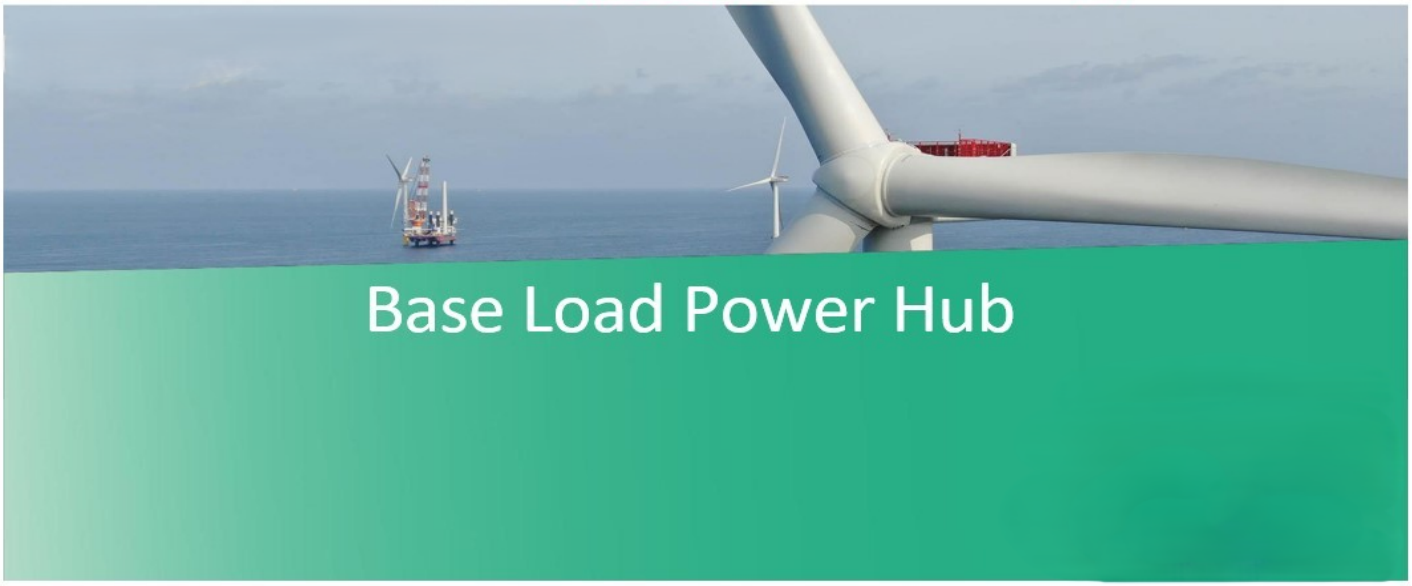
CROSSWIND

ROSETTI MARINO

PROVERLIS

PROJECT **123A90 - HOLLANDSE KUST NOORD WIND PARK**
BLPH Project



MECHANICAL COMPLETION DOSSIER (ONSHORE)

SYSTEM	83 Main Power Distribution Low Voltage 440 V
SUBSYSTEM	83-20 400/230 V Switchboard (DP-200N1)

CROSSWIND

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

MECHANICAL COMPLETION DOSSIER INDEX

ROSETTI MARINO

Sub System N°:	83-20	**Tick as appropriate**	ONSHORE	O
Description:	400/230 V Switchboard (DP-200N1)		OFFSHORE	NA

1.	***READY FOR COMMISSIONING CERTIFICATE*** *Ready For Commissioning Certificate (RFC)*	O
2.	***CONSOLIDATED PUNCH LISTS*** *Cleared and Residual Items*	O
3.	***SYSTEM/SUB-SYSTEM LIMIT DRAWINGS*** *Mark-up drawings showing the limits of the relevant System/Sub-System*	O
4.	***MECHANICAL COMPLETION STATUS INDEX – BUILDING DISCIPLINE*** *Building Sub-System Status Index (Print out) and Check/Test sheets*	NA
5.	***MECHANICAL COMPLETION STATUS INDEX – ELECTRICAL DISCIPLINE*** *Electrical Sub-System Status Index (Print out) and Check/Test Sheets* *Hazardous Area Equipment Detailed Inspection*	O
6.	***MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE*** *Instrumental Sub-System Status Index (Print out) and Check/Test Sheets*	NA
7.	***MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE*** *Mechanical SubSystem Status Index (Print out) and Check/Test Sheets*	NA
8.	***MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE*** *Telecommunication Sub-System Status Index (Print out) and Check/Test Sheets*	NA
9.	***MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE*** *HVAC Sub-System Status Index (Print out) and Check/Test Sheets*	NA
10.	***MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE*** *Piping Sub-System Status Index and Check/Test Sheets*	NA
11.	***MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE*** *Safety Sub-System Status Index (Print out) and Check/Test Sheets*	NA
12.	***FAT / VENDOR REPORTS*** *Fat reports issued by vendors and/or vendor reports*	OK
13.	***MECHANICAL COMPLETION CHANGES / MARK-UPS*** *A copy of the changes initiated during the Mechanical Completion process pertaining to the relevant Sub-System will be incorporated in this section*	NA

Note: Under the generic terminology “Building” are also covered the following disciplines: **Structural, Painting**

Under the generic terminology “Instrumental” is also covered the following discipline: **Fire & Gas**

ROSETTI MARINO

123A90 - HOLLANDSE KUST NOORD WIND PARK
BLPH Project

CROSSWIND

Ready For Commissioning (RFC) Certificate

COMPLETE	●	PARTIAL	

Revision:	1		Issued on:	2024-10-22	
System:	83	/	Main Power Distribution Low Voltage 440 V		
SubSystem:	83-20	/	400/230 V Switchboard (DP-200N1)		

1	COMPANY has, at its option and if required, reviewed the mechanical completion associated with the above-named system/sub-system of the SCOPE and observed that such functional sub-system has been brought into readiness for commencement of the associated pre-commissioning and commissioning activities, but for the outstanding punch list items, if any, attached and referred in this Certificate.
2	Issuance of this Certificate shall not release CONTRACTOR from any of his obligations, responsibilities or liabilities under the CONTRACT.
3	Mechanical Completion Status Index attached (per Discipline) Punch List report attached (Outstanding and Cleared)

PUNCH LIST	PENDING POINTS	
Note: All Category "A" Items must be cleared prior to issue a Ready For Commissioning (RFC) Certificate	A '0	B 11

REMARKS:

	CONTRACTOR Construction Manager	**CONTRACTOR** Commissioning Manager	**COMPANY** Construction Lead (if required)	**COMPANY** Commissioning Lead (if required)
Name	Wolmer Borghi	Anthony Iveson	CPY NOT PRESENT	CPY NOT PRESENT
Date	2024-10-23	2024-10-23	2024-10-23	2024-10-23
Signature	PROVERLIS Digitaly signed by Wolmer Borghi 2024-10-23T10:47:10.031Z	PROVERLIS Digitaly signed by Anthony Iveson 2024-10-23T10:32:18.170Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2024-10-23T11:54:43.340Z	PROVERLIS Digitaly signed by CPY NOT PRESEN 2024-10-23T11:54:52.857Z

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subproject: BLPH & system: 83 & subsystem: 83-20 & process: MC

Electrical	83-20 400/230 V Switchboard (DP-200N1)

ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
83043-CEL	LV Switchgear / DB - Lighting & Small Power - BoP	ONSHORE	C10000564	CPX09	100	2024-10-22	-
83125-CEC	Lighting & Small Power DB BoP / LV Switchgear	ONSHORE	C10002117	CPX10	100	2024-10-22	-
83126-CEC	Lighting & Small Power DB BoP / LV Switchgear	ONSHORE	C10002118	CPX10	100	2024-10-22	-
83127-CEC	Lighting & Small Power DB BoP / LV Switchgear	ONSHORE	C10002119	CPX10	100	2024-10-22	-
DP-200N1	LV 0,4/0,23 kV Distribution Board for Lighting & Small Power DB BoP	ONSHORE	C10000860	CPX15	100	2024-09-30	-

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 83 Main Power Distribution Low Voltage 440 V

SUBSYSTEM 83-20 400/230 V Switchboard (DP-200N1)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000120	B	A3/+03-QF1 C10002887	New and definitive protection setting to be implemented on SG-200N1 drawer A3/+03.	Update the protection study on the drawer.		MGirotti 2024-10-01			
C30000122	B	DP-200N1	Dusk Switch Missing			SLinari 2024-09-17			
C30000125	B	DP-200N1	1723002197-EL-DG-00013 / 1723002197-EL-DG-00033 shall be re issued including mark up after FAT			SLinari 2024-09-17			
C30000240	B	83043-CEL C10000564	Missing Identification numbers on the terminal strip X1 inside DP-200N1	.		Gtangianu 2024-10-22			
C30000241	B	83043-CEL C10000564	Missing plastic cable tag on internal/external side of panel DP-200N1.	-		Gtangianu 2024-10-22			
C30000242	B	83127-CEC C10002119	Missing plastic cable tag on external panel DP-200N1 and SG-200N1.	-		Gtangianu 2024-10-22			
C30000243	B	83126-CEC C10002118	Missing plastic cable tag on external panel DP-200N1 and SG-200N1.	.		Gtangianu 2024-10-22			
C30000244	B	83125-CEC C10002117	Missing plastic cable tag on external panel DP-200N1 and SG-200N1.	-		Gtangianu 2024-10-22			
C30000245	B	83127-CEC C10002119	Missing identification cable tag on spares wire, SG-200N1 side.	.		Gtangianu 2024-10-22			

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	83	Main Power Distribution Low Voltage 440 V
SUBSYSTEM	83-20	400/230 V Switchboard (DP-200N1)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000246	B	83125-CEC C10002117	Missing identification cable tag on spares wire, SG-200N1 side.	-		Gtangianu 2024-10-22			
C30000247	B	83126-CEC C10002118	Missing identification cable tag on spares wire, SG-200N1 side.	-		Gtangianu 2024-10-22			

Section 2 CONSOLIDATED PUNCH LISTS

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM 83 Main Power Distribution Low Voltage 440 V

SUBSYSTEM 83-20 400/230 V Switchboard (DP-200N1)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000120	B	A3/+03-QF1 C10002887	New and definitive protection setting to be implemented on SG-200N1 drawer A3/+03.	Update the protection study on the drawer.	The definitive setting has been updated.	MGirotti 2024-10-01	MGirotti 2024-11-21	MGirotti 2024-11-21	2024-11-21
C30000122	B	DP-200N1	Dusk Switch Missing		Installed (see attached pictures)	SLinari 2024-09-17	Vendor 2025-02-25	SLinari 2025-02-25	2025-02-25
C30000125	B	DP-200N1	1723002197-EL-DG-00013 / 1723002197-EL-DG-00033 shall be re issued including mark up after FAT		Issued Rv.04 as built / issued rev.02 as built	SLinari 2024-09-17	Vendor 2025-02-25	SLinari 2025-02-25	2025-02-25
C30000240	B	83043-CEL C10000564	Missing Identification numbers on the terminal strip X1 inside DP-200N1	.		Gtangianu 2024-10-22	2025-02-04	Gtangianu 2025-02-04	2025-02-04
C30000241	B	83043-CEL C10000564	Missing plastic cable tag on internal/external side of panel DP-200N1.	-		Gtangianu 2024-10-22	2025-02-26	Pschintu 2025-02-26	2025-02-26
C30000242	B	83127-CEC C10002119	Missing plastic cable tag on external panel DP-200N1 and SG-200N1.	-		Gtangianu 2024-10-22	2025-01-30	APolo 2025-01-30	2025-01-30
C30000243	B	83126-CEC C10002118	Missing plastic cable tag on external panel DP-200N1 and SG-200N1.	.		Gtangianu 2024-10-22	2025-01-30	APolo 2025-01-30	2025-01-30
C30000244	B	83125-CEC C10002117	Missing plastic cable tag on external panel DP-200N1 and SG-200N1.	-		Gtangianu 2024-10-22	2025-01-30	APolo 2025-01-30	2025-01-30
C30000245	B	83127-CEC C10002119	Missing identification cable tag on spares wire, SG-200N1 side.	.		Gtangianu 2024-10-22	2025-02-04	Gtangianu 2025-02-04	2025-02-04

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

PUNCH LIST REPORT

SYSTEM	83	Main Power Distribution Low Voltage 440 V
SUBSYSTEM	83-20	400/230 V Switchboard (DP-200N1)

Electrical

CODE	CAT	ITEM	DEFECT DESCRIPTION	CORRECTIVE ACTION	PERFORMED ACTION	ISSUED	CARRIED	CHECKED	APPROVED
C30000246	B	83125-CEC C10002117	Missing identification cable tag on spares wire, SG-200N1 side.	-		Gtangianu 2024-10-22	2025-02-04	Gtangianu 2025-02-04	2025-02-04
C30000247	B	83126-CEC C10002118	Missing identification cable tag on spares wire, SG-200N1 side.	-		Gtangianu 2024-10-22	2025-02-04	Gtangianu 2025-02-04	2025-02-04

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000122

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Electrical

1.2 Item DP-200N1

LV 0,4/0,23 kV Distribution Board for Lighting & Small Power DB BoP

1.3 Subsystem 83-20

400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Dusk Switch Missing

Name

Date

Signature

3 - DEFECT ASSESSMENT

Update the protection study on the drawer.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority B PL B

3.4 Activity code FAT factory acceptance test

3.5 Action by VND Vendor

Name Stefano Linari

Date 2024-09-17

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

Installed (see attached pictures)

Name Vendor Crosswind

Date 2025-02-25

Signature

5 - CLEARANCE CHECK

Done.

Name Stefano Linari

Date 2025-02-25

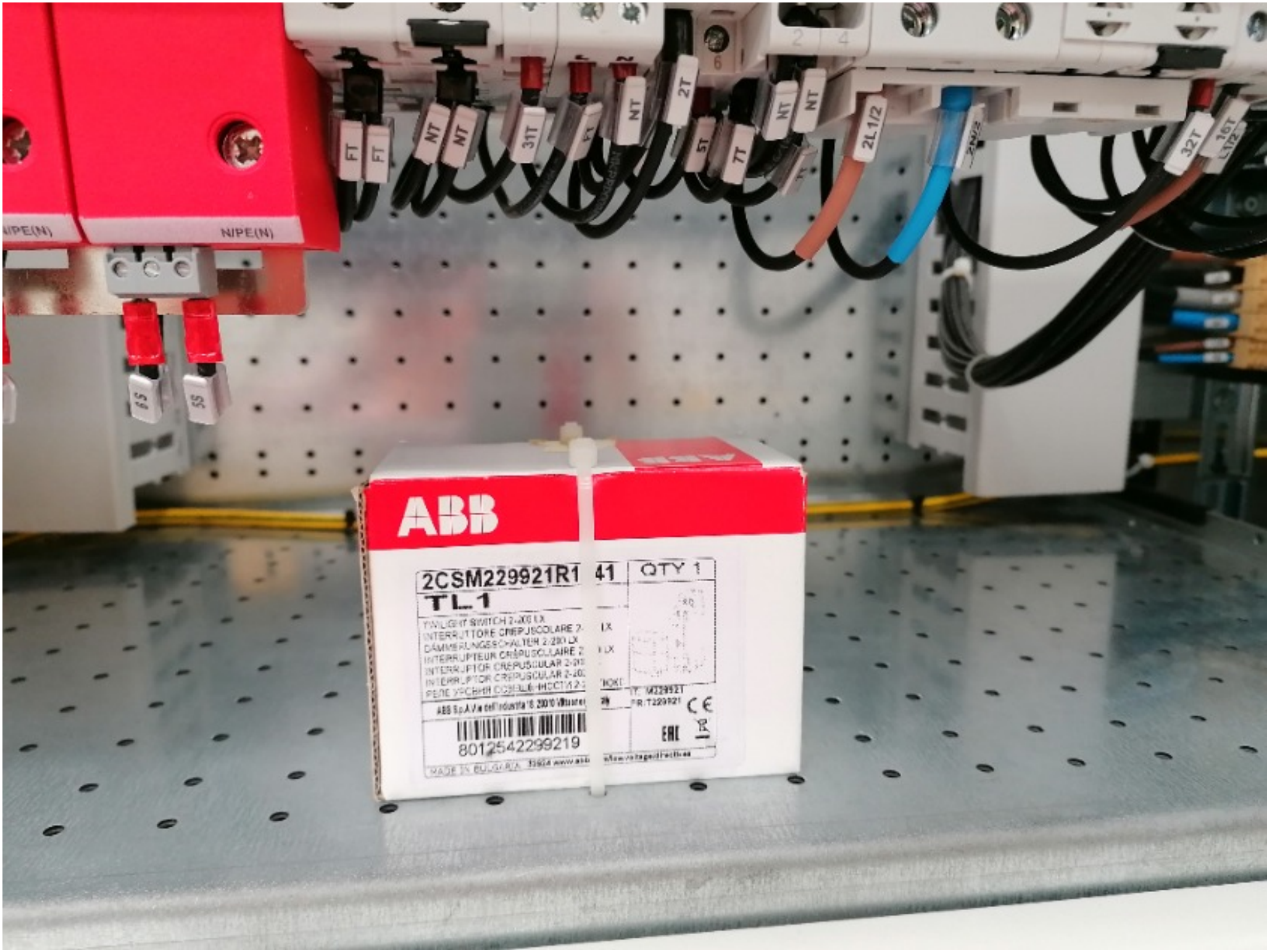
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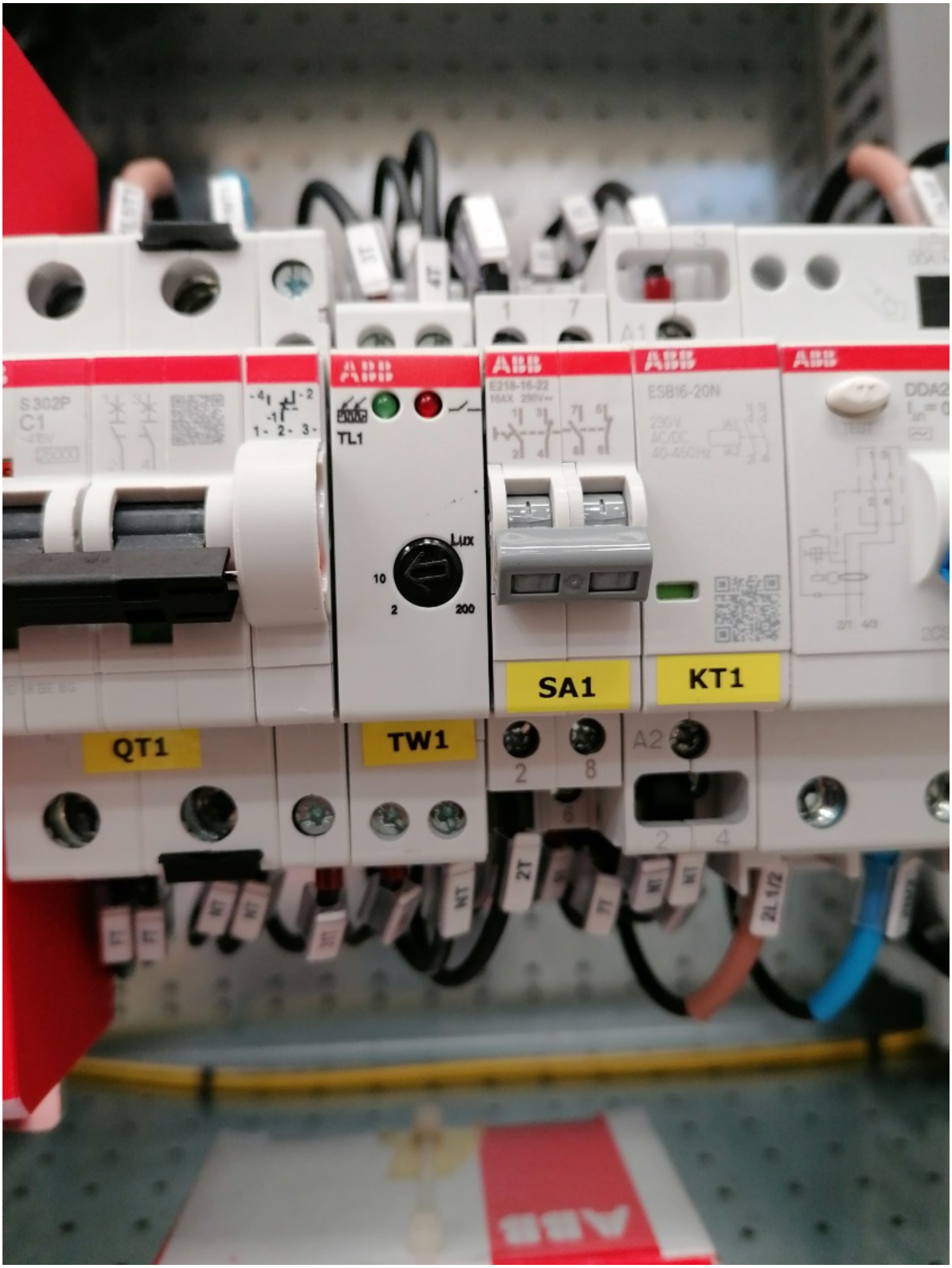
6- CLEARANCE APPROVAL

Name

Date 2025-02-25

Signature


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N/PE(N)
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7T
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TL 1
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ABB
S 302P
C1
ABB
TL1
Lux
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2
200
ABB
E218-16-22
16AX 250V~
ABB
ESB16-20N
230V
AC/DC
40-450Hz
QT1
TW1
SA1
KT1
A1
A2
2
8
2
4

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000125

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task

1.4 Discipline Electrical

1.2 Item DP-200N1

LV 0,4/0,23 kV Distribution Board for Lighting & Small Power DB BoP

1.3 Subsystem 83-20

400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

1723002197-EL-DG-00013 / 1723002197-EL-DG-00033 shall be re issued including mark up after FAT

Name

Date

Signature

3 - DEFECT ASSESSMENT

Update the protection study on the drawer.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority B PL B

3.4 Activity code FAT factory acceptance test

3.5 Action by VND Vendor

Name Stefano Linari

Date 2024-09-17

Signature --- Proverlis ---
Duplicata issued from database information
Signature is on original form

4 - PERFORMED ACTION

Issued Rv.04 as built / issued rev.02 as built

Name Vendor Crosswind

Date 2025-02-25

Signature

5 - CLEARANCE CHECK

Done.

Name Stefano Linari

Date 2025-02-25

Signature

6- CLEARANCE APPROVAL

Name

Date 2025-02-25

Signature

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000240

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000564	1.4 Discipline	Electrical
1.2 Item	83043-CEL		LV Switchgear / DB - Lighting & Small Power - BoP
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing Identification numbers on the terminal strip X1 inside DP-200N1

Name: Giovanni Tangianu

Date: 2024-10-22

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu

Date: 2025-02-04

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000241

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10000564	1.4 Discipline	Electrical
1.2 Item	83043-CEL		LV Switchgear / DB - Lighting & Small Power - BoP
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing plastic cable tag on internal/external side of panel DP-200N1.

Name: Giovanni Tangianu

Date: 2024-10-22

Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Paolo Schintu

Date: 2025-02-26

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000242

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002119	1.4 Discipline	Electrical
1.2 Item	83127-CEC		Lighting & Small Power DB BoP / LV Switchgear
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing plastic cable tag on external panel DP-200N1 and SG-200N1.

Name: Giovanni Tangianu

Date: 2024-10-22

Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000243

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002118	1.4 Discipline	Electrical
1.2 Item	83126-CEC		Lighting & Small Power DB BoP / LV Switchgear
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing plastic cable tag on external panel DP-200N1 and SG-200N1.

Name: Giovanni Tangianu

Date: 2024-10-22

Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000244

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002117	1.4 Discipline	Electrical
1.2 Item	83125-CEC		Lighting & Small Power DB BoP / LV Switchgear
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing plastic cable tag on external panel DP-200N1 and SG-200N1.

Name: Giovanni Tangianu

Date: 2024-10-22

Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:

Date:

Signature:

5 - CLEARANCE CHECK

DONE

Name: Alessio Polo

Date: 2025-01-30

Signature:

6- CLEARANCE APPROVAL

Name:

Date:

Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000245

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002119	1.4 Discipline	Electrical
1.2 Item	83127-CEC		Lighting & Small Power DB BoP / LV Switchgear
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing identification cable tag on spares wire, SG-200N1 side.

Name: Giovanni Tangianu
Date: 2024-10-22
Signature:

3 - DEFECT ASSESSMENT

.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-04
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000246

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002117	1.4 Discipline	Electrical
1.2 Item	83125-CEC		Lighting & Small Power DB BoP / LV Switchgear
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing identification cable tag on spares wire, SG-200N1 side.

Name: Giovanni Tangianu
Date: 2024-10-22
Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-04
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000247

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002118	1.4 Discipline	Electrical
1.2 Item	83126-CEC		Lighting & Small Power DB BoP / LV Switchgear
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

Missing identification cable tag on spares wire, SG-200N1 side.

Name: Giovanni Tangianu
Date: 2024-10-22
Signature:

3 - DEFECT ASSESSMENT

-

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Giovanni Tangianu
3.4 Activity code	MC Mechanical Completion	Date	2024-10-22
3.5 Action by	RM_CONSTR RM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name:
Date:
Signature:

5 - CLEARANCE CHECK

Installed.

Name: Giovanni Tangianu
Date: 2025-02-04
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

ROSETTI MARINO
CROSSWIND

PUNCH ITEM ENTRY / CLEARANCE FORM

C30000120

PROVERLIS

1 -ELEMENT IDENTIFICATION

1.1 Task	C10002887	1.4 Discipline	Electrical
1.2 Item	A3/+03-QF1		DRAWER DB - LIGHTING & SMALL POWER - A3/+03-QF1
1.3 Subsystem	83-20		400/230 V Switchboard (DP-200N1)

2 - OBSERVATION

New and definitive protection setting to be implemented on SG-200N1 drawer A3/+03.

Name: Mattia Girotti
Date: 2024-10-01
Signature:

3 - DEFECT ASSESSMENT

Update the protection study on the drawer.

3.1 Corrective action proposal

3.2 Material required

3.3 Priority	B PL B	Name	Mattia Girotti
3.4 Activity code	COMM Commissioning	Date	2024-10-01
3.5 Action by	PRE-COMM	Signature	

4 - PERFORMED ACTION

The definitive setting has been updated.

Name: Mattia Girotti
Date: 2024-11-21
Signature:

5 - CLEARANCE CHECK

Done.

Name: Mattia Girotti
Date: 2024-11-21
Signature:

6- CLEARANCE APPROVAL

Name:
Date:
Signature:

Page Name	Group Name	Variable Name	Variable Value	Variable Unit
Settings A				
	Overload Protection (L - ANSI 49)			
		PU nominal current In	100	
		Status	Enabled	
		Function	t=k/i^2	
		Prealarm I1	90	% I1
		Threshold I1	0.650	In
		Time t1 std	60.00	s
		Thermal memory (TM)	Disabled	
		TM Algorithm	RMS-independent	
		TM Time	Automatic	
		TM custom time	830	s
	Time-delayed overcurrent protection (S - ANSI 50 TD/68/51)			
		Status	Enabled	
		Trip enable	Enabled	
		BlockOnStartUp	--------	
		BlockOnOutOfFrequency	--------	
		BlockOnProgStatusA	--------	
		BlockOnProgStatusB	--------	
		BlockOnProgStatusC	--------	
		BlockOnProgStatusD	--------	
		Function	t=k	
		Threshold I2 (t=k)	10.00	In
		Time t2 (t=k) IEC - UL489	0.10	s
		Startup enable	Disabled	
		Startup time	0.10	s
		Startup threshold	0.60	In
		Set Startup th. on ProgStatusD	--------	
		Thermal memory status	Disabled	
		Zone Selectivity status	Disabled	
		Zone Selectivity time	0.04	s
		Zone Selectivity Type	Logic and Hardware	
	Second time-delayed overcurrent protection (S2 - ANSI 50 TD)			
		Status	Disabled	
		Trip enable	Enabled	
		BlockOnStartUp	--------	
		BlockOnOutOfFrequency	--------	
		BlockOnProgStatusA	--------	
		BlockOnProgStatusB	--------	
		BlockOnProgStatusC	--------	
		BlockOnProgStatusD	--------	
		Threshold I5 (t=k)	2.00	In
		Time t5 (t=k)	0.05	s
		Startup enable	Disabled	
		Startup time	0.10	s
		Startup threshold	2.00	In
		Set Startup th. on ProgStatusD	--------	
		Zone Selectivity status	Disabled	
		Zone Selectivity time	0.04	s
		Zone Selectivity Type	Logic and Hardware	
	Instantaneous overcurrent protection (I - ANSI 50)			
		Status	Disabled	
		Threshold I3	7.00	In
		Startup enable	Disabled	
		Startup time	0.10	s
		Startup threshold	1.50	In
		Set Startup th. on ProgStatusD	--------	
		BlockOnStartUp	--------	
		BlockOnOutOfFrequency	--------	
		BlockOnProgStatusA	--------	
		BlockOnProgStatusB	--------	
		BlockOnProgStatusC	--------	
		BlockOnProgStatusD	--------	
		Zone Selectivity status	Disabled	
		Zone Selectivity Type	Logic and Hardware	
	Second I			
		Prot Second I	---	
		Status	Disabled	
		Threshold I31	1.50	In
		Zone Selectivity status	Disabled	
		Zone Selectivity Type	Logic and Hardware	
		Second I Mode	Function Dependent	
		Function	Disabled	
		Delay On	0.00	s
		Delay Off	15.00	s
	Earth fault protection (G - ANSI 50N TD/68/51N)			
		Status	Enabled	
		Trip enable	Enabled	
		BlockOnStartUp	--------	
		BlockOnOutOfFrequency	--------	
		BlockOnProgStatusA	--------	
		BlockOnProgStatusB	--------	
		BlockOnProgStatusC	--------	
		BlockOnProgStatusD	--------	
		Function	t=k	
		Prealarm I4	90	% I4
		Threshold I4 (t=k)	0.200	In
		Time t4 (t=k) IEC - UL489	0.10	s

		Startup enable	Disabled	
		Startup time	0.10	s
		Startup threshold	0.20	In
		Set Startup th. on ProgStatusD	--------	
		Zone selectivity status	Disabled	
		Zone selectivity time	0.04	s
		Zone Selectivity Type	Logic and Hardware	
	Directional overcurrent protection (D - ANSI 67/68)			
		Status	Disabled	
		Trip enable	Disabled	
		tripOnlyForward	--------	
		tripOnlyBackward	--------	
		BlockOnStartUp	--------	
		BlockOnOutOfFrequency	--------	
		BlockOnProgStatusA	--------	
		BlockOnProgStatusB	--------	
		BlockOnProgStatusC	--------	
		BlockOnProgStatusD	--------	
		Threshold I7 FWD	2.00	In
		Time t7 FWD	0.20	s
		Threshold I7 BWD	2.00	In
		Time t7 BWD	0.20	s
		Startup enable	Disabled	
		Startup time	0.10	s
		Startup threshold FWD	2.00	In
		Startup threshold BWD	2.00	In
		Set Startup th. on ProgStatusD	--------	
		Zone Selectivity status	Disabled	
		Zone Selectivity time FWD	0.13	s
		Zone Selectivity time BWD	0.13	s
		Zone Selectivity Type	Logic and Hardware	
		Direction minimum angle	3.6	°
	Closing on short-circuit protection (MCR)			
		Status	Disabled	
		BlockOnOutOfFrequency	--------	
		BlockOnProgStatusA	--------	
		BlockOnProgStatusB	--------	
		BlockOnProgStatusC	--------	
		BlockOnProgStatusD	--------	
		Threshold I3	6.00	In
		Time t3	0.04	s
		Zone Selectivity status	Disabled	
		Zone Selectivity Type	Logic and Hardware	
	Over Temperature (T)			
		Trip enable	Disabled	

Section 3 SYSTEM,SUB-SYSTEM LIMIT DRAWINGS

BASE LOAD POWER HUB (BLPH)

"DP-200N1" LV SWBD 400/230V

ELECTRICAL
SINGLE LINE DIAGRAM

SUBSYSTEM 83-20

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/13
Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"
SINGLE LINE DIAGRAM
Cover

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00013

SHEET 001

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03

INDEX SHEETS

Sheet	Description	Revision 0	1	2	3	4	5	6	7	8	9
001	Cover										
002	Index										
003	Graphical Symbols										
004	Graphical Symbols										
005	Single Line Drawing										
006	Single Line Drawing										
007	Single Line Drawing										
008	Single Line Drawing										
009	Single Line Drawing										
010	Single Line Drawing										
011	Single Line Drawing										
012	Single Line Drawing										
013	Single Line Drawing										
014	Single Line Drawing										

Sheet	Description		Revision 0	1	2	3	4	5	6	7	8	9
	Lighting Equipment Rooms	SS 83-35/40										
	Emergency Lighting	SS 83-35										
	Electrical Heat Tracing	SS 83-65										
	Power Socket	SS 83-55										
	66 kV Subsea Cable	SS 81-00										
	400 v Switchboard Solar (SG-200D2)	SS 83-10										
	Emergency Shotdown System	SS 79-00										
	Procces Contro System	SS 87-10										
	Electrical Monitoring & Control System	SS 87-00										
	F&G Control System	SS 70-00										
	Data Networks	SS 86-00										
	Instrument Air Package	SS 63-00										
	Nitrogen Generator Package	SS 64-00										
	Power Trans. 7 MVA (TR-100D1)	SS 81-20										
	Power Trans. 1.6 MVA (TR-200DE1)	SS 82-40										
	Solar PV Power Trans. 0.5 MVA (TR-200ED1)	SS 82-50										
	GIS 66 kV (HNA6-AFA70)	SS 81-10										
	MV 6.6 kV Switchdoard (SG.100D1)	SS 82-00										
	400 V Switchboard & Conn. Box (SG-200N1)	SS 83-00										
	400 V Switchboard Solar (SG-200D2)	SS 83-10										
	AC 35 kVA UPS (UP-200F3)	SS 84-10										
	AC 15 kVA UPS (UP-200F4)	SS 84-20										
	DC 10 kVA UPS (UPP-200F1)	SS 84-00										

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
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IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/13

Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Index

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

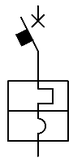
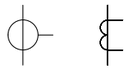
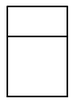
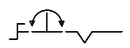
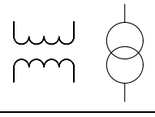
DRAWING NO. 1723002197-EL-DG-00013

SHEET 002

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03

GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION
	**CIRCUIT BREAKER WITH AUTOMATIC RELEASE**		**CAPACITOR (GENERAL SYMBOL)**		**BISTABLE RELAY**		**CHANGE-OVER BREAK BEFORE MAKE CONTACT**
	**CIRCUIT BREAKER WITH AUTOMATIC RELEASE AND BUILT-IN THERMOMAGNETIC RELEASE**		**CAPACITIVE VOLTAGE DIVIDER**		**COIL OF A MECHANICALLY LATCHED RELAY**		**DELAYED ACTION (IN THE DIRECTION OF MOVEMENT FROM THE ARC TOWARDS ITS CENTRE)**
			**CURRENT TRANSFORMER**		**INDICATOR, ELECTROMECHANICAL ELEMENT**		POSITION SWITCH (LIMIT SWITCH), MAKE CONTACT
	**SWITCH DISCONNECTOR**		RING CURRENT TRANSFORMER		**LAMP (GENERAL SYMBOL)**		**POSITION SWITCH (LIMIT SWITCH), MAKE CONTACT**
	**CONTACTOR**		**INDICATING INSTRUMENT GENERAL SYMBOL**		**SEMICONDUCTOR DIODE**		POSITION SWITCH (LIMIT SWITCH), BREAK CONTACT
	LOCK WITH FREE KEY WHEN THE DEVICE IS IN OPEN POSITION		**INTEGRATING INSTRUMENT (GENERAL SYMBOL)**		**LED**		**OPERATED BY TURNING**
	LOCK WITH FREE KEY WHEN THE DEVICE IS IN CLOSE POSITION		**DISCONNECTING FUSE, NOT WITH LIVE CIRCUIT AND WITH MECHANICAL LINKAGE (STRIKER FUSE))**		**TRANSDUCER OF ALTERNATING CURRENT MEASURE INTO DIRECT CURRENT SIGNAL**		**THREE HELD POSITIONS TURNING SWITCH**
	PLUG AND SOCKET (MALE AND FEMALE)		**OPERATING DEVICE (GENERAL SYMBOL)**		**EARTH, GROUND (GENERAL SYMBOL)**		**THREE POSITIONS TURNING SWITCH, WITH SPRING THROWBACK TO THE CENTRAL POSITION**
	**VOLTAGE TRANSFORMER WITH TWO WINDINGS**		**COIL OF A TIME DELAYED OPERATING RELAY**		**MAKE CONTACT**		MECHANICAL INTERLOCK BETWEEN TWO DEVICES
	**VOLTAGE TRANSFORMER WITH THREE WINDINGS**		**COIL OF A TIME DELAYED RELEASING RELAY**		**BREAK CONTACT**		RESISTOR (GENERAL SYMBOL)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/13

Item n° : PF1002888/101

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Graphical Symbols

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00013

SHEET 003

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03

GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION
	THERMISTOR (GENERAL SYMBOL)		3 PHASE + NEUTRAL LINE				
	HEATING ELEMENT		SINGLE PHASE + NEUTRAL LINE				
	INTERCONNECTION TERMINAL						
	WITHDRAWABLE TERMINAL SHORT-CIRCUITABLE ON C.T. SECONDARY CIRCUITS						
	WITHDRAWABLE TERMINAL FOR V.T. SECONDARY CIRCUITS						
	SWITCHBOARD TERMINAL						
	ON - OFF SWITCH						
	SURGE ARRESTER						
	VOLTMETRIC TEST SOCKET						
	AMPEROMETRIC TEST SOCKET						

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
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0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/13

Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Graphical Symbols

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

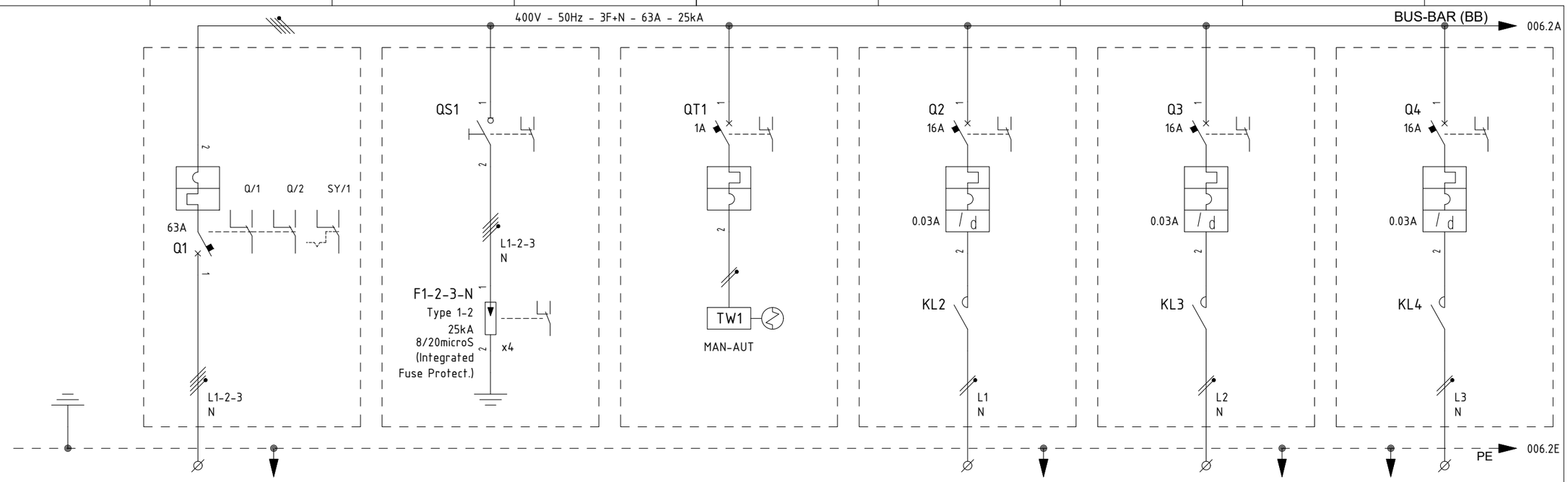
DRAWING NO. 1723002197-EL-DG-00013

SHEET 004

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	-				EJB-200N1-02-L1-01		EJB-200N1-03-L2-01		EJB-200N1-04-L3-01	
UTILITY			2	GENERAL INCOMING		SURGE ARRESTER		TWILIGHT SWICTH AND AUXILIARY		NORMAL LIGHTING UPPER DECK		NORMAL LIGHTING LOWER DECK		NORMAL LIGHTING STAIRS	
CUBICLE			3	+01		+01		+01		+01		+02		+02	
RATED POWER	RATED CURRENT		4/5	34.8 KW	63 A	/	/	/	/	1.5 KW	6.86 A	1 KW	4.58 A	0.2 KW	0.92 A
TYPICAL FUNCTIONAL			6	-		-		-		-		-		-	
CIRCUIT BREAKER (ABB)	TYPE		7	XT2N-160 4P		E204/100R		S302P-C1		S302P-C16 + DDA202 AC-25/0.03		S302P-C16 + DDA202 AC-25/0.03		S302P-C16 + DDA202 AC-25/0.03	
	VERSION		8	FIXED		4P / MINIATURE		2P / MINIATURE		2P / MINIATURE		2P / MINIATURE		2P / MINIAUTURE	
	TRIP UNITS		9	Ekip Dip LSI = 63A		In=100A		In=1A - Curve C		In=16A - Curve C / Id=0.03A Class AC		In=16A - Curve C / Id=0.03A Class AC		In=16A - Curve C / Id=0.03A Class AC	
	Icu	KA	10	36KA		-		25kA		25kA		25kA		25kA	
OVERLOAD	L	Range A	11	0,4 ÷1 In		-		-		-		-		-	
		Range t	12	t=k/I^2		-		-		-		-		-	
SEL. SHORT-CIRCUIT	S	Range A	13	1 ÷10 In		-		-		-		-		-	
		Range t	14	t=k / t=k/I^2		-		-		-		-		-	
INST. SHORT-CIRCUIT	I	Range A	15	1 ÷10 In		-		-		SUBSYSTEM 83-40		SUBSYSTEM 83-40		SUBSYSTEM 83-40	
		Range t	16	instantaneous		-		-							
EARTH FAULT PROTECTION	G	Range A	17	-		-		-		-		-		-	
		Range t	18	-		-		-		-		-		-	
CONTACTOR (ABB)			19	-		-		-		ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac		ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac		ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac	
THERMAL OVERLOAD RELAY (ABB)			20	-		-		-		-		-		-	
SURGE ARRESTERS (DHENN)			21	-		DVCI 1 255 FM (961 205)		-		-		-		-	
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-		-		-		-		-		-	
FUSE HOLDER (ABB)			23	-		-		-		-		-		-	
TWILIGHT SWITCH (ABB)			24	-		-		TL1 (2-200 LUX); Vaux=110-230Vac		-		-		-	
VOLTMETER (FRER)			25	-		-		-		-		-		-	
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-		-		-		-		-		-	
	PERFORMANCE/CLASS		27	-		-		-		-		-		-	
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-		-		-		-		-		-	
	PERFORMANCE/CLASS		29	-		-		-		-		-		-	
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 16		-		-		SCREW / 4		SCREW / 4		SCREW / 4	
POWER CONDUCTOR		mm²	31	5G16		-		-		3G4		3G4		3G4	

SUBSYSTEM 83-40

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
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0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

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DWG n° : 231298/SD/13

Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

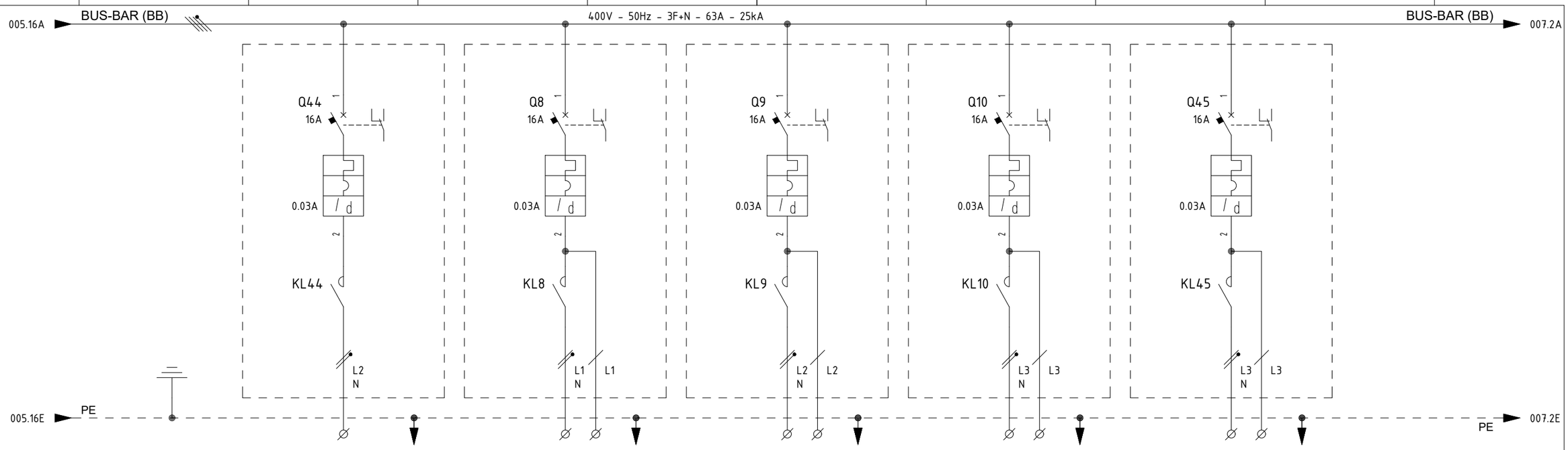
DRAWING NO. 1723002197-EL-DG-00013

SHEET 005

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM		1	-	EJB-200N1-08-L1-01	EJB-200N1-09-L2-01	EJB-200N1-10-L3-01	-
UTILITY		2	NORMAL LIGHTING - SPARE	EMERGENCY LIGHTING UPPER DECK	EMERGENCY LIGHTING LOWER DECK	EMERGENCY LIGHTING STAIRS	EMERGENCY LIGHTING - SPARE
CUBICLE		3	+02	+02	+02	+02	+02
RATED POWER | RATED CURRENT		4/5	1 KW | 4.58 A	1.5 KW | 6.86 A	1.5 KW | 6.86 A	0.30 KW | 1.37 A	1.5 KW | 6.86 A
TYPICAL FUNCTIONAL		6	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE	7	S302P-C16 + DDA202 AC-25/0.03	S302P-D16 + DDA202 AC-25/0.03	S302P-D16 + DDA202 AC-25/0.03	S302P-D16 + DDA202 AC-25/0.03	S302P-D16 + DDA202 AC-25/0.03
	VERSION	8	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS	9	In=16A - Curve C / Id=0.03A Class AC	In=16A - Curve D / Id=0.03A Class AC	In=16A - Curve D / Id=0.03A Class AC	In=16A - Curve D / Id=0.03A Class AC	In=16A - Curve D / Id=0.03A Class AC
	Icu KA	10	25KA	25KA	25KA	25KA	25KA
OVERLOAD	L Range A	11	-	-	-	-	-
	L Range t	12	-	-	-	-	-
SEL. SHORT-CIRCUIT	S Range A	13	-	-	-	-	-
	S Range t	14	-	-	-	-	-
INST. SHORT-CIRCUIT	I Range A	15	-	-	-	-	-
	I Range t	16	-	-	-	-	-
EARTH FAULT PROTECTION	G Range A	17	-	-	-	-	-
	G Range t	18	-	-	-	-	-
CONTACTOR (ABB)		19	ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac	ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac	ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac	ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac	ESB40-20N-06; 2x22A AC3; Vaux=230Vdc/ac
THERMAL OVERLOAD RELAY (ABB)		20	-	-	-	-	-
SURGE ARRESTERS (DHENN)		21	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)		22	-	-	-	-	-
FUSE HOLDER (ABB)		23	-	-	-	-	-
TWILIGHT SWITCH (ABB)		24	-	-	-	-	-
VOLTMETER (FRER)		25	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE	26	-	-	-	-	-
	PERFORMANCE/CLASS	27	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE	28	-	-	-	-	-
	PERFORMANCE/CLASS	29	-	-	-	-	-
POWER TERM. BLOCK (CABUR)	Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR	mm²	31	-	4G4_E	4G4_E	-	-

SUBSYSTEM 83-35

SUBSYSTEM 83-35

SUBSYSTEM 83-35

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DWG n° : 231298/SD/13

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

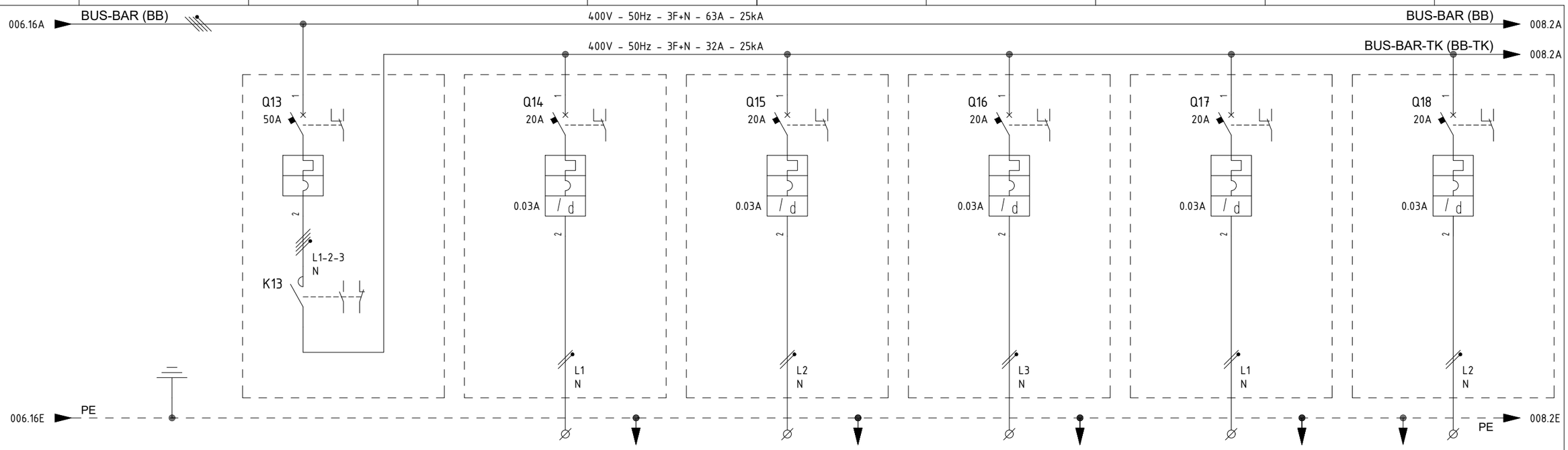
DRAWING NO. 1723002197-EL-DG-00013

SHEET 006

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	-	ETB-200N1-14-L1-01	ETB-200N1-15-L2-01	ETB-200N1-16-L3-01	ETB-200N1-17-L1-01	ETB-200N1-18-L2-01
UTILITY			2	TRACE HEATING MAIN C.B.	TRACE HEATING - PROCESS LINES - FEEDER 1 (SWS LINES)	TRACE HEATING - PROCESS LINES - FEEDER 2 (CI LINES)	TRACE HEATING - PROCESS LINES - FEEDER 3 (DM LINE)	TRACE HEATING - PROCESS LINES - FEEDER 4 (WW LINES)	TRACE HEATING - PROCESS LINES - FEEDER 5 (VASSEL KO DRUM)
CUBICLE			3	+02	+02	+02	+02	+03	+03
RATED POWER | RATED CURRENT			4/5	34.6 KW | 50 A	3.5 KW | 15.22 A	3.5 KW | 15.22 A	3.5 KW | 15.22 A	3.5 KW | 15.22 A	3.5 KW | 15.22 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S804C-C50	S302P-C20 + DDA202 AC-25/0.03	S302P-C20 + DDA202 AC-25/0.03	S302P-C20 + DDA202 AC-25/0.03	S302P-C20 + DDA202 AC-25/0.03	S302P-C20 + DDA202 AC-25/0.03
	VERSION		8	4P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=50A - curve C	In=20A - Curve C / Id=0.03A Class AC	In=20A - Curve C / Id=0.03A Class AC	In=20A - Curve C / Id=0.03A Class AC	In=20A - Curve C / Id=0.03A Class AC	In=20A - Curve C / Id=0.03A Class AC
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	SUBSYSTEM 83-65	SUBSYSTEM 83-65	SUBSYSTEM 83-65	SUBSYSTEM 83-65	SUBSYSTEM 83-65
INST. SHORT-CIRCUIT	I	Range A	15	-					
		Range t	16	-					
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	ESB63-40N-06; 4x63A AC1; Vaux=230Vdc/ac	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	-	SCREW / 6	SCREW / 6	SCREW / 6	SCREW / 6	SCREW / 6
POWER CONDUCTOR		mm²	31	-	3G6	3G6	3G6	3G6	3G6

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/13

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

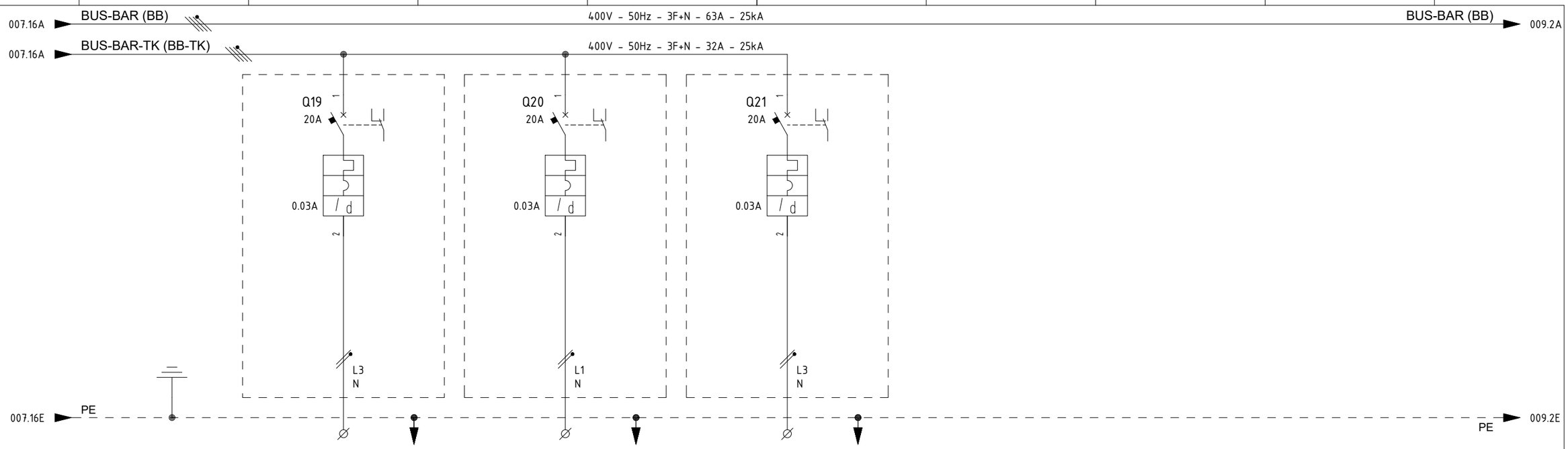
DRAWING NO. 1723002197-EL-DG-00013

SHEET 007

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	ETB-200N1-19-L3-01		ETB-200N1-20-L1-01		-								
UTILITY			2	TRACE HEATING - PROCESS LINES - FEEDER 6 (H2 VENT)		TRACE HEATING - PROCESS LINES - FEEDER 7 (SEA WATER PUMPS)		TRACE HEATING - SPARE								
CUBICLE			3	+03		+03		+03								
RATED POWER	RATED CURRENT		4/5	2.5 KW	10.87 A	2.5 KW	10.87 A	3.5 KW	15.22 A							
TYPICAL FUNCTIONAL			6	-		-		-								
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C20 + DDA202 AC-25/0.03		S302P-C20 + DDA202 AC-25/0.03		S302P-C20 + DDA202 AC-25/0.03								
	VERSION		8	2P / MINIATURE		2P / MINIATURE		2P / MINIATURE								
	TRIP UNITS		9	In=20A - Curve C / Id=0.03A Class AC		In=20A - Curve C / Id=0.03A Class AC		In=20A - Curve C / Id=0.03A Class AC								
	Icu	KA	10	25kA		25kA		25kA								
OVERLOAD	L	Range A	11	-		-		-								
		Range t	12	-		-		-								
SEL. SHORT-CIRCUIT	S	Range A	13	-		-		-								
		Range t	14	-		-		-								
INST. SHORT-CIRCUIT	I	Range A	15	-		-		-								
		Range t	16	-		-		-								
EARTH FAULT PROTECTION	G	Range A	17	-		-		-								
		Range t	18	-		-		-								
CONTACTOR (ABB)			19	-		-		-								
THERMAL OVERLOAD RELAY (ABB)			20	-		-		-								
SURGE ARRESTERS (DHENN)			21	-		-		-								
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-		-		-								
FUSE HOLDER (ABB)			23	-		-		-								
TWILIGHT SWITCH (ABB)			24	-		-		-								
VOLTMETER (FRER)			25	-		-		-								
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-		-		-								
	PERFORMANCE/CLASS		27	-		-		-								
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-		-		-								
	PERFORMANCE/CLASS		29	-		-		-								
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 6		SCREW / 6		SCREW / 6								
POWER CONDUCTOR		mm²	31	3G6		3G6		-								

SUBSYSTEM 83-65

SUBSYSTEM 83-65

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/13

Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

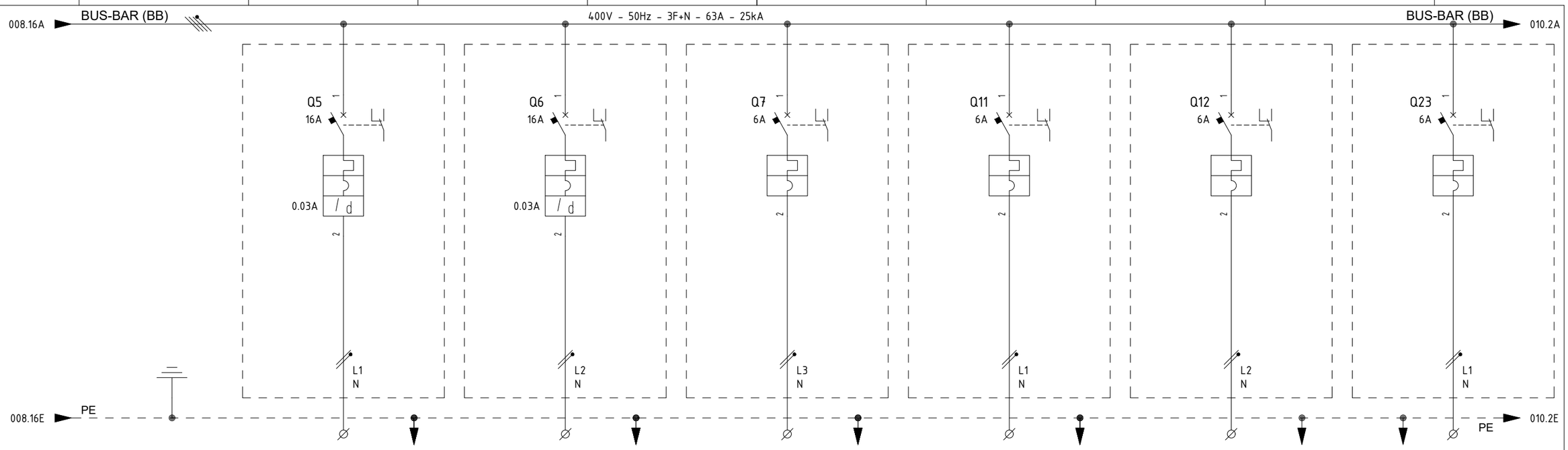
DRAWING NO. 1723002197-EL-DG-00013

SHEET 008

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	ESO-200N1-05-L1-01	ESO-200N1-06-L2-01	-	ESH-200N1-11-L1-01	ESH-200N1-12-L2-01	B400-SIS-001
UTILITY			2	SMALL POWER SOCKET (UPPER DECK)	SMALL POWER SOCKET (LOWER DECK)	SPARE	SPACE HEATERS JB - WIND FARM SUBSEA CABLE	SPACE HEATERS JB - SOLAR SUBSEA CABLE	SIS-CONTROLLER AND I/O CABINET - AUXILIARY
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	3 KW / 14.49 A	3 KW / 14.49 A	0.726 KW / 3.95 A	0.25 KW / 1.14 A	0.25 KW / 1.14 A	0.5 KW / 2.72 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C16 + DDA202 AC-25/0.03	S302P-C16 + DDA202 AC-25/0.03	S302P-C6	S302P-C6	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=16A - Curve C / Id=0.03A Class AC	In=16A - Curve C / Id=0.03A Class AC	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	SUBSYSTEM 83-55	SUBSYSTEM 83-55	-	SUBSYSTEM 81-00	SUBSYSTEM 83-10	SUBSYSTEM 79-00
		Range t	16			-			
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 10	SCREW / 10	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G10	3G10	3G2.5	3G2.5	3G2.5	3G2.5

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/13

Item n° : PF1002888/101

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

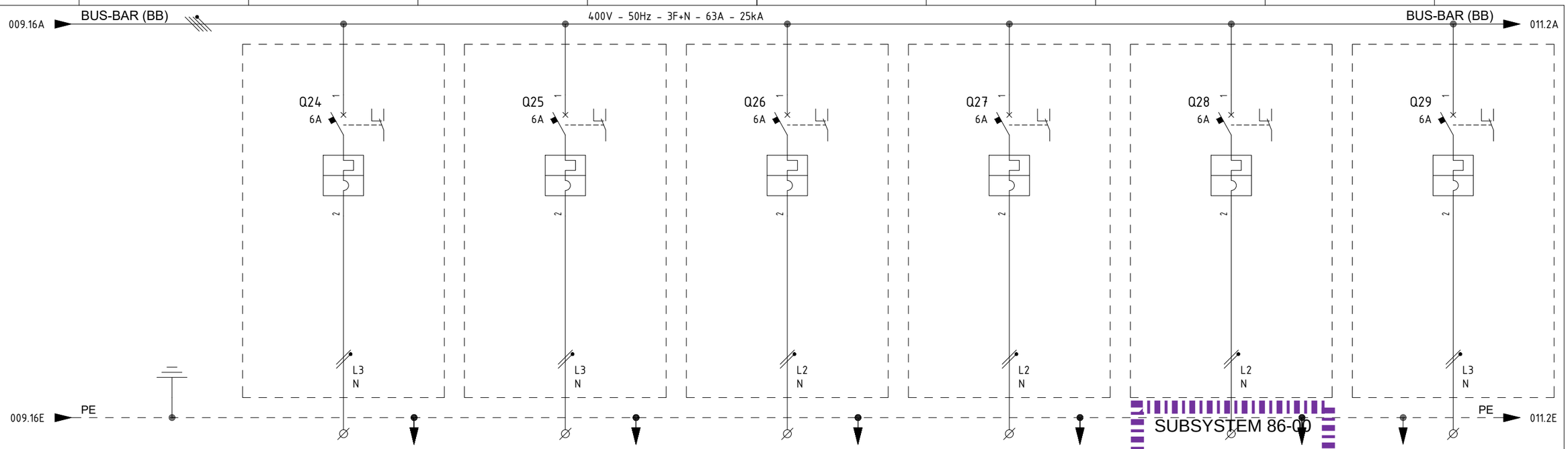
DRAWING NO. 1723002197-EL-DG-00013

SHEET 009

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	B400-PCS-001		B400-EMCS-001		B400-FGS-001		B400-NET-001		B400-SRV-001		CP-630E1	
UTILITY			2	PCS-CONTROLLER AND I/O CABINET - AUXILIARY		EMCS-CONTROLLER AND I/O CABINET - AUXILIARY		FGS FIRE & GAS PANEL - AUXILIARY		SYSTEM SERVER / NETWORK CABINET - AUXILIARY		SERVER CABINET ITER - AUXILIARY		UCP - INSTRUMENT AIR PACKAGE -A-63000 - AUXILIARY	
CUBICLE			3	+03		+03		+03		+03		+03		+03	
RATED POWER	RATED CURRENT		4/5	0.5 KW	2.72 A	0.5 KW	2.72 A	0.8 KW	4.35 A	0.5 KW	2.72 A	0.5 KW	2.72 A	0.5 KW	2.72 A
TYPICAL FUNCTIONAL			6	-		-		-		-		-		-	
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6		S302P-C6		S302P-C6		S302P-C6		S302P-C6		S302P-C6	
	VERSION		8	2P / MINIATURE		2P / MINIATURE		2P / MINIATURE		2P / MINIATURE		2P / MINIATURE		2P / MINIATURE	
	TRIP UNITS		9	In=6A - Curve C		In=6A - Curve C		In=6A - Curve C		In=6A - Curve C		In=6A - Curve C		In=6A - Curve C	
	Icu	KA	10	25kA		25kA		25kA		25kA		25kA		25kA	
OVERLOAD	L	Range A	11	-		-		-		-		-		-	
		Range t	12	-		-		-		-		-		-	
SEL. SHORT-CIRCUIT	S	Range A	13	-		-		-		-		-		-	
		Range t	14	-		-		-		-		-		-	
INST. SHORT-CIRCUIT	I	Range A	15	SUBSYSTEM 87-10		SUBSYSTEM 87-00		SUBSYSTEM 70-00		SUBSYSTEM 86-00		-		SUBSYSTEM 63-00	
		Range t	16												
EARTH FAULT PROTECTION	G	Range A	17	-		-		-		-		-		-	
		Range t	18	-		-		-		-		-		-	
CONTACTOR (ABB)			19	-		-		-		-		-		-	
THERMAL OVERLOAD RELAY (ABB)			20	-		-		-		-		-		-	
SURGE ARRESTERS (DHENN)			21	-		-		-		-		-		-	
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-		-		-		-		-		-	
FUSE HOLDER (ABB)			23	-		-		-		-		-		-	
TWILIGHT SWITCH (ABB)			24	-		-		-		-		-		-	
VOLTMETER (FRER)			25	-		-		-		-		-		-	
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-		-		-		-		-		-	
	PERFORMANCE/CLASS		27	-		-		-		-		-		-	
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-		-		-		-		-		-	
	PERFORMANCE/CLASS		29	-		-		-		-		-		-	
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4		SCREW / 4		SCREW / 4		SCREW / 4		SCREW / 4		SCREW / 4	
POWER CONDUCTOR		mm²	31	3G2.5		3G2.5		3G2.5		3G2.5		3G2.5		3G2.5	

SUBSYSTEM 87-10 | SUBSYSTEM 87-00 | SUBSYSTEM 70-00 | SUBSYSTEM 86-00 | SUBSYSTEM 63-00

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DWG n° : 231298/SD/13
Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

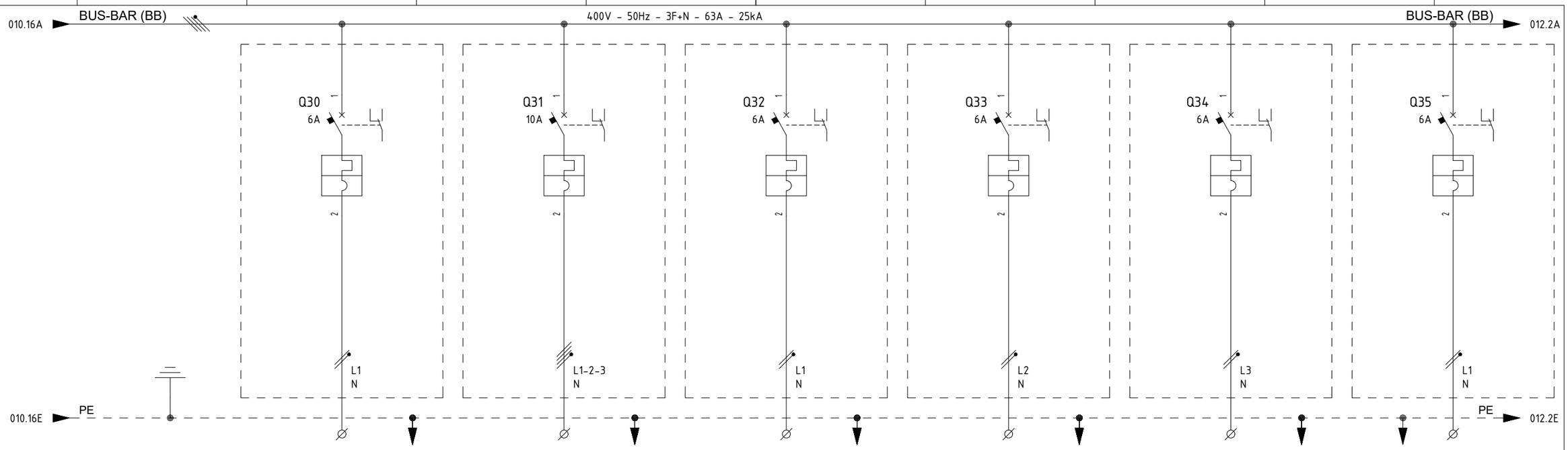
Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1723002197-EL-DG-00013 | SHEET 010 | REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	CP-640F1	CP-100E2	CP-100E3	CP-100E4	RR-100D1	CP-200E1
UTILITY			2	UCP - N2 PACKAGE - AUXILIARY	AUXILIARY TRAFO OLTC	AUXILIARY TRAFO AVR	AUXILIARY TRAFO 7MVA	AUXILIARY NER	AUXILIARY TRAFO 1.6MVA
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.5 KW | 2.72 A	1 KW | 1.81 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A	0.3 KW | 1.63 A	0.5 KW | 2.72 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S304P-C10	S302P-C6	S302P-C6	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	4P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=10A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	SUBSYSTEM 64-00	SUBSYSTEM 81-20	SUBSYSTEM 81-20	SUBSYSTEM 81-20	SUBSYSTEM 81-20	SUBSYSTEM 82-40
		Range t	16						
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G2.5	5G4	3G2.5	3G2.5	3G2.5	3G2.5

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DWG n° : 231298/SD/13

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

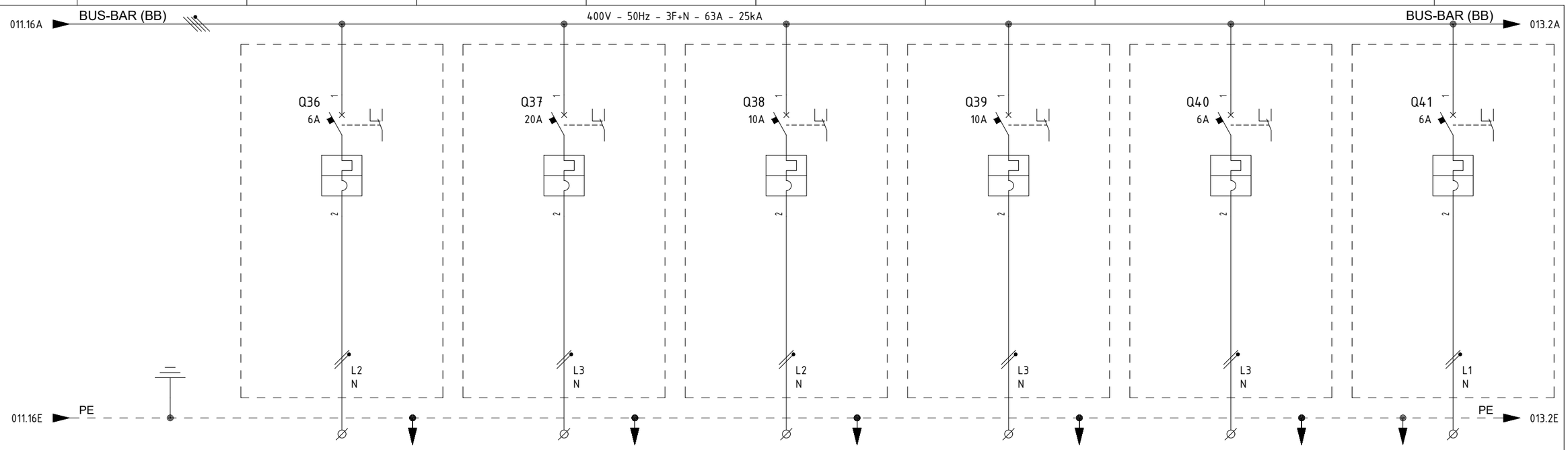
DRAWING NO. 1723002197-EL-DG-00013

SHEET 011

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	CP-200E2	CP-100E1	SG-100D1	SG-200N1	SG-200D2	UP-200F3
UTILITY			2	AUXILIARY TRAFO SOLARE 0.5MVA	AUXILIARY GIS	AUXILIARY 6.6KV SWITCHBOARD	AUXILIARY LV SWITCHBOARD	AUXILIARY LV SWITCHBOARD 800/460V	AC UPS PAS AUXILIARY
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.5 KW | 2.72 A	3 KW | 16.3 A	1 KW | 5.43 A	1 KW | 5.43 A	0.5 KW | 2.72 A	0.2 KW | 0.82 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S302P-C20	S302P-C10	S302P-C10	S302P-C6	S302P-C6
	VERSION		8	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=20A - Curve C	In=10A - Curve C	In=10A - Curve C	In=6A - Curve C	In=6A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	SUBSYSTEM 82-50	SUBSYSTEM 81-10	SUBSYSTEM 82-00	SUBSYSTEM 83-00	SUBSYSTEM 83-10	SUBSYSTEM 84-10
		Range t	16						-
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 6	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4
POWER CONDUCTOR		mm²	31	3G2.5	3G6	3G2.5	3G2.5	3G2.5	3G2.5

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DWG n° : 231298/SD/13

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

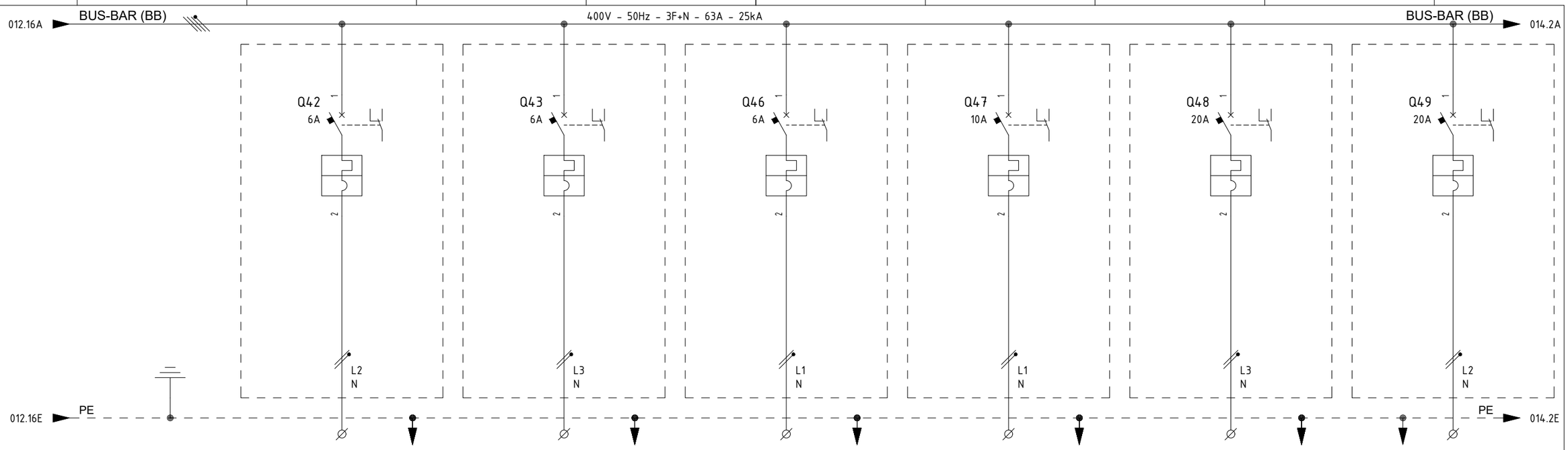
DRAWING NO. 1723002197-EL-DG-00013

SHEET 012

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	UP-200F4	UP-200F1	-	-	-	-
UTILITY			2	AC UPS F&G AUXILIARY	DC BATTERY SYSTEM AUXILIARY	INS CABINET - SPARE AUXILIARY	SPARE	SPARE	SPARE
CUBICLE			3	+03	+03	+03	+03	+03	+03
RATED POWER | RATED CURRENT			4/5	0.2 KW | 0.82 A	0.2 KW | 0.82 A	0.5 KW | 2.72 A	1 KW | 5.43 A	3 KW | 16.3 A	3 KW | 16.3 A
TYPICAL FUNCTIONAL			6	-	-	-	-	-	-
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C6	S302P-C6	S302P-C6	S302P-C10	S302P-C20	S302P-C20
	VERSION		8	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE	2P / MINIATURE
	TRIP UNITS		9	In=6A - Curve C	In=6A - Curve C	In=6A - Curve C	In=10A - Curve C	In=20A - Curve C	In=20A - Curve C
	Icu	KA	10	25kA	25kA	25kA	25kA	25kA	25kA
OVERLOAD	L	Range A	11	-	-	-	-	-	-
		Range t	12	-	-	-	-	-	-
SEL. SHORT-CIRCUIT	S	Range A	13	-	-	-	-	-	-
		Range t	14	-	-	-	-	-	-
INST. SHORT-CIRCUIT	I	Range A	15	-	-	-	-	-	-
		Range t	16	-	-	-	-	-	-
EARTH FAULT PROTECTION	G	Range A	17	-	-	-	-	-	-
		Range t	18	-	-	-	-	-	-
CONTACTOR (ABB)			19	-	-	-	-	-	-
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-	-
SURGE ARRESTERS (DHENN)			21	-	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-	-
FUSE HOLDER (ABB)			23	-	-	-	-	-	-
TWILIGHT SWITCH (ABB)			24	-	-	-	-	-	-
VOLTMETER (FRER)			25	-	-	-	-	-	-
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-	-
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 4	SCREW / 6	SCREW / 6
POWER CONDUCTOR		mm²	31	3G2.5	3G2.5	3G2.5	-	-	-

