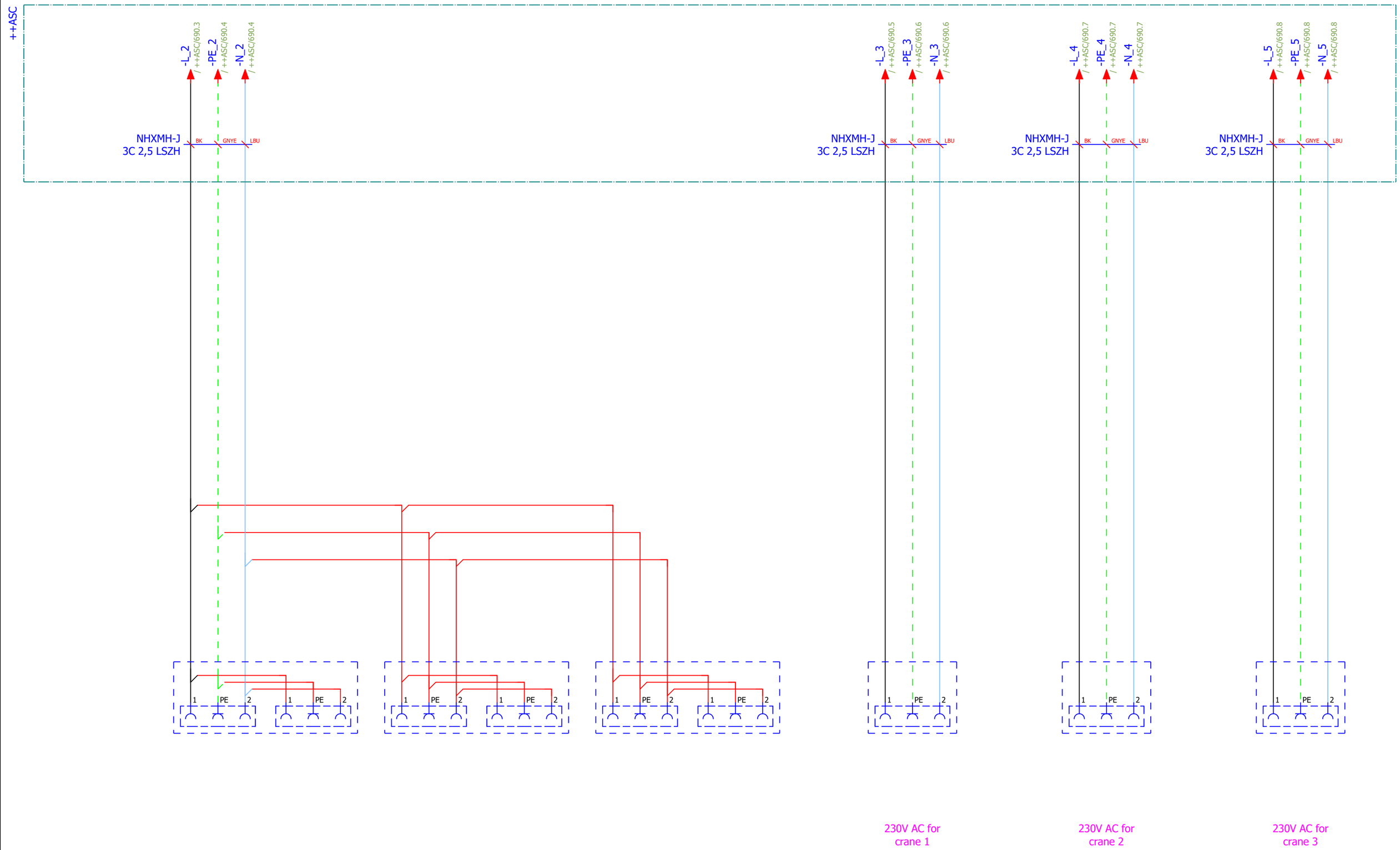
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Date	14.06.2024	Norm						& ELU Cabinet Overview	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++	page: 5a
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Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 191
Date								+	total: 498

++ASC

-L_6 / ++ASC/691.1
-N_6 / ++ASC/691.1
-PE_6 / ++ASC/691.2

NHXMH-J
3C 1,5 LSZH
BK LBU GNYE

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

BELDEN 9842
LSZH
WH BU WH BU

Junction Box
next to fan motor

230V AC for
Exhaust Unit
Battery cabinets 1-4

-L_6 / ++ASC/691.1
-N_6 / ++ASC/691.1
-PE_6 / ++ASC/691.2

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

230V AC for
shut-off flap
Battery cabinets 1-4

-L_7 / ++ASC/691.3
-N_7 / ++ASC/691.3
-PE_7 / ++ASC/691.3

NHXMH-J
3C 1,5 LSZH
BK LBU GNYE

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

BELDEN 9842
LSZH
WH BU WH BU

Junction Box
next to fan motor

230V AC for
Exhaust Unit
Battery cabinets 5-8

-L_7 / ++ASC/691.3
-N_7 / ++ASC/691.3
-PE_7 / ++ASC/691.3

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

230V AC for
shut-off flap
Battery cabinets 5-8

-L_8 / ++ASC/691.4
-N_8 / ++ASC/691.4
-PE_8 / ++ASC/691.4

NHXMH-J
3C 1,5 LSZH
BK LBU GNYE

L N GND
13A fused
Spur K983ALM
L N GND

1 2
M
1~
PE

BELDEN 9842
LSZH
WH BU WH BU

Junction Box
next to fan motor

230V AC for
Exhaust Unit
Battery cabinets 9-11

-L_8 / ++ASC/691.4
-N_8 / ++ASC/691.4
-PE_8 / ++ASC/691.4

L N GND
13A fused
Spur K983ALM
L N GND

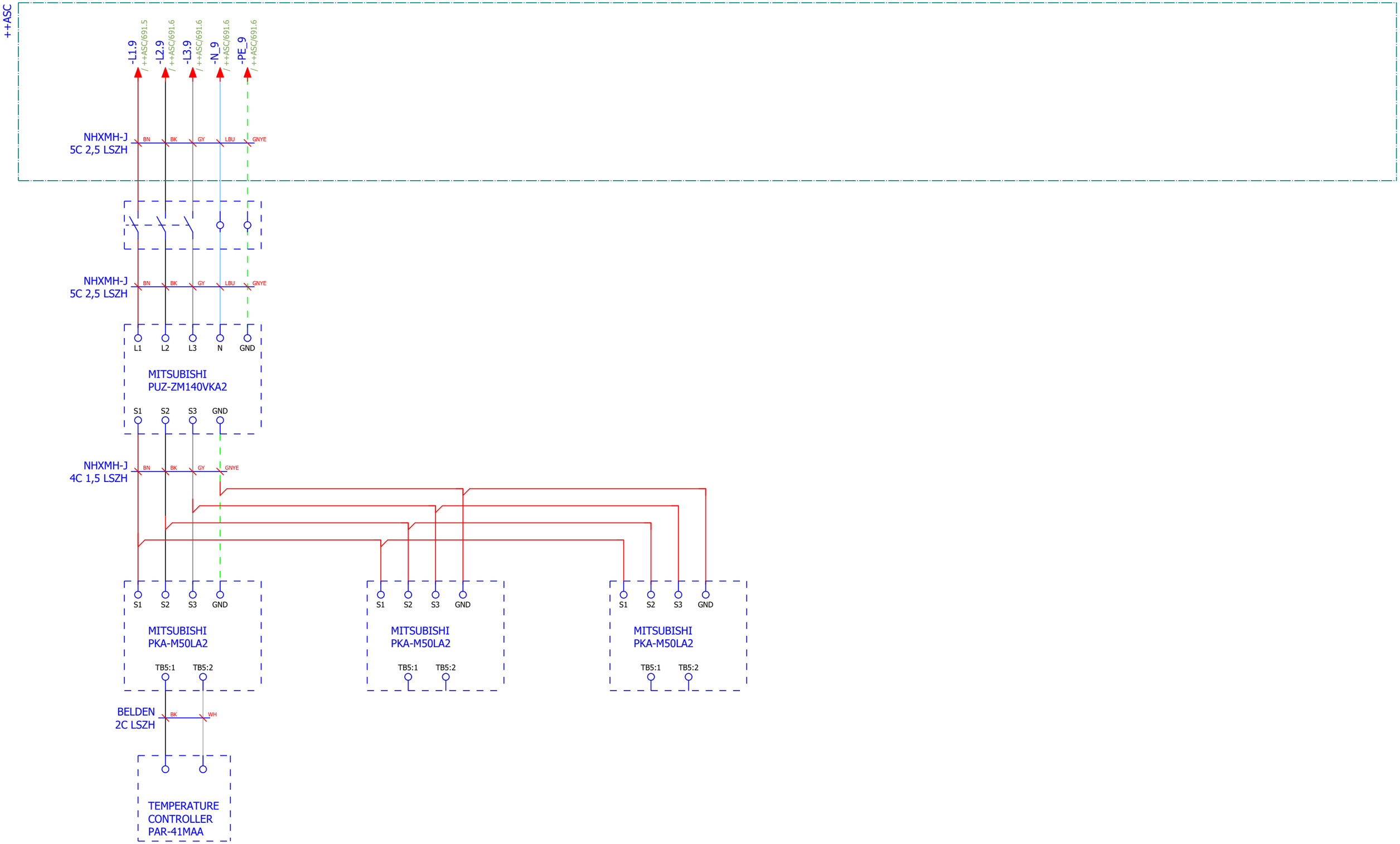
1 2
M
1~
PE

230V AC for
shut-off flap
Battery cabinets 9-11

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Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 192
Date								+	total: 498

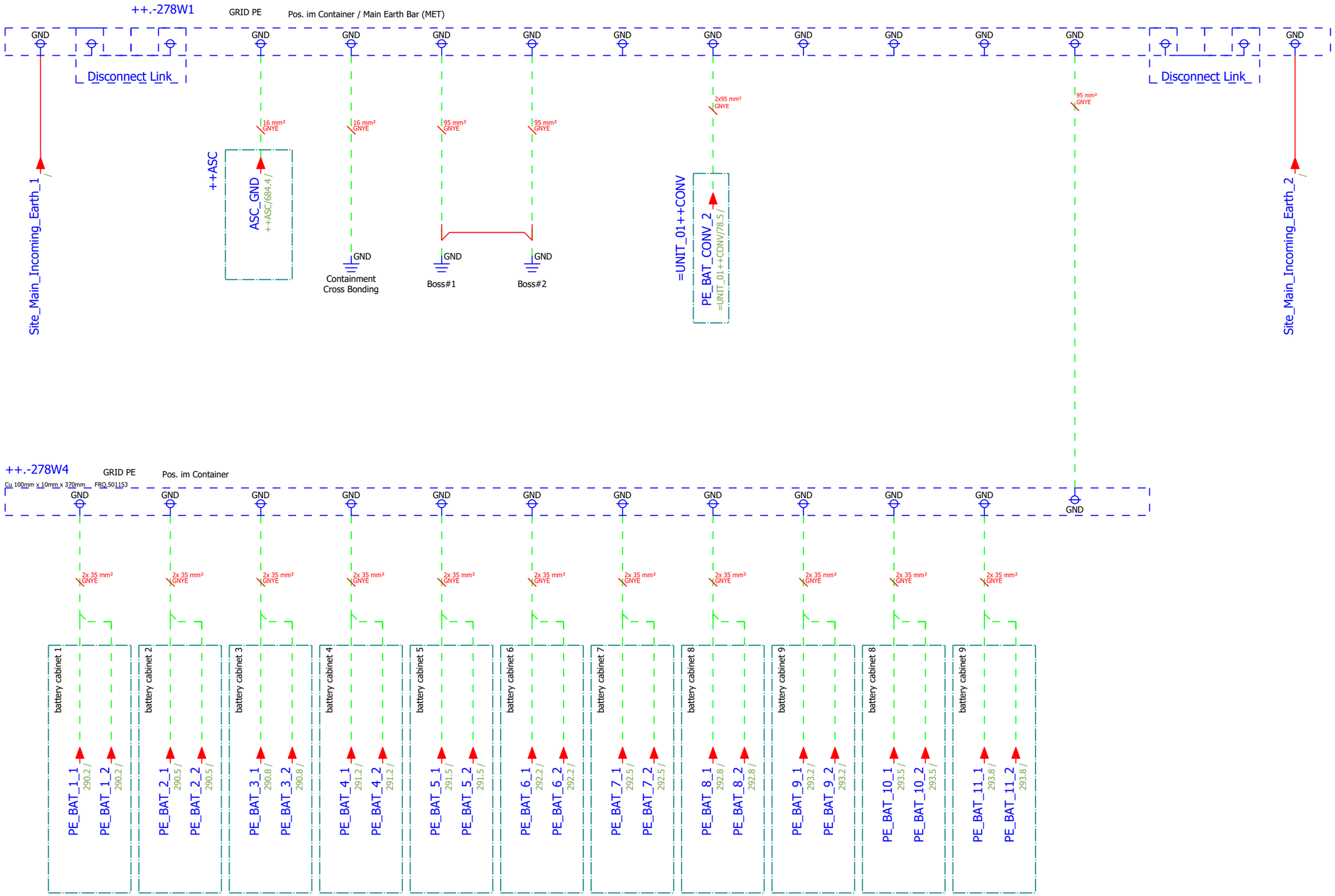


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Editor	Freqcon_JD			Statron	FREQCON	CONTAINER INSTALLATION	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 193
Date								+	total: 498

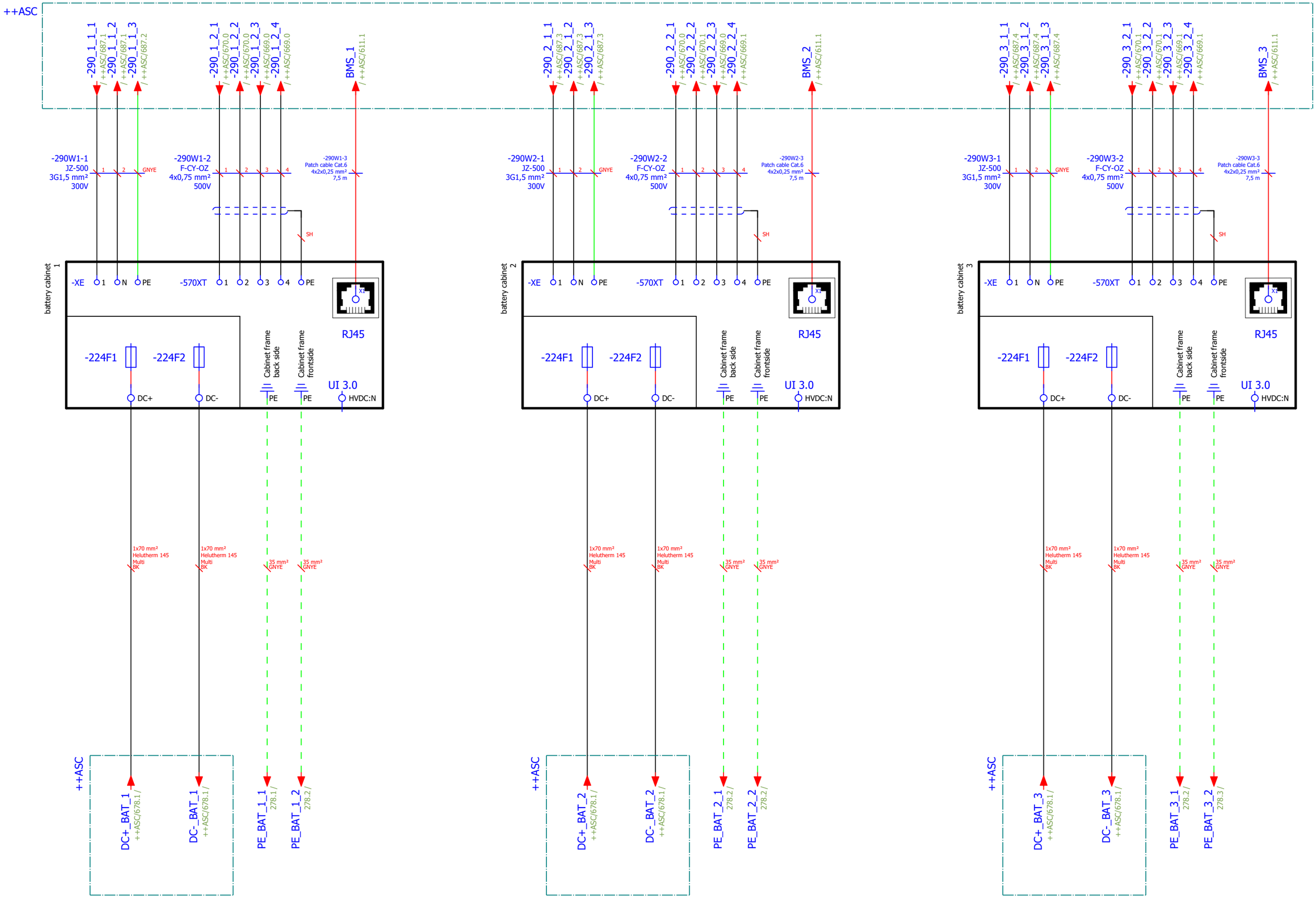
Busbars PE



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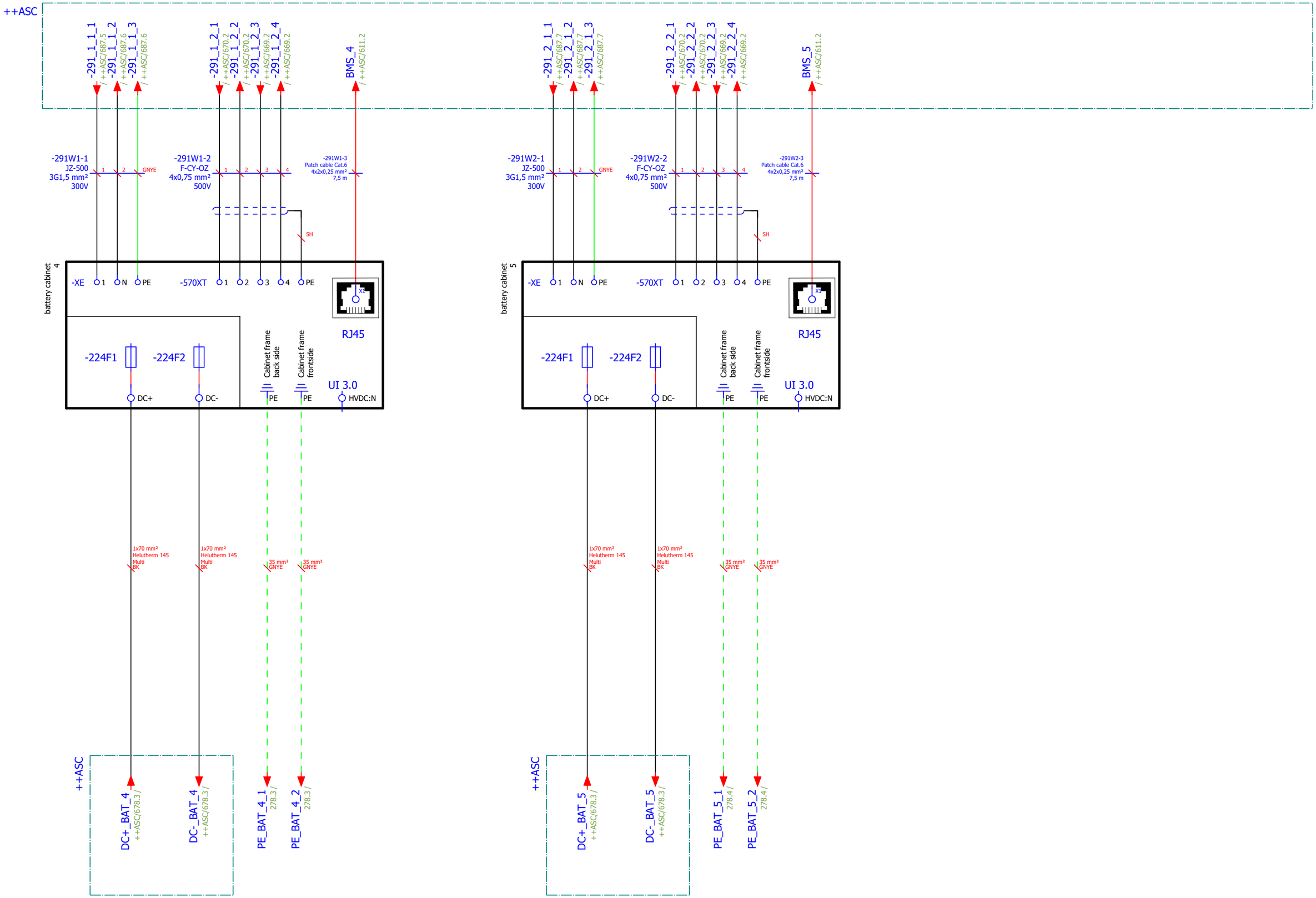
Editor	Freqcon_JD			Statron	FREQCON	EARTHING CONTAINER	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 278
Date								+	total: 498



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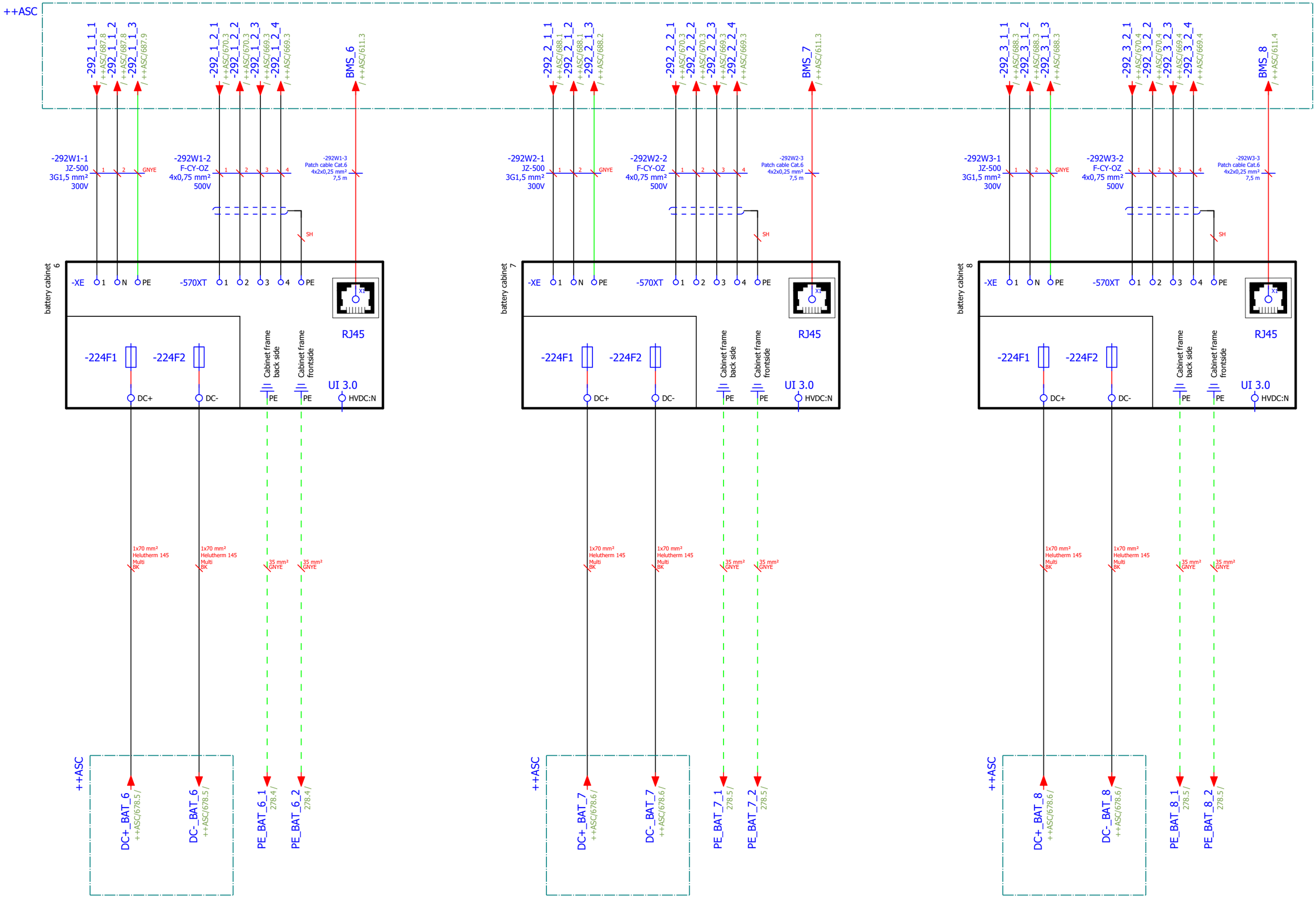
Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 1-3	20241105_V1.2	= UNIT_03	Battery Container 2
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 290
Date								+	total: 498



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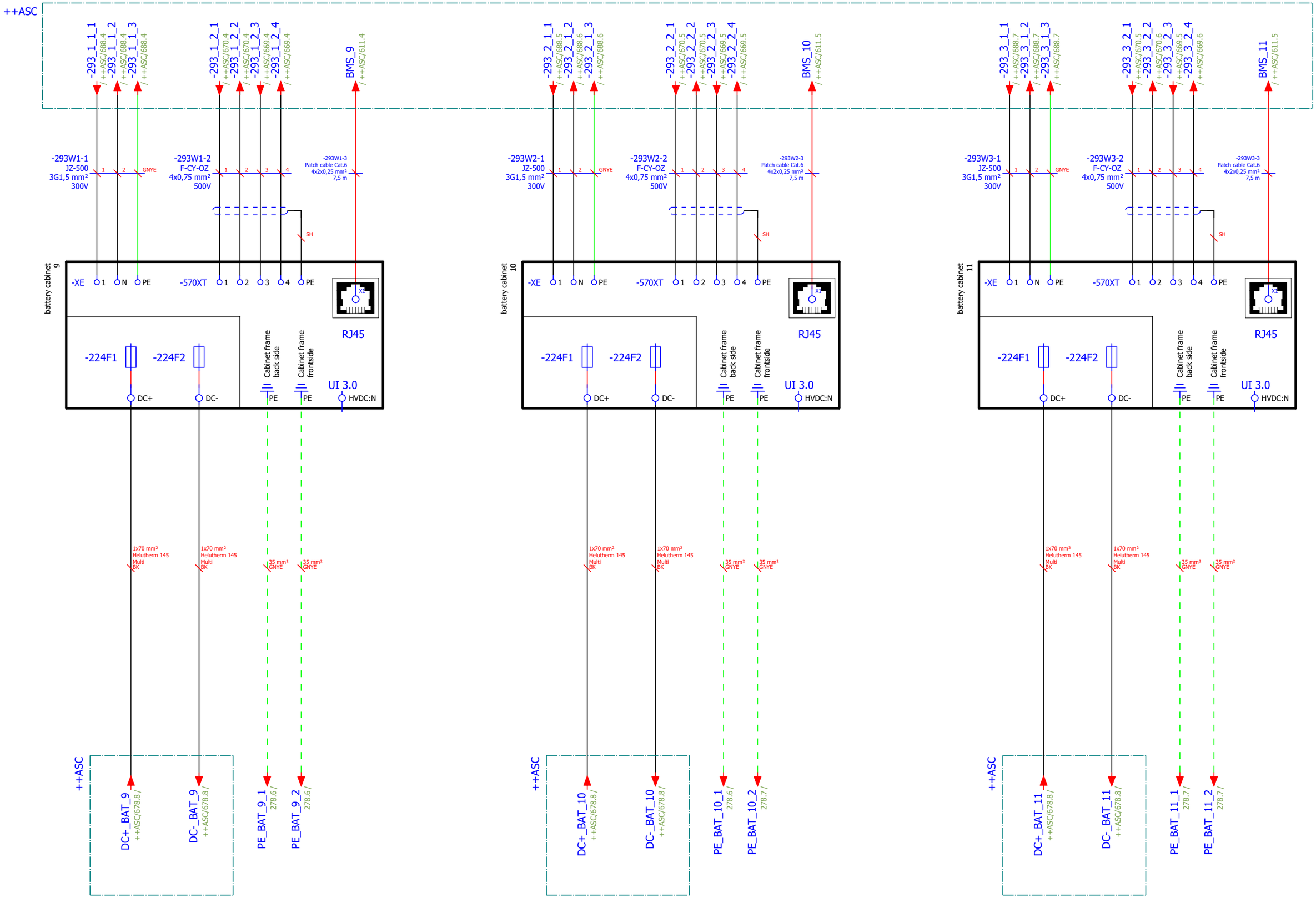
Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 4+5	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 291
Date								+	total: 498



