



EUROPEAN SPALLATION SOURCE

Projekt name: Accelerator PSS
Functional Location (FBS): =ACC.F01
Physical Location (LBS): +ESS.G01 & +ESS.G02

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	20/09/2018	PAGE TYPE Title page / cover sheet	Functional location (FBS):		
				APPROVED BY SBH	20/09/2018	FUNCTION	Physical location (LBS):		
2	20/09/2018	As built	Modification based on ZHAW recommendations				CHESS Doc. NR:		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams		DESIGN SITE ESS		ESS-0151602		Document: &AA1



SYMBOLS AND INFORMATION

SYMBOLS

PROTECTIVE EARTH, PE



FUNCTIONAL EARTH, FE



PROTECTIVE BONDING, PB



FUNCTIONAL BONDING, FB



INFORMATION

SHIELDED EXTERNAL CABLES MUST BE CONNECTED TO THE EARTH-RAIL WITH SHIELD TERMINAL CLAMPS.

MINIMUM CONDUCTOR CROSS SECTION AREA FOR CONTROL CIRCUITS: 0,5mm²

MINIMUM CONDUCTOR CROSS SECTION AREA FOR POWER CIRCUITS: 1,5mm²

TERMINATION SLEEVES MUST BE USED ON INTERNAL CONDUCTORS.
ALL CABLES SHALL BE HALOGEN FREE

SS-EN 60204

Conductors for:	Colour:
Neutral Conductors	Light blue [EN 60204-1:2006 clause 13.2.3]
Earth conductors	Green-and-Yellow [EN 60204-1:2006 clause 13.2.2]
AC Power Circuits ¹⁾ DC Power Circuits with a voltage exceeding 50VDC.	Black
Control circuits AC, e.g. 230VAC.	Red
Control circuits and DC power circuits below 50VDC, e.g. PLC digital input (DI) & Digital output (DO) signals.	Dark Blue ²⁾
Analog control circuits, e.g. PLC analog input (AI) and output (AO) signals	Violet ²⁾
Excepted circuits ³⁾ [EN 60207-1:2006 clause 5.3.5]	Orange

1. Circuit that supplies power from the supply network to units of equipment used for productive operation and to transformers supplying control circuits.
2. Conductors carrying negative (0V/L-) potential may be provided with a white stripe along its full length, if not available instead a white ring may be provided in both ends of the conductor.
3. All conductors in circuits not disconnected by the supply disconnecting device shall be colored orange, see EN 60207-1:2006 clause 5.3.5.

IEC 60757

Colour	Letter Code
Black	BK
Brown	BN
Red	RD
Orange	OG
Yellow	YE
Green	GN
Blue	BU
Violet	VT
Grey	GY
White	WH
Pink	PK
Gold	GD
Turquoise	TQ
Silver	SR
Green-and-Yellow	GNYE

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ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
CHECKED BY	DATE <td>PAGE TYPE <td colspan="3">Functional location (FBS):</td> </td>	PAGE TYPE <td colspan="3">Functional location (FBS):</td>	Functional location (FBS):		
MMI	20/09/2018	Title page / cover sheet	Physical location (LBS):		
APPROVED BY	DATE <td>FUNCTION <td colspan="3">CHESS Doc. NR:</td> </td>	FUNCTION <td colspan="3">CHESS Doc. NR:</td>	CHESS Doc. NR:		
SBH	20/09/2018		ESS-0151602		
DESIGN SITE <td>ESS</td> <td></td> <td colspan="3">Document:</td>	ESS		Document:		
			&AA2		

Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
------------	------	------------------	--------------------------	----------	------	-----------

AA/1	Title page			2	20/09/2018	ATZ
AA/2	General information			2	20/09/2018	ATZ
AB/1	Table of contents			2	20/09/2018	ATZ
AB/2	Table of contents			2	20/09/2018	ATZ
AB/3	Table of contents			2	20/09/2018	ATZ
AB/4	Table of contents			2	20/09/2018	ATZ
AB/5	Table of contents			2	20/09/2018	ATZ
AB/6	Table of contents			2	20/09/2018	ATZ
AB/7	Table of contents			2	20/09/2018	ATZ

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Zone 0

AA/1	Sub-Title Page			2	20/09/2018	ATZ
LD/1	PSS0 - Overall system architecture 1/2	Overall system architecture		2	20/09/2018	ATZ
LD/2	PSS0 - Overall system architecture 2/2	Overall system architecture		2	20/09/2018	ATZ
LD/3	PSS0 - Equipment distribution overview	General layout		2	20/09/2018	ATZ
LD/4	ISrc Safety Fence - view door side (from outside)	Layout		2	20/09/2018	ATZ
LD/5	ISrc Safety Fence - view door side (from inside)	Layout		2	20/09/2018	ATZ
LD/6	ISrc Safety Fence - view beam output side (from outside)	Layout		2	20/09/2018	ATZ
LD/7	ISrc Safety Fence - view inner left side (by regards beam direction)	Layout		2	20/09/2018	ATZ
LD/8	ISrc Safety Fence - view inner right side (by regards beam direction)	Layout		2	20/09/2018	ATZ
LD/9	FEB Basement - Access Control Box	Layout		2	20/09/2018	ATZ
LD/10	ACC Tunnel (NCL) - High Voltage OFF Button	Layout		2	20/09/2018	ATZ
FS/1	Search buttons	Field devices: Search buttons		2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	20/09/2018	PAGE TYPE Table of contents	Functional location (FBS):		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	20/09/2018	FUNCTION	Physical location (LBS):		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &AB1	



Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
------------	------	------------------	--------------------------	----------	------	-----------

=ESS.ACC.F01.F01

Zone 0

FS/2	Ion Source HV OFF Button	Field devices: Ion Source HV OFF Button	2	20/09/2018	ATZ
FS/3	Access Door (position monitoring switches)	Field devices: Access Door (position monitoring switches)	2	20/09/2018	ATZ
FS/4	Access Door (Fortress lock)	Field devices: Access Door (Fortress lock)	2	20/09/2018	ATZ
FS/5	Access Control Box	Field devices: Access Control Box	2	20/09/2018	ATZ
FS/6	Grounding Relay	Field devices: Grounding Relay	2	20/09/2018	ATZ
FS/7	Grounding Rod	Field devices: Grounding Rod	2	20/09/2018	ATZ
FS/8	Annunciator device	Field devices: Annunciator	2	20/09/2018	ATZ
FS/9	Warning lights	Field devices: Warning lights	2	20/09/2018	ATZ
PC/1	Part List		2	20/09/2018	ATZ
PC/2	Part List		2	20/09/2018	ATZ

=ESS.ACC.F01.K01.U1

Red Sys. PLC Rack

AA/1	Sub-Title Page	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/1	Power layout (Main Power)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/2	Power layout (UPS&Battery)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/3	Power layout (Selec. module)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/4	Power from selec. module (PLC CPU + ET200)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/5	Power from selec. module (Scalance + HMI)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/6	Power from selec. module (F-DI + F-DQ)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/7	PLC F-DI module 1 (2D)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/8	PLC F-DI module 2 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/9	PLC DI module 1 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/10	PLC DI module 1 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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				 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small>		<small>CHECKED BY</small> MMI <small>APPROVED BY</small> SBH 	<small>DESIGN SITE</small> ESS	<small>CHESS Doc. NR:</small> ESS-0151602	<small>Document:</small> &AB2

Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
------------	------	------------------	--------------------------	----------	------	-----------

=ESS.ACC.F01.K01.U1

Red Sys. PLC Rack

FS/11	PLC DI module 2 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/12	PLC DI module 2 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/13	PLC F-DQ module 1 (2D)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/14	PLC F-DQ module 2 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/15	PLC DQ module 1 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/16	PLC DQ module 1 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/17	PLC DQ module 2 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/18	PLC DQ module 2 (2B)	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/19	24VDC Distribution blocks	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
LU/1	Panel layout	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/1	Part List	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/2	Part List	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/3	Part List	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/4	Part List	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	2	20/09/2018	ATZ

=ESS.ACC.F01.K01.U2

Red Sys. RIO Rack

AA/1	Sub-Title Page	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/1	Power layout (Main Power)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/2	Power layout (UPS&Battery)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/3	Power layout (Selec. module)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/4	Power from selec. module (ET200 + Scacalance)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/5	Power from selec. module (F-DI + F-DQ)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/6	PLC F-DI module 1 (2D)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
------------	------	------------------	--------------------------	----------	------	-----------

=ESS.ACC.F01.K01.U2

Red Sys. RIO Rack

FS/7	PLC F-DI module 2 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/8	PLC DI module 1 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/9	PLC DI module 1 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/10	PLC DI module 2 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/11	PLC DI module 2 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/12	PLC F-DQ module 1 (2D)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/13	PLC F-DQ module 2 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/14	PLC DQ module 1 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/15	PLC DQ module 1 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/16	PLC DQ module 2 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/17	PLC DQ module 2 (2B)	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/18	24VDC Distribution blocks	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/19	Contactor Relay for GRly	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/20	Signal exchange with ISrc PLC	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
LU/1	Panel layout	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/1	Part List	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/2	Part List	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/3	Part List	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/4	Part List	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	2	20/09/2018	ATZ

=ESS.ACC.F01.K01.U7

HV PS Contactors Rack

AA/1	Sub-Title Page	FEB-010Row:CnPw-U-007 HV PS Contactors Rack	2	20/09/2018	ATZ
FS/1	ISrc Extraction - Contactors	FEB-010Row:CnPw-U-007 HV PS Contactors Rack	2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY	DATE	PAGE TYPE	Functional location (FBS):		
2	20/09/2018	As built	Modification based on ZHAW recommendations	MMI	20/09/2018	Table of contents	Physical location (LBS):		
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	APPROVED BY	DATE	FUNCTION	CHESS Doc. NR:	Document:	
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	SBH	20/09/2018		ESS-0151602	&AB4	



Documentation protection
ISO 16016

DESIGN SITE
ESS

Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
------------	------	------------------	--------------------------	----------	------	-----------

=ESS.ACC.F01.K01.U7

HV PS Contactors Rack

LU/1	ISrcExt	FEB-010Row:CnPw-U-007 HV PS Contactors Rack	2	20/09/2018	ATZ
PC/1	Part List	FEB-010Row:CnPw-U-007 HV PS Contactors Rack	2	20/09/2018	ATZ

=ESS.ACC.F01.K01.U9

Blue Sys. PLC Rack

AA/1	Sub-Title Page	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/1	Power layout (Main Power)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/2	Power layout (UPS&Battery)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/3	Power layout (Selec. module)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/4	Power from selec. module (PLC CPU + ET200)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/5	Power from selec. module (Scalance + HMI)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/6	Power from selec. module (F-DI + F-DQ)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/7	PLC F-DI module 1 (2D)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/8	PLC F-DI module 2 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/9	PLC DI module 1 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/10	PLC DI module 1 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/11	PLC DI module 2 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/12	PLC DI module 2 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/13	PLC F-DQ module 1 (2D)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/14	PLC F-DQ module 2 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/15	PLC DQ module 1 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/16	PLC DQ module 1 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/17	PLC DQ module 2 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
FS/18	PLC DQ module 2 (2B)	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
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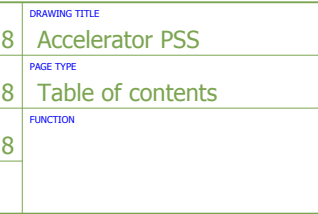
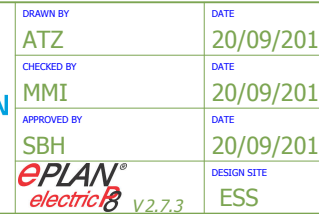


Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
------------	------	------------------	--------------------------	----------	------	-----------

=ESS.ACC.F01.K01.U9

Blue Sys. PLC Rack

FS/19	24VDC Distribution blocks	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
LU/1	Panel layout	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/1	Part List	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/2	Part List	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/3	Part List	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ
PC/4	Part List	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	2	20/09/2018	ATZ

=ESS.ACC.F01.K01.U10

Blue Sys. RIO Rack

AA/1	Sub-Title Page	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/1	Power layout (Main Power)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
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FS/5	Power from selec. module (F-DI + F-DQ)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/6	PLC F-DI module 1 (2D)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/7	PLC F-DI module 2 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/8	PLC DI module 1 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/9	PLC DI module 1 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/10	PLC DI module 2 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/11	PLC DI module 2 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/12	PLC F-DQ module 1 (2D)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/13	PLC F-DQ module 2 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/14	PLC DQ module 1 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Table of contents	Functional location (FBS):		
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams						

Table of contents

ESS_Table_of_contents_ver1-2017

Assignment	Page	Page description	Supplementary page field	Revision	Date	Edited by
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=ESS.ACC.F01.K01.U10

Blue Sys. RIO Rack

FS/15	PLC DQ module 1 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/16	PLC DQ module 2 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/17	PLC DQ module 2 (2B)	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
FS/18	24VDC Distribution blocks	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
LU/1	Panel layout	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/1	Part List	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/2	Part List	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/3	Part List	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ
PC/4	Part List	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	2	20/09/2018	ATZ

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
2	20/09/2018	As built	Modification based on ZHAW recommendations	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	MMI	20/09/2018	Table of contents	Functional location (FBS):		
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				 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small>			CHESS Doc. NR:	Document:	
						ESS	ESS-0151602	&AB7	



EUROPEAN SPALLATION SOURCE

Description: Zone 0

Functional Location (FBS): =ESS.ACC.F01.F01

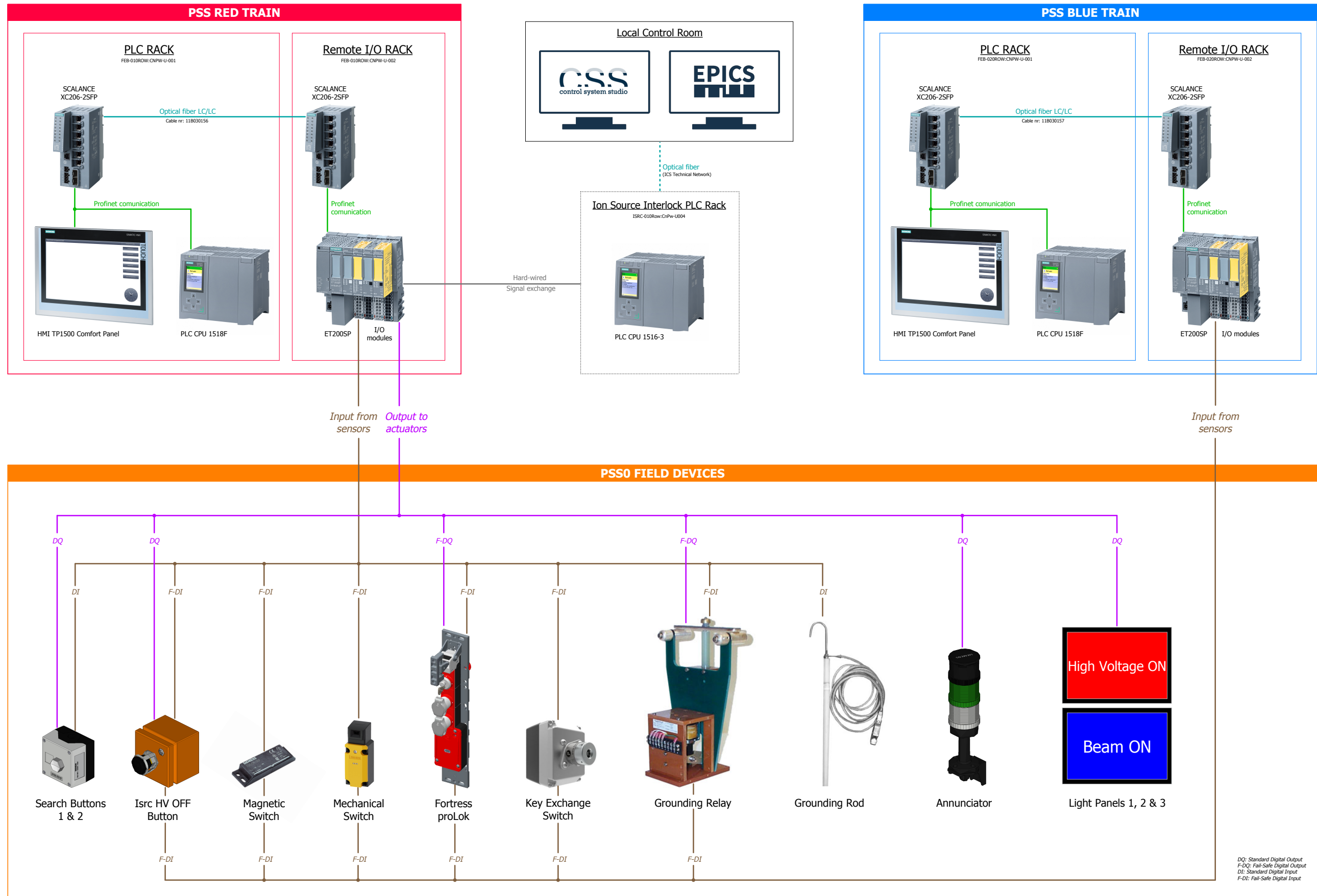
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ESS Name: Acc-Z0:PSS

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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DESIGN SITE			CHESS Doc. NR:		Document:
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	ESS			ESS-0151602		&AA1



PSS0 - Overall system architecture 1/2



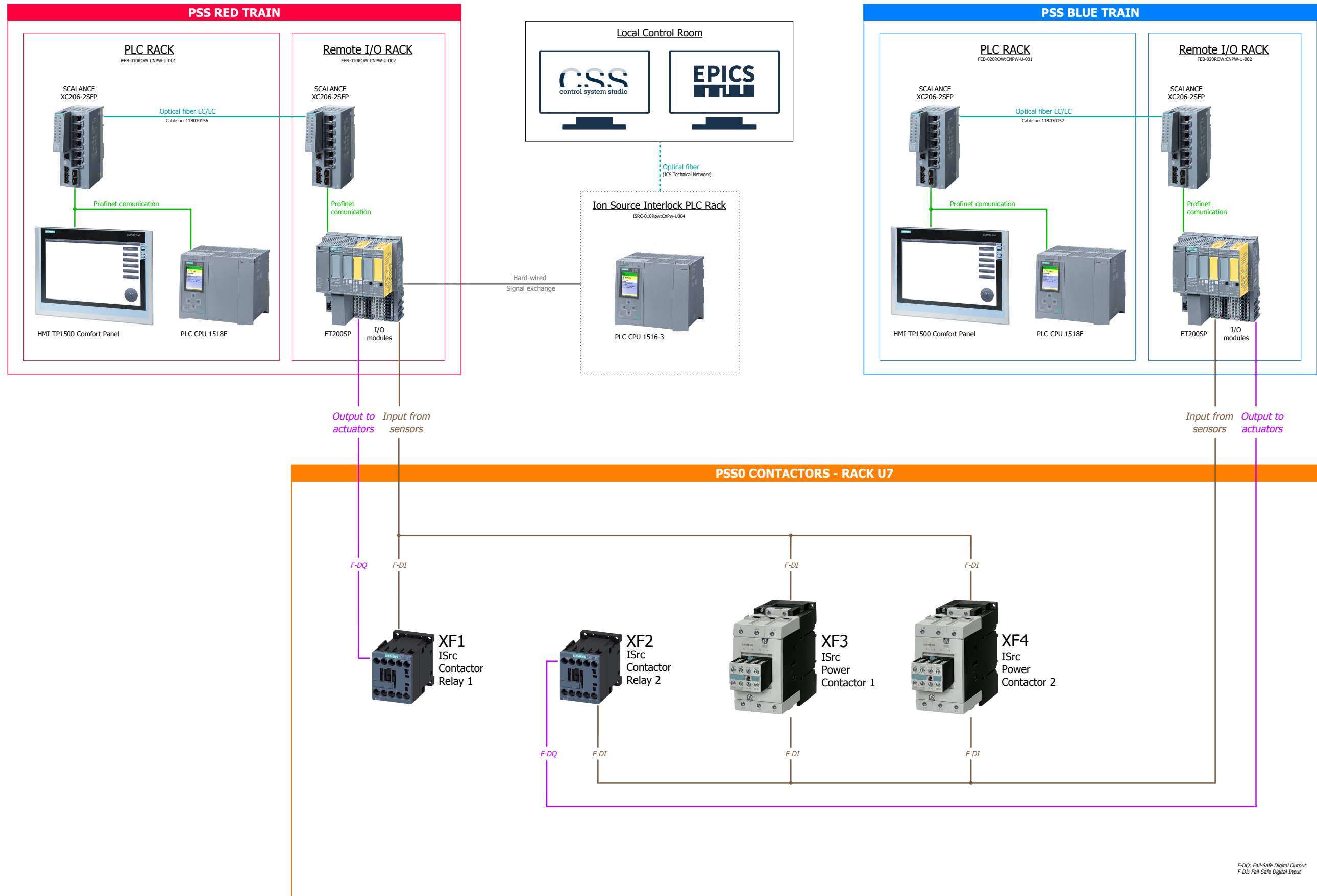
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2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE
ATZ	20/09/2018	Accelerator PSS
MMI	20/09/2018	Topology
SBH	20/09/2018	Overall system architecture

Life cycle label:	Rev:	Page size:
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ESS-0151602		
Document:		
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PSS0 - Overall system architecture 2/2



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

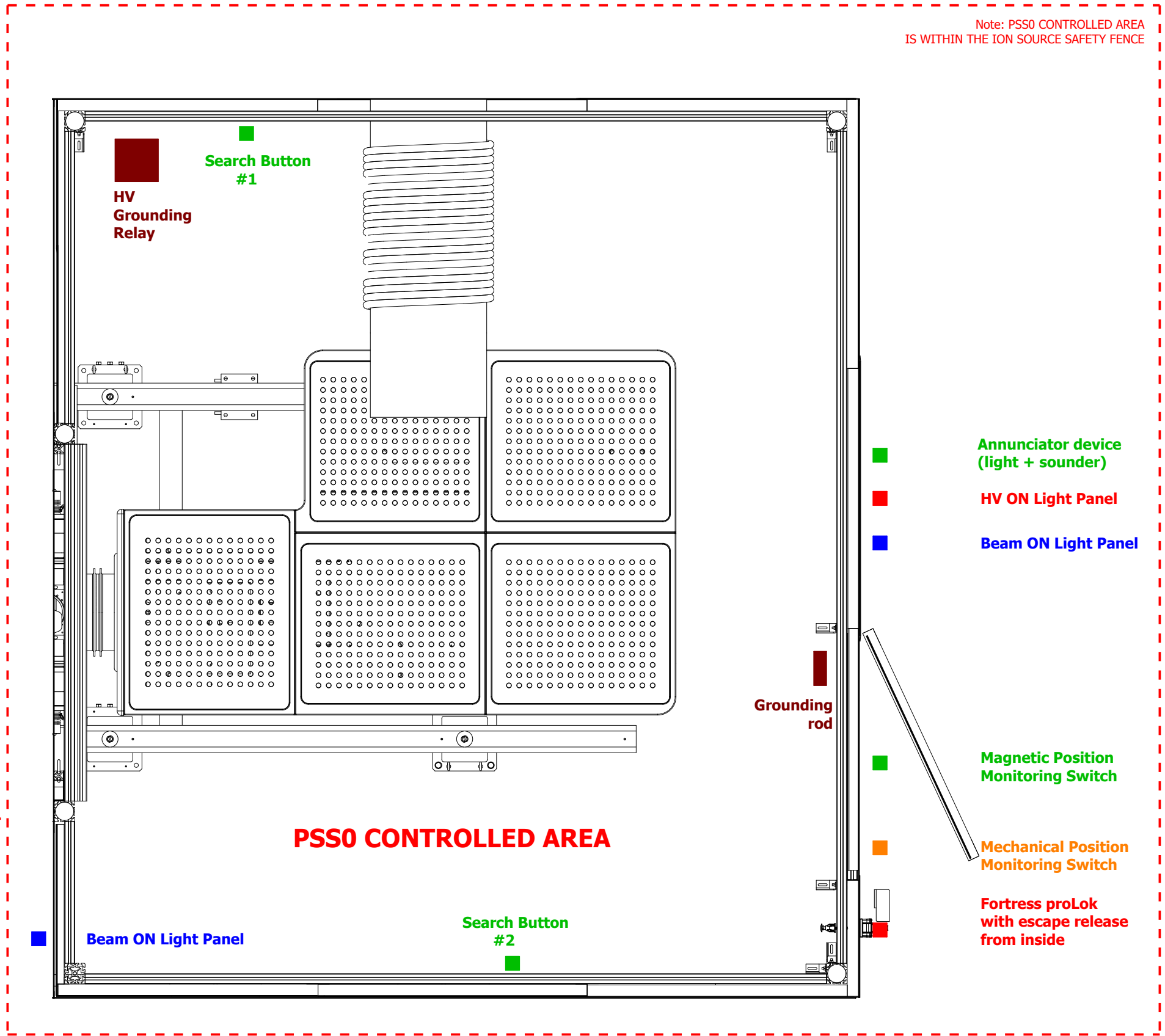
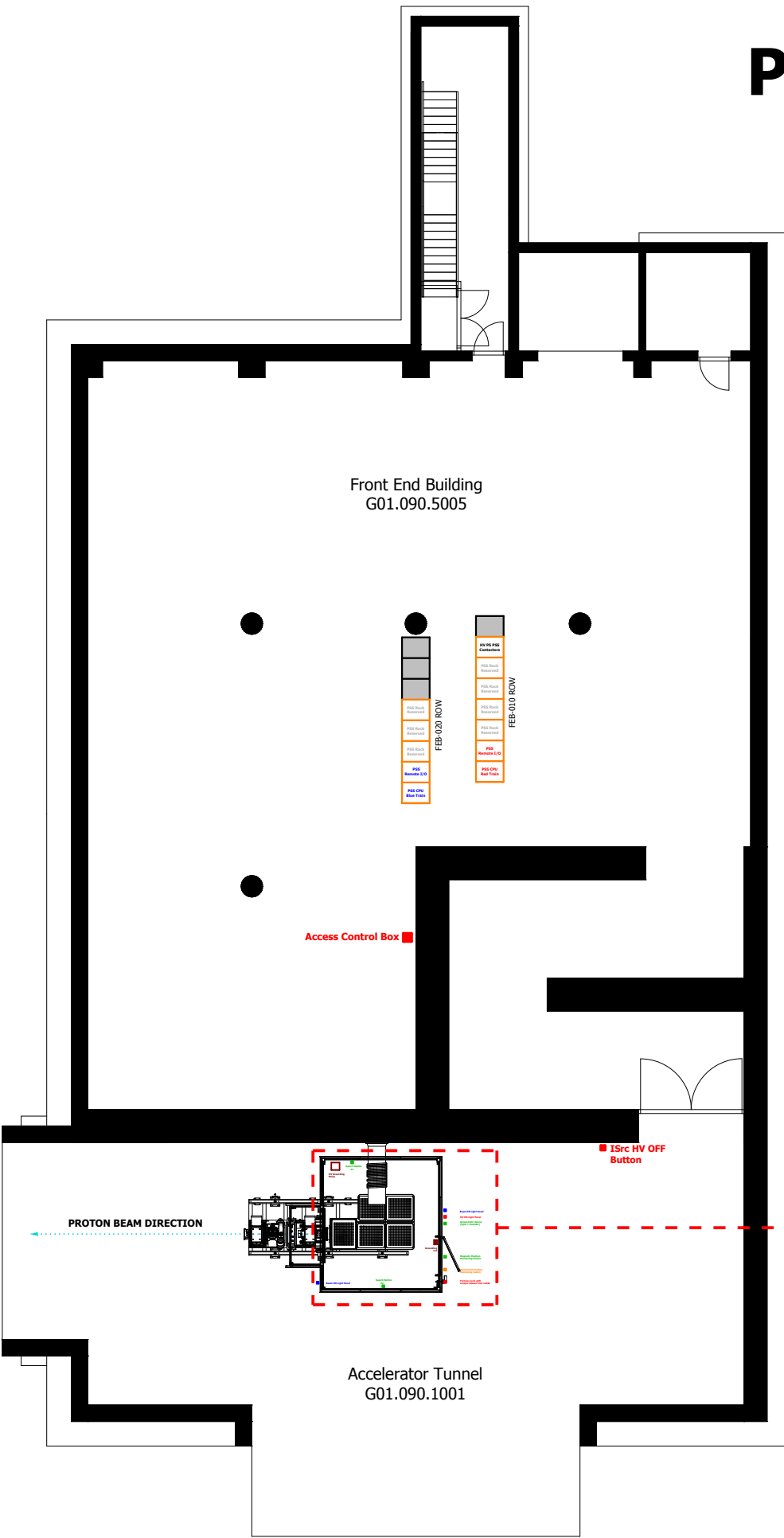


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ATZ	20/09/2018	Accelerator PSS
MMI	20/09/2018	Topology
SBH	20/09/2018	Overall system architecture