SUBSYSTEM 84-20

SUBSYSTEM 84-00

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/13

Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

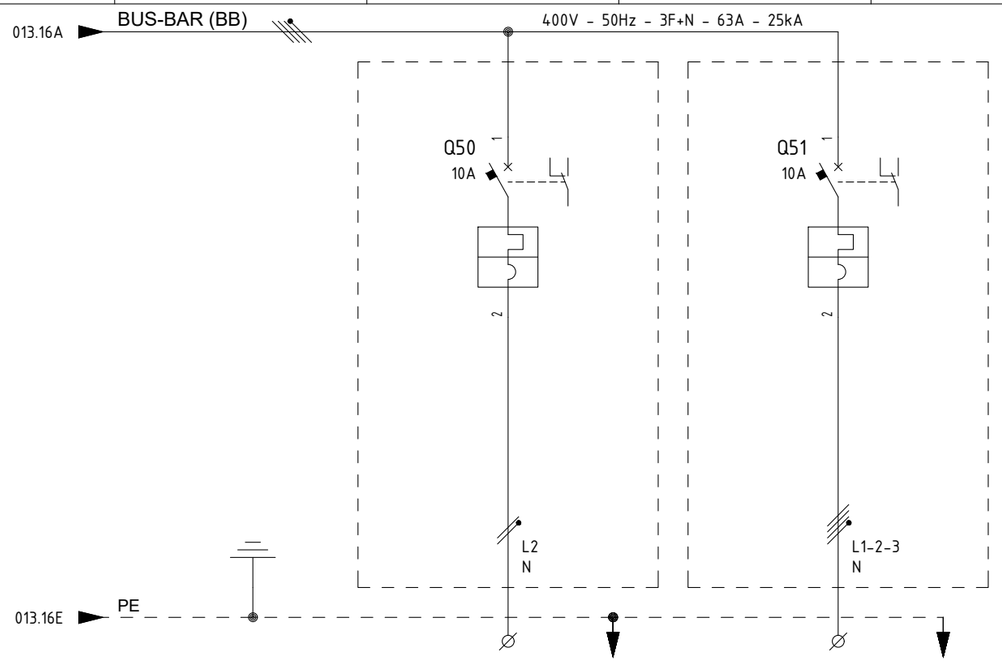
DRAWING NO. 1723002197-EL-DG-00013

SHEET 013

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM			1	-	-								
UTILITY			2	SPARE	SPARE								
CUBICLE			3	+03	+03								
RATED POWER	RATED CURRENT		4/5	1 KW / 5.43 A	3 KW / 5.42 A								
TYPICAL FUNCTIONAL			6	-	-								
CIRCUIT BREAKER (ABB)	TYPE		7	S302P-C10	S304P-C10								
	VERSION		8	2P / MINIATURE	4P / MINIATURE								
	TRIP UNITS		9	In=10A - Curve C	In=10A - Curve C								
	Icu	KA	10	25kA	25kA								
OVERLOAD	L	Range A	11	-	-								
		Range t	12	-	-								
SEL. SHORT-CIRCUIT	S	Range A	13	-	-								
		Range t	14	-	-								
INST. SHORT-CIRCUIT	I	Range A	15	-	-								
		Range t	16	-	-								
EARTH FAULT PROTECTION	G	Range A	17	-	-								
		Range t	18	-	-								
CONTACTOR (ABB)			19	-	-								
THERMAL OVERLOAD RELAY (ABB)			20	-	-								
SURGE ARRESTERS (DHENN)			21	-	-								
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-								
FUSE HOLDER (ABB)			23	-	-								
TWILIGHT SWITCH (ABB)			24	-	-								
VOLTMETER (FRER)			25	-	-								
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-								
	PERFORMANCE/CLASS		27	-	-								
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-								
	PERFORMANCE/CLASS		29	-	-								
POWER TERM. BLOCK (CABUR)		Type/mm²	30	SCREW / 4	SCREW / 4								
POWER CONDUCTOR		mm²	31	-	-								

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/13

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
3	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
2	24/04/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	15/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	08/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

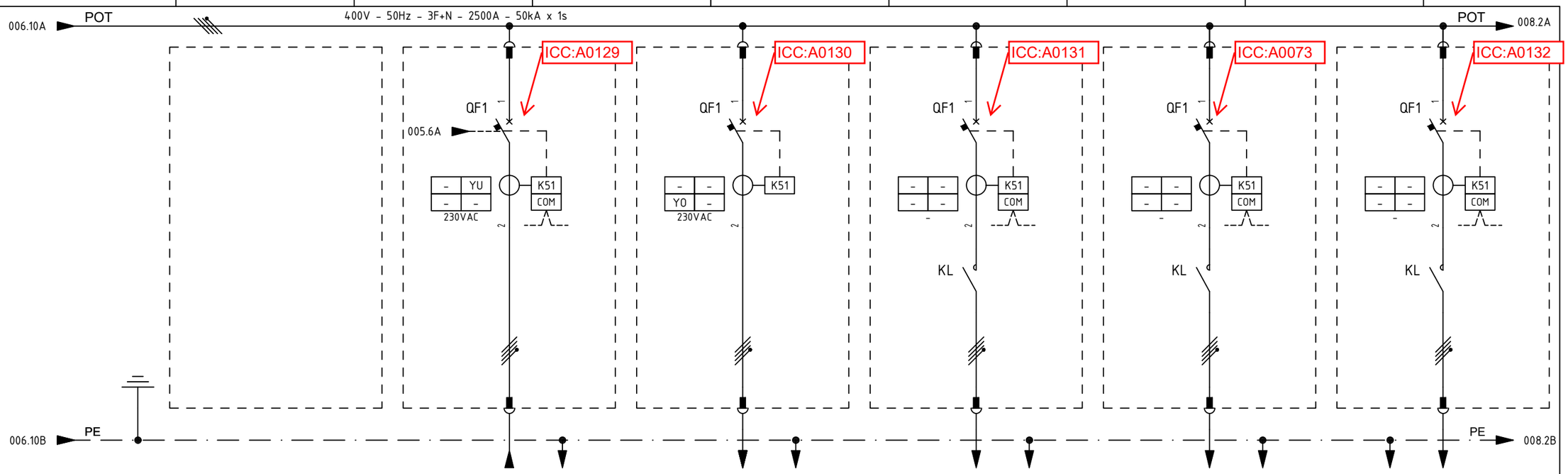
DRAWING NO. 1723002197-EL-DG-00013

SHEET 014

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00013 Rev. 03



ITEM				JB-200E2	UP-200F3	SPARE	DP-200N1	JB-200E3
UTILITY			2	TEMPORARY GENERATOR / MOBILE BATTERY PACK	AC UPS PAS - 30 MIN UP-200F3 - LINE A	SPARE	DB - LIGHTING & SMALL POWER - BoP	CRANE
COLUMN/CUBICLE			3	A2 / +08	A3 / +01	A3 / +02	A3 / +03	A3 / +04
RATED POWER | RATED CURRENT			4/5	138 kW | 210 A	36.0 kW | 57.8 A	- kW | - A	15.35 kW | 23.7 A	25 kW | 37.8 A
TYPICAL FUNCTIONAL			6	LE2-320	L1-100	LK1-40	LK1-100	LK1-63
CIRCUIT BREAKER (ABB)	TYPE		7	XT5S - 400	XT2S - 160	XT2S - 160	XT2S - 160	XT2S - 160
	VERSION		8	4P - FIXED	4P - FIXED	4P - FIXED	4P - FIXED	4P - FIXED
	TRIP UNITS		9	EKIP HI TOUCH LSIG (In = 320A)	EKIP DIP LSIG (In = 100A)	EKIP HI TOUCH LSIG (In = 40A)	EKIP HI TOUCH LSIG (In = 100A)	EKIP HI TOUCH LSIG (In = 63A)
	Icu	KA	10	50 kA	50 kA	50 kA	50 kA	50 kA
OVERLOAD	L	Range A	11	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In	(0.4 - 1) x In
		Range t	12	k/I^2	k/I^2	k/I^2	k/I^2	k/I^2
SEL. SHORT-CIRCUIT	S	Range A	13	(0.6 - 10) x In	(1 - 10) x In	(0.6 - 10) x In	(0.6 - 10) x In	(0.6 - 10) x In
		Range t	14	0.05 - 0.4 sec / k/I^2	0.05 - 0.4 sec / k/I^2	0.05 - 0,4 sec / k/I^2	0.05 - 0,4 sec / k/I^2	0.05 - 0,4 sec / k/I^2
INST. SHORT-CIRCUIT	I	Range A	15	(1.5 - 15) x In	(1 - 10) x In	(1.5 - 15) x In	(1.5 - 15) x In	(1.5 - 15) x In
		Range t	16	instantaneous	<= 0.02 sec	instantaneous	instantaneous	instantaneous
EARTH FAULT PROTECTION	G	Range A	17	(0.1 - 1) x In	(0.2 - 1) x In	(0.1 - 1) x In	(0.1 - 1) x In	(0.1 - 1) x In
		Range t	18	t=k / t=k/I^2	0.1 - 0.8 sec	t=k / t=k/I^2	t=k / t=k/I^2	t=k / t=k/I^2
CONTACTOR (ABB)			19	-	-	AF40-40-00-13 (70A-AC1); 100-250VAC/DC	AF80-40-00-13 (70A-AC1); 100-250VAC/DC	AF52-40-00-13 (100A-AC1); 100-250VAC/DC
THERMAL OVERLOAD RELAY (ABB)			20	-	-	-	-	-
SURGE ARRESTER (DEHN)			21	-	-	-	-	-
TOROIDAL CURRENT TRANSFORMER (FRER)			22	-	-	-	-	-
FUSE HOLDER (ITALWEBER)			23	SUBSISTEM 83.00	SUBSISTEM 84.10	SUBSISTEM 83.00	SUBSISTEM 83.20	SUBSISTEM 99.00
INDIRECT PROTECTION (ABB)			24					
VOLTMETER			25					
CURRENT TRANSFORMER FOR MEASURE (FRER)	TYPE		26	-	-	-	-	-
	PERFORMANCE/CLASS		27	-	-	-	-	-
VOLTAGE TRANSFORMER FOR MEASURE (FRER)	TYPE		28	-	-	-	-	-
	PERFORMANCE/CLASS		29	-	-	-	-	-
LOCK-OUT RELAY (-)			30	-	-	-	-	-
POWER CONDUCTOR		mmq	31	5 x (1 x 95)	4G35	-	5G50	5G16

/ SYSTEM

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
3	08/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for Construction (AFC)
2	03/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
1	28/03/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)
0	15/02/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

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DWG n° : 231298/SD/11

Item n° : PF1002983/26

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "SG-200N1"

SINGLE LINE DIAGRAM

Single Line Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00011

SHEET 007

REV. 03

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00011 Rev. 03

Section 4 MECHANICAL COMPLETION STATUS INDEX - BUILDING DISCIPLINE

NOT APPLICABLE

Section 5 MECHANICAL COMPLETION STATUS INDEX - ELECTRICAL DISCIPLINE

CROSSWIND

ROSETTI MARINO

Project CROSSWIND

STATUS INDEX DETAIL

Filtered on subsystem: 83-20 & process: MC & discipline : E

Electrical	83-20 400/230 V Switchboard (DP-200N1)						
ITEM		TASK					
Code	Description	Location	Code	Form	Progress	Date	Certificate
83043-CEL	LV Switchgear / DB - Lighting & Small Power - BoP	ONSHORE	C10000564	CPX09	100	2024-10-22	RFC 1
83125-CEC	Lighting & Small Power DB BoP / LV Switchgear	ONSHORE	C10002117	CPX10	100	2024-10-22	RFC 1
83126-CEC	Lighting & Small Power DB BoP / LV Switchgear	ONSHORE	C10002118	CPX10	100	2024-10-22	RFC 1
83127-CEC	Lighting & Small Power DB BoP / LV Switchgear	ONSHORE	C10002119	CPX10	100	2024-10-22	RFC 1
DP-200N1	LV 0,4/0,23 kV Distribution Board for Lighting & Small Power DB BoP	ONSHORE	C10000860	CPX15	100	2024-09-30	RFC 1

ITEM	Tag	83043-CEL	: LV Switchgear / DB - Lighting & Small Power - BoP			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	83-20	: 400/230 V Switchboard (DP-200N1)			Module	
TASK	code	C10000564		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

CABLE DATA

Type: Cu Cl.2/EPR/LSZH | Cores/Size mm²: 5G50 mm2 | Color: Grey

From: SG-200N1 | To: DP-200N1

1	Confirm cable is as specified in project cable schedule	OK
2	Visual Check cable physical integrity.	OK
3	Check is installed in accordance with layout drawing (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to project specification.	OK
5	Check bending radius is within the specified limits.	OK
6	Confirm cable glands suit for cable type, correctly mounted and tightened.	OK
7	Check gland plate for single core cables is non ferrous (non -magnetic).	NA
8	Confirm cable labelling is in accordance with specifications.	PL
9	Check cable is correctly loomed and segregated in accordance with specification.	OK
10	Check cable earthing against lastest drawings.	OK
11	Check cores marking are in accordance with termination diagram	OK
12	Check terminations are in accordance with latest termination diagram	PL
13	If required produce Red Line Mark Up for "AS BUILT"	

REFER TO FINAL SHEET FOR ACCEPTANCE

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	83043-CEL	: LV Switchgear / DB - Lighting & Small Power - BoP			Dwg	123A90-DDL-EL-LIS-20148
	S/Sys	83-20	: 400/230 V Switchboard (DP-200N1)			Module	
TASK	code	C10000564		Location	Onshore Activities	User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX09 LV Power Cable

CONTINUITY				
5	CORE CONTINUITY Ω	PH 1	0,3	
6		PH 2	0,3	
7		PH 3	0,3	
8	ARMOUR CONTINUITY Ω		N/A	
9	PROTECTIVE CONDUCTOR CONTINUITY Ω		0,3	
INSULATION				
10	CORES / ARMOUR+EARTH MΩ	PH1 / PH2-PH3-A-E	>999	
11		PH2 / PH1-PH3-A-E	>999	
12		PH3 / PH1-PH2-A-E	>999	
13	CABLE IS CORRECTLY RE-CONNECTED.		Yes	

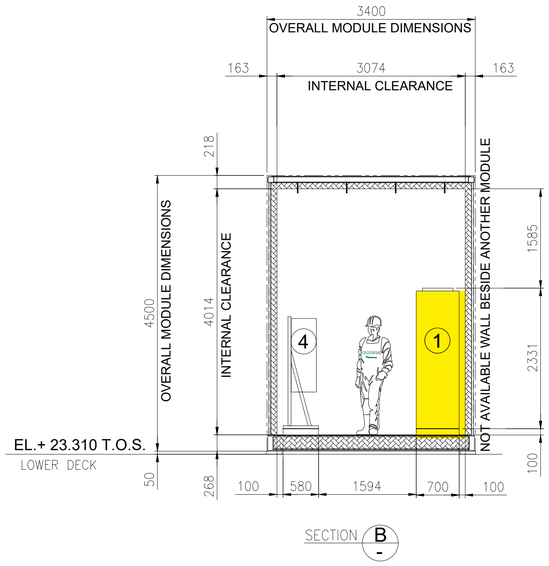
TESTING INSTRUMENTS USED			
TYPE / SERIAL N° :	MEGGER : KEW3125A SERIAL: W8330207	TYPE / SERIAL N° :	MULTIMETER: FLUKE 175 SERIAL:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024

Comments: CORE CONTINUITY PH 4= 0.3

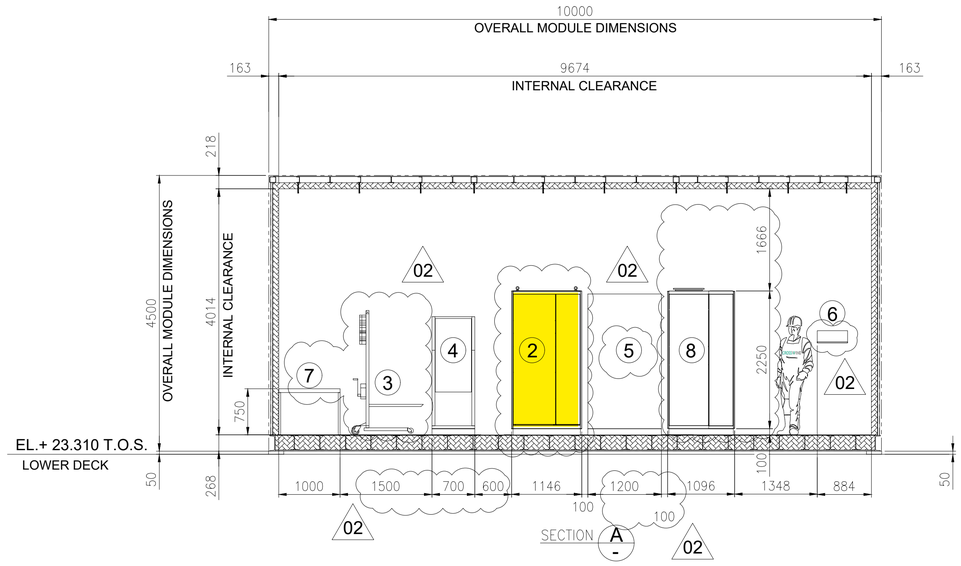
CORES / ARMOUR+EARTH INS. PH 4 = >999 M

	Performed by	● WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (Rosetti Marino)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-10-16	2024-10-22	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-10-16T15:46:21.832Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-10-22T15:41:23.051Z	

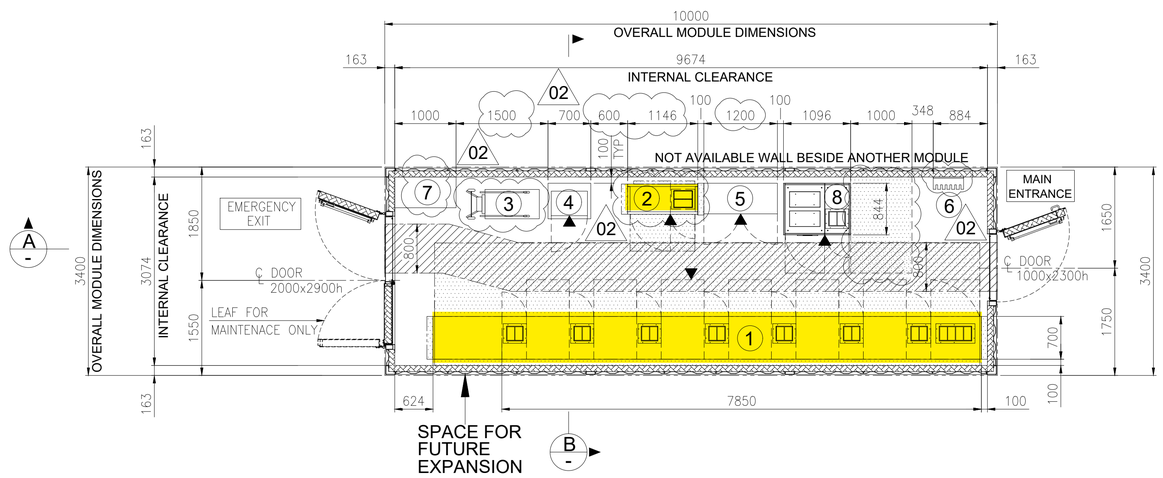
DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02



SECTION B



SECTION A



SECTION A

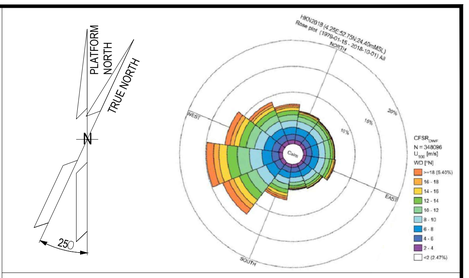
SECTION B

EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

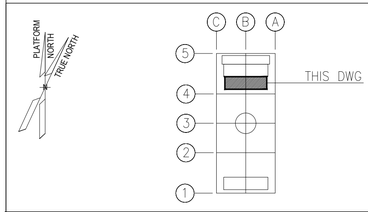
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

GENERAL NOTES:

1. FOR EQUIPMENT AND SYSTEM TAG NUMBERING REFER THE DOCUMENT 123A90-PML-DIG-PRO-00002

2. IDENTIFICATION ABBREVIATIONS FOR CABLES & OTHER ELECTRICAL EQUIPMENTS:

A) IDENTIFICATION COLOR CODE OF THE ELECTRICAL CABLE

BK = BLACK
BN = BROWN
BU = BLUE
GY = GRAY
RD = RED
Y/G = YELLOW AND GREEN

B) IDENTIFICATION CODE OF THE ELECTRICAL EQUIPMENT

TR = TRANSFORMER
NER = NEUTRAL EARTH RESISTOR
JB = JUNCTION BOX
CP = CONTROL PANEL

C) FUNCTION CODE OF THE ELECTRICAL EQUIPMENT

AP = ALARM PANEL
UP = AC UPS & DC UPS
BA = BATTERY
BC = BATTERY CHARGER / RECTIFIER
CB =CIRCUIT BRAKER BOX
CN = CATHODIC PROTECTION
CP = CONTROL PANEL
DP = DISTRIBUTION PANEL
JB = JUNCTION BOX
NC = NAVIGATIONAL AID CENTRAL CONTROL PANEL
RR = RESISTOR (EARTHING)
SB = SWITCHBOARD

D) IDENTIFIER ABBREVIATIONS OF THE ELECTRICAL SYSTEM:

EMCS = ELECTRICAL MONITORING & CONTROL SYSTEM
GIS = GAS INSULATED SWITCHGEAR
HVAC = HEATING, VENTILATION, AIR CONDITIONING
HV = HIGH VOLTAGE
MV = MEDIUM VOLTAGE
LCP = LOCAL CONTROL PANEL
LV = LOW VOLTAGE
UPS = UNINTERRUPTIBLE POWER SUPPLY
BESS = BATTERY ENERGY STORAGE SYSTEM
PAS = PROCESS AUTOMATION SYSTEM

E) IDENTIFIER OF THE LOADED PHASE FOR SINGLE-PHASE EQUIPMENT POWER SUPPLY(LV):

L = LINE
N = NEUTRAL
PE = PROTECTIVE EARTH

F) IDENTIFIER OF THE LOADED PHASE FOR THREE-PHASE EQUIPMENT POWER SUPPLY(MV&LV):

L1 = LINE 1
L2 = LINE 2
L3 = LINE 3

3. RED CONDUCTOR MUST BE COVERED WITH BLUE SLEEVE AT THE ENDS, TO USE IT AS NEUTRAL.

4. THE MINIMUM CABLE LENGTH IS 15 M, THE CABLE CANNOT BE SHORTER.

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20149

REV.:	DATE:	SIGNATURE:
1_A	17/10/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
GENERAL NOTES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

SHEET 006

REV. 01

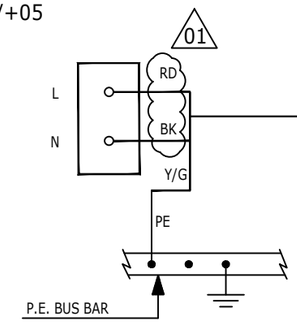
File Name : 123A90-DDL-EL-DG-20162 Rev. 01

F.to UNI A3: 420mmx297mm

FROM	TO

DESCRIPTION: LV Switchgear
TAG NUMBER: SG-200N1

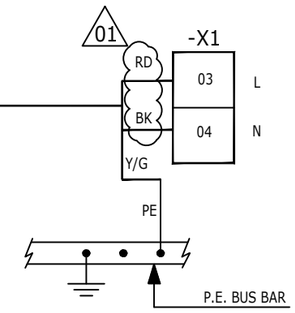
COLUMN/CUBIC.:A7/+05



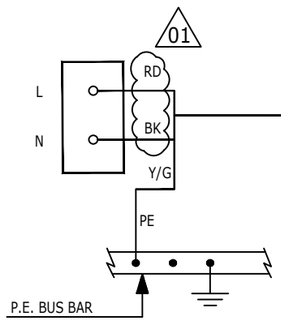
83036-CEL NOTE 3
3G16 mm²

DESCRIPTION: DC UPS NAVAID SYSTEM - FEEDER A
TAG NUMBER: UP-200F2

PANEL:.CHARGER-1



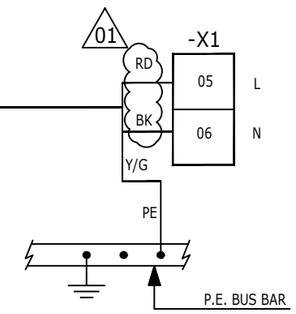
COLUMN/CUBIC.:A7/+06



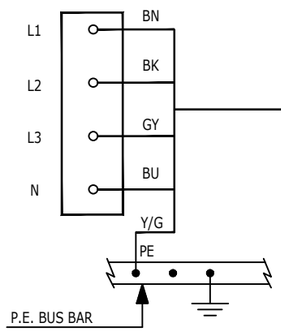
83037-CEL NOTE 3
3G16 mm²

DESCRIPTION: DC UPS - NAVAID SYSTEM - FEEDER B
TAG NUMBER: UP-200F2

PANEL:.CHARGER-2

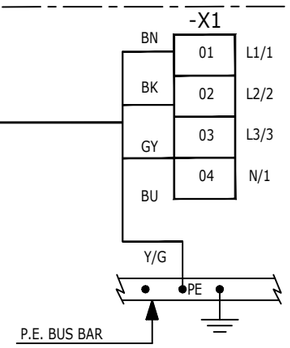


COLUMN/CUBIC.:A3/+03



83043-CEL NOTE 4
5G50 mm²
01

DESCRIPTION: DB - LIGHTING & SMALL POWER - BOP
TAG NUMBER: DP-200N1



CUBICLE/CB: +01/Q1

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20149

REV.:	DATE:	SIGNATURE:
1_A	17/10/24	G.Randi

ROSETTI MARINO SpA

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
LV SWITCHGEAR SG-200N1

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1:X

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

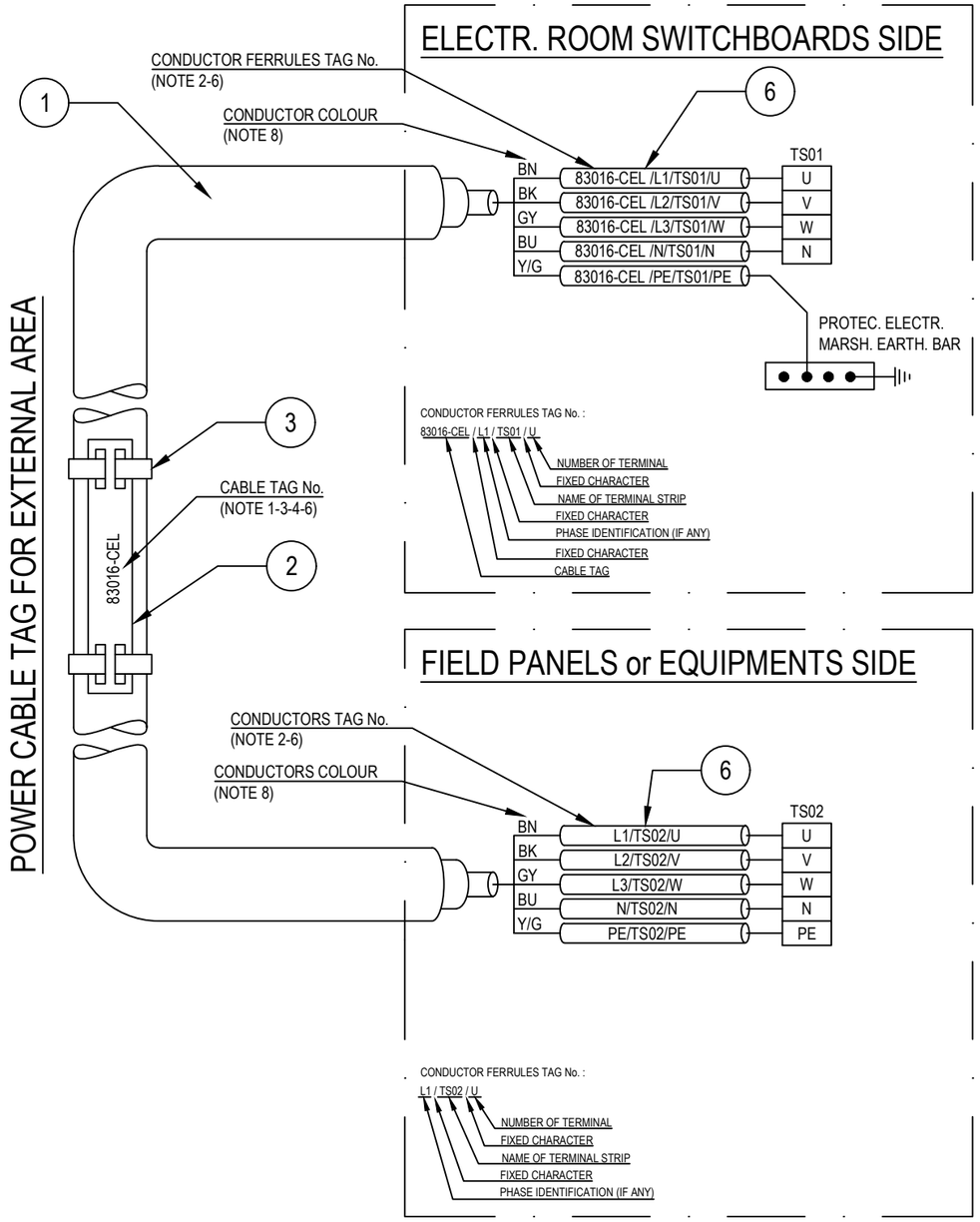
SHEET 030

REV. 01

File Name : 123A90-DDL-EL-DG-20162 Rev. 01

F.to UNI A3: 420mmx297mm

C02



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 25 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

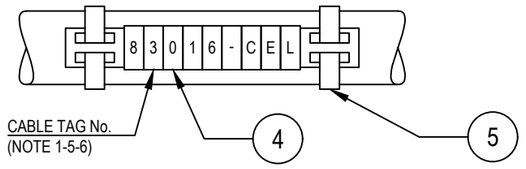
5) THE CABLE TAG FOR INTERNAL AREA SHALL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
- PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH BAR
- EARTH BAR AND EARTH BOSS

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

POWER CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR POWER CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 007 | REV. 02

F.to UNI A3: 420mmx297mm

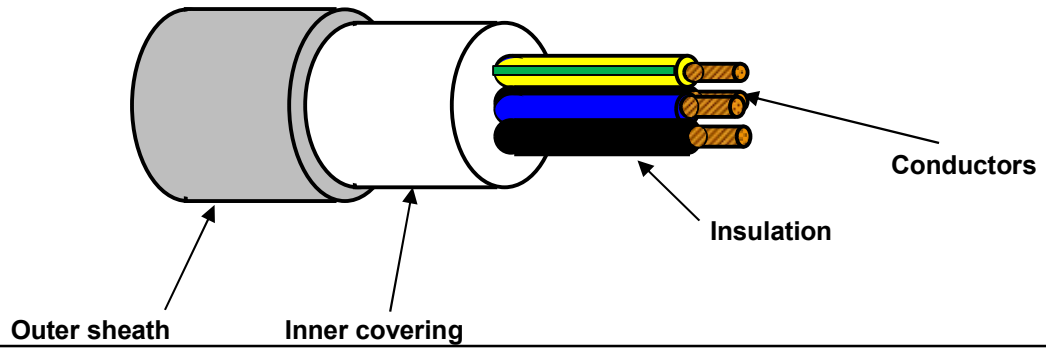
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standar	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83043-CEL	Cable	EL	VFC	123A90-DDL-EL-LIS-20148					SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	DP-200N1	LV 0,4 / 0,23 kV Distribution Switchgear	Lower Deck (B-200)	ELECV13-5G50	Cable Cu Cl.2/EPR/LSZH 0,6/1kV 5G50mm² - Grey	M50S	n.a.			n.a.				L-450-101-LVT-024 / L-600-101 LVT-017 / L-600-101-LVT-018 / L-600-101-LVT-020 / L-450-101 LVT-030

FLEI s.r.l.

Cu Cl.2/EPR/LSZH 0,6/1 KV

5G50 - L.V. POWER CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED COMPACTED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	EPR compound, quality to IEC 60092.360, Nominal Thickness 1,4 mm	
Cores colour code :	**Black - Brown - Grey - Blue - Yellow/Green**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	Not required	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,2 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,7 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 5G50 SQMM - EPR/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(35,0 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 480 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa	1	30/05/2024	Messa
Checked :	29/03/2024	Spaccasassi	1	30/05/2024	Spaccasassi
Approved :	29/03/2024	Cucinotta	1	30/05/2024	Cucinotta

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ITEM	Tag	DP-200N1	: LV 0,4/0,23 kV Distribution Board for Lighting & Small Power DB BoP			Dwg	123A90-DDL-EL-DS-20028
	S/Sys	83-20	: 400/230 V Switchboard (DP-200N1)			Module	LD_B-200
TASK	code	C10000860	Location	Onshore Activities		User	Rosetti Marino Quality Control
FORM	Process	MC	Activity CCK	Discipline	Electrical	Form	CPX15 Distribution Board

1	Check equipment is de-energized and safe.	OK
2	Check anti-condensation heaters are ready to be energized.	OK
3	Check equipment earthing and bonding against latest drawings.	OK
4	Check equipment is undammaged, correctly mounted, tagged and installed in accordance with latest layout drawings.	OK
5	Check all doors, gland plates are correctly mounted.	OK
6	Check panel-front components, indicators, lamps, meters are securely mounted and undamaged.	OK
7	Check all switching devices rating and tagging against latest drawings.	OK
8	Check all switching devices for proper mechanical operation.	Note
9	Check (visual) of cables connections.	Note
10	If required produce Red Line Mark Up for "AS BUILT"	

NAME PLATE DATA

Manufacturer :	IMESA		Serial N° :	231298/SD/080/2024		Type:	MCC/F
Voltage :	440/230	**V**	Frequency :	50	**Hz**	Rating :	40 **kW**
IP Rating	30		N° of outgoers:	48		Specification:	1723002197-EL-DA-00009
SWBD & CUB ref:	MCC/F					Data Sheet :	123A90-DDL-EL-DS-20028

TESTING AND MEASUREMENT INSTRUMENT USED

Type	Serial n°	Calibration certificate	Validity

See Attached

TEST RESULTS

INSULATION RESISTANCE	TEST VOLTAGE	V	R/ S-T-EARTH	Mohm
			S/ R-T-EARTH	Mohm
			T/S-R-EARTH	Mohm

Comments: Note;(8) See punch list raised during FAT.
Note;(9) check on connection will be done during cable ispection. Please refer to the relevant ITR.

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (Rosetti Marino)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-09-26	2024-09-30	
Signature	Digitaly signed by Carmelo Bongiovanni 2024-09-26T13:03:06.030Z	Firma Digitale Sicura Giovanni Tangianu 2024-09-30T15:09:26+0200	

RAPPORTO DI PROVA
TEST REPORT

Fornitore/ Supplier: **IMESA S.p.A.** Via G. Di Vittorio, 14 JESI (Ancona) – ITALIA
Tel.+39 0731 211034 - Fax.+39 0731 211055 - imesa@imesaspa.com - www.imesaspa.com

N° Certificato/ Certificate N°:	**348**	**Data / Date:**	**17/09/2024**
Commessa N° / Workorder N°:	**231298/SD**		
Matricola N° / Serial N°:	**231298/SD/080**		
Ordine N° / Order N°:	**1723002197 item: 80**		
Cliente / Customer:	**ROSETTI MARINO S.P.A.**		

Collaudo eseguito alla presenza di: / Test surveyed by:

Sig. / Mr.	Ditta / Firm	Firma / Signature
FAVA STEFANO	IMESA SPA	IMESA SPA TESTING OFFICE
MARTARELLI FERNANDO	IMESA SPA	
SANTINELLI DAMIANO	IMESA SPA	
TASSINARI GABRIELE	ROSETTI MARINO SPA	
CASTELLANI KRISTIAN	ROSETTI MARINO SPA	
LINARI STEFANO	ROSETTI MARINO SPA	ROSETTI MARINO SpA Stefano Linari Quality Control Dept.
MARANGONI MASSIMILIANO	O.b.o. CROSSWIND	

RAPPORTO DI PROVA
TEST REPORT

N° Certificato/ Certificate N°:	348	Data / Date:	17/09/2024

Materiale collaudato a Norme: **IEC 61439-2**
Material tested according to

Procedura collaudo Quadri BT : **Document number *FAT procedure:***
Procedure test Switchboards LV customer : **1723002197-QC-PRO-00045**; *owner:* **231298/SD/045**

QUADRO ELETTRICO BT SWITCHBOARD LV	Tipologia / Type:	MCC/F
Tensione Nominale di Isolamento (Ui): *Rated Insulation Voltage (Ui)*	0,69 kV	

CARATTERISTICHE ELETTRICHE/ELECTRICAL INFORMATION:

Ue= 0,4/0,23kV; Un= 0,4/0,23kV; F= 50 Hz; In= 63A; Ik= 25kA

DESCRIZIONE/DESCRIPTION:

LV SWITCHBOARD 400/230V - BASE LOAD POWER HUB (BLPH)

PROJECT: CROSSWIND HOLLANDSE KUST NOORD WIND PARK

TAG: "DP-200N1"

DISEGNI/DRAWINGS:

DOCUMENT ID	TITLE
1723002197-EL-DA-00009	DP-200N1 GENERAL ARRANGEMENTS DWG AND FOUNDATION LOAD CALCULATION INCLUDING COG
1723002197-EL-DG-00013	DP-200N1 ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00033	DP-200N1 LV SWG FUNCTIONAL DIAGRAMS -

RAPPORTO DI PROVA
TEST REPORT

ISO 9001 ISO 14001 ISO 45001

N° Certificato/ Certificate N°:	348	Data / Date:	17/09/2024

PROVE INDIVIDUALI (secondo lo standard IEC 61439-1):
ROUTINE TESTS (according to standard IEC 61439-1):

■ = TESTED

■ **11.1 GENERALITA'**
GENERALITY

■ **CONTROLLO VISIVO E DIMENSIONALE**
VISUAL AND DIMENSIONAL CONTROL *Point 3.1 FAT proc.*

■ **CONTROLLO OSSERVANZA ALLE SPECIFICHE ED ORDINE**
CHECK OF COMPLIANCE TO SPECS AND ORDER *Point 3.1 FAT proc.*

■ **CONTROLLO CARPENTERIA, SBARRE,CONNESSIONI PRIMARIE**
STRUCTURAL WORKS, BUS-BAR CONTROL *Point 3.4 FAT proc.*

■ **CONTROLLO VERNICIATURA (RAL 7035 ≥ 60 µm)**
PAINTING CONTROL *Point 3.1 FAT proc*

■ **11.2 GRADO DI PROTEZIONE DEGLI INVOLUCRI**
PROTECTION DEGREE *Point 3.3 FAT proc.*

■ **11.3 DISTANZE DI ISOLAMENTO IN ARIA E SUPERFICIALI**
CLEARENCE AND CREPAGE DISTANCES *Point 3.1 FAT proc.*

■ **11.4 PROTEZIONE CONTRO LA SCOSSA ELETTRICA ED INTEGRITA' DEI CIRCUITI DI PROTEZIONE**
PROTECTION AGAINST ELECTRIC SHOCK AND INTEGRITY OF PROTECTIVE CIRCUITS *Point 3.4 FAT proc.*

■ **11.5 INSTALLAZIONE DEI COMPONENTI,FISSAGGIO EVENTUALI DANNI IN ASSEMBLAGGIO E COLLEGAMENTI TERRE**
INCORPORATION OF BUILT-IN COMPONENTS , FIXED,EVENTUAL DAMAGE CAUSED BY ASSEMBLING, EARTHED *Point 3.1 FAT proc.*

■ **VERIFICA FONDO SCALA STRUMENTI E DATI NOMINALI APPARECCHIATURE**
CHECK FULL SCALE OF INSTRUMENTS & EQUIPMENT RATED DATA CONTROL *Point 3.1 FAT proc.*

■ **VERIFICA DEL SERRAGGIO E MARCATURA BULLONERIA**
CHECKING THE TIGHTENING AND MARKING OF BOLTS
Point 3.4 FAT proc.