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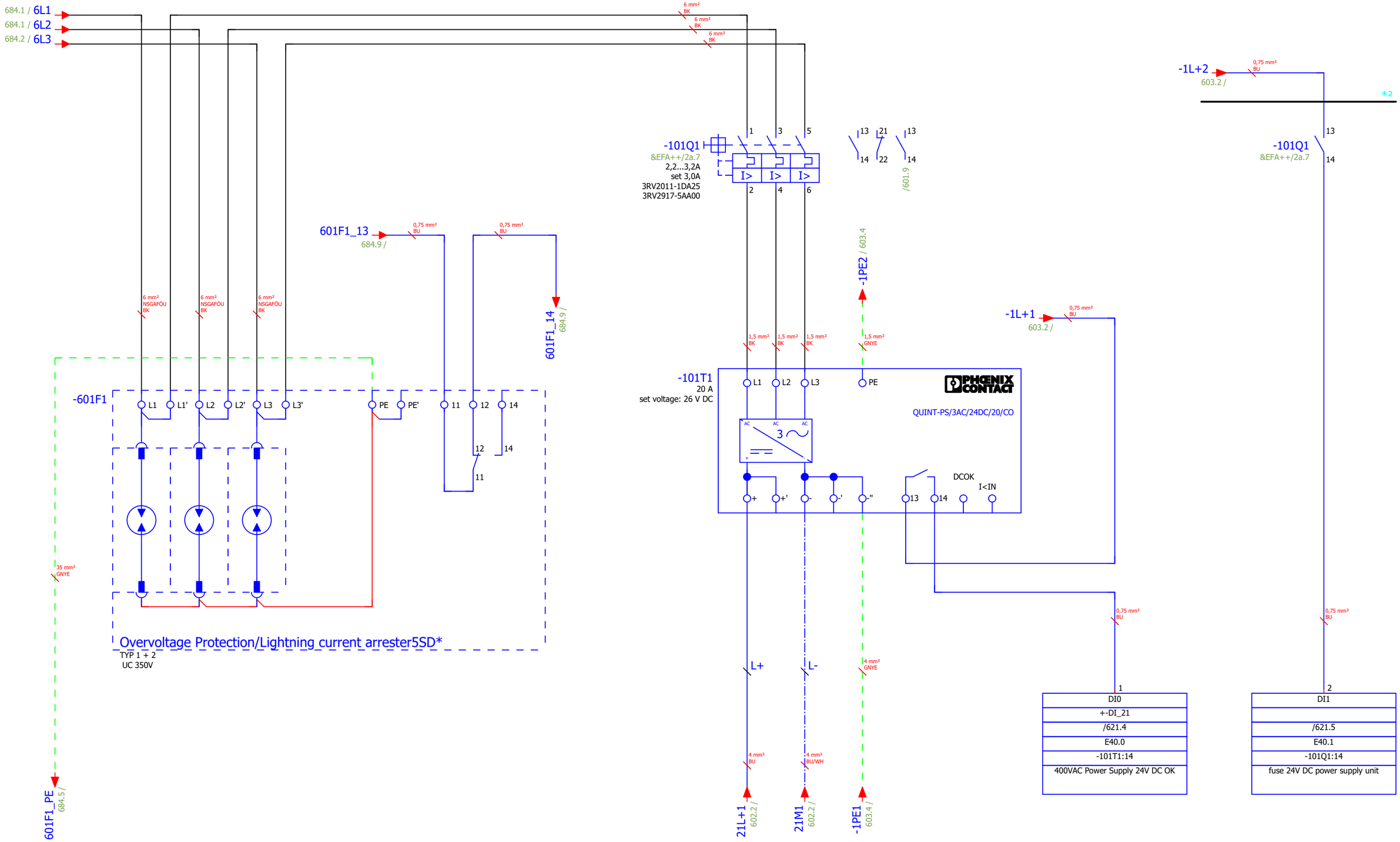
Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 6-8	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 292
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	BATTERY CABINETS 9-11	20241105_V1.2	= UNIT_03 Battery Container 2
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container page: 293
Date								+ total: 498



400VAC
Power Supply
24V DC OK

fuse
24V DC power supply unit

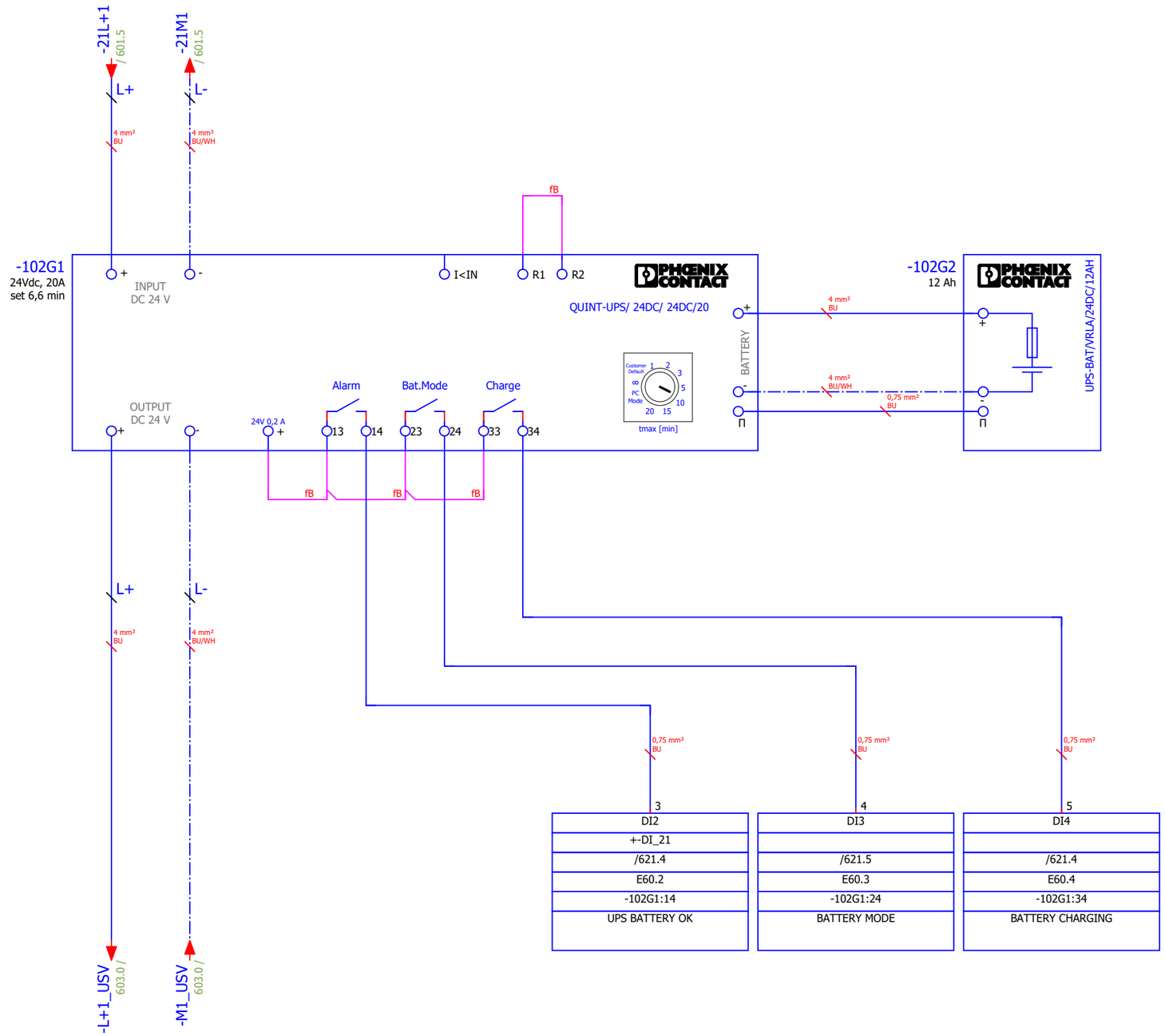
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++Container/293

Power supply unit from 400V AC

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Editor	Freqcon_DG			Statron	FREQCON	CONTROL VOLTAGE POWER SUPPLY UNIT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

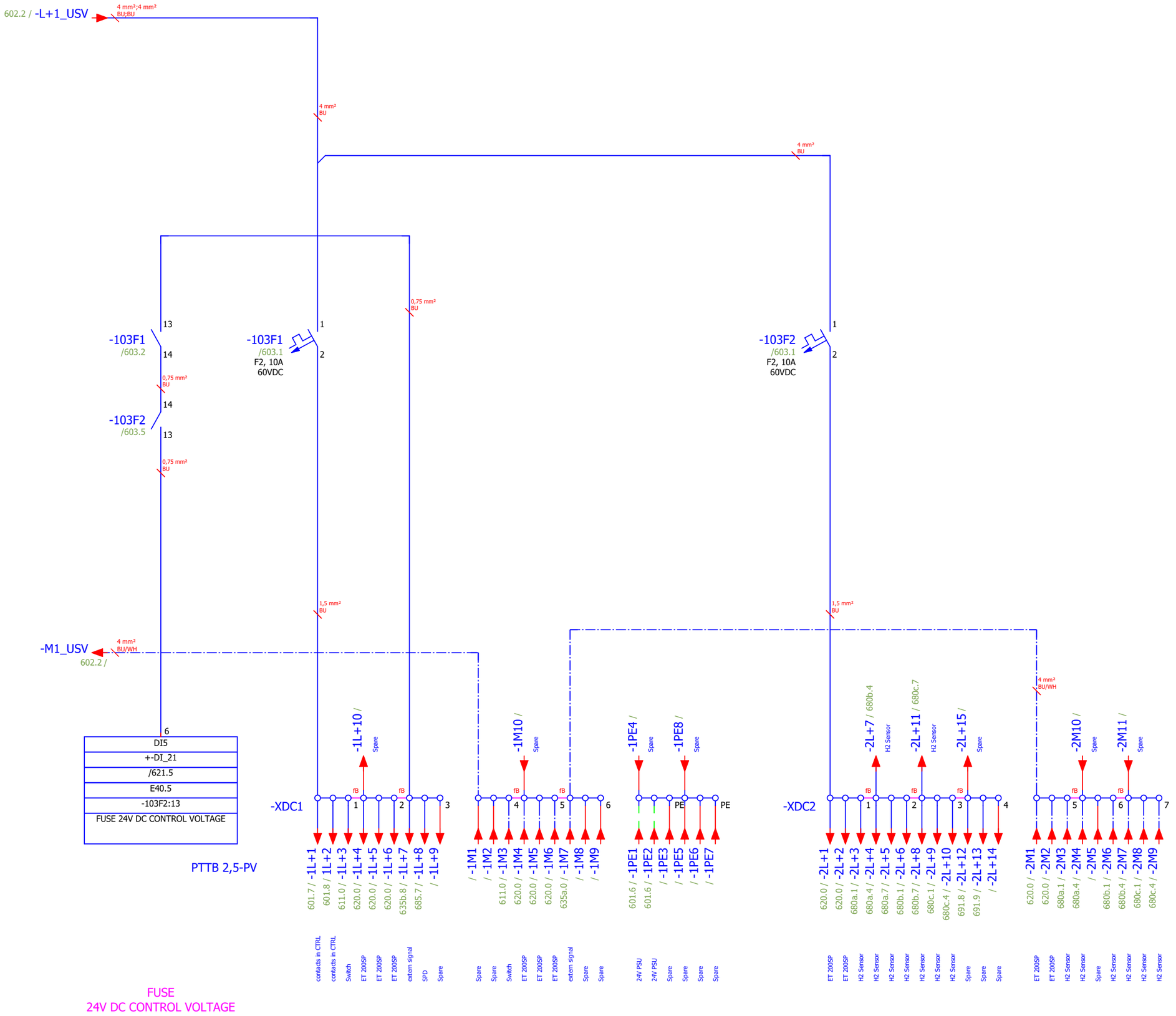
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total: 498



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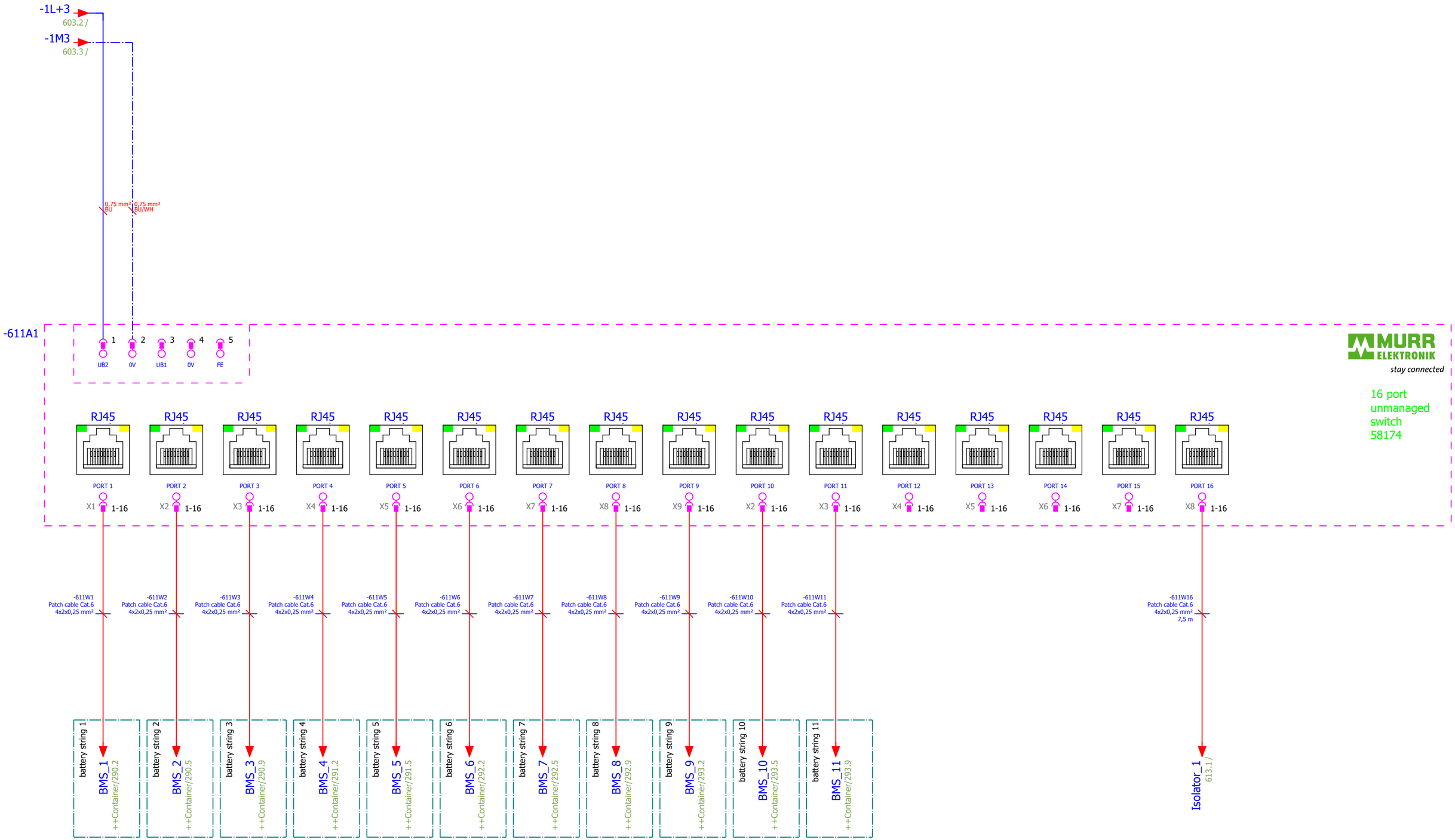
Editor	Freqcon_JD			Statron	FREQCON	CONTROL VOLTAGE UPS	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 602
Date								+	total: 498



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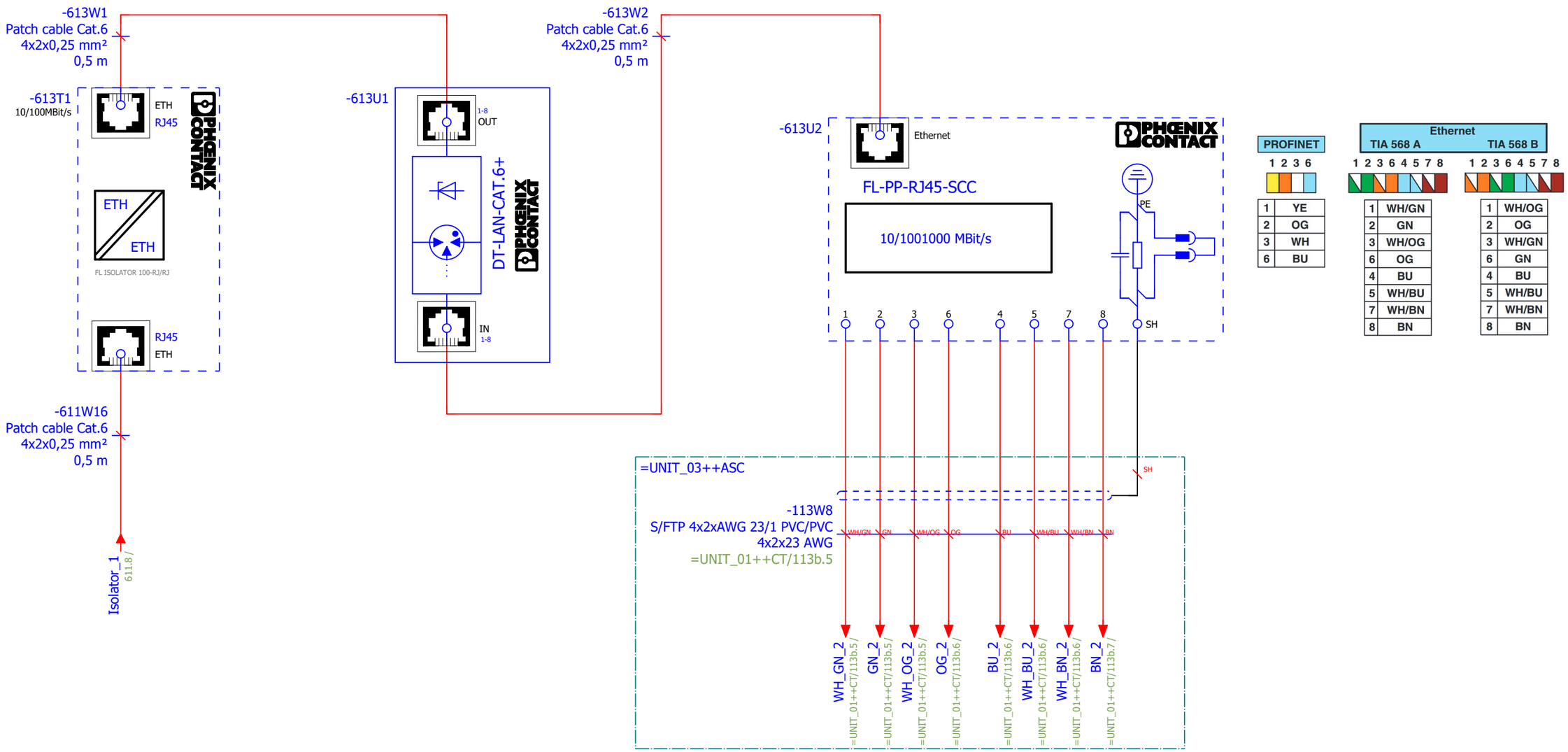
Editor	Freqcon_DG			Statron	FREQCON	CONTROL VOLTAGE FUSE	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	10.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxiliary cabinet	page: 603
Date								+	total: 498



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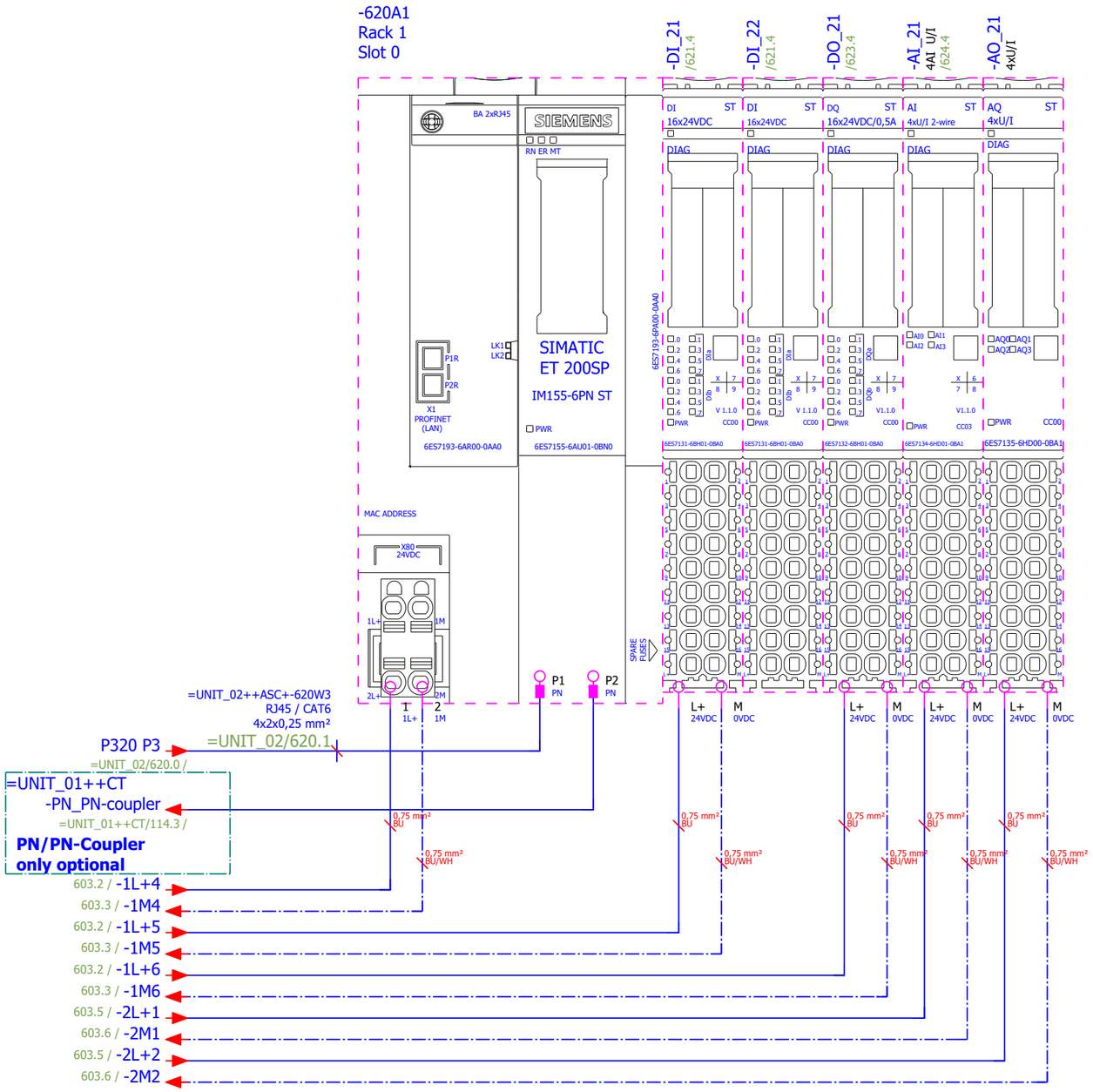
Editor	Freqcon_JD			Statron	FREQCON	ETHERNET SWITCH	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 611
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	ETHERNET / PROFINET ISOLATOR	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 613
Date								+	total: 498



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Editor	Freqcon_JD			Statron	FREQCON	ET200 24V DC ASC	20241105_V1.2	= UNIT_03	Battery Container 2
Date	02.07.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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-DI_21

/620.3

400VAC Power Supply 24V DC OK	/601.7	DI0	1	E60.0	E60.1	2	DI1	/601.9	fuse 24V DC power supply unit
UPS BATTERY OK	/602.5	DI2	3	E60.2	E60.3	4	DI3	/602.6	BATTERY MODE
BATTERY CHARGING	/602.7	DI4	5	E60.4	E60.5	6	DI5	/603.1	FUSE 24V DC CONTROL VOLTAGE
Gassensor OK BAT 1-4	/680a.7	DI6	7	E60.6	E60.7	8	DI7	/680b.7	Gassensor OK BAT 5-8
Gassensor OK BAT 9-11	/680c.7	DI8	9	E61.0	E61.1	10	DI9	/635b.8	Shut-down to BESS
FUSE AND LIGHTNING PROTECTION	/684.9	DI10	11	E61.2	E61.3	12	DI11	/691.8	Fuse Exhaust Unit
Fuse Cooling Units	/691.9	DI12	13	E61.4	E61.5	14	DI13		
		DI14	15	E61.6	E61.7	16	DI15		
	/620.3	24VDC	L+			M	0VDC	/620.3	

-DI_22

/620.3

DI0	1	E60.0	E60.1	2	DI1
DI2	3	E60.2	E60.3	4	DI3
DI4	5	E60.4	E60.5	6	DI5
DI6	7	E60.6	E60.7	8	DI7
DI8	9	E61.0	E61.1	10	DI9
DI10	11	E61.2	E61.3	12	DI11
DI12	13	E61.4	E61.5	14	DI13
DI14	15	E61.6	E61.7	16	DI15
24VDC	L+			M	0VDC