Life cycle label:	Rev:	Page size:
Preliminary	2	A3

PSS0 - Equipment distribution overview

Note: PSS0 CONTROLLED AREA IS WITHIN THE ION SOURCE SAFETY FENCE



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

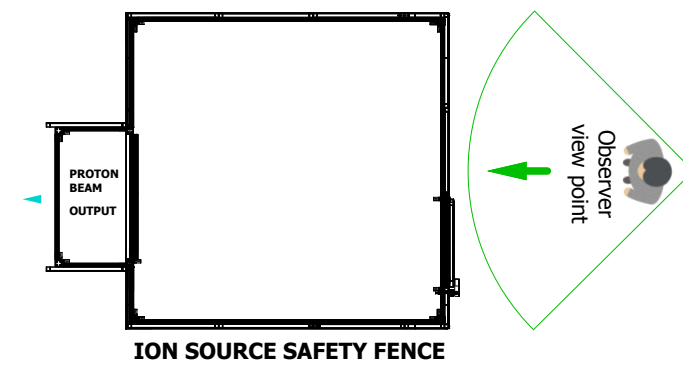
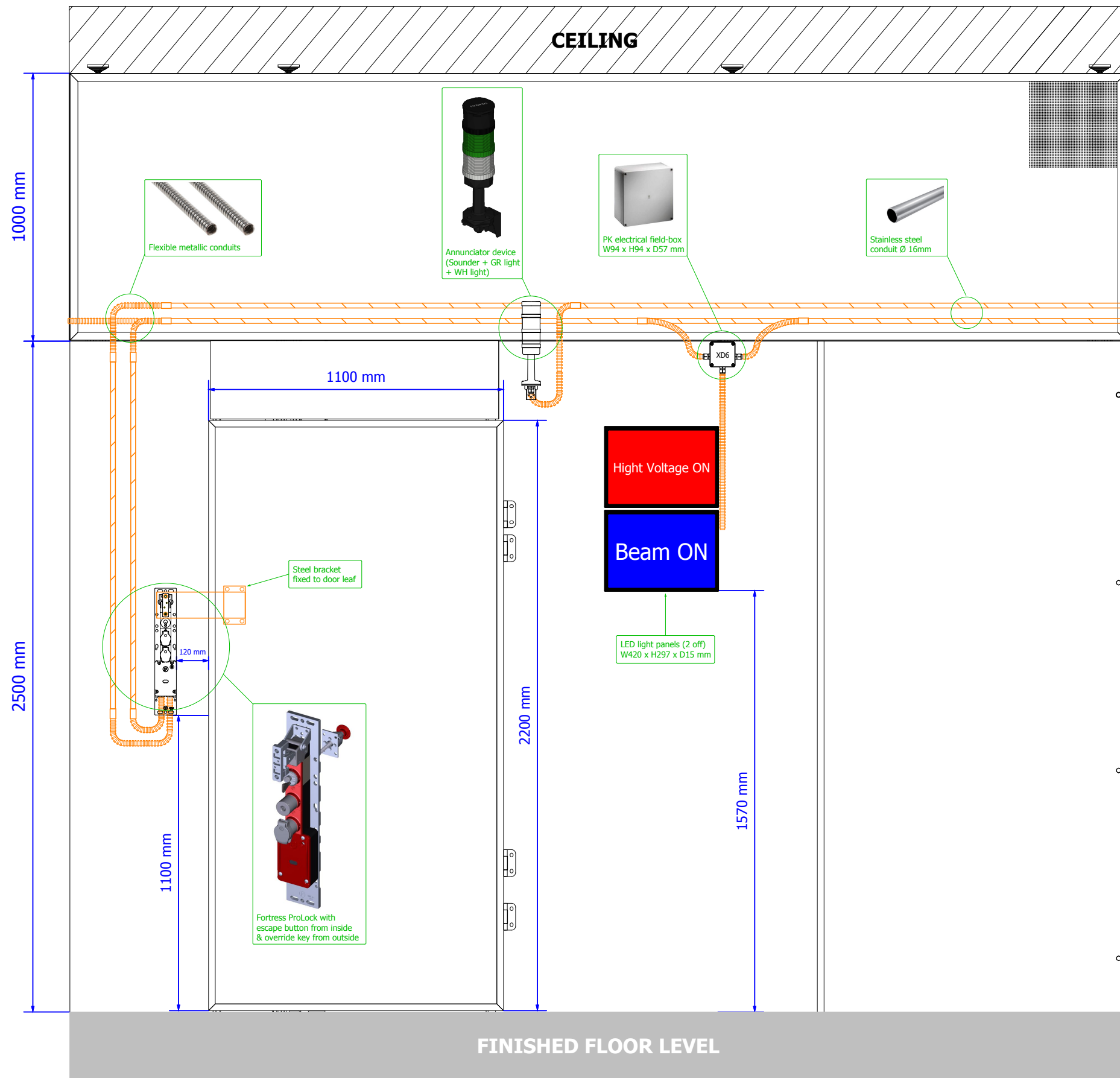


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CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
PAGE TYPE	Overview
FUNCTION	General layout

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
Functional location (FBS):	=ESS.ACC.F01.F01				
Physical location (LBS):	+G01.090				
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ISrc Safety Fence - view door side (from outside)



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

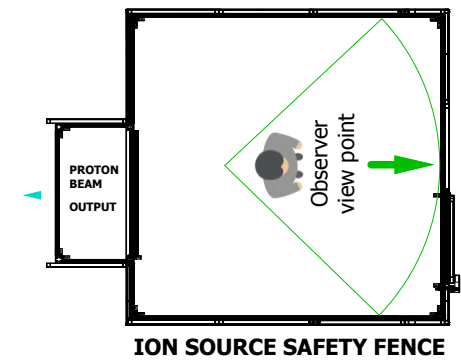
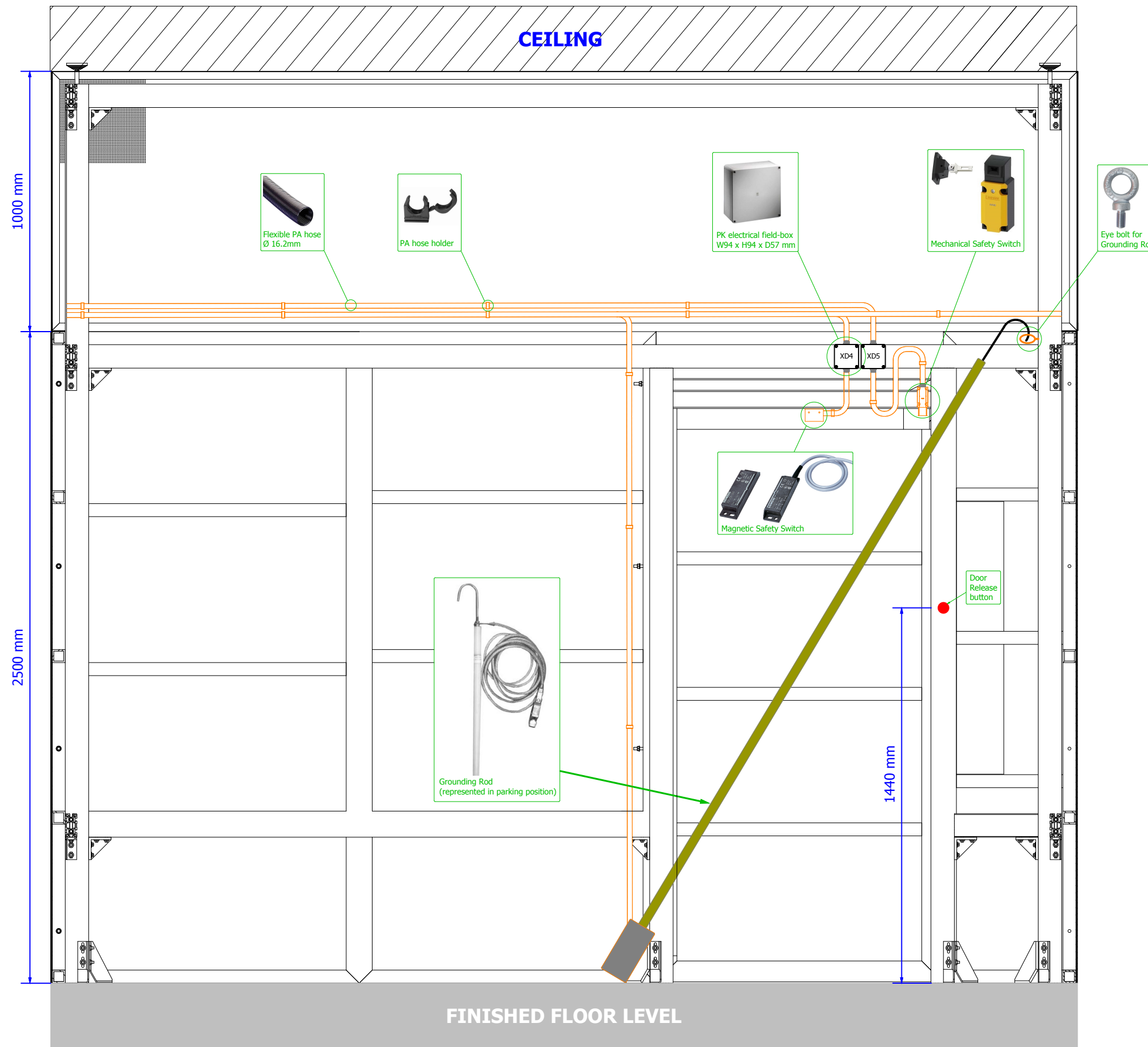


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DESIGN SITE	ESS		


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PAGE TYPE	Graphic
FUNCTION	Layout

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ISrc Safety Fence - view door side (from inside)



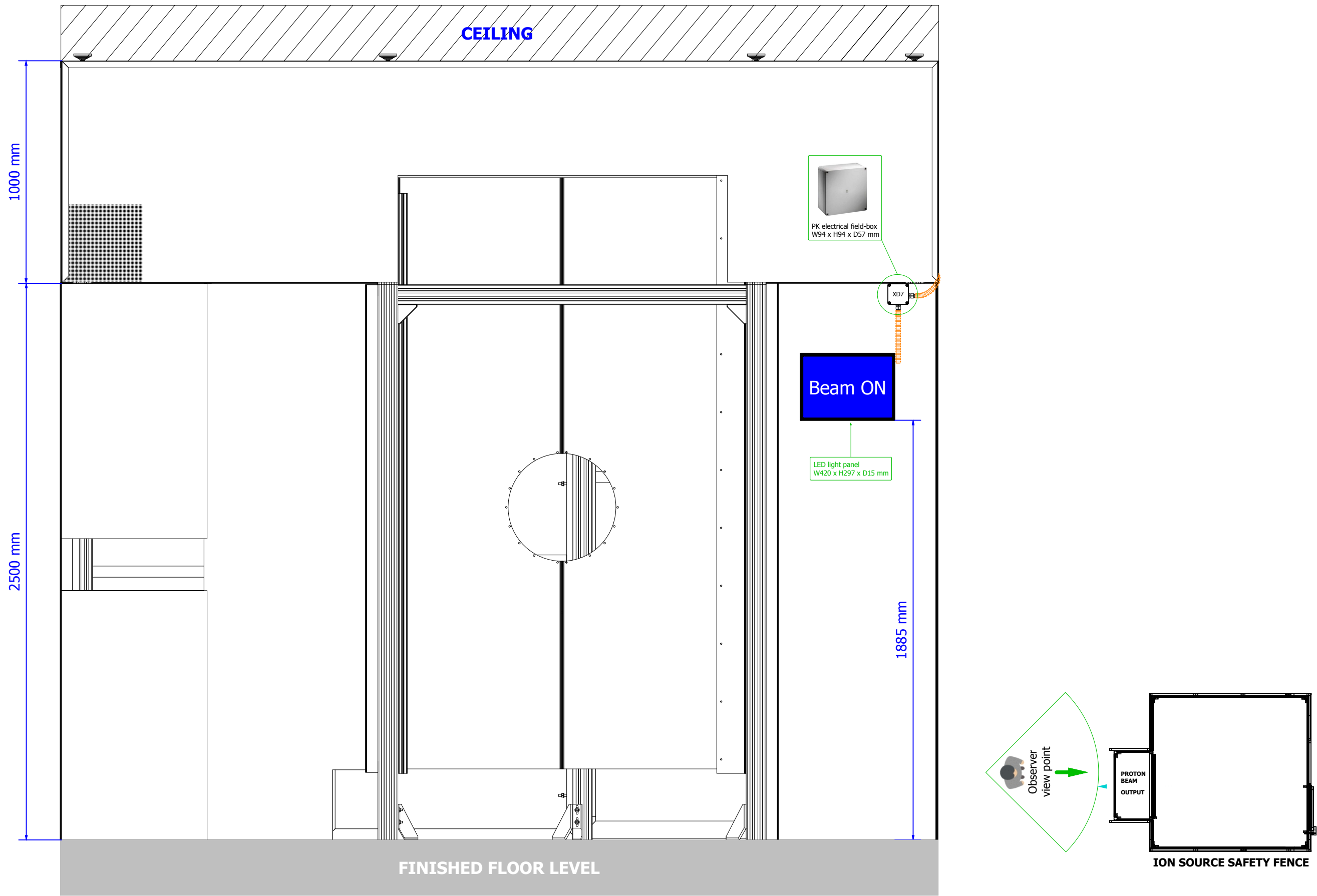
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2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams


EUROPEAN SPALLATION SOURCE
 Documentation protection ISO 16016
 ePLAN electric8 v2.7.3

DRAWN BY	ATZ	DATE	20/09/2018	DRAWING TITLE	Accelerator PSS
CHECKED BY	MMI	DATE	20/09/2018	PAGE TYPE	Graphic
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CHES Doc. NR:	ESS-0151602	Document:	&LD5		

ISrc Safety Fence - view beam output side (from outside)



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

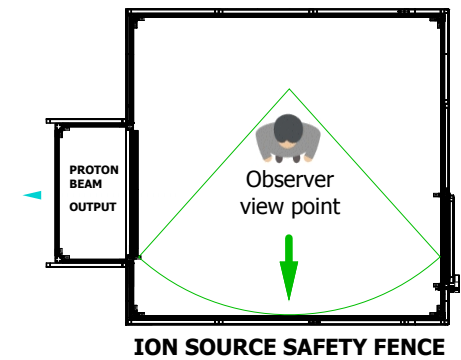
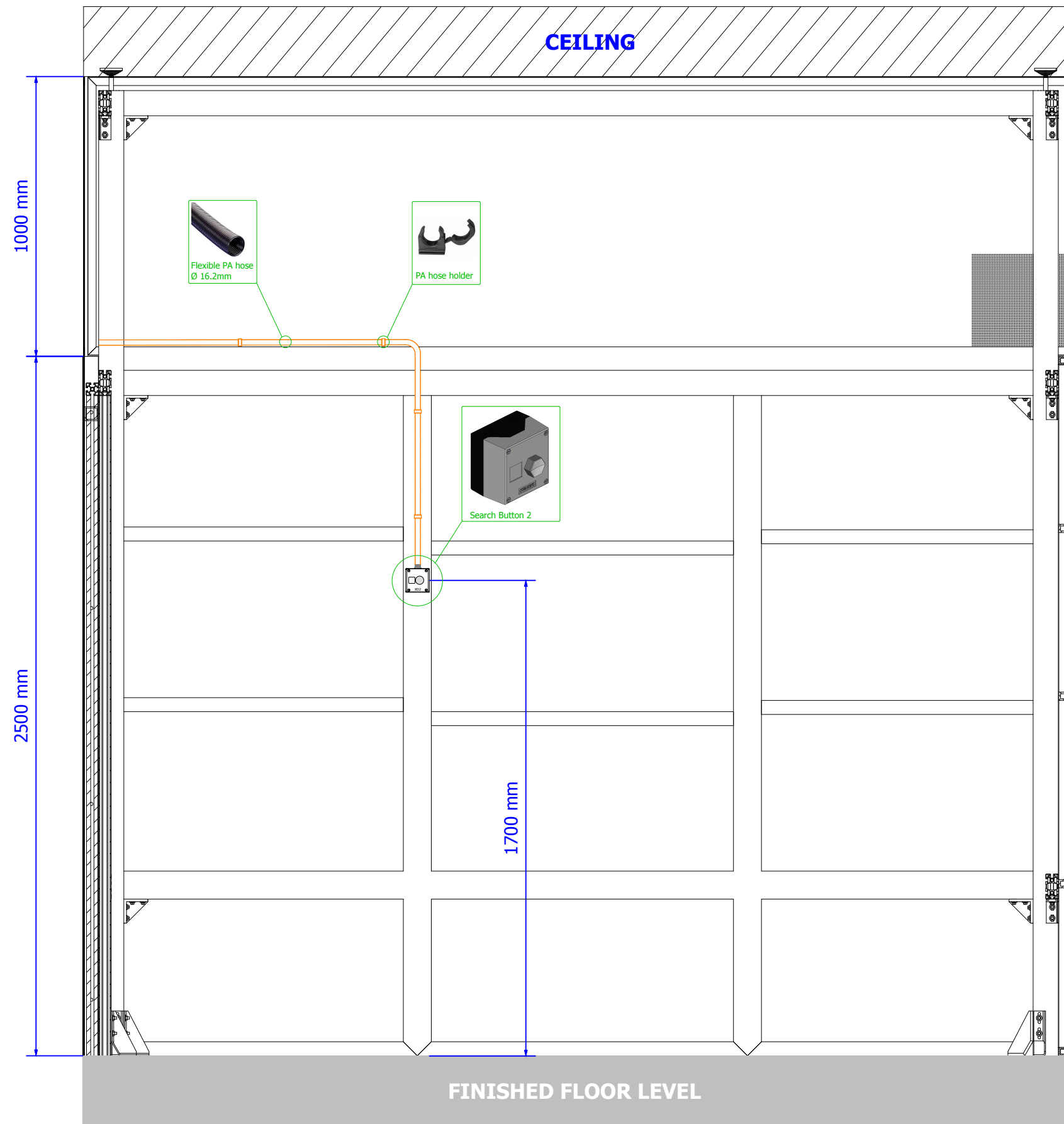


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APPROVED BY SBH	DATE 20/09/2018
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DRAWING TITLE Accelerator PSS
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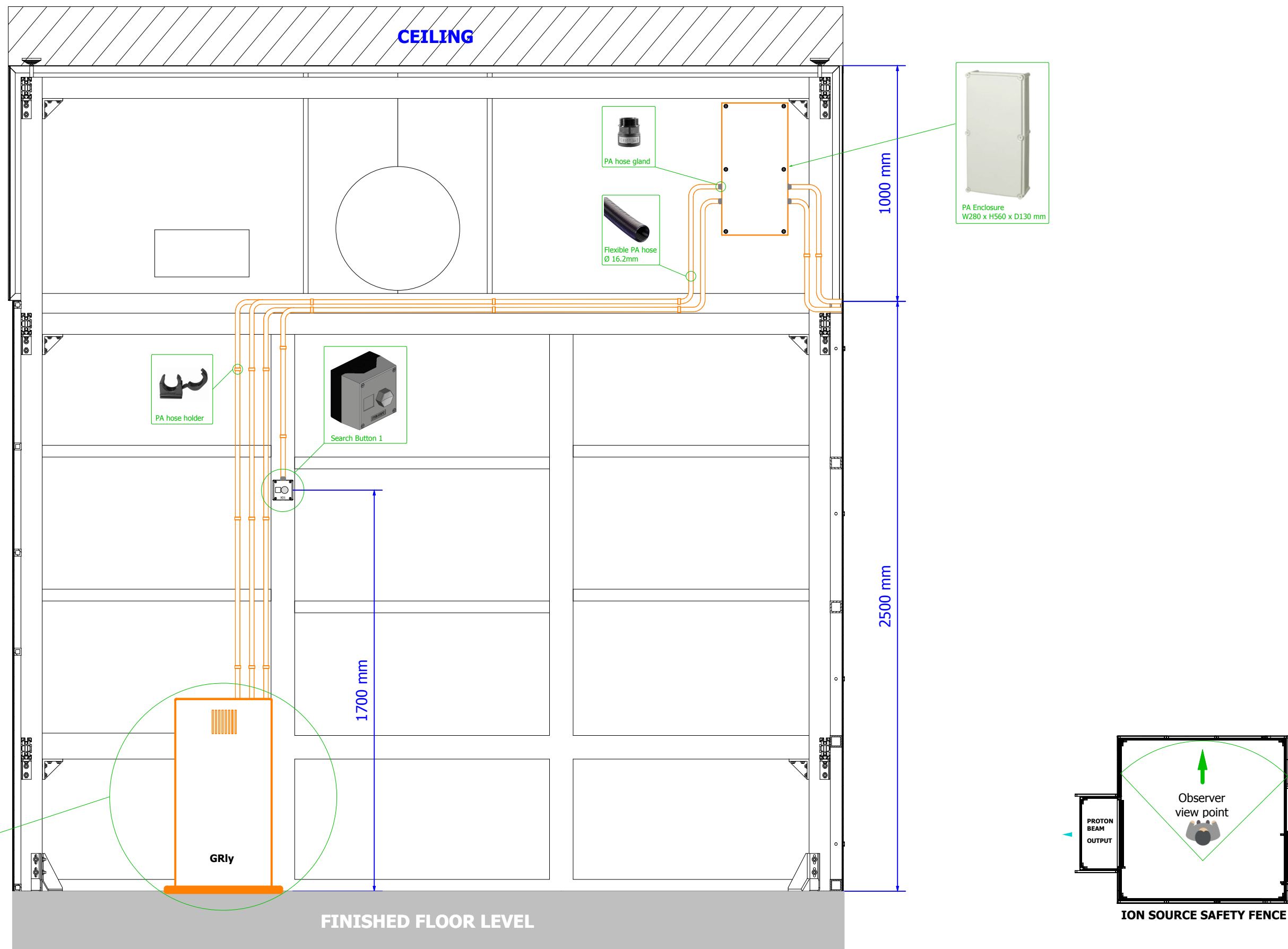
ISrc Safety Fence - view inner left side (by regards beam direction)



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

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			ESS-0151602		&LD7

ISrc Safety Fence - view inner right side (by regards beam direction)



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

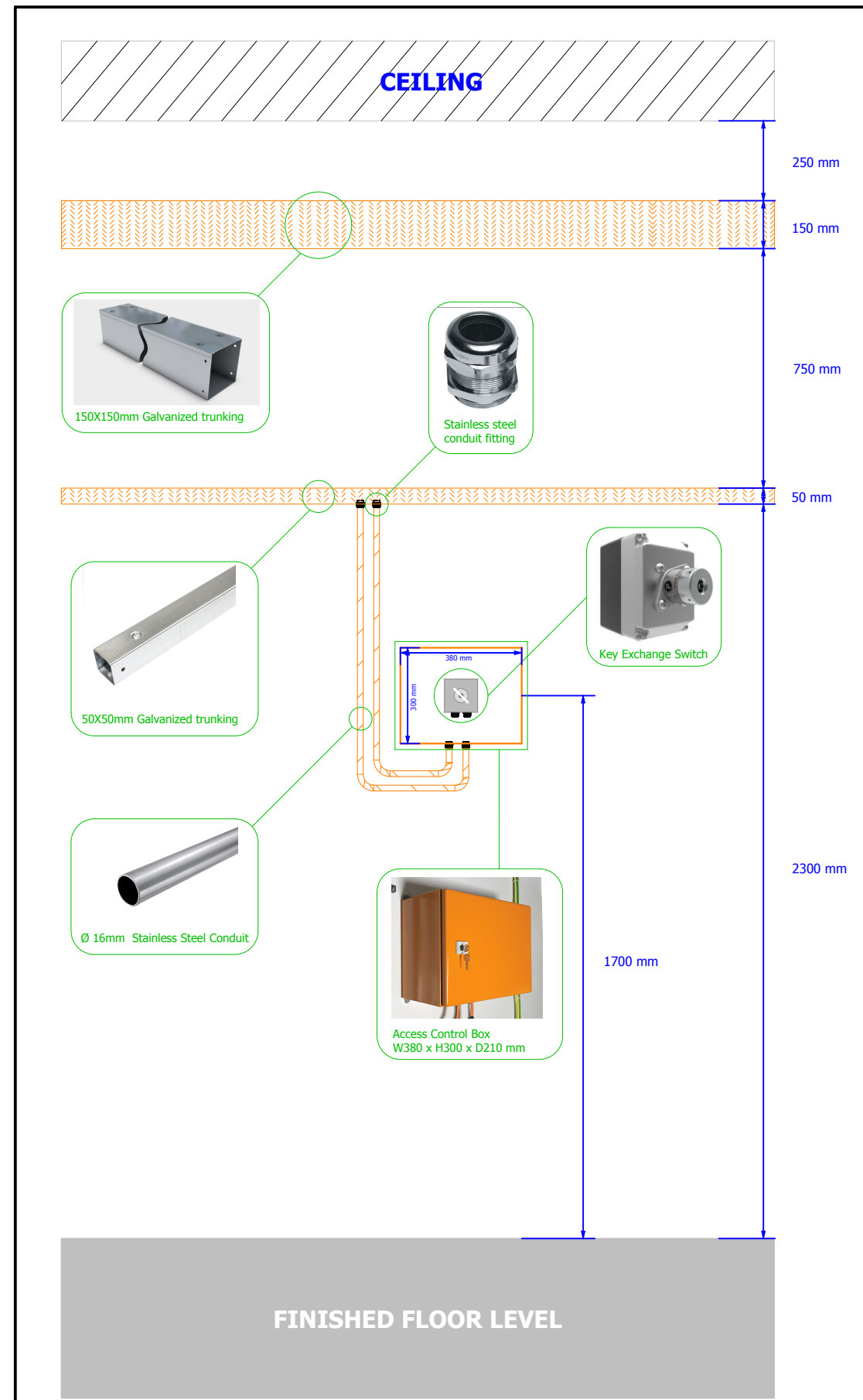


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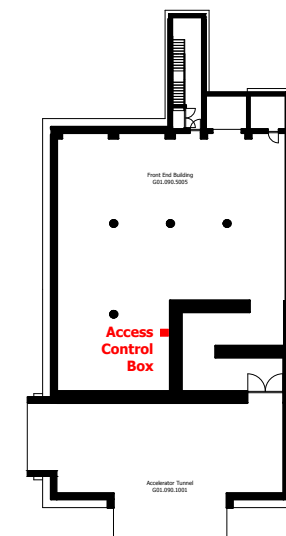
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FEB Basement - Access Control Box



Access Control Box - Location in FEB level 090:



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

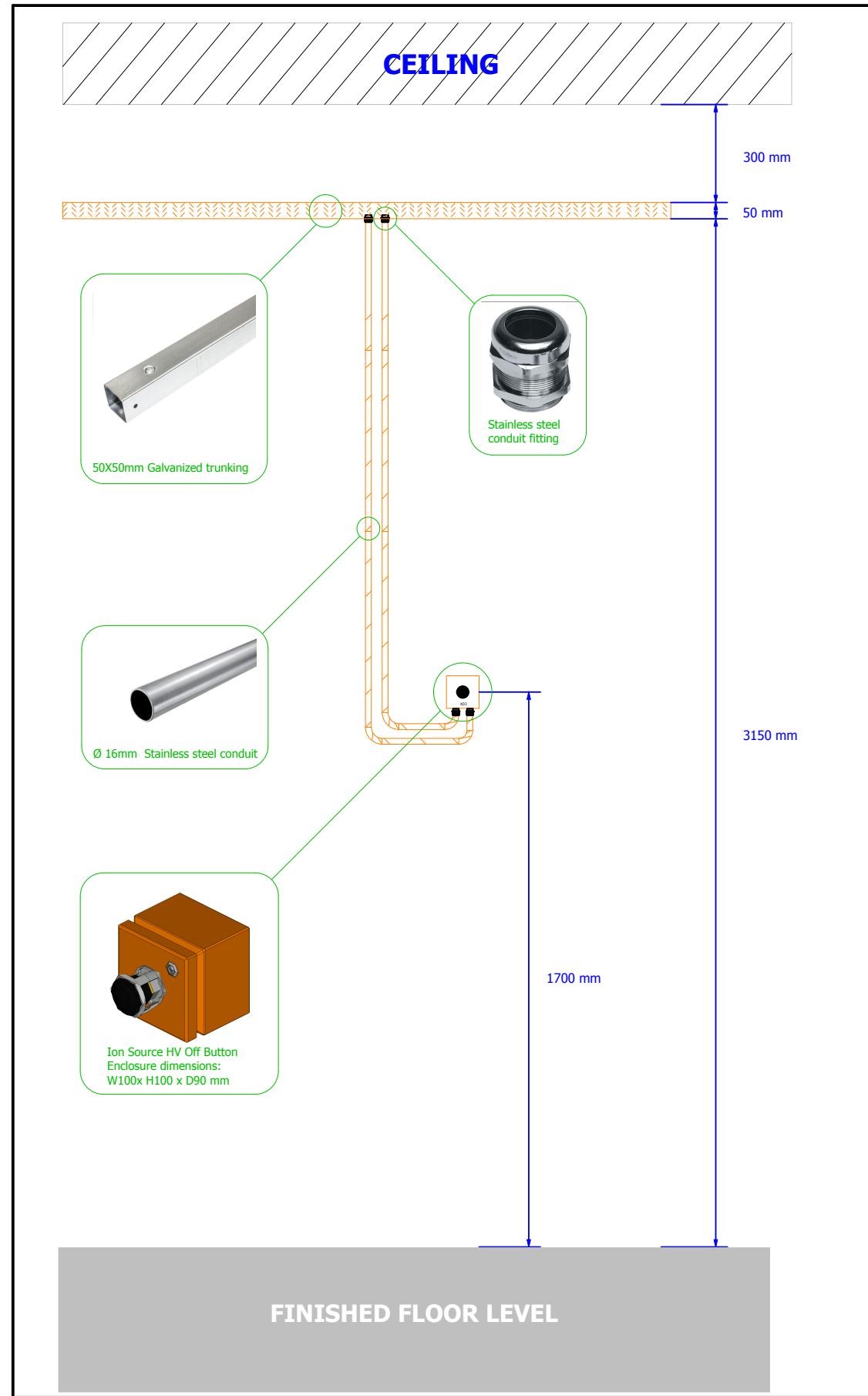


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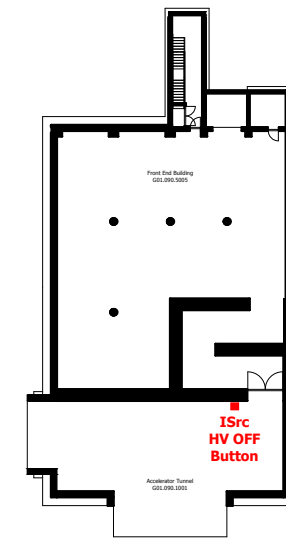
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ACC Tunnel (NCL) - High Voltage OFF Button



ISrc HV OFF Button - Location in ACC Tunnel NCL:



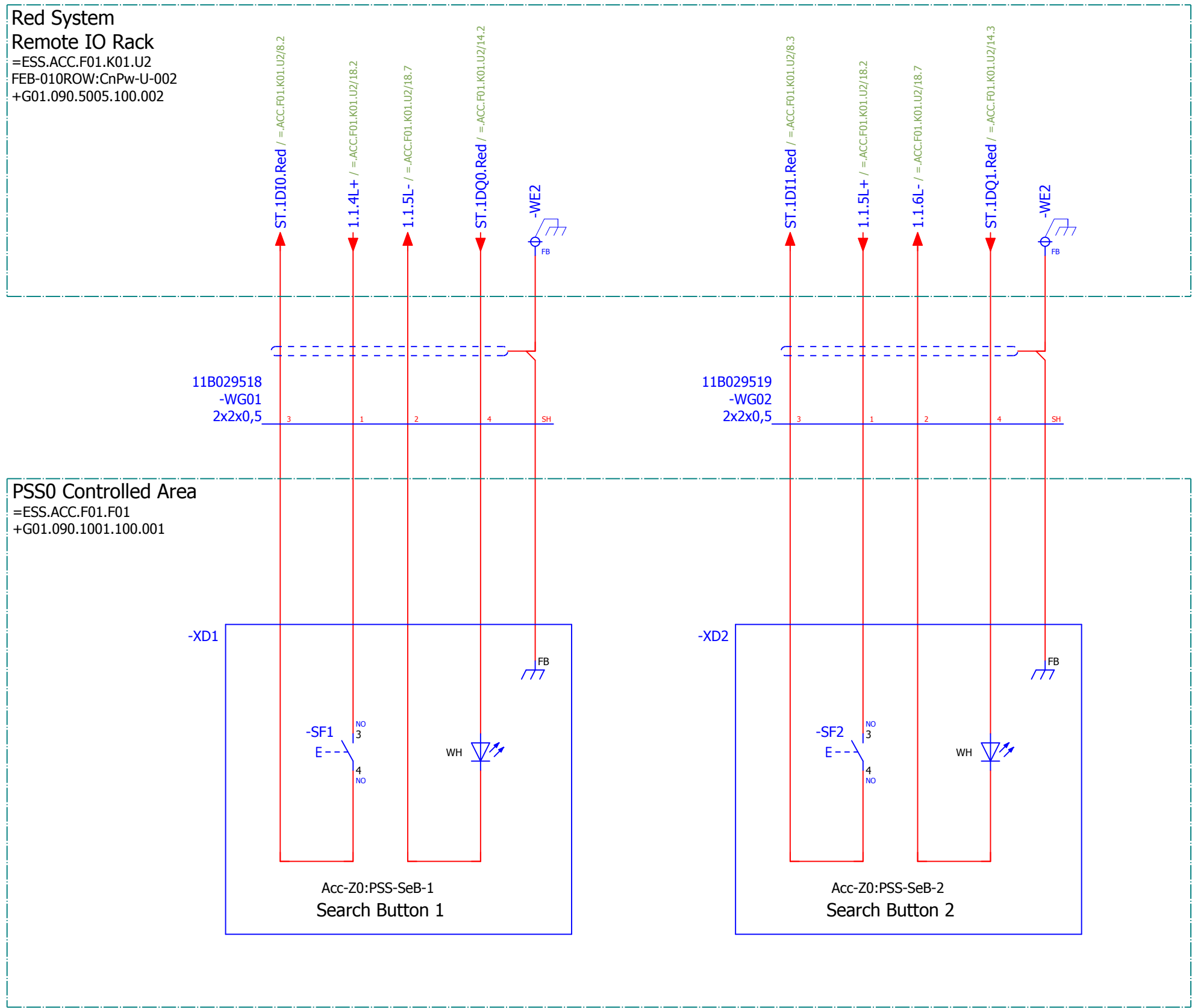
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



