STATRON
NON STOP POWER

Battery Energy Storage System (BESS)
BASE LOAD POWER HUB

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Cable Transits Schedule
E99-003

for Base Load Power Hub (BLPH) Project

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Table 2: Approval overview

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Original document

This document is an original document of FREQCON GmbH.

1 Introduction

1.1 About this Document

This document is part of the documentation for the Base Load Power Hub (BLPH) Project (K559-2254). In case of any contradiction resulting by the information or specification given in this document, later documents supersede the information provided in this document.

1.2 Display Elements

Symbol	Meaning
➜	Action with one or several steps for which the sequence is irrelevant.
Step 1 : **Step 2 :**	Action with several steps for which the sequence is relevant.
•	First level of list.
-	Second level of list.

Table 1: Display Elements

1.3 Other Applicable Documents

The following documents are applicable:

Document type	Document Name

Table 2: Other applicable documents

1.4 Generic Terms and Abbreviations Used

This following list should help you understand some of the abbreviations used in this document.

Generic Term and Abbreviation	Description
BESS	Battery Energy Storage System
BLPH	Base Load Power Hub
PCS	Power Conversion System

Table 3: Generic terms and abbreviations used

2 Cable Outlets

2.1 Overall System

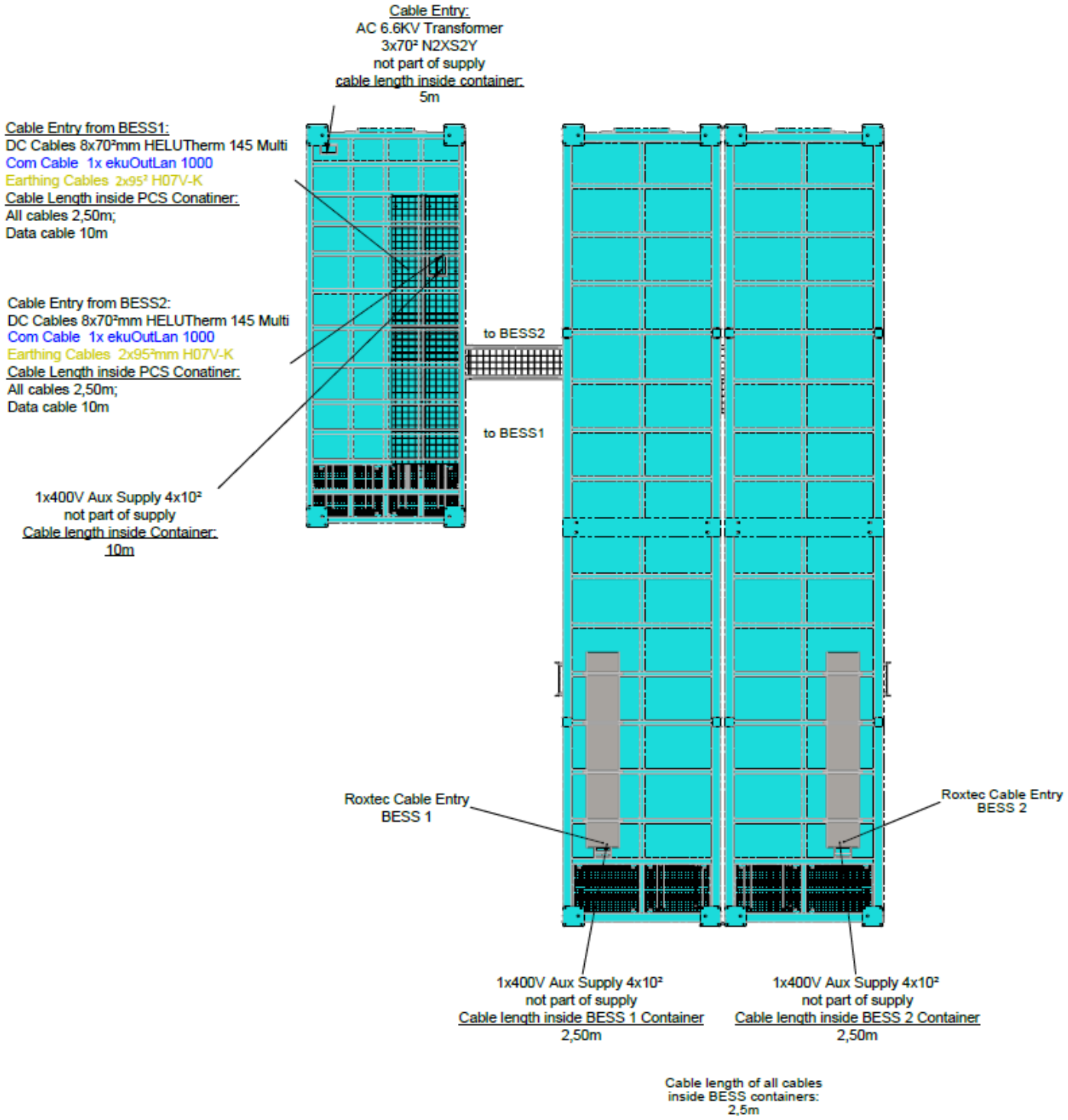
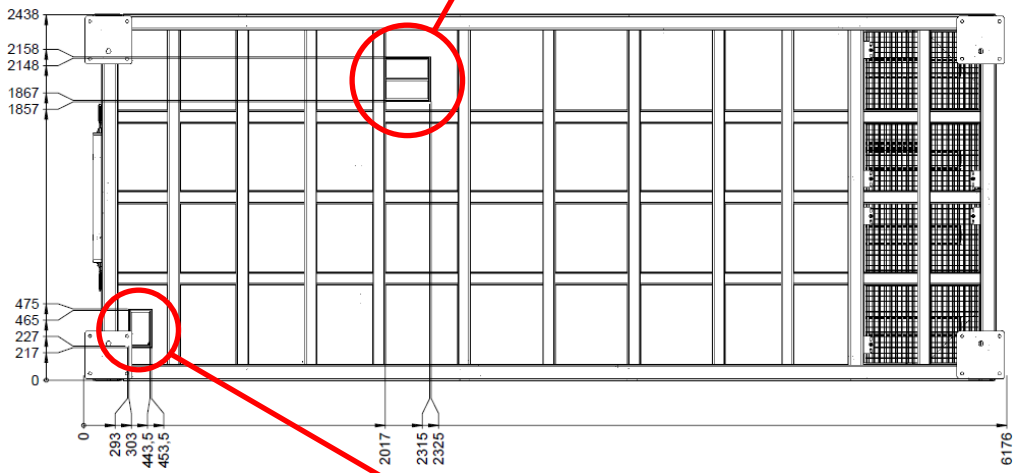


Figure 1: Cable outlets – Overall system (Bottom view)

2.2 PCS Container

Cable interface 1 (Roxtec cable gland)

- DC power cables
- Communication cables
- 400 V AC aux. cables



Cable interface 2 (Roxtec cable gland)

- 6.6 kV MV cables

Figure 2: Cable outlets – PCS (Bottom view)