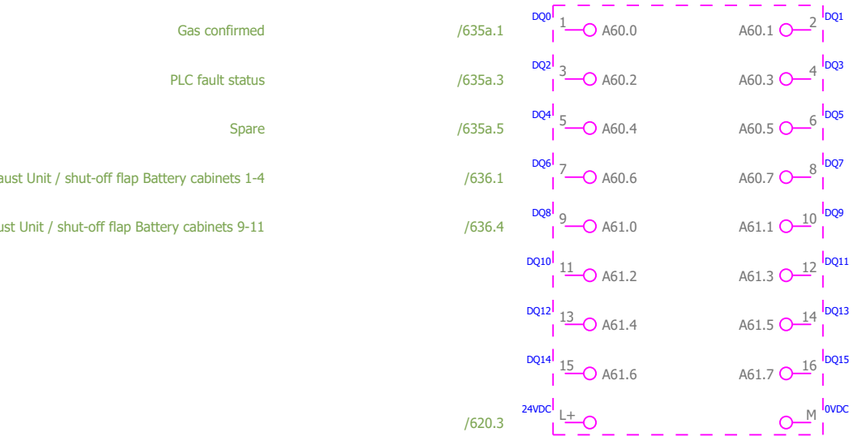
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0	1	2	3	4	5	6	7	8	9

-DO_21

/620.3



Gas confirmed	/635a.1	/635a.2	Smoke confirmed
PLC fault status	/635a.3	/635a.4	Thermal runaway
Spare	/635a.5	/635a.6	Spare
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4	/636.1	/636.2	230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11	/636.4		
	/620.3	/620.4	

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Editor	Freqcon_JD			Statron	FREQCON	ET200SP DIGITAL OUTPUTS DO_21	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	14.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 623
Date								+	total: 498

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/620.4



gas concentration BAT 1-4 /680a.2

gas concentration BAT 9-11 /680c.2

gas concentration BAT 1-4 /680a.2

gas concentration BAT 9-11 /680c.2

/620.4

/680b.2 gas concentration BAT 5-8

/680b.2 gas concentration BAT 5-8

/620.4

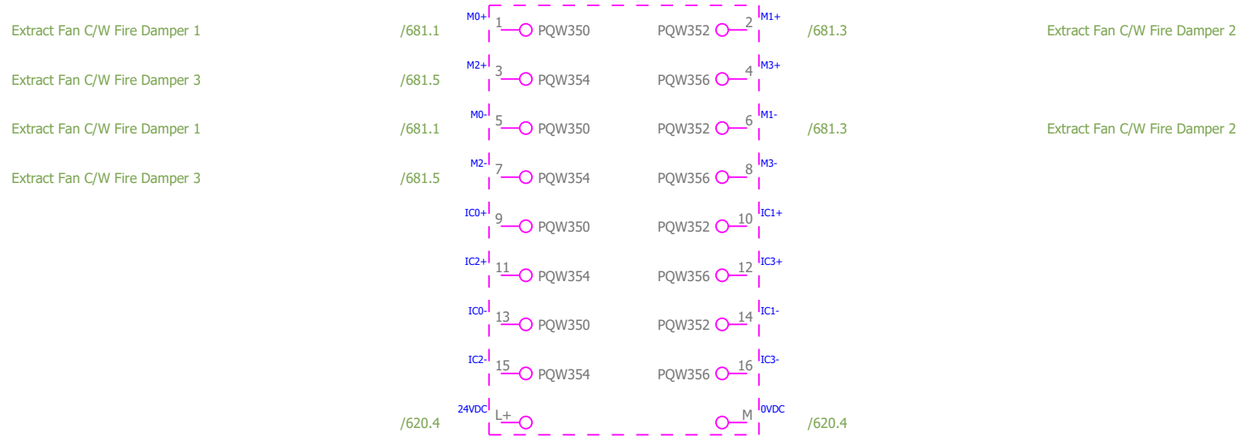
previous page: 623

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Editor	Freqcon_JD			Statron	FREQCON	ET200SP ANALOG INPUTS AI_21	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	14.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 624
Date								+	total: 498

-AO_21

/620.4



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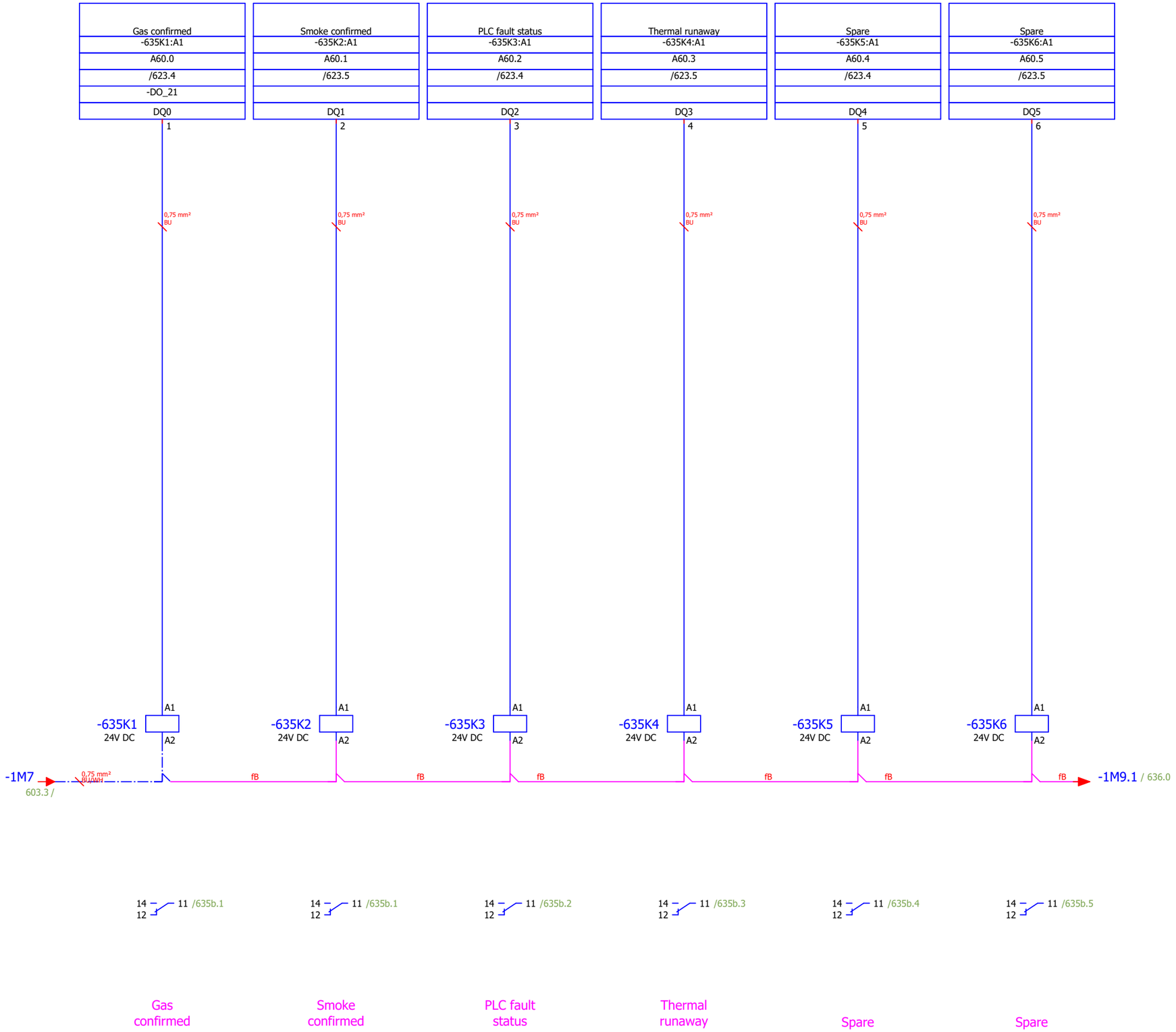
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Editor	Freqcon_JD			Statron	FREQCON	ET200SP ANALOG OUTPUTS AO_21	20241105_V1.2	= UNIT_03	Battery Container 2
Date	14.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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0	1	2	3	4	5	6	7	8	9



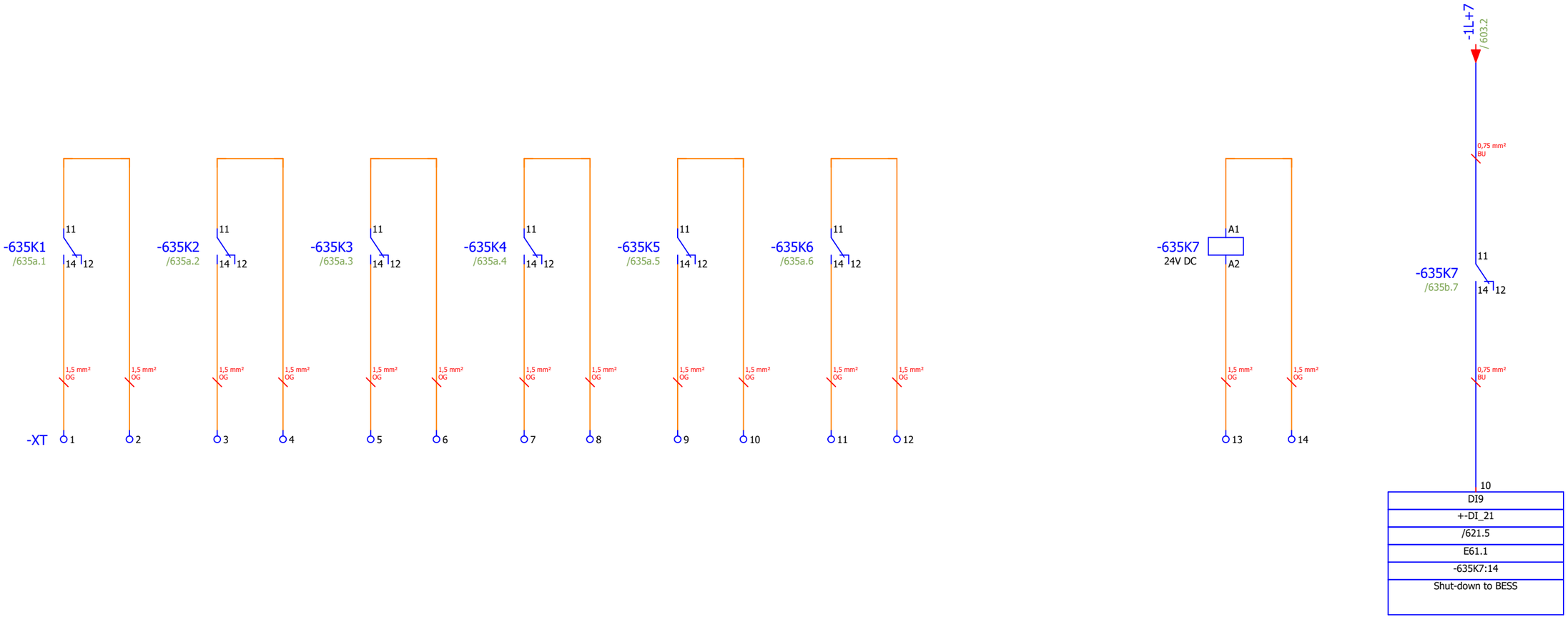
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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS COMMUNICATION	20241105_V1.2	= UNIT_03	Battery Container 2
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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Gas confirmed FGS

Smoke confirmed FGS

PLC fault status SIS

Thermal runaway SIS

Spare

Spare

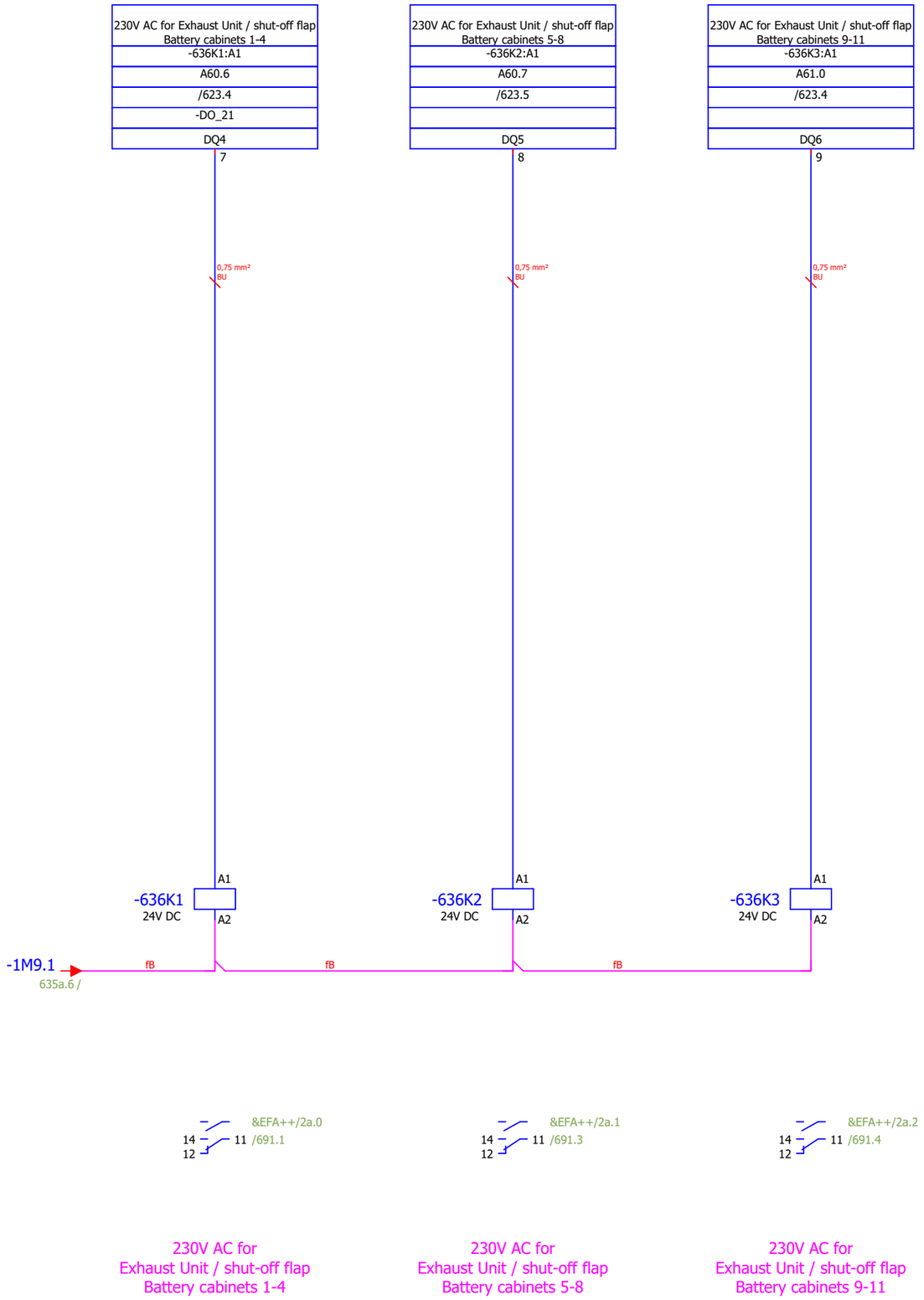
Shut-down to BESS

Shut-down to BESS

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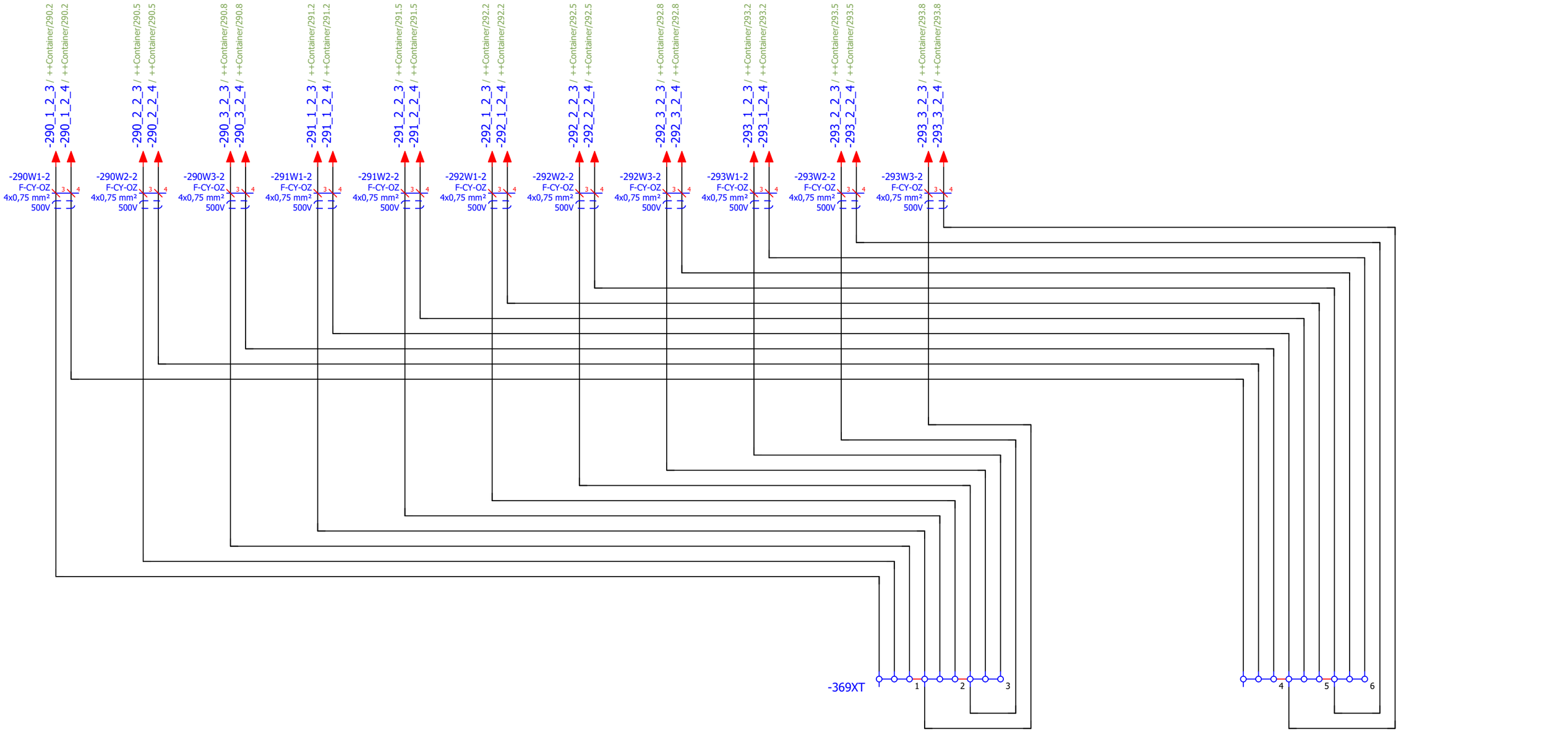
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Date	18.06.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet	page: 635b
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Editor	Freqcon_JD			Statron	FREQCON	OUTPUTS FIRE DAMPER	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 636
Date								+	total: 498



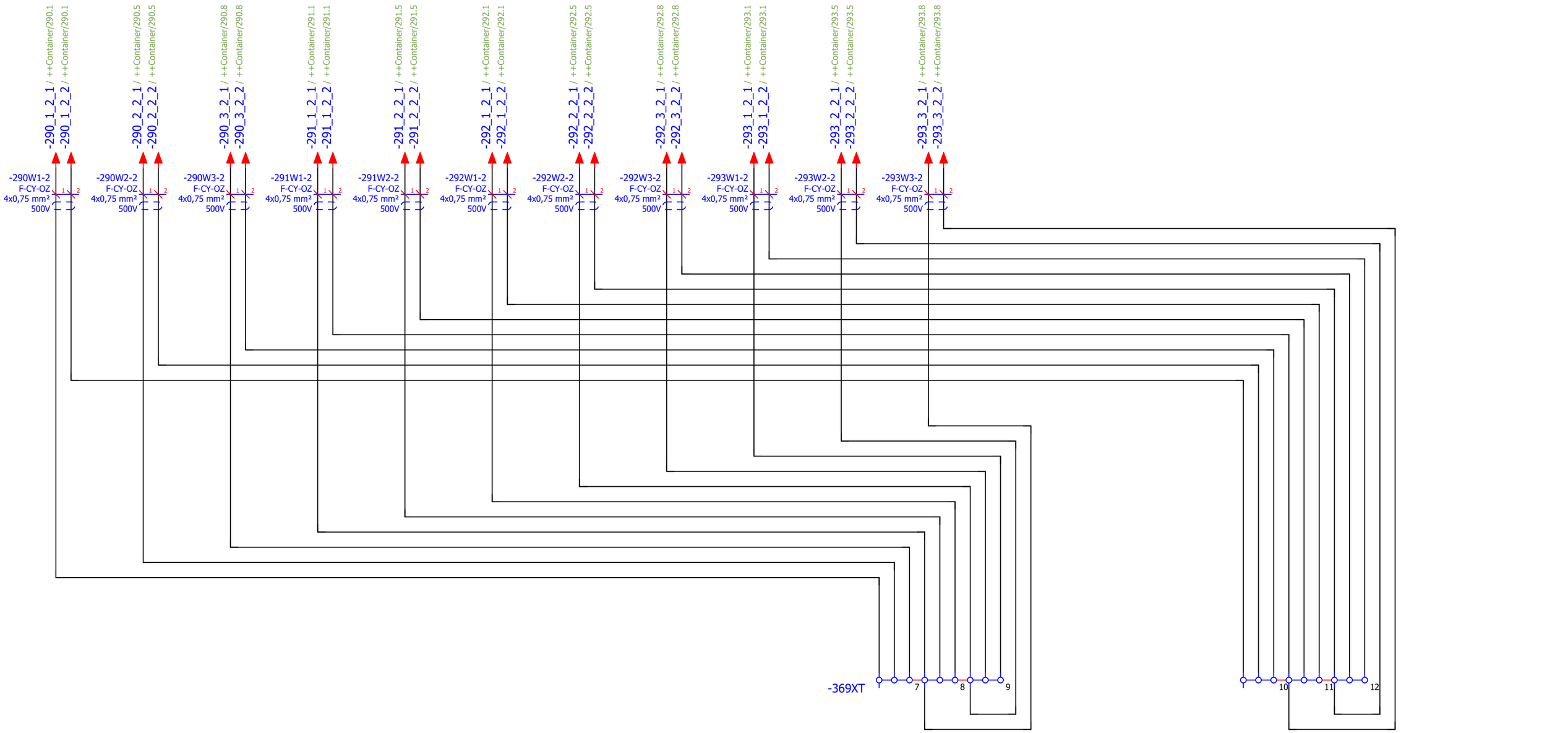
battery cabinet smoke detector
potential-free contacts
customer

battery cabinet smoke detector
potential-free contacts
customer

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Editor	Freqcon_JD			Statron	FREQCON	SMOKE POTENTIAL-FREE CONTACTS	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 669
Date								+	total: 498



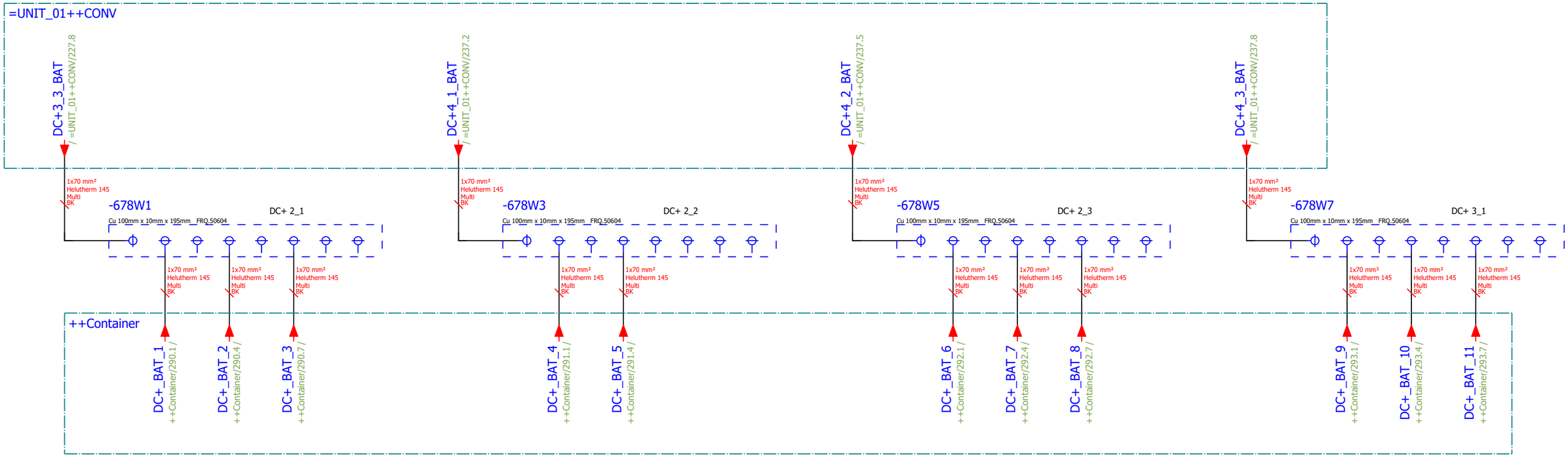
battery cabinet gas
potential-free contacts
customer

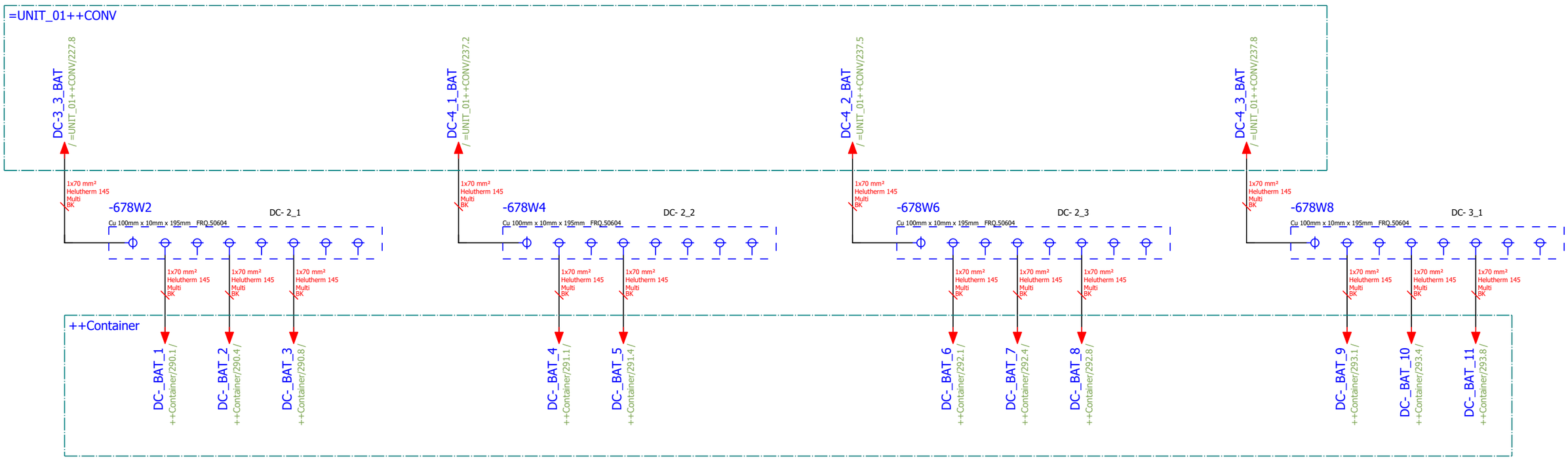
battery cabinet gas
potential-free contacts
customer