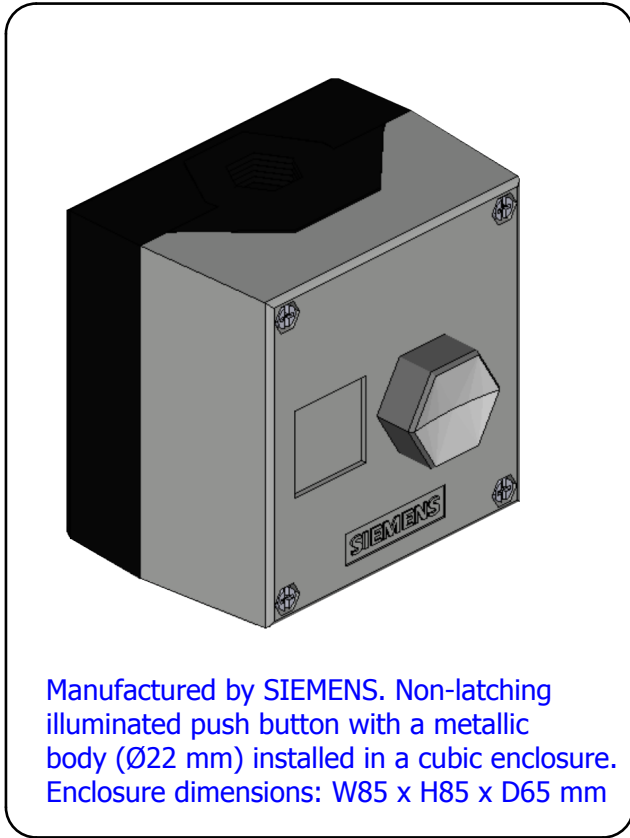
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FUNCTION	Layout

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Search Button

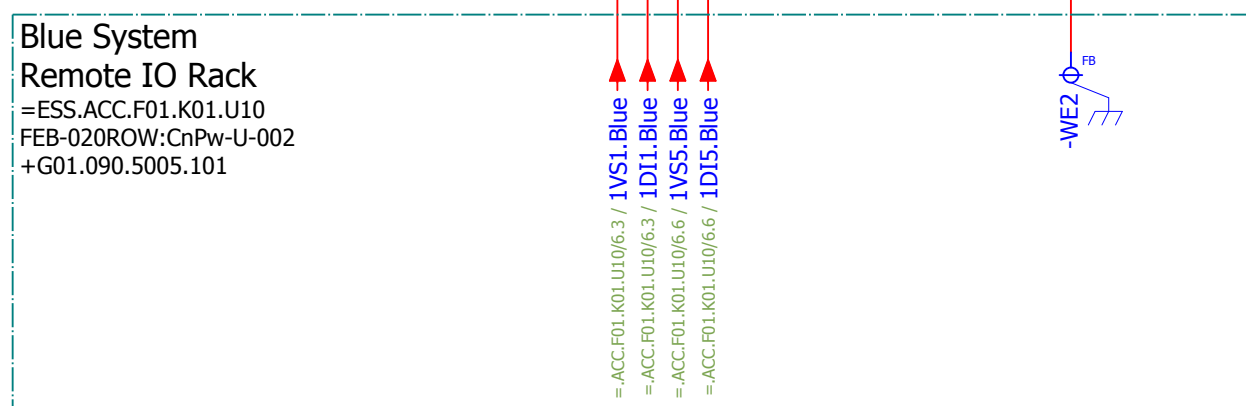
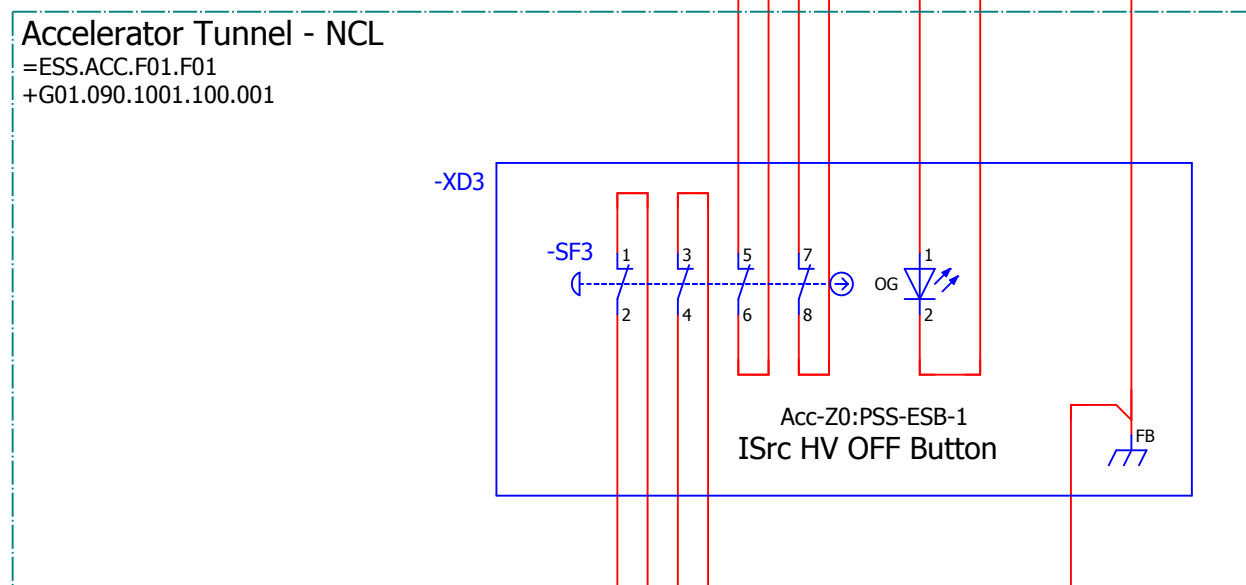
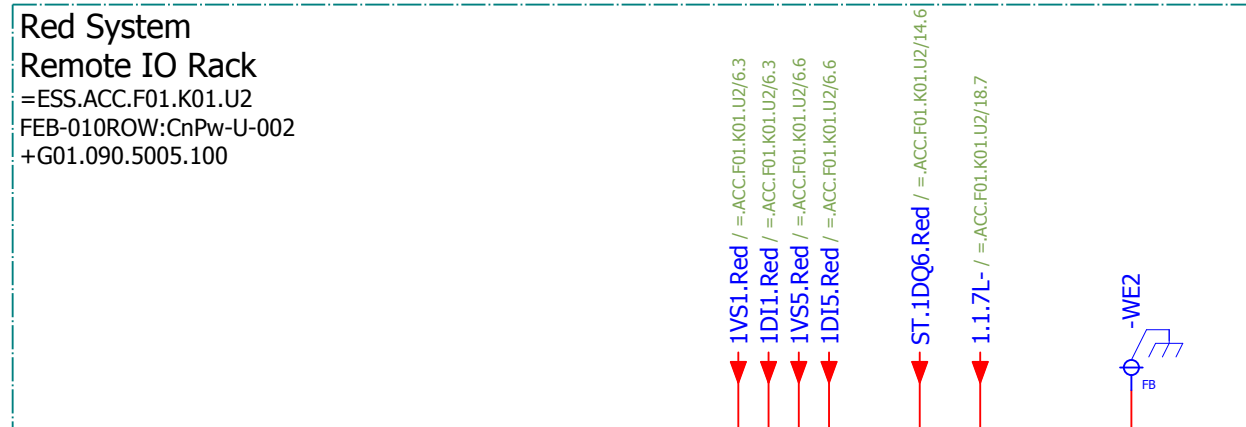


Manufactured by SIEMENS. Non-latching illuminated push button with a metallic body (Ø22 mm) installed in a cubic enclosure. Enclosure dimensions: W85 x H85 x D65 mm

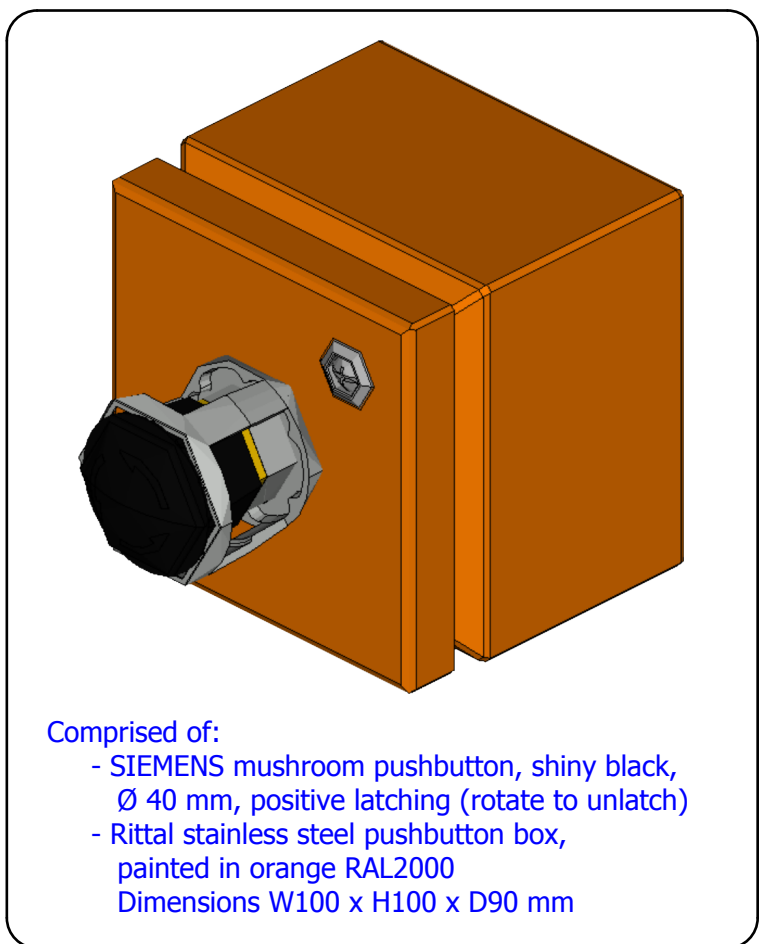
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2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY ATZ CHECKED BY MMI APPROVED BY SBH DESIGN SITE ESS	DATE 20/09/2018 DATE 20/09/2018 DATE 20/09/2018 DESIGN SITE ESS	DRAWING TITLE Accelerator PSS PAGE TYPE Schematic multi-line FUNCTION Field devices: Search buttons	Lifecycle label: Preliminary Functional location (FBS): =ESS.ACC.F01.F01 Physical location (LBS): +G01.090.1001.100.001 CHES Doc. NR: ESS-0151602	Rev: 2 Page size: A3 Document: &FS1
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ISrc High Voltage OFF Button

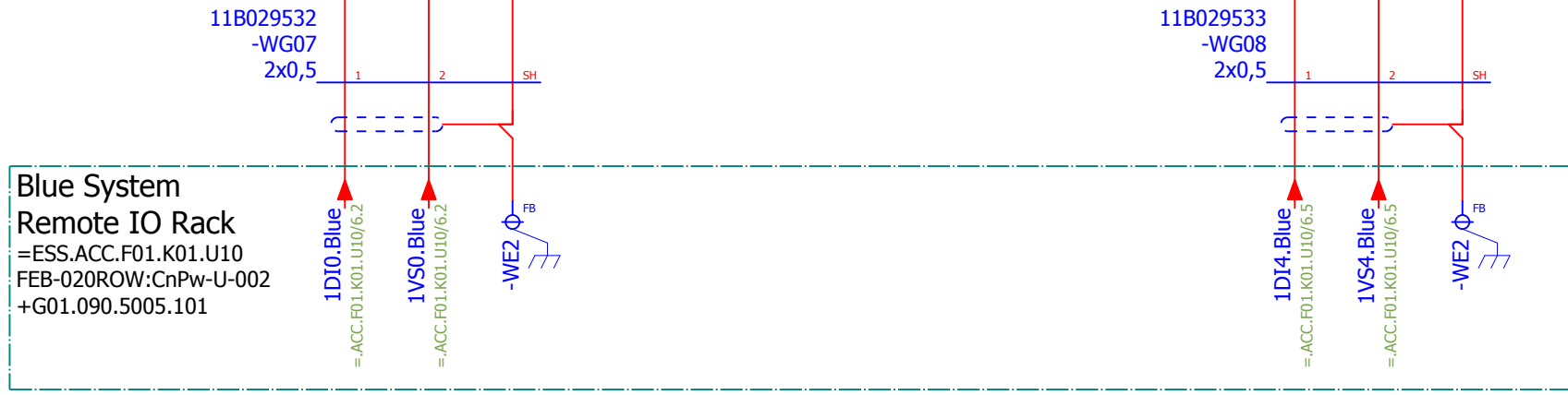
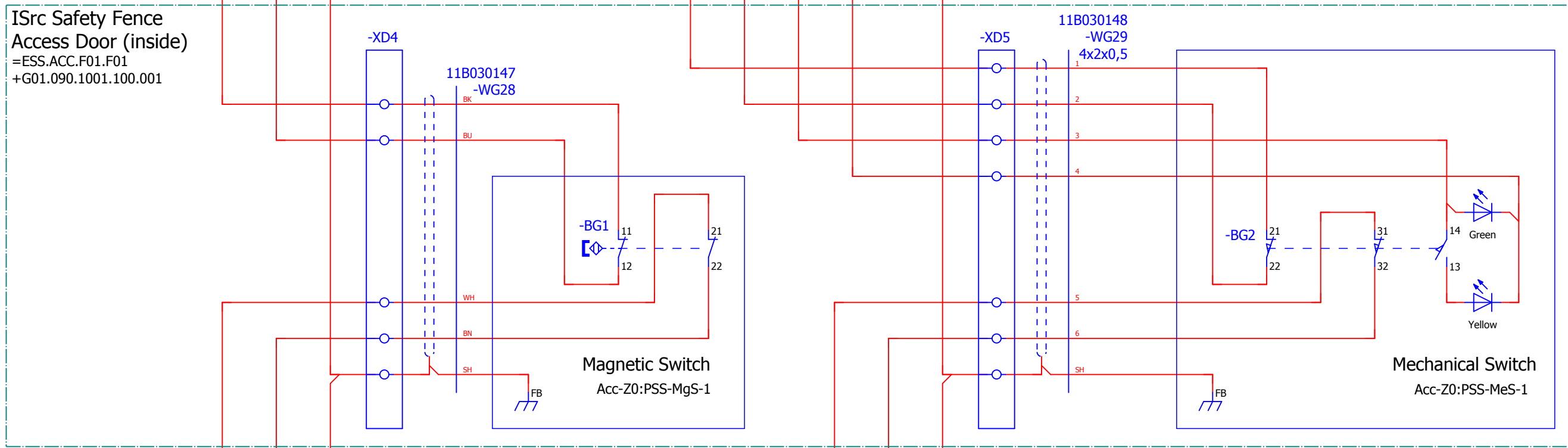
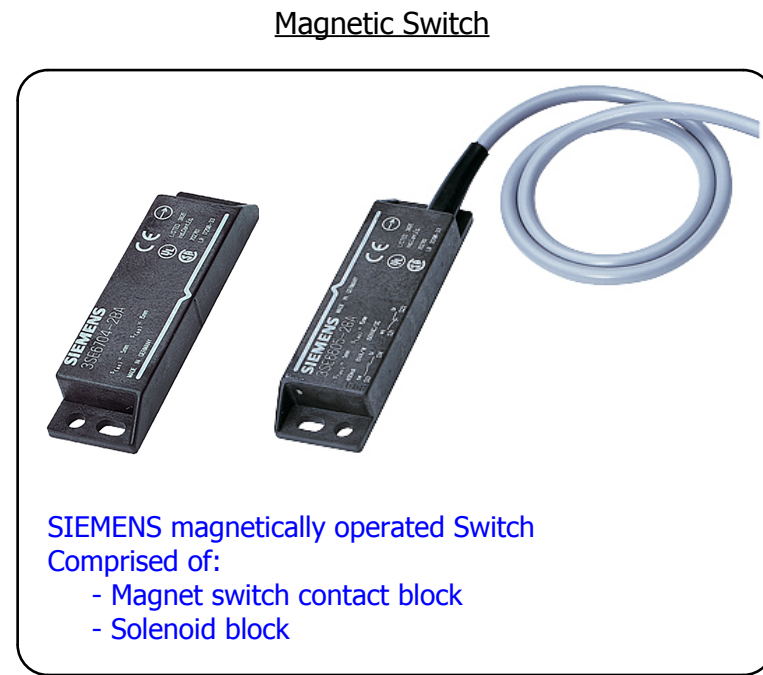
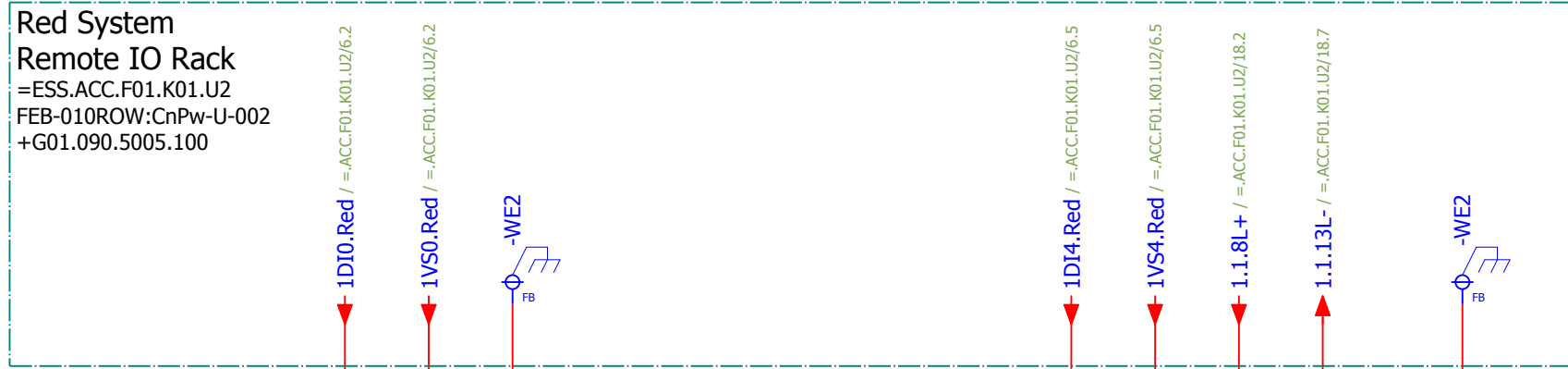


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2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE
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CHECKED BY	DATE <td>PAGE TYPE </td>	PAGE TYPE
MMI	20/09/2018	Schematic multi-line
APPROVED BY	DATE <td>FUNCTION </td>	FUNCTION
SBH	20/09/2018	Field devices: Ion Source HV OFF Button
DESIGN SITE	ESS	

Life cycle label:	Rev:	Page size:
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE
ATZ	20/09/2018	Accelerator PSS
MMI	20/09/2018	Schematic multi-line
SBH	20/09/2018	Field devices: Access Door (position monitoring switches)

Lifecycle label:	Rev:	Page size:
Preliminary	2	A3

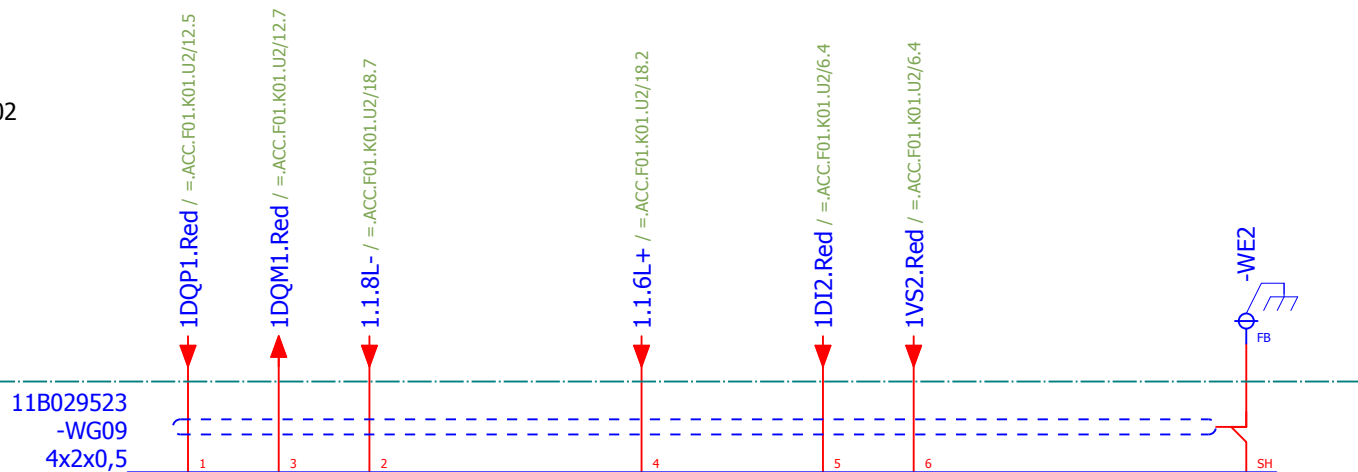
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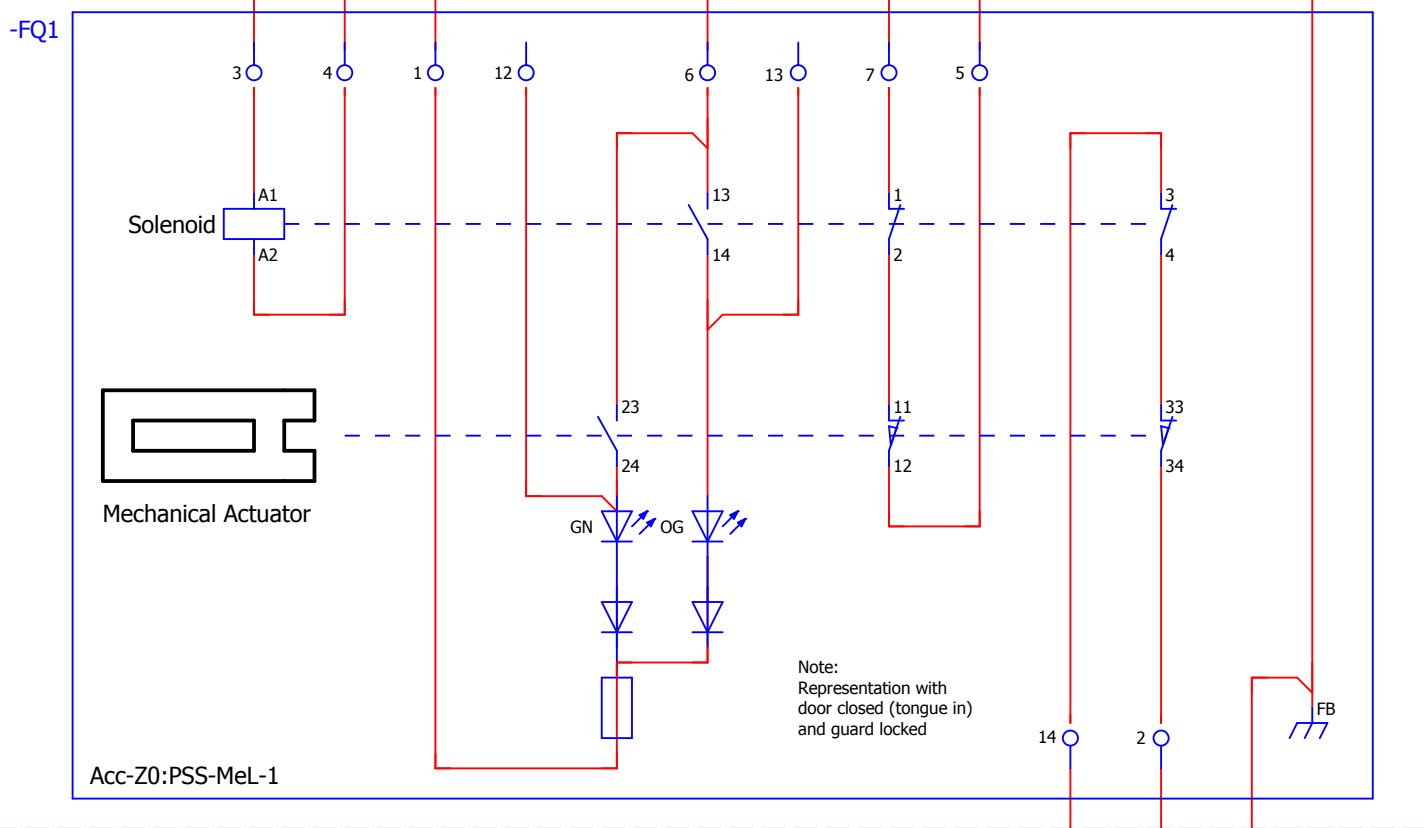
CHES Doc. NR:
ESS-0151602

Document:
&FS3

Red System
 Remote IO Rack
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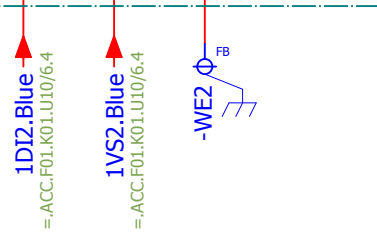


ISrc Safety Fence
 Access Door (outside)
 =ESS.ACC.F01.F01
 +G01.090.1001.100.001



11B029534
 -WG10
 2x0,5

Blue System
 Remote IO Rack
 =ESS.ACC.F01.K01.U10
 FEB-020ROW:CnPw-U-002
 +G01.090.5005.101



Fortress proLok - Solenoid Controlled Body

CLOSING AND LOCKING:

The guard locking device is activated by inserting the tongue into the head.
 The rotational actuator then locks the tongue in the head.
 The safety circuits are closed and the monitoring circuit is open. No LEDs are lit.

UNLOCKING:

The guard locking device is released when voltage is applied to the solenoid.
 The monitoring circuit is closed and the safety circuits are positively opened.
 The orange LED lights up.

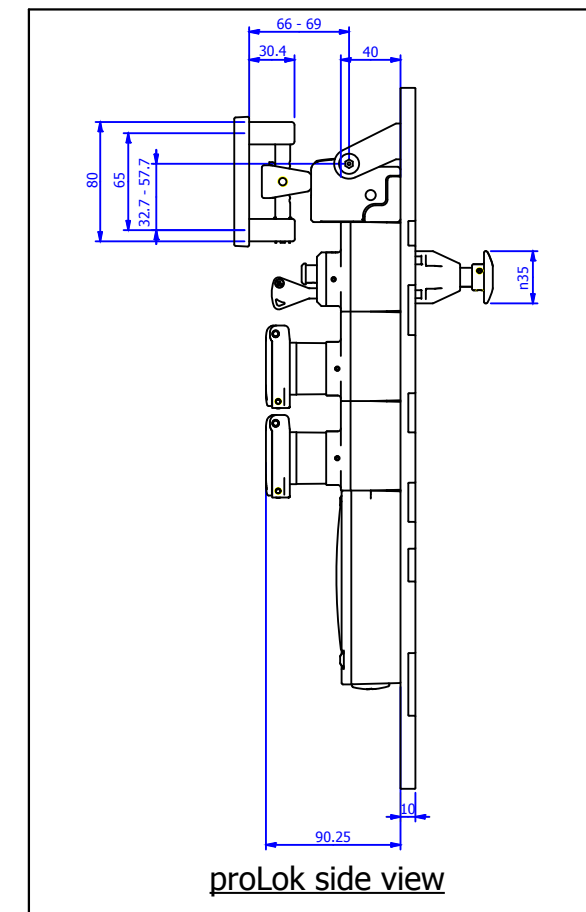
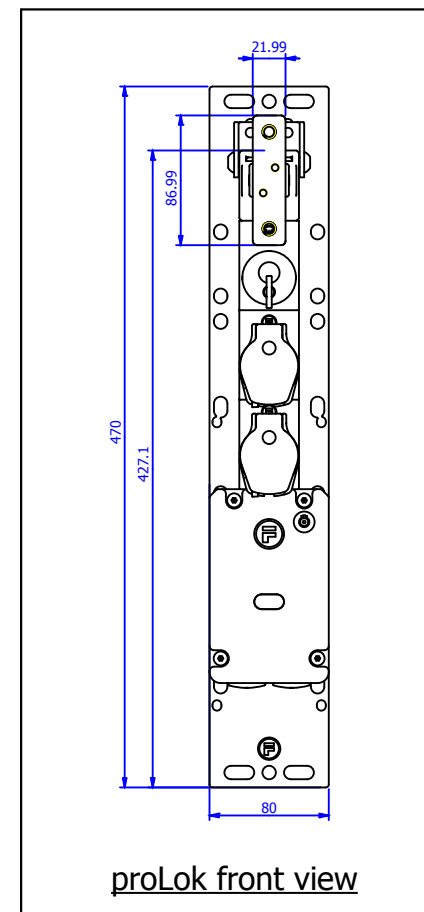
OPENING:

When the tongue is removed, the safety circuits are positively opened.
 The green and orange LEDs are lit.

AUXILIARY UNLOCKING MECHANISM:

In the event of power failure, the guard locking device can be released with the override key irrespective of the state of the solenoid.