2.3 BESS 1 Container

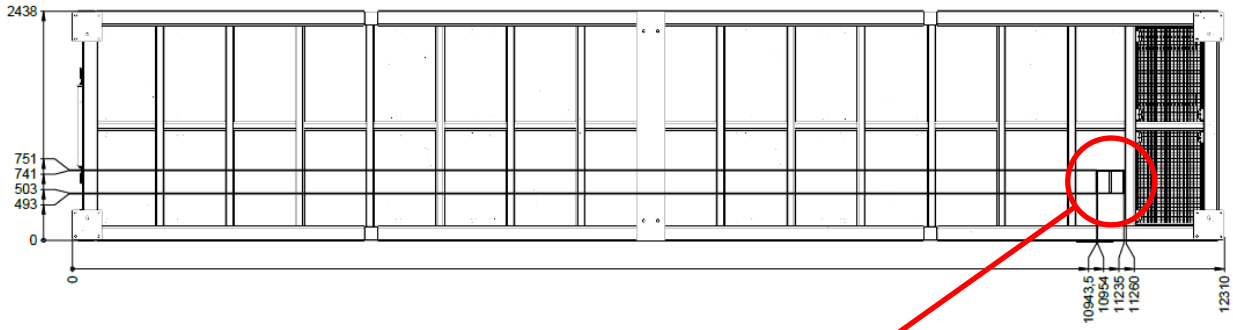


Figure 3: Cable outlets – BESS 1 (Bottom view)

Cable interface (Roxtec cable gland)

- DC power cables
- Communication cables
- 400 V AC aux. cables

2.4 BESS 2 Container

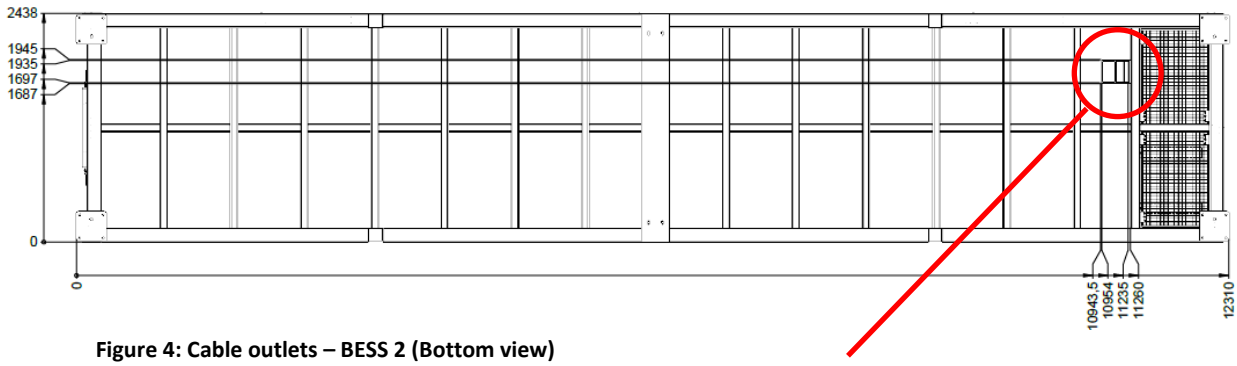


Figure 4: Cable outlets – BESS 2 (Bottom view)