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669

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Editor	Freqcon_JD			Statron	FREQCON	GAS POTENTIAL-FREE CONTACTS	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 670
Date								+	total: 498



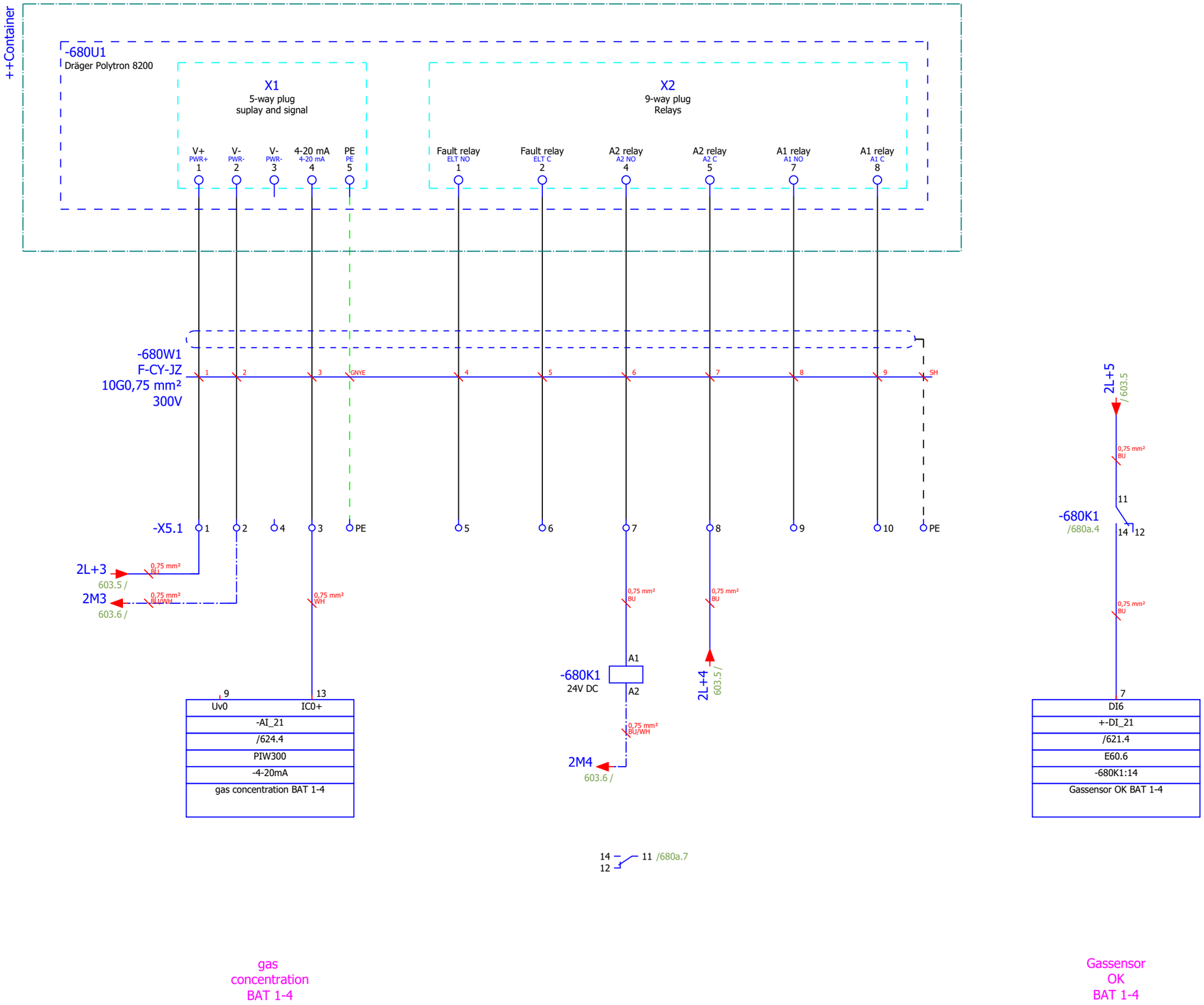


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Editor	Freqcon_JD			Statron	FREQCON	DC BATTERY CABINETS	20241105_V1.2	= UNIT_03	Battery Container 2
Date	18.06.2024							& EFS	Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	

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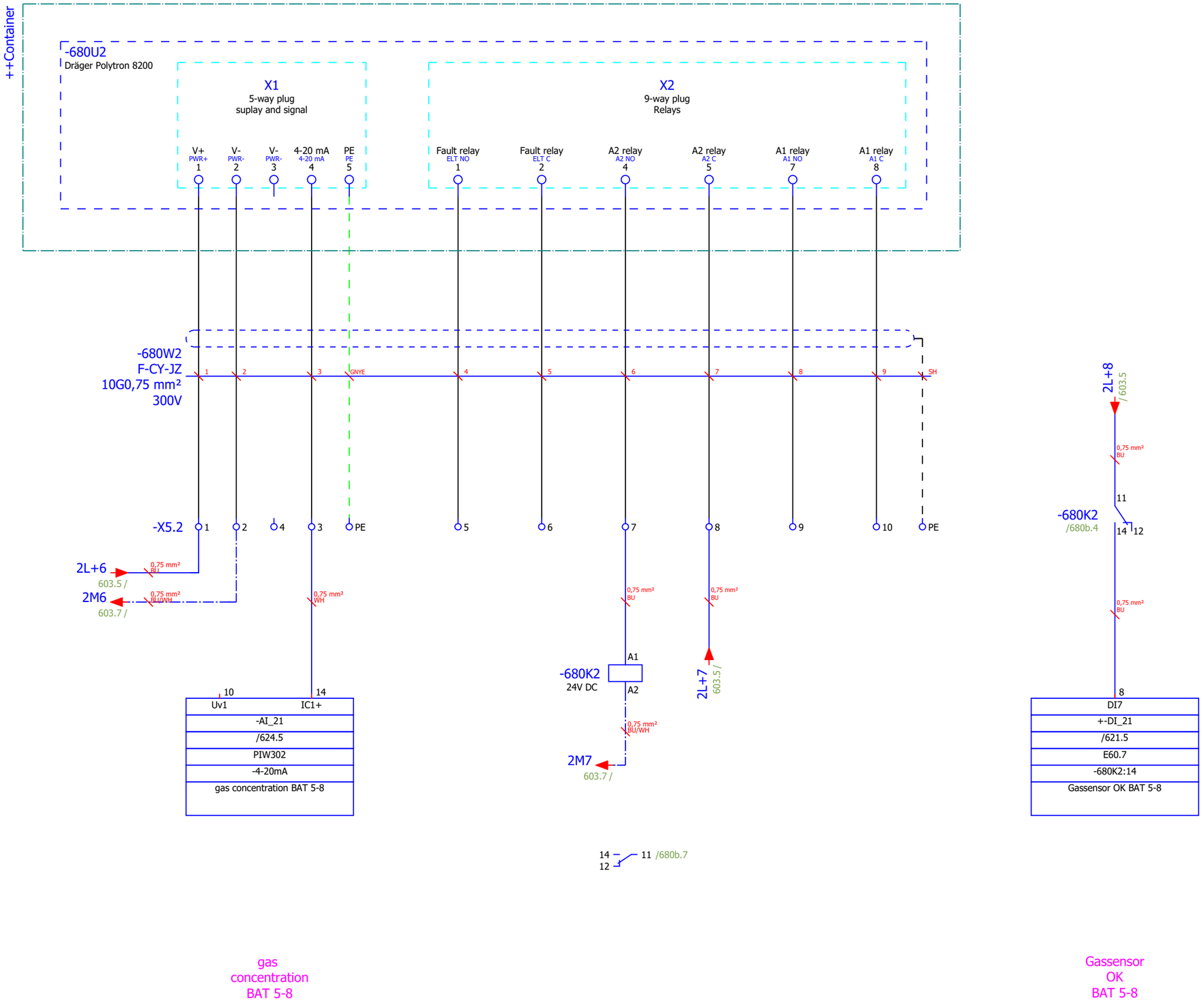
gas concentration BAT 1-4

Gassensor OK BAT 1-4

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Editor	Freqcon_JD			Statron	FREQCON	STATIONARY GAS DETECTOR BAT 1-4	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 680a
Date								+	total: 498



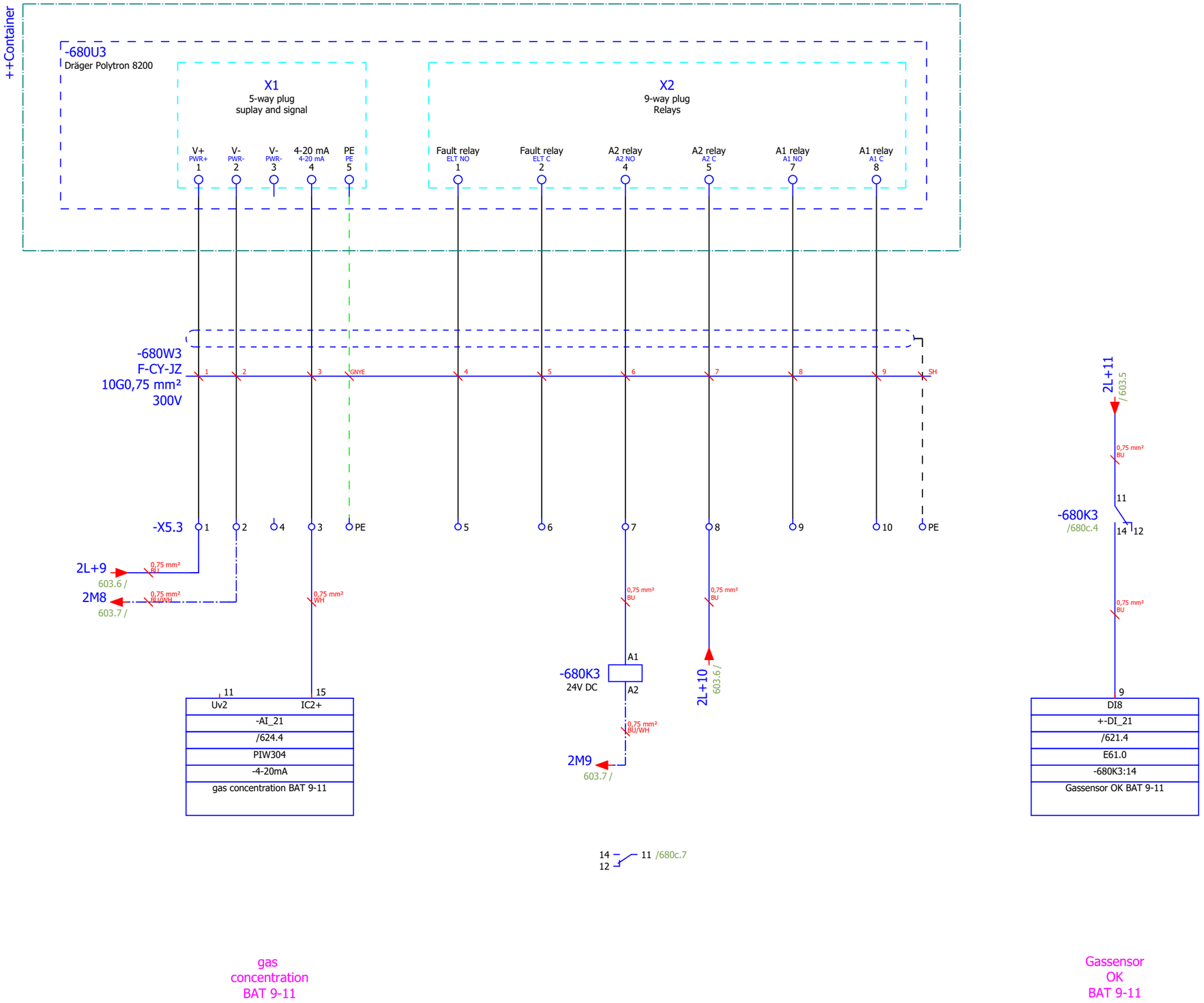
gas concentration BAT 5-8

Gassensor OK BAT 5-8

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Editor	Freqcon_JD			Statron	FREQCON	STATIONARY GAS DETECTOR BAT 5-8	20241105_V1.2	= UNIT_03 Battery Container 2
Date	18.06.2024							& EFS Circuit diagram
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet — page: 680b
Date								+ — total: 498



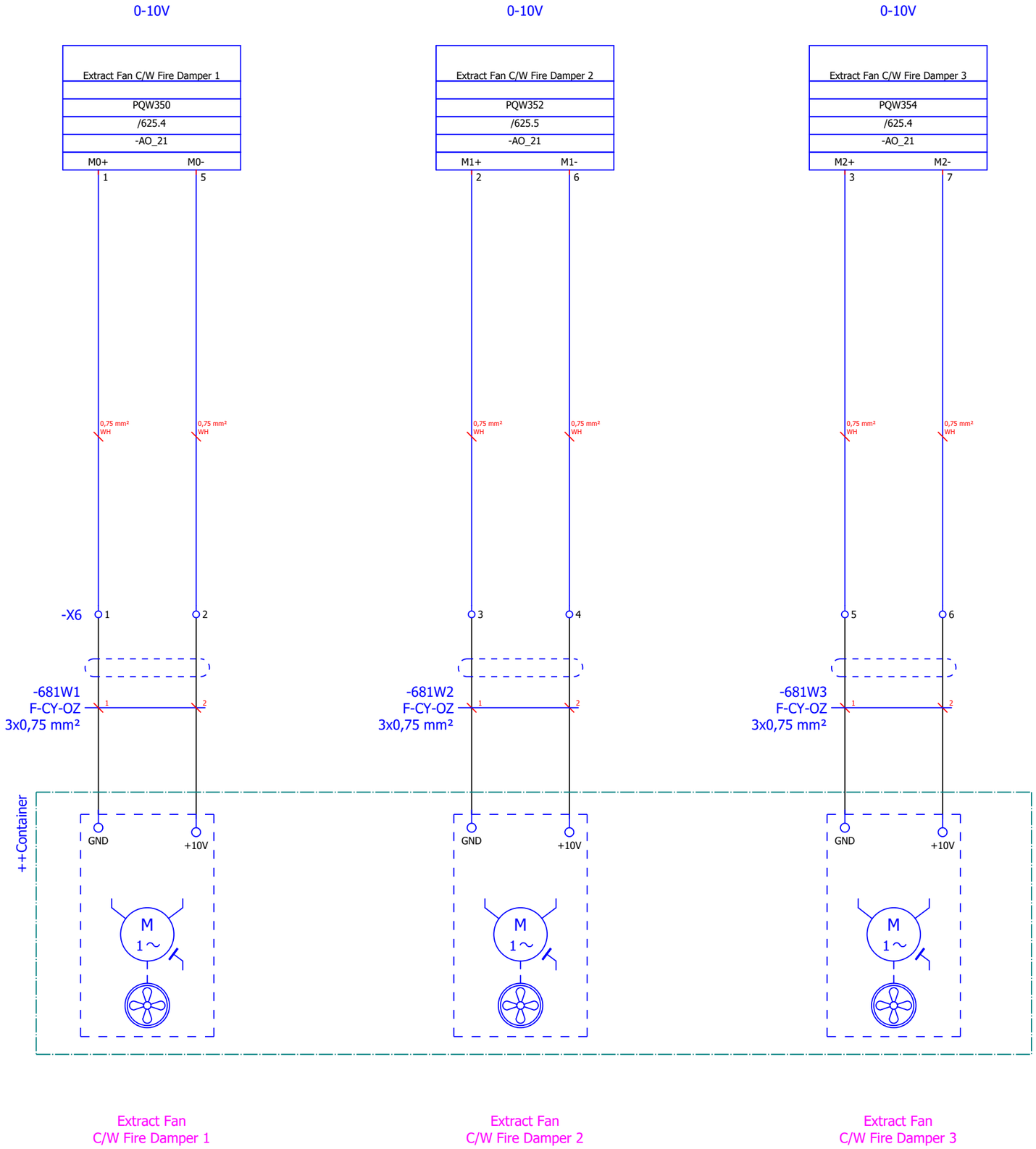
gas concentration BAT 9-11

Gassensor OK BAT 9-11

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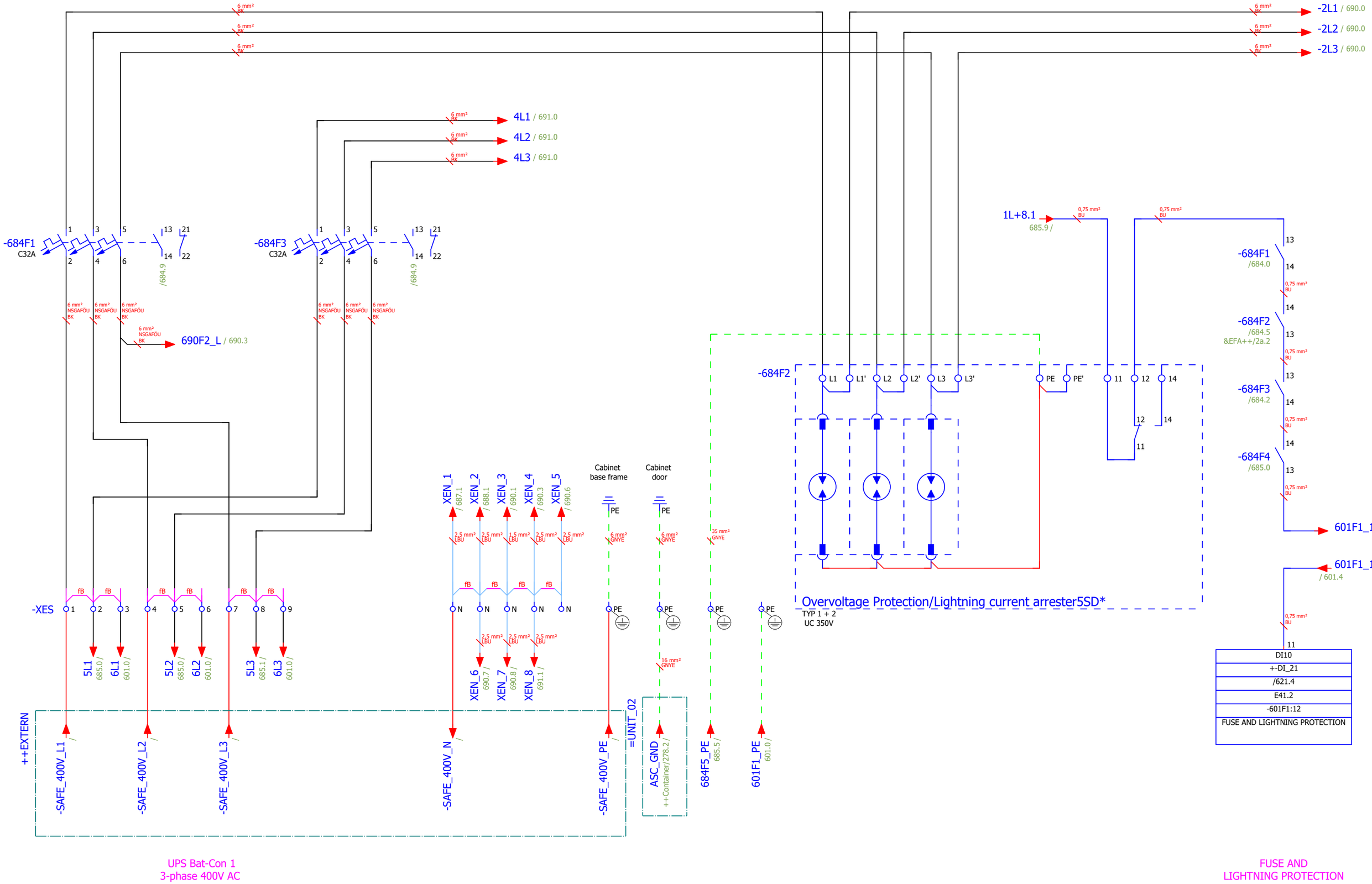
Editor	Freqcon_JD			Statron	FREQCON	STATIONARY GAS DETECTOR BAT 9-11	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 680c
Date								+	total: 498



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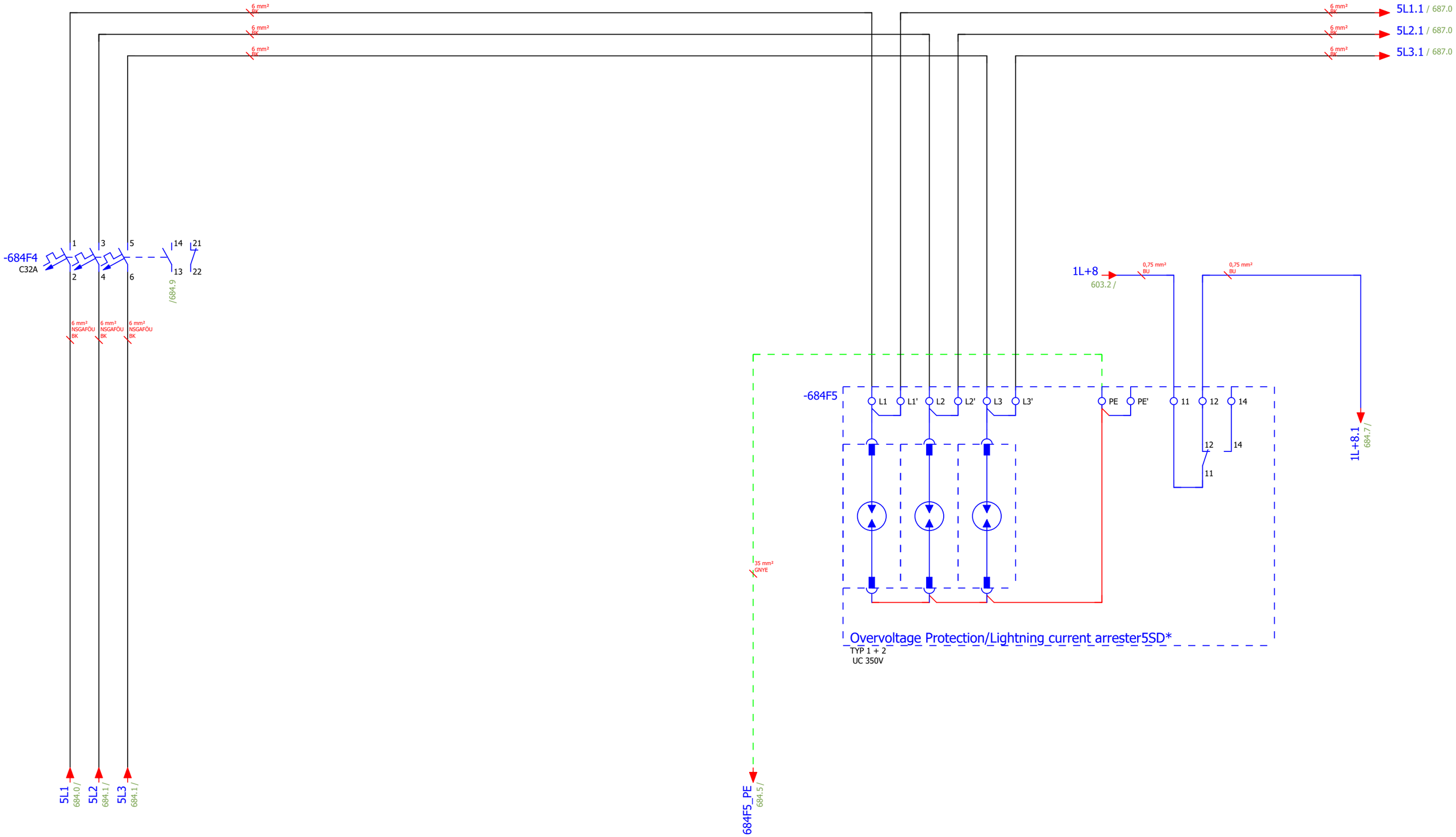
Editor	Freqcon_JD			Statron	FREQCON	EXTRACT FAN FIRE DAMPER	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	18.06.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 681
Date								+	total: 498



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Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V AC	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	05.11.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 684
Date								+	total: 498

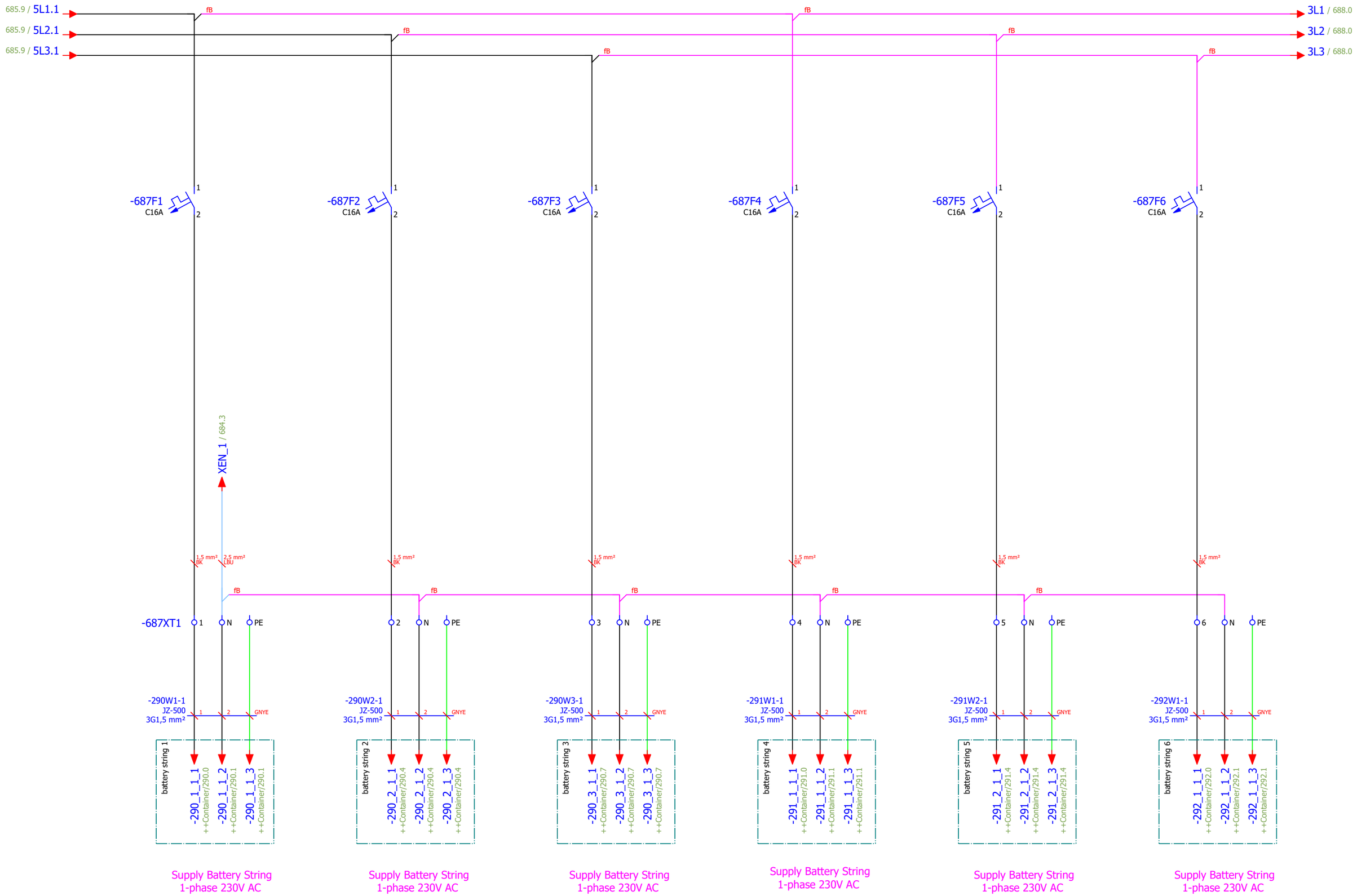


FUSE AND
LIGHTNING PROTECTION

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Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V AC	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	08.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 685
Date								+	total: 498