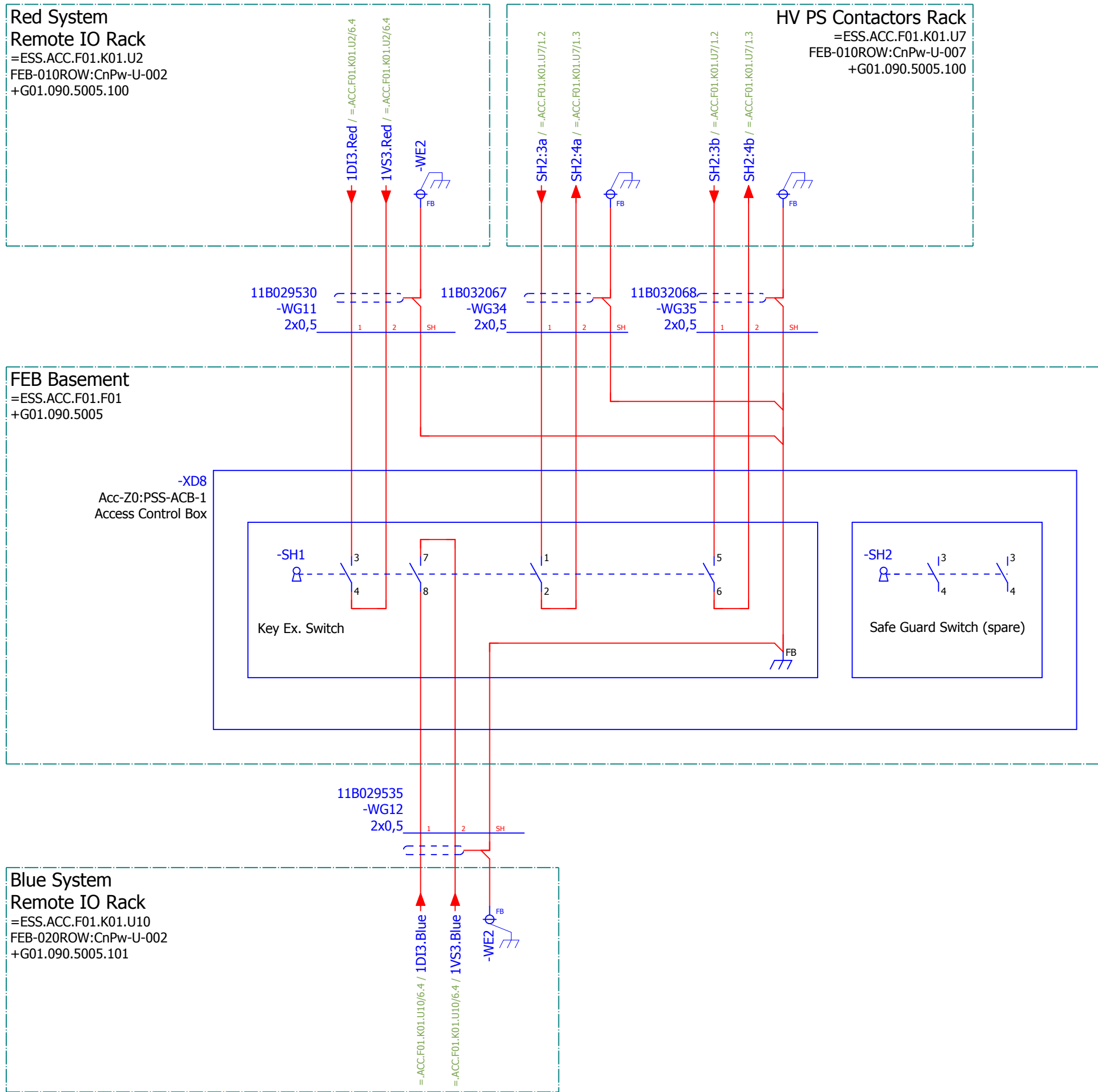
- Insert the pin hex override key into its key hole and rotate 90° clockwise.
- Remove the tongue from the head.
- Rotated the override key 90° anti-clockwise and remove from the interlock.



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
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DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
CHECKED BY	DATE <td>PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td> </td>	PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td>	Functional location (FBS):		
MMI	20/09/2018	Schematic multi-line	=ESS.ACC.F01.F01		
APPROVED BY	DATE <td>FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td> </td>	FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td>	Physical location (LBS):		
SBH	20/09/2018	Field devices: Access Door (Fortress lock)	+G01.090.1001.100.001		
DESIGN SITE <td>ESS</td> <td>CHESS Doc. NR:</td> <td>ESS-0151602</td> <td>Document:</td> <td>&FS4</td>	ESS	CHESS Doc. NR:	ESS-0151602	Document:	&FS4



Key Exchange Switch



Manufactured by Fortress Interlock Solenoid Controlled Key Switch, (mGard SS1) Is a coded key operated rotary switch The key may only be removed when solenoid has been energised Coil voltage: 24V DC

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

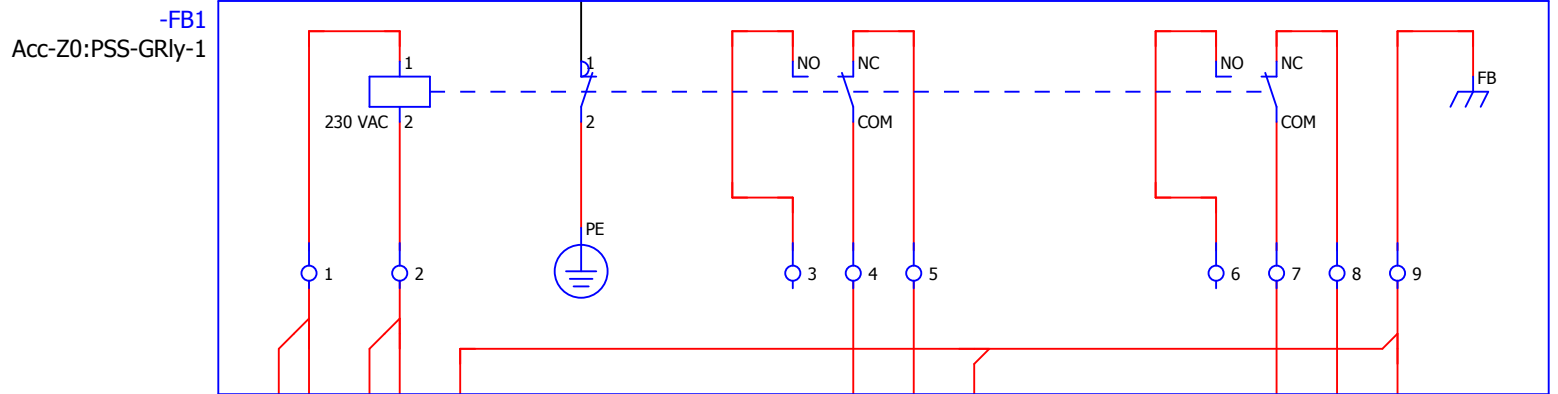
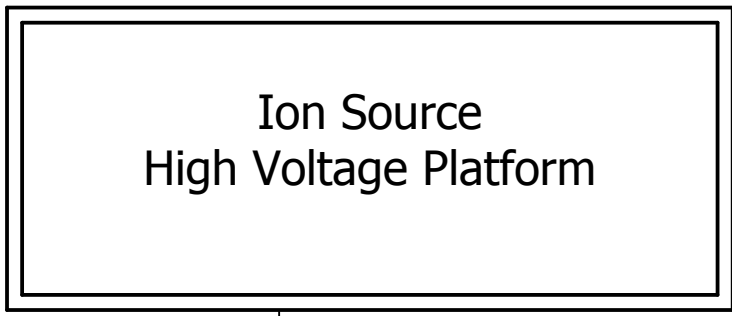
EUROPEAN SPALLATION SOURCE

Documentation protection ISO 16016

ePLAN electric 8 v2.7.3

DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
CHECKED BY	DATE <td>PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td> </td>	PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td>	Functional location (FBS):		
MMI	20/09/2018	Schematic multi-line	=ESS.ACC.F01.F01		
APPROVED BY	DATE <td>FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td> </td>	FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td>	Physical location (LBS):		
SBH	20/09/2018	Field devices: Access Control Box	+G01.090.5005		
DESIGN SITE <td>ESS</td> <td>CHES Doc. NR:</td> <td>ESS-0151602</td> <td>Document:</td> <td>&FS5</td>	ESS	CHES Doc. NR:	ESS-0151602	Document:	&FS5

PSS0 Controlled Area
 =ESS.ACC.F01.F01
 +G01.090.1001.100.001



11B029524
-WD13
2x2x0,5

11B029525
-WG14
2x2x0,5

11B029536
-WG15
2x2x0,5

Red System
Remote IO Rack
 =ESS.ACC.F01.K01.U2
 FEB-010ROW:CnPw-U-002
 +G01.090.5005.100

=ACC.F01.K01.U2/1.8 / 1L1
 =ACC.F01.K01.U2/1.9 / 2L1
 =ACC.F01.K01.U2/1.9 / N1
 =ACC.F01.K01.U2/1.9 / N2
 -WE2

=ACC.F01.K01.U2/6.7 / 1DI6.Red
 =ACC.F01.K01.U2/6.7 / 1VS6.Red
 -WE2

Blue System
Remote IO Rack
 =ESS.ACC.F01.K01.U10
 FEB-020ROW:CnPw-U-002
 +G01.090.5005.101

=ACC.F01.K01.U10/6.7 / 1DI6.Blue
 =ACC.F01.K01.U10/6.7 / 1VS6.Blue
 -WE2

Grounding Relay



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

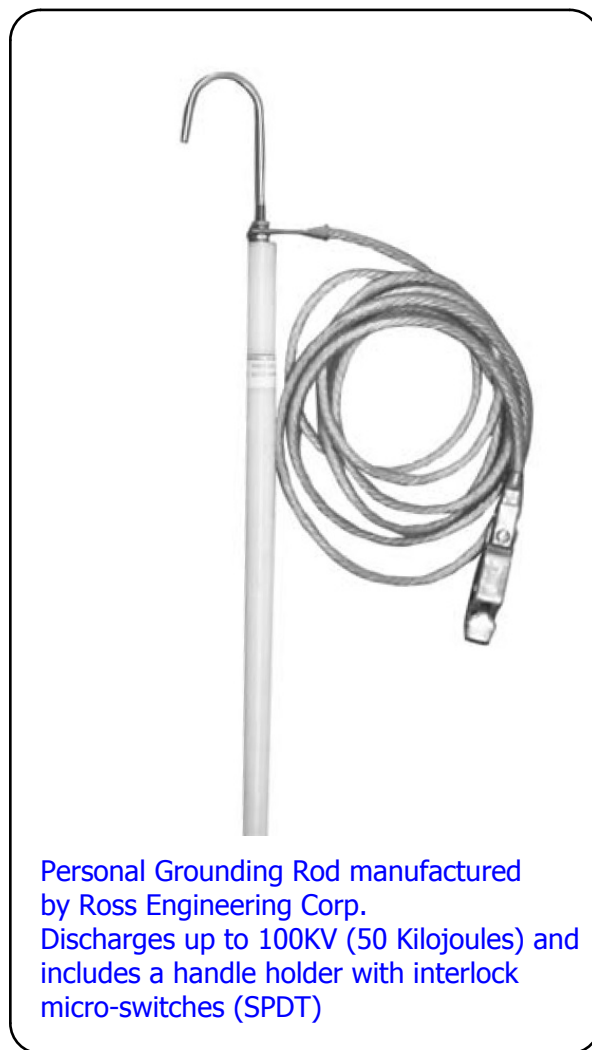


DRAWN BY	DATE	DRAWING TITLE
ATZ	20/09/2018	Accelerator PSS
MMI	20/09/2018	Schematic multi-line
SBH	20/09/2018	Field devices: Grounding Relay

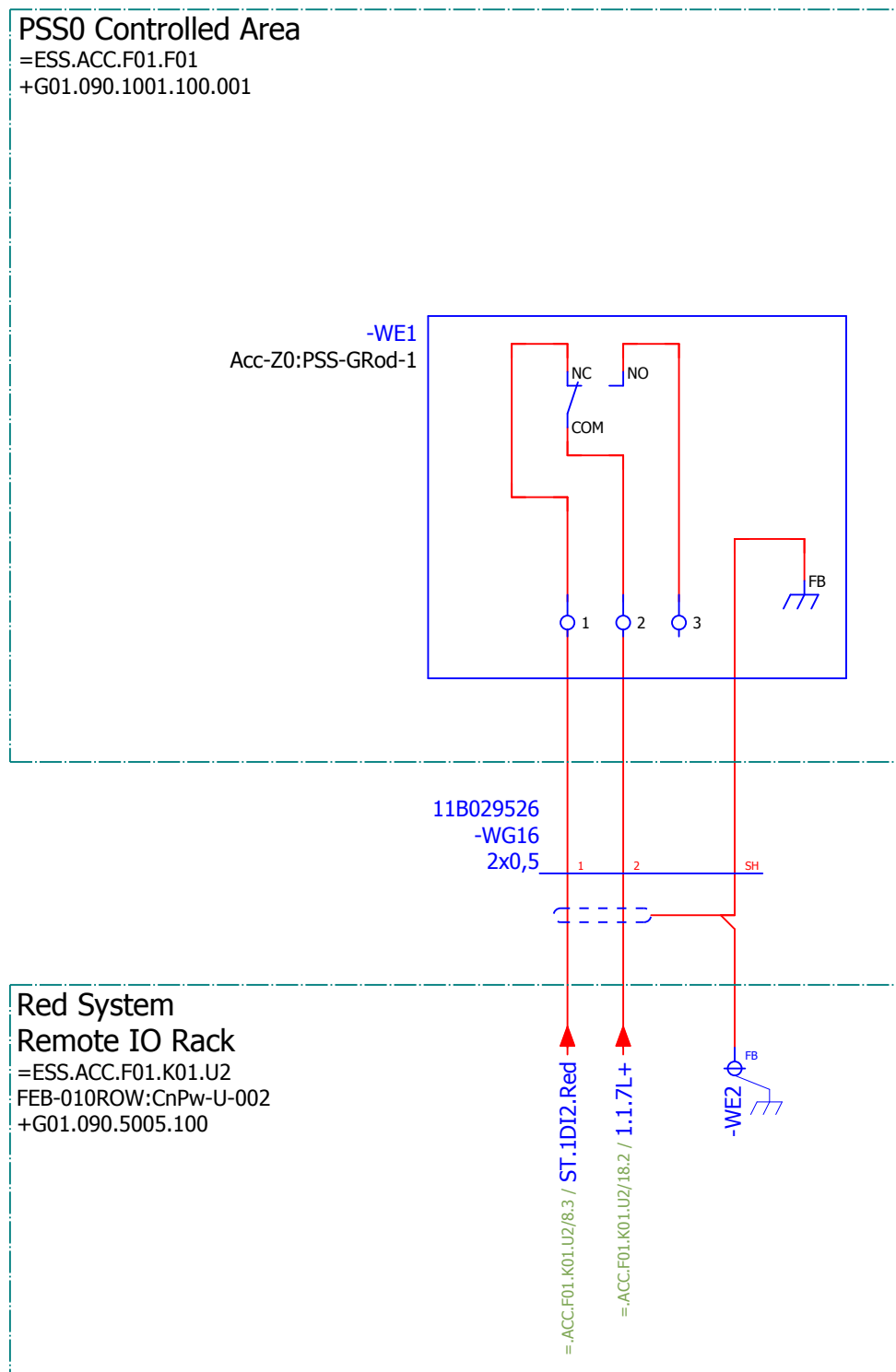
Rev:	Page size:
2	A3

Functional location (FBS):	Physical location (LBS):	Document:
=ESS.ACC.F01.F01	+G01.090.1001.100.001	&FS6

Grounding Rod



Personal Grounding Rod manufactured by Ross Engineering Corp. Discharges up to 100KV (50 Kilojoules) and includes a handle holder with interlock micro-switches (SPDT)



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



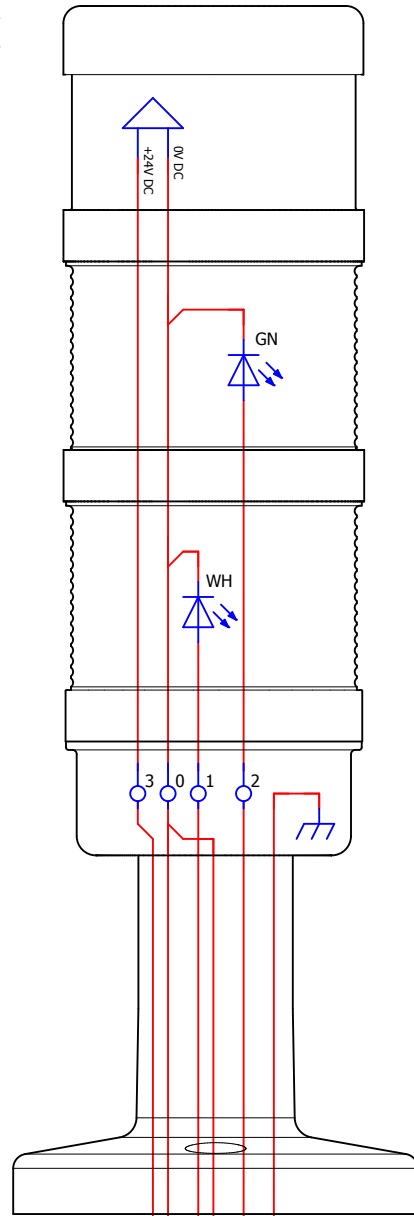
DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	Field devices: Grounding Rod

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
Functional location (FBS):	=ESS.ACC.F01.F01				
Physical location (LBS):	+G01.090.1001.100.001				
CHESS Doc. NR:	ESS-0151602	Document:	&FS7		

ISrc Safety Fence
Outer wall (door side)
=ESS.ACC.F01.F01
+G01.090.1001.100.001

-PZ1
Acc-Z0:PSS-Ann-1

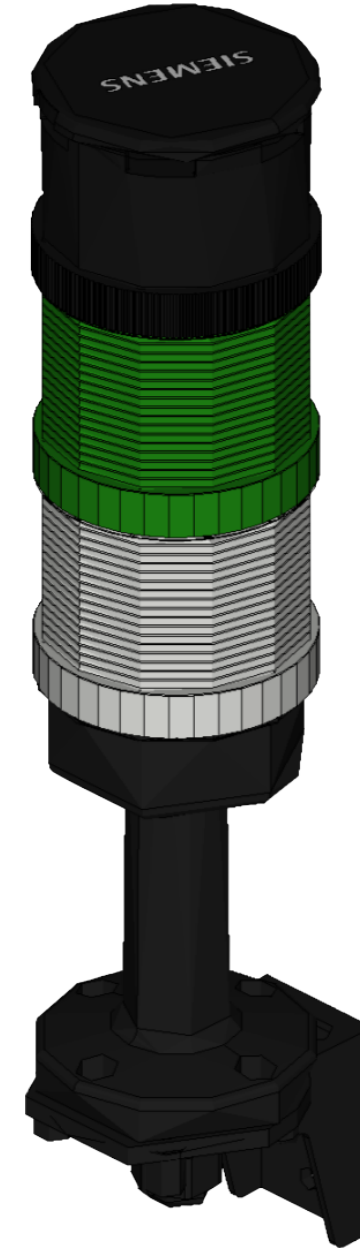


11B029527
-WG17
4x2x0,5

Red System
Remote IO Rack
=ESS.ACC.F01.K01.U2
FEB-010ROW:CnPw-U-002
+G01.090.5005.100



Annunciator Device



Manufactured by SIEMENS. Diameter 70 mm
Comprised of:
- Multi-tone 100dB siren element
- LED light element, green
- LED light element, white
- Pipe with foot + bracket for foot mounting

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

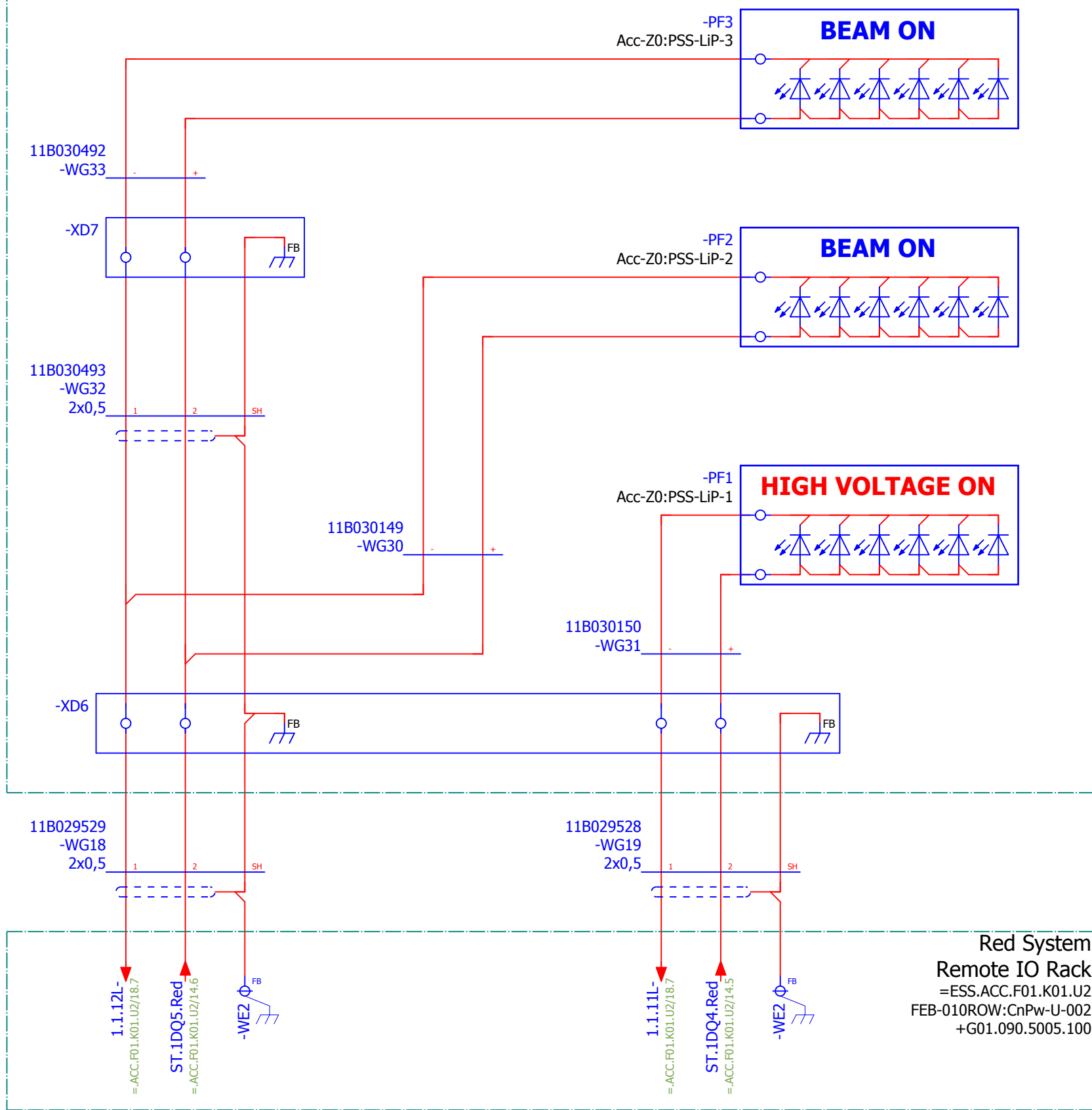


DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

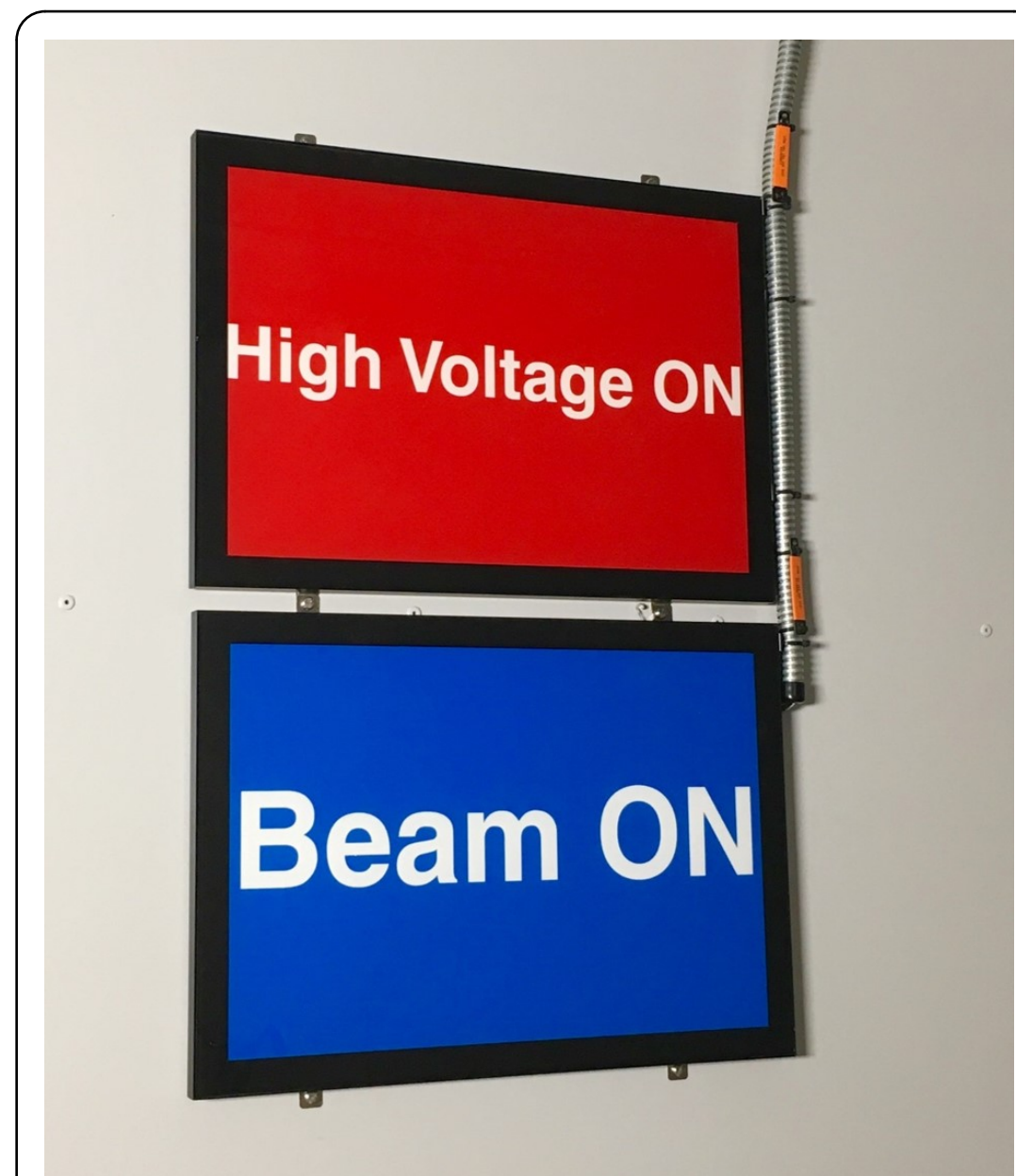
DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	Field devices: Annunciator

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
Functional location (FBS):	=ESS.ACC.F01.F01				
Physical location (LBS):	+G01.090.1001.100.001				
CHESS Doc. NR:	ESS-0151602	Document:	&FS8		

PSS0 Controlled Area
 ISrc Safety Fence
 =ESS.ACC.F01.F01
 +G01.090.1001.100.001



Light Panels



LED light panels manufactured by LEDDEX. Working Voltage 24V DC
 Visible area: W394 x H275 mm. External dimensions: W448 x H329 x D15 mm.