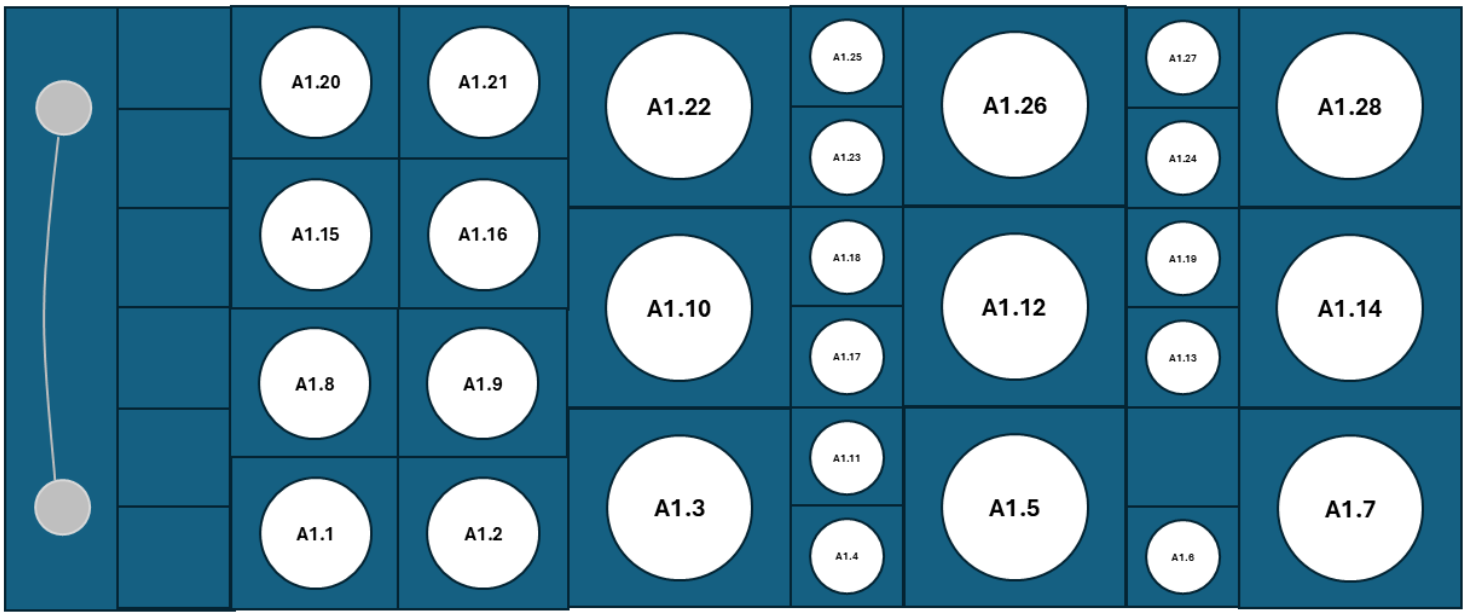
Cable interface (Roxtec cable gland)