■ **CONTROLLO CABLAGGIO & DATI DI TARGA**
WIRING CHECK & PLATE CHECK *Point 3.4 FAT proc.*

■ **MISURA RESISTENZA D'ISOLAMENTO**
MEASURE OF INSULATION RESISTANCE *Point 4.3-4.4 FAT proc.*

CIRCUITI DI POTENZA **L1= >500 MΩ; L2= >500 MΩ**
POWER CIRCUIT **L3= >500 MΩ; N = >500 MΩ**
CIRCUITI AUSILIARI
AUXILIARY CIRCUITS 230 Vac= **>500 MΩ**

■ **11.6 CIRCUITI ELETTRICI INTERNI E COLLEGAMENTI**
INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS
Point 3.4 FAT proc.

■ **11.7 CONTROLLO DEI TERMINALI PER I CONDUTTORI ESTERNI**
CHECK OF TERMINALS FOR EXTERNAL CONDUCTORS
Point 3.4 FAT proc.

■ **11.8 CONTROLLO FUNZIONAMENTO MECCANICO**
MECHANICAL OPERATION TEST
VERIFICA DI FUNZIONAMENTO: FUNZIONAMENTO DEGLI INTERRUTTORI,PORTE,CHIAVI INTERBLOCCHI SEGNALI E LE PARTI MECCANICHE CHE FORMANO IL QUADRO
OPERATION TEST: CHECK OPERATION OF C.B. DOORS, SIGNALLING, EFFICIENCY OF KEY LOCKS AND THE MECHANICS PART THAT FORM THE PANEL,INTERLOCKS BETWEEN C.B, CARRY OUT A NUMBER OF STARTING UP AND STOPPING SEQUENCES *Point 3.2 FAT proc.*

■ **11.9 PROVE DI TENSIONE : f = 50 Hz e t = 1 sec.**
VOLTAGE TEST : f = 50 Hz and t = 1 sec. **(*60 sec)**

CIRCUITI DI POTENZA **1.89** kV
MAIN CIRCUITS *Point 4.3 FAT proc.*
Leakage curr. L1= 3 mA L2= 3 mA L3= 3 mA **N= 5 mA**

CIRCUITI AUSILIARI **230Vac= 1,5** kV
AUXILIARY CIRCUITS *Point 4.4 FAT proc.*
Leakage current: 230Vac= <1 mA

■ **PROVE DI FUNZIONAMENTO ELETTRICO E SEQUENZE, ARC FLASH TEST VANO CAVI, BUSBAR & C.B.**
ELECTRICAL OPERATION & SEQUENCE TESTS, ARC FLASH TEST ON CABLE COMP. BUSBAR & C.B. *Point 4.1FAT proc.*
N.A. not applicable

■ ***FUNZIONAMENTO CORRETTO DELLE LOGICHE* DI CONTROLLO**
RIGHT WORKING OF THE LOGICAL CONTROLS
VERIFICA DI FUNZIONAMENTO: CIRCUITI AUSILIARI E DI COMANDO, POLARITA' CIRCUITI VOLTMETRICI/AMPEROM.
CHECKING OF OPERATIONS: AUXILIARY AND CONTROL CIRCUIT, CHECK VOLTMETRIC/AMPEROMETRIC CIRCUIT & POLARITY,INTERTRIP SIGNAL *Point 4.1 FAT proc.*

■ **PROVE SUI DISPOSITIVI AUSILIARI**
TEST OF AUXILIARY DEVICE *Point 4.2 FAT proc.*

■ **CONTROLLO DI CONTINUITA' DEL CIRCUITO DI TERRA**
CHECKING OF ELECTRICAL CONTINUITY EARTH CIRCUIT
Max = ≤0,1Ω (Max Value Measured: 0,001 Ω)
Point 4.5 FAT proc.

RAPPORTO DI PROVA
TEST REPORT

N° Certificato/ Certificate N°:	348	Data / Date:	17/09/2024

The Equipment is :

Compliant ☒ **/ Non Compliant** ☐

Referring to the FAT Procedure and relevant documents

Apparecchiature utilizzate/ Equipment used:	***Scadenza Taratura /Expiration date***
SP 214 MULTITEST FOR DIELECTRIC TEST	07/2024
SP 196 MULTIMETER FLUKE	03/2025
PP 143 DIGITAL THICKNESS GAUGE	12/2024

Note/ *Notes:*

DUSK SWITCH MISSING (see punch list)

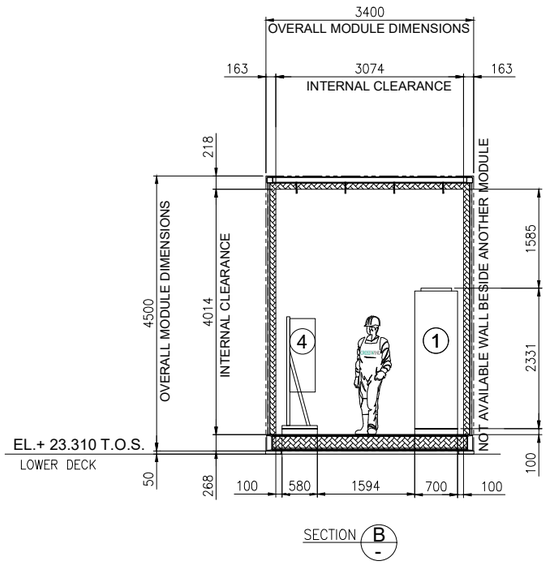
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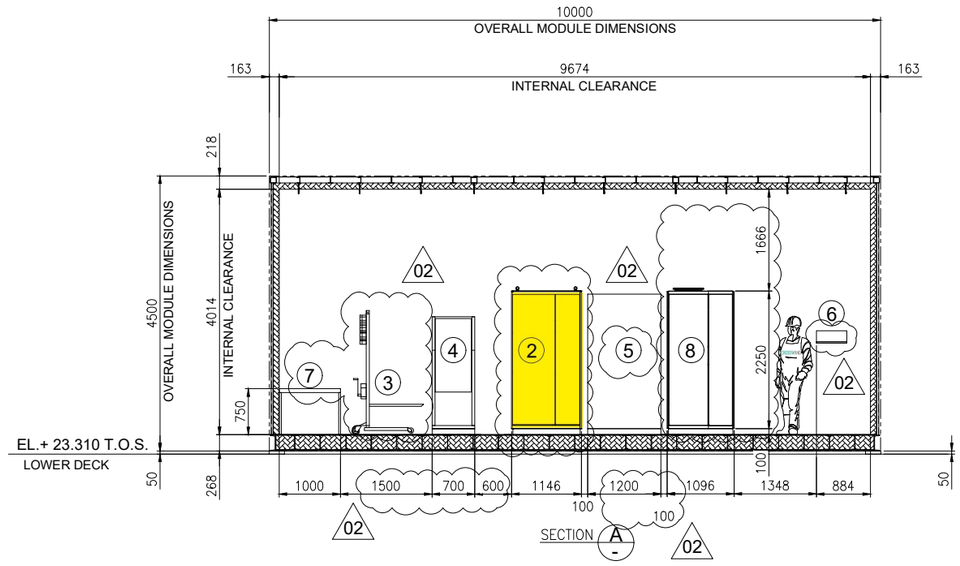
IMESA SPA
IMESA SPA
TESTING OFFICE

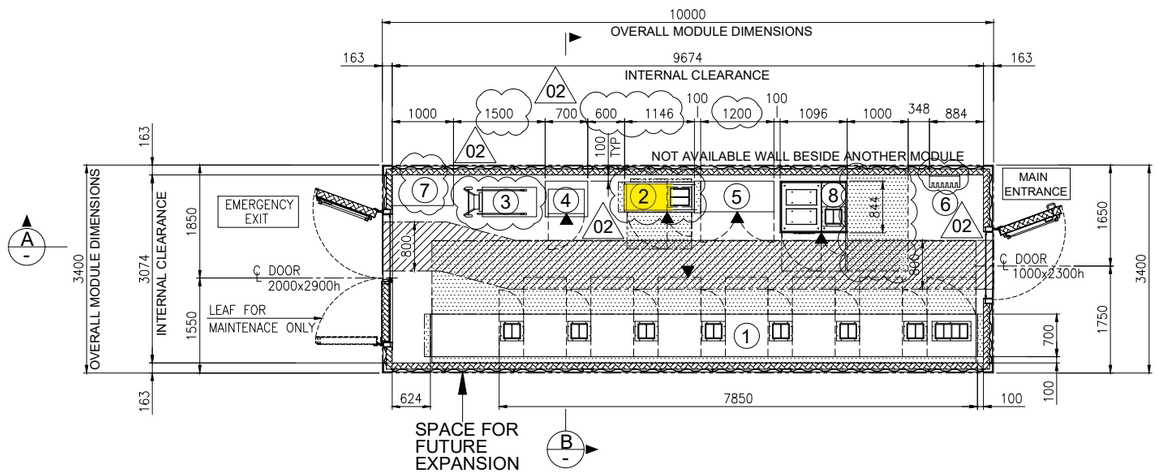
ROSETTI MARINO SPA
ROSETTI MARINO SpA
Stefano Linari
Quality Control Dept.

O.b.o. CROSSWIND
M MARANGONI
17.09.24

DRAWING NO. 123A90-DDL-EL-DL-20105 | REV. 02





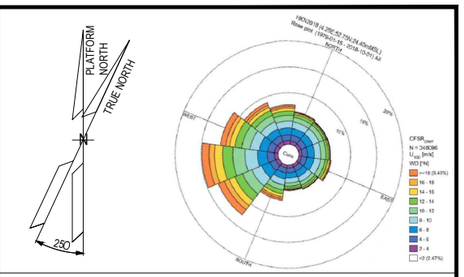


EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

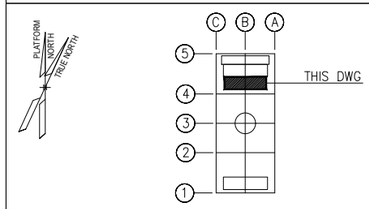
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	OYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND | ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

BASE LOAD POWER HUB (BLPH)

"DP-200N1" LV SWBD 400/230V

GENERAL ARRANGEMENTS DWG AND FOUNDATION LOAD CALCULATION INCLUDING COG

ROSETTI MARINO

1	NO COMMENTS - APPROVED - WORK MAY PROCEED
2	MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED
3	MAJOR COMMENTS – REJECTED – DO NOT PROCEED
4	APPROVAL NOT REQUIRED

NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.

Sign	Date
Luca Macula	25/09/2024

IMESA ELECTRICAL ENGINEERING

DWG n°: 231298/SD/9

Item n°: PF1002888/101

CROSSWIND

ROSETTI MARINO

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
4	18/09/2024	Flamminio	Santinelli	Santinelli	As Built (ASB)
3	09/07/2024	Flamminio	Santinelli	Santinelli	Accepted for construction (AFC)
2	24/04/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)
1	22/03/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)
0	05/02/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)

TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Cover

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 001

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 04

INDEX SHEETS

Sheet	Description	Revision 0	1	2	3	4	5	6	7	8	9
001	Cover / GENERAL ARRANGEMENTS	X	X	X	X	X					
002	Index / GENERAL ARRANGEMENTS	X	X	X	X	X					
003	Switchgear Characteristics / GENERAL ARRANGEMENTS	X	X	X	X	X					
004	Switchgear Characteristics / GENERAL ARRANGEMENTS	X	X	X	X	X					
005	Switchgear Characteristics / GENERAL ARRANGEMENTS	X	X	X	X	X					
006	Switchgear Nameplate Date and Switchgear Taglate / GENERAL ARRANGEMENTS	X	X	X	X	X					
007	Switchgear Lay-Out - Front, Top, Bottom and Side View / GENERAL ARRANGEMENTS	X	X	X	X	X					
008	Centre of Gravity Positioning / Base Frame Fixing System / GENERAL ARRANGEMENTS	X	X	X	X	X					

Sheet	Description	Revision 0	1	2	3	4	5	6	7	8	9

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DWG n° : 231298/SD/9

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Index

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 002

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 04

A	ENVIRONMENTAL DATA	
1	AMBIENT	MARINE - OFFSHORE
2	INSTALLATION	INDOOR
3	AMBIENT AIR TEMPERATURE - DELAY AVERAGE MAXIMUM	35 °C
4	AMBIENT AIR MINIMUM/MAXIMUM TEMPERATURE	-8,4 ÷ +40 °C
5	RELATIVE HUMIDITY AVERAGE	95 %
6	RELATIVE HUMIDITY MAXIMUM	-
7	POLLUTION LEVEL DEGREE	VERY LIGHT

B	SWITCHGEAR ELECTRICAL FEATURES	
1	RATED VOLTAGE (Ue)	0,4/0,23 kV
2	NOMINAL VOLTAGE (Un)	0,4/0,23 kV
3	RATED INSULATION VOLTAGE (Ui)	0,69 kV
4	RATED FREQUENCY (Fn)	50 Hz
5	RATED IMPULSE WITHSTAND (Uimp)	4 kV
6	RATED NORMAL CURRENT (In)	63 A
7	POWER SUPPLY SHORT CIRCUIT CURRENT (Ik)	25 kA
8	RATED DURATION OF SHORT CIRCUIT (tk)	NA
9	CONDITIONATED PEAK WITHSTAND CURRENT (Ipk)	17 kA
10	INTERNAL ARC CLASSIFICATION IAC	not applicable
11	ARCING CLASS	not applicable
12	NUMBER OF PHASES	3+N
13	PHASES IDENTIFICATION	L1-L2-L3-N
14	EARTHING CIRCUITS MAIN BUSBAR SECTION	> 150mmq
15	REFERENCE STANDARDS	IEC 61439-2
16	EARTHING SYSTEM	TN-S
17	NEUTRAL BUSBARS SIZING	50% PHASE SECTION

C	SWITCHGEAR MECHANICAL FEATURES	
1	EXTERNAL DEGREE OF PROTECTION	IP30
2	INTERNAL DEGREE OF PROTECTION	IP20
3	EXTERNAL MECHANICAL IMPACT PROTECTION	IK10
4	ACCESSIBILITY	FRONT
5	TYPE DESIGNATION	FORM : 2B (OUTGOING)
6	POWER CABLES (INCOMING)	FROM THE TOP (by MCT)
7	POWER CABLES (OUTGOING)	FROM THE TOP (by MCT)
8	AUXILIARY CABLES	FROM THE TOP (by MCT)
9	BASE FRAMES	PROVIDED
10	MIMIC DIAGRAM (BLACK)	not applicable
11	BOTTOM CLOSING	UNDRILLED ALUMINIUM REMOVABLE PLATES
12	PAINTING COLOUR	RAL 7035
13	PAINTING SPECIFICATION CYCLE	C3-MEDIUM, > 60µ (IMESA CYCLE "A")
14	SURFACE NOT PAINTED	ZINC PLATED OR TROPICALIZED
15	FRONT DOORS (AUXILIARY COMPARTMENT)	HINGED WITH KEY LOCKS
16	FRONT DOOR (C.B./CONTACTOR COMPARTMENT)	HINGED WITH KEY LOCKS
17	REAR PANELS	BOLTED
18	MINIMUM CLEARANCE	TO THE FRONT 800 mm
19		TO THE REAR 50 mm
20		TO THE TOP 200 mm
21		TO THE SIDE 100 mm
22	WEIGHTS	360 kg ± 10%

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/9

Item n° : PF1002888/101

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TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Switchgear Characteristics

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 003

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 04

D	BUSBAR SYSTEM	
1	MATERIALS	ELECTROLYTIC COPPER
2	BUSBAR SURFACE TREATMENT	BARE
3	INSULATION BUSBARS (if applicable)	AIR INSULATION
4	JOINT AND CONNECTIONS TREATMENT	NONE
5	INSULATION JOINTS (if applicable)	NOT APPLICABLE
6	BULKHEADS FOR POWER BARS (if applicable)	NOT APPLICABLE
7	PHASES IDENTIFICATION	L1 (BROWN)
8		L2 (BLACK)
9		L3 (GREY)
10		N (BLUE)
11		PE (EARTH SYMBOL)
12	MARKING OF PHASES	ADHESIVE LABELS PLACED ON BARS

E	POWER / AUXILIARY CIRCUITS CABLES		
1	LOW VOLTAGE CABLE TYPE		SH-W (MARINE APPROVAL)
2	VOLTAGE INSULATION CABLE		HLPE (600/1000 V)
3	COLOUR INSULATION CABLE		BLACK (L1-L2-L3-N), RED (+), WHITE (-); YELLOW / GREEN (GROUND)
	SIZE / COLOUR CODE		
4	POWER CIRCUIT		≥ 2,5 sqmm / BLACK
5	POWER CIRCUIT PHASES IDENTIFICATION WITH COLOURED SHRINKABLE TERMINATION SHEATH		L1 (BROWN)
6			L2 (BLACK)
7			L3 (GREY)
8			N (BLUE)
9			PE (YELLOW / GREEN)
10	MEASURE & CONTROL & SIGNAL CIRCUITS	AC/DC CIRCUIT (Internal Heating / Motor Spring Charger / Internal Distribution)	≥ 2,5 mmq / BLACK
11		VT SECONDARY CIRCUIT	1,5 mmq / BLACK
12		CT SECONDARY CIRCUIT	2,5 mmq / BLACK
13		AC CIRCUIT	≥ 1,5 mmq / BLACK
14		DC CIRCUIT	≥ 1,5 mmq / RED (+) WHITE (-)
15		GROUND CIRCUIT	YELLOW / GREEN

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/9

Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Switchgear Characteristics

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 004

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 04

F	TERMINAL BLOCKS	
1	POWER TERMINAL BLOCK TYPE	SCREW CLAMP (CABUR CBD beige)
2	AUXILIARY TERMINAL BLOCK TYPE	SPRING CLAMP (CABUR HMM grey)
3	DISCONNECT/TEST TERMINAL BLOCK TYPE (if applicable)	SPRING CLAMP (CABUR HMM grey)
4	MATERIAL	POLYAMIDE
5	POWER / AUXILIARY SIZE	≥ 4mmq

G	AUXILIARY CIRCUIT VOLTAGE	
1	AUXILIARY COMMAND CIRCUITS	230 Vac (External Supply)
2	INTERNAL LIGHTINGS	230 Vac (External Supply)
3	ANTICONDENSATION HEATER	230 Vac (External Supply)

H	LABELS	
1	MATERIAL	TRAFFOLYTE
2	BACKGROUND	WHITE
3	LETTERS	BLACK
4	LANGUAGE	ENGLISH
5	WARNING LABEL LANGUAGE	ENGLISH
6	FIXING	SCREWED
7	MARKING DEVICES / WIRES	INDIPENDENT
8	AC CIRCUIT	SEQUENTIAL
9	DC CIRCUIT	SEQUENTIAL WITH PREFIX "+" OR "-"

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/9

Item n° : PF1002888/101

TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Switchgear Characteristics

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 005

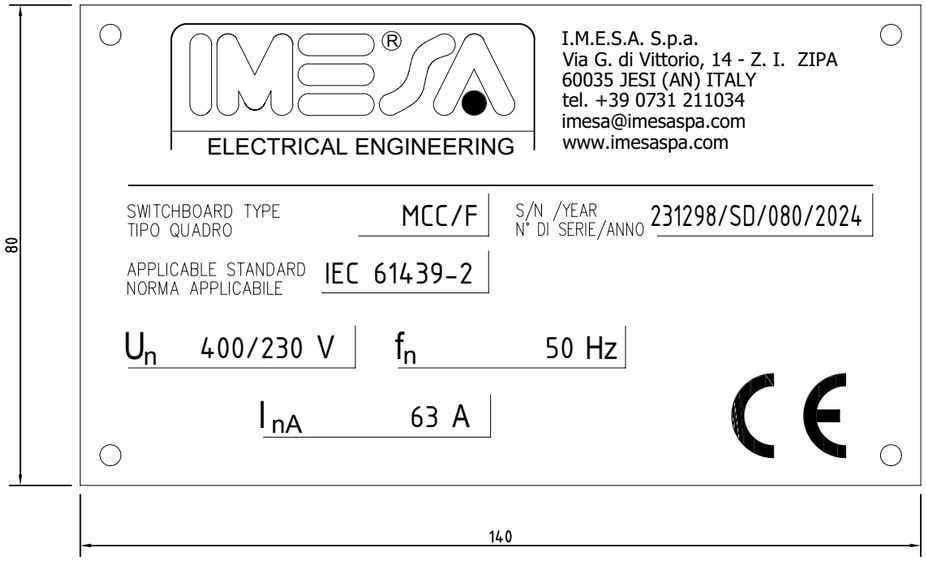
REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 04

SWITCHGEAR NAMEPLATE DATES

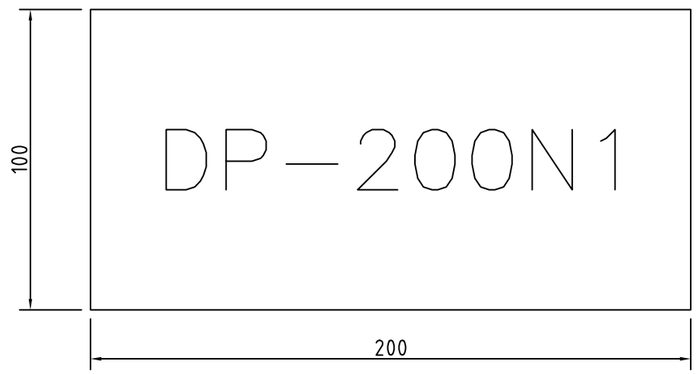
(1)



Material: Alloy

SWITCHGEAR TAGPLATE

(2)



Material: Traffolyte

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
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DWG n° : 231298/SD/9
Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP–200N1"

GENERAL ARRANGEMENTS
Switchgear Nameplate Date and Switchgear Taglate

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

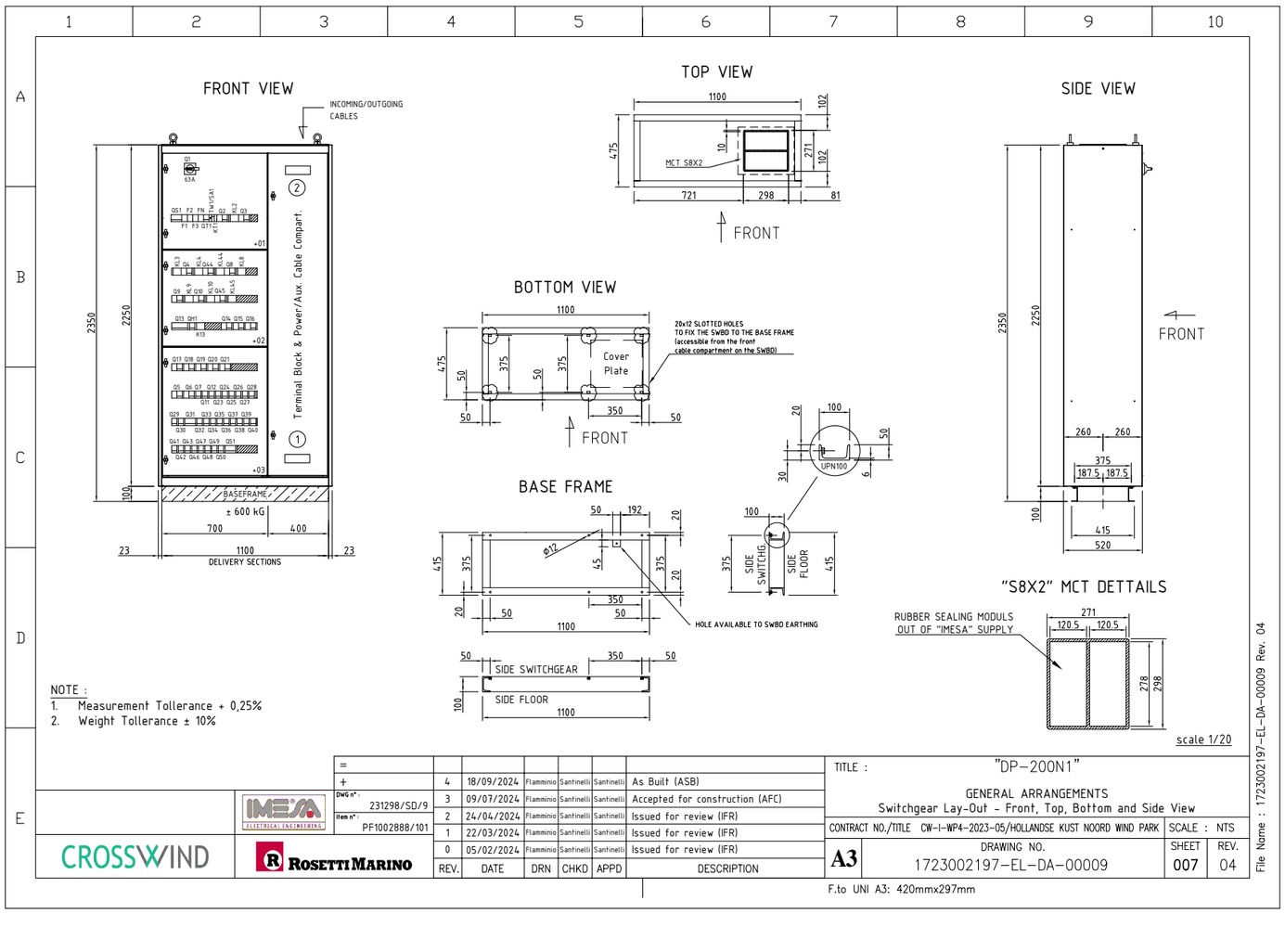
DRAWING NO. 1723002197–EL–DA–00009

SHEET 006

REV. 04

F.to UNI A3: 420mmx297mm

File Name : 1723002197–EL–DA–00009 Rev. 04



NOTE :
1. Measurement Tollerance + 0,25%
2. Weight Tollerance ± 10%

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
4	18/09/2024	Flamminio	Santinelli	Santinelli	As Built (ASB)
3	09/07/2024	Flamminio	Santinelli	Santinelli	Accepted for construction (AFC)
2	24/04/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)
1	22/03/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)
0	05/02/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/9

Item n° : PF1002888/101

TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Switchgear Lay-Out - Front, Top, Bottom and Side View

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

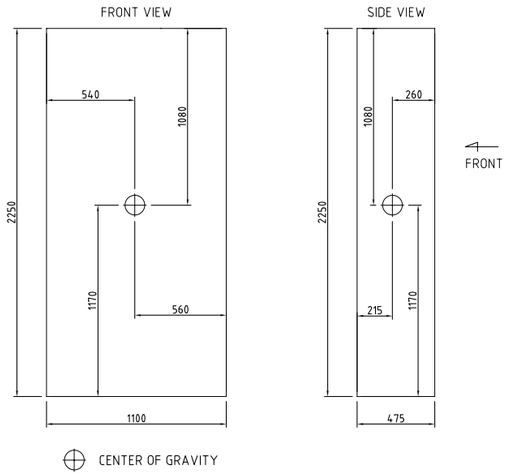
SHEET 007

REV. 04

F.to UNI A3: 420mmx297mm

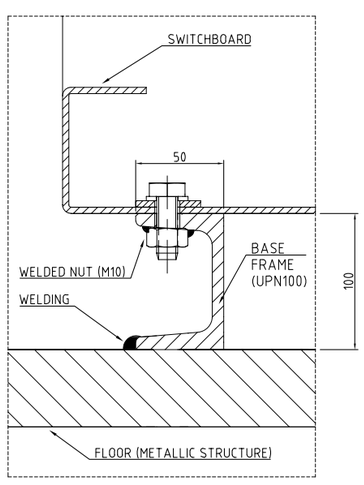
File Name : 1723002197-EL-DA-00009 Rev. 04

CENTER OF GRAVITY POSITIONING



scale 1/20

BASE FRAME FIXING SYSTEM



NOTE :
1. Measurement Tollerance + 0,25%

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+	18/09/2024	Flamminio	Santinelli	Santinelli	As Built (ASB)
3	09/07/2024	Flamminio	Santinelli	Santinelli	Accepted for construction (AFC)
2	24/04/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)
1	22/03/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)
0	05/02/2024	Flamminio	Santinelli	Santinelli	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/9

Item n° : PF1002888/101

TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Centre of Gravity Positioning / Base Frame Fixing System

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 008

REV. 04

File Name : 1723002197-EL-DA-00009 Rev. 04

F.to UNI A3: 420mmx297mm

BASE LOAD POWER HUB (BLPH)

"DP-200N1" LV SWBD 400/230V

FUNCTIONAL DIAGRAMS

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/33

Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Cover

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 1

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

INDEX SHEETS

Sheet	Description	Revision 0	1	2	3	4	5	6	7	8	9	Sheet	Description	Revision 0	1	2	3	4	5	6	7	8	9
001	Cover	X	X	X																			
002	Index	X	X	X																			
003	Graphical Symbols	X	X	X																			
004	Graphical Symbols	X	X	X																			
005	Functional Drawing	X	X	X																			
006	Functional Drawing	X	X	X																			
007	Functional Drawing	X	X	X																			
008	Functional Drawing	X	X	X																			
009	Functional Drawing	X	X	X																			
010	Functional Drawing	X	X	X																			
011	Functional Drawing	X	X	X																			
012	Functional Drawing	X	X	X																			
013	Functional Drawing	X	X	X																			
014	Functional Drawing	X	X	X																			
015	Functional Drawing	X	X	X																			
016	Functional Drawing	X	X	X																			
017	Functional Drawing	X	X	X																			
018	Functional Drawing	X	X	X																			
019	Functional Drawing	X	X	X																			
020	Power Teminal Block	X	X	X																			
021	Power Teminal Block	X	X	X																			
022	Auxiliary Terminal Blocks	X	X	X																			
023	Material List	X	X	X																			
024	Material List	X	X	X																			
025	Material List	X	X	X																			
026	Material List	X	X	X																			

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Index

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

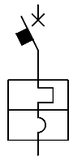
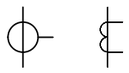
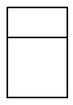
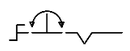
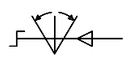
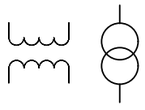
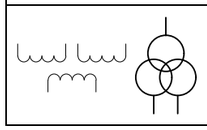
DRAWING NO. 1723002197-EL-DG-00033

SHEET 2

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION
	**CIRCUIT BREAKER WITH AUTOMATIC RELEASE**		**CAPACITOR (GENERAL SYMBOL)**		**BISTABLE RELAY**		**CHANGE-OVER BREAK BEFORE MAKE CONTACT**
	**CIRCUIT BREAKER WITH AUTOMATIC RELEASE AND BUILT-IN THERMOMAGNETIC RELEASE**		**CAPACITIVE VOLTAGE DIVIDER**		**COIL OF A MECHANICALLY LATCHED RELAY**		**DELAYED ACTION (IN THE DIRECTION OF MOVEMENT FROM THE ARC TOWARDS ITS CENTRE)**
			**CURRENT TRANSFORMER**		**INDICATOR, ELECTROMECHANICAL ELEMENT**		POSITION SWITCH (LIMIT SWITCH), MAKE CONTACT
	**SWITCH DISCONNECTOR**		RING CURRENT TRANSFORMER		**LAMP (GENERAL SYMBOL)**		**POSITION SWITCH (LIMIT SWITCH), MAKE CONTACT**
	**CONTACTOR**		**INDICATING INSTRUMENT GENERAL SYMBOL**		**SEMICONDUCTOR DIODE**		POSITION SWITCH (LIMIT SWITCH), BREAK CONTACT
	LOCK WITH FREE KEY WHEN THE DEVICE IS IN OPEN POSITION		**INTEGRATING INSTRUMENT (GENERAL SYMBOL)**		**LED**		**OPERATED BY TURNING**
	**LOCK WITH FREE KEY WHEN THE DEVICE IS IN CLOSE POSITION**		**DISCONNECTING FUSE, NOT WITH LIVE CIRCUIT AND WITH MECHANICAL LINKAGE (STRIKER FUSE))**		**TRANSDUCER OF ALTERNATING CURRENT MEASURE INTO DIRECT CURRENT SIGNAL**		**THREE HELD POSITIONS TURNING SWITCH**
	**PLUG AND SOCKET (MALE AND FEMALE)**		**OPERATING DEVICE (GENERAL SYMBOL)**		**EARTH, GROUND (GENERAL SYMBOL)**		**THREE POSITIONS TURNING SWITCH, WITH SPRING THROWBACK TO THE CENTRAL POSITION**
	**VOLTAGE TRANSFORMER WITH TWO WINDINGS**		**COIL OF A TIME DELAYED OPERATING RELAY**		**MAKE CONTACT**		MECHANICAL INTERLOCK BETWEEN TWO DEVICES
	**VOLTAGE TRANSFORMER WITH THREE WINDINGS**		**COIL OF A TIME DELAYED RELEASING RELAY**		**BREAK CONTACT**		

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/33
Item n° : PF1002888/101

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Graphical Symbols

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 3

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION	GRAPHICAL SYMBOLS	DESCRIPTION
	RESISTOR (GENERAL SYMBOL)		AMPEROMETRIC TEST SOCKET				
	THERMISTOR (GENERAL SYMBOL)		3 PHASES LINE + N				
	HEATING ELEMENT		1 PHASES LINE + N				
	INTERCONNECTION TERMINAL						
	WITHDRAWABLE TERMINAL SHORT-CIRCUITABLE ON C.T. SECONDARY CIRCUITS						
	WITHDRAWABLE TERMINAL FOR V.T. SECONDARY CIRCUITS						
	SWITCHBOARD TERMINAL						
	ON - OFF SWITCH						
	SURGE ARRESTER						
	VOLTMETRIC TEST SOCKET						

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
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DWG n° : 231298/SD/33
Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP–200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Graphical Symbols

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

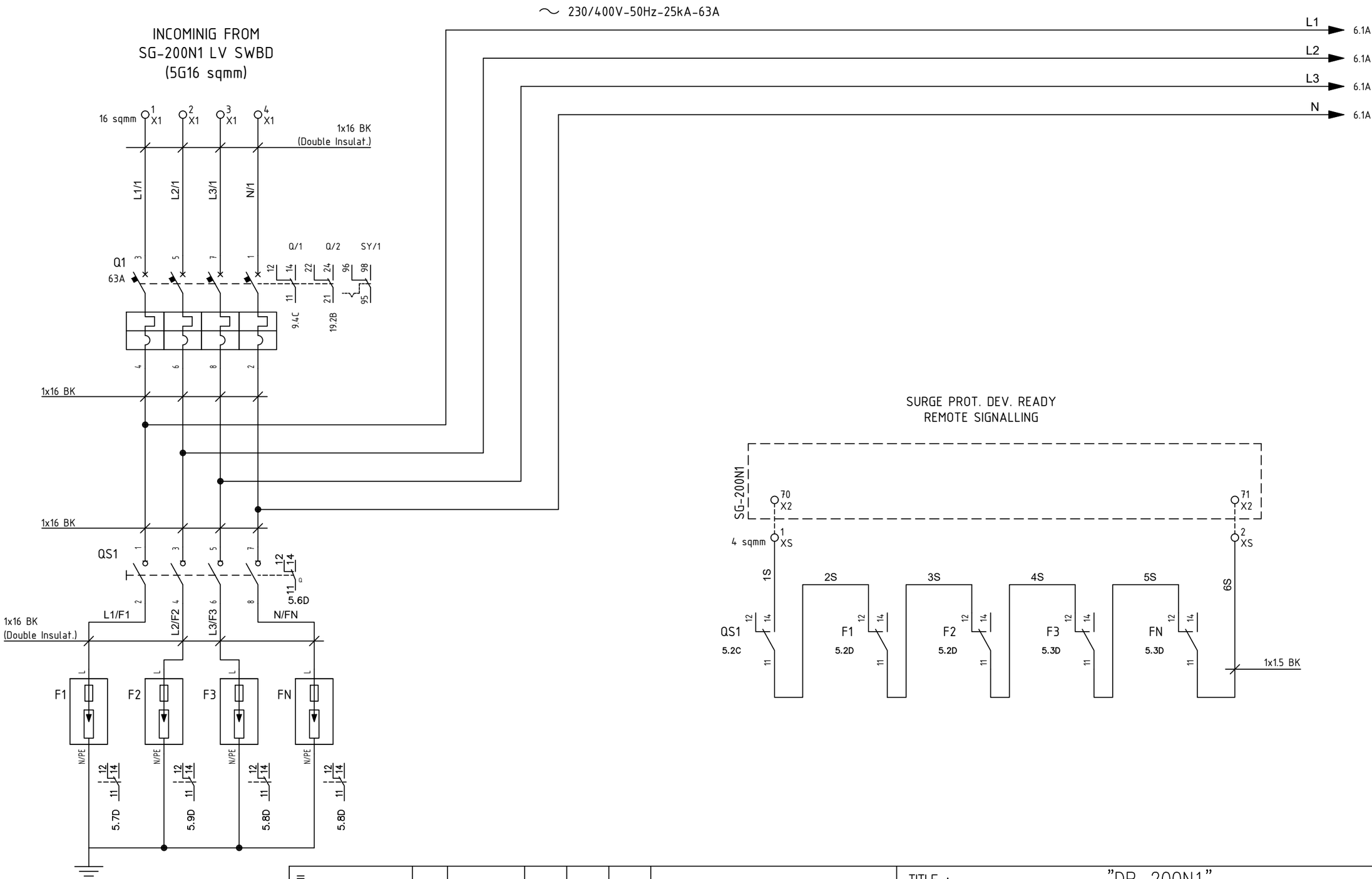
DRAWING NO. 1723002197–EL–DG–00033

SHEET 4

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197–EL–DG–00033 Rev. 02



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/33
Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 5