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
CHECKED BY	DATE <td>PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td> </td>	PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td>	Functional location (FBS):		
MMI	20/09/2018	Schematic multi-line	=ESS.ACC.F01.F01		
APPROVED BY	DATE <td>FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td> </td>	FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td>	Physical location (LBS):		
SBH	20/09/2018	Field devices: Warning lights	+G01.090.1001.100.001		
DESIGN SITE <td>ESS</td> <td></td> <td>CHESS Doc. NR:</td> <td></td> <td>Document:</td>	ESS		CHESS Doc. NR:		Document:
			ESS-0151602		&FS9

Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.F01-BG1 Acc-Z0:PSS-MgS-1	1	3SE6 magnetically operated switch (switching element)	3SE6604-2BA	Siemens	SIE.3SE6604-2BA	
=ESS.ACC.F01.F01-BG1 Acc-Z0:PSS-MgS-1	1	Solenoid rectangular large	3SE6704-2BA	Siemens	SIE.3SE6704-2BA	
=ESS.ACC.F01.F01-BG2 Acc-Z0:PSS-MeS-1	1	position switch	3SE5112-1QV10	Siemens	SIE.3SE5112-1QV10	
=ESS.ACC.F01.F01-BG2 Acc-Z0:PSS-MeS-1	1	Separate actuator	3SE5000-0AV07	Siemens	SIE.3SE5000-0AV07	
=ESS.ACC.F01.F01-FB1 Acc-Z0:PSS-GRly-1	1	Grounding relay	ED120-NC-120-2-31-BD	Ross Engineering	ROS.ED120-NC-120-2-31-BD	
=ESS.ACC.F01.F01-FQ1 Acc-Z0:PSS-MeL-1	1	Modular safety gate switch	TK1T6R1SKR21AKR21SR414MPB1	Fortress Interlock	FOR.TK1T6R1SKR21AKR21SR414MPB1	
=ESS.ACC.F01.F01-PF1 Acc-Z0:PSS-LiP-1	1	Lumaire Magnetic	Lumaire Magnetic	Displayfabriken	DSP.750001809	
=ESS.ACC.F01.F01-PF2 Acc-Z0:PSS-LiP-2	1	Lumaire Magnetic	Lumaire Magnetic	Displayfabriken	DSP.750001810	
=ESS.ACC.F01.F01-PF3 Acc-Z0:PSS-LiP-3	1	Lumaire Magnetic	Lumaire Magnetic	Displayfabriken	DSP.750001810	
=ESS.ACC.F01.F01-PZ1 Acc-Z0:PSS-Ann-1	1	signaling column 8WD44, Ø 70 mm, connection element with top cover	8WD4408-0AA	Siemens	SIE.8WD4408-0AA	
=ESS.ACC.F01.F01-PZ1 Acc-Z0:PSS-Ann-1	1	Siren element, multi-tone 100 dB	8WD4420-0EA2	Siemens	SIE.8WD4420-0EA2	ESS-0316374
=ESS.ACC.F01.F01-PZ1 Acc-Z0:PSS-Ann-1	1	Continuous light element, with integrated LED, green, 24 V AC/DC, Dia meter 70 mm	8WD4420-5AC	Siemens	SIE.8WD4420-5AC	ESS-0316370
=ESS.ACC.F01.F01-PZ1 Acc-Z0:PSS-Ann-1	1	Bracket for foot mounting	8WD4408-0CC	Siemens	SIE.8WD4408-0CC	
=ESS.ACC.F01.F01-PZ1 Acc-Z0:PSS-Ann-1	1	Pipe with foot,	8WD4308-0DA	Siemens	SIE.8WD4308-0DA	
=ESS.ACC.F01.F01-PZ1 Acc-Z0:PSS-Ann-1	1	Continuous light element, with integrated LED, Clear, 24 V AC/DC, Dia meter 70 mm	8WD4420-5AE	Siemens	SIE.8WD4420-5AE	
=ESS.ACC.F01.F01-WE1 Acc-Z0:PSS-GRod-1	1	Grounding rod	ACC1-8WHH-20-A-8	Ross Engineering	ROS.ACC1-8WHH-20-A-8	
=ESS.ACC.F01.F01-XD1	1	ENCLOSURE FOR COMMAND DEVICES	3SB3801-2AA3	Siemens	SIE.3SB3801-2AA3	
=ESS.ACC.F01.F01-XD1-SF1 Acc-Z0:PSS-SeB-1	1	22MM METAL ROUND ACTUATOR:	3SB3501-0AA61	Siemens	SIE.3SB3501-0AA61	
=ESS.ACC.F01.F01-XD1-SF1 Acc-Z0:PSS-SeB-1	1	ACTUATOR-/INDICATOR COMPONENT CONTACT BLOCK	3SB3400-0B	Siemens	SIE.3SB3400-0B	
=ESS.ACC.F01.F01-XD1-SF1 Acc-Z0:PSS-SeB-1	1	ACTUATOR-/INDICATOR COMPONENT LAMP HOLDER BA 9S	3SB3400-1A	Siemens	SIE.3SB3400-1A	
=ESS.ACC.F01.F01-XD1-SF1 Acc-Z0:PSS-SeB-1	1	LED lamp, super bright white	3SB3901-1QA	Siemens	SIE.3SB3901-1QA	
=ESS.ACC.F01.F01-XD2	1	ENCLOSURE FOR COMMAND DEVICES	3SB3801-2AA3	Siemens	SIE.3SB3801-2AA3	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.F01		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION	Physical location (LBS):		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC1	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.F01-XD2-SF2 Acc-Z0:PSS-SeB-2	1	22MM METAL ROUND ACTUATOR:	3SB3501-0AA61	Siemens	SIE.3SB3501-0AA61	
=ESS.ACC.F01.F01-XD2-SF2 Acc-Z0:PSS-SeB-2	1	ACTUATOR-/INDICATOR COMPONENT CONTACT BLOCK	3SB3400-0B	Siemens	SIE.3SB3400-0B	
=ESS.ACC.F01.F01-XD2-SF2 Acc-Z0:PSS-SeB-2	1	ACTUATOR-/INDICATOR COMPONENT LAMP HOLDER BA 9S	3SB3400-1A	Siemens	SIE.3SB3400-1A	
=ESS.ACC.F01.F01-XD2-SF2 Acc-Z0:PSS-SeB-2	1	LED lamp, super bright white	3SB3901-1QA	Siemens	SIE.3SB3901-1QA	
=ESS.ACC.F01.F01-XD3	1	SM Switch housing, WHD: 100x100x90 mm, Stainless steel 1.4301	SM.2384010	Rittal	RIT.2384010	
=ESS.ACC.F01.F01-XD3-SF3 Acc-Z0:PSS-ESB-1	1	MUSHROOM PUSHBUTTON, 40MM, BLACK	3SU1050-1HB10-0AA0	Siemens	SIE.3SU1050-1HB10-0AA0	
=ESS.ACC.F01.F01-XD3-SF3 Acc-Z0:PSS-ESB-1	1	PROTECTIVE COLLAR	3SU1950-0DL80-0AA0	Siemens	SIE.3SU1950-0DL80-0AA0	
=ESS.ACC.F01.F01-XD3-SF3 Acc-Z0:PSS-ESB-1	1	HOLDER	3SU1500-0AA10-0AA0	Siemens	SIE.3SU1500-0AA10-0AA0	
=ESS.ACC.F01.F01-XD3-SF3 Acc-Z0:PSS-ESB-1	4	CONTACT MODULE 1NC	3SU1400-1AA10-1CA0	Siemens	SIE.3SU1400-1AA10-1CA0	
=ESS.ACC.F01.F01-XD4	1	PK Polycarbonate enclosure, WHD: 94x94x57 mm	PK.9504000	Rittal	RIT.9504000	
=ESS.ACC.F01.F01-XD5	1	PK Polycarbonate enclosure, WHD: 94x94x57 mm	PK.9504000	Rittal	RIT.9504000	
=ESS.ACC.F01.F01-XD6	1	PK Polycarbonate enclosure, WHD: 94x94x57 mm	PK.9504000	Rittal	RIT.9504000	
=ESS.ACC.F01.F01-XD7	1	PK Polycarbonate enclosure, WHD: 94x94x57 mm	PK.9504000	Rittal	RIT.9504000	
=ESS.ACC.F01.F01-XD8 Acc-Z0:PSS-ACB-1	1	AE Compact enclosure, WHD: 380x300x210 mm, Sheet steel, with mounting plate	AE.1031500	Rittal	RIT.1031500	
=ESS.ACC.F01.F01-XD8-SH1	1	mGard SS1, Solenoid Controlled Key Switch	SR-CLIN-A02022	Fortress Interlock	FOR.SR-CLIN-A02022	
=ESS.ACC.F01.F01-XD8-SH2	1	2 switch positions O-I	3SB3000-4LD05-Z	Siemens	SIE.3SB3000-4LD05-Z	
=ESS.ACC.F01.F01-XD8-SH2	2	Contact block with 2 contact elements, 2 NO	3SB3400-0D	Siemens	SIE.3SB3400-0D	
=ESS.ACC.F01.F01-XD8-SH2	1	ENCLOSURE FOR COMMAND DEVICES	3SB3801-2AA3	Siemens	SIE.3SB3801-2AA3	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
2	20/09/2018	As built	Modification based on ZHAW recommendations	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	MMI	20/09/2018	Parts list	Functional location (FBS): =ESS.ACC.F01.F01		
				SBH	20/09/2018		Physical location (LBS):		
				 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small>			CHESS Doc. NR:	Document:	
						ESS	ESS-0151602	&PC2	



EUROPEAN SPALLATION SOURCE

Description: Red Sys. PLC Rack

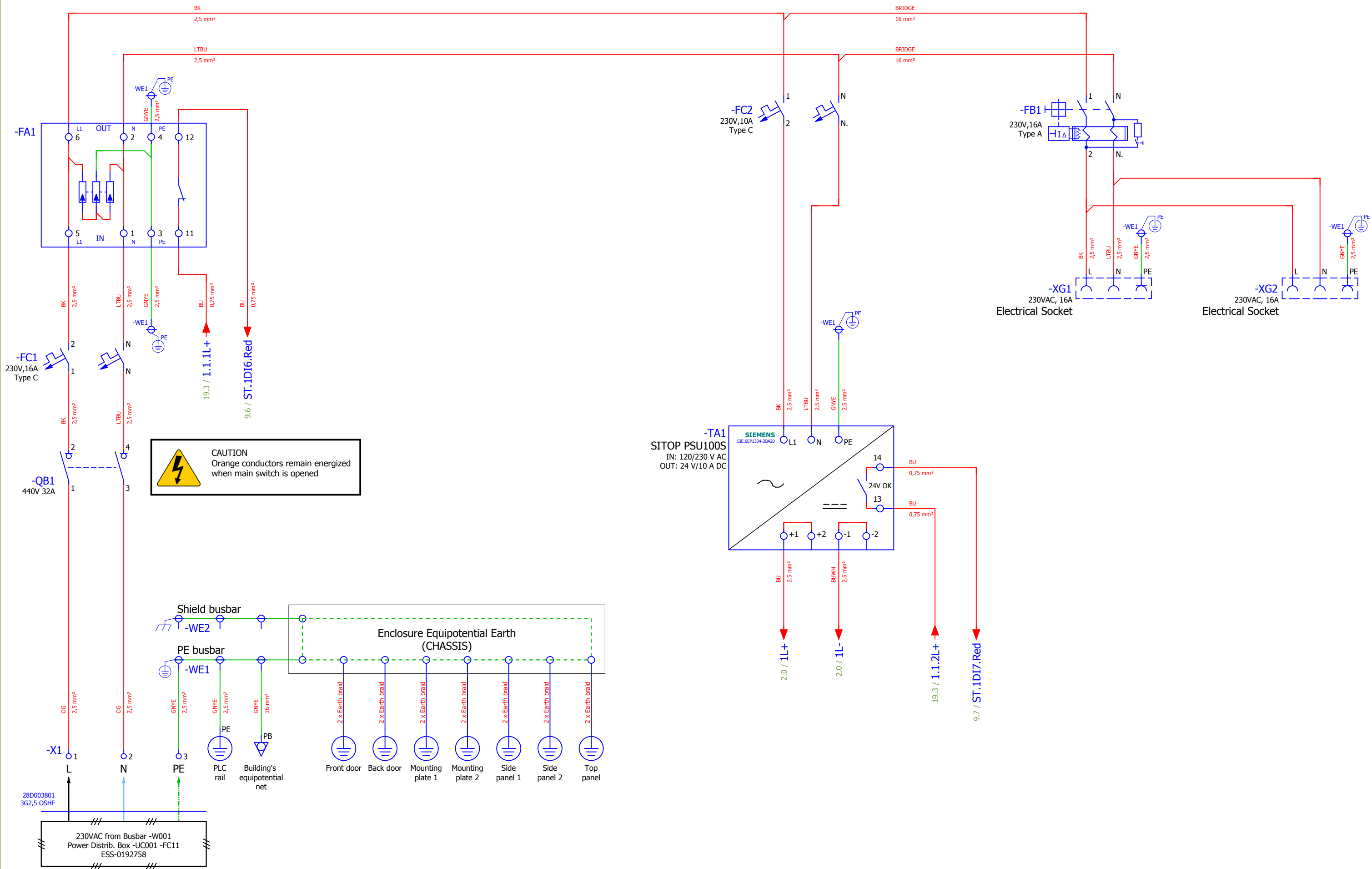
Functional Location (FBS): =ESS.ACC.F01.K01.U1

Physical Location (LBS): +ESS.G01.090.5005.100

ESS Name: FEB-010Row:CnPw-U-001

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
2	20/09/2018	As built	Modification based on ZHAW recommendations	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	MMI	20/09/2018	Graphic	Functional location (FBS): =ESS.ACC.F01.K01.U1		
				SBH	20/09/2018	FEB-010Row:CnPw-U-001	Physical location (LBS): +G01.090.5005.100.001		
				ESS		RED SYSTEM PLC RACK	CHES Doc. NR: ESS-0151602	Document: &AA1	

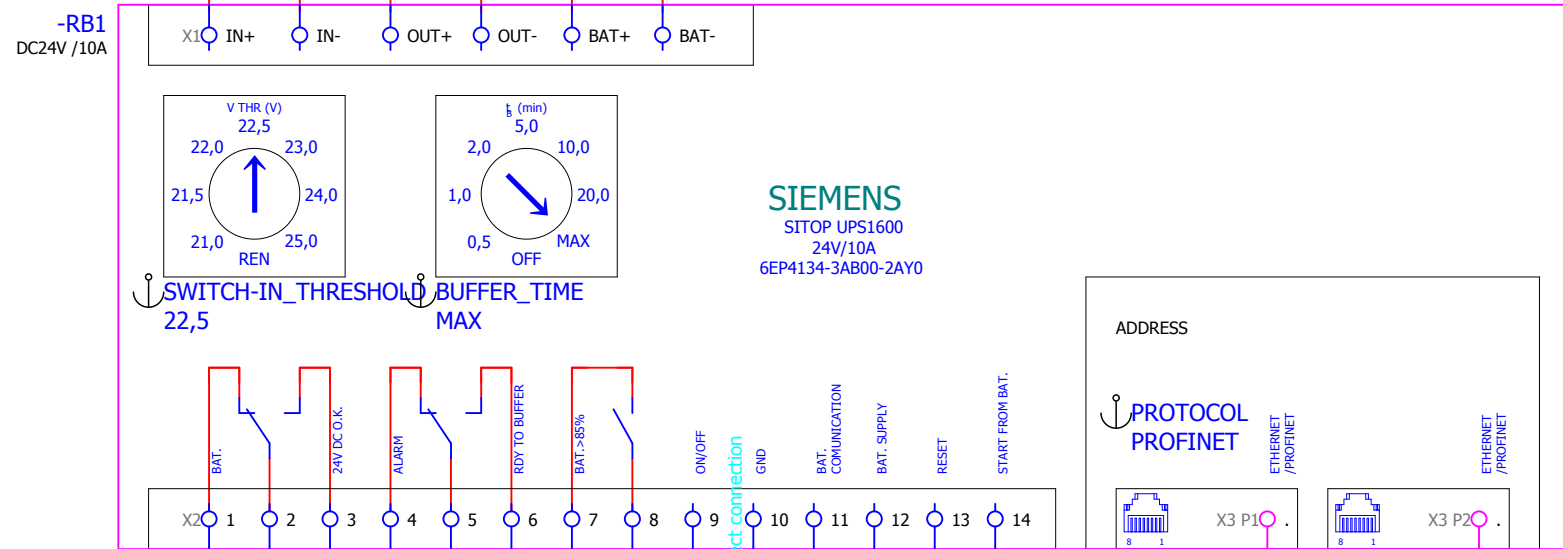
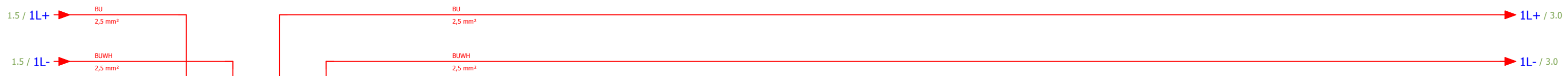




REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

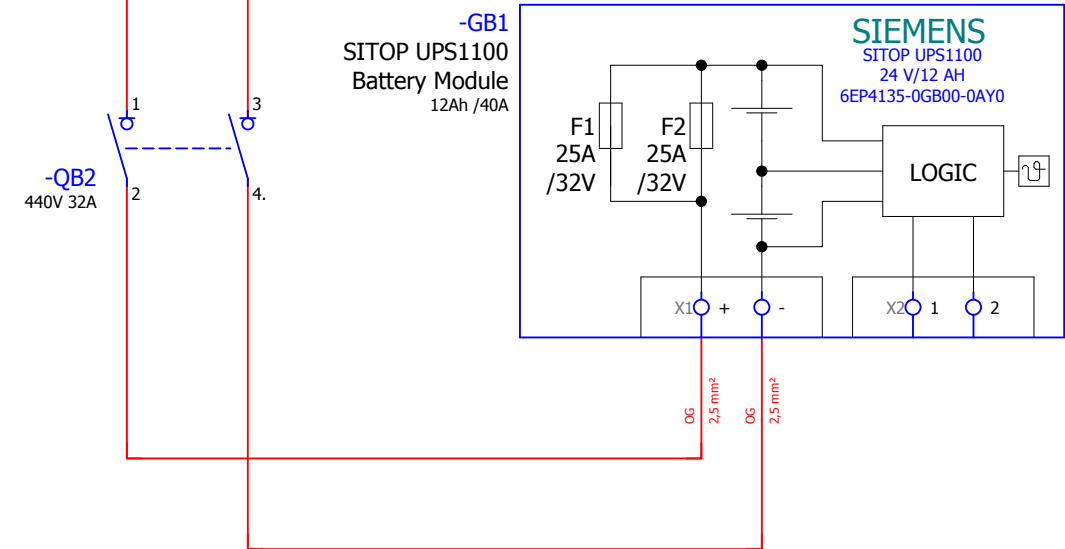


DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
CHECKED BY	DATE <td>PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td> </td>	PAGE TYPE <td>Functional location (FBS):</td> <td></td> <td></td>	Functional location (FBS):		
MMI	20/09/2018	Schematic multi-line	=ESS.ACC.F01.K01.U1		
APPROVED BY	DATE <td>FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td> </td>	FUNCTION <td>Physical location (LBS):</td> <td></td> <td></td>	Physical location (LBS):		
SBH	20/09/2018	FEB-010Row:CnPw-U-001	+G01.090.5005.100.001		
DESIGN SITE <td>ESS</td> <td>RED SYSTEM PLC RACK</td> <td>CHESS Doc. NR:</td> <td>ESS-0151602</td> <td>Document:</td>	ESS	RED SYSTEM PLC RACK	CHESS Doc. NR:	ESS-0151602	Document:
					&FS1



SWITCH-IN_THRESHOLD 22,5
 BUFFER_TIME MAX

- 10.2 / ST.1DI8.Red BU 0,75 mm²
- 19.3 / 1.1.3L+ BU 0,75 mm²
- 10.3 / ST.1DI9.Red BU 0,75 mm²
- 10.3 / ST.1DI10.Red BU 0,75 mm²
- 10.4 / ST.1DI11.Red BU 0,75 mm²
- 10.5 / ST.1DI12.Red BU 0,75 mm²



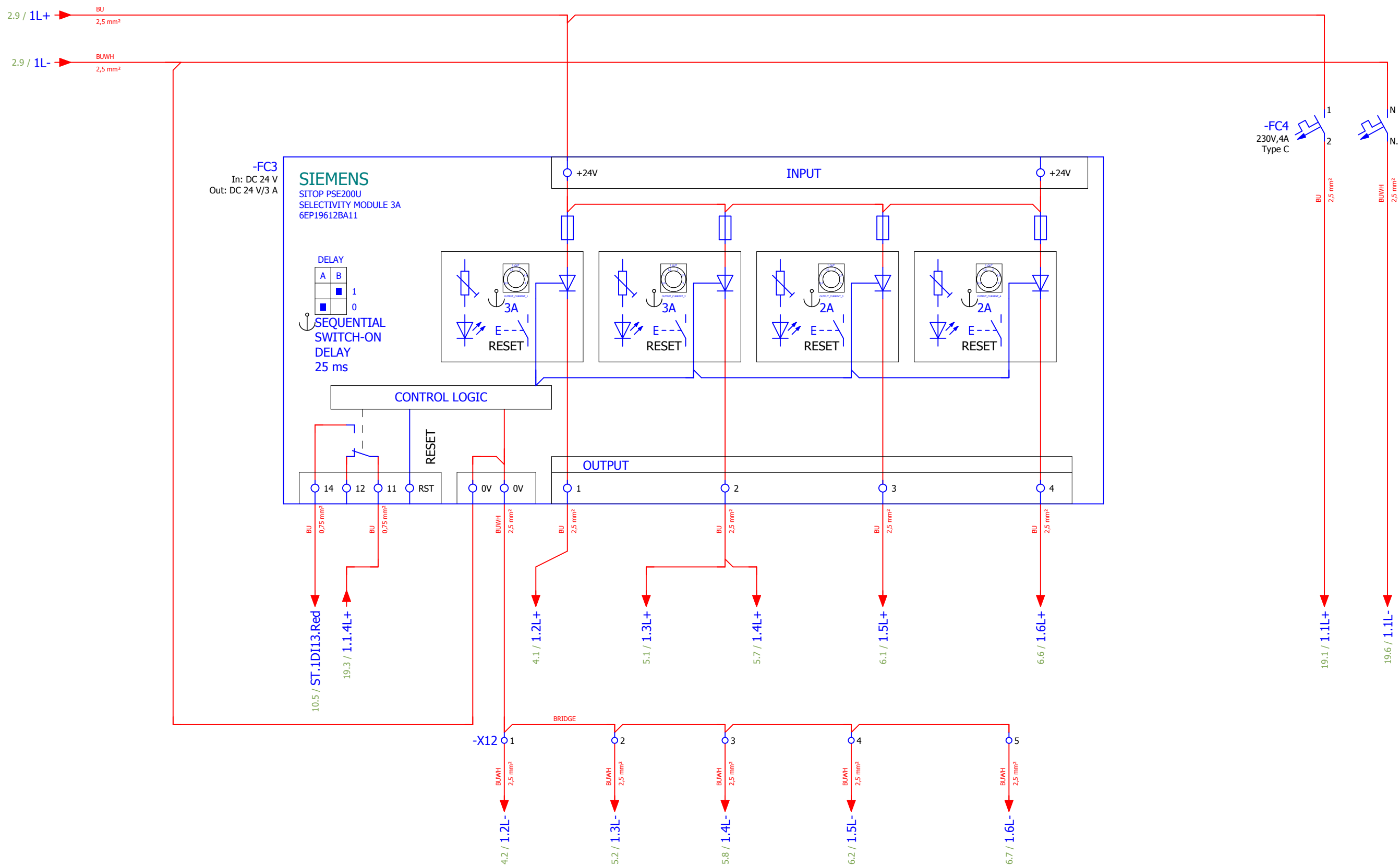
CAUTION
 Orange conductors remain energized when main switch is opened

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE
ATZ	20/09/2018	Accelerator PSS
CHECKED BY	DATE	PAGE TYPE
MMI	20/09/2018	Schematic multi-line
APPROVED BY	DATE	FUNCTION
SBH	20/09/2018	FEB-010Row:CnPw-U-001
DESIGN SITE	ESS	RED SYSTEM PLC RACK

Life cycle label:	Rev:	Page size:
Preliminary	2	A3
Functional location (FBS):	=ESS.ACC.F01.K01.U1	
Physical location (LBS):	+G01.090.5005.100.001	
CHES Doc. NR:	ESS-0151602	
Document:	&FS2	



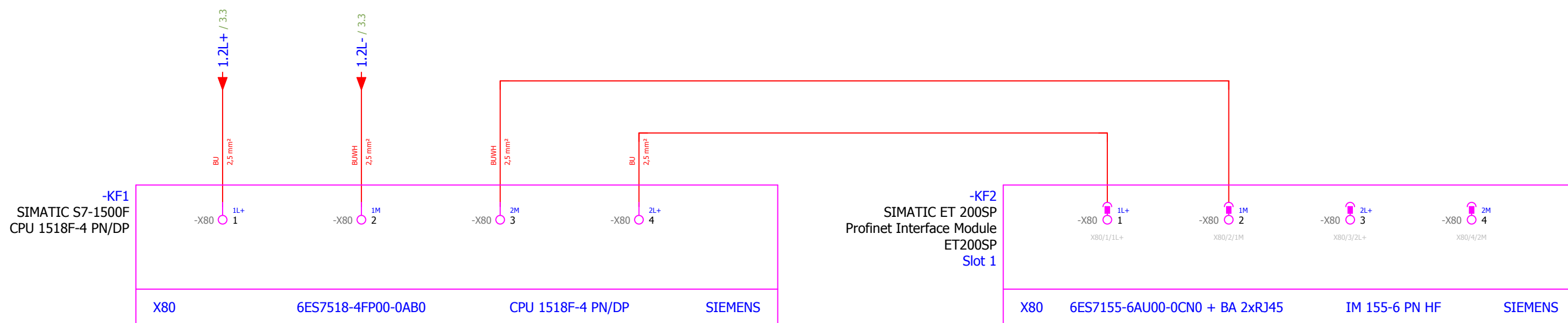
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
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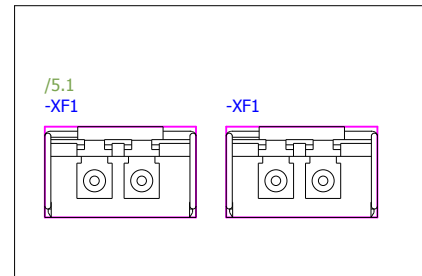
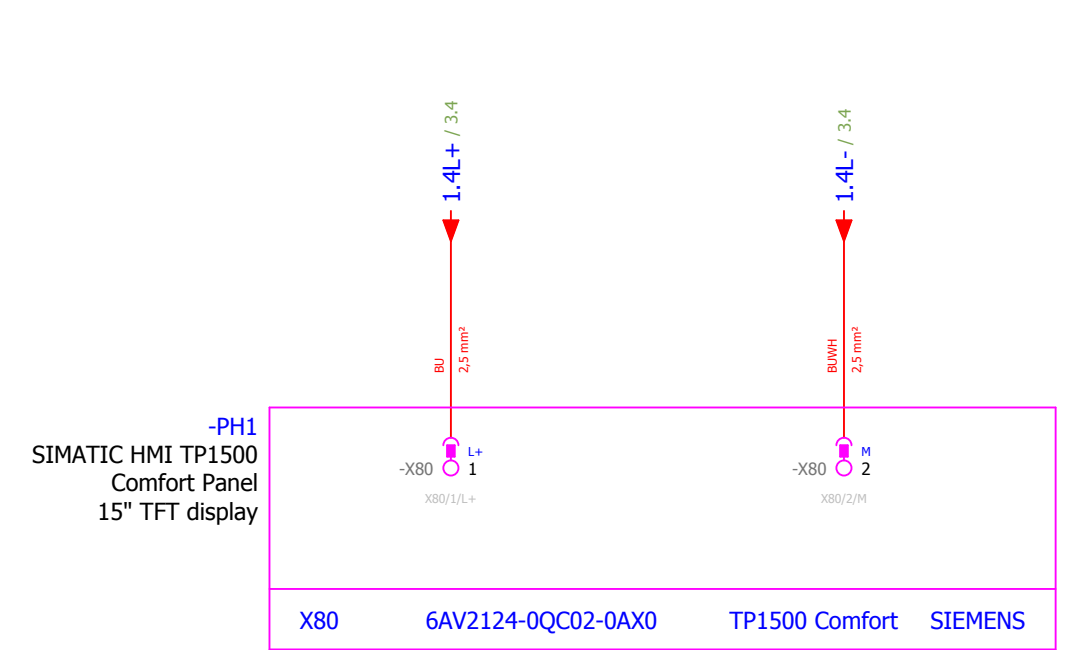
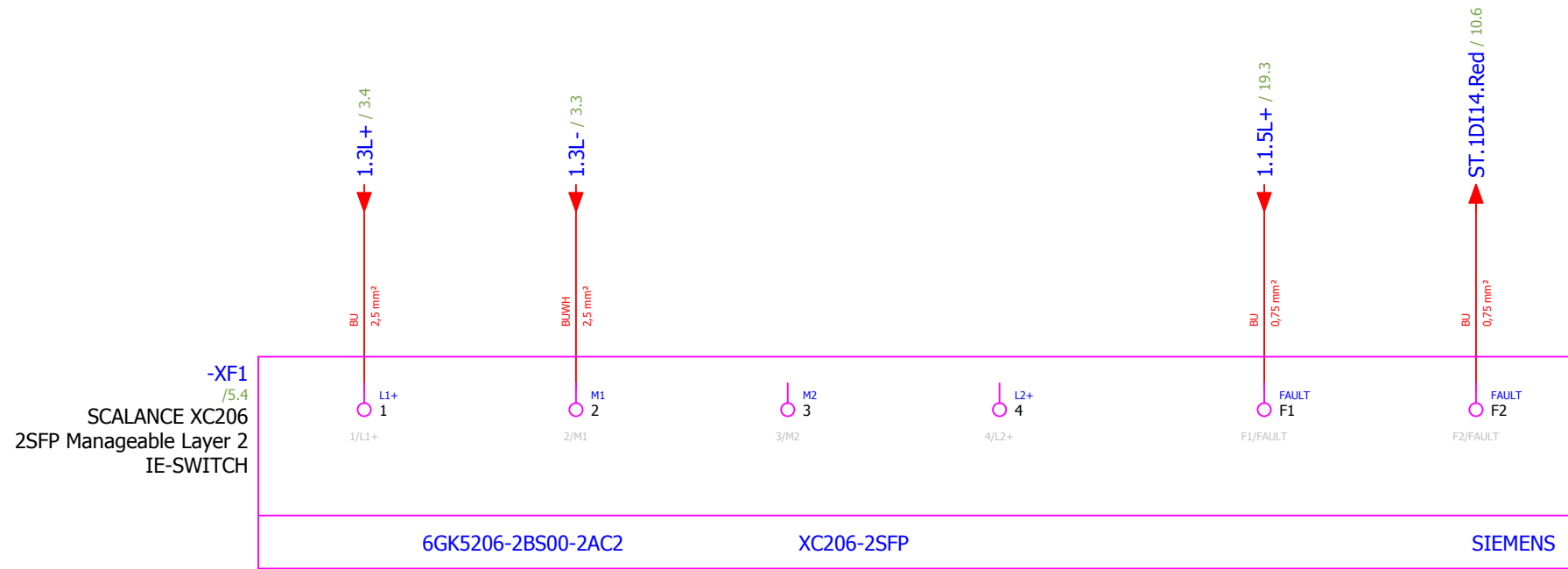
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
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PAGE TYPE	Schematic multi-line
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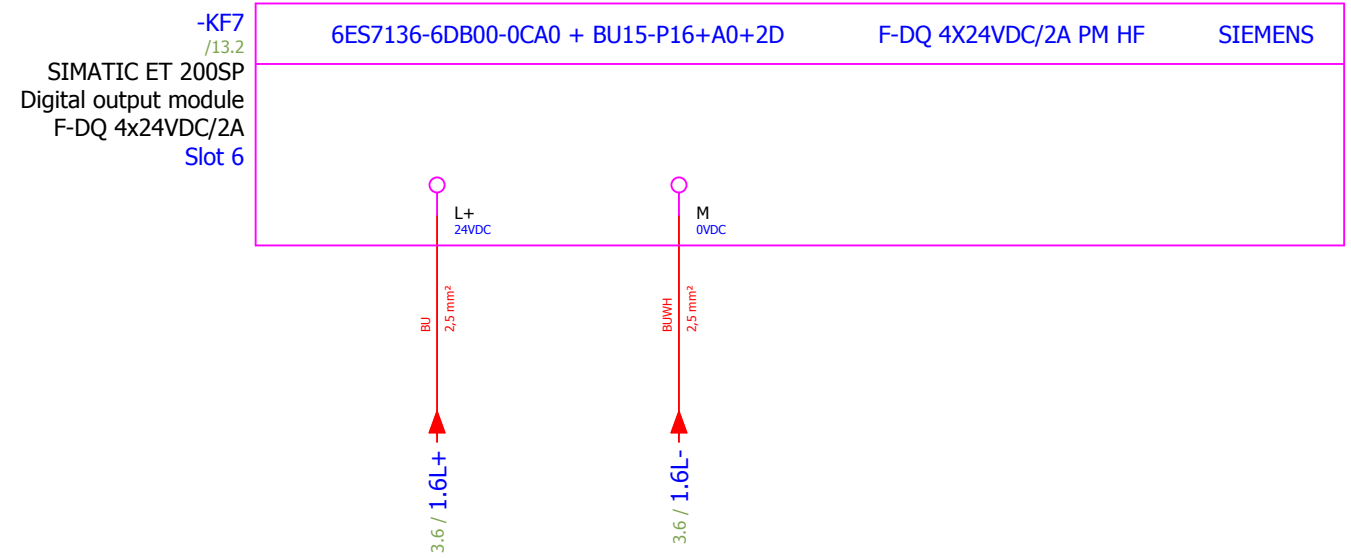
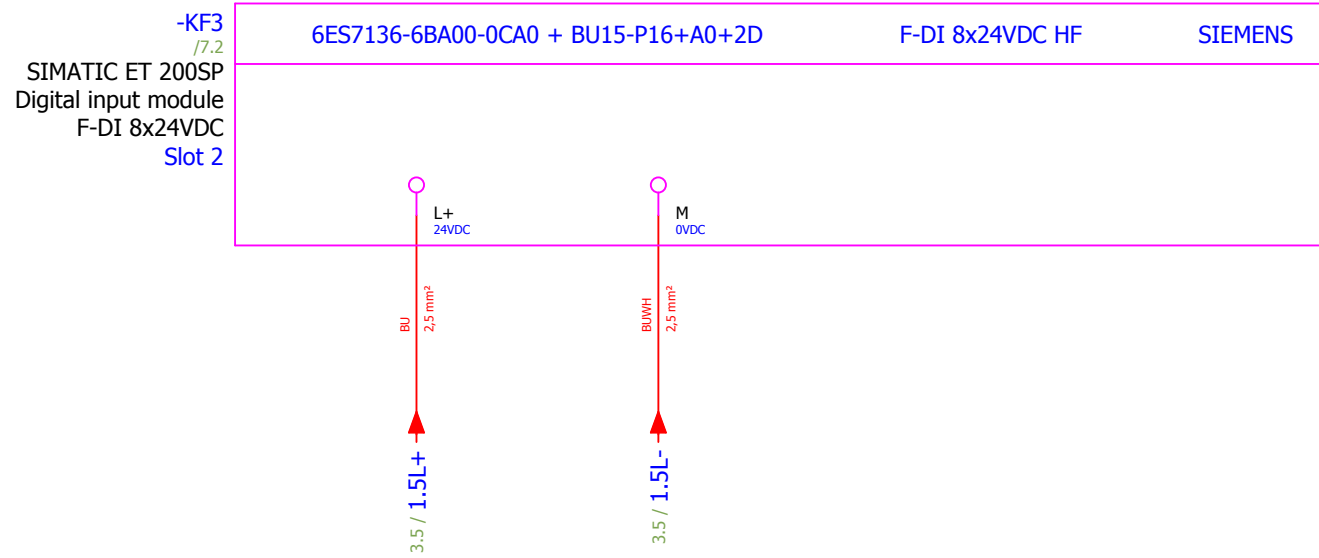
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SFP pluggable transceiver for media modules
100MBIT/S LC-PORT OPTICAL