- DC power cables
- Communication cables
- 400 V AC aux. cables

3 Cable Gland Description

3.1 PCS Container

Cable interface – PCS – Comm and Aux 1

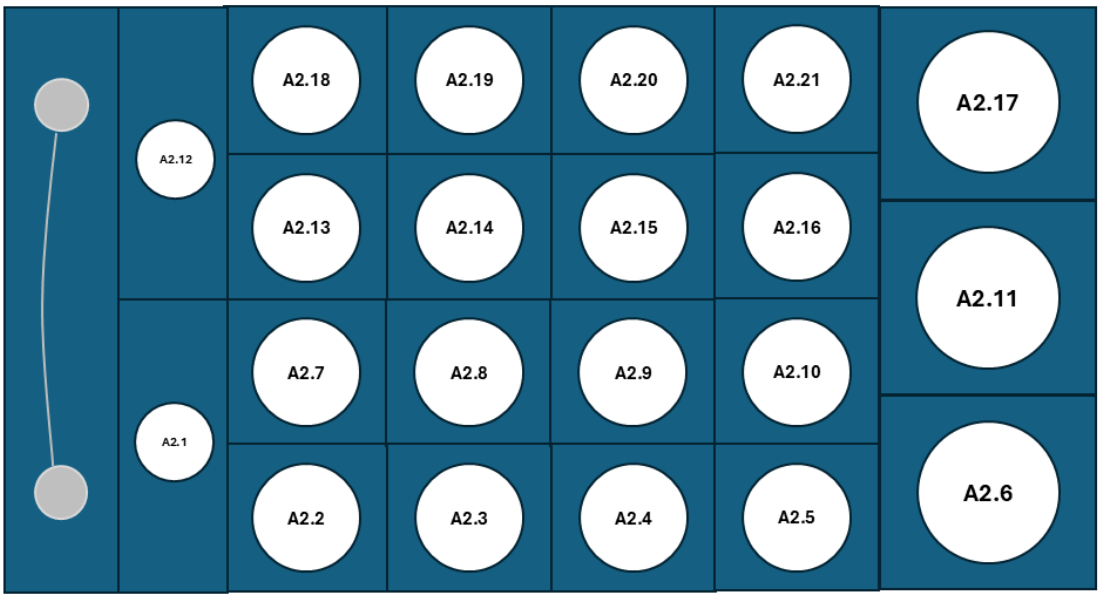


PCS – Comm and Aux 1

Pos.	Cable Type	Cable Category	OD (mm / [“])	Module Type
A1:2		COM Cable Ethernet	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:4	*	P320 PLC / B400-NET-001.01	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:5		85002CEC	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:9		COM Cable Ethernet	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:11	*	P320 PLC / B400-NET-001.02	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:12		85001-CEC	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:13	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:15		COM Cable Ethernet	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:16	**	P320 PLC / B400-FGS-002	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:18		C-85-XS-001 / B400-SIS-001	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:19	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:20		COM Cable Ethernet	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:21	**	P320 PLC / B400-SIS-001	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:23	***	82006-CEC	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:24	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:25	***	82007-CEC	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:26		83011-CEL / 84W2	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

A1:27	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

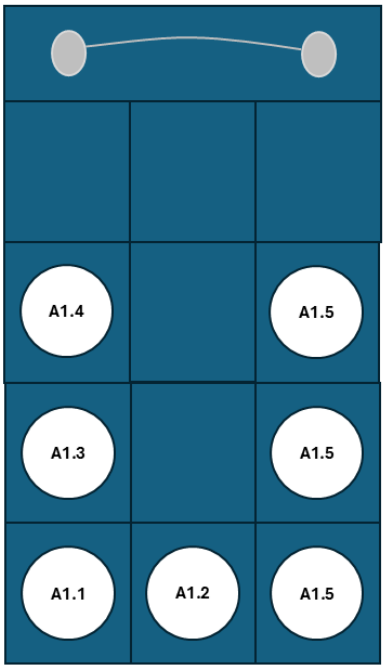
Cable interface – PCS – Comm and Aux 2



PCS – Comm and Aux 2

Pos.	Cable Type	Cable Category	OD (mm / [“])	Module Type
A2:2	Solarflex-X 1x 70	DC Cable - DC+4_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:3	Solarflex-X 1x 70	DC Cable - DC-4_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:4	Solarflex-X 1x 70	DC Cable - DC+3_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:5	Solarflex-X 1x 70	DC Cable - DC-3_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:7	Solarflex-X 1x 70	DC Cable - DC+4_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:8	Solarflex-X 1x 70	DC Cable - DC-4_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:9	Solarflex-X 1x 70	DC Cable - DC+2_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:10	Solarflex-X 1x 70	DC Cable - DC-2_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:13	Solarflex-X 1x 70	DC Cable - DC+4_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:14	Solarflex-X 1x 70	DC Cable - DC-4_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:15	Solarflex-X 1x 70	DC Cable - DC+2_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:16	Solarflex-X 1x 70	DC Cable - DC-2_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:18	Solarflex-X 1x 70	DC Cable - DC+3_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:19	Solarflex-X 1x 70	DC Cable - DC-3_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:20	Solarflex-X 1x 70	DC Cable - DC+2_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:21	Solarflex-X 1x 70	DC Cable - DC-2_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

Cable interface 2 (MV Transformer)