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Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V / 230V AC DISTRIBUTION	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	08.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 687
Date								+	total: 498

687.9 / 3L1
687.9 / 3L2
687.9 / 3L3

fB

-688F1 C16A
-688F2 C16A
-688F3 C16A
-688F4 C16A
-688F5 C16A

XEN_2 / 684.3

1,5 mm² BK
2,5 mm² LBU

-687XT1 7 N PE
-687XT1 8 N PE
-687XT1 9 N PE
-687XT1 10 N PE
-687XT1 11 N PE

-292W2-1 JZ-500 3G1,5 mm²
-292W3-1 JZ-500 3G1,5 mm²
-293W1-1 JZ-500 3G1,5 mm²
-293W2-1 JZ-500 3G1,5 mm²
-293W3-1 JZ-500 3G1,5 mm²

1 2 GNYE

battery string 7
-292_2_1_1 ++Container/292.4
-292_2_1_2 ++Container/292.4
-292_2_1_3 ++Container/292.4

battery string 8
-292_3_1_1 ++Container/292.7
-292_3_1_2 ++Container/292.7
-292_3_1_3 ++Container/292.7

battery string 9
-293_1_1_1 ++Container/293.0
-293_1_1_2 ++Container/293.1
-293_1_1_3 ++Container/293.1

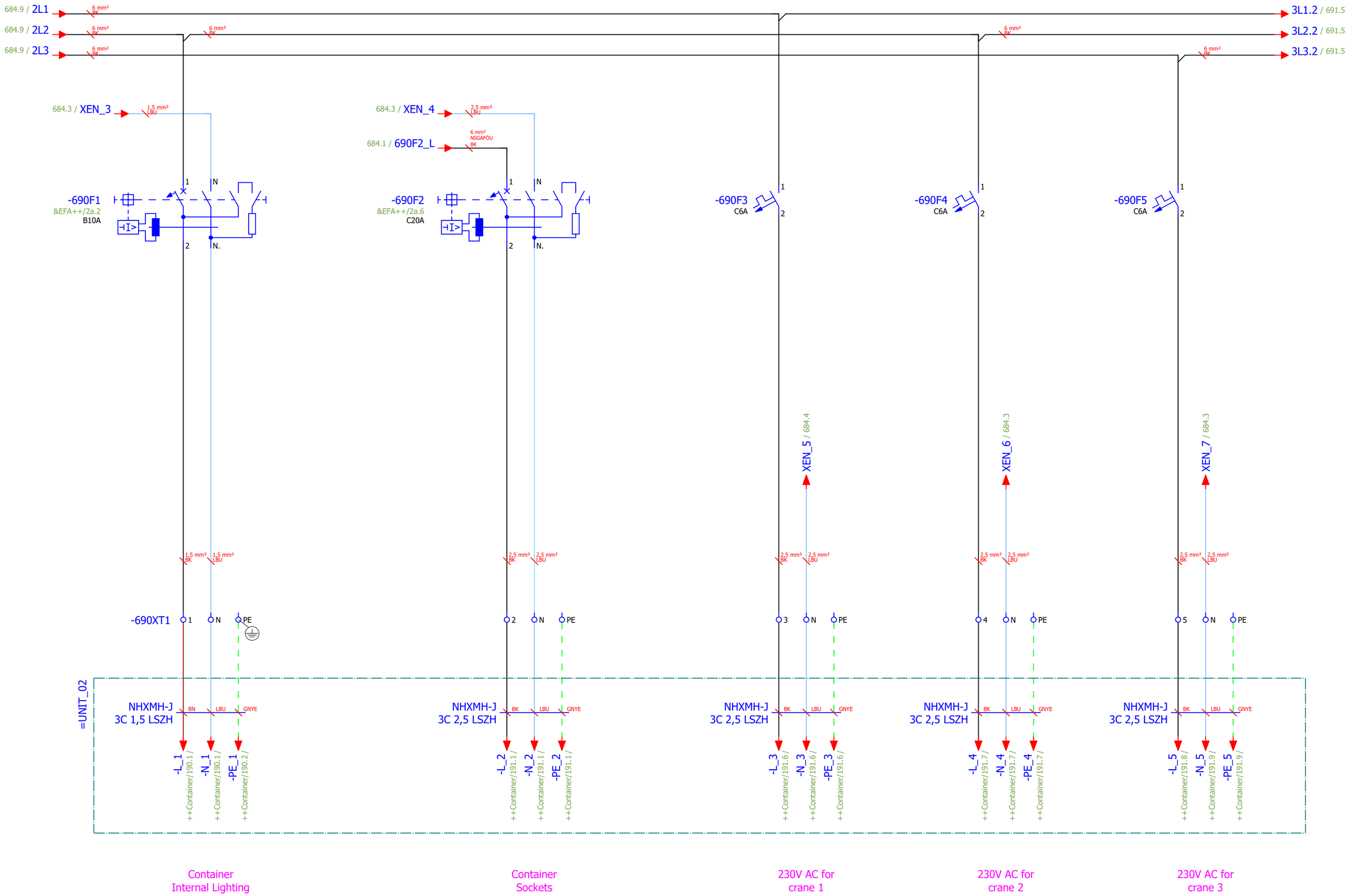
battery string 10
-293_2_1_1 ++Container/293.4
-293_2_1_2 ++Container/293.4
-293_2_1_3 ++Container/293.4

battery string 11
-293_3_1_1 ++Container/293.7
-293_3_1_2 ++Container/293.7
-293_3_1_3 ++Container/293.7

Supply Battery String 1-phase 230V AC

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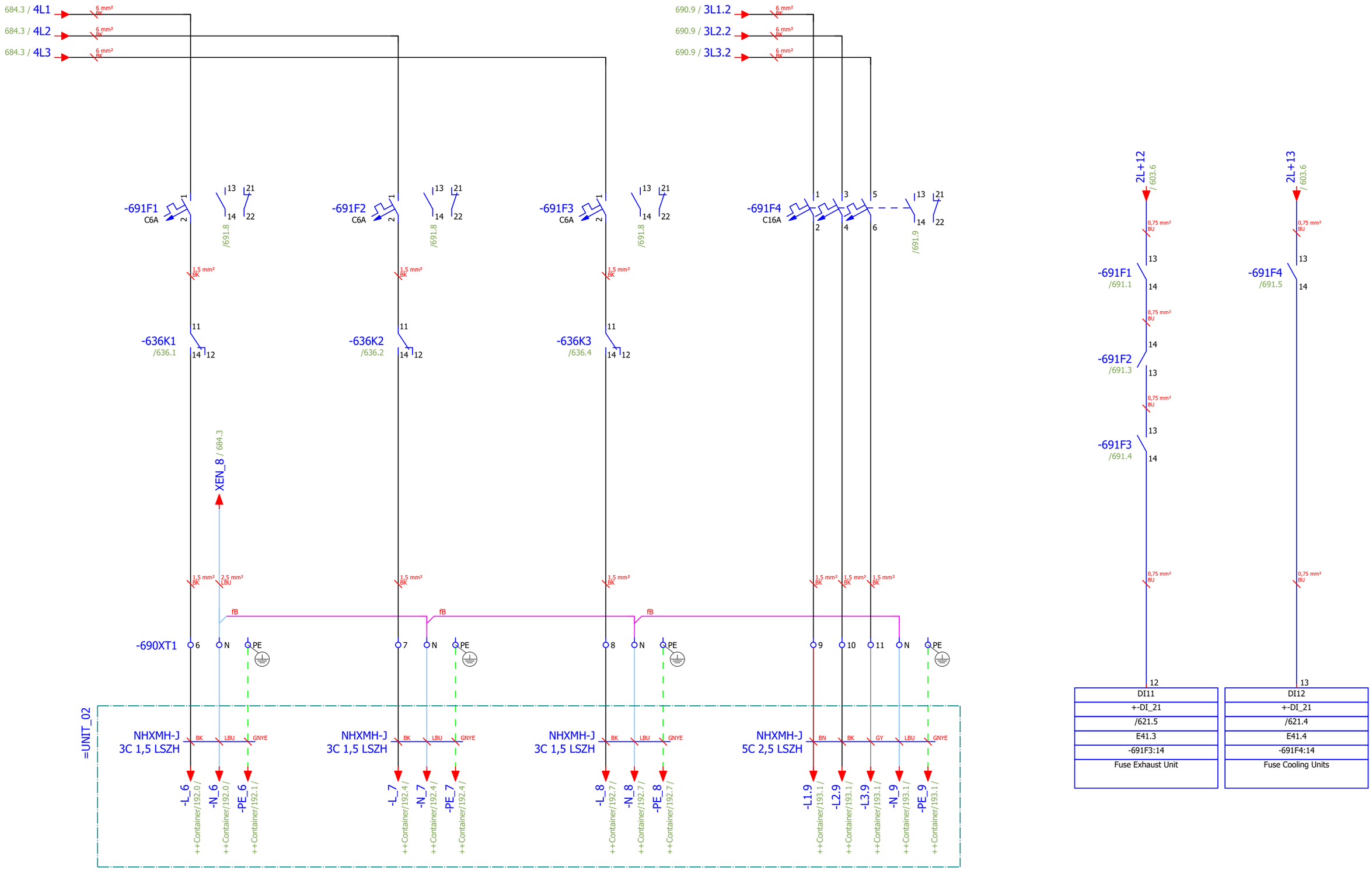
Editor	Freqcon_DG			Statron	FREQCON	AUXILIARY SUPPLY 400V / 230V AC DISTRIBUTION	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	08.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 688
Date								+	total: 498



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Editor	Freqcon_DG			Statron	FREQCON	CONTAINER COOLING / LIGHTNING	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	29.10.2024							& EFS Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet	page: 690
Date								+	total: 498



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Editor	Freqcon_DG			Statron	FREQCON	CONTAINER COOLING / LIGHTNING	20241105_V1.2	= UNIT_03	Battery Container 2	
Date	05.11.2024							& EFS	Circuit diagram	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet	page: 691
Date								+		total: 498

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-680U1 &EFS++ASC/680a.1	1	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321	
-680U2 &EFS++ASC/680b.1	1	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321	
-680U3 &EFS++ASC/680c.1	1	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321	

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&EFS++ASC/691

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++ASC/1

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-101Q1 &EFA++/2a.7;&EFS/601.5	2	CIRCUIT-BREAKER SPRING-L. CONN. 3.2A	3RV2011-1DA25	Siemens	501432	
-101T1 &EFS/601.5	1	Power supply QUINT-PS/3AC/24DC/20/CO, with protective coating	2320924	Phoenix Contact	501573	
-102G1 &EFS/602.2	1	Uninterruptible power supply QUINT-UPS/ 24DC/ 24DC/20	2320238	Phoenix Contact	501598	
-102G2 &EFS/602.6	1	Energy storage UPS-BAT/VRLA/24DC/12AH	2320322	Phoenix Contact	501229	
-103F1 &EFS/603.2	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	
-103F2 &EFS/603.5	1	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086	
-369XT &EFS/669.5...&EFS/669.8;&EFS/670.5...&EFS/670.8	12	Multi-level terminal block	3210583	Phoenix Contact	501385	
-369XT &EFS/669.5;&EFS/669.7;&EFS/670.5;&EFS/670.7	4	Plug-in bridge FBS 10-5	3030213	Phoenix Contact	500547	
-369XT &EFS/669.5	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-601F1 &EFS/601.1	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-611A1 &EFS/611.0	1	TREE 16 TX Metall 2GE 14 FE - Unmanaged Gigabit Switch - 16 Ports/	58174	Murrelektronik	10286	
-613T1 &EFS/613.1	1	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464	
-613T1 &EFS/613.1	1	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395	
-613U1 &EFS/613.3	1	Surge protection device	2881007	Phoenix Contact	504791	
-613U2 &EFS/613.5	1	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214	
-620A1 &EFS/620.1	1	SIMATIC ET 200SP, PROFINET Interface-Module, IM 155-6 PN ST, bundle of Server module + Busadapter	6ES7155-6AA01-0BN0	Siemens	501554	
-635K1 &EFS/635a.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-635K1 &EFS/635a.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-635K2 &EFS/635a.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-635K2 &EFS/635a.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-635K3 &EFS/635a.3	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-635K3 &EFS/635a.3	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-635K4 &EFS/635a.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-635K4 &EFS/635a.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-635K5 &EFS/635a.5	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-635K5 &EFS/635a.5	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-635K6 &EFS/635a.6	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-635K6 &EFS/635a.6	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-635K7 &EFS/635b.7	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-636K1 &EFS/636.1	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-636K1 &EFS/636.1	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-636K2 &EFS/636.2	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-636K2 &EFS/636.2	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-636K3 &EFS/636.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-636K3 &EFS/636.4	1	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803	
-680K1 &EFS/680a.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-680K2 &EFS/680b.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	
-680K3 &EFS/680c.4	1	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-684F1 &EFS/684.0	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	
-684F1 &EFS/684.0	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-684F2 &EFS/684.5	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-684F3 &EFS/684.2	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	
-684F3 &EFS/684.2	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-684F4 &EFS/685.0	1	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272	
-684F4 &EFS/685.0	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-684F5 &EFS/685.5	1	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070	
-687F1 &EFS/687.1	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F1 &EFS/687.1	1	PIN BUS BAR SHOCKHAZARD SAFETY, 16QMM 3 PHASE+HS	5ST3712	Siemens	10274	
-687F1 &EFS/687.1	2	End cap for pin busbars 2 - 3-phase	5ST3750	Siemens	503570	
-687F2 &EFS/687.3	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F3 &EFS/687.4	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F4 &EFS/687.5	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F5 &EFS/687.7	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687F6 &EFS/687.8	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-687XT1 &EFS/687.1;&EFS/687.3...&EFS/687.5;&EFS/687.7;&EFS/687.8;&EFS/688.1;&EFS/688.3...&EFS/688.5;&EFS/688.7	11	Feed-through terminal block	3209510	Phoenix Contact	500583	
-687XT1 &EFS/687.1	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-687XT1 &EFS/687.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-687XT1 &EFS/687.1;&EFS/687.2;&EFS/687.4;&EFS/687.6;&EFS/687.7;&EFS/687.8;&EFS/688.1;&EFS/688.2;&EFS/688.3;&EFS/688.4;&EFS/688.6;&EFS/688.7	11	Feed-through terminal block	3209523	Phoenix Contact	500584	
-687XT1 &EFS/687.1	1	Plug-in bridge FBS 10-5	3030213	Phoenix Contact	500547	
-687XT1 &EFS/688.1	1	Plug-in bridge FBS 5-5	3030190	Phoenix Contact	500545	
-687XT1 &EFS/687.2...&EFS/687.4;&EFS/687.6;&EFS/687.7;&EFS/687.8;&EFS/688.2...&EFS/688.4;&EFS/688.6;&EFS/688.7	11	Ground terminal block	3209536	Phoenix Contact	500813	
-688F1 &EFS/688.1	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F2 &EFS/688.3	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F3 &EFS/688.4	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F4 &EFS/688.5	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-688F5 &EFS/688.7	1	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569	
-690F1 &EFS/690.1	1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, B-char, In: 10 A, Un AC: 230 V	5SU1354-6KK10	Siemens	10440	
-690F2 &EFS/690.3	1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, C-char, In: 20 A, Un AC: 230 V	5SU1354-7KK20	Siemens	10441	
-690F3 &EFS/690.5	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-690F4 &EFS/690.7	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-690F5 &EFS/690.8	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	35	Feed-through terminal block	3209510	Phoenix Contact	500583	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	35	Feed-through terminal block	3209523	Phoenix Contact	500584	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	35	Ground terminal block	3209536	Phoenix Contact	500813	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	7	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-690XT1 &EFS/690.1;&EFS/691.1;&EFS/691.3...&EFS/691.6	14	End bracket for terminal block	3022276	Phoenix Contact	500588	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-691F1 &EFS/691.1	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-691F1 &EFS/691.1	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-691F2 &EFS/691.3	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-691F2 &EFS/691.3	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-691F3 &EFS/691.4	1	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682	
-691F3 &EFS/691.4	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-691F4 &EFS/691.5	1	CIRCUIT BREAKER 10KA 3POL C16	5SY4316-7	Siemens	503340	X
-691F4 &EFS/691.5	1	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737	
-AI_21 &EFS/620.4	1	ET 200SP, AI 4XU/I 2-WIRE ST, PU 1	6ES7134-6HD01-0BA1	Siemens	505054	
-AI_21 &EFS/620.4	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-AO_21 &EFS/620.4	1	AQ 4XU/I ST	6ES7135-6HD00-0BA1	Siemens	504291	
-AO_21 &EFS/620.4	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-DI_21 &EFS/620.3	1	SIMATIC ET 200SP DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens	500788	
-DI_21 &EFS/620.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-DI_22 &EFS/620.3	1	SIMATIC ET 200SP DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens	500788	
-DI_22 &EFS/620.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787	
-DO_21 &EFS/620.3	1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397	
-DO_21 &EFS/620.3	1	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786	
-X5.1 &EFS/680a.2...&EFS/680a.5	10	Feed-through terminal block	3209510	Phoenix Contact	500583	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-X5.1 &EFS/680a.2	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X5.1 &EFS/680a.2	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X5.1 &EFS/680a.2	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-X5.1 &EFS/680a.2;&EFS/680a.6	2	Ground terminal block	3209536	Phoenix Contact	500813	
-X5.2 &EFS/680b.2...&EFS/680b.5	10	Feed-through terminal block	3209510	Phoenix Contact	500583	
-X5.2 &EFS/680b.2	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X5.2 &EFS/680b.2	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X5.2 &EFS/680b.2	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-X5.2 &EFS/680b.2;&EFS/680b.6	2	Ground terminal block	3209536	Phoenix Contact	500813	
-X5.3 &EFS/680c.2...&EFS/680c.5	10	Feed-through terminal block	3209510	Phoenix Contact	500583	
-X5.3 &EFS/680c.2	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X5.3 &EFS/680c.2	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X5.3 &EFS/680c.2	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-X5.3 &EFS/680c.2;&EFS/680c.6	2	Ground terminal block	3209536	Phoenix Contact	500813	
-X6 &EFS/681.1;&EFS/681.3;&EFS/681.5	6	Feed-through terminal block	3209510	Phoenix Contact	500583	
-X6 &EFS/681.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	
-X6 &EFS/681.1	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-X6 &EFS/681.1	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	
-XDC1 &EFS/603.2;&EFS/603.3	6	Multi-level terminal block	3210583	Phoenix Contact	501385	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-XDC1 &EFS/603.2;&EFS/603.3	2	Plug-in bridge FBS 3-5	3030174	Phoenix Contact	503103	
-XDC1 &EFS/603.2	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XDC1 &EFS/603.2	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	
-XDC1 &EFS/603.4	2	Protective conductor double-level terminal block Push-in PTTB 2,5-PE	3210596	Phoenix Contact	501389	
-XDC2 &EFS/603.5...&EFS/603.7	7	Multi-level terminal block	3210583	Phoenix Contact	501385	
-XDC2 &EFS/603.5	1	Plug-in bridge FBS 4-5	3030187	Phoenix Contact	500801	
-XDC2 &EFS/603.5	1	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XDC2 &EFS/603.5	1	End and partition plate for terminal block	3211634	Phoenix Contact	500505	
-XDC2 &EFS/603.6	1	Plug-in bridge FBS 2-5	3030161	Phoenix Contact	505211	
-XDC2 &EFS/603.6	1	Plug-in bridge FBS 3-5	3030174	Phoenix Contact	503103	
-XES &EFS/684.0...&EFS/684.2	9	Feed-through terminal block Push-in PT 6	3211813	Phoenix Contact	501388	
-XES &EFS/684.0;&EFS/684.1	4	Plug-in bridge FBS 2-8	3030284	Phoenix Contact	502068	
-XES &EFS/684.0	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XES &EFS/684.0	1	End and partition plate for terminal block	3212044	Phoenix Contact	500503	
-XES &EFS/684.3;&EFS/684.4	5	Feed-through terminal block Push-in PT 6 BU	3211819	Phoenix Contact	500585	
-XES &EFS/684.3	1	Plug-in bridge FBS 5-8	3030310	Phoenix Contact	504375	
-XES &EFS/684.4;&EFS/684.5	4	Ground modular terminal block Push-in PT 6-PE	3211822	Phoenix Contact	500725	
-XT &EFS/635b.1...&EFS/635b.5;&EFS/635b.7	14	Feed-through terminal block	3209510	Phoenix Contact	500583	
-XT &EFS/635b.1	1	End and partition plate for terminal block	3030417	Phoenix Contact	500506	

Parts list

Freqcon-mit_FRQ-Nr_ABAS_de_en

Equipment identifier Schematic / position	Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.	subordinated part
-XT &EFS/635b.1	2	End bracket for terminal block	3022276	Phoenix Contact	500588	
-XT &EFS/635b.1	1	Terminal strip marker carrier KLM 3	0811969	Phoenix Contact	501402	

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next page:
&EPA++Container/1

Editor	Freqcon_DG			Statron	FREQCON	PARTS LIST	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EPC Parts List
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet page: 8
Date								+ total: 498

Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
3	Polytron 8000 Series Customized 4-20/HART mit Relais	8344800	Dräger	509321

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&EPC++ASC/8

next page:
++ASC/1

Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
1	TREE 16 TX Metall 2GE 14 FE - Unmanaged Gigabit Switch - 16 Ports/	58174	Murrelektronik	10286
1	Network isolators - FL ISOLATOR 100-RJ/RJ	2313931	Phoenix Contact	501464
1	Uninterruptible power supply QUINT-UPS/ 24DC/ 24DC/20	2320238	Phoenix Contact	501598
1	Energy storage UPS-BAT/VRLA/24DC/12AH	2320322	Phoenix Contact	501229
1	Power supply QUINT-PS/3AC/24DC/20/CO, with protective coating	2320924	Phoenix Contact	501573
1	Surge protection device	2881007	Phoenix Contact	504791
1	Patch panel, connection field: one RJ45 socket on 8 spring-cage connection terminals	2901642	Phoenix Contact	10214
13	Relay Module RIF-1-RPT-LDP-24DC/2X21AU	2903330	Phoenix Contact	500726
9	Plug-in bridge FBS 2-6 BU	3036932	Phoenix Contact	500803
1	0,5m Cat.6 PiMF-Patchcabel, green	PATCH-C6 05 GN	reichelt elektronik GmbH & Co. KG	504395
2	CIRCUIT-BREAKER SPRING-L. CONN. 3.2A	3RV2011-1DA25	Siemens	501432
3	Combination arrester type 1+2, UC 350V AC, 3-pole, FM, for TNC systems	5SD7443-1	Siemens	504070
7	SENTRON Auxiliary current switch Mountable	5ST3010	Siemens	500737
1	PIN BUS BAR SHOCKHAZARD SAFETY, 16QMM 3 PHASE+HS	5ST3712	Siemens	10274
2	End cap for pin busbars 2 - 3-phase	5ST3750	Siemens	503570
1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, B-char, In: 10 A, Un AC: 230 V	5SU1354-6KK10	Siemens	10440
1	RCBO elm, 10 kA, 1P+N, type A, 30 mA, C-char, In: 20 A, Un AC: 230 V	5SU1354-7KK20	Siemens	10441
2	Device circuit breaker 230VAC / 60VDC, 3kA, 1-pole, AS, F2, 10A	5SY1710-4	Siemens	10086

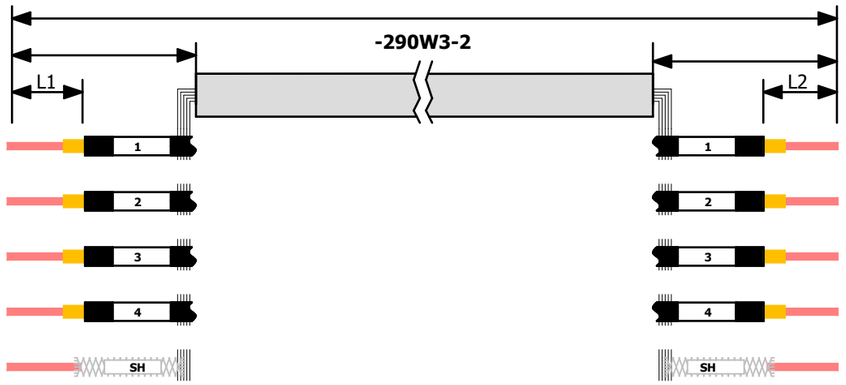
Summarized parts list

Freqcon_ABAS_de_en

Amount	Designation	Order number	Manufacturer / Supplier	Freqcon ERP No.
6	SENTRON Miniature circuit breaker	5SY4106-7	Siemens	500682
11	CIRCUIT BREAKER 230/400V 10KA 1POL C16	5SY4116-7	Siemens	503569
3	SENTRON Miniature circuit breaker	5SY4332-7	Siemens	505272
2	SIMATIC ET 200SP DI 16x 24V DC ST, PU 1	6ES7131-6BH01-0BA0	Siemens	500788
1	ET 200SP, DQ 16x 24V DC/0,5A ST, PU 1	6ES7132-6BH01-0BA0	Siemens	504397
1	ET 200SP, AI 4XU/I 2-WIRE ST, PU 1	6ES7134-6HD01-0BA1	Siemens	505054
1	AQ 4XU/I ST	6ES7135-6HD00-0BA1	Siemens	504291
1	SIMATIC ET 200SP, PROFINET Interface-Module, IM 155-6 PN ST, bundle of Server module + Busadapter	6ES7155-6AA01-0BN0	Siemens	501554
1	BASEUNIT TYPE A0, BU15-P16+A0+2B, bridged to the left	6ES7193-6BP00-0BA0	Siemens	500787
4	BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7193-6BP00-0DA0	Siemens	500786