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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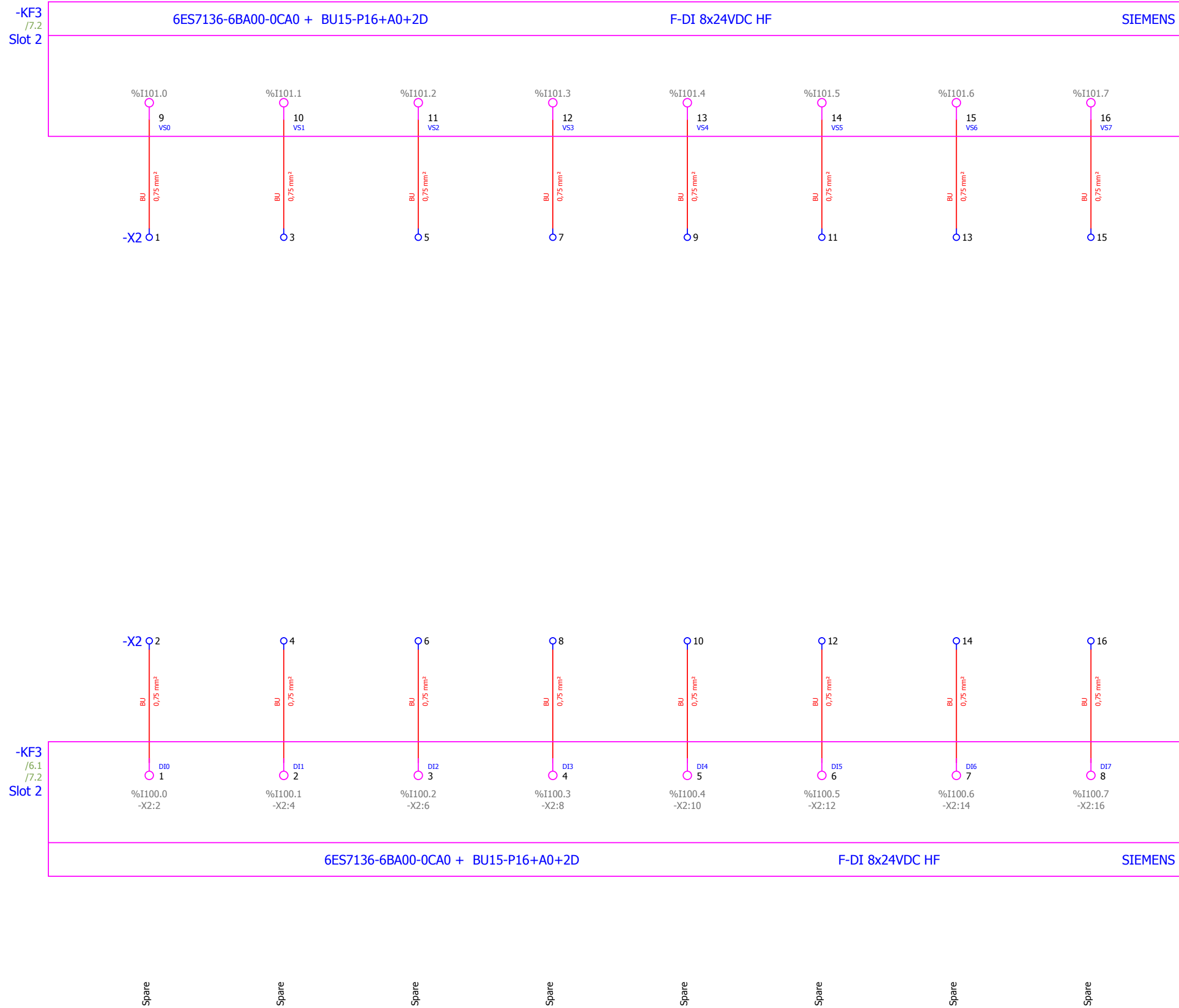
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



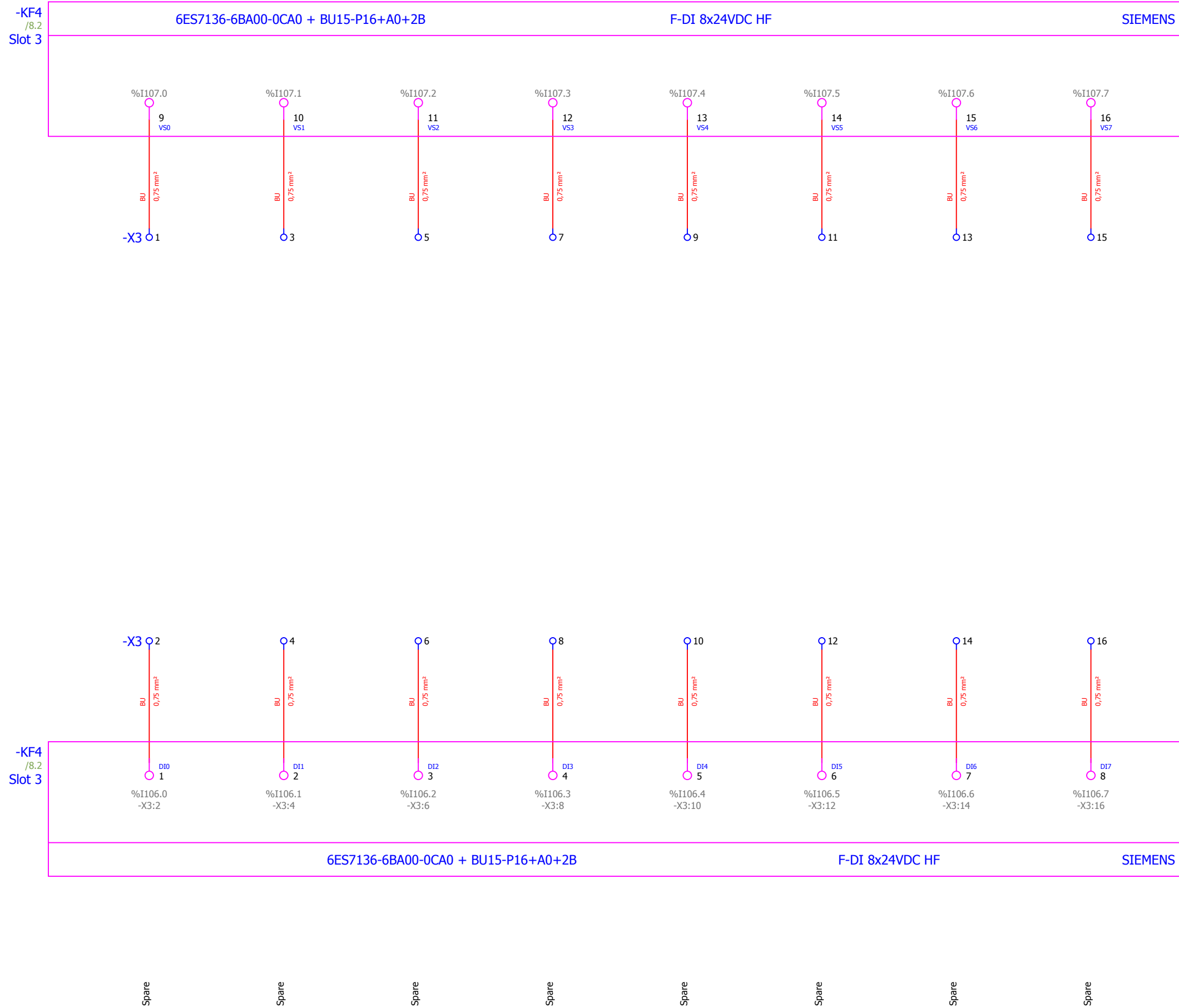
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small> 	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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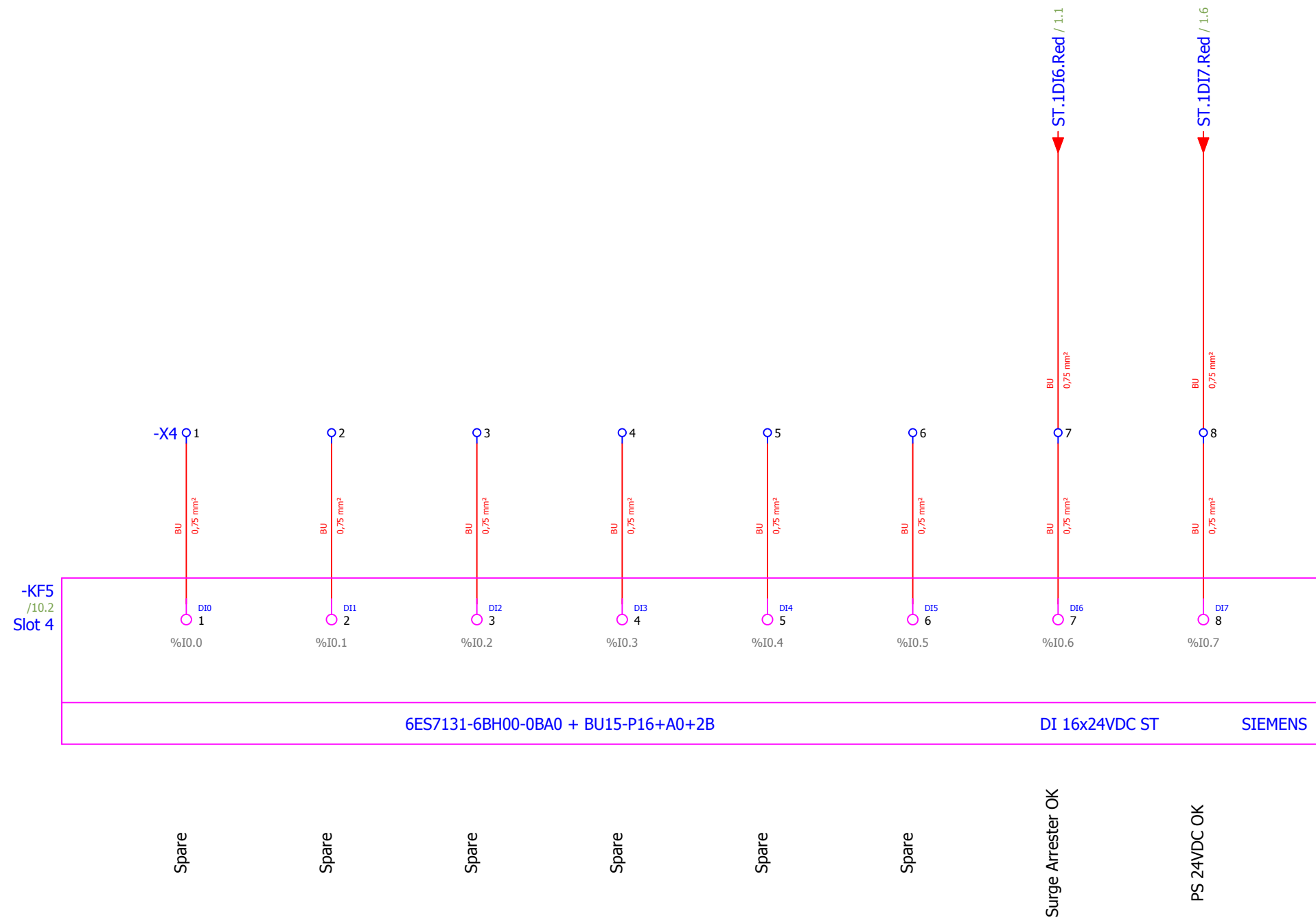
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
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DESIGN SITE	ESS		

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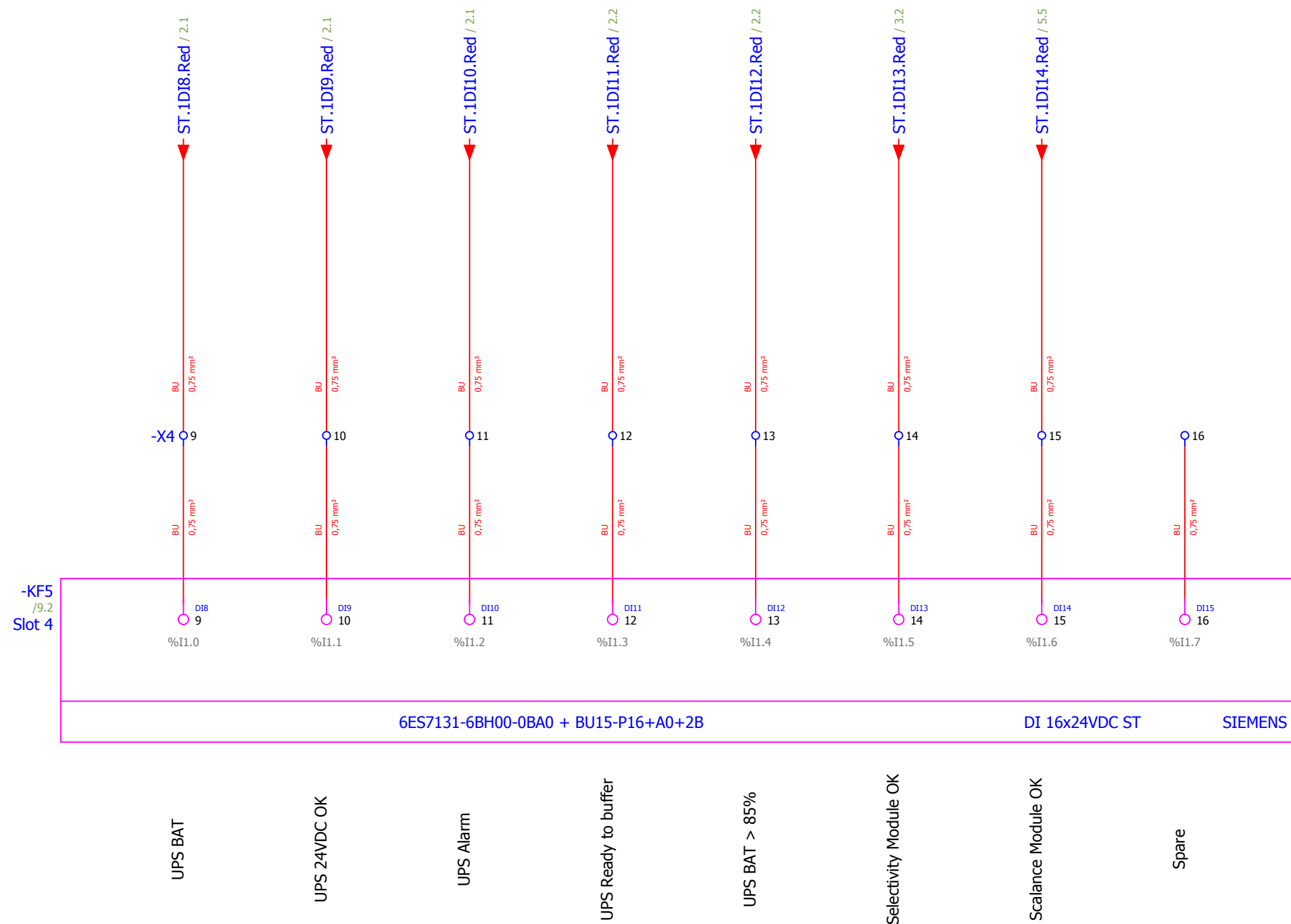
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DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
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DESIGN SITE	ESS		

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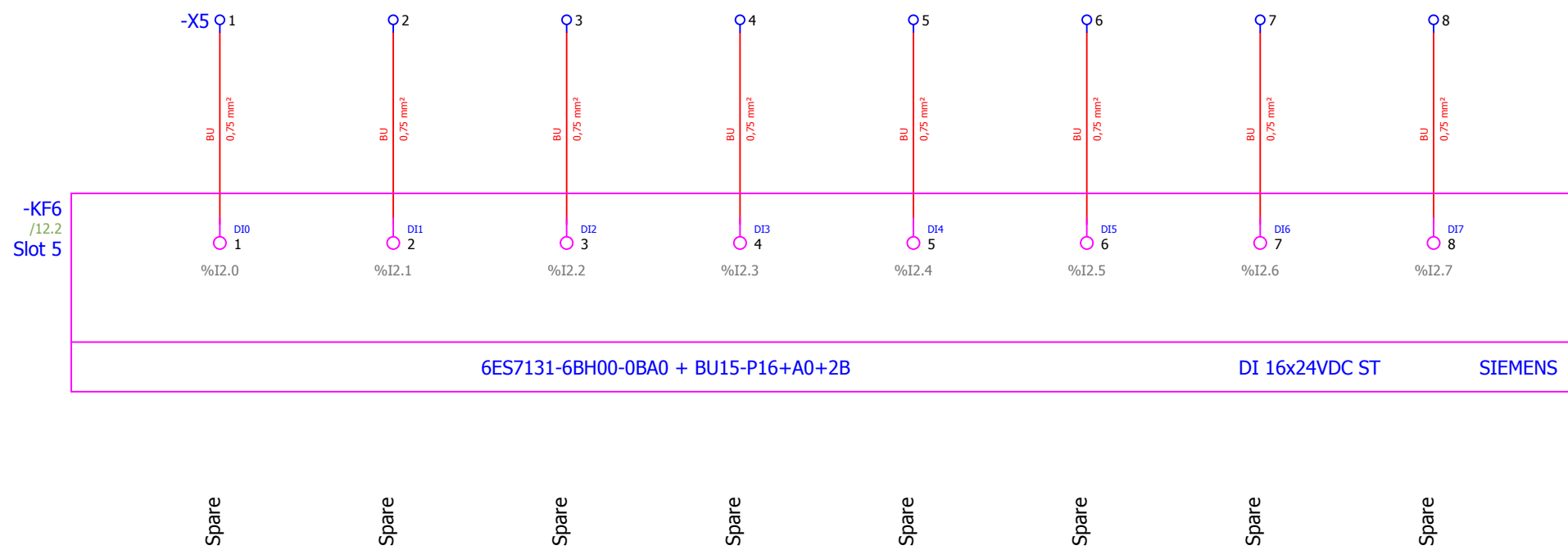
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
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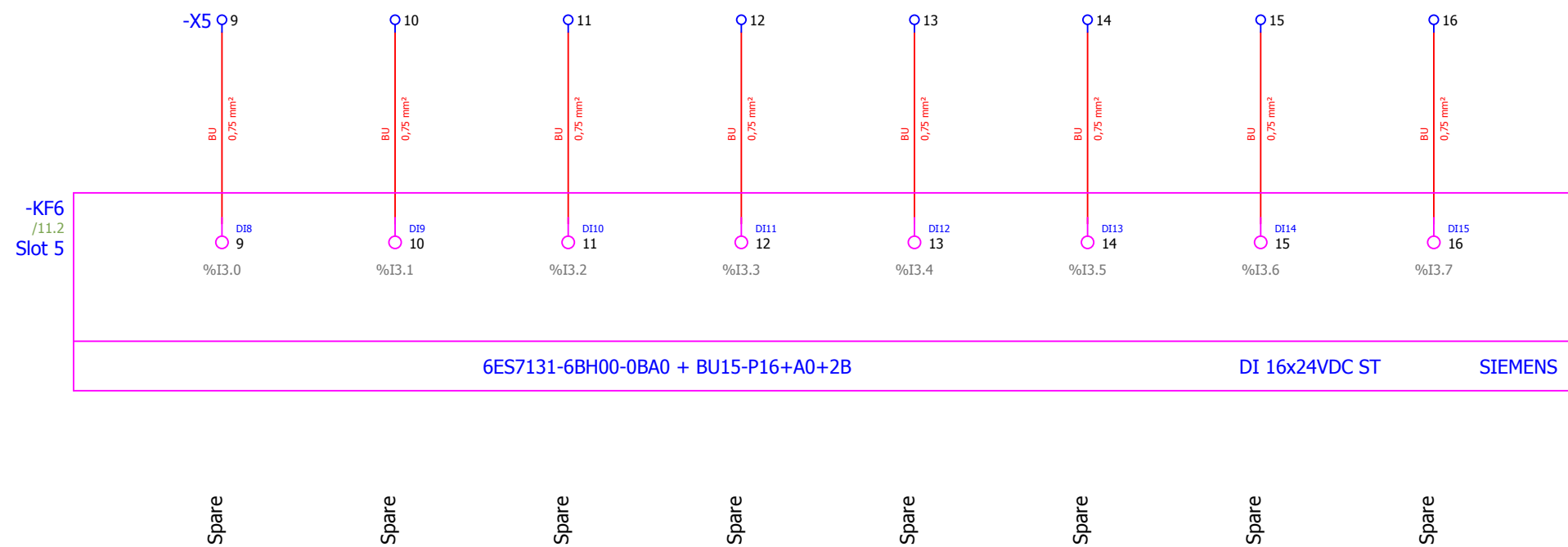
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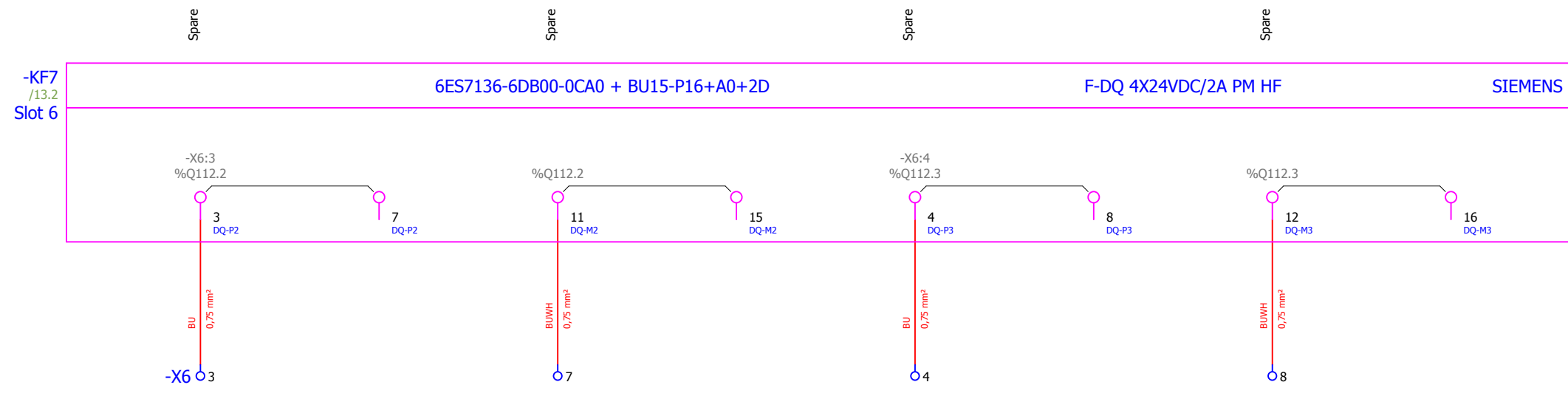
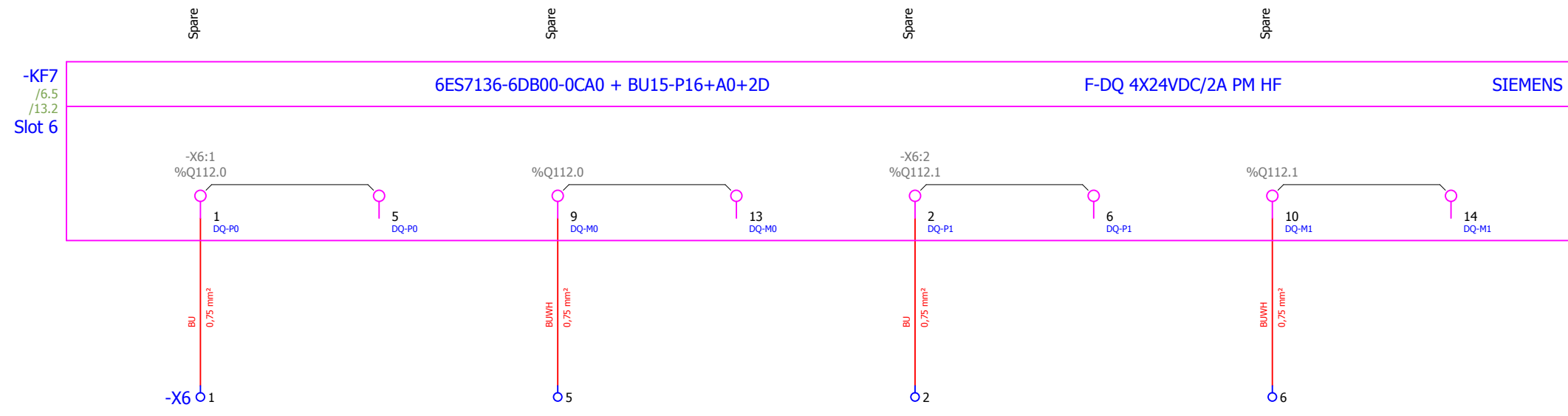
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