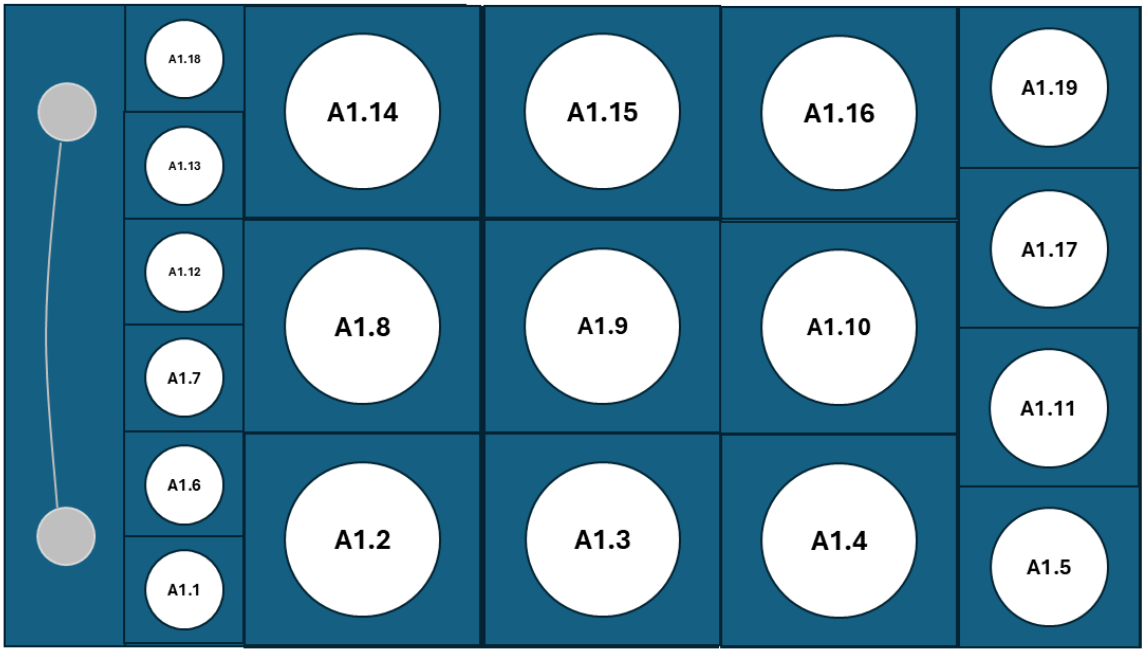


PCS – MV Transformer

Pos.	Cable ID	Name	Cable Category	OD (mm / [“])	Module Type
A1:1	1	82005 – L2	AC 6.6 kV Transformer	10 [0.394“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:2	4	82005 – L3	AC 6.6 kV Transformer	10 [0.394“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:3	5	82005 – L1	AC 6.6 kV Transformer	10 [0.394“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