Cable name =UNIT_03++Container+-290W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

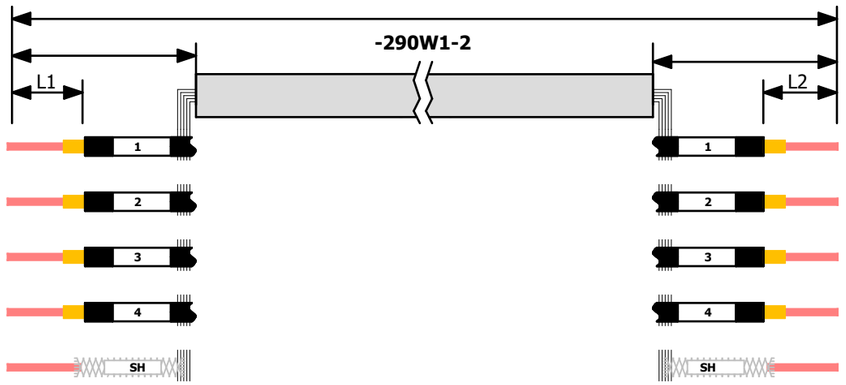


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:7	
			++ASC-369XT:10	
			++ASC-369XT:1	
			++ASC-369XT:4	

Cable name =UNIT_03++Container+-290W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

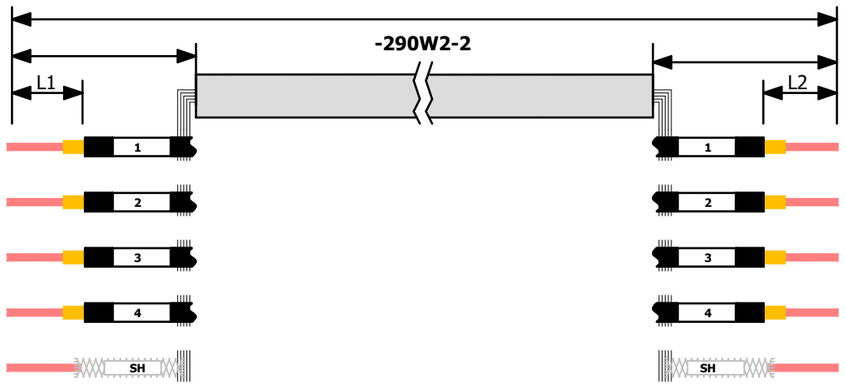


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:7	
			++ASC-369XT:10	
			++ASC-369XT:1	
			++ASC-369XT:4	

Cable name =UNIT_03++Container+-290W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:7	
			++ASC-369XT:10	
			++ASC-369XT:1	
			++ASC-369XT:4	

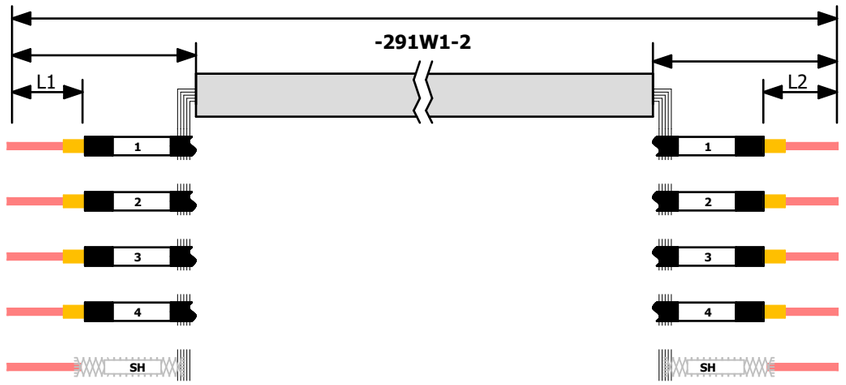
previous page:
&EPA++ASC/2

next page:
2

FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-291W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

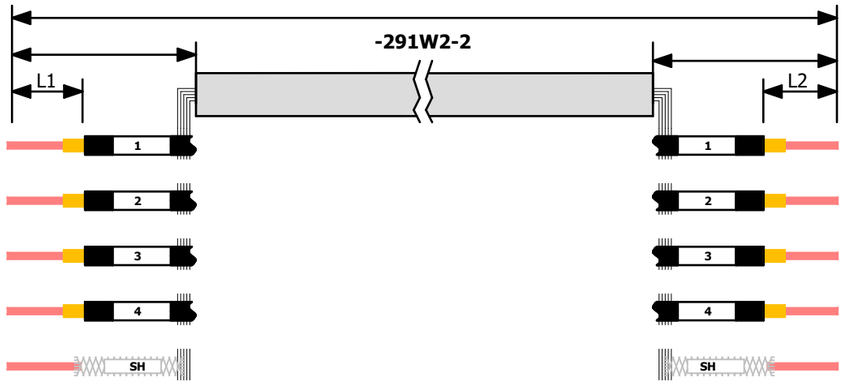


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

Cable name =UNIT_03++Container+-291W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

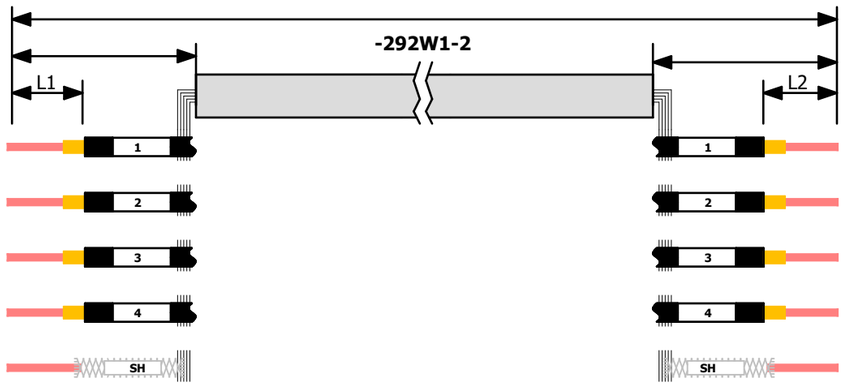


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

Cable name =UNIT_03++Container+-292W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

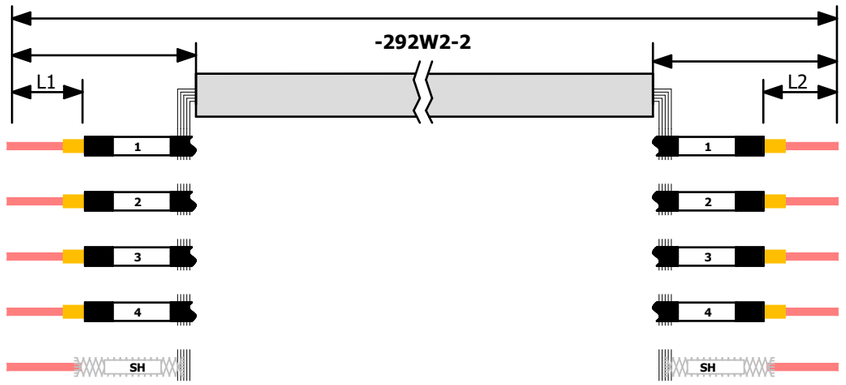
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:8	
			++ASC-369XT:11	
			++ASC-369XT:2	
			++ASC-369XT:5	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-292W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

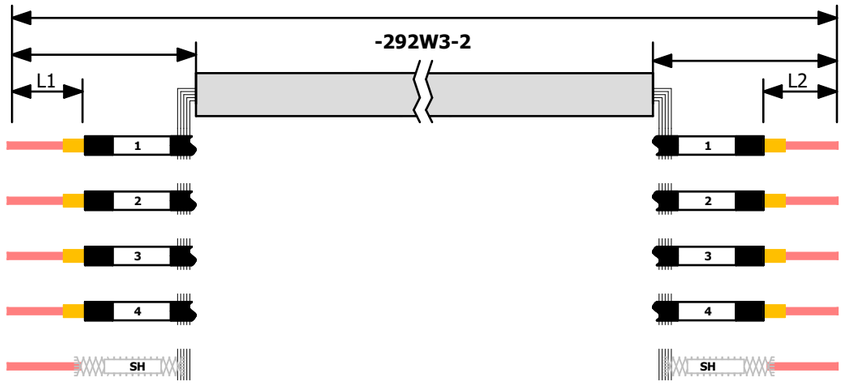


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

Cable name =UNIT_03++Container+-292W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560

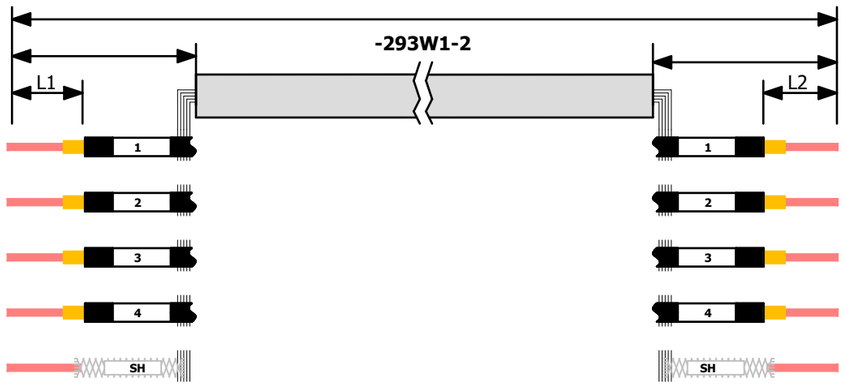


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

Cable name =UNIT_03++Container+-293W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-570XT:1			
	-570XT:2			
	-570XT:3			
	-570XT:4			

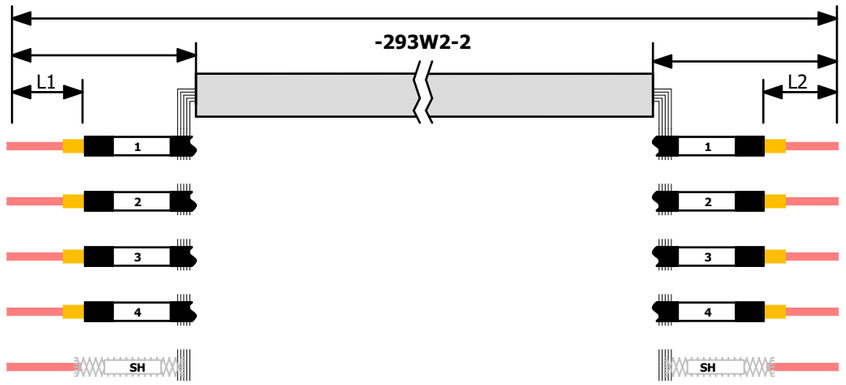
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-369XT:9	
			++ASC-369XT:12	
			++ASC-369XT:3	
			++ASC-369XT:6	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-293W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	-570XT:1							++ASC-369XT:9	
	-570XT:2							++ASC-369XT:12	
	-570XT:3							++ASC-369XT:3	
	-570XT:4							++ASC-369XT:6	

Cable name =UNIT_03++Container+-293W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	-570XT:1							++ASC-369XT:8	
	-570XT:2							++ASC-369XT:11	
	-570XT:3							++ASC-369XT:2	
	-570XT:4							++ASC-369XT:5	

Cable name =UNIT_03++Container+-290W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
	-XE:1							++ASC-687XT1:1	
	-XE:N							++ASC-687XT1:N	
	-XE:PE							++ASC-687XT1:PE	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-290W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:2	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-290W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

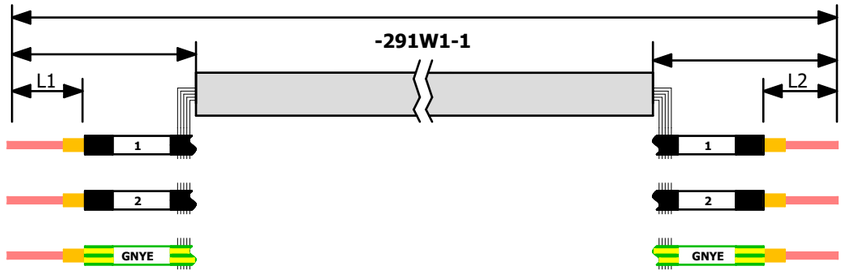


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:3	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-291W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

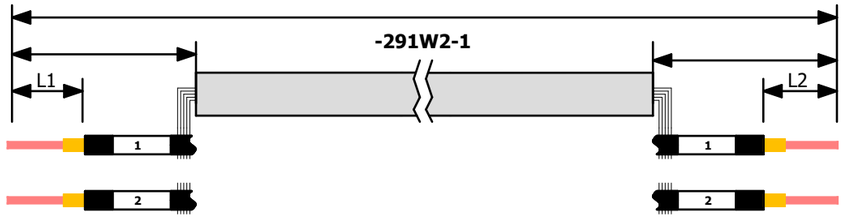


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:4	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-291W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			

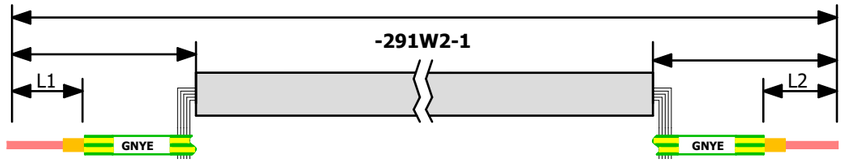
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:5	
			++ASC-687XT1:N	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-291W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

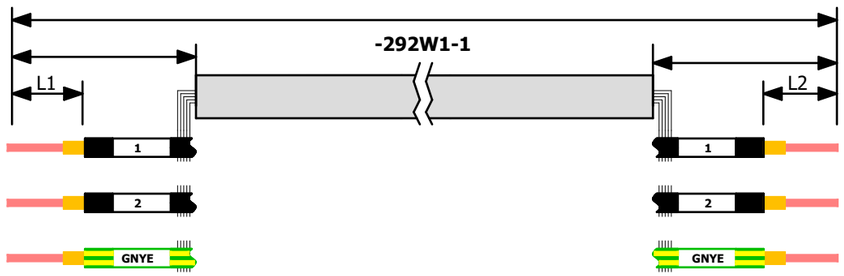


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-292W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

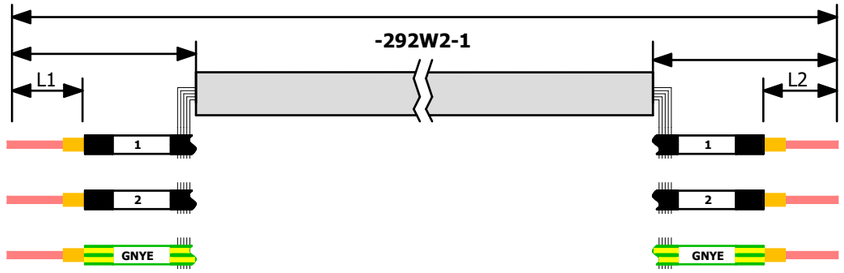


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:6	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-292W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

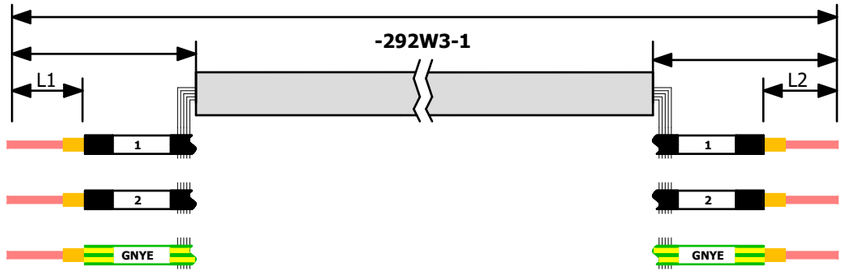


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:7	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-292W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

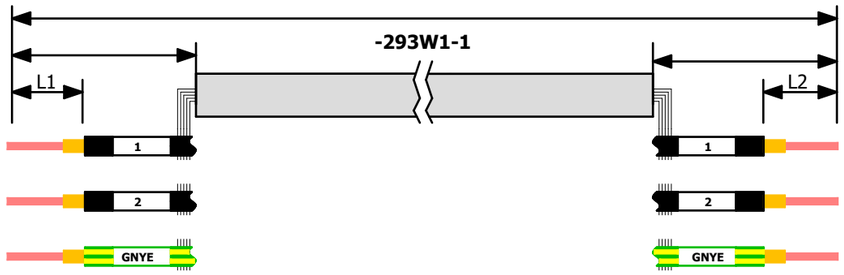
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:8	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-293W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:9	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-293W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

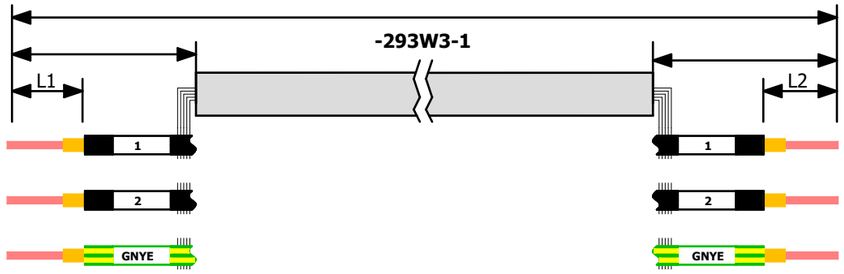


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:10	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-293W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts
Order number

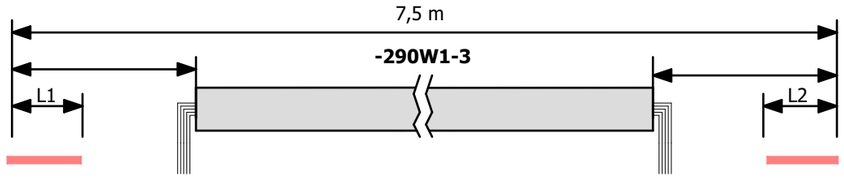


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-XE:1			
	-XE:N			
	-XE:PE			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-687XT1:11	
			++ASC-687XT1:N	
			++ASC-687XT1:PE	

Cable name =UNIT_03++Container+-290W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

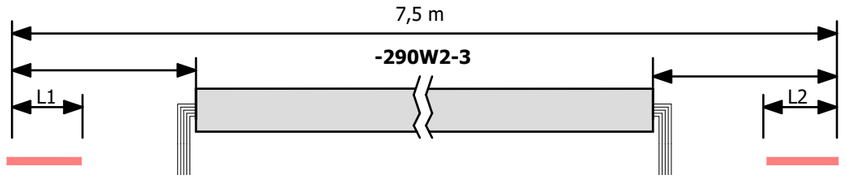
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X1:1-16	

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++Container+-290W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

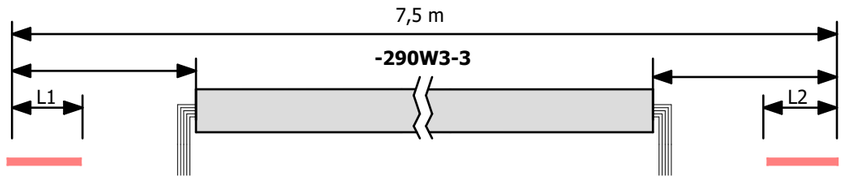
Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
								++ASC-611A1:X2:1-16	

Cable name =UNIT_03++Container+-290W3-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

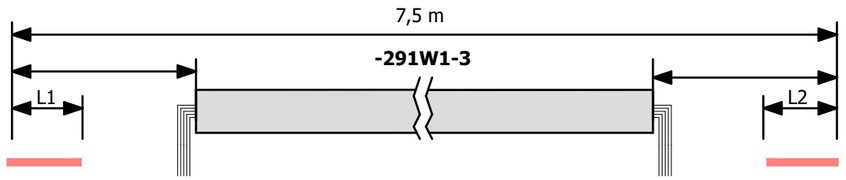
Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
								++ASC-611A1:X3:1-16	

Cable name =UNIT_03++Container+-291W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

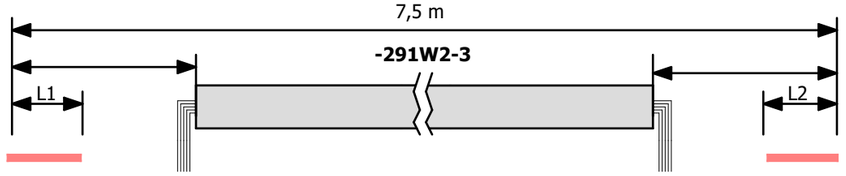
Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
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Cable name =UNIT_03++Container+-291W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

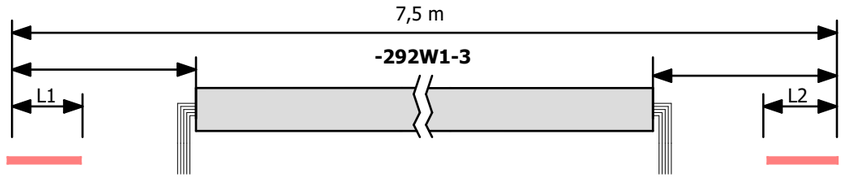
Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
								++ASC-611A1:X5:1-16	

Cable name =UNIT_03++Container+-292W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



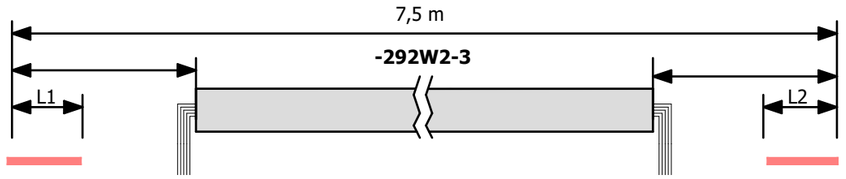
Mounting location:	Source	Function text source	wire end handling	L1 [mm]	L2 [mm]	wire end handling	Function text target	Target	Mounting location:
								++ASC-611A1:X6:1-16	

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_03++Container+-292W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

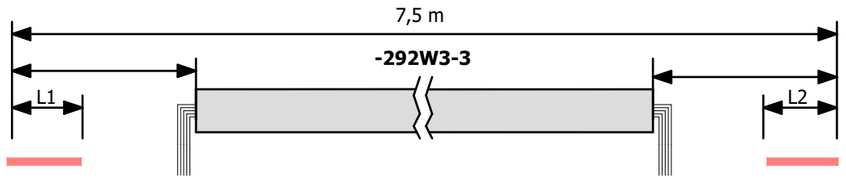


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X7:1-16	

Cable name =UNIT_03++Container+-292W3-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

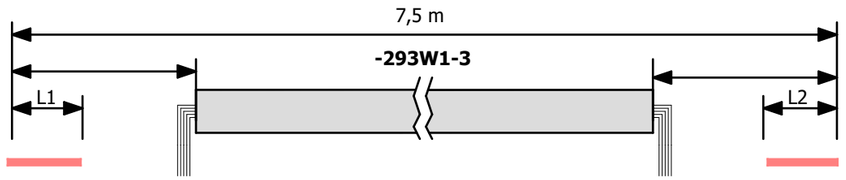


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X8:1-16	

Cable name =UNIT_03++Container+-293W1-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

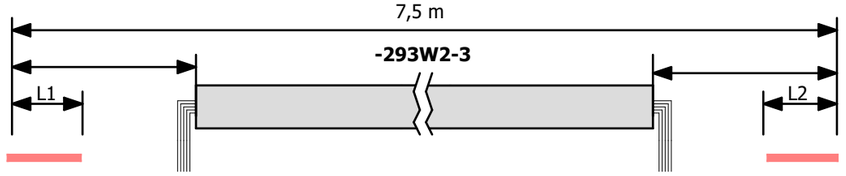


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X9:1-16	

Cable name =UNIT_03++Container+-293W2-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN

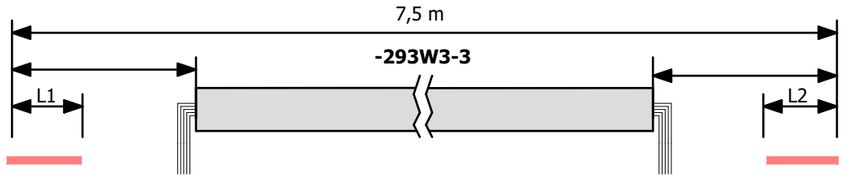


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X2:1-16	

Cable name =UNIT_03++Container+-293W3-3
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 7,5 GN
Order number PATCH-C6 7,5 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

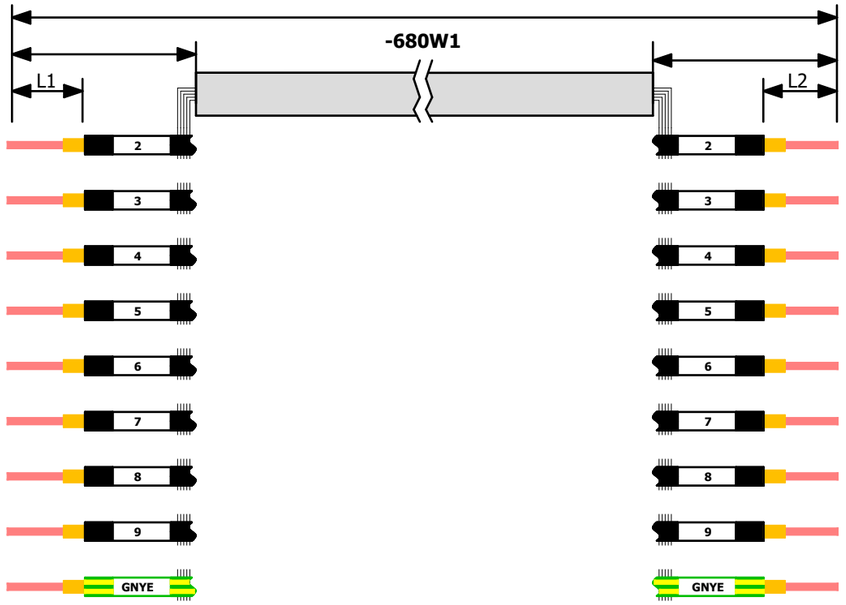
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			++ASC-611A1:X3:1-16	

Editor	Freqcon_DG			Statron	FREQCON	CABEL LIST	20241105_V1.2	= UNIT_03	Battery Container 2
Date	05.11.2024							& EMB	Cable list
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ Container	page: 9
Date								+	total: 498

FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_03++ASC+-680W1
Cable type F-CY-JZ 10G0,75 mm²
Free conductors