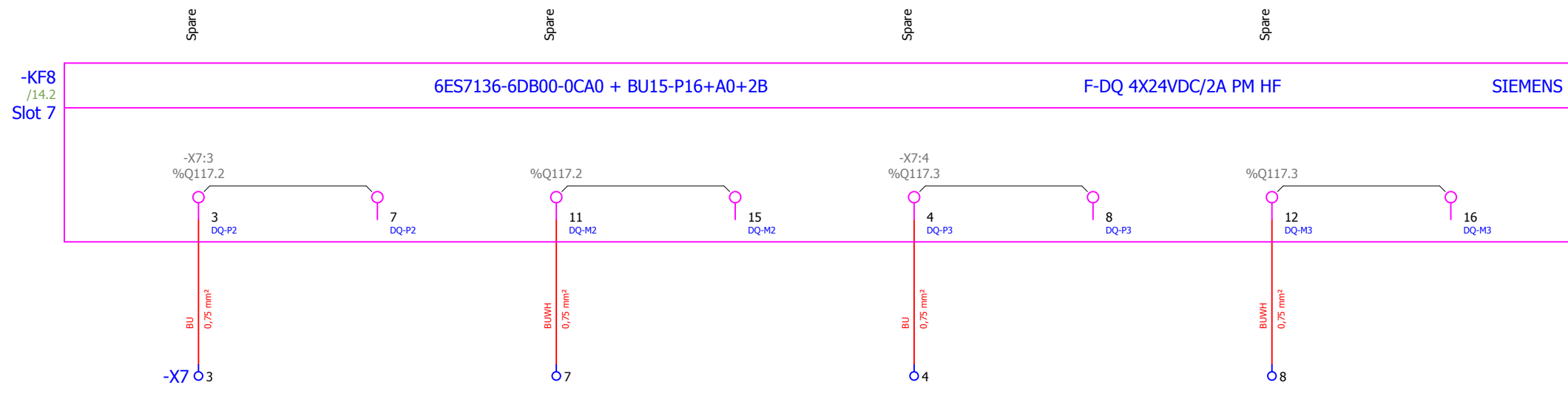
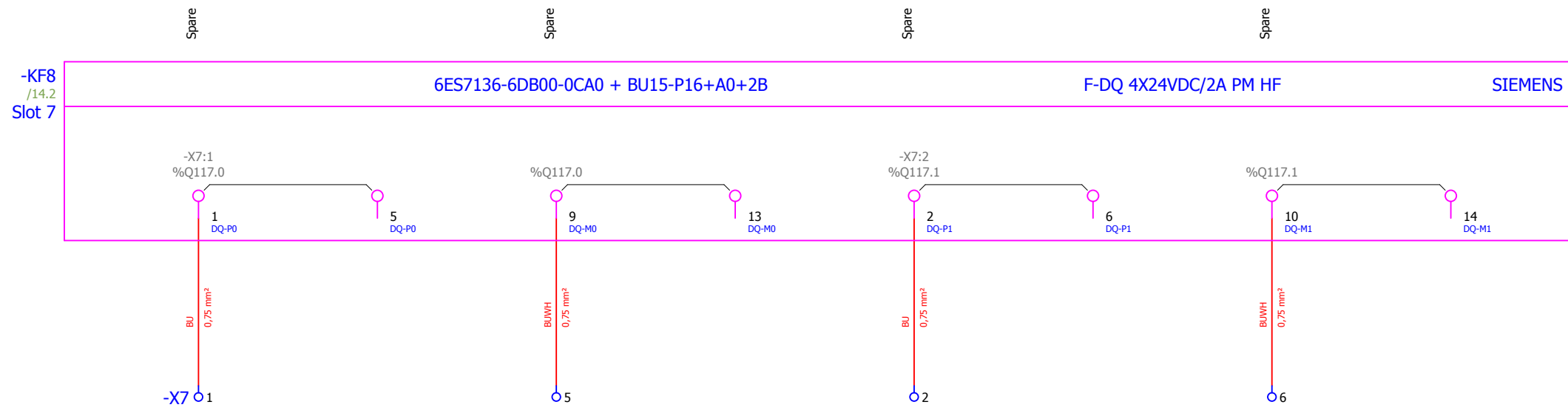
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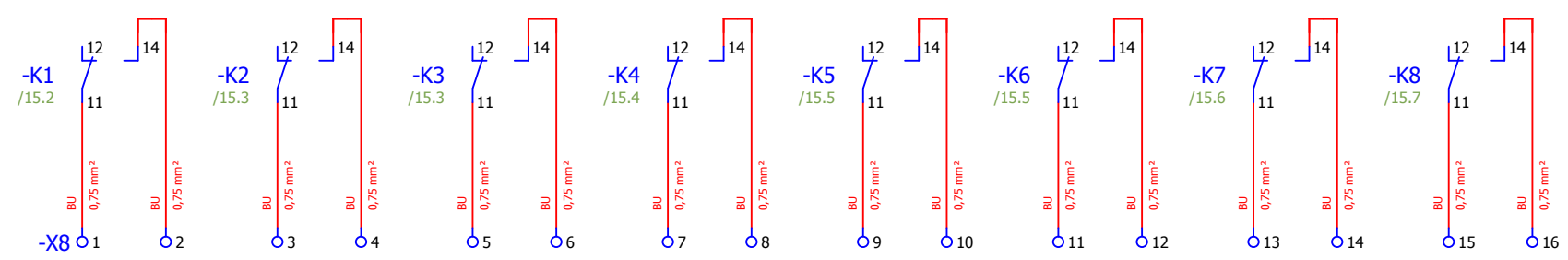
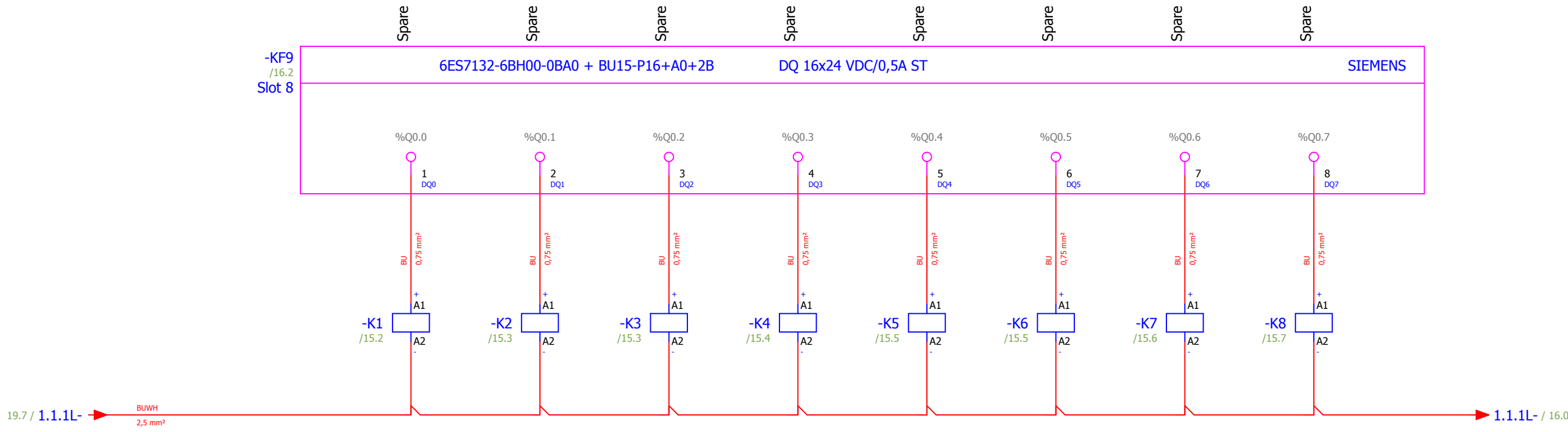
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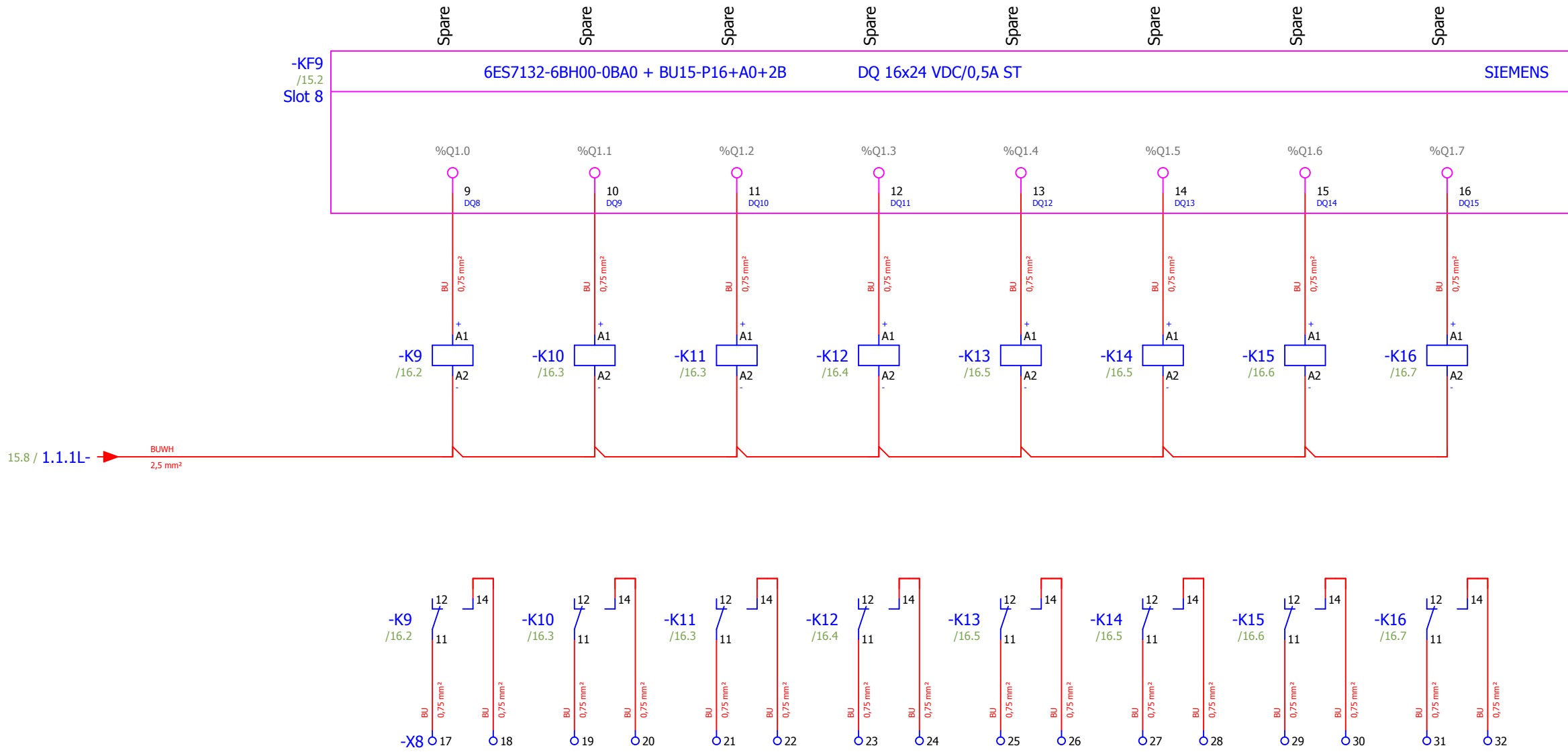
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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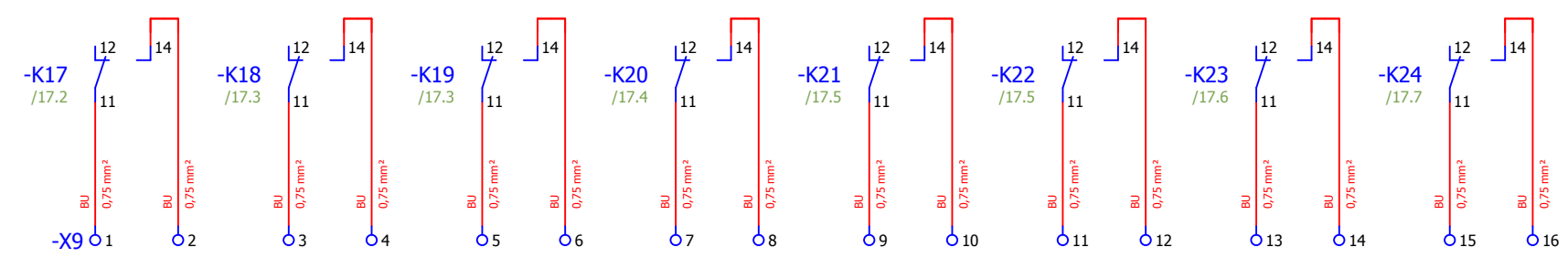
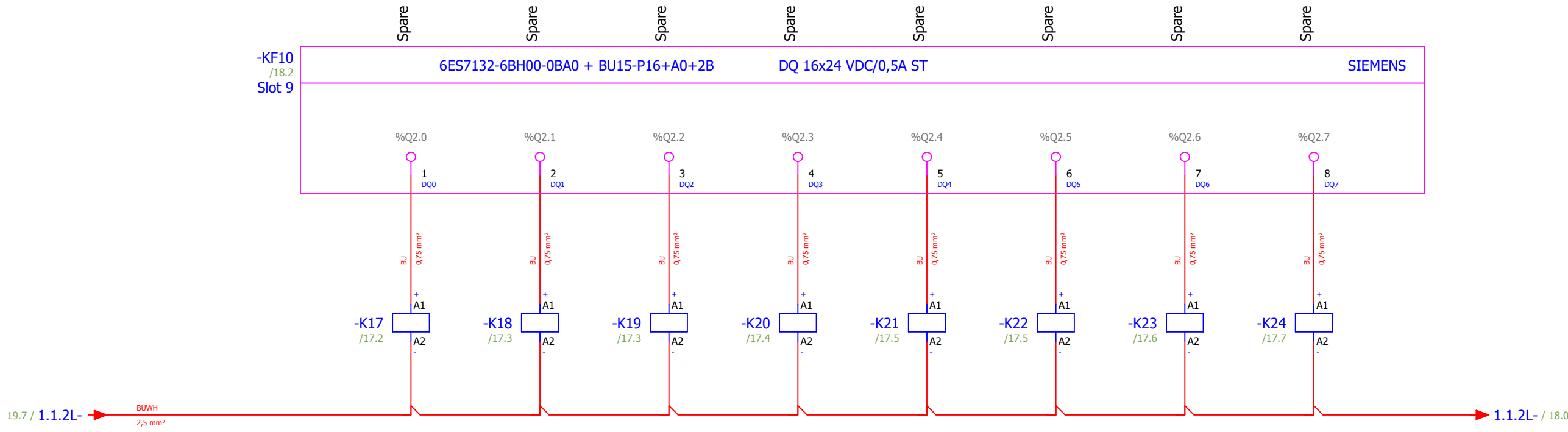
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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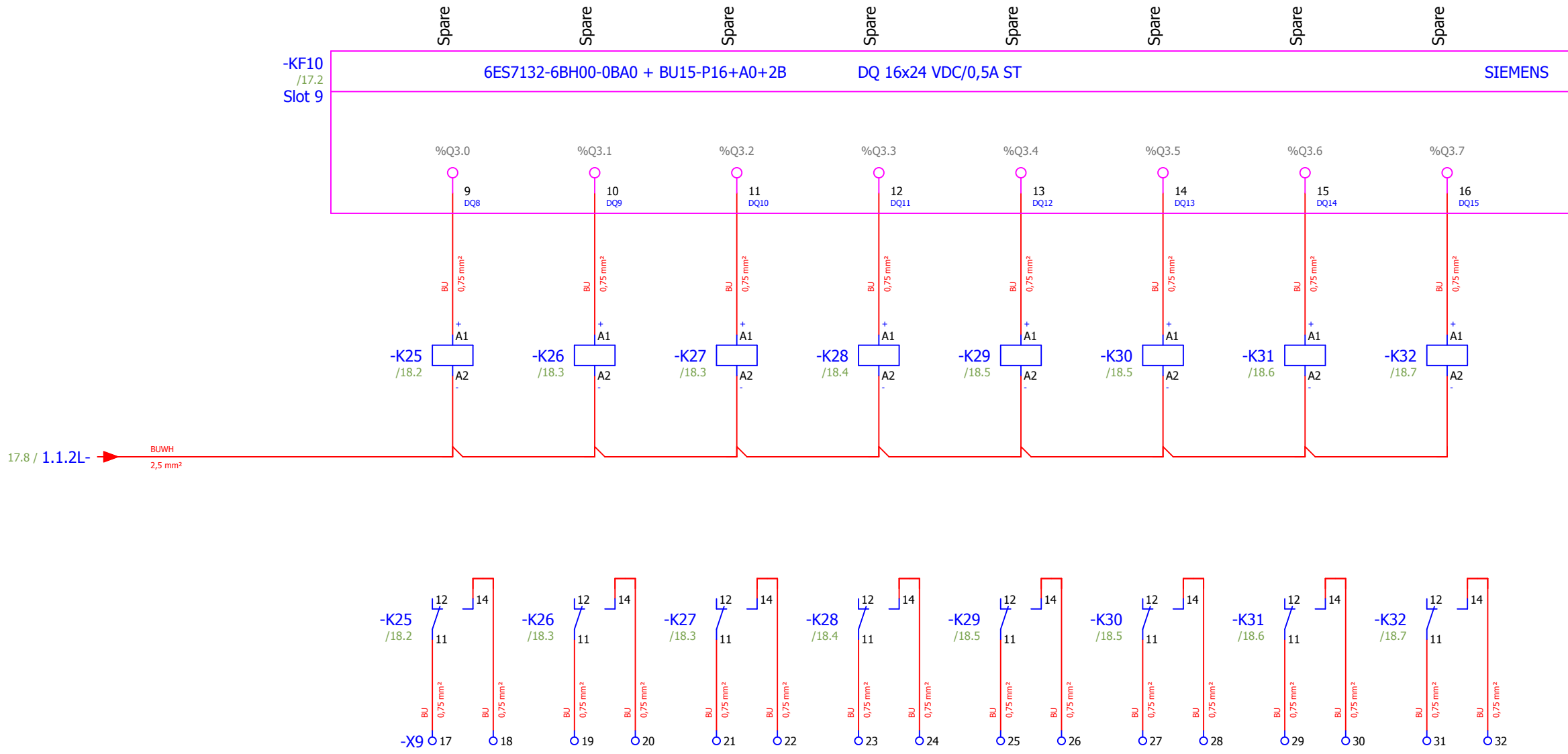
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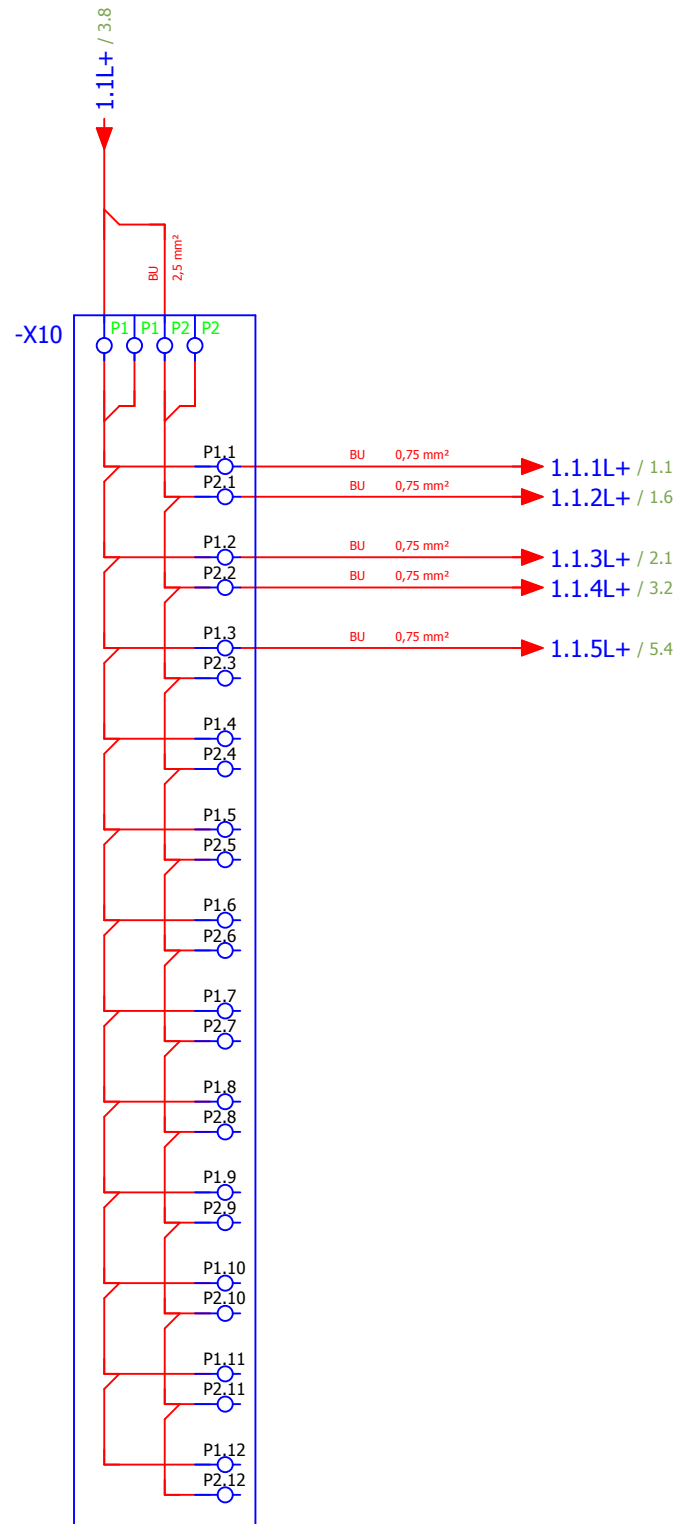
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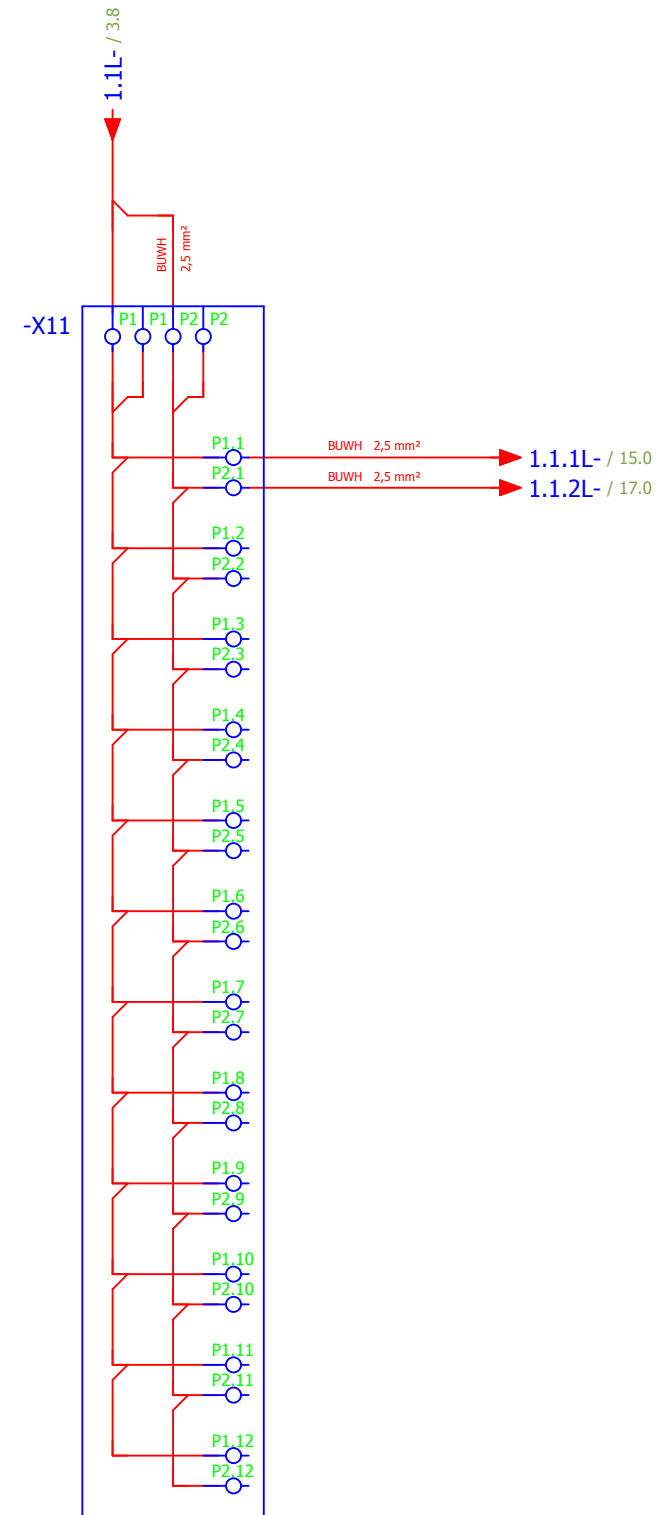
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24V DC

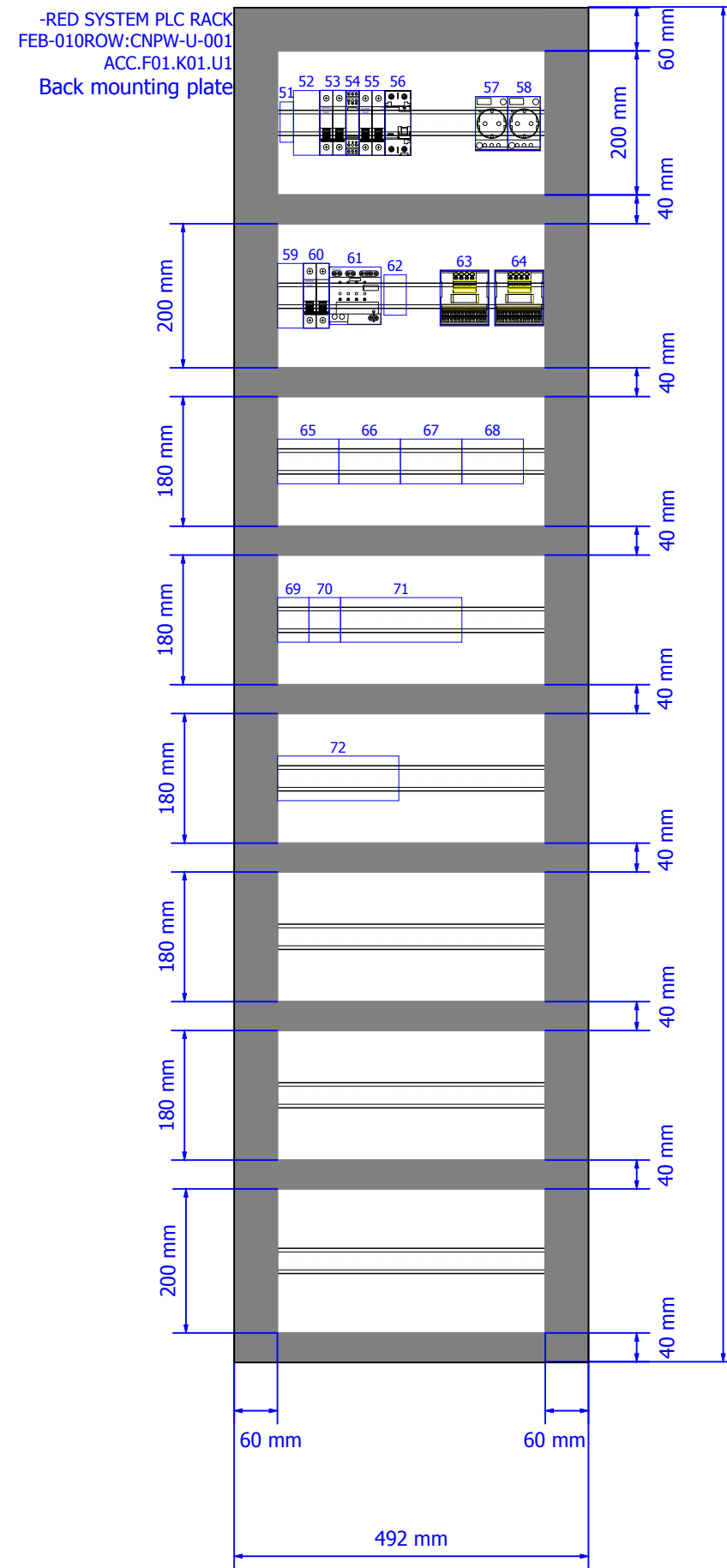
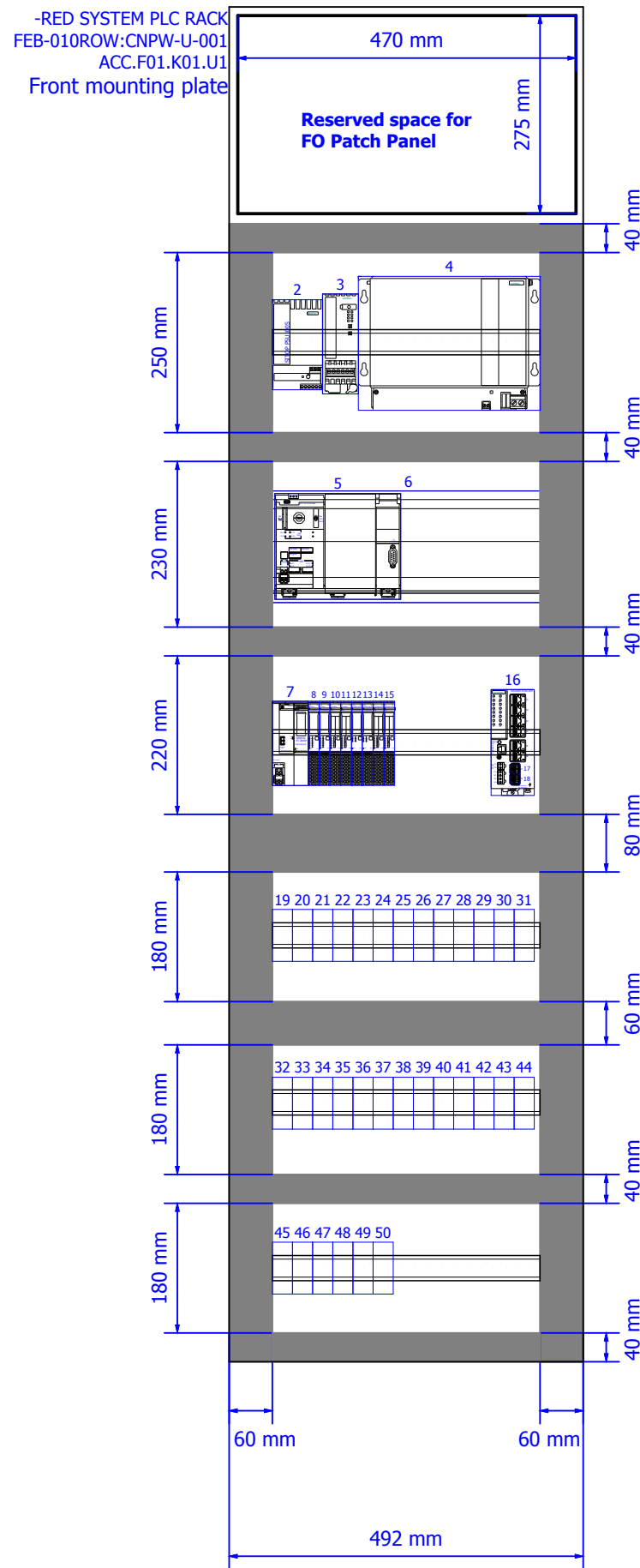
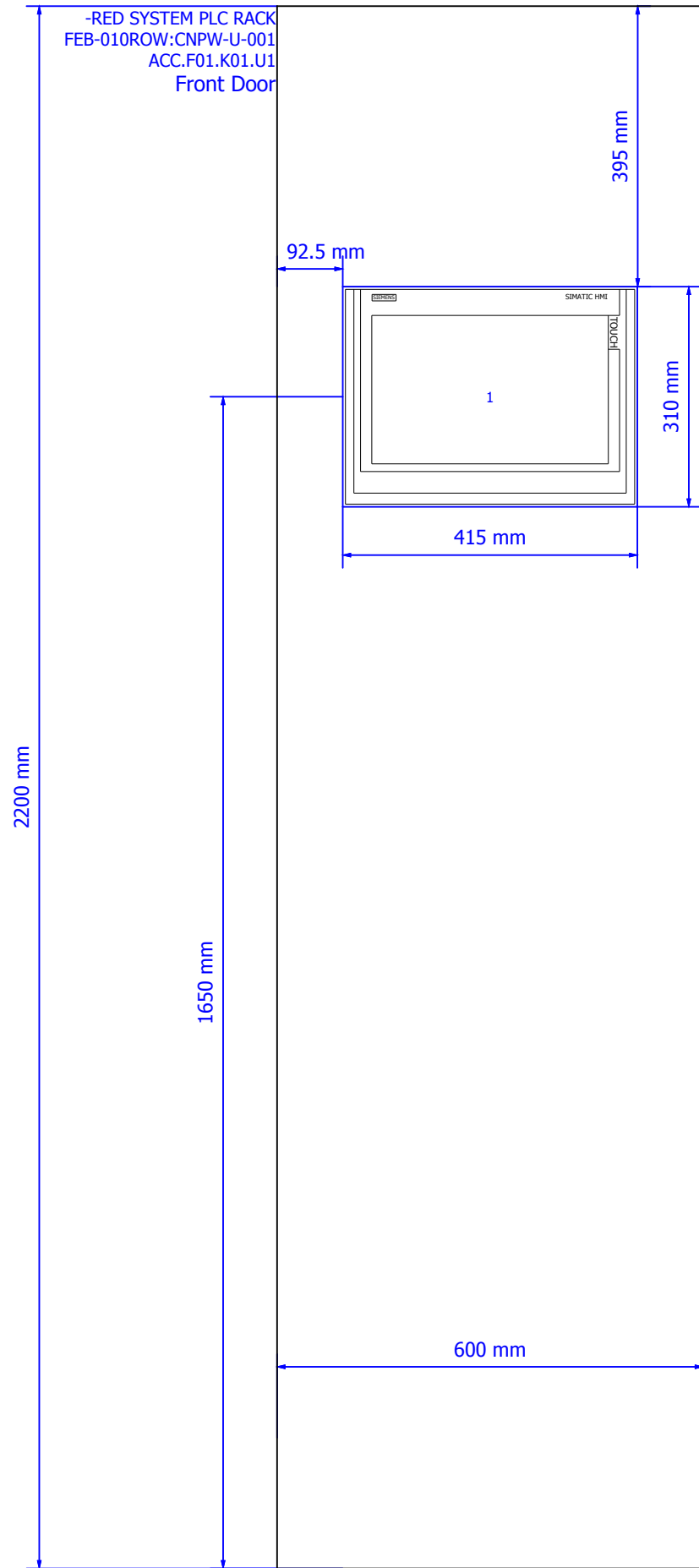


0V DC

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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Enclosure legend

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9	-KF4	69	-X6
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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DRAWN BY ATZ	DATE 20/09/2018	DRAWING TITLE Accelerator PSS	Lifecycle label: Preliminary	Rev: 2	Page size: A3
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Parts list