3.2 BESS 1

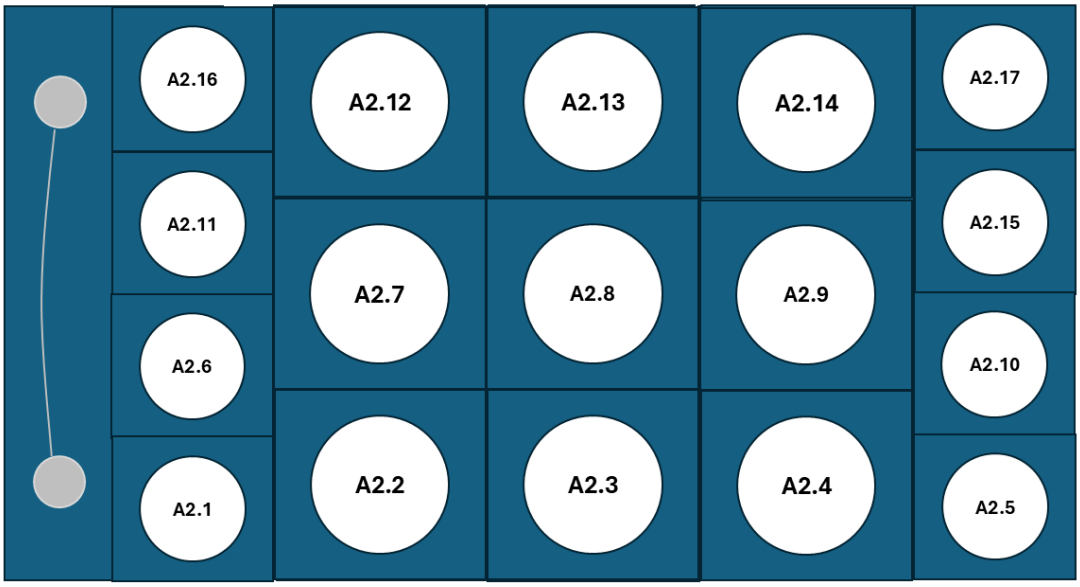
Cable interface 1 - BESS 1



BESS 1 - 1

Pos.	Cable Type	Cable Category	OD (mm / [“])	Module Type
A1:1	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:5	4x 10 mm²	400 V Aux Supply – 83015-CEL	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:6	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:7		COM Cable - ETH	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:12		COM Cable - UNIT_1 PROFINET	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:13		COM Cable - UNIT_3 PROFINET	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

Cable interface 2 - BESS 1

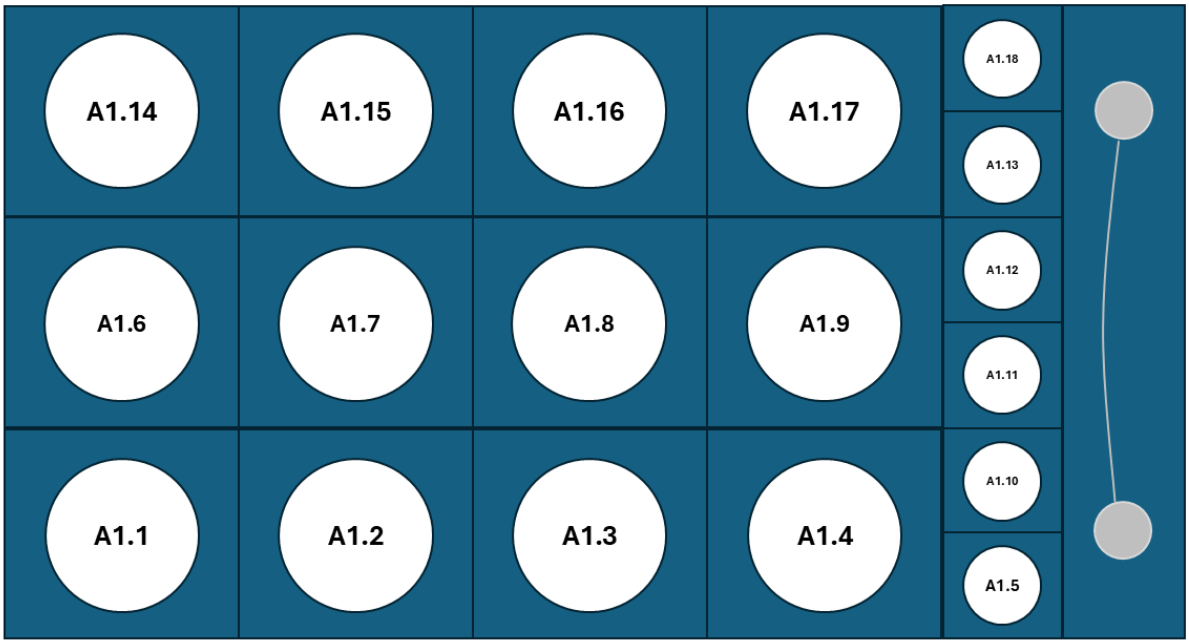


BESS 1 - 2

Pos.	Cable Type	Cable Category	OD (mm / [“])	Module Type
A2:1	Solarflex-X 1x 70	DC Cable - DC-2_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:5	Solarflex-X 1x 70	DC Cable - DC+2_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:6	Solarflex-X 1x 70	DC Cable - DC+2_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:10	Solarflex-X 1x 70	DC Cable - DC-2_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:11	Solarflex-X 1x 70	DC Cable - DC-2_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:15	Solarflex-X 1x 70	DC Cable - DC-3_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:16	Solarflex-X 1x 70	DC Cable - DC+2_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:17	Solarflex-X 1x 70	DC Cable - DC+3_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