Cable parts
Order number

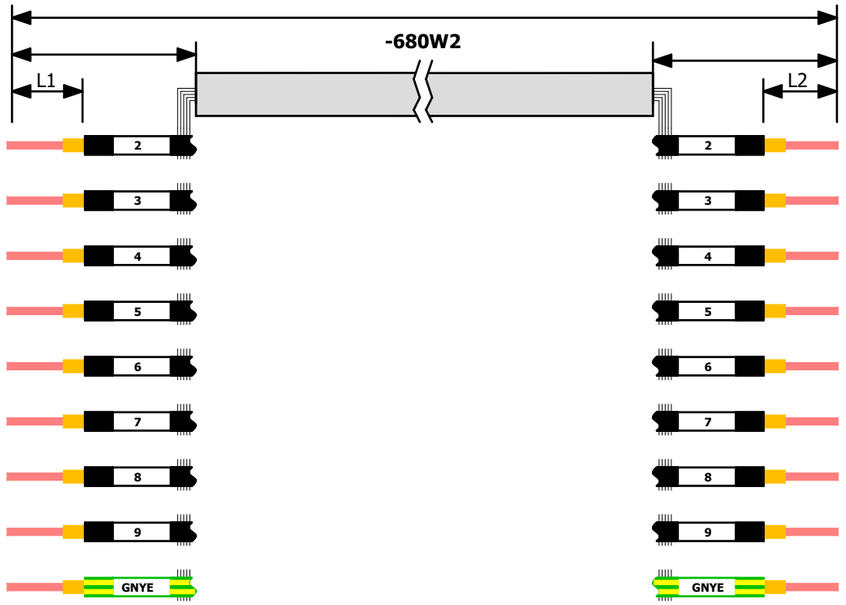


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-X5.1:2	gas concentration BAT 1-4		
	-X5.1:3	=		
	-X5.1:5	=		
	-X5.1:6	=		
	-X5.1:7	=		
	-X5.1:8	=		
	-X5.1:9	=		
	-X5.1:10	=		
	-X5.1:PE	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		gas concentration	++Container-680U1-X1:2	
		=	++Container-680U1-X1:4	
		=	++Container-680U1-X2:1	
		=	++Container-680U1-X2:2	
		=	++Container-680U1-X2:4	
		=	++Container-680U1-X2:5	
		=	++Container-680U1-X2:7	
		=	++Container-680U1-X2:8	
		=	++Container-680U1-X1:5	

Cable name =UNIT_03++ASC+-680W2
Cable type F-CY-JZ 10G0,75 mm²
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-X5.2:2	gas concentration BAT 5-8		
	-X5.2:3	=		
	-X5.2:5	=		
	-X5.2:6	=		
	-X5.2:7	=		
	-X5.2:8	=		
	-X5.2:9	=		
	-X5.2:10	=		
	-X5.2:PE	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		gas concentration	++Container-680U2-X1:2	
		=	++Container-680U2-X1:4	
		=	++Container-680U2-X2:1	
		=	++Container-680U2-X2:2	
		=	++Container-680U2-X2:4	
		=	++Container-680U2-X2:5	
		=	++Container-680U2-X2:7	
		=	++Container-680U2-X2:8	
		=	++Container-680U2-X1:5	

FRQ_Kabelplan_04_gro8_de_en

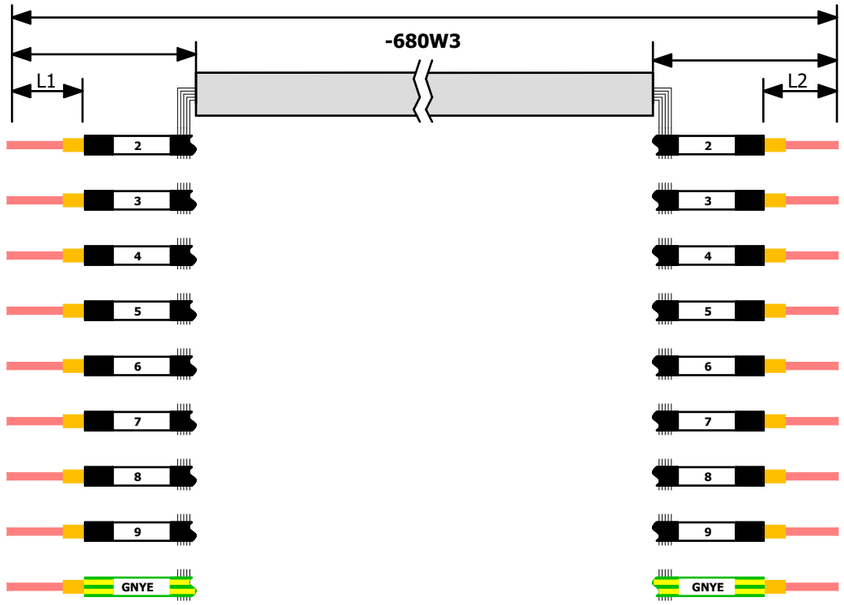
previous page:
++Container/9

next page:
2

0	1	2	3	4	5	6	7	8	9

Cable name =UNIT_03++ASC+-680W3
Cable type F-CY-JZ 10G0,75 mm²
Free conductors 0

Cable parts
Order number

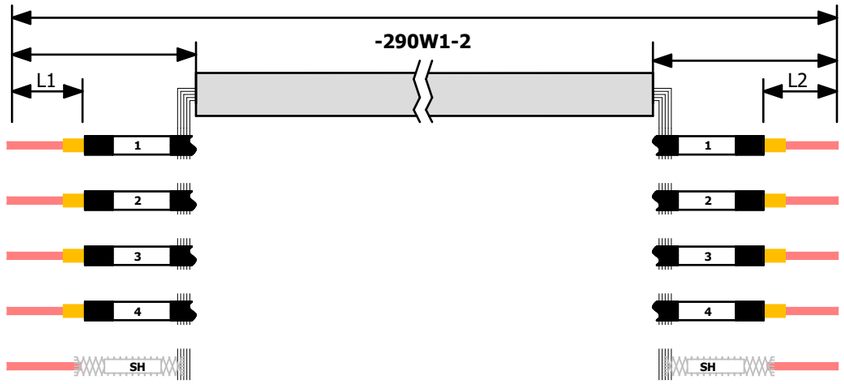


Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-X5.3:2	gas concentration BAT 9-11		
	-X5.3:3	=		
	-X5.3:5	=		
	-X5.3:6	=		
	-X5.3:7	=		
	-X5.3:8	=		
	-X5.3:9	=		
	-X5.3:10	=		
	-X5.3:PE	=		

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
		gas concentration	++Container-680U3-X1:2	
		=	++Container-680U3-X1:4	
		=	++Container-680U3-X2:1	
		=	++Container-680U3-X2:2	
		=	++Container-680U3-X2:4	
		=	++Container-680U3-X2:5	
		=	++Container-680U3-X2:7	
		=	++Container-680U3-X2:8	
		=	++Container-680U3-X1:5	

Cable name =UNIT_03++ASC+-290W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

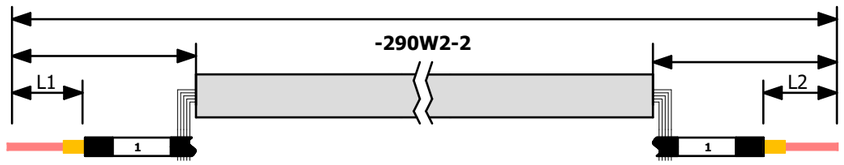


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-290W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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FRQ_Kabelplan_04_gro8_de_en

Cable name =UNIT_03++ASC+-290W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

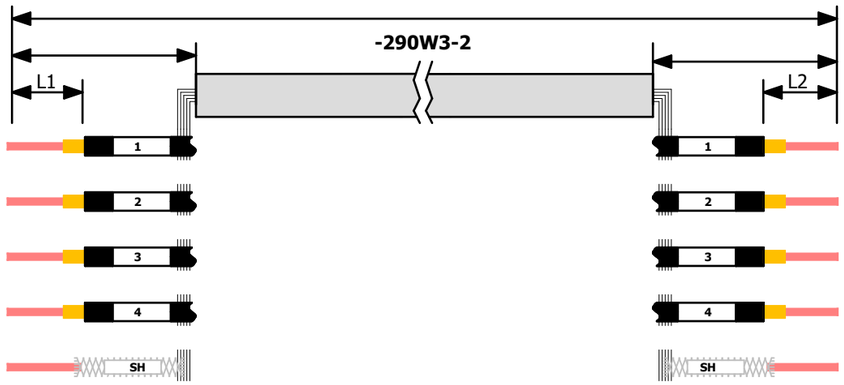


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-290W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

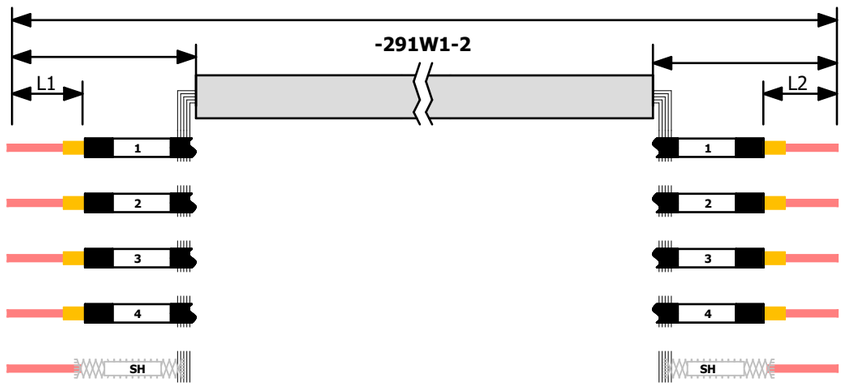


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-291W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

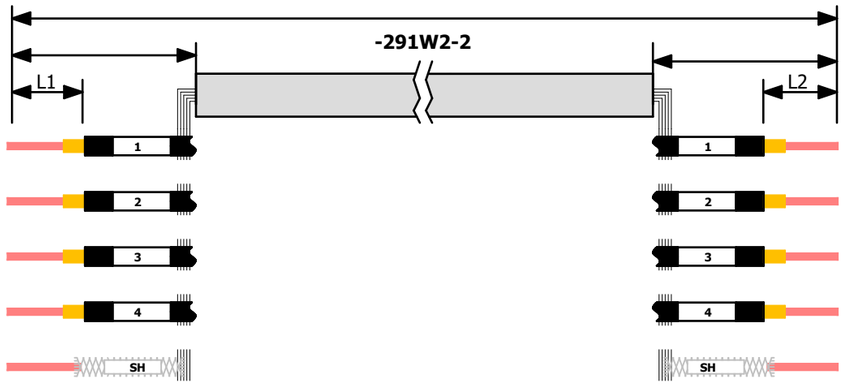
previous page: 2

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++ASC+-291W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

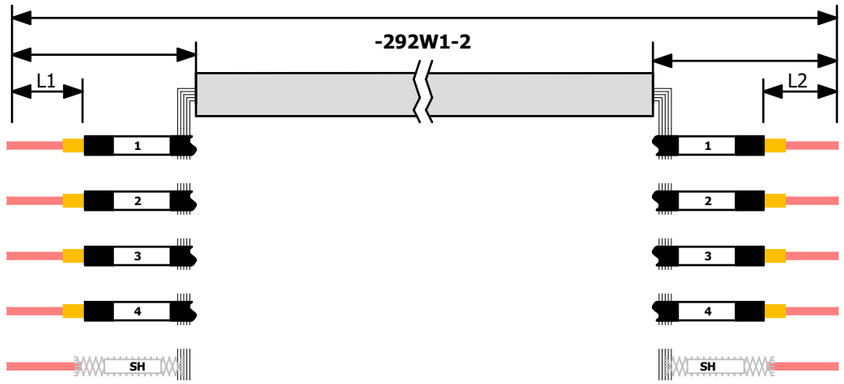


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-292W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

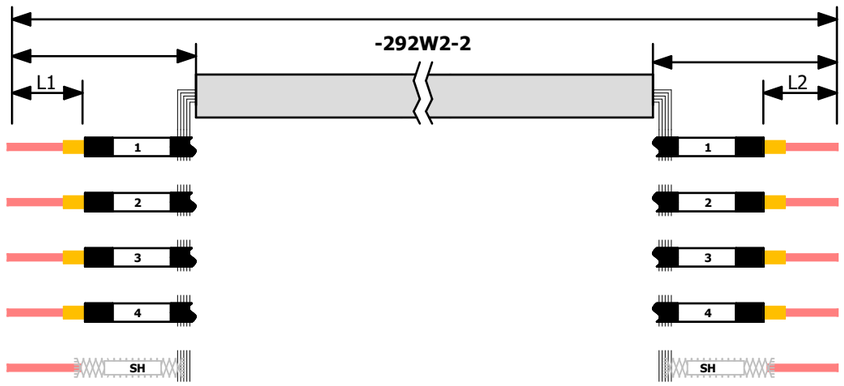


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-292W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

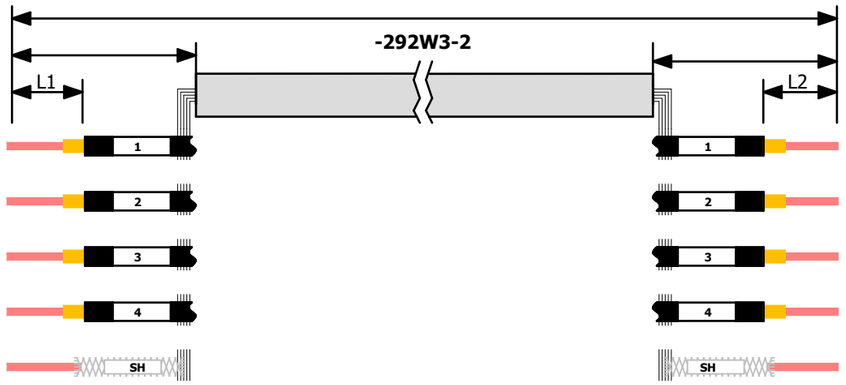
L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++ASC+-292W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

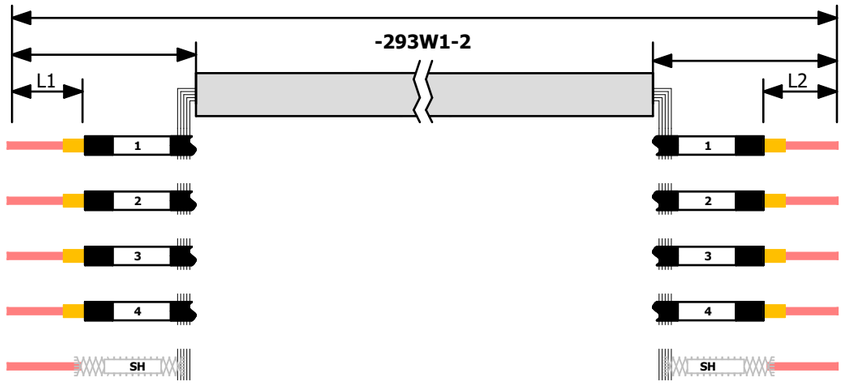


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-293W1-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

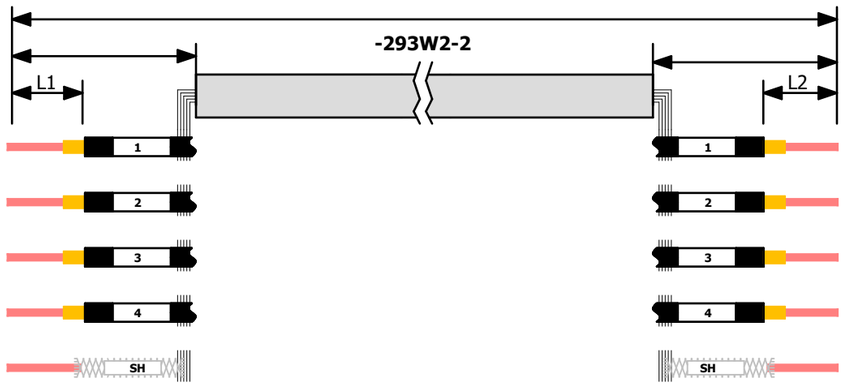


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-293W2-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

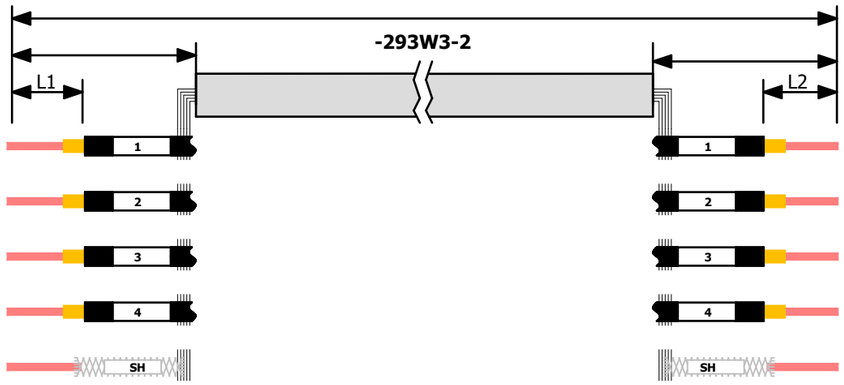
L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++ASC+-293W3-2
Cable type F-CY-OZ 4x0,75 mm²
Free conductors 4

Cable parts HELU.16560
Order number 16560

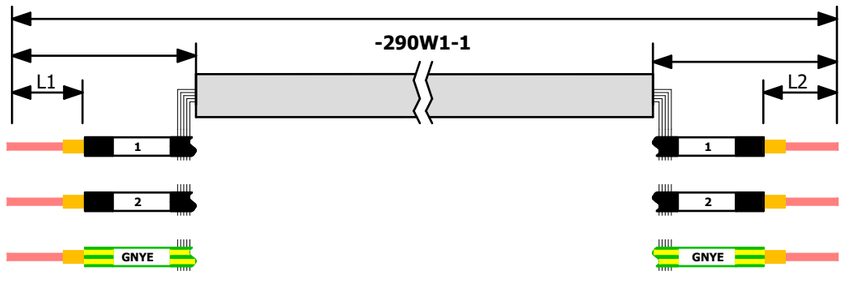


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-290W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

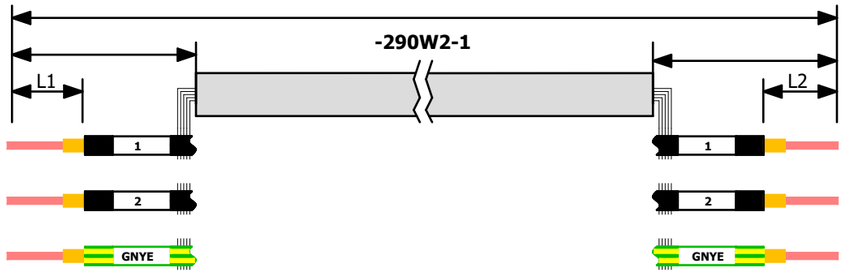


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-290W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

previous page: 5
next page: 7

FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++ASC+-290W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

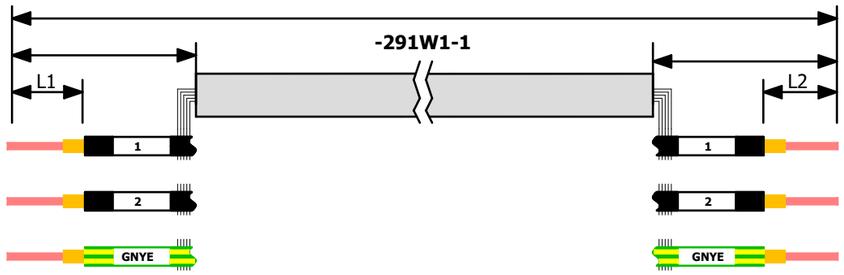


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-291W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

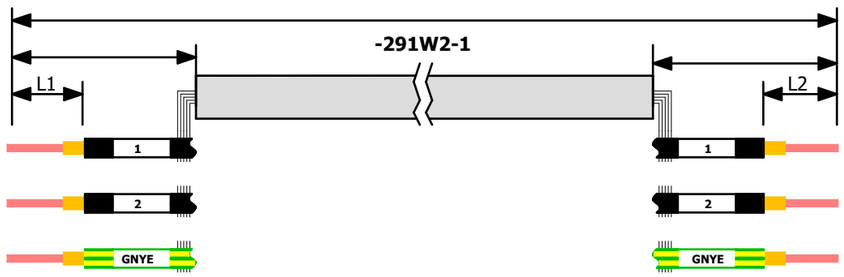


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-291W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

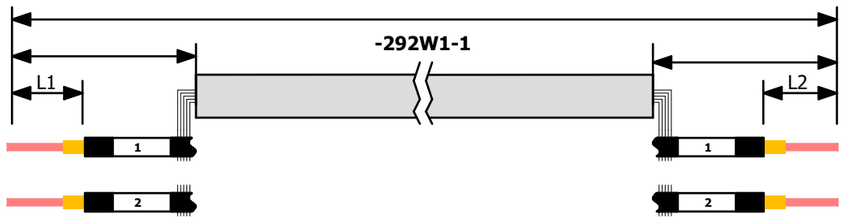


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-292W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

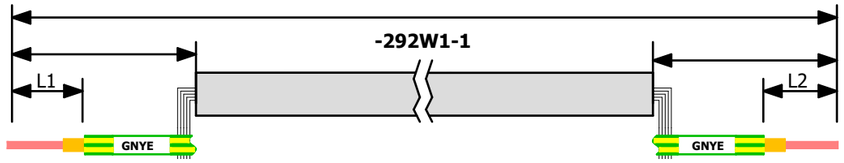
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FRQ_Kabelplan_04_groß_de_en

Cable name =UNIT_03++ASC+-292W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

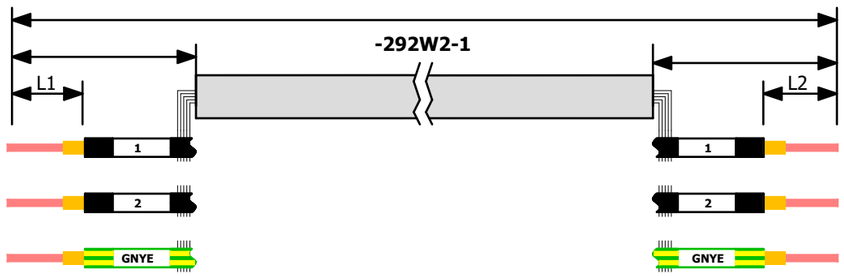


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-292W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

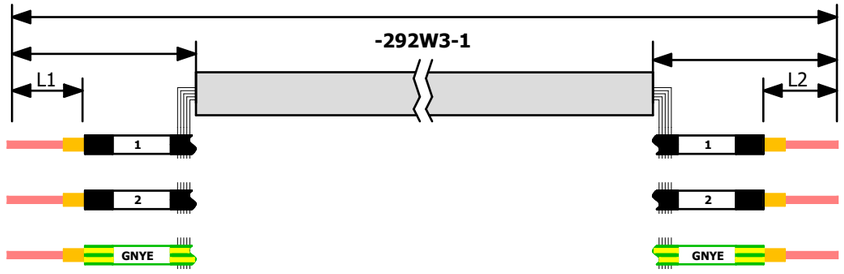


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-292W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091

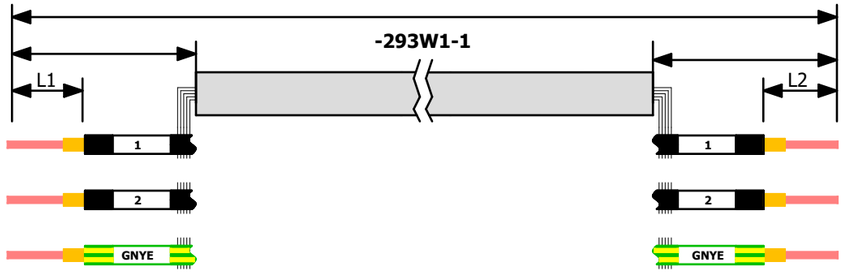


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-293W1-1
Cable type JZ-500 3G1,5 mm²
Free conductors 3

Cable parts HELU.10091
Order number 10091



Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

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Cable name =UNIT_03++ASC+-293W2-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

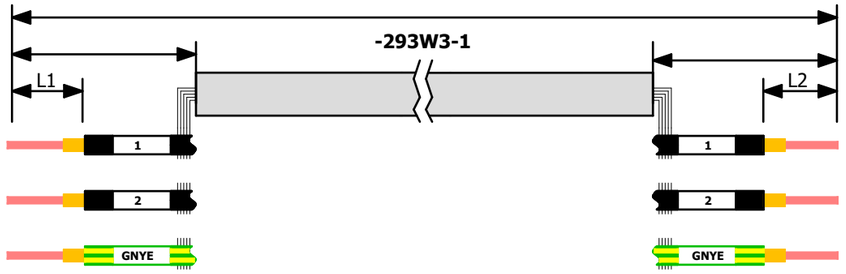


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-293W3-1
Cable type JZ-500 3G1,5 mm²
Free conductors

Cable parts HELU.10091
Order number 10091

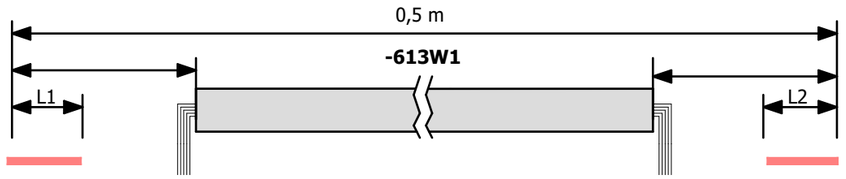


Mounting location:	Source	Function text source	wire end handling	L1 [mm]

L2 [mm]	wire end handling	Function text target	Target	Mounting location:

Cable name =UNIT_03++ASC+-613W1
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 05 GN
Order number PATCH-C6 05 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-613T1:7			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-613U1:OUT	

Cable name =UNIT_03++ASC+-613W2
Cable type Patch cable Cat.6 4x2x0,25 mm²
Free conductors

Cable parts REI.PATCH-C6 05 GN
Order number PATCH-C6 05 GN



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
	-613U1:IN			

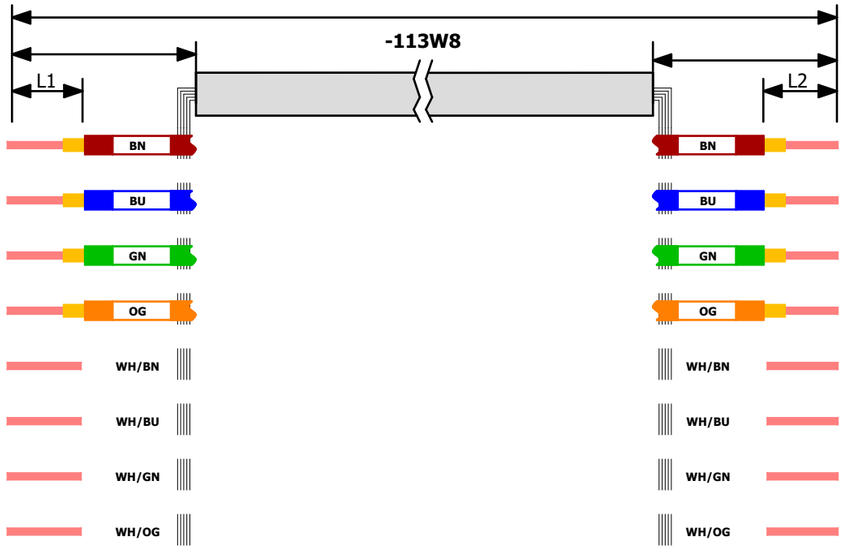
L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-613U2:8	