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

NORMAL AND EMERGENCY LIGHTING FUNCTIONAL DIAGRAM

~ 230/400V-50Hz-25kA-63A

5.10A L1 — L1 7.1A
5.10A L2 — L2 7.1A
5.10A L3 — L3 7.1A
5.10A N — N 7.1A

1L1/T1 1N/T1
QT1 1A
6.7C
1x1.5 BK
FT
1x1.5 BK
NT

TWLIGHT SWITCH
AUTOM. OPERATION (UNMANNED)
MANUAL OPERATION (MANNED)
AUTOM. OPER. SIGNAL. (UNMANNED)
LIGHTING POWER ON COMMAND

SA1 UNMANNED MANNED
SA1 SELECTOR DRAWED IN POSIT. 1
SA1
KT1 6.4D
KT1 6.4D

1T 2T 3T 4T 5T 6T
4 sqmm
XT
SG-200N1
72 X2
73 X2

TW1 POWER SUPPLY
EXTERNAL SENSOR
KT1

7T
KL2 KL3 KL4 KL44 KL8 KL9 KL10 KL45

6.6B 2 1 / 6.6B 4 3

7.2C 2 1 / 7.2C 4 3 — 7.3C 2 1 / 7.3C 4 3 — 7.5C 2 1 / 7.5C 4 3 — 7.6C 2 1 / 7.6C 4 3 — 7.8C 2 1 / 7.8C 4 3 — 8.2C 2 1 / 8.2C 4 3 — 8.3C 2 1 / 8.3C 4 3 — 8.5C 2 1 / 8.5C 4 3

6.7B 34 33 / 22 21 — 6.8B 34 33 / 22 21 — 6.8B 34 33 / 22 21 — 6.9B 34 33 / 22 21 — 6.7B 34 33 / 22 21 — 6.8B 34 33 / 22 21 — 6.8B 34 33 / 22 21 — 6.9B 34 33 / 22 21

LIGHTINGS ON REMOTE SIGNALLING

SG-200N1
74 X2 — 5 XT
15T — KL2 (6.6D) — 16T — KL3 (6.6D) — 17T — KL4 (6.7D) — 18T — KL44 (6.7D)
19T
KL8 (6.8D) — 20T — KL9 (6.8D) — 21T — KL10 (6.9D) — 22T — KL45 (6.9D) — 23T
1x1.5 BK
6 XT — 75 X2
4 sqmm

LIGHTINGS UTILITIES PROT. BREAKERS CLOSED REMOTE SIGNALLING

SG-200N1
76 X2 — 7 XT
30T — QT1 (6.2A) — 31T — Q2 (7.2B) — 32T — Q3 (7.3B) — 33T — Q4 (7.5B)
34T
Q10 (8.3B) — 37T — Q9 (8.2B) — 36T — Q8 (7.8B) — 35T — Q44 (7.6B)
38T
1x1.5 BK
Q45 (8.5B) — 39T
8 XT — 77 X2
4 sqmm

=						
+						
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)	
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)	
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)	
REV.	DATE	DRN	CHKD	APPD	DESCRIPTION	

CROSSWIND
IMESA ELECTRICAL ENGINEERING
ROSETTI MARINO

DWG n° : 231298/SD/33
Item n° : PF1002888/101

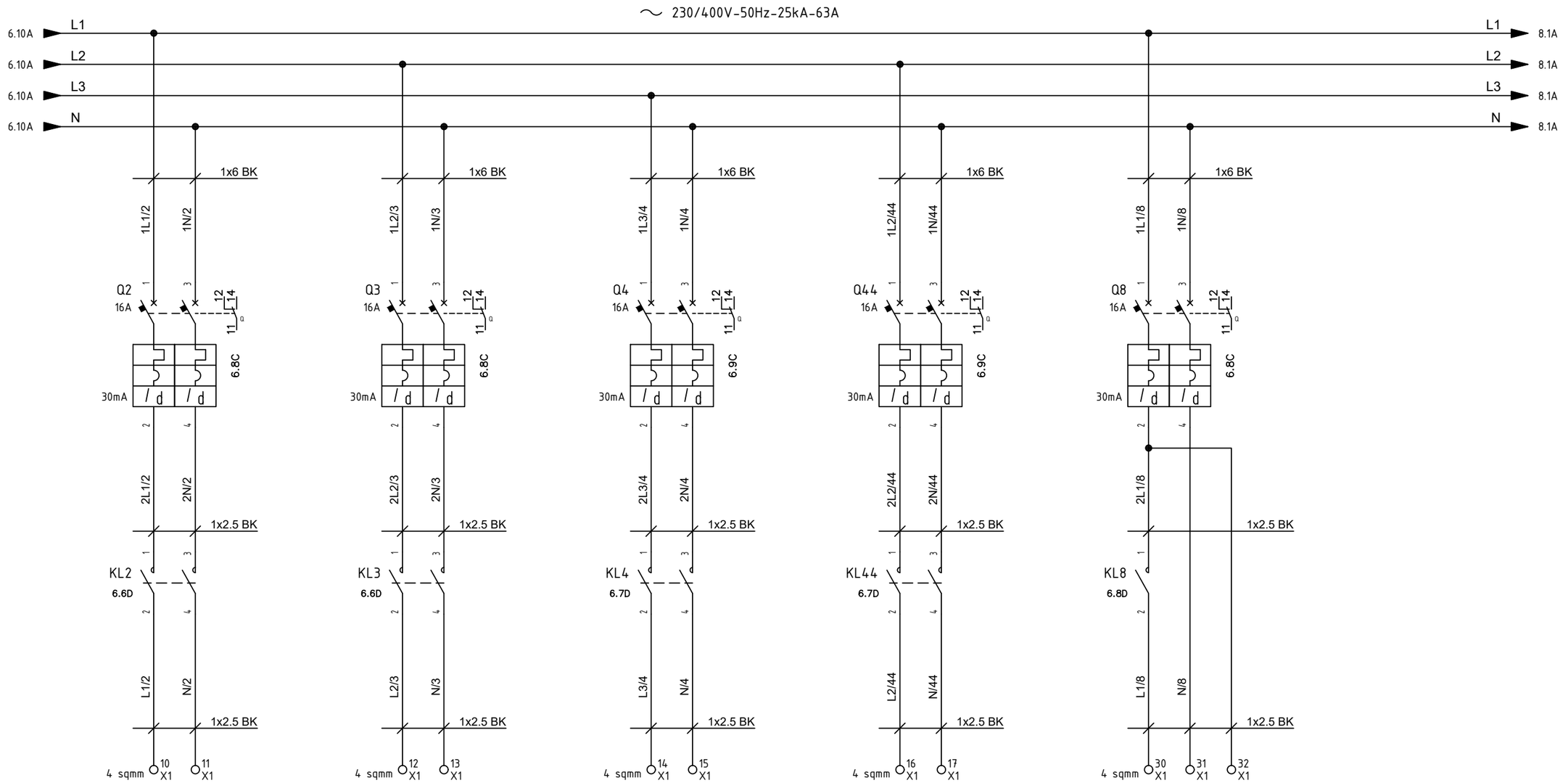
TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK
SCALE : NTS

A3
DRAWING NO. 1723002197-EL-DG-00033
SHEET 6
REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



EJB-200N1-02-L1-01
Normal Lighting Upper Deck - Circuit No. 1
(3G4 sqmm)

EJB-200N1-03-L2-01
Normal Lighting Lower Deck - Circuit No. 1
(3G4 sqmm)

EJB-200N1-04-L3-01
Normal Lighting stairs
(3G4 sqmm)

Spare
Normal Lighting - Spare

EJB-200N1-08-L1-01
Emergency Lighting Upper Deck - Circuit No. 1
(4G4 sqmm _E)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
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DWG n° : 231298/SD/33
Item n° : PF1002888/101

IMESA ELECTRICAL ENGINEERING

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

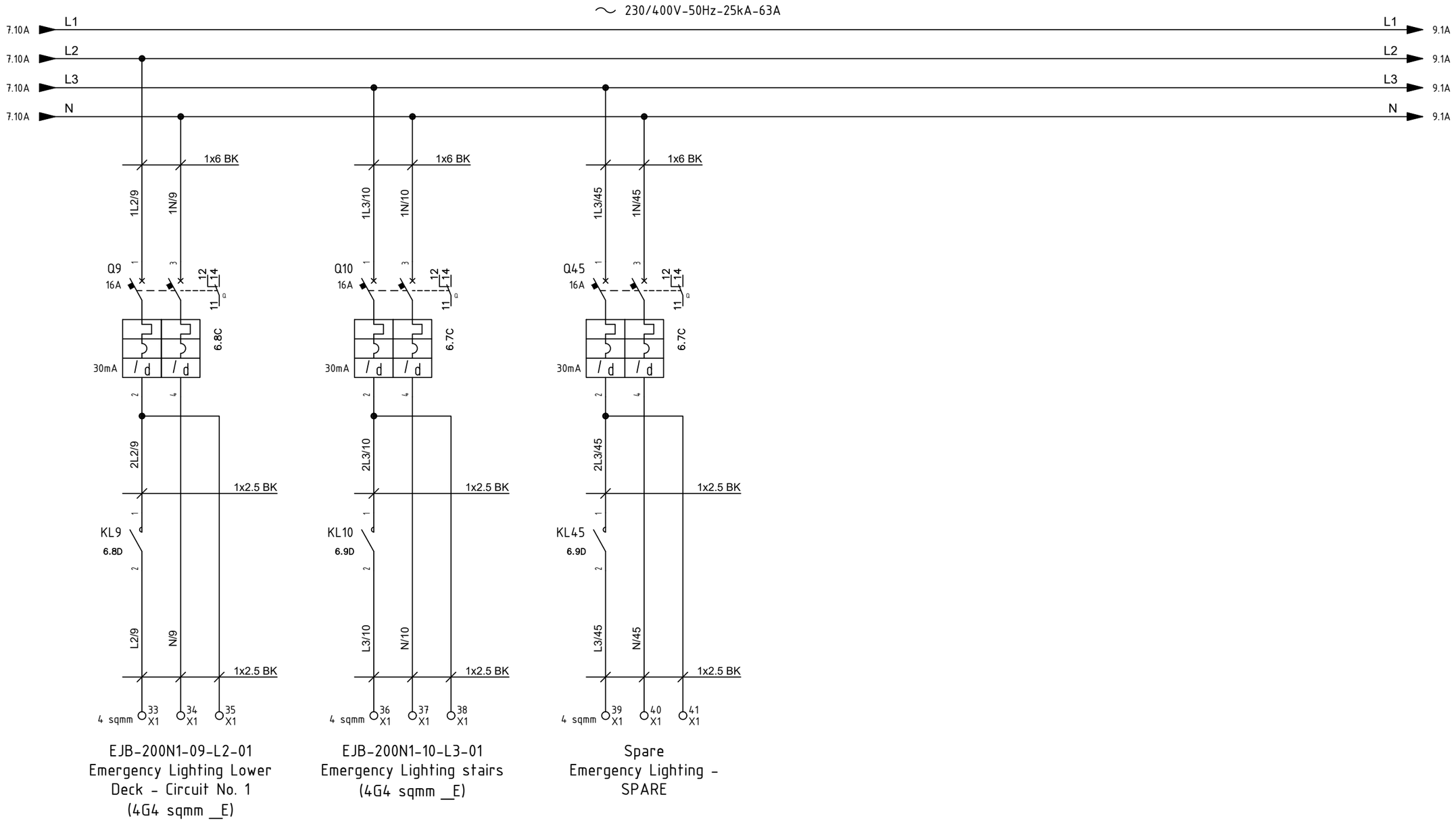
DRAWING NO. 1723002197-EL-DG-00033

SHEET 7

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm



EJB-200N1-09-L2-01
Emergency Lighting Lower Deck - Circuit No. 1
(4G4 sqmm _E)

EJB-200N1-10-L3-01
Emergency Lighting stairs
(4G4 sqmm _E)

Spare
Emergency Lighting - SPARE

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

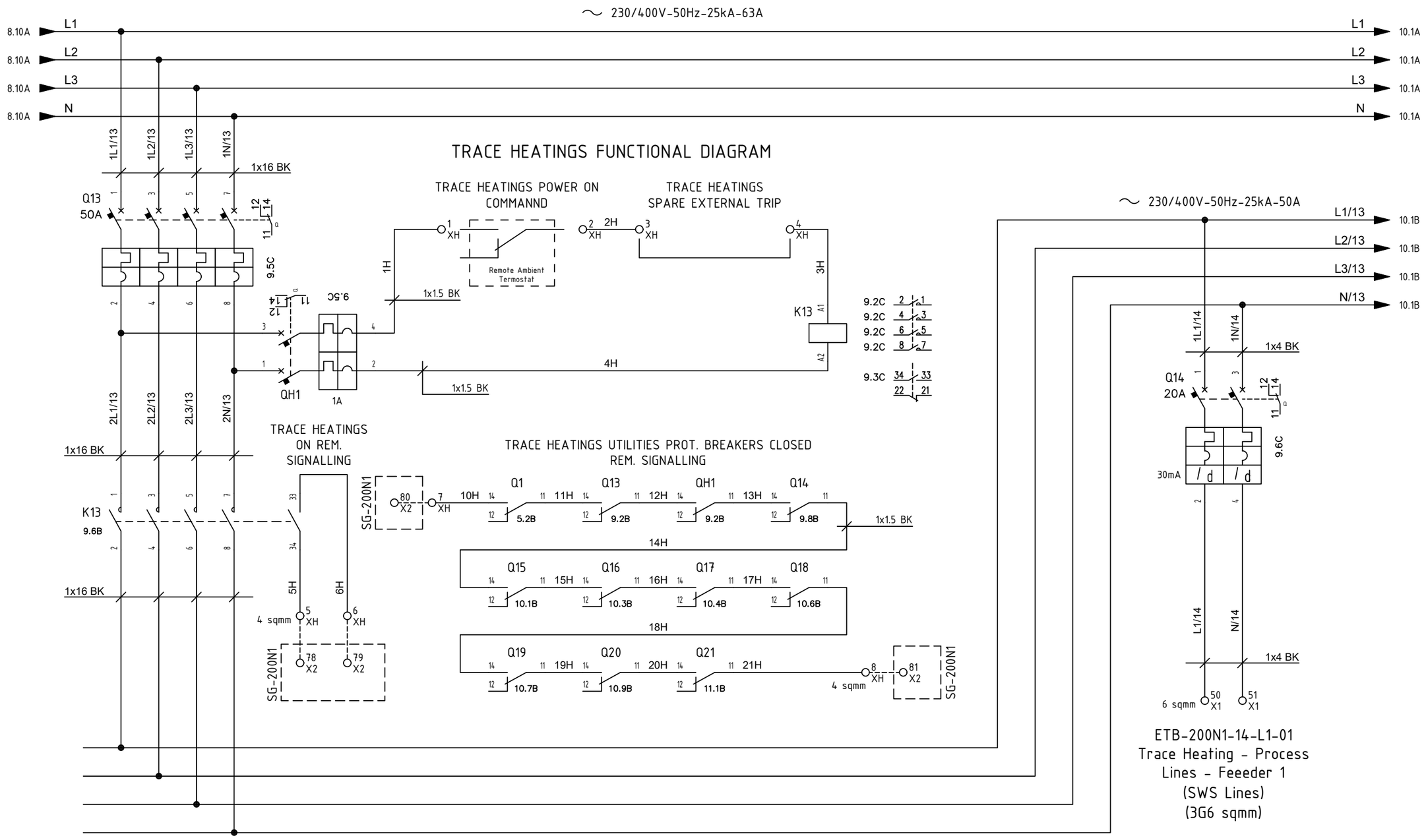
SHEET 8

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

TRACE HEATINGS FUNCTIONAL DIAGRAM



ETB-200N1-14-L1-01
Trace Heating - Process Lines - Feeeder 1
(SWS Lines)
(3G6 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
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+
DWG n° : 231298/SD/33
Item n° : PF1002888/101

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

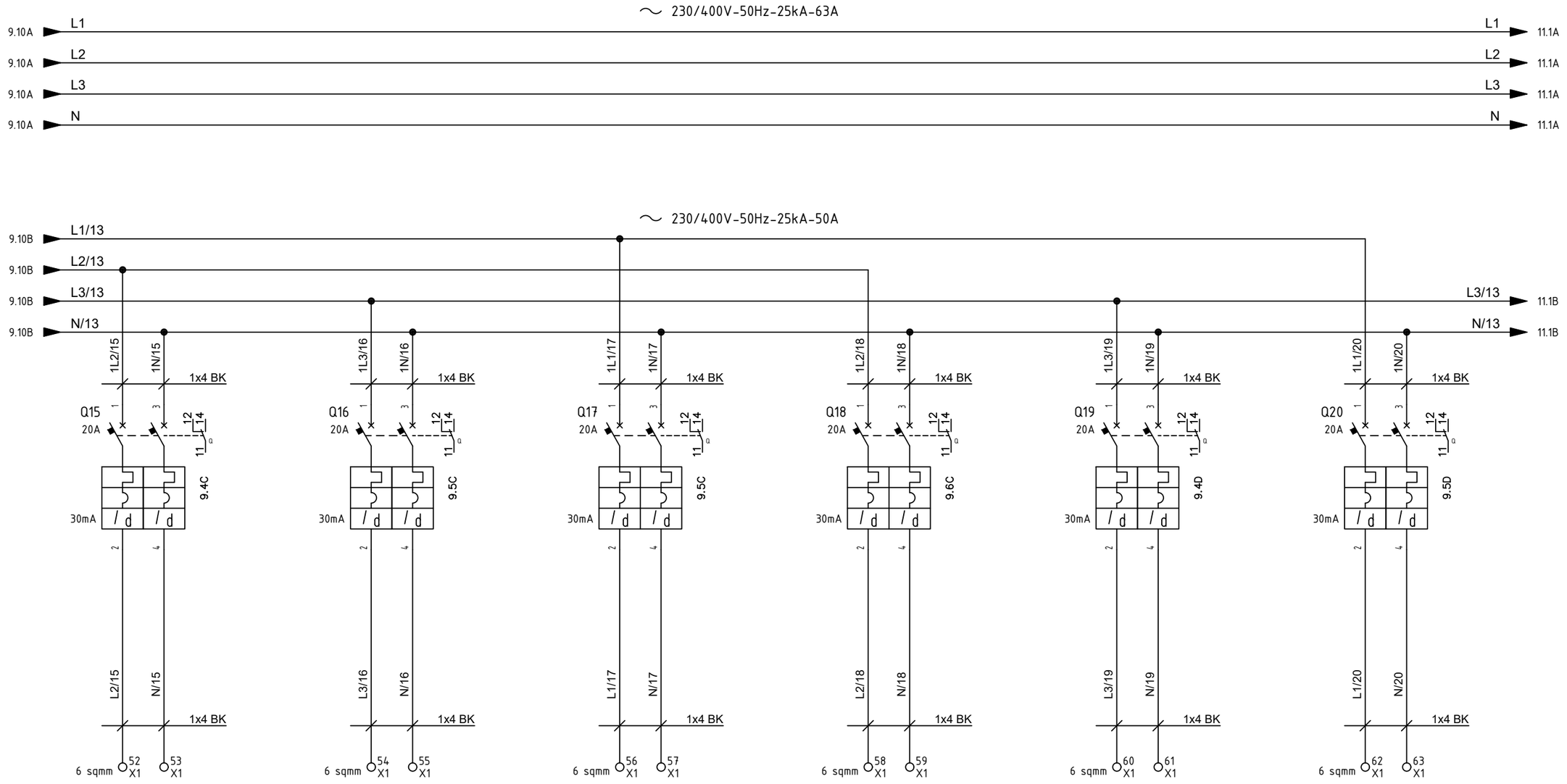
DRAWING NO. 1723002197-EL-DG-00033

SHEET 9

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm



ETB-200N1-15-L2-01
Trace Heating - Process
Lines - Feeeder 2
(CI Lines)
(3G6 sqmm)

ETB-200N1-16-L3-01
Trace Heating - Process
Lines - Feeeder 3
(DM Line)
(3G6 sqmm)

ETB-200N1-17-L1-01
Trace Heating - Process
Lines - Feeeder 4
(WW Lines)
(3G6 sqmm)

ETB-200N1-18-L2-01
Trace Heating - Process
Lines - Feeeder 5
(Vassel Ko Drum)
(3G6 sqmm)

ETB-200N1-19-L3-01
Trace Heating - Process
Lines - Feeeder 6
(H2 Vent)
(3G6 sqmm)

ETB-200N1-20-L1-01
Trace Heating - Process -
Lines - Feeeder 7
(Sea Water Pumps)
(3G6 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33
Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

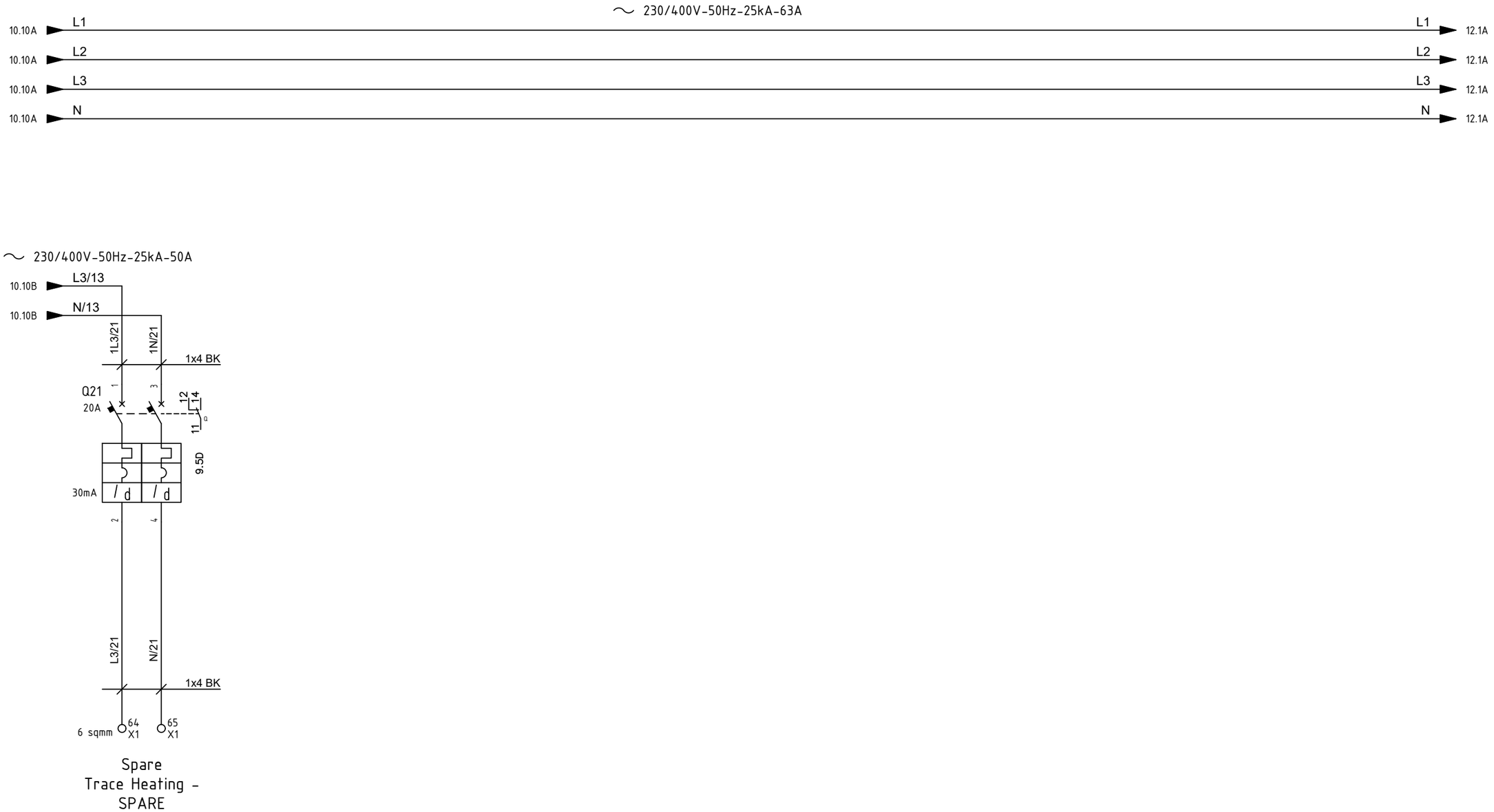
DRAWING NO. 1723002197-EL-DG-00033

SHEET 1.0

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm



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+							
	2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)	
	1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)	
	0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)	
	REV.	DATE	DRN	CHKD	APPD	DESCRIPTION	

CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

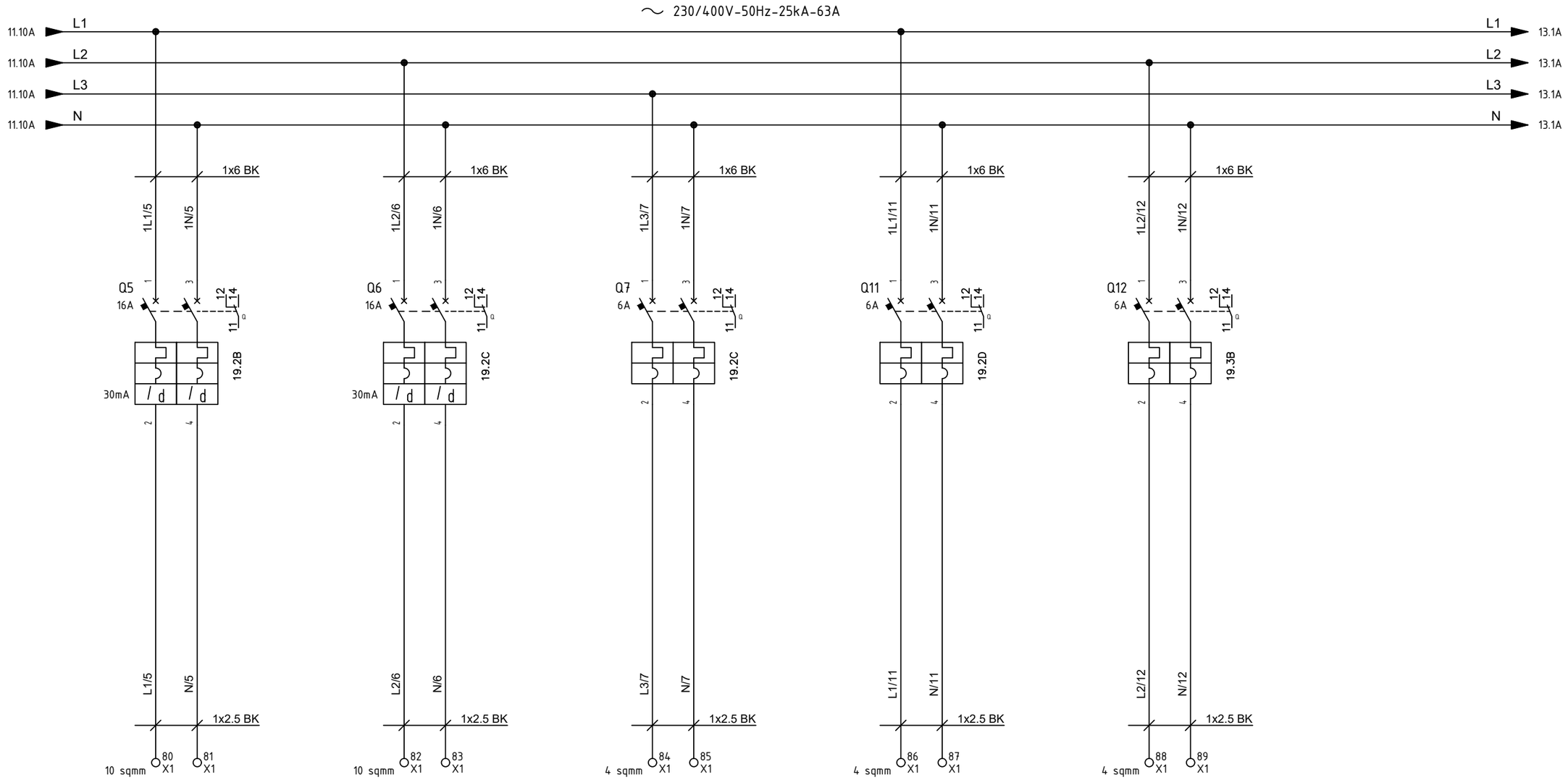
DRAWING NO. 1723002197-EL-DG-00033

SHEET 1.1

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



ESO-200N1-05-L1-01
Small Power Socket
(Upper Deck)
3G10 sqmm

ESO-200N1-06-L2-01
Small Power Socket
(Lower Deck)
3G10 sqmm

Spare

ESH-200N1-11-L1-01
Space heater JB - Wind
farm subsea cable
(3G2.5 sqmm)

ESH-200N1-12-L2-01
Space heater JB - Solar
subsea cable
(3G2.5 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33
Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

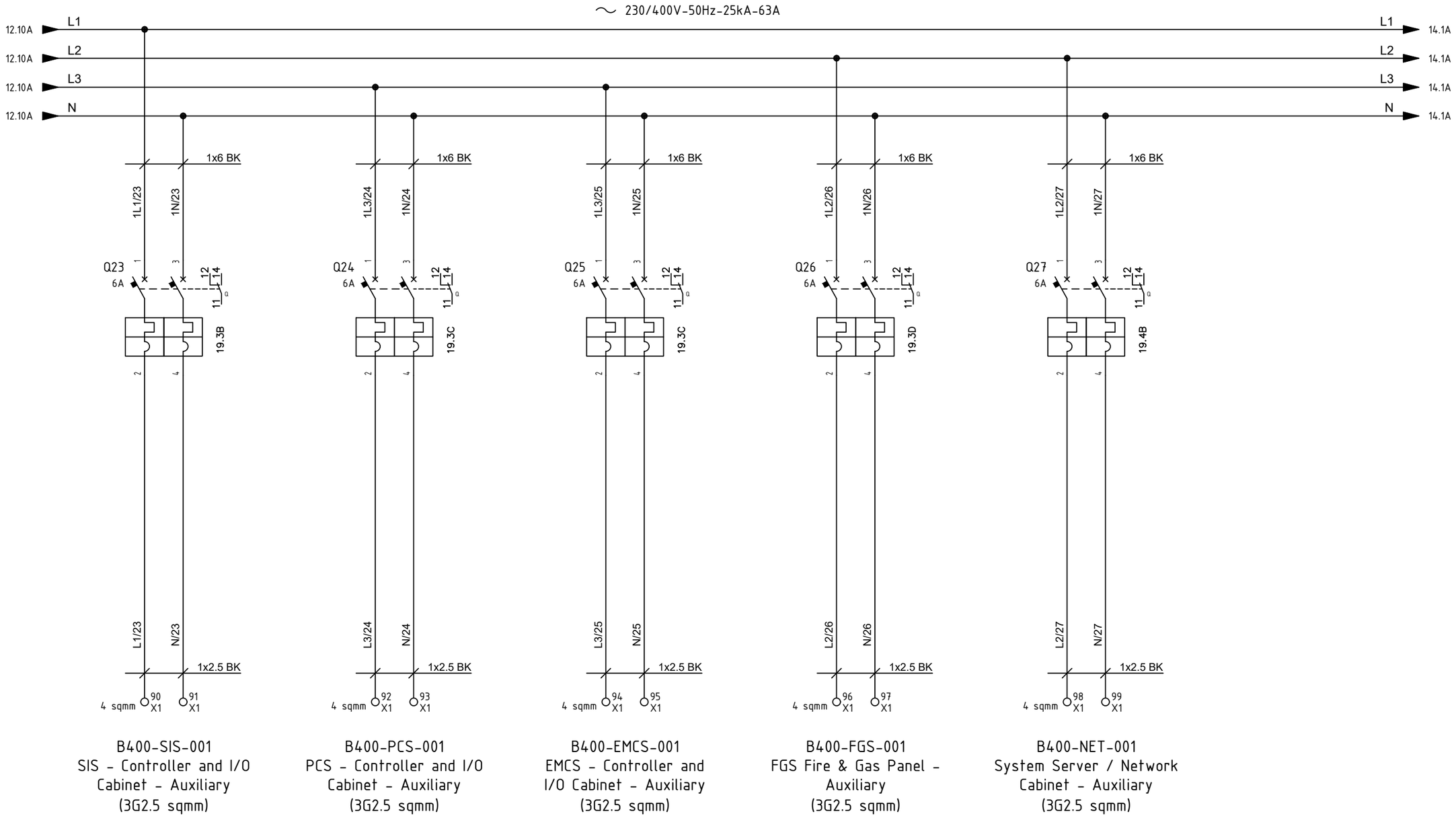
DRAWING NO. 1723002197-EL-DG-00033

SHEET 12

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



B400-SIS-001
SIS - Controller and I/O Cabinet - Auxiliary
(3G2.5 sqmm)

B400-PCS-001
PCS - Controller and I/O Cabinet - Auxiliary
(3G2.5 sqmm)

B400-EMCS-001
EMCS - Controller and I/O Cabinet - Auxiliary
(3G2.5 sqmm)

B400-FGS-001
FGS Fire & Gas Panel - Auxiliary
(3G2.5 sqmm)

B400-NET-001
System Server / Network Cabinet - Auxiliary
(3G2.5 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
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1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
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CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

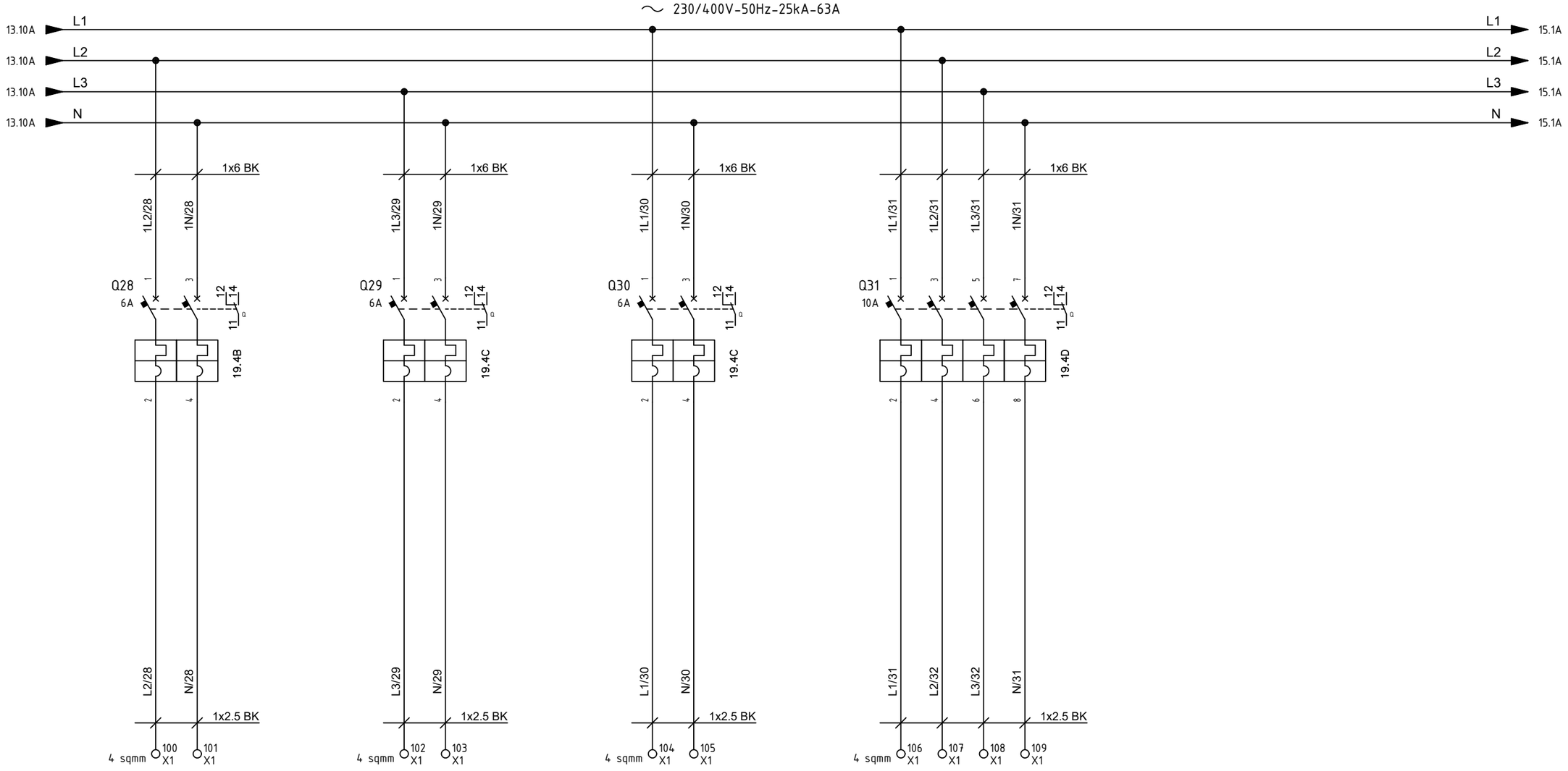
DRAWING NO. 1723002197-EL-DG-00033

SHEET 13

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



B400-SRV-001
Server cabinet ITER - Auxiliary
(3G2.5 sqmm)

CP-630E1
UPC - Instrument Air Package -A-63000 - Auxiliary
(3G2.5 sqmm)

CP-640F1
UPC - N2 Package - Auxiliary
(3G2.5 sqmm)

CP-100E2
Auxiliary Trafo OLTC
(5G4 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
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CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33
Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