3.3 BESS 2

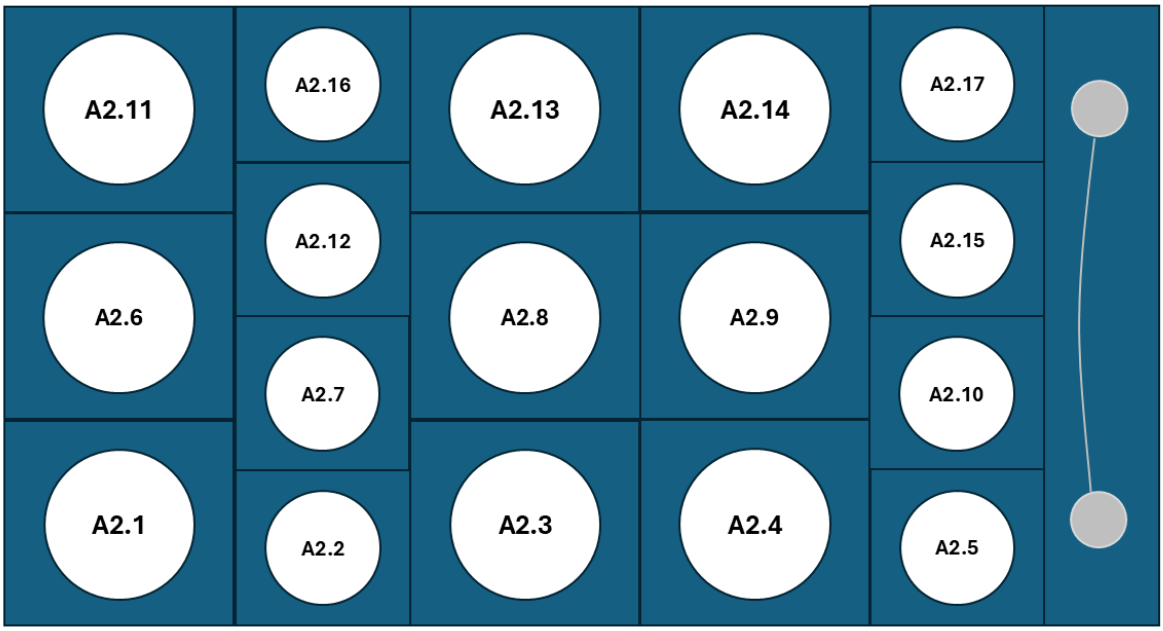
Cable interface 1 - BESS 2



BESS 2 - 1

Pos.	Cable Type	Cable Category	OD (mm / [“])	Module Type
A1:1	4x 10 mm²	400 V Aux Supply – 83014-CEL	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:5	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:10	H07V-K 1x 95 mm²	Earthing Cable	11 [0.433“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:12		COM Cable - ETH	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:13		COM Cable - UNIT_2 PROFINET	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A1:18		COM Cable – ET200 Unit_1 (not connected)	4 [0.157“]	RM 20W40 3.5-16.5 [0.138“-0.650“]

Cable interface 2 - BESS 2



BESS 2 - 2

Pos.	Cable Type	Cable Category	OD (mm / [“])	Module Type
A2:2	Solarflex-X 1x 70	DC Cable - DC+4_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:5	Solarflex-X 1x 70	DC Cable - DC+3_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:7	Solarflex-X 1x 70	DC Cable - DC-4_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:10	Solarflex-X 1x 70	DC Cable - DC-3_3 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:12	Solarflex-X 1x 70	DC Cable - DC-4_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:15	Solarflex-X 1x 70	DC Cable - DC+4_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:16	Solarflex-X 1x 70	DC Cable - DC+4_2 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]
A2:17	Solarflex-X 1x 70	DC Cable - DC-4_1 BAT	9.5 [0.374“]	RM 20W40 3.5-16.5 [0.138“-0.650“]