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Date	05.11.2024							& EMB	Cable list	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet	page: 9
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Cable name =UNIT_03++ASC+-113W8
Cable type S/FTP 4x2xAWG 23/1 PVC/PVC 4x2x23 AWG
Free conductors

Cable parts
Order number



Mounting location:	Source	Function text source	wire end handling	L1 [mm]
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:8			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:4			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:2			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:6			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:7			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:5			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:1			
Control cabinet 1	=UNIT_01++CT+CTRL_1.3-113U4:3			

L2 [mm]	wire end handling	Function text target	Target	Mounting location:
			-613U2:8	
			-613U2:4	
			-613U2:2	
			-613U2:6	
			-613U2:7	
			-613U2:5	
			-613U2:1	
			-613U2:3	

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Terminal-strip overview

F14_001

Terminal strip	Terminal strip definition text	Terminals					Graphical page of terminal diagrams
		first	last	Total PE	Total N	Total number	
-X5.1		1	PE	4	0	24	=UNIT_03&EMZ++ASC/2000
-X5.2		1	PE	4	0	24	=UNIT_03&EMZ++ASC/2001
-X5.3		1	PE	4	0	24	=UNIT_03&EMZ++ASC/2002
-X6		1	6	0	0	12	=UNIT_03&EMZ++ASC/2003
-XDC1		1	PE	2	0	20	=UNIT_03&EMZ++ASC/2004
-XDC2		1	7	0	0	21	=UNIT_03&EMZ++ASC/2005
-XES		1	9	4	5	18	=UNIT_03&EMZ++ASC/2006
-XT		1	14	0	0	28	=UNIT_03&EMZ++ASC/2007
-369XT		1	12	0	0	36	=UNIT_03&EMZ++ASC/2008
-687XT1		1	PE	22	11	66	=UNIT_03&EMZ++ASC/2020
-690XT1		1	PE	44	4	134	=UNIT_03&EMZ++ASC/2031

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&EMB/10

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2000

Editor	Freqcon_DG			Statron	FREQCON	Klemmenleistenübersicht : =UNIT_03++ASC+-X5.1 - =UNIT_03++ASC+-690XT1	20241105_V1.2	= UNIT_03	Battery Container 2
Date	05.11.2024							& EMZ	Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet
Date								+	page: 1000
									total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-X5.1

Cable name: -680W1
Cable type: F-CY-JZ

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-680W1	Page / column
gas concentration BAT 1-4	-XDC2	1	1	.	++Container-680U1-X1	1		&EFS/680a.2
gas concentration BAT 1-4	-XDC2	5	2	.	++Container-680U1-X1	2	2	&EFS/680a.2
gas concentration BAT 1-4	-AI_21	13	3	.	++Container-680U1-X1	4	3	&EFS/680a.2
gas concentration BAT 1-4			4	.				&EFS/680a.2
gas concentration BAT 1-4			5	.	++Container-680U1-X2	1	4	&EFS/680a.3
gas concentration BAT 1-4			6	.	++Container-680U1-X2	2	5	&EFS/680a.3
gas concentration BAT 1-4	-680K1	A1	7	.	++Container-680U1-X2	4	6	&EFS/680a.4
gas concentration BAT 1-4	-XDC2	2	8	.	++Container-680U1-X2	5	7	&EFS/680a.4
gas concentration BAT 1-4			9	.	++Container-680U1-X2	7	8	&EFS/680a.5
gas concentration BAT 1-4			10	.	++Container-680U1-X2	8	9	&EFS/680a.5
gas concentration BAT 1-4			PE	.	++Container-680U1-X1	5	GNYE	&EFS/680a.2
gas concentration BAT 1-4			PE	.	-480W1			&EFS/680a.6

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Date: 05.11.2024
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Date:
Statron
Shell Crosswind BESS FQ 1MW 5MWh Offshore
FREQCON
Klemmenplan =UNIT_03++ASC+-X5.1
20241105_V1.2
10354_23A2007
= UNIT_03 Battery Container 2
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-X5.2

Cable name: -680W2
Cable type: F-CY-JZ

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-680W2 / F-CY-JZ	Page / column
gas concentration BAT 5-8	-XDC2	2	1		++Container-680U2-X1	1		&EFS/680b.2
gas concentration BAT 5-8	-XDC2	6	2		++Container-680U2-X1	2	2	&EFS/680b.2
gas concentration BAT 5-8	-AI_21	14	3		++Container-680U2-X1	4	3	&EFS/680b.2
gas concentration BAT 5-8			4					&EFS/680b.2
gas concentration BAT 5-8			5		++Container-680U2-X2	1	4	&EFS/680b.3
gas concentration BAT 5-8			6		++Container-680U2-X2	2	5	&EFS/680b.3
gas concentration BAT 5-8	-680K2	A1	7		++Container-680U2-X2	4	6	&EFS/680b.4
gas concentration BAT 5-8	-XDC2	2	8		++Container-680U2-X2	5	7	&EFS/680b.4
gas concentration BAT 5-8			9		++Container-680U2-X2	7	8	&EFS/680b.5
gas concentration BAT 5-8			10		++Container-680U2-X2	8	9	&EFS/680b.5
gas concentration BAT 5-8			PE		++Container-680U2-X1	5	GNYE	&EFS/680b.2
gas concentration BAT 5-8			PE		-480W1			&EFS/680b.6

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Date: 05.11.2024
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FREQCON
Klemmenplan =UNIT_03++ASC+-X5.2
20241105_V1.2
10354_23A2007
= UNIT_03 Battery Container 2
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-X5.3

Cable name: -680W3
Cable type: F-CY-JZ

Function text	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	-680W3 / F-CY-JZ	Page / column
gas concentration BAT 9-11	-XDC2	3	1	•	++Container-680U3-X1	1		&EFS/680c.2
gas concentration BAT 9-11	-XDC2	7	2	•	++Container-680U3-X1	2	2	&EFS/680c.2
gas concentration BAT 9-11	-AI_21	15	3	•	++Container-680U3-X1	4	3	&EFS/680c.2
gas concentration BAT 9-11			4	•				&EFS/680c.2
gas concentration BAT 9-11			5	•	++Container-680U3-X2	1	4	&EFS/680c.3
gas concentration BAT 9-11			6	•	++Container-680U3-X2	2	5	&EFS/680c.3
gas concentration BAT 9-11	-680K3	A1	7	•	++Container-680U3-X2	4	6	&EFS/680c.4
gas concentration BAT 9-11	-XDC2	3	8	•	++Container-680U3-X2	5	7	&EFS/680c.4
gas concentration BAT 9-11			9	•	++Container-680U3-X2	7	8	&EFS/680c.5
gas concentration BAT 9-11			10	•	++Container-680U3-X2	8	9	&EFS/680c.5
gas concentration BAT 9-11			PE	•	++Container-680U3-X1	5	GNYE	&EFS/680c.2
gas concentration BAT 9-11			PE	•	-480W1			&EFS/680c.6

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-X6

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Extract Fan C/W Fire Damper 1			GND	1		-AO_21	1		&EFS/681.1
Extract Fan C/W Fire Damper 1			+10V	2		-AO_21	5		&EFS/681.1
Extract Fan C/W Fire Damper 2			GND	3		-AO_21	2		&EFS/681.3
Extract Fan C/W Fire Damper 2			+10V	4		-AO_21	6		&EFS/681.3
Extract Fan C/W Fire Damper 3			GND	5		-AO_21	3		&EFS/681.5
Extract Fan C/W Fire Damper 3			+10V	6		-AO_21	7		&EFS/681.5

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Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

= UNIT_03 Battery Container 2
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_03++ASC+-XDC1						Cable name												Page / column
				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type												
FUSE 24V DC CONTROL VOLTAGE					-101T1	13	1		-103F1	2													&EFS/603.2
					-101Q1	13																	
					-611A1	1																	
FUSE 24V DC CONTROL VOLTAGE					-620A1	-X80:1	2																&EFS/603.2
					-DI_21	L+																	
					-DO_21	L+																	
FUSE 24V DC CONTROL VOLTAGE					-635K7	11	3		-103F1	13													&EFS/603.2
					-684F5	11																	
FUSE 24V DC CONTROL VOLTAGE					-611A1	2	4		-102G1	OUTPUT DC 24 V:-													&EFS/603.3
FUSE 24V DC CONTROL VOLTAGE					-620A1	-X80:2	5																&EFS/603.3
					-DI_21	M																	
					-DO_21	M																	
FUSE 24V DC CONTROL VOLTAGE					-635K1	A2	6		-XDC2	5													&EFS/603.3
FUSE 24V DC CONTROL VOLTAGE					-101T1	-''	PE																&EFS/603.4
					-101T1	PE																	
FUSE 24V DC CONTROL VOLTAGE							PE																&EFS/603.4

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-XDC1	20241105_V1.2	= UNIT_03	Battery Container 2	
Date	05.11.2024							& EMZ	Terminals	
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC	auxillary cabinet	page: 2004
Date								+		total: 498

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_03++ASC+-XDC2						Cable name												Page / column
				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type												
FUSE 24V DC CONTROL VOLTAGE					-AI_21	L+	1		-103F2	2													&EFS/603.5
					-AO_21	L+																	
					-X5.1	1																	
FUSE 24V DC CONTROL VOLTAGE					-X5.1	8	2		-X5.2	8													&EFS/603.5
					-680K1	11																	
					-X5.2	1																	
FUSE 24V DC CONTROL VOLTAGE					-680K2	11	3		-680K3	11													&EFS/603.5
					-X5.3	1																	
					-X5.3	8																	
FUSE 24V DC CONTROL VOLTAGE					-691F1	13	4																&EFS/603.6
					-691F4	13																	
FUSE 24V DC CONTROL VOLTAGE					-AI_21	M	5		-XDC1	6													&EFS/603.6
					-AO_21	M																	
					-X5.1	2																	
FUSE 24V DC CONTROL VOLTAGE					-680K1	A2	6																&EFS/603.6
					-X5.2	2																	
FUSE 24V DC CONTROL VOLTAGE					-680K2	A2	7																&EFS/603.7
					-X5.3	2																	
					-680K3	A2																	

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Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_03++ASC+-XES

Function text	Cable name	Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type	Cable name	Page / column
					1		-684F1	2			&EFS/684.0
UPS Bat-Con 1 3-phase 400V AC					N		-687XT1	N			&EFS/684.3
=			-690XT1	N	N		-687XT1	N			&EFS/684.3
=			-690XT1	N	N		-690F1	N			&EFS/684.3
=			-690XT1	N	N		-690F2	N			&EFS/684.3
=					N		-690XT1	N			&EFS/684.4
=					PE			PE			&EFS/684.4
=			++Container-278W1	GND	PE			PE			&EFS/684.4
=			-684F5	PE	PE		-684F2	PE			&EFS/684.5
=			-601F1	PE	PE						&EFS/684.5
			-684F4	2	2		-684F3	2			&EFS/684.0
UPS Bat-Con 1 3-phase 400V AC			-601F1	L1	3						&EFS/684.1
=					4		-684F1	4			&EFS/684.1
=			-684F4	4	5		-684F3	4			&EFS/684.1
=			-601F1	L2	6						&EFS/684.1
=					7		-684F1	6			&EFS/684.1
=			-684F4	6	8		-684F3	6			&EFS/684.1
=			-601F1	L3	9						&EFS/684.2

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2005

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2007

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-XES	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024					& EMZ Terminals
Proved by		Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet — page: 2006
Date						+ — total: 498

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_03++ASC+-XT					Cable name												Page / column
				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type												
Gas confirmed FGS							1	,	-635K1	14												&EFS/635b.1
								,														
Gas confirmed FGS							2	,	-635K1	11												&EFS/635b.1
								,														
Gas confirmed FGS							3	,	-635K2	14												&EFS/635b.1
								,														
Smoke confirmed FGS							4	,	-635K2	11												&EFS/635b.2
								,														
Smoke confirmed FGS							5	,	-635K3	14												&EFS/635b.2
								,														
Thermal runaway SIS							6	,	-635K3	11												&EFS/635b.3
								,														
Thermal runaway SIS							7	,	-635K4	14												&EFS/635b.3
								,														
Thermal runaway SIS							8	,	-635K4	11												&EFS/635b.3
								,														
Spare							9	,	-635K5	14												&EFS/635b.4
								,														
Spare							10	,	-635K5	11												&EFS/635b.4
								,														
Spare							11	,	-635K6	14												&EFS/635b.5
								,														
Spare							12	,	-635K6	11												&EFS/635b.5
								,														
Shut-down to BESS							13	,	-635K7	A2												&EFS/635b.7
								,														
Shut-down to BESS							14	,	-635K7	A1												&EFS/635b.7
								,														

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Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-369XT

Function text	++Container-290W3-2 F-CY-OZ	++Container-290W2-2 F-CY-OZ	++Container-290W1-2 F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet smoke detector potential-free contacts customer			3		++Container-570XT	3	1					&EFS/669.5
		3			++Container-570XT	3						
	3				++Container-570XT	3						

Editor	Freqcon_DG	Statron	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

FREQCON

Klemmenplan =UNIT_03++ASC+-369XT

20241105_V1.2

10354_23A2007

=	UNIT_03	Battery Container 2
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

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total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-369XT

Function text	++Container-292W1-2 / F-CY-OZ	++Container-291W2-2 / F-CY-OZ	++Container-291W1-2 / F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 / F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			3		++Container-570XT	3	2		++Container-570XT	3		3	&EFS/669.5
		3			++Container-570XT	3							
	3				++Container-570XT	3							

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_03++ASC+-369XT

20241105_V1.2

10354_23A2007

=	UNIT_03	Battery Container 2
&	EMZ	Terminals
++	ASC	auxillary cabinet
+		

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-293W1-2 F-CY-OZ	++Container-292W3-2 F-CY-OZ	++Container-292W2-2 F-CY-OZ	Cable name / Cable type	Strip =UNIT_03++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			3		++Container-570XT	3	3		++Container-570XT	3		3	&EFS/669.6
		3			++Container-570XT	3							
	3				++Container-570XT	3							

previous page: 2009

next page: 2011

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_03++ASC+-369XT Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet smoke detector potential-free contacts customer			4		++Container-570XT	4	4					&EFS/669.7
		4			++Container-570XT	4						
	4				++Container-570XT	4						

previous page: 2010

next page: 2012

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-369XT

Function text	++Container-292W1-2 F-CY-OZ	++Container-291W2-2 F-CY-OZ	++Container-291W1-2 F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			4		++Container-570XT	4	5		++Container-570XT	4		4	&EFS/669.8
		4			++Container-570XT	4							
	4				++Container-570XT	4							

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_03++ASC+-369XT
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_03	Battery Container 2	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2012
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_03++ASC+-369XT

Function text	++Container-293W1-2 F-CY-OZ	++Container-292W3-2 F-CY-OZ	++Container-292W2-2 F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-OZ	Page / column
battery cabinet smoke detector potential-free contacts customer			4		++Container-570XT	4	6		++Container-570XT	4		4	&EFS/669.8
		4			++Container-570XT	4							
	4				++Container-570XT	4							

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore		10354_23A2007	& EMZ Terminals
Proved by					++ ASC auxillary cabinet — page: 2013
Date					+ — total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_03++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet gas potential-free contacts customer			1		++Container-570XT	1	7					&EFS/670.5
		1			++Container-570XT	1						
	1				++Container-570XT	1						

previous page: 2013

next page: 2015

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2014

total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-369XT

Function text	++Container-292W1-2 F-CY-OZ	++Container-291W2-2 F-CY-OZ	++Container-291W1-2 F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 F-CY-OZ	Page / column
battery cabinet gas potential-free contacts customer			1		++Container-570XT	1	8		++Container-570XT	1		1	&EFS/670.5
		1			++Container-570XT	1							
	1				++Container-570XT	1							

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_03++ASC+-369XT
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

= UNIT_03 Battery Container 2
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-369XT

Function text	++Container-293W1-2 F-CY-OZ	++Container-292W3-2 F-CY-OZ	++Container-292W2-2 F-CY-OZ	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-OZ	Page / column
battery cabinet gas potential-free contacts customer			1		++Container-570XT	1	9		++Container-570XT	1		1	&EFS/670.6
		1			++Container-570XT	1							
	1				++Container-570XT	1							

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_03++ASC+-369XT
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_03	Battery Container 2	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2016
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W3-2 F-CY-0Z	++Container-290W2-2 F-CY-0Z	++Container-290W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_03++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
battery cabinet gas potential-free contacts customer			2		++Container-570XT	2	10					&EFS/670.7
		2			++Container-570XT	2						
	2				++Container-570XT	2						

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next page: 2018

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2017

total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W1-2 F-CY-0Z	++Container-291W2-2 F-CY-0Z	++Container-291W1-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_03++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W3-2 F-CY-0Z	Page / column
battery cabinet gas potential-free contacts customer			2		++Container-570XT	2	11		++Container-570XT	2		2	&EFS/670.8
		2			++Container-570XT	2							
	2				++Container-570XT	2							

previous page: 2017

next page: 2019

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2018

total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-293W1-2 F-CY-0Z	++Container-292W3-2 F-CY-0Z	++Container-292W2-2 F-CY-0Z	Cable name / Cable type	Strip =UNIT_03++ASC+-369XT: Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	++Container-293W2-2 F-CY-0Z	Page / column
battery cabinet gas potential-free contacts customer			2		++Container-570XT	2	12		++Container-570XT	2		2	&EFS/670.8
		2			++Container-570XT	2							
	2				++Container-570XT	2							

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next page: 2020

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-369XT	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2019

total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-687XT1

Function text	++Container-290W3-1 JZ-500	++Container-290W2-1 JZ-500	++Container-290W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	1		-687F1	2		&EFS/687.1
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	2		-687F2	2		&EFS/687.3
Supply Battery String 1-phase 230V AC	1				++Container-XE	1	3		-687F3	2		&EFS/687.4

Editor	Freqcon_DG	Statron	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

FREQCON

Klemmenplan =UNIT_03++ASC+-687XT1

20241105_V1.2

10354_23A2007

=	UNIT_03	Battery Container 2	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2020
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W1-1 JZ-500	++Container-291W2-1 JZ-500	++Container-291W1-1 JZ-500	Cable name / Cable type	Strip =UNIT_03++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	4	,	-687F4	2		&EFS/687.5
								,				
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	5	,	-687F5	2		&EFS/687.7
								,				
Supply Battery String 1-phase 230V AC	1				++Container-XE	1	6	,	-687F6	2		&EFS/687.8
								,				

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next page: 2022

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-687XT1	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-687XT1

Function text	++Container-293W1-1 JZ-500	++Container-292W3-1 JZ-500	++Container-292W2-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	7		-688F1	2		&EFS/688.1
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	8		-688F2	2		&EFS/688.3
Supply Battery String 1-phase 230V AC	1				++Container-XE	1	9		-688F3	2		&EFS/688.4

Editor	Freqcon_DG	Statron
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore
Proved by		
Date		

Klemmenplan =UNIT_03++ASC+-687XT1

20241105_V1.2

10354_23A2007

= UNIT_03 Battery Container 2
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-290W1-1 JZ-500	++Container-293W3-1 JZ-500	++Container-293W2-1 JZ-500	Cable name / Cable type	Strip =UNIT_03++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			1		++Container-XE	1	10		-688F4	2		&EFS/688.5
Supply Battery String 1-phase 230V AC		1			++Container-XE	1	11		-688F5	2		&EFS/688.7
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N		-XES	N		&EFS/687.1

previous page: 2022

next page: 2024

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-687XT1	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-291W1-1 JZ-500	++Container-290W3-1 JZ-500	++Container-290W2-1 JZ-500	Cable name / Cable type	Strip =UNIT_03++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/687.3
Supply Battery String 1-phase 230V AC		2			++Container-XE	N	N					&EFS/687.4
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N					&EFS/687.6

previous page: 2023

next page: 2025

Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-687XT1	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

page: 2024 / total: 498

Terminal diagram

Freqcon_F13_001_02

Function text	++Container-292W2-1 -XZ-500	++Container-292W1-1 -XZ-500	++Container-291W2-1 -XZ-500	Cable name / Cable type	Strip =UNIT_03++ASC+-687XT1 Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/687.7
Supply Battery String 1-phase 230V AC		2			++Container-XE	N	N					&EFS/687.8
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N		-XES	N		&EFS/688.1

previous page: 2024

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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-687XT1	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-687XT1

Function text	++Container-293W2-1 JZ-500	++Container-293W1-1 JZ-500	++Container-292W3-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/688.3
Supply Battery String 1-phase 230V AC		2			++Container-XE	N	N					&EFS/688.4
Supply Battery String 1-phase 230V AC	2				++Container-XE	N	N					&EFS/688.6

Editor	Freqcon_DG		
Date	05.11.2024		
Proved by			
Date			

Statron

Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_03++ASC+-687XT1

20241105_V1.2

10354_23A2007

=	UNIT_03	Battery Container 2	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2026
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip
=UNIT_03++ASC+-687XT1

Function text	++Container-290W2-1 JZ-500	++Container-290W1-1 JZ-500	++Container-293W3-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			2		++Container-XE	N	N					&EFS/688.7
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/687.2
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/687.3

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-687XT1	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore				& EMZ Terminals	
Proved by					10354_23A2007	++ ASC auxillary cabinet	page: 2027
Date						+	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-687XT1

Function text	++Container-291W2-1 JZ-500	++Container-291W1-1 JZ-500	++Container-290W3-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			GNYE		++Container-XE	PE	PE					&EFS/687.4
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/687.6
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/687.7

Editor	Freqcon_DG	Statron	Klemmenplan =UNIT_03++ASC+-687XT1
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	20241105_V1.2
Proved by			10354_23A2007
Date			

=	UNIT_03	Battery Container 2	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2028
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-687XT1

Function text	++Container-292W3-1 JZ-500	++Container-292W2-1 JZ-500	++Container-292W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			GNYE		++Container-XE	PE	PE					&EFS/687.9
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/688.2
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/688.3

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-687XT1

Function text	++Container-293W3-1 JZ-500	++Container-293W2-1 JZ-500	++Container-293W1-1 JZ-500	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Supply Battery String 1-phase 230V AC			GNYE		++Container-XE	PE	PE					&EFS/688.4
Supply Battery String 1-phase 230V AC		GNYE			++Container-XE	PE	PE					&EFS/688.6
Supply Battery String 1-phase 230V AC	GNYE				++Container-XE	PE	PE					&EFS/688.7

Editor	Freqcon_DG	Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-687XT1	20241105_V1.2	= UNIT_03 Battery Container 2	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore				& EMZ Terminals	
Proved by					10354_23A2007	++ ASC auxillary cabinet	page: 2030
Date						+	total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_03++ASC+-690XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Container Internal Lighting			L	1		-690F1	2		&EFS/690.1
Container Internal Lighting			1	2		-690F2	2		&EFS/690.3
Container Sockets			1	3		-690F3	2		&EFS/690.5
230V AC for crane 2			1	4		-690F4	2		&EFS/690.7
230V AC for crane 3			1	5		-690F5	2		&EFS/690.8
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4			L	6		-636K1	14		&EFS/691.1
			L						

Terminal diagram

Freqcon_F13_001_02

Function text				Cable name	Strip =UNIT_03++ASC+-690XT1						Cable name												Page / column
				Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable type												
								,															
								,															
230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8						L	7	,	-636K2	14													&EFS/691.3
						L																	
								,															
								,															
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230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11						L	8	,	-636K3	14													&EFS/691.4
						L																	
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Editor	Freqcon_DG			Statron	FREQCON	Klemmenplan =UNIT_03++ASC+-690XT1	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024							& EMZ Terminals
Proved by				Shell Crosswind BESS FQ 1MW 5MWh Offshore			10354_23A2007	++ ASC auxillary cabinet
Date								+

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total: 498

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-690XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11				9		-691F4	2		&EFS/691.5
400V AC for Cooling Units				10		-691F4	4		&EFS/691.6
400V AC for Cooling Units				11		-691F4	6		&EFS/691.6

Editor	Freqcon_DG	Statron	
Date	05.11.2024	Shell Crosswind BESS FQ 1MW 5MWh Offshore	
Proved by			
Date			

FREQCON

Klemmenplan =UNIT_03++ASC+-690XT1

20241105_V1.2

10354_23A2007

=	UNIT_03	Battery Container 2	
&	EMZ	Terminals	
++	ASC	auxillary cabinet	page: 2033
+			total: 498

Terminal diagram

Freqcon_F13_001_02

Strip

=UNIT_03++ASC+-690XT1

Function text	Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type	Page / column
Container Sockets			2	N		-690F2	N.		&EFS/690.4
=			PE	PE					&EFS/690.4
230V AC for crane 1			2	N		-XES	N		&EFS/690.6
=			PE	PE					&EFS/690.6
230V AC for crane 2			2	N		-XES	N		&EFS/690.7
=			PE	PE					&EFS/690.7
230V AC for crane 3			2	N		-XES	N		&EFS/690.8
=			PE	PE					&EFS/690.8
Container Internal Lighting			N	N		-690F1	N.		&EFS/690.1
=			GND	PE					&EFS/690.2
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4			N	N		-XES	N		&EFS/691.1
			N						
230V AC for Exhaust Unit / shut-off flap Battery cabinets 1-4			GND	PE					&EFS/691.2
			GND						
230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8			N	N					&EFS/691.3
			N						
230V AC for Exhaust Unit / shut-off flap Battery cabinets 5-8			GND	PE					&EFS/691.3
			GND						
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11			N	N					&EFS/691.4
			N						
230V AC for Exhaust Unit / shut-off flap Battery cabinets 9-11			GND	PE					&EFS/691.4

Editor: Freqcon_DG
Date: 05.11.2024
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Date:

Statron
Shell Crosswind BESS FQ 1MW 5MWh Offshore

FREQCON

Klemmenplan =UNIT_03++ASC+-690XT1

20241105_V1.2
10354_23A2007

= UNIT_03 Battery Container 2
& EMZ Terminals
++ ASC auxillary cabinet
+

Terminal diagram

Freqcon_F13_001_02

Strip =UNIT_03++ASC+-690XT1

Function text				Cable name / Cable type	Target designation	Connection point	Terminal	Jumper	Target designation	Connection point	Cable name / Cable type												Page / column
						GND																	
400V AC for Cooling Units							N																&EFS/691.6
=							PE																&EFS/691.6

Editor	Freqcon_DG			Statron	Klemmenplan =UNIT_03++ASC+-690XT1	20241105_V1.2	= UNIT_03 Battery Container 2
Date	05.11.2024			Shell Crosswind BESS FQ 1MW 5MWh Offshore			& EMZ Terminals
Proved by						10354_23A2007	++ ASC auxillary cabinet
Date							+