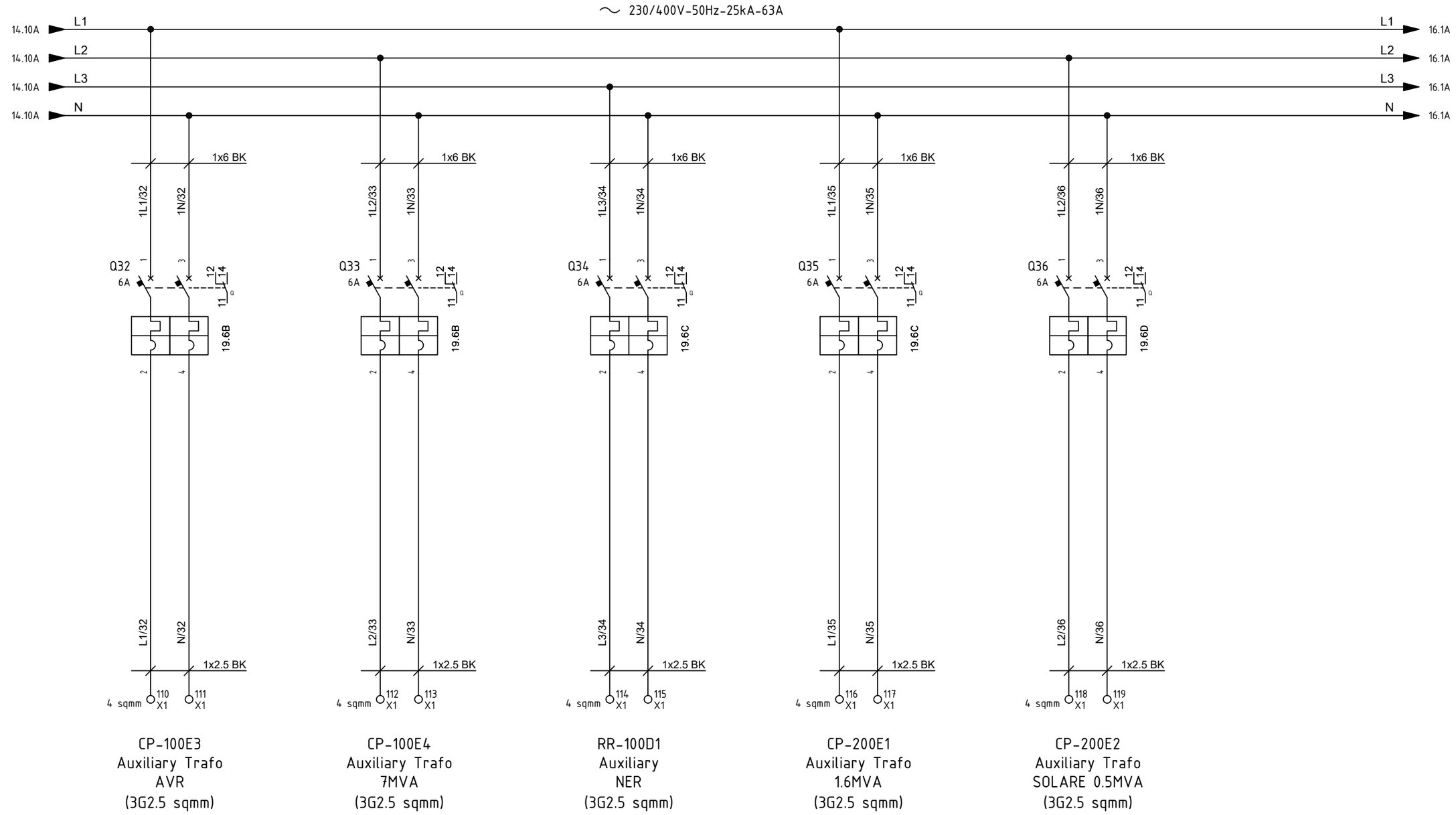
DRAWING NO. 1723002197-EL-DG-00033

SHEET 1.4

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm



CP-100E3
Auxiliary Trafo
AVR
(3G2.5 sqmm)

CP-100E4
Auxiliary Trafo
7MVA
(3G2.5 sqmm)

RR-100D1
Auxiliary
NER
(3G2.5 sqmm)

CP-200E1
Auxiliary Trafo
1.6MVA
(3G2.5 sqmm)

CP-200E2
Auxiliary Trafo
SOLARE 0.5MVA
(3G2.5 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
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CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

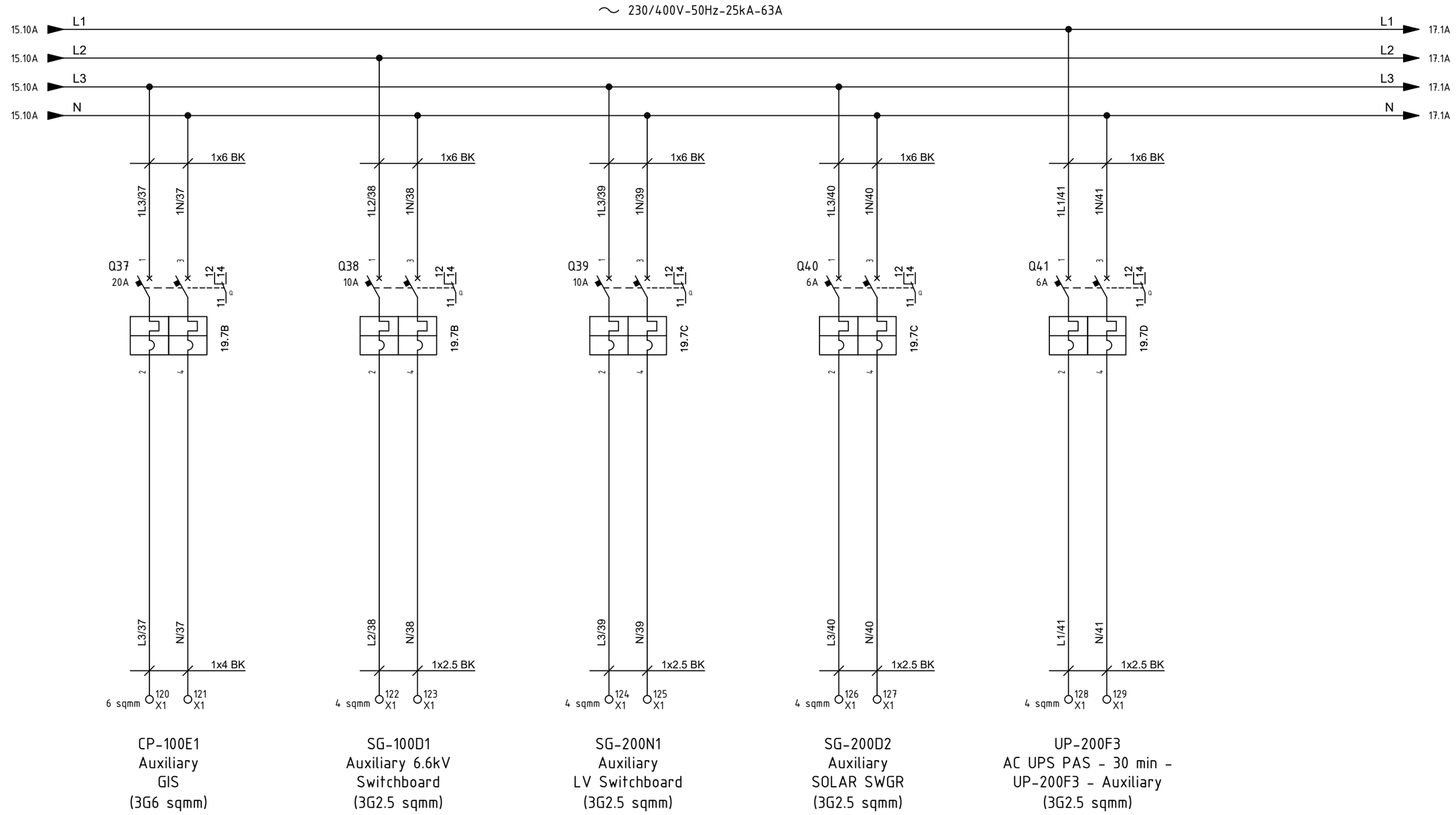
DRAWING NO. 1723002197-EL-DG-00033

SHEET 15

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



CP-100E1
Auxiliary
GIS
(3G6 sqmm)

SG-100D1
Auxiliary 6.6kV
Switchboard
(3G2.5 sqmm)

SG-200N1
Auxiliary
LV Switchboard
(3G2.5 sqmm)

SG-200D2
Auxiliary
SOLAR SWGR
(3G2.5 sqmm)

UP-200F3
AC UPS PAS - 30 min -
UP-200F3 - Auxiliary
(3G2.5 sqmm)

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
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0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/33
Item n° : PF1002888/101

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

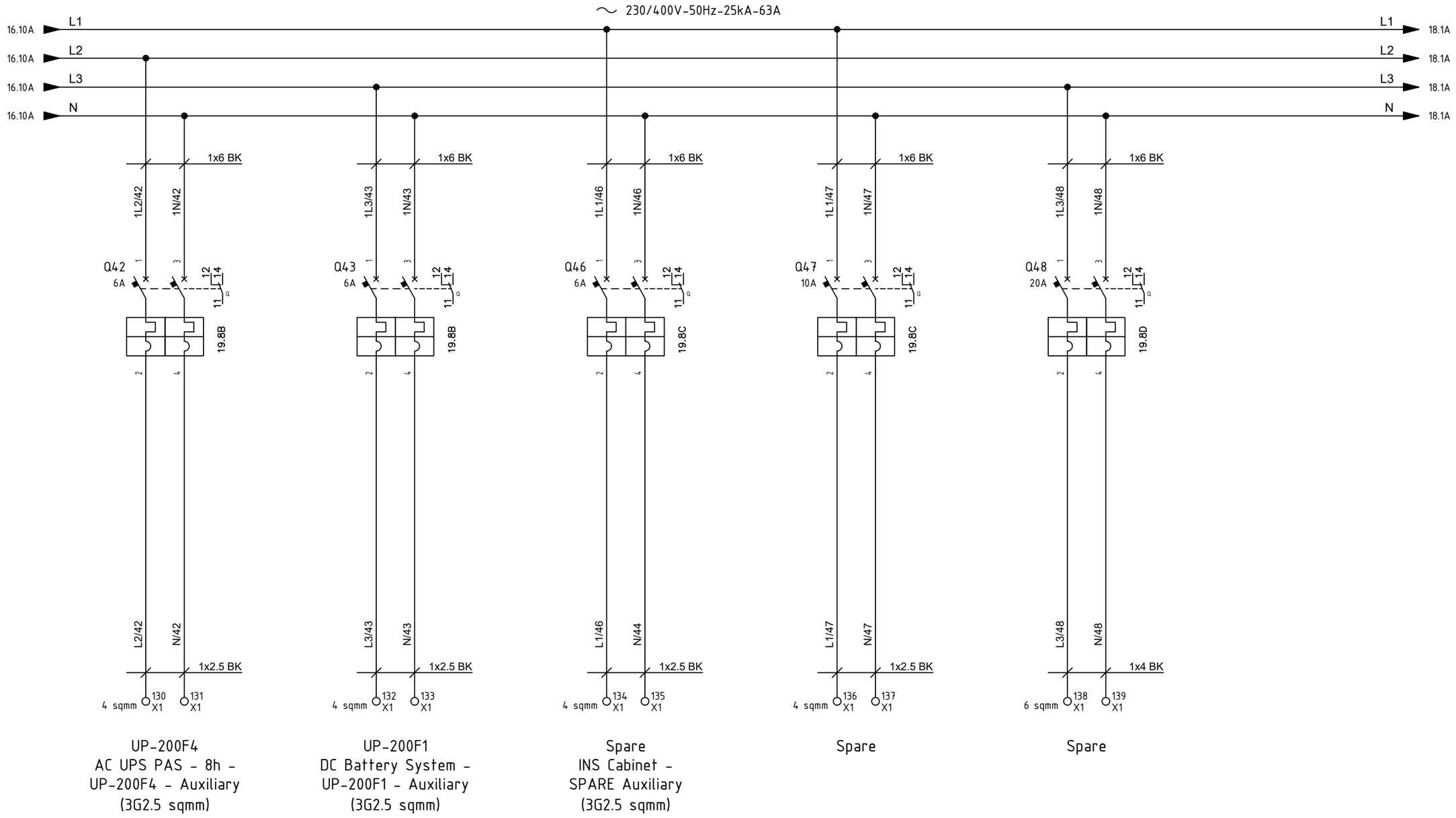
DRAWING NO. 1723002197-EL-DG-00033

SHEET 1.6

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
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CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

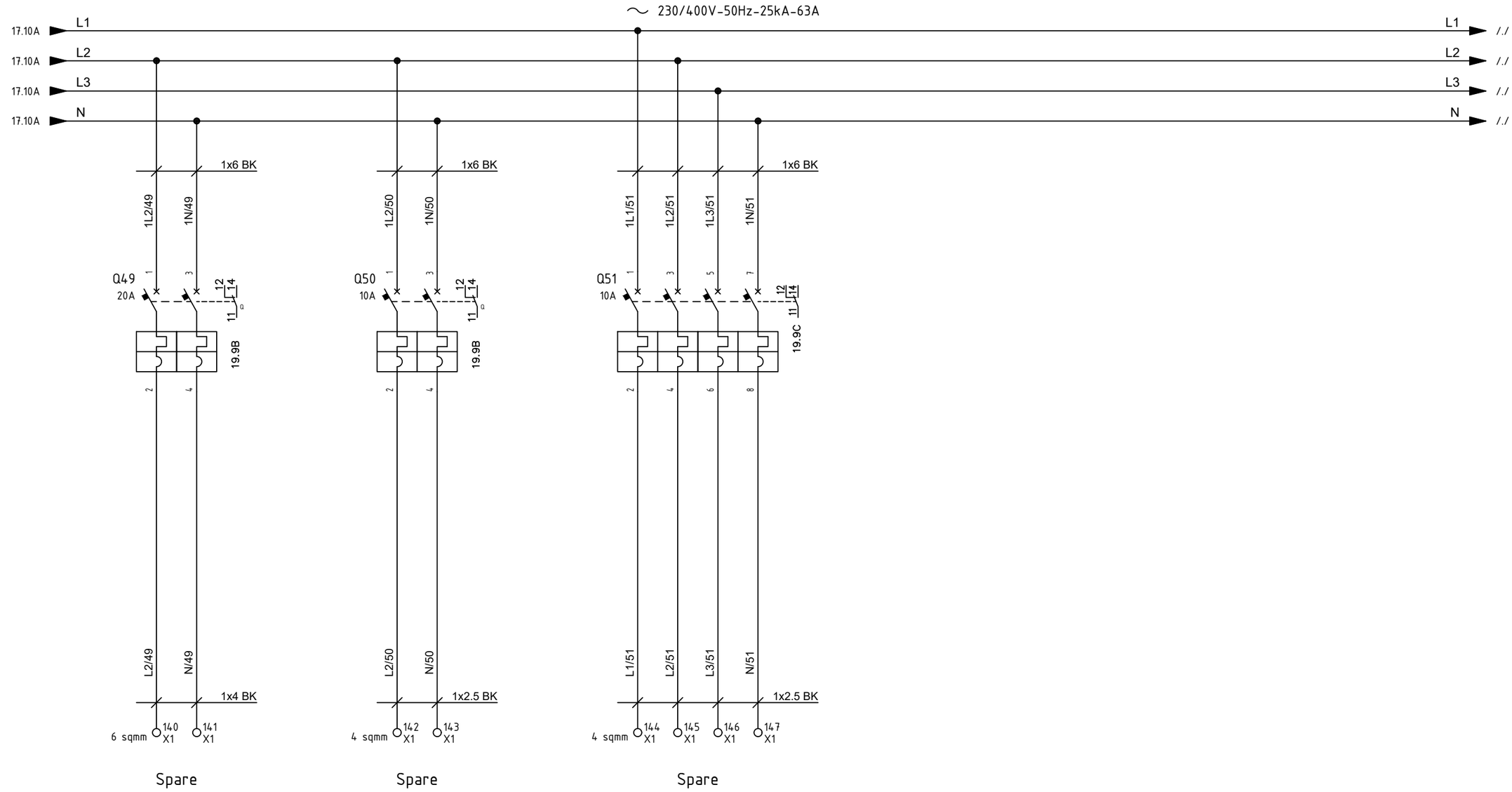
DRAWING NO. 1723002197-EL-DG-00033

SHEET 1.7

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

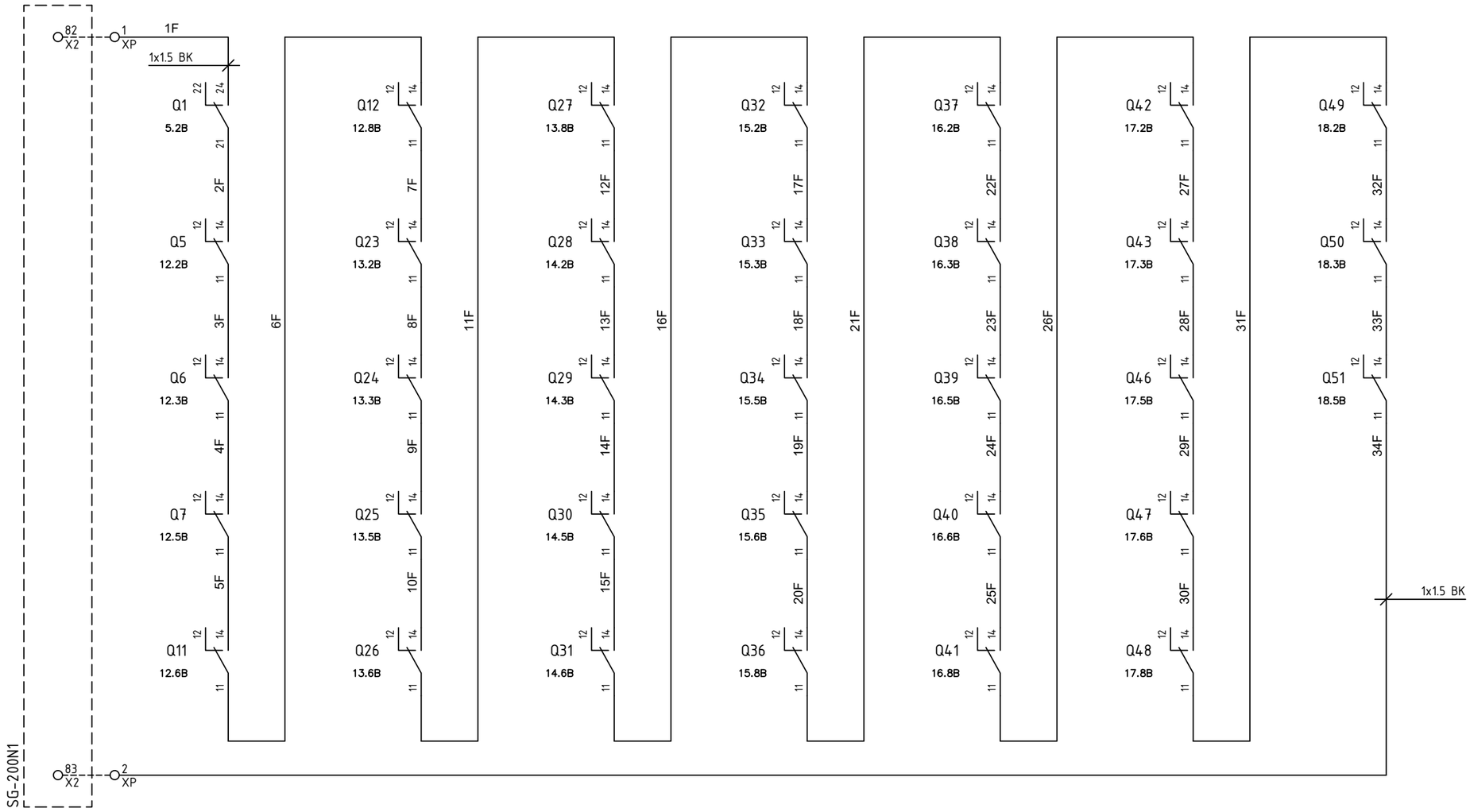
SHEET 18

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

MAIN AND UTILITIES PROTECTION BREAKERS CLOSED REMOTE SIGNALLING
(EXCLUDING: SURGE ARRESTERS SWITCH, LIGHTING UTILITIES PROT. BREAKERS, TRACE HEATING MAIN PROT. BREAKER AND RELATIVE SINGLE UTILITIES PROT. BREAKERS)



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Functional Drawing

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 19

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

DP-200N1 - DP-200N1
X1
POWER UTILITY BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
1	005.2A	16	CB510	CBD.16 Feed-through terminal ATEX CQ403	Cabur
2	005.2A	16	CB510	CBD.16 Feed-through terminal ATEX CQ403	Cabur
3	005.2A	16	CB510	CBD.16 Feed-through terminal ATEX CQ403	Cabur
4	005.3A	16	CB510	CBD.16 Feed-through terminal ATEX CQ403	Cabur
10	007.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
11	007.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
12	007.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
13	007.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
14	007.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
15	007.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
16	007.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
17	007.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
30	007.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
31	007.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
32	007.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
33	008.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
34	008.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
35	008.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
36	008.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
37	008.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
38	008.4D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
39	008.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
40	008.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
41	008.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
50	009.8D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
51	009.9D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
52	010.1D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
53	010.2D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
54	010.3D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
55	010.3D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
56	010.4D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
57	010.5D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
58	010.6D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
59	010.6D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
60	010.7D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
61	010.8D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur

DP-200N1 - DP-200N1
X1
POWER UTILITY BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
62	010.9D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
63	010.9D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
64	011.1D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
65	011.2D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
80	012.2D	10	CB440	CBD.10 Feed-through terminal ATEX CQ403	Cabur
81	012.2D	10	CB440	CBD.10 Feed-through terminal ATEX CQ403	Cabur
82	012.3D	10	CB440	CBD.10 Feed-through terminal ATEX CQ403	Cabur
83	012.3D	10	CB440	CBD.10 Feed-through terminal ATEX CQ403	Cabur
84	012.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
85	012.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
86	012.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
87	012.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
88	012.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
89	012.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
90	013.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
91	013.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
92	013.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
93	013.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
94	013.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
95	013.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
96	013.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
97	013.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
98	013.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
99	013.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
100	014.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
101	014.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
102	014.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
103	014.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
104	014.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
105	014.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
106	014.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
107	014.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
108	014.7D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
109	014.7D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
110	015.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
111	015.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33
Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Power Teminal Block

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 2.0

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm

DP-200N1 - DP-200N1

X1

POWER UTILITY BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
112	015.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
113	015.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
114	015.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
115	015.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
116	015.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
117	015.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
118	015.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
119	015.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
120	016.2D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
121	016.2D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
122	016.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
123	016.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
124	016.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
125	016.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
126	016.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
127	016.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
128	016.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
129	016.8D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
130	017.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
131	017.2D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
132	017.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
133	017.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
134	017.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
135	017.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
136	017.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
137	017.6D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
138	017.8D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
139	017.8D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
140	018.2D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
141	018.2D	6	CB340	CBD.6 Feed-through terminal ATEX CQ403	Cabur
142	018.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
143	018.3D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
144	018.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
145	018.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
146	018.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur
147	018.5D	4	CB240	CBD.4 Feed-through terminal ATEX CQ403	Cabur

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Power Teminal Block

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 21

REV. 02

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02

DP-200N1 - DP-200N1
XS
SURGE ARRESTER AUX. BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
1	5.6C	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
2	5.9D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur

DP-200N1 - DP-200N1
XP
POWER UTILITY READY BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
1	19.2A	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
2	19.9D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur

DP-200N1 - DP-200N1
XT
NORM. & EMERG. LIGHTING AUX. BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
1	6.3D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
2	6.3D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
3	6.4C	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
4	6.5C	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
5	6.7B	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
6	6.10B	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
7	6.7C	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
8	6.10C	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur

DP-200N1 - DP-200N1
XH
TRACE HEATING AUX. BLOCK

NumM	Fg.	Sez.	Tipo	Descrizione	Costruttore
1	9.4B	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
2	9.5B	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
3	9.5B	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
4	9.6B	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
5	9.3D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
6	9.3D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
7	9.4C	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur
8	9.6D	4	HM250GR	HMM.4/GR Feed-through Terminal Block - Grey (4 mmq) - spring type	Cabur

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33
Item n° : PF1002888/101

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Auxiliary Terminal Blocks

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 22

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm

Nome/Item	Tipo/Type	Descrizione/Description	Costruttore/Manufacturer	Fg/Sh	Q.ta/Q.ty
F1	961205	LV SURGE ARRESTER DVCI 1 255 FM Uc=255V Tipo 1+Tipo 2 / Classe I + Classe II	DEHN	5	1
F2	961205	LV SURGE ARRESTER DVCI 1 255 FM Uc=255V Tipo 1+Tipo 2 / Classe I + Classe II	DEHN	5	1
F3	961205	LV SURGE ARRESTER DVCI 1 255 FM Uc=255V Tipo 1+Tipo 2 / Classe I + Classe II	DEHN	5	1
FN	961205	LV SURGE ARRESTER DVCI 1 255 FM Uc=255V Tipo 1+Tipo 2 / Classe I + Classe II	DEHN	5	1
K13	ESB6340N06	ESB 63-40N-06 230V AC/DC MODULAR CONTACTOR	ABB	9	1
	EH0411N	EH04-11N AUXILIARY CONTACTS 1NO+1NC	ABB		1
KL2	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL3	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL4	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL8	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL9	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL10	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL44	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KL45	ESB4020N06	ESB40-20-N06 230V AC/DC MODULAR CONTACTOR	ABB	6	1
	EH0411N	EH04-11N CONTATTI AUSILIARI 1NA+1NC	ABB		1
KT1	ESB1620N06	ESB16-20-N06 230VAC/DC MODULAR CONTACTOR	ABB	6	1
Q1	XT2N63LSI4	XT2N 160 Ekip LSI In=63A 4p F F	ABB	5	1
	1SDA066433R1	AUX-C 2Q+1SY 250Vac/dc XT1..XT4 F/P	ABB		1
Q2	S302PC16	S302P C16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	7	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q3	S302PC16	S302P C16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	7	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q4	S302PC16	S302P C16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	7	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q5	S302PC16	S302P C16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	12	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q6	S302PC16	S302P C16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	12	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q7	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	12	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

CROSSWIND

IMESA ELECTRICAL ENGINEERING

ROSETTI MARINO

DWG n° : 231298/SD/33

Item n° : PF1002888/101

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Material List

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 2,3

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm

Nome/Item	Tipo/Type	Descrizione/Description	Costruttore/Manufacturer	Fg/Sh	Q.ta/Q.ty
Q8	S302PD16	S302P D16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	7	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q9	S302PD16	S302P D16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	8	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q10	S302PD16	S302P D16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	8	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q11	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	12	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q12	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	12	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q13	S120471	S804N-C50 AUTOMATIC CIRCUIT-BREAKER 36KA 4P	ABB	9	1
	A120680	S800-AUX AUSILIARY CONTACT	ABB		1
Q14	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	9	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q15	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	10	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q16	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	10	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q17	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	10	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q18	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	10	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q19	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	10	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q20	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	10	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q21	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	11	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q23	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	13	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q24	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	13	1

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33

Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Material List

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DG-00033

SHEET 24

REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm

Nome/Item	Tipo/Type	Descrizione/Description	Costruttore/Manufacturer	Fg/Sh	Q.ta/Q.ty
Q24	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB	13	1
Q25	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	13	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q26	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	13	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q27	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	13	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q28	S302PC6	S302P C 6 INTERRUTTORE AUTOMATICO 25KA 2P	ABB	14	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q29	S302PC6	S302P C 6 INTERRUTTORE AUTOMATICO 25KA 2P	ABB	14	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q30	S302PC6	S302P C 6 INTERRUTTORE AUTOMATICO 25KA 2P	ABB	14	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q31	S304PC10	S304P C10 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	14	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q32	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	15	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q33	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	15	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q34	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	15	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q35	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	15	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q36	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	15	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q37	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	16	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q38	S302PC10	S302P C10 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	16	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q39	S302PC10	S302P C10 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	16	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q40	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	16	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q41	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	16	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q42	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	17	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q43	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	17	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q44	S302PC16	S302P C16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	7	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
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+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

DWG n° : 231298/SD/33
Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP-200N1"
LV SWBD FUNCTIONAL DIAGRAMS
Material List

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 1723002197-EL-DG-00033 | SHEET 25 | REV. 02

File Name : 1723002197-EL-DG-00033 Rev. 02

F.to UNI A3: 420mmx297mm

Nome/Item	Tipo/Type	Descrizione/Description	Costruttore/Manufacturer	Fg/Sh	Q.ta/Q.ty
Q45	S302PD16	S302P D16 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	8	1
	B427911	DDA202 AC 25A 30MA RCD BLOCK 2P	ABB		1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q46	S302PC6	S302P C 6 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	17	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q47	S302PC10	S302P C10 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	17	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q48	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	17	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q49	S302PC20	S302P C20 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	18	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q50	S302PC10	S302P C10 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	18	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
Q51	S304PC10	S304P C10 AUTOMATIC CIRCUIT-BRAKER 25KA 2P	ABB	18	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
QH1	S302PC1	S302P C 1 AUTOMATIC CIRCUIT-BREAKER 25KA 2P	ABB	9	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
QS1	M646307	E204/100R INTERRUTTORE-SEZIONATORE 4P 100A	ABB	5	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
QT1	S302PC1	S302P C 1 INTERRUTTORE AUTOMATICO 25KA 2P	ABB	6	1
	A563826	S2-CH6R AUXILIARY CONTACT 1CO	ABB		1
SA1	M093878	E218-16-22 SWITCH 2NO+2NC 16A	ABB	6	1
TW1	TL1	TWILIGHT SWITCH (2-100 LUX)	ABB	6	1

CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/33

Item n° : PF1002888/101

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
=					
+					
2	19/08/2024	Santinelli	Flamminio	Sigismondi	As Built (ASB)
1	05/07/2024	Santinelli	Flamminio	Sigismondi	Accepted for construction (AFC)
0	29/05/2024	Santinelli	Flamminio	Sigismondi	Issued for review (IFR)

TITLE : "DP-200N1"

LV SWBD FUNCTIONAL DIAGRAMS

Material List

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

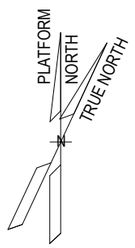
DRAWING NO. 1723002197-EL-DG-00033

SHEET 26

REV. 02

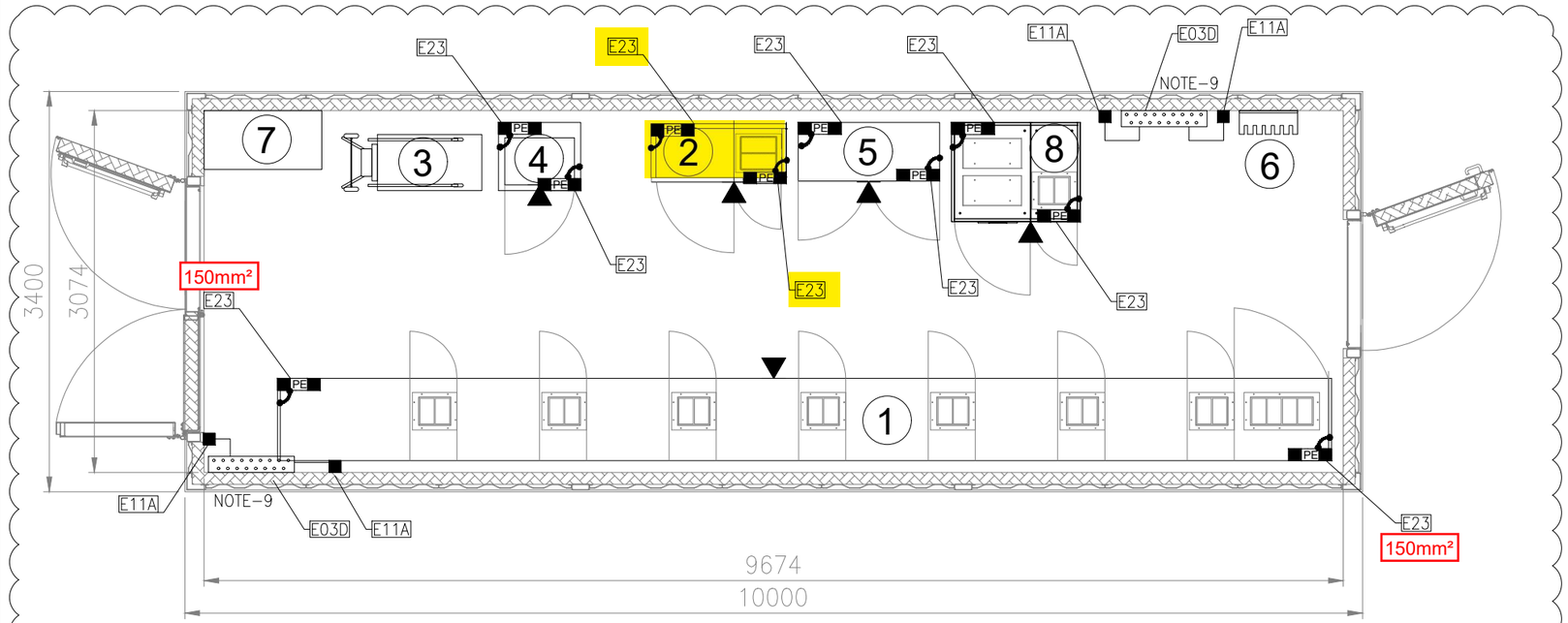
F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DG-00033 Rev. 02



EQUIPMENT LIST		
REF.	TAG No.	DESCRIPTION
1	SG-200N1	400V SWITCHGEAR
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.
3		SERVICE TROLLEY FOR 400V SWITCHGEAR
4	CN-200N1	ICCP PANEL
5	B200-HSB-001	HVAC PANEL - LV ROOM
6		TOOL BOX
7		TABLE
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE

01



EARTHING LAYOUT
"B-200"LV SWITCHROOM
PLAN
EL.+ 23.310 T.O.S.

01

NOTES

1. THIS DOUCMENT IS VALID ONLY FOR EARTHING LAYOUT.
2. THE CABLE SIZE SHALL BE CONFIRMED.
3. THE EXACT POSITION OF EARTHING/MARSHALLING BUS BAR SHALL BE DEFINED BY VENDOR.
4. THE EARTHING BUS BAR INSTALLATION SHALL BE PREFERABLY IN VERTICAL MODE.
5. FOR TYPICAL DETAILS PLEASE REFER DOCUMENT "123A90-DDL-EL-DD-20090-ELECTRICAL TYPICAL INSTALLATION DETAILS- EARTHING SYSTEM".
6. DUE TO THE TOP CABLE ENTRIES THE EARTHING BUS BAR INSIDE THE CABINETS SHALL BE INSTALLED AT THE TOP OF THE CABINETS THEMSELVES.
7. FOR LIGHTNING PROTECTION SYSTEM SURGE PROTECTIVE DEVICES (SPD), REFER DOCUMENT 123A90-DDL-EL-RE-20154.
8. ALL NON WELDED OBJECTS SHALL BE EARTHED.
9. CONTAINER WILL HAVE A BTH (EARTHING BAR TINNED COPPER) WITH 2 EARTHING BOSS, INSTALLED IN THE SOUTH-WEST CORNER AT AN ELEVATION OF 2.5M FROM THE CONTAINER FLOOR. EARTHING BOSS SHALL BE INSTALLED AT SAME ELEVATION 2.5M.

SYMBOL	DESCRIPTION
PE	EARTHING BUS
	EARTHING BAR TINNED COPPER WITH no.18 HOLES
	35sq.mm Y/G INSULATED COPPER CONDUCTOR FOR PE
PE	PROTECTIVE EARTH
	EARTHING BOSS AISI316L
	JUMPER CONNECTION
	FRONT OF EQUIPMENT

01

REFERENCE	
DOCUMENT NUMBER	DOCUMENT TITLE
123A90-DDL-EL-DD-20090	ELECTRICAL TYPICAL INSTALLATION DETAILS -EARTHING SYSTEM
123A90-DDL-EL-DL-20105	ELECTRICAL EQUIPMENT LAYOUT-LV SWITCHROOM
1724000049-AR-DD-00019	B-200 DETAILED DRAWINGS - E&I SHELTERS

01

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20137**

REV.:	DATE:	SIGNATURE:
1_B	02/09/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	25/07/24	ASR	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/05/24	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
EARTHING & LIGHTNING LAYOUT - LV SWITCHROOM
"B-200"LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:50

A3 | DRAWING NO. 123A90-DDL-EL-DL-20137 | SHEET 003 | REV. 01

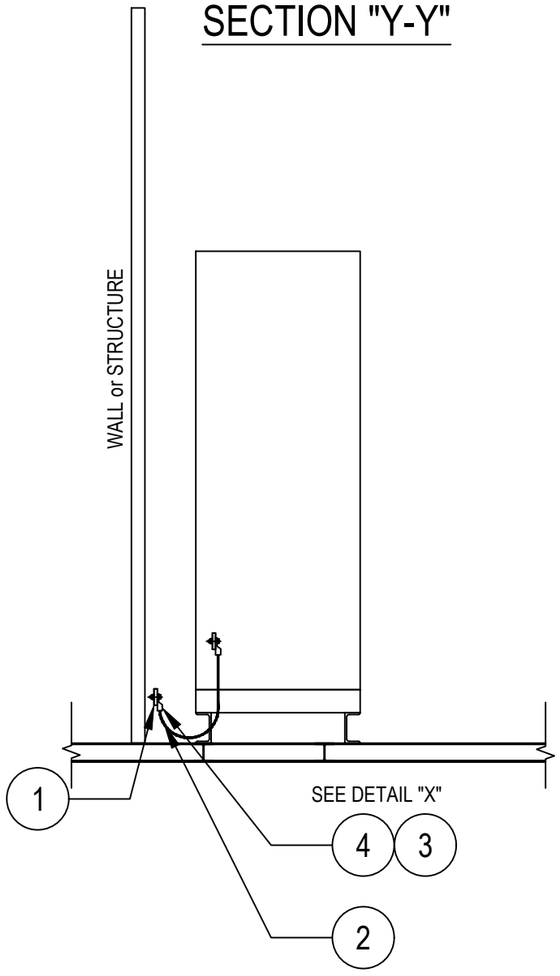
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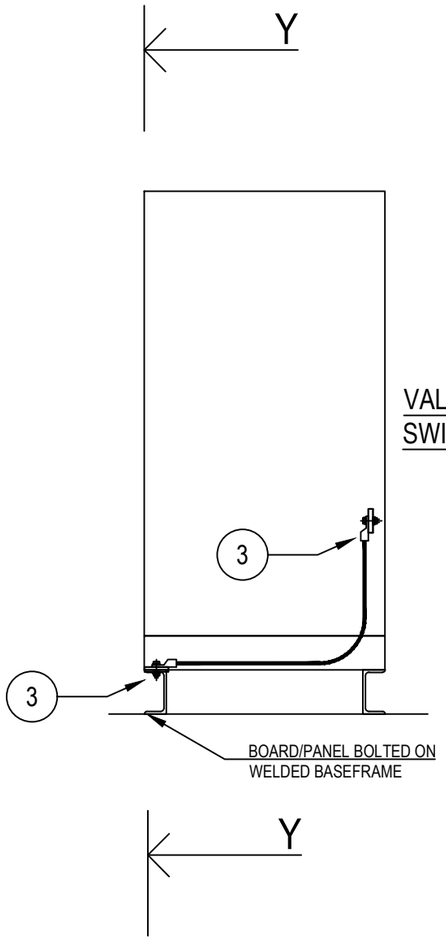
F.to UNI A3: 420mmx297mm

E23

POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	MARSHALLING EARTHING BAR	TINNED COPPER	50X5		NOTE 1
2	Y/G INSULATING COPPER CONDUCTOR	COPPER	35mm² SEE NOTE 1		NOTE 1
3	COMPRESSION TYPE LUG FOR INSULATION COPPER CONDUCTOR	TINNED COPPER	35mm² SEE NOTE 1	4	NOTE 1
4	BOLT, PLANE WASHER, GROWER SPRING WASHER AND NUT	AISI 316L	M10X30	4	

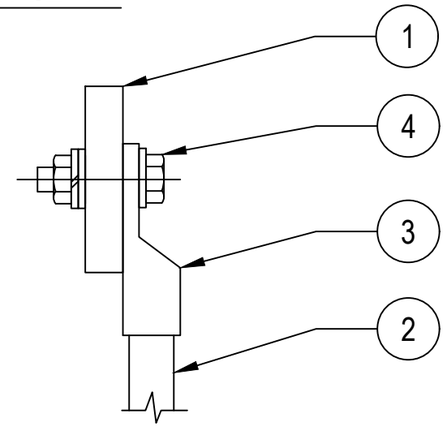
SECTION "Y-Y"





VALID FOR HV/LV SWITCHGEAR

DETAIL "X"



NOTES:

1) FOR SIZE OF THE EARTHING CABLE SEE ALSO EARTHING LAYOUT DRAWINGS OF RESPECTIVE AREAS

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DD-20090**

REV.:	DATE:	SIGNATURE:
2_C	09/09/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	26/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	10/06/24	SPS	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-EARTHING SYSTEM
EARTHING FOR PANELS/BOARDS IN TECHNICAL ROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3	DRAWING NO.	SHEET	REV.
	123A90-DDL-EL-DD-20090	011	02

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DD-20090 REV.02.DWG

Data Sheet for LV Distribution Boards

Row	Ref. Clause	Description			Additional notes	Rev.
1	Ref. Clause	Description			Additional notes	
2		**Identifier**				
3		Tag number :	DP-200N1			
4		Tag description :	Distribution panel			
5		**General information**				
6		Conformity assessment system (CAS) level :	D			
7		Project country :	Netherlands			
8		Project region :	Netherlands			
9		**Electrical system**				
10	8.6.1	Earthing system :	TN-S			
11		System configuration phases/wires :	3-phase 4-wire			
12		**Voltage ratings**				
13		Nominal voltage of supply system :	400	V		
14		Transient overvoltages :	Category III			
15		**Current ratings**				
16	5.3.1	Rated current of assembly busbars (I_{nA}) :	100	A		
17	6,1	Rated peak withstand current (I_{pk}) :	63	kA		
18	6.1,9.3.1	Rated short-time withstand current (I_{cw}) :	25	kA		
19	6,1	Rated short-time withstand current (I_{cw}) time duration :	1	s		
20		Short-circuit current in neutral conductor and in protective circuit :	60	%		
21		**Rated diversity factor (RDF)**				
22		Assumed loading factor distribution - 1 circuit :	1,0			
23		Assumed loading factor distribution - 2 and 3 circuits :	0,9			
24		Assumed loading factor distribution - 4 and 5 circuits :	0,8			
25		Assumed loading factor distribution - 6 and 9 circuits :	0,6			
26		Assumed loading factor distribution - 10 or more circuits :	0,7			
27		Assumed loading factor electric actuator (MOV) :	0,2			
28		Assumed loading factor motors rated less than or equal to 100 kW :	0,8			
29		Assumed loading factor motors rated greater than 100 kW :	1,0			
30		**Rated frequency**				
31	5,4	Rated frequency (f_r) :	50	Hz		
32		**Other characteristics**				
33	8.102.1	Mounting arrangement :	longitudinal channels flush with floor			
34		**Information relating to assembly**				
35		Language used for all provided information :	English			
36		**Instructions for handling, installation, operation and maintenance**				
37	6.2.2	Lifting device for withdrawable parts heavier than 25 kg :	Not required			
38		**Device and/or component identification**				
39		Main component, primary identification language :	English			
40		Mimic (synoptic) diagrams :	Not required			
41		**Normal service conditions**				
42		Location type :	indoor climate controlled			
43	8.102.3,8.102.4	Operating environment :	offshore – fixed			
44	7.1.1	Ambient air temperature - lower limit :	-8.4	°C		
45		Ambient air temperature - upper limit :	40	°C		
46		Ambient air temperature - daily average maximum :	35	°C		
47		Humidity conditions - maximum relative humidity :	95 % at −5 °C to +30 °C	%		
48		Pollution degree of macro-environment (of installation environment) :	3			
49		Altitude :	≤ 2 000	m		
50		**Special service conditions**				
51		Seismic activity zone in accordance with IEC 60721-2-6 :	not applicable			
52		EMC environment :	A			
53	8.102.3,8.102.4	Maximum rolling of vessel in dynamic conditions :	not applicable			
54	8.102.3,8.102.4	Maximum pitching of vessel in dynamic conditions :	not applicable			
55		**Storage and handling**				
56		Storage and handling environmental conditions :	within IEC default conditions			
57		**Degree of protection provided by assembly enclosure**				
58		Minimum external mechanical impact protection :	IK08			
59		Protection against ingress of solid foreign bodies and ingress of water :	IP2X			
60		**Protection against electric shock**				
61		Type of protection against electric shock - basic protection :	constructional (manufacturer's standard)			
62		Type of protection against electric shock - fault protection :	automatic disconnection of supply			
63		Access to manually operated devices :	authorized persons			
64	8.5.5.101.7	Closed compartment doors :	hasp and padlock			
65	8.2.3	Safety shutters, disconnectors and switches :	hasp and padlock			
66	8.5.5.101.7	Padlock provider :	manufacturer supplied			
67		**Withdrawable parts (IEC 61439-2)**				
68	8.5.101	Type of electrical connections for outgoing functional units rated up to and	not applicable			
69	8.5.2.101	Facility to remotely test withdrawn functional units :	not applicable			
70		**Selection of switching devices and components**				
71	8.5.3.101.2	Incoming unit switching device requirement :	Fixed MCCB			
72		Bus coupler switching device requirement :	not applicable			
73	8.5.3,8.5.3.104.1	Main circuit protection for lighting and small power feeders :	MCB only for Small Power feeders, RCBO for Lighting Circuits, Power Socket Circuits and Heat Tracing Circuits		RCBO Operating current = 30mA for circuits of less than 125A , RCBO Operating current = 300mA for circuits equal to or greater than 125A	01

74	8.5.3.104.1,8.5.3.105.1	Main circuit protection for motor starters and contactor feeders :	not applicable			
75		**Accessibility**				
76	8.5.5.101.2	PSC-assembly physical configuration :	access front only			
77		**Internal electrical circuits and connections**				
78	8.6.1	Main circuit busbar insulation :	not applicable			
79		Main circuit earth-neutral link within incoming circuit units :	not applicable			
80		Auxiliary circuit wiring insulation type :	low smoke zero halogen			
81	8.6.5	Supplementary conductor marking by colour :	not applicable			
82		**Terminals for external conductors**				
83		Incoming (supply) unit direction of external conductors :	from above			
84	8,8	Incoming (supply) unit external conductor type :	cable			
85		Outgoing (load) unit direction of external conductors :	from above			
86	8,8	Outgoing (load) unit external conductor type :	cable			
87		Auxiliary cable direction of external conductors :	from above			
88		Auxiliary cable external conductor type :	cable			
89		External conductor material :	copper			
90	8,8	Multicore cable entry method :	undrilled removable gland-plate			
91	8,8	Single core cable entry method (non-magnetic) :	undrilled removable gland-plate			
92		Special glanding requirement :	none			
93		**Terminals for control and auxiliaries**				
94		Minimum spare unwired terminal provision for future use :	10% spare			
95		**Internal separation of PSC-assemblies (IEC 61439-2:2020)**				
96	8.101]	Internal separation for ACB functional units :	Form 2			
97	8.101]	Internal separation for non-ACB functional units :	Form 2			
98		**Enclosure space heaters**				
99	8.103.1.1	Assembly enclosure space heater requirement :	required			
100	8.103.1.1	Assembly enclosure space heater voltage :	230	V_{ac}		
101		Assembly enclosure space heater control method :	thermostat			
102	8.103.3,8.103.2.1,8.103.2.2,8.103.3.1,8.103.3.2,8.103.3.3,8.103.3.4,8.103.3.5,8.103.3.6	Assembly enclosure space heater monitoring method :	not applicable			
103		**Provision for future development**				
104		Provision of equipped spare functional outgoing units :	10	%		
105		Provision of space for future outgoing functional units :	10	%		
106		**Interface with control systems**				
107		Electrical control interface :	hardwired			
108		**Switchgear interlocking/intertripping interfaces**				
109		Interlocking/intertripping interface media :	hardwired discrete			
110		Interlocking/intertripping interface protocol :	hardwired			
111		**Dimensions and accessories**				
112		Distribution panel dimensions - DP-200N1	required	mm		
113		Distribution panel weight - DP-200N1	required	kg		

Row	Data Sheet for LV Distribution Boards	Issue
1	Tag No. : *DP-200N1*	01
2	Service : *LV DISTRIBUTION BOARDS*	01
3	**PURCHASE ORDER SPECIFIC REQUIREMENTS**	
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Data Sheet for
LV Distribution Boards

Guidance on the use of this data sheet

To be used in conjunction with :
Electrical Single Line Diagrams (Distribution Board BoP)

This data sheet is set-up to be used in electronic format by both the purchaser/user and the supplier/manufacturer.

This data sheet provides reference back to the parent standard or the supplementary specification where relevant.

Default values (if applicable) have been set according to essential minimum requirements as an integral part of this specification and should only be changed where specific justification can be provided.

The Supplement sheet is provided in an open format sheet for application of specific items not covered in the main part of the data sheet. This sheet is not intended to modify requirements defined in the supplementary requirements specification.

The data sheet includes a revision (issue) column on the right hand side for use by the purchaser/user. After the first issue, for each subsequent revision of the data sheet that is issued to suppliers for enquiry or purchase, the purchaser/user should use the issue column to denote that the data on a specific row has been updated since the previous revision. This will enable the supplier to easily identify where changes have been made.

Legend		
	Select	Supplier/manufacturer completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input data	Supplier/manufacturer completed data entry.
	Select	Purchaser/user completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input data	Purchaser/user completed data entry.
	Select	Either supplier/manufacturer or purchaser/user completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input Data	Either supplier/manufacturer or purchaser/user completed data entry.
	Select	Selection of units from a pre-defined pick list.

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	83125-CEC	: Lighting & Small Power DB BoP / LV Switchgear		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	83-20	: 400/230 V Switchboard (DP-200N1)		Module	LD_B-200	
TASK	code	C10002117	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX10	Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH | Cores/Size mm²: 7X1,5 mm2 | Color: GREY

From: DP-200N1 | To: SG-200N1

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	OK
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	PL
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	NA
9	Check terminations are in accordance with latest termination diagram.	Note
10	Check cable earthing against lastest drawings.	NA
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,5
	CORE 2 / All cores+screen+armour+earth	0,5
	CORE 3 / All cores+screen+armour+earth	0,5
	CORE 4 / All cores+screen+armour+earth	0,5
	CORE 5 / All cores+screen+armour+earth	0,4
	CORE 6 / All cores+screen+armour+earth	0,5
	CORE 7 / All cores+screen+armour+earth	0,4
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA

INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	>999
	CORE 4	>999
	CORE 5	>999
	CORE 6	>999
	CORE 7	>999
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	NA
	ARMr	N/A
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

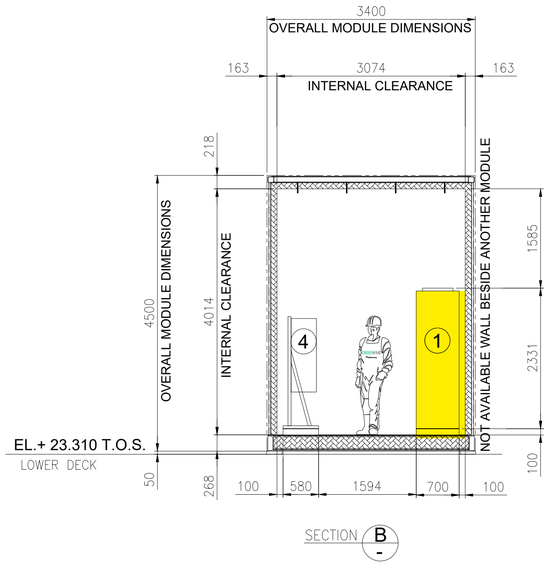
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Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024
TYPE / SERIAL N° :		TYPE / SERIAL N° :	
Calibration certificate N° and date:	-	Calibration certificate N° and date:	

Comments:

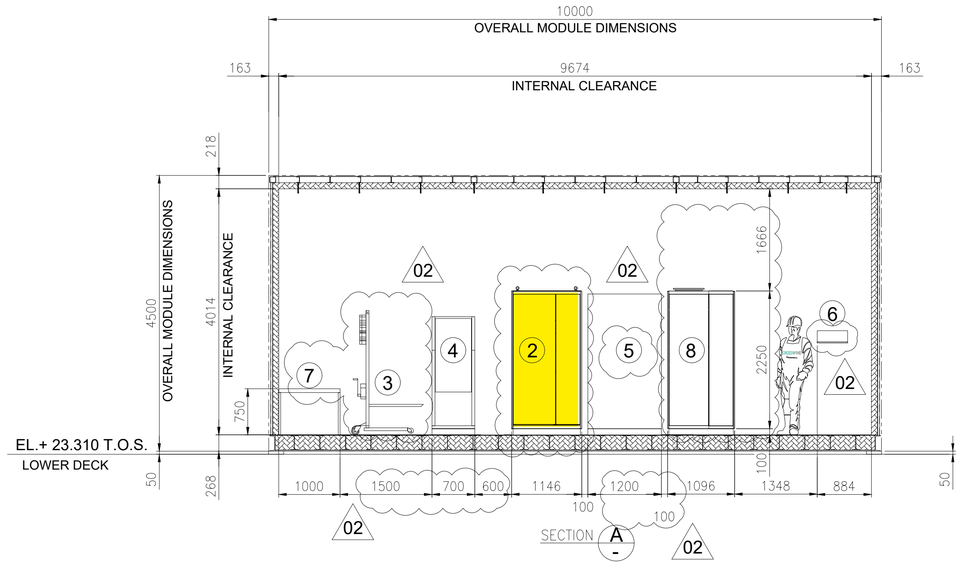
Note 9: Cable will be connected inside SG-200N1 by Commissioning.

Page 1/1	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (Rosetti Marino)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-10-18	2024-10-22	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-10-18T12:28:27.393Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-10-22T15:43:38.675Z	

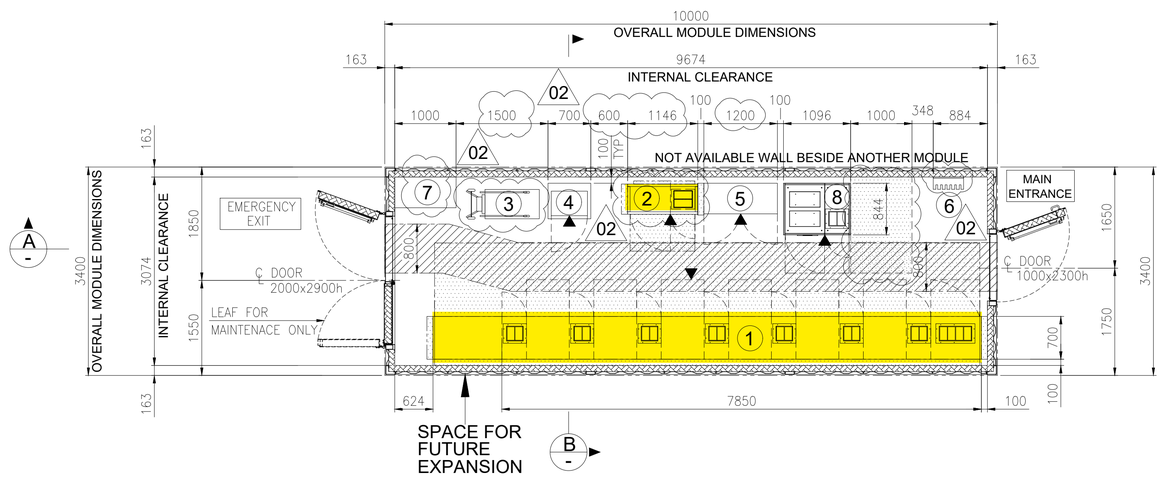
DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02



SECTION B



SECTION A



SECTION A

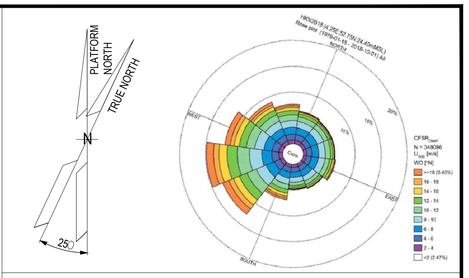
SECTION B

EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

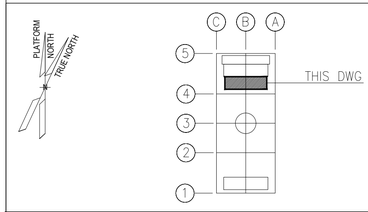
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

FROM

TO

01

DESCRIPTION: LIGHTING & SMALL POWER DB BOP
TAG NUMBER: DP-200N1

COLON./CUBIC.:-

-XS

SURGE ARRESTERS
FAULT ON DP-200N1

XS / 1
XS / 2

1
2
3
4
5
6
7

BK

83125-CEC
7C X 1.5 mm²

BK

DESCRIPTION: AUXILIARY LV
TAG NUMBER: SG-200N1

COLUMN: +A2/02

-X2

1
2
3
4
5
6
7

X2 / 70
X2 / 71

COLUMN: +A2/02

-XT

NORMAL AND EMERGENCY
LIGHT IN AUTO.

XT / 3
XT / 4

LIGHT ACTIVATED

XT / 5
XT / 6

NORMAL AND EMERGENCY
LIGHT MCBs CLOSED

XT / 7
XT / 8

1
2
3
4
5
6
7

BK

83126-CEC
7C X 1.5 mm²

BK

-X2

1
2
3
4
5
6
7

X2 / 72
X2 / 73
X2 / 74
X2 / 75
X2 / 76
X2 / 77

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20149

REV.:	DATE:	SIGNATURE:
1_A	17/10/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
SIGNALS FOR CONTROL SYSTEM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1:X

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

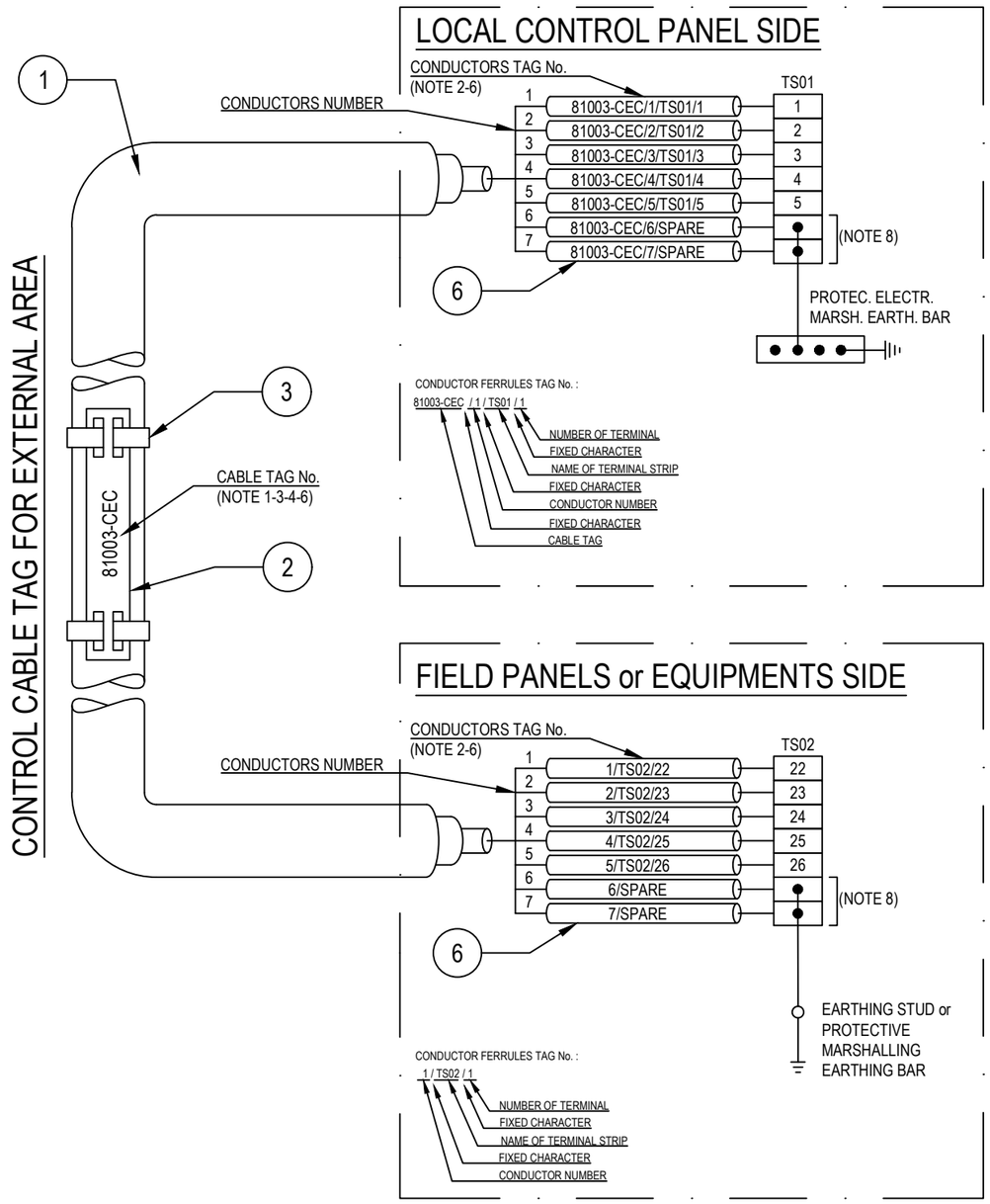
SHEET 087

REV. 01

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20162 Rev. 01

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
   CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

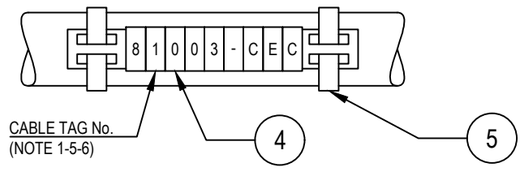
5) THE CABLE TAG FOR INTERNAL AREA SHAL BE DONE BY ENGRAVED PLASTIC SLIP ON CHARACTERS ONTO PLASTIC TIE, BLACK LETTER (H=5mm) ON WHITE.

6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
   WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
   - PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

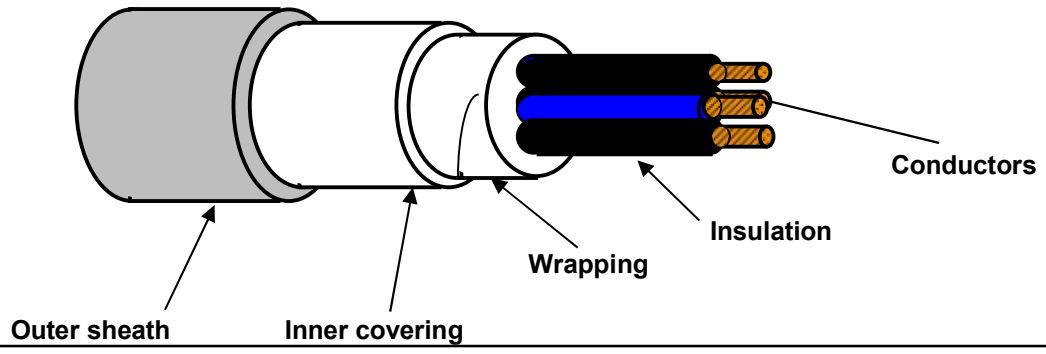
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standar	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83125-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148					DP-200N1	LV 0,4 / 0,23 kV Distribution Switchgear	Lower Deck (B-200)	SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	ELECV34-7X1,5	Cable Cu Cl.2/XLPE/LSZH 0,6/1kV 7Cx1,5mm² - Grey	M25	n.a.			n.a.				L-450-101-LVT-030 / L-600-101 LVT-020 / L-600-101-LVT-019 / L-600-101-LVT-017 / L-450-101 LVT-024

FLEI s.r.l.

Cu Cl.2/XLPE/LSZH 0,6/1 KV

7CX1,5 - CONTROL CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 7)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	by plastic tape helically wound	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,2 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 7CX1,5 SQMM - XLPE/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(13,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	83126-CEC	: Lighting & Small Power DB BoP / LV Switchgear		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	83-20	: 400/230 V Switchboard (DP-200N1)		Module	LD_B-200	
TASK	code	C10002118	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX10	Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH | Cores/Size mm²: 7X1,5 mm2 | Color: GREY

From: DP-200N1 | To: SG-200N1

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	OK
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	PL
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	OK
9	Check terminations are in accordance with latest termination diagram.	Note
10	Check cable earthing against lastest drawings.	NA
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,4
	CORE 2 / All cores+screen+armour+earth	0,4
	CORE 3 / All cores+screen+armour+earth	0,4
	CORE 4 / All cores+screen+armour+earth	0,5
	CORE 5 / All cores+screen+armour+earth	0,4
	CORE 6 / All cores+screen+armour+earth	0,5
	CORE 7 / All cores+screen+armour+earth	0,4
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA

INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	>999
	CORE 4	>999
	CORE 5	>999
	CORE 6	>999
	CORE 7	>999
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	NA
	ARMr	NA
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

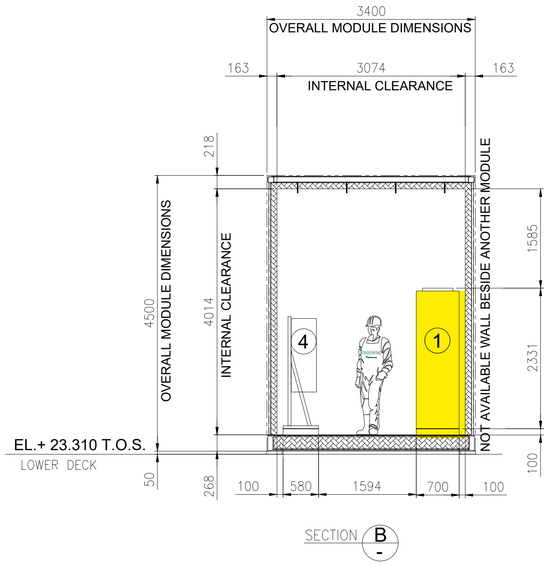
TYPE / SERIAL N° :	KEW3125A / W8330207	TYPE / SERIAL N° :	FLUKE 175 / AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024
TYPE / SERIAL N° :	-	TYPE / SERIAL N° :	
Calibration certificate N° and date:	-	Calibration certificate N° and date:	

Comments:

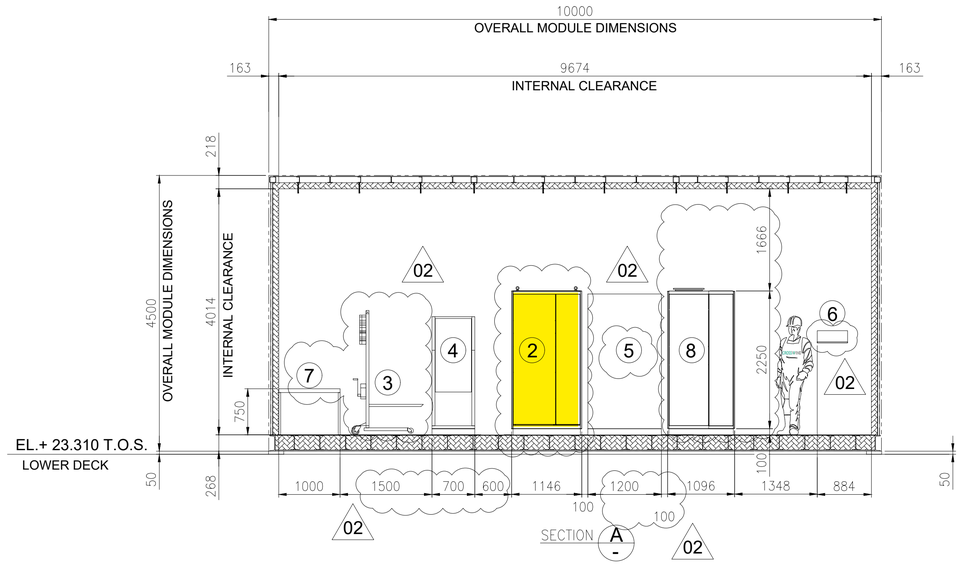
Note 9: Cable will be connected inside SG-200N1 by Commissioning.

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (Rosetti Marino)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-10-18	2024-10-22	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-10-18T12:28:44.329Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-10-22T15:46:18.506Z	

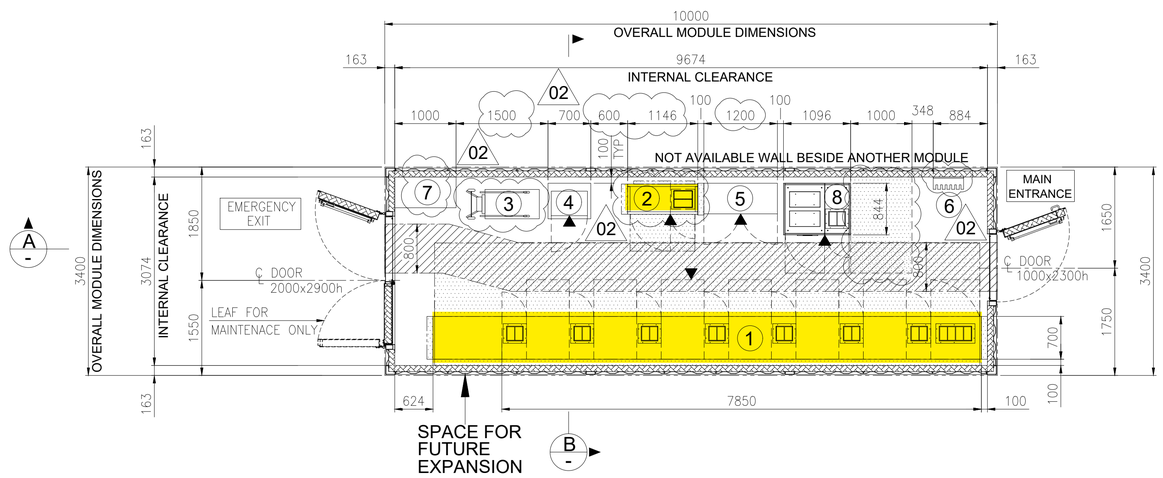
DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02



SECTION B



SECTION A



SECTION A

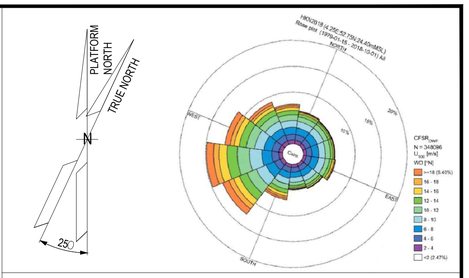
SECTION B

EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
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4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

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2. DELETED.
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4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

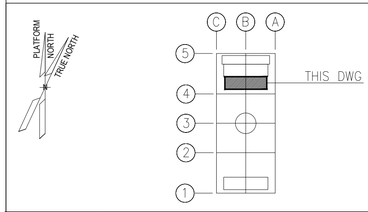
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

FROM	TO

01

DESCRIPTION: LIGHTING & SMALL POWER DB BOP
TAG NUMBER: DP-200N1

COLON./CUBIC.:-

-XS

SURGE ARRESTERS
FAULT ON DP-200N1

XS / 1 — 1
XS / 2 — 2
3
4
5
6
7

BK — 83125-CEC 7C X 1.5 mm² — BK

DESCRIPTION: AUXILIARY LV
TAG NUMBER: SG-200N1

COLUMN: +A2/02

-X2

1 — X2 / 70
2 — X2 / 71
3
4
5
6
7

-XT

NORMAL AND EMERGENCY LIGHT IN AUTO.

XT / 3 — 1
XT / 4 — 2

LIGHT ACTIVATED

XT / 5 — 3
XT / 6 — 4

NORMAL AND EMERGENCY LIGHT MCBs CLOSED

XT / 7 — 5
XT / 8 — 6
7

BK — 83126-CEC 7C X 1.5 mm² — BK

COLUMN: +A2/02

-X2

1 — X2 / 72
2 — X2 / 73
3 — X2 / 74
4 — X2 / 75
5 — X2 / 76
6 — X2 / 77
7

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20149

REV.:	DATE:	SIGNATURE:
1_A	17/10/24	G.Randi

ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
SIGNALS FOR CONTROL SYSTEM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : 1:X

A3

DRAWING NO. 123A90-DDL-EL-DG-20149

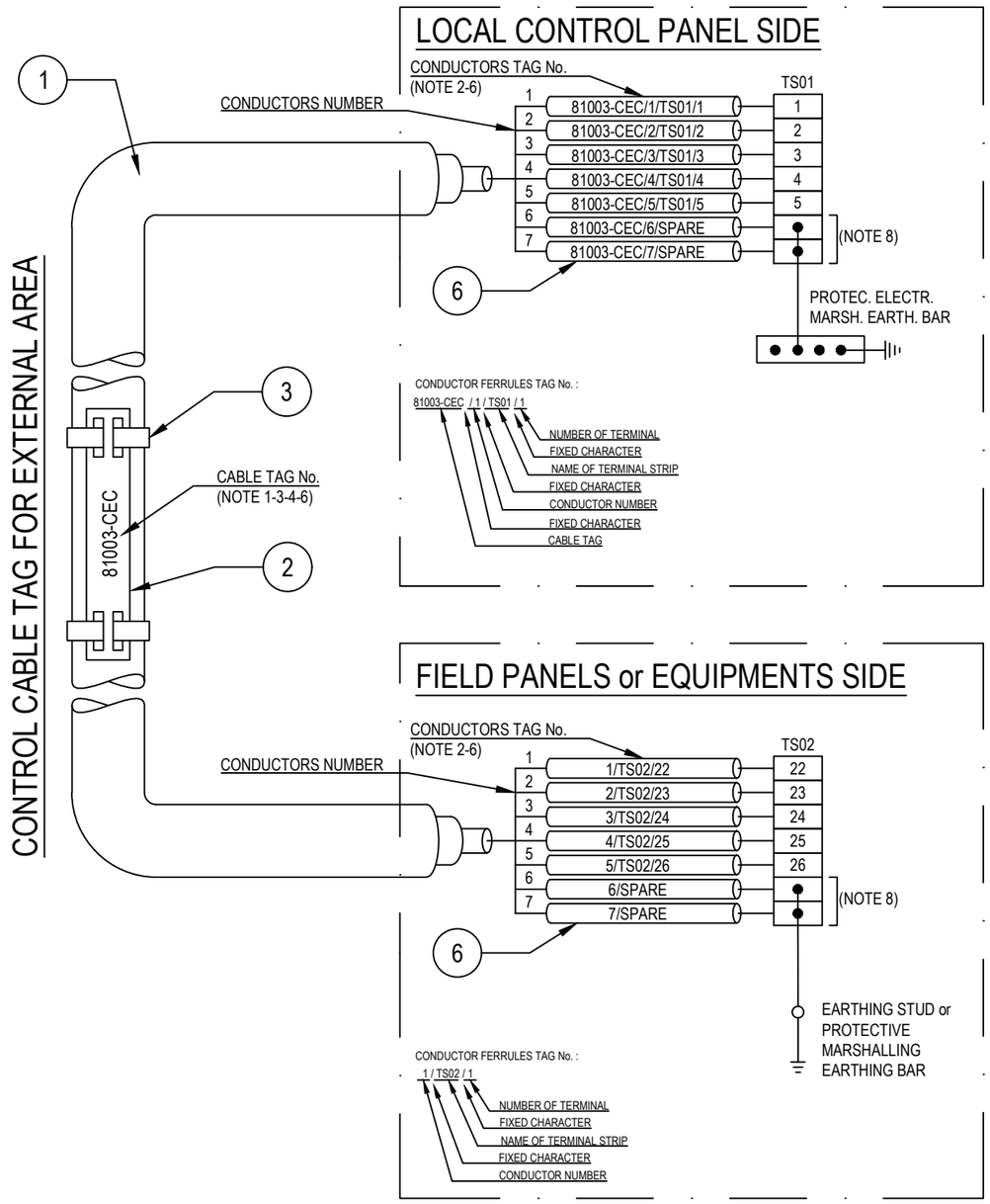
SHEET 087

REV. 01

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20162 Rev. 01

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
1	UNARMOURED CABLE				
2	CABLE TAG FOR EXTERNAL AREA	HDG/SS			NOTE 1 NOTE 4
3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
4	CABLE TAG FOR INTERNAL AREA	PVC			NOTE 1 NOTE 5
5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
6	CORE FERRULES	PVC			

NOTES:

1) ALL CABLES SHALL BE IDENTIFIED AT EACH TERMINATION AND EACH SIDE OF ANY OBSTACLE (E.G. CABLE TRANSIT ON WALLS INSIDE SHELTER AND FLOOR DECK CROSSING, BY THEIR RESPECTIVE TAGS/NUMBERS, AS INDICATED ON THE CABLE SCHEDULE.
   CABLE IDENTIFICATION SHALL BE ALSO DONE BELOW AND IN THE SWITCHBOARD CABLE COMPARTMENT.

2) CABLE CORE FERRULES SHALL BE FITTED AT EVERY TERMINATION. THESE FERRULES SHALL BE OF ENGRAVED PLASTIC SLIP ON, INTERLOCKED AND SELF GRIP TYPE.

3) ON CABLE TRAYS OR LADDERS, CABLES SHALL BE IDENTIFIED AT EACH END, AND EVERY 50 METERS.

4) THE CABLE TAG FOR EXTERNAL AREA SHALL DONE BY 316L STAINLESS STEEL LABELS, TAG (H=5mm) SHALL BE LASER PRINTED PREFERABLY OR EMBOSSED, LABEL HELD BY TWO 316L STAINLESS STEEL TIES.

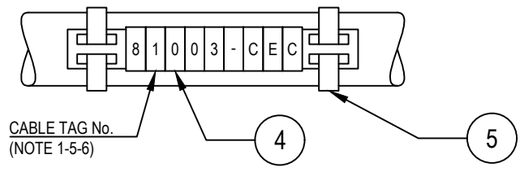
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6) CABLE AND CONDUCTOR TAG ARE INDICATIVE ONLY.

7) THE EARTHING CONNECTION OF THE ARMOUR CABLE IS NOT APPLICABILE IF THE ARMOUR IS CONNECTED TO EARTH WITH METALLIC CABLE GLAND.
   WITHIN TECHNICAL BUILDING, PROTECTIVE CONDUCTOR SHALL BE TAGGED BETWEEN FOLLOWING ITEMS:
   - PANEL (SWITCHBOARD, SWITCHGEAR, DISTRIBUTION BOARD, ETC) AND EARTH RING
   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

8) ONLY IF NECESSARY, SHRINK TUBES OF THE APPROPRIATE COLOR WILL BE INSTALLED TO COVER THE WRONG CONDUCTOR COLOR, THIS WILL BE PERFORMED IN EACH SIDE OF THE CABLES WHERE NECESSARY.

CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

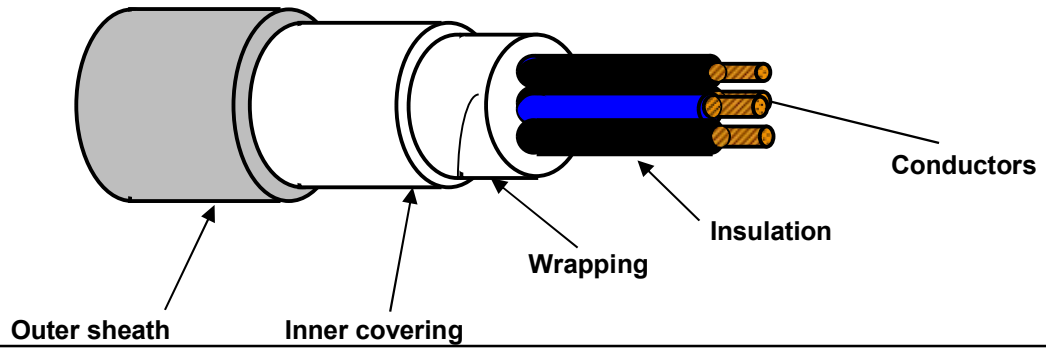
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standar	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83126-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148					DP-200N1	LV 0,4 / 0,23 kV Distribution Switchgear	Lower Deck (B-200)	SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	ELECV34-7X1,5	Cable Cu Cl.2/XLPE/LSZH 0,6/1kV 7Cx1,5mm² - Grey	M25	n.a.			n.a.					L-450-101-LVT-030 / L-600-101 LVT-020 / L-600-101-LVT-019 / L-600-101-LVT-017 / L-450-101 LVT-024

FLEI s.r.l.

Cu Cl.2/XLPE/LSZH 0,6/1 KV

7CX1,5 - CONTROL CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 7)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	by plastic tape helically wound	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,2 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 7CX1,5 SQMM - XLPE/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(13,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

All proprietary rights reserved according to law. This document shall be not reproduced without written permission. FLEI reserves the right to change characteristics and technical data of product shown at any time.

ROSETTI MARINO | PROVERLIS | CROSSWIND

ITEM	Tag	83127-CEC	: Lighting & Small Power DB BoP / LV Switchgear		Dwg	123A90-DDL-EL-LIS-20148	
	S/Sys	83-20	: 400/230 V Switchboard (DP-200N1)		Module	LD_B-200	
TASK	code	C10002119	Location	Onshore Activities	User	Rosetti Marino Quality Control	
FORM	Process	MC	Activity CCK	Discipline Electrical	Form	CPX10	Multicore Electrical Control Cable

CABLE DATA

Type: Cu Cl.2/XLPE/LSZH | Cores/Size mm²: 7X1,5 mm2 | Color: GREY

From: DP-200N1 | To: SG-200N1

1	Check cable physical integrity	OK
2	Check cable data against latest cable schedule.	OK
3	Check cable routing against latest drawings (segregation, distance…).	OK
4	Check cable is supported and fixed to rack according to latest project Specification.	OK
5	Check bending radius is within the specified limits.	OK
6	Check cable and core marking against latest drawings	PL
7	Check cable labelling is in accordance with latest specification.	PL
8	Check cable glands suit for cable type and are in accordance with latest specification.	OK
9	Check terminations are in accordance with latest termination diagram.	Note
10	Check cable earthing against lastest drawings.	NA
11	Check gland plate for single core cables is non magnetic.	NA
12	If required produce Red Line Mark Up for "AS BUILT"	

CONTINUITY	CORE 1 / All cores+screen+armour+earth	0,5
	CORE 2 / All cores+screen+armour+earth	0,5
	CORE 3 / All cores+screen+armour+earth	0,5
	CORE 4 / All cores+screen+armour+earth	0,4
	CORE 5 / All cores+screen+armour+earth	0,5
	CORE 6 / All cores+screen+armour+earth	0,5
	CORE 7 / All cores+screen+armour+earth	0,5
	CORE 8 / All cores+screen+armour+earth	NA
	CORE 9 / All cores+screen+armour+earth	NA
	CORE 10 / All cores+screen+armour+earth	NA

INSULATION	CORE 1	>999
	CORE 2	>999
	CORE 3	>999
	CORE 4	>999
	CORE 5	>999
	CORE 6	>999
	CORE 7	>999
	CORE 8	NA
	CORE 9	NA
	CORE 10	NA
	SCREEN	NA
	EARTH	NA
	ARMr	NA
	TEST VOLTS	1000

TESTING INSTRUMENTS USED

TYPE / SERIAL N° :	KEW3125A S/N: W8330207	TYPE / SERIAL N° :	FLUKE 175 S/N:AW1/018(17140769)
Calibration certificate N° and date:	N°7722/24 _ 10/07/2024	Calibration certificate N° and date:	N°7715/24 _ 10/07/2024
TYPE / SERIAL N° :		TYPE / SERIAL N° :	
Calibration certificate N° and date:		Calibration certificate N° and date:	

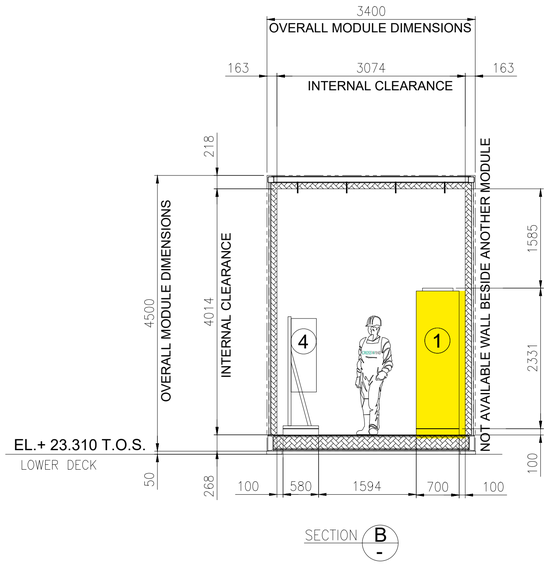
Comments:

Note 9: Cable will be connected inside SG-200N1 by Commissioning.

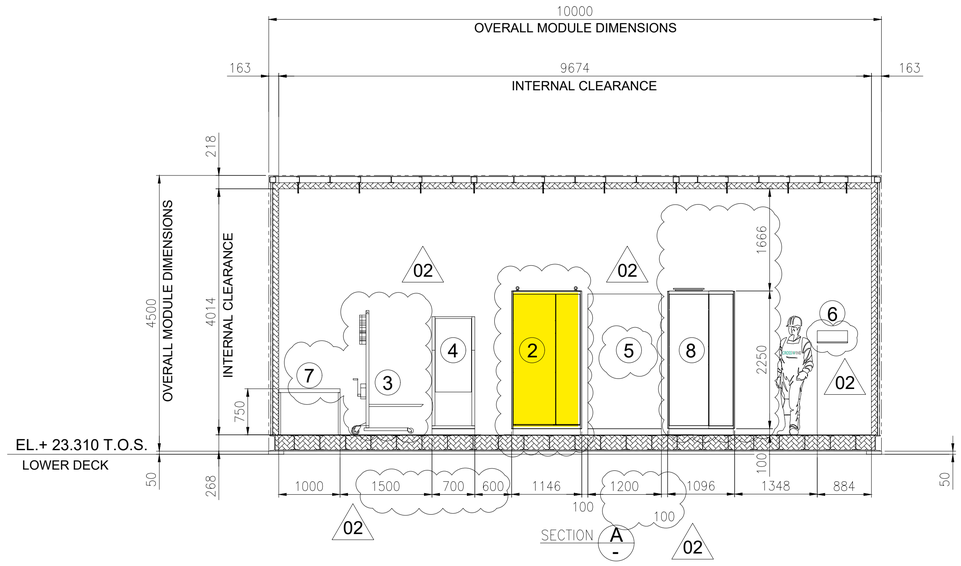
Page 1/1

	Performed by	☐ WITNESS ☐ REVIEW	☐ WITNESS ☐ REVIEW
Company	ICS IMPIANTI	RM (Rosetti Marino)	
Name	Carmelo Bongiovanni	Giovanni Tangianu	
Date	2024-10-18	2024-10-22	
Signature	PROVERLIS Digitaly signed by Carmelo Bongiovanni 2024-10-18T12:28:59.246Z	PROVERLIS Digitaly signed by Giovanni Tangianu 2024-10-22T15:48:24.281Z	

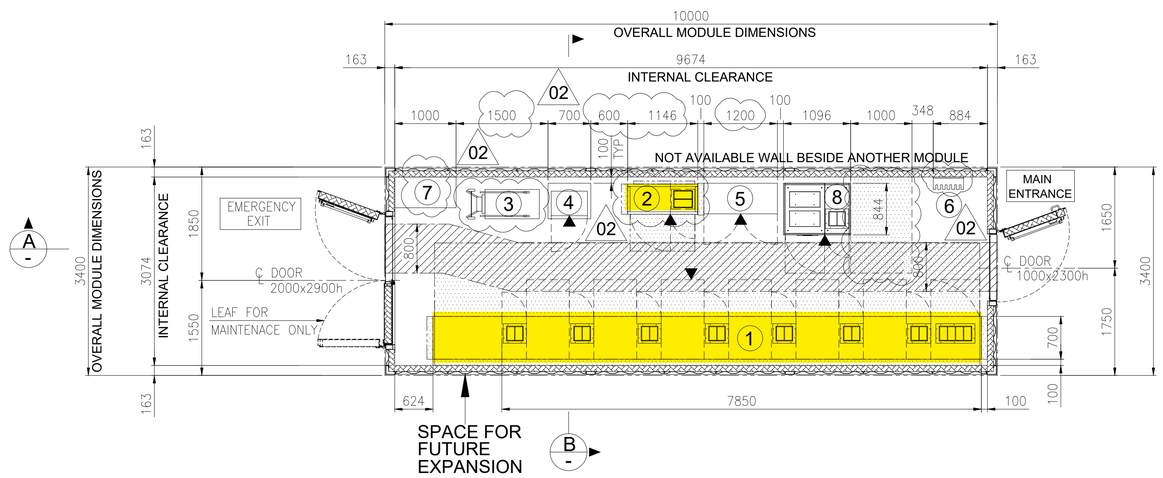
DRAWING NO. 123A90-DDL-EL-DL-20105 REV. 02



SECTION B



SECTION A



SECTION A

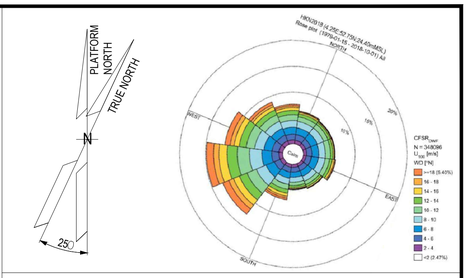
SECTION B

EQUIPMENT LAYOUT
"B-200" LV (400V) SWITCHGEAR ROOM
BOTTOM PLAN

1

EQUIPMENT LIST

REF.	TAG No.	DESCRIPTION	LENGTH (mm)	WIDTH (mm)	HEIGHT (mm)	NOTE
1	SG-200N1	400V SWITCHGEAR	7850	700	2331	
2	DP-200N1	DISTRIBUTION BOARD FOR LIGHTING AND SMALL POWER B.O.P.	1146	520	2250	
3	-	SERVICE TROLLEY FOR 400V SWITCHGEAR	1034	490	2030	
4	CN-200N1	ICCP PANEL	700	580	1830	
5	B200-HSB-001	DISTRIBUTION & HVAC PANEL - LV ROOM	1200	600	1900	02
6	-	TOOL BOX	495	200	200	
7	-	TABLE	1000	500	750	
8	SG-200D2	ACB PANEL FOR SOLAR PACKAGE	1096	844	2294	



NOTES

1. U.N.O. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DELETED.
3. DOCUMENT VALID ONLY FOR ELECTRICAL COMPONENT, FOR OTHER SCOPE LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND PROJECT DOCUMENTS.
4. FOR OTHER ITEMS, CORRECT LOCATION AND INFORMATION, PLEASE REFER TO VENDORS AND DEDICATED PROJECT DOCUMENTATION.
5. HEIGHT OF ALL PANELS IN THE EQUIPMENT LIST TABLE IS WITHOUT THE BASE FRAME (100mm)

02

LEGEND

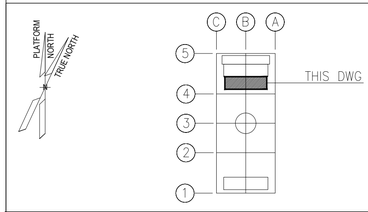
U.N.O. _____ UNLESS NOTED OTHERWISE
T.O.S. _____ TOP OF STEEL
_____ ESCAPE CORRIDOR - WIDTH 800mm.
_____ MAINTENANCE AREA - VENDOR REQUIREMENT
_____ SWITCHGEAR ROOM ENCLOUSURE
_____ FRONT OF EQUIPMENT

REFERENCES

DOCUMENT TITLE	DOCUMENT NUMBER
SG-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00007
SG-200D2 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00008
DP-200N1 GENERAL ARRANGEMENT DRAWING	1723002197-EL-DA-00009
AC UPS – GENERAL ARRANGEMENT AND DIMENSIONAL DRAWINGS	1724000372-EL-DA-00004
AC UPS – BATTERY LAYOUT INTERCONNECTING DIAGRAM	1724000372-EL-DG-00011
B-200 -GENERAL ARRANGEMENT DRAWINGS - E&I SHELTER	1724000049-AR-DA-00015
ICCC PANEL GENERAL ARRANGEMENT DRAWING	144671-CORR-TF-FAB-DWG-0003

02

KEY PLAN



REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	27/05/2024	FMO	LMA/AMA	LMA/MDO	ACCEPTED FOR CONSTRUCTION (AFC)
01	26/03/2024	GPA	LMA/AMA	LMA/MDO	ISSUE FOR REVIEW (IFR)
00	08/11/2023	DSF	CB/AMA	DYFO/MDO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

VALID FOR CONSTRUCTION
FDL DWG: **123A90-FDL-EL-DL-20105**

REV.:	DATE:	SIGNATURE:
2_A	08/08/24	G.Randi

ROSETTI MARINO SpA

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL EQUIPMENT LAYOUT
LV SWITCHROOM

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK			SCALE 1:50
DRAWN FMO	CHECKED LMA/AMA	APPROVED LMA/MDO	DATE 27/05/2024
A1	DRAWING NO. 123A90-DDL-EL-DL-20105	SHEET 001	REV. 02

File Name : 123A90-DDL-EL-DL-20105_REV02.dwg

FROM	TO

DESCRIPTION: SIGNALS FOR CONTROL SYSTEM
TAG NUMBER: DP-200N1

COLUMN: -

-XH/XP

-XH / 5 — HEAT TRACING ACTIVATED — 1
-XH / 6 — 2
-XH / 7 — HEAT TRACING MCBs CLOSED — 3
-XH / 8 — 4
-XP / 1 — DP-200N1 MCBs CLOSED — 5
-XP / 2 — 6
7

BK — 83127-CEC — 7C X 1.5 mm² — BK

DESCRIPTION: AUXILIARY LV
TAG NUMBER: SG-200N1

COLUMN: +A2/02

-X2

1 — X2 / 78
2 — X2 / 79
3 — X2 / 80
4 — X2 / 81
5 — X2 / 82
6 — X2 / 83
7

DESCRIPTION: DC UPS - CHARGER
TAG NUMBER: BC-200F1B (UP-200F1B)

COLUMN: -

-X32

BATTERY BREAKER STATUS — X32 / 3 — 1
X32 / 4 — 2
3
4
5
6
7

BK — 84110-CEC — 7C X 1.5 mm² — BK

DESCRIPTION: DC UPS - CHARGER
TAG NUMBER: BC-200F1A

COLUMN: -

-X32

1 — X32 / 1 — BATTERY BREAKER STATUS
2 — X32 / 2
3
4
5
6
7

01

VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DL-20149
REV.: 1_A | DATE: 17/10/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
01	16/10/24	SAI	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	08/07/24	SAI	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL INTERCONNECTING WIRING DIAGRAM
SIGNALS FOR CONTROL SYSTEM

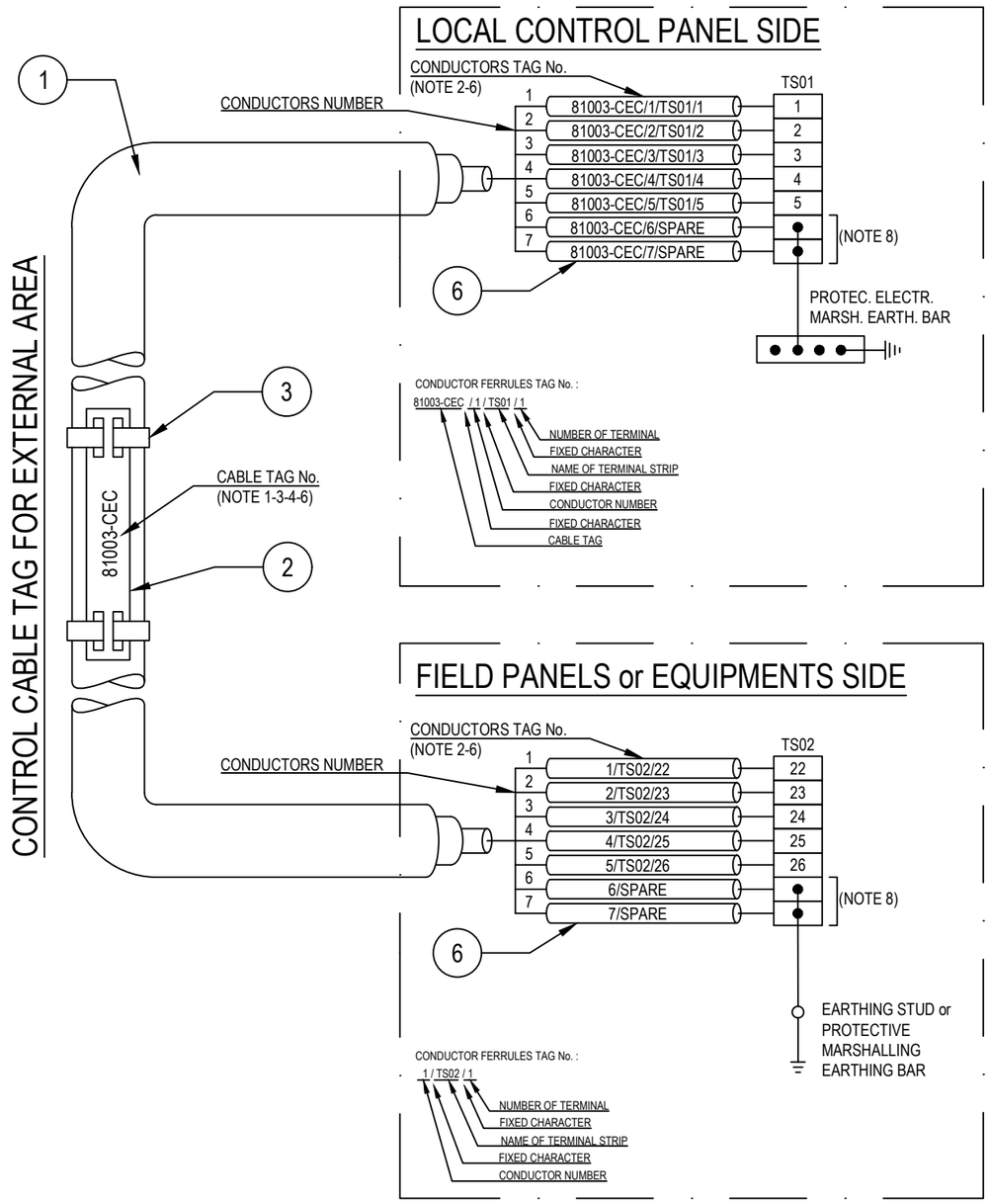
CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : 1:X

A3 | DRAWING NO. 123A90-DDL-EL-DG-20149 | SHEET 088 | REV. 01

F.to UNI A3: 420mmx297mm

File Name : 123A90-DDL-EL-DG-20162 Rev. 01

C04



POS.	DESCRIPTION	MATERIAL	SIZE	Q.TY	NOTE
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3	TIE FOR CABLE TAG IN EXTERNAL AREA	HDG/SS			
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5	TIE FOR CABLE TAG IN INTERNAL AREA	NYLON 6.6			
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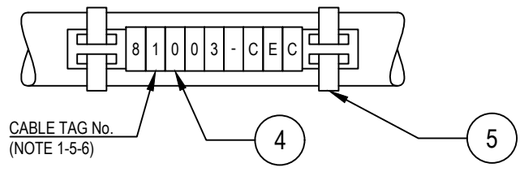
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   - EARTHING BOSS AND EARTH RING
   - EARTH BAR AND EARTH BAR (IF ANY).

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CONTROL CABLE TAG FOR INTERNAL AREA



VALID FOR CONSTRUCTION
FDL DWG: 123A90-FDL-EL-DD-20092
REV.: 2_A | DATE: 28/08/24 | SIGNATURE: G.Randi
ROSETTI MARINO SpA

REV.	DATE	DRN	CHKD	APPD	DESCRIPTION
02	28/08/24	GRA	AMA	DLO	ACCEPTED FOR CONSTRUCTION (AFC)
01	04/07/24	NLK	FMA/AMA	FPA/DLO	ACCEPTED FOR CONSTRUCTION (AFC)
00	21/11/23	SPS	FMA/AMA	FPA/DLO	ISSUE FOR REVIEW (IFR)

CROSSWIND

ROSETTI MARINO

TITLE : BASE LOAD POWER HUB (BLPH)
ELECTRICAL TYPICAL INSTALLATION DETAILS-POWER SYSTEM & CABLE INSTALLATION
CABLES INSTALLATION SYSTEM IDENTIFICATION FOR CONTROL CABLES

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK | SCALE : NTS

A3 | DRAWING NO. 123A90-DDL-EL-DD-20092 | SHEET 008 | REV. 02

F.to UNI A3: 420mmx297mm

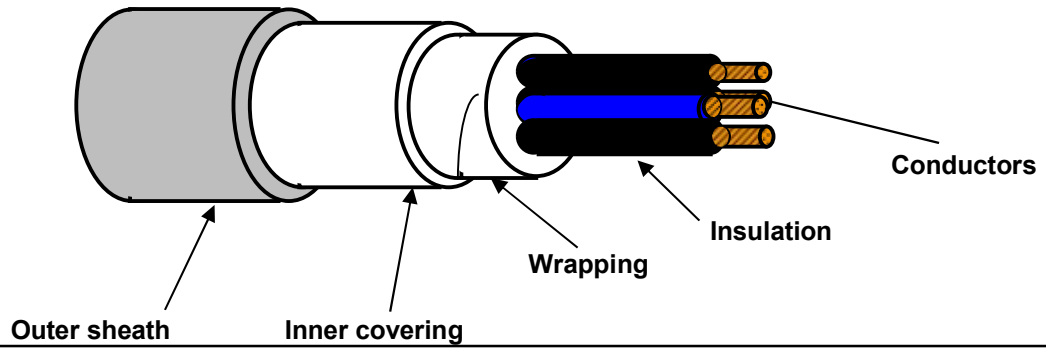
File Name : 123A90-DDL-EL-DD-20092 REV.02.DWG

Tag Number	Category	Discipline	Eng Status	NativeDoc	Parent Tag	Main Function	Secondary Function	Area	From Tag	From Main Function	From Area	To Tag	To Main Function	To Area	Material ID	Material Desc.	Gland Standar	From Gland	From Entry	From Fitting	To Gland	To Entry	To Fitting	Routing	Routing Manual
83127-CEC	Cable	EL	VFC	123A90-DDL-EL-LIS-20148					DP-200N1	LV 0,4 / 0,23 kV Distribution Switchgear	Lower Deck (B-200)	SG-200N1	LV 0,4 kV MCC Switchgear	Lower Deck (B-200)	ELECV34-7X1,5	Cable Cu Cl.2/XLPE/LSZH 0,6/1kV 7Cx1,5mm² - Grey	M25	n.a.			n.a.				L-450-101-LVT-030 / L-600-101 LVT-020 / L-600-101-LVT-019 / L-600-101-LVT-017 / L-450-101 LVT-024

FLEI s.r.l.

Cu Cl.2/XLPE/LSZH 0,6/1 KV

7CX1,5 - CONTROL CABLE - Flame Retardant



TECHNICAL FEATURES

Conductors :	**STRANDED** plain/bare annealed copper wires	IEC 60228 Class 2
Insulation :	**XLPE** compound, quality to IEC 60092.360, Nominal Thickness 0,7 mm	
Cores colour code :	**Black NUMBERED (from 1 to 7)**	
Pair Assembling :	Not required	
Pair Wrapping:	Not required	
Drain wire :	Not required	
Pair Shield :	Not required	
Shield Insulation :	Not Required	
Total Assembling :	Cores layed up with optimal lay length	
Overall Wrapping:	by plastic tape helically wound	
Drain wire :	Not required	
Overall Shield:	Not required	
Inner covering :	Extruded LSZH compound, Average Thickness 1,0 mm	
Inner covering color code:	**Black or Natural**	
Armour :	Not required	
Outer sheath :	Extruded LSZH Thermoplastic Compound (O.I. ≥ 30%), type **SHF1** to IEC 60093.360, Average Thickness 1,2 mm	
Outer sheath color code:	**Grey**	
Outer printing (INKJET) :	**FLEI - ELECTRIC CABLE - 1000V - 7CX1,5 SQMM - XLPE/LSZH - 0,6/1 KV - IEC 60332.1.2 - IEC 60332.3.22 -**	
	Year of Manufacture - CE + Meter Marking	
Outer diameter :	(13,5 ± 10%) mm	
Bending radius :	cable outer diameter x 10	(in fixed installation)
Voltage test :	3,5 kV a.c. for 5' (Between Cores)	
Conductors DC Resistance :		IEC 60228 Class 2
Insulation Resistance :	≥ 1000 MΩ x Km (@ 20°C)	
Applicable Standards		
Design Guidelines :	**IEC 60092.353**	
ON COMPLETE CABLE		
Flame Retardant test :	IEC 60332.1.2 - IEC 60332.3.22	
Acid Gas generation :	IEC 60754.1/2	
Smoke density/Light Transmittance :	IEC 61034.2 (LT ≥ 60%)	
Temperature Range :		
ON INSULATION	(max +90°C)	(max continuous operation temperature of conductors)
	(max +250°C)	(max conductors temperature during short-circuit for 5 seconds)
ON COMPLETE CABLE		
During Operation :	(-20°C up to +90°C)	(in fixed installation)
During installation :	(- 5°C up to +50°C)	
Note :	**To meet the requirements of installation and use in Zone 1 & Zone 2 (IEC 60079-14) and "Gas & Vapour Tight" the cable must be provided with Penetrating Inner covering together with correct ATEX approved equipment or accessories.**	

Office	Date	Sign	Rev.	Date	Sign
Drawn by :	29/03/2024	Messa			
Checked :	29/03/2024	Spaccasassi			
Approved :	29/03/2024	Cucinotta			

The data provided, lending assent for the treatment, will be used to the sense of the article 13 of of the Regulation (UE) 2016/679, also through outsiders, in order to allow the realization of the fulfilments informatives, administrative, commercial and accounting related to the contractual relationship. Integral copy of the informative could be requested at our offices.

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Section 6 MECHANICAL COMPLETION STATUS INDEX - INSTRUMENTAL DISCIPLINE

NOT APPLICABLE

Section 7 MECHANICAL COMPLETION STATUS INDEX - MECHANICAL DISCIPLINE

NOT APPLICABLE

Section 8 MECHANICAL COMPLETION STATUS INDEX - TELECOMMUNICATION DISCIPLINE

NOT APPLICABLE

Section 9 MECHANICAL COMPLETION STATUS INDEX - HVAC DISCIPLINE

NOT APPLICABLE

Section 10 MECHANICAL COMPLETION STATUS INDEX - PIPING DISCIPLINE

NOT APPLICABLE

Section 11 MECHANICAL COMPLETION INDEX - SAFETY DISCIPLINE

NOT APPLICABLE

Section 12 FAT / VENDOR REPORTS

RAPPORTO DI PROVA
TEST REPORT

Fornitore/ Supplier: **IMESA S.p.A.** Via G. Di Vittorio, 14 JESI (Ancona) – ITALIA
Tel.+39 0731 211034 - Fax.+39 0731 211055 - imesa@imesaspa.com - www.imesaspa.com

N° Certificato/ Certificate N°:	**348**	**Data / Date:**	**17/09/2024**
Commessa N° / Workorder N°:	**231298/SD**		
Matricola N° / Serial N°:	**231298/SD/080**		
Ordine N° / Order N°:	**1723002197 item: 80**		
Cliente / Customer:	**ROSETTI MARINO S.P.A.**		

Collaudo eseguito alla presenza di: / Test surveyed by:

Sig. / Mr.	Ditta / Firm	Firma / Signature
FAVA STEFANO	IMESA SPA	IMESA SPA TESTING OFFICE
MARTARELLI FERNANDO	IMESA SPA	
SANTINELLI DAMIANO	IMESA SPA	
TASSINARI GABRIELE	ROSETTI MARINO SPA	
CASTELLANI KRISTIAN	ROSETTI MARINO SPA	
LINARI STEFANO	ROSETTI MARINO SPA	ROSETTI MARINO SpA Stefano Linari Quality Control Dept.
MARANGONI MASSIMILIANO	O.b.o. CROSSWIND	

RAPPORTO DI PROVA
TEST REPORT

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Materiale collaudato a Norme: **IEC 61439-2**
Material tested according to

Procedura collaudo Quadri BT : **Document number *FAT procedure:***
Procedure test Switchboards LV customer : **1723002197-QC-PRO-00045**; *owner:* **231298/SD/045**

QUADRO ELETTRICO BT SWITCHBOARD LV	Tipologia / Type:	MCC/F
Tensione Nominale di Isolamento (Ui): *Rated Insulation Voltage (Ui)*	0,69 kV	

CARATTERISTICHE ELETTRICHE/ELECTRICAL INFORMATION:

Ue= 0,4/0,23kV; Un= 0,4/0,23kV; F= 50 Hz; In= 63A; Ik= 25kA

DESCRIZIONE/DESCRIPTION:

LV SWITCHBOARD 400/230V - BASE LOAD POWER HUB (BLPH)

PROJECT: CROSSWIND HOLLANDSE KUST NOORD WIND PARK

TAG: "DP-200N1"

DISEGNI/DRAWINGS:

DOCUMENT ID	TITLE
1723002197-EL-DA-00009	DP-200N1 GENERAL ARRANGEMENTS DWG AND FOUNDATION LOAD CALCULATION INCLUDING COG
1723002197-EL-DG-00013	DP-200N1 ELECTRICAL SINGLE LINE DIAGRAM
1723002197-EL-DG-00033	DP-200N1 LV SWG FUNCTIONAL DIAGRAMS -

RAPPORTO DI PROVA
TEST REPORT

ISO 9001 ISO 14001 ISO 45001

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PROVE INDIVIDUALI (secondo lo standard IEC 61439-1):
ROUTINE TESTS (according to standard IEC 61439-1):

■ = TESTED

■ **11.1 GENERALITA'**
GENERALITY

■ **CONTROLLO VISIVO E DIMENSIONALE**
VISUAL AND DIMENSIONAL CONTROL *Point 3.1 FAT proc.*

■ **CONTROLLO OSSERVANZA ALLE SPECIFICHE ED ORDINE**
CHECK OF COMPLIANCE TO SPECS AND ORDER *Point 3.1 FAT proc.*

■ **CONTROLLO CARPENTERIA, SBARRE,CONNESSIONI PRIMARIE**
STRUCTURAL WORKS, BUS-BAR CONTROL *Point 3.4 FAT proc.*

■ **CONTROLLO VERNICIATURA (RAL 7035 ≥ 60 µm)**
PAINTING CONTROL *Point 3.1 FAT proc*

■ **11.2 GRADO DI PROTEZIONE DEGLI INVOLUCRI**
PROTECTION DEGREE *Point 3.3 FAT proc.*

■ **11.3 DISTANZE DI ISOLAMENTO IN ARIA E SUPERFICIALI**
CLEARENCE AND CREPAGE DISTANCES *Point 3.1 FAT proc.*

■ **11.4 PROTEZIONE CONTRO LA SCOSSA ELETTRICA ED INTEGRITA' DEI CIRCUITI DI PROTEZIONE**
PROTECTION AGAINST ELECTRIC SHOCK AND INTEGRITY OF PROTECTIVE CIRCUITS *Point 3.4 FAT proc.*

■ **11.5 INSTALLAZIONE DEI COMPONENTI,FISSAGGIO EVENTUALI DANNI IN ASSEMBLAGGIO E COLLEGAMENTI TERRE**
INCORPORATION OF BUILT-IN COMPONENTS , FIXED,EVENTUAL DAMAGE CAUSED BY ASSEMBLING, EARTHED *Point 3.1 FAT proc.*

■ **VERIFICA FONDO SCALA STRUMENTI E DATI NOMINALI APPARECCHIATURE**
CHECK FULL SCALE OF INSTRUMENTS & EQUIPMENT RATED DATA CONTROL *Point 3.1 FAT proc.*

■ **VERIFICA DEL SERRAGGIO E MARCATURA BULLONERIA**
CHECKING THE TIGHTENING AND MARKING OF BOLTS
Point 3.4 FAT proc.

■ **CONTROLLO CABLAGGIO & DATI DI TARGA**
WIRING CHECK & PLATE CHECK *Point 3.4 FAT proc.*

■ **MISURA RESISTENZA D'ISOLAMENTO**
MEASURE OF INSULATION RESISTANCE *Point 4.3-4.4 FAT proc.*

CIRCUITI DI POTENZA **L1= >500 MΩ; L2= >500 MΩ**
POWER CIRCUIT **L3= >500 MΩ; N = >500 MΩ**
CIRCUITI AUSILIARI
AUXILIARY CIRCUITS 230 Vac= **>500 MΩ**

■ **11.6 CIRCUITI ELETTRICI INTERNI E COLLEGAMENTI**
INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS
Point 3.4 FAT proc.

■ **11.7 CONTROLLO DEI TERMINALI PER I CONDUTTORI ESTERNI**
CHECK OF TERMINALS FOR EXTERNAL CONDUCTORS
Point 3.4 FAT proc.

■ **11.8 CONTROLLO FUNZIONAMENTO MECCANICO**
MECHANICAL OPERATION TEST
VERIFICA DI FUNZIONAMENTO: FUNZIONAMENTO DEGLI INTERRUTTORI,PORTE,CHIAVI INTERBLOCCHI SEGNALI E LE PARTI MECCANICHE CHE FORMANO IL QUADRO
OPERATION TEST: CHECK OPERATION OF C.B. DOORS, SIGNALLING, EFFICIENCY OF KEY LOCKS AND THE MECHANICS PART THAT FORM THE PANEL,INTERLOCKS BETWEEN C.B, CARRY OUT A NUMBER OF STARTING UP AND STOPPING SEQUENCES *Point 3.2 FAT proc.*

■ **11.9 PROVE DI TENSIONE : f = 50 Hz e t = 1 sec.**
VOLTAGE TEST : f = 50 Hz and t = 1 sec. **(*60 sec)**

CIRCUITI DI POTENZA **1.89** kV
MAIN CIRCUITS *Point 4.3 FAT proc.*
Leakage curr. L1= 3 mA L2= 3 mA L3= 3 mA **N= 5 mA**

CIRCUITI AUSILIARI **230Vac= 1,5** kV
AUXILIARY CIRCUITS *Point 4.4 FAT proc.*
Leakage current: 230Vac= <1 mA

■ **PROVE DI FUNZIONAMENTO ELETTRICO E SEQUENZE, ARC FLASH TEST VANO CAVI, BUSBAR & C.B.**
ELECTRICAL OPERATION & SEQUENCE TESTS, ARC FLASH TEST ON CABLE COMP. BUSBAR & C.B. *Point 4.1FAT proc.*
N.A. not applicable

■ ***FUNZIONAMENTO CORRETTO DELLE LOGICHE* DI CONTROLLO**
RIGHT WORKING OF THE LOGICAL CONTROLS
VERIFICA DI FUNZIONAMENTO: CIRCUITI AUSILIARI E DI COMANDO, POLARITA' CIRCUITI VOLTMETRICI/AMPEROM.
CHECKING OF OPERATIONS: AUXILIARY AND CONTROL CIRCUIT, CHECK VOLTMETRIC/AMPEROMETRIC CIRCUIT & POLARITY,INTERTRIP SIGNAL *Point 4.1 FAT proc.*

■ **PROVE SUI DISPOSITIVI AUSILIARI**
TEST OF AUXILIARY DEVICE *Point 4.2 FAT proc.*

■ **CONTROLLO DI CONTINUITA' DEL CIRCUITO DI TERRA**
CHECKING OF ELECTRICAL CONTINUITY EARTH CIRCUIT
Max = ≤0,1Ω (Max Value Measured: 0,001 Ω)
Point 4.5 FAT proc.

RAPPORTO DI PROVA
TEST REPORT

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The Equipment is :

Compliant ☒ **/ Non Compliant** ☐

Referring to the FAT Procedure and relevant documents

Apparecchiature utilizzate/ Equipment used:	***Scadenza Taratura /Expiration date***
SP 214 MULTITEST FOR DIELECTRIC TEST	07/2024
SP 196 MULTIMETER FLUKE	03/2025
PP 143 DIGITAL THICKNESS GAUGE	12/2024

Note/ *Notes:*

DUSK SWITCH MISSING (see punch list)

FIRMA/ *SIGNATURE*

IMESA SPA
IMESA SPA
TESTING OFFICE

ROSETTI MARINO SPA
ROSETTI MARINO SpA
Stefano Linari
Quality Control Dept.

O.b.o. CROSSWIND
M MARANGONI
17.09.24

Section 13 MECHANICAL COMPLETION CHANGES / MARK-UPS

NOT APPLICABLE