ESS_Parts_list_ver1-2018-ATZ

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=ESS.ACC.F01.K01.U1-FC1	1	CIRCUIT BREAKER 6KA 1+N-P C16	5SL6516-7	Siemens	SIE.5SL6516-7	
=ESS.ACC.F01.K01.U1-FC2	1	CIRCUIT BREAKER 6KA 1+N-P C10	5SL6510-7	Siemens	SIE.5SL6510-7	
=ESS.ACC.F01.K01.U1-FC3	1	SITOP PSE200U	6EP1961-2BA11	Siemens	SIE.6EP1961-2BA11	
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=ESS.ACC.F01.K01.U1-K1	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K2	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K3	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K4	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K5	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K6	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K7	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K8	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K9	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K10	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K11	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K12	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K13	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K14	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K15	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U1		
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS		RED SYSTEM PLC RACK	CHESS Doc. NR: ESS-0151602	Document: &PC1	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U1-K16	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K17	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K18	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K19	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K20	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K21	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K22	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K23	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K24	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K25	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K26	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K27	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K28	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K29	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K30	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K31	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-K32	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U1-KF1	1	CPU 1518F-4 PN/DP, 6 MB PROG, 20MB DATA	6ES7518-4FP00-0AB0	Siemens	SIE.6ES7518-4FP00-0AB0	
=ESS.ACC.F01.K01.U1-KF1	1	MOUNTING RAIL 482MM (19")	6ES7590-1AE80-0AA0	Siemens	SIE.6ES7590-1AE80-0AA0	
=ESS.ACC.F01.K01.U1-KF2	1	IM155-6 PN HF / BA 2XRJ45	6ES7155-6AU00-0CN0 / 6ES7193-6AR00-0AA0	Siemens	SIE.6ES7155-6AU00-0CN0+BA_2xRJ45	
=ESS.ACC.F01.K01.U1-KF3	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U1-KF4	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2B	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U1		
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC2	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U1-KF5	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U1-KF6	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U1-KF7	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U1-KF8	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U1-KF9	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U1-KF10	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U1-PH1	1	TP1500 COMFORT	6AV2124-0QC02-0AX0	Siemens	SIE.6AV2124-0QC02-0AX0	
=ESS.ACC.F01.K01.U1-QB1	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U1-QB2	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U1-RB1	1	SITOP UPS1600	6EP4134-3AB00-2AY0	Siemens	SIE.6EP4134-3AB00-2AY0	
=ESS.ACC.F01.K01.U1-TA1	1	SITOP PSU100S	6EP1334-2BA20	Siemens	SIE.6EP1334-2BA20	
=ESS.ACC.F01.K01.U1-X1	1	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U1-X1	1	Feed-through terminal block	PT 4 BU	Phoenix Contact	PXC.3211760	
=ESS.ACC.F01.K01.U1-X1	1	Ground modular terminal block	PT 4-PE	Phoenix Contact	PXC.3211766	
=ESS.ACC.F01.K01.U1-X2	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X2	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U1-X2	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X3	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X3	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X4	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X4	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X5	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U1		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	Physical location (LBS): +G01.090.5005.100.001		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC3	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U1-X5	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X6	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X6	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U1-X6	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X7	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X7	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X8	32	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X8	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X9	32	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U1-X9	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U1-X10	1	Interface module	UMK- PVB 2/24/ZFKDS	Phoenix Contact	PXC.2302366	
=ESS.ACC.F01.K01.U1-X11	1	Interface module	UMK- PVB 2/24/ZFKDS	Phoenix Contact	PXC.2302366	
=ESS.ACC.F01.K01.U1-X12	5	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U1-XF1	1	SCALANCE XC206-2SFP	6GK5206-2BS00-2AC2	Siemens	SIE.6GK5206-2BS00-2AC2	
=ESS.ACC.F01.K01.U1-XF1	2	SFP991-1LD	6GK5991-1AF00-8AA0	Siemens	SIE.6GK5991-1AF00-8AA0	
=ESS.ACC.F01.K01.U1-XG1	1	SCHUKO SOCKET for mounting on support rails	SIE.5TE6800	Siemens	SIE.5TE6800	
=ESS.ACC.F01.K01.U1-XG2	1	SCHUKO SOCKET for mounting on support rails	SIE.5TE6800	Siemens	SIE.5TE6800	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small>	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE		CHECKED BY	DATE	PAGE TYPE	Functional location (FBS):	2	A3
2	20/09/2018	As built	Modification based on ZHAW recommendations		APPROVED BY	DATE	FUNCTION	Physical location (LBS):		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams		 SBH 20/09/2018 DESIGN SITE ESS	20/09/2018	FEB-010Row:CnPw-U-001 RED SYSTEM PLC RACK	CHESS Doc. NR: ESS-0151602	Document:	&PC4



EUROPEAN SPALLATION SOURCE

Description: Red Sys. RIO Rack

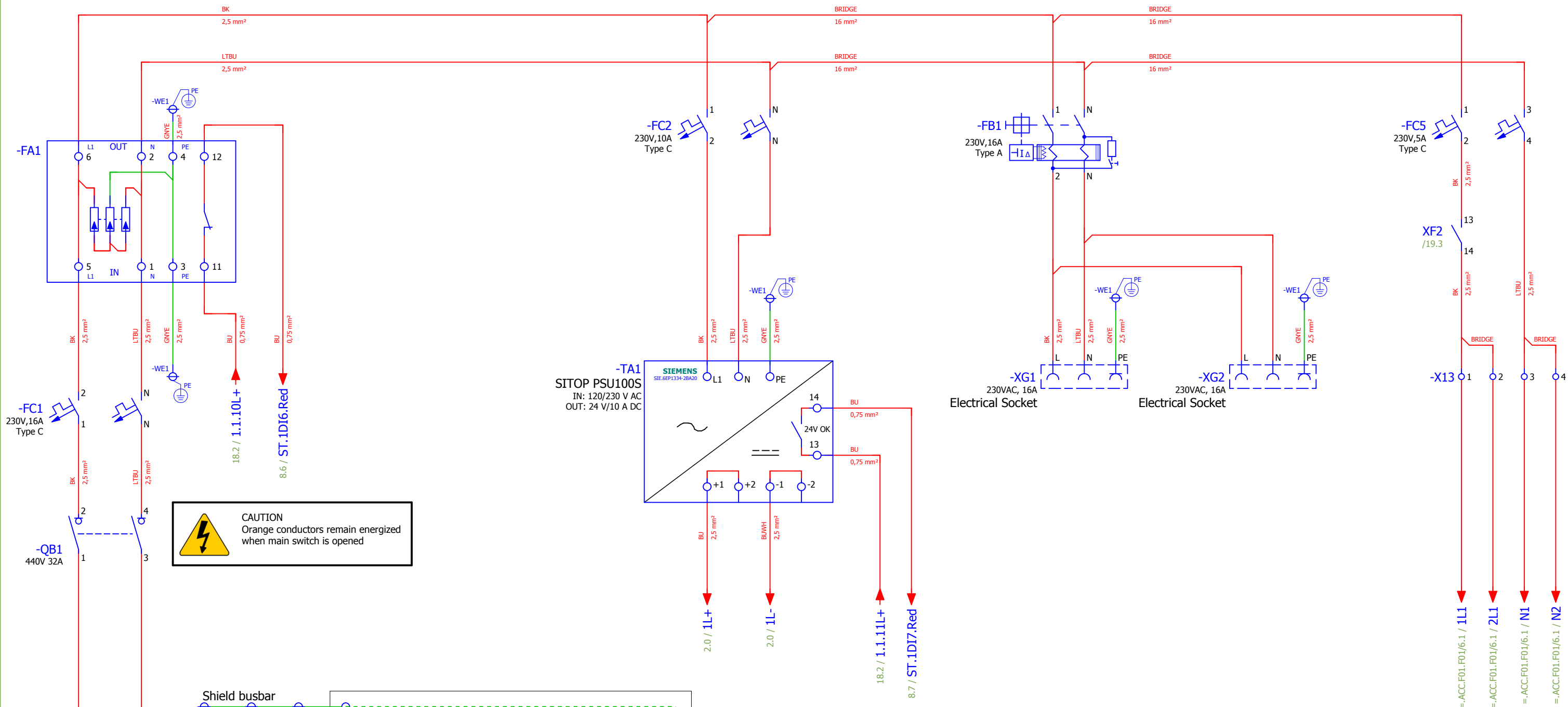
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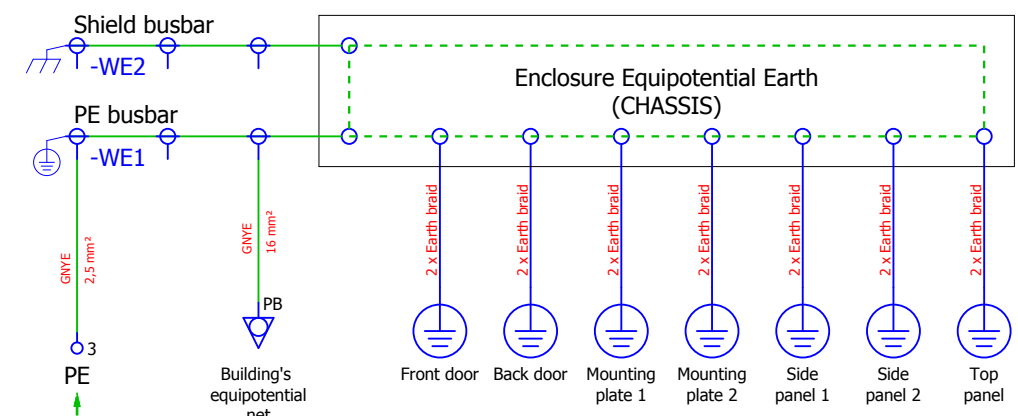
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY	DATE	PAGE TYPE	Functional location (FBS):		
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE	ESS	RED SYSTEM RIO RACK	CHESS Doc. NR:		Document:
							ESS-0151602		&AA1





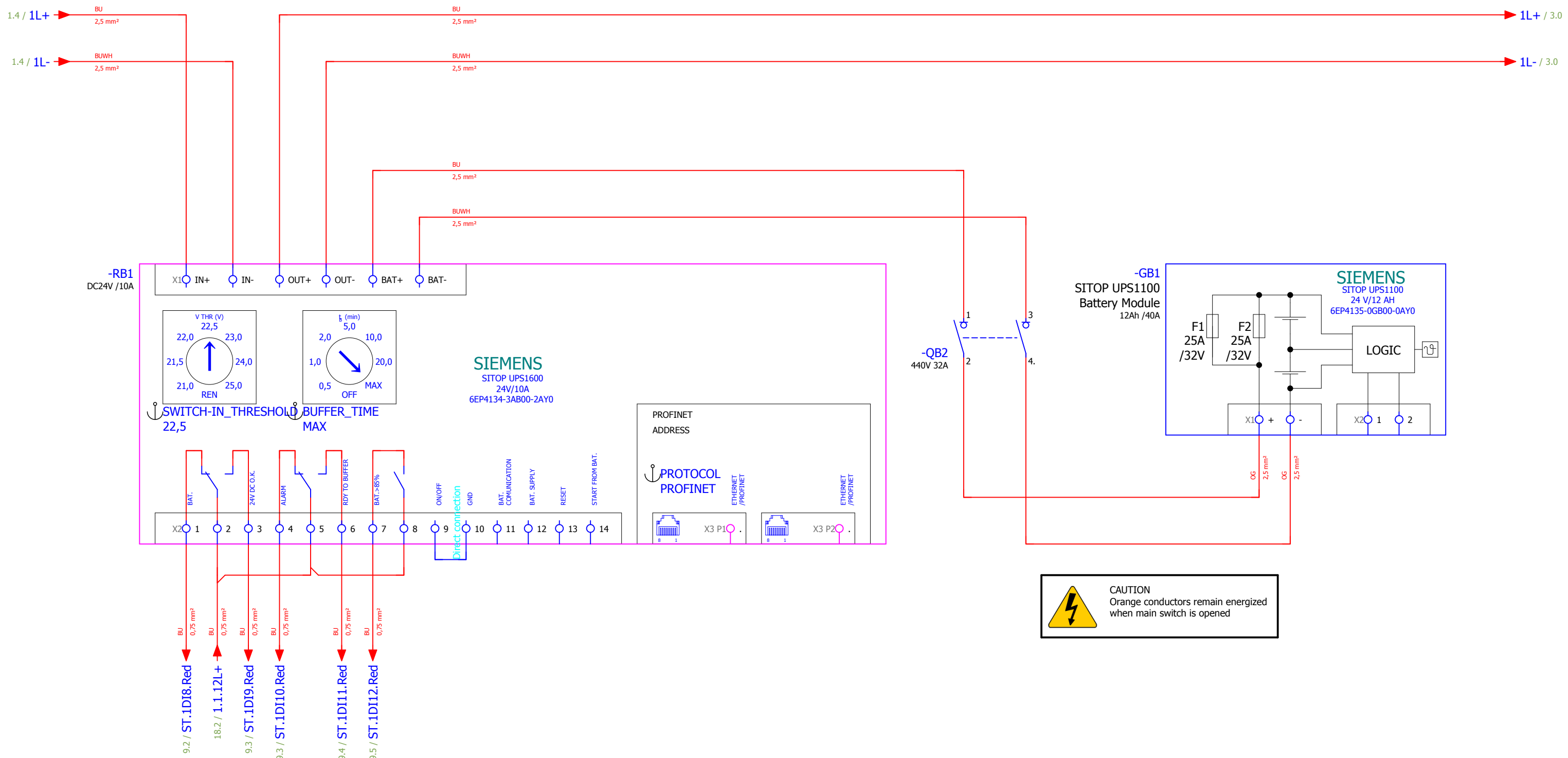
CAUTION
Orange conductors remain energized when main switch is opened



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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			ESS-0151602		&FS1

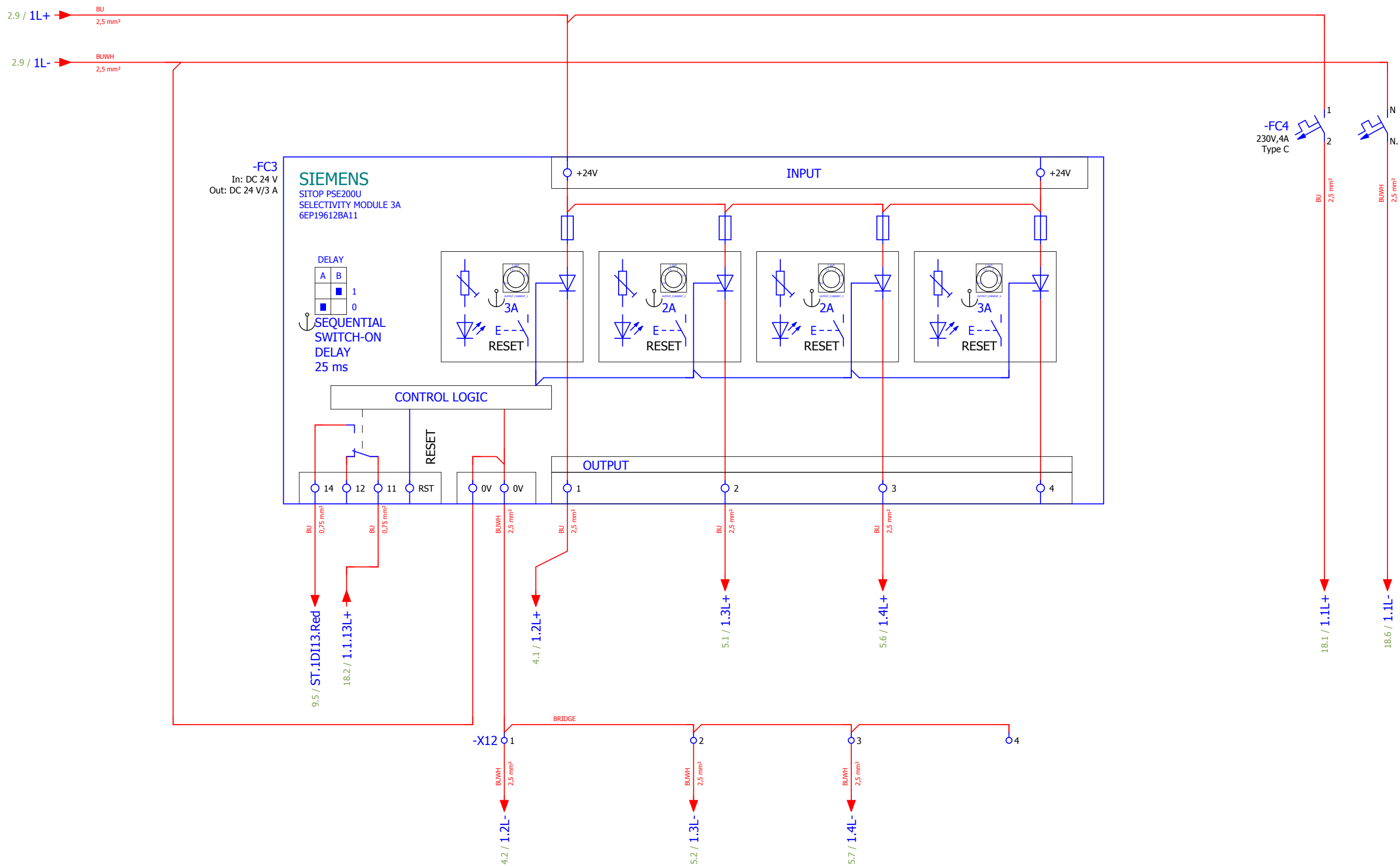


REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE
ATZ	20/09/2018	Accelerator PSS
CHECKED BY	DATE	PAGE TYPE
MMI	20/09/2018	Schematic multi-line
APPROVED BY	DATE	FUNCTION
SBH	20/09/2018	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK
DESIGN SITE	ESS	

Life cycle label:	Rev:	Page size:
Preliminary	2	A3
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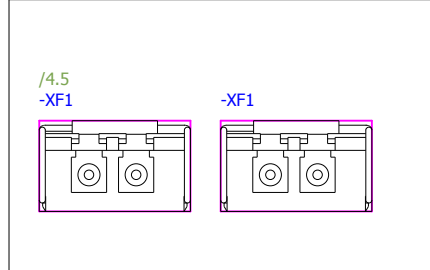
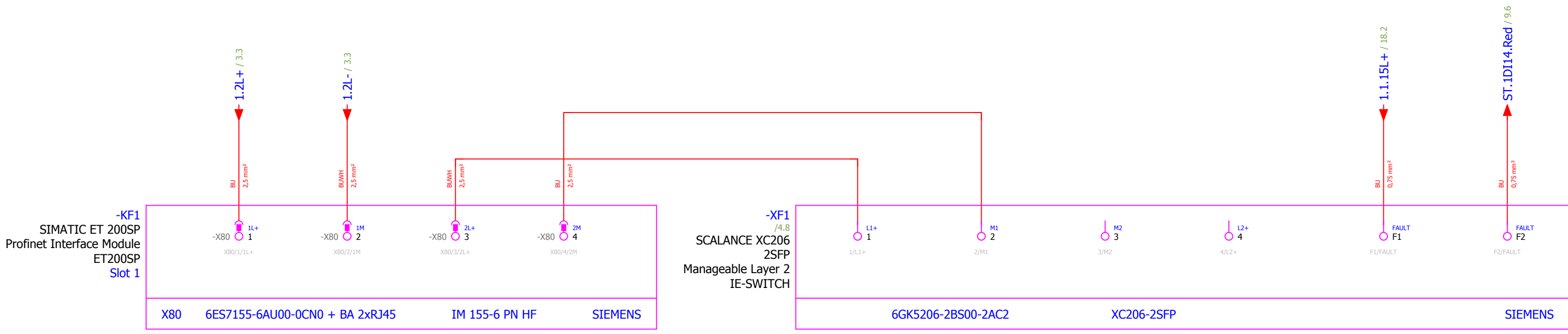
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
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Physical location (LBS):	+G01.090.5005.100.002				
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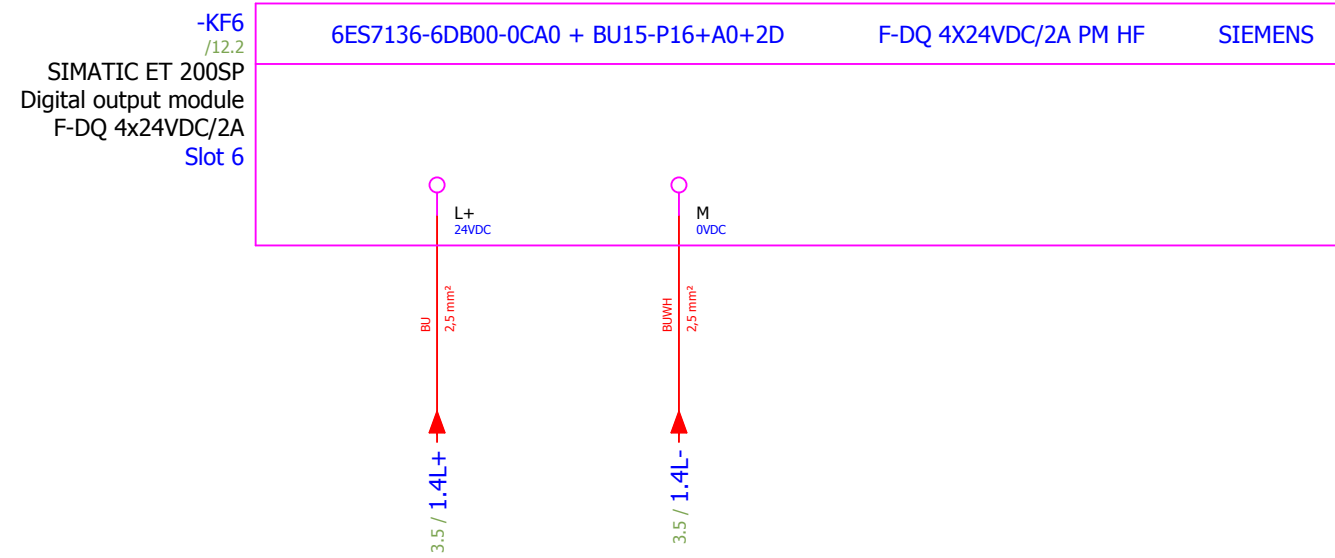
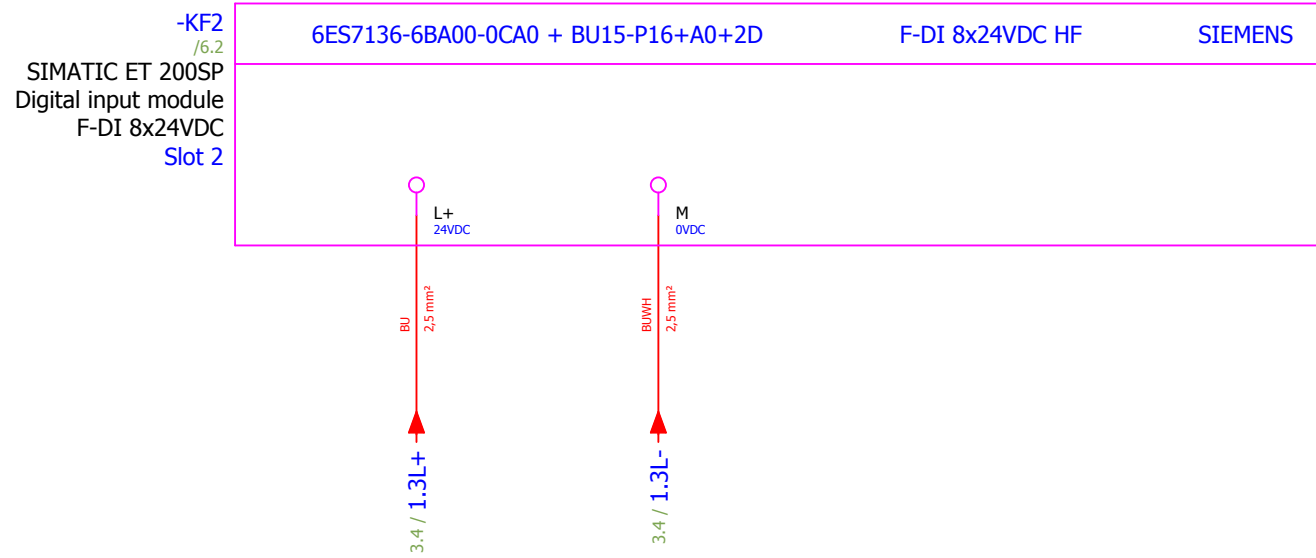


SFP pluggable transceiver for media modules
100MBIT/S LC-PORT OPTICAL

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY ATZ	DATE 20/09/2018	DRAWING TITLE Accelerator PSS	Lifecycle label: Preliminary	Rev: 2	Page size: A3
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



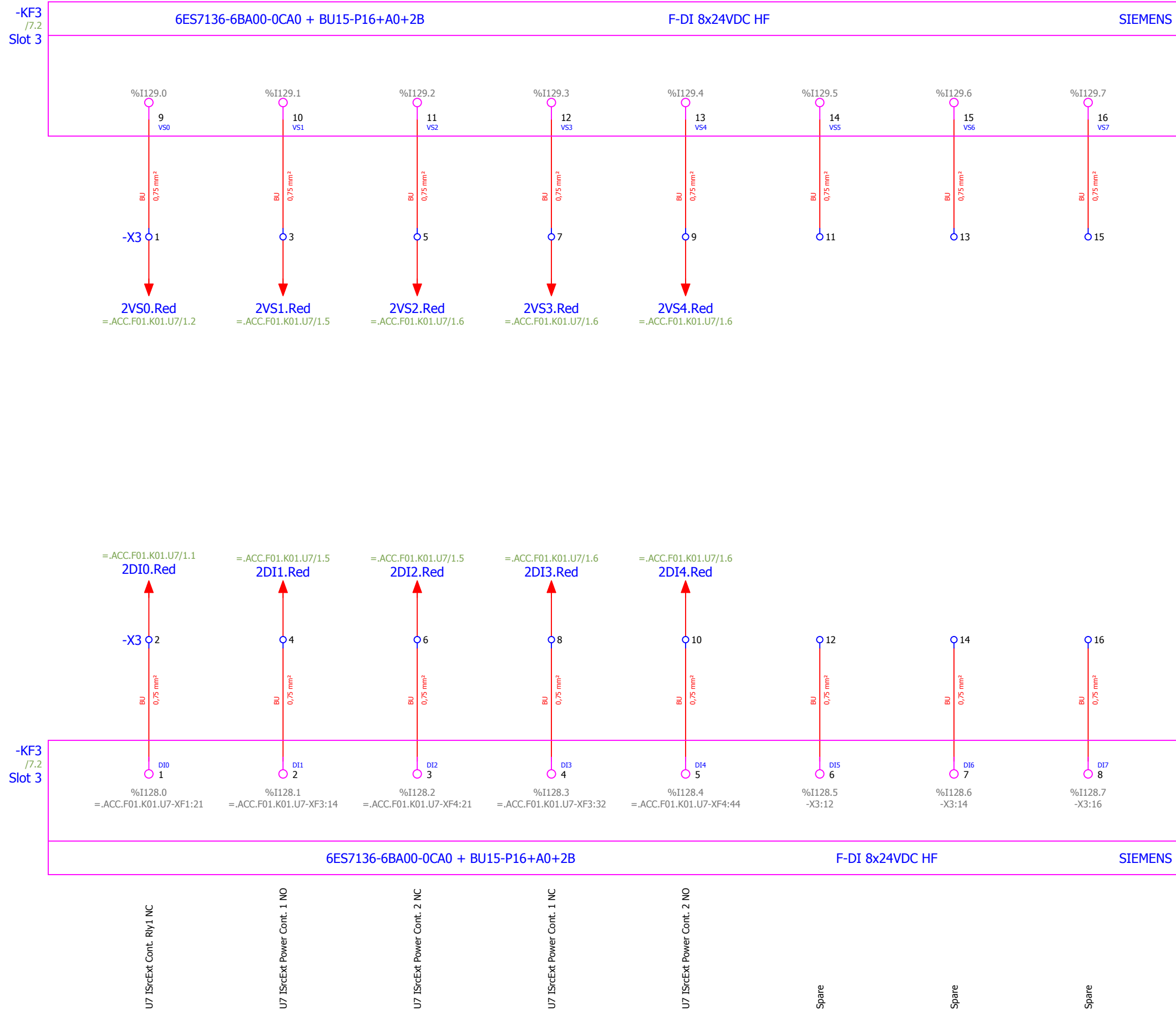
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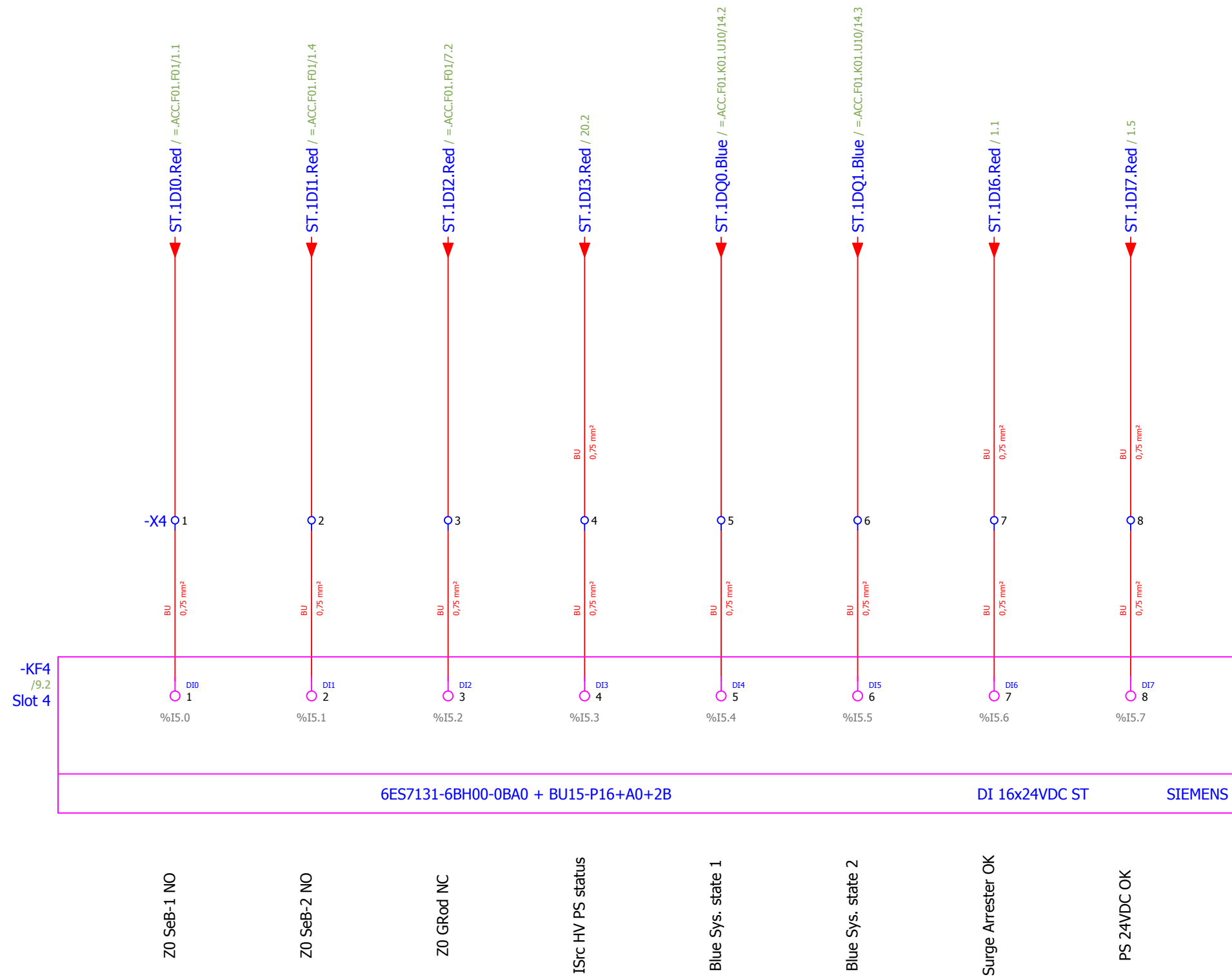
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams		 v2.7.3 DESIGN SITE ESS	20/09/2018	FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	CHESS Doc. NR: ESS-0151602	Document:	&FS6



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small>  v2.7.3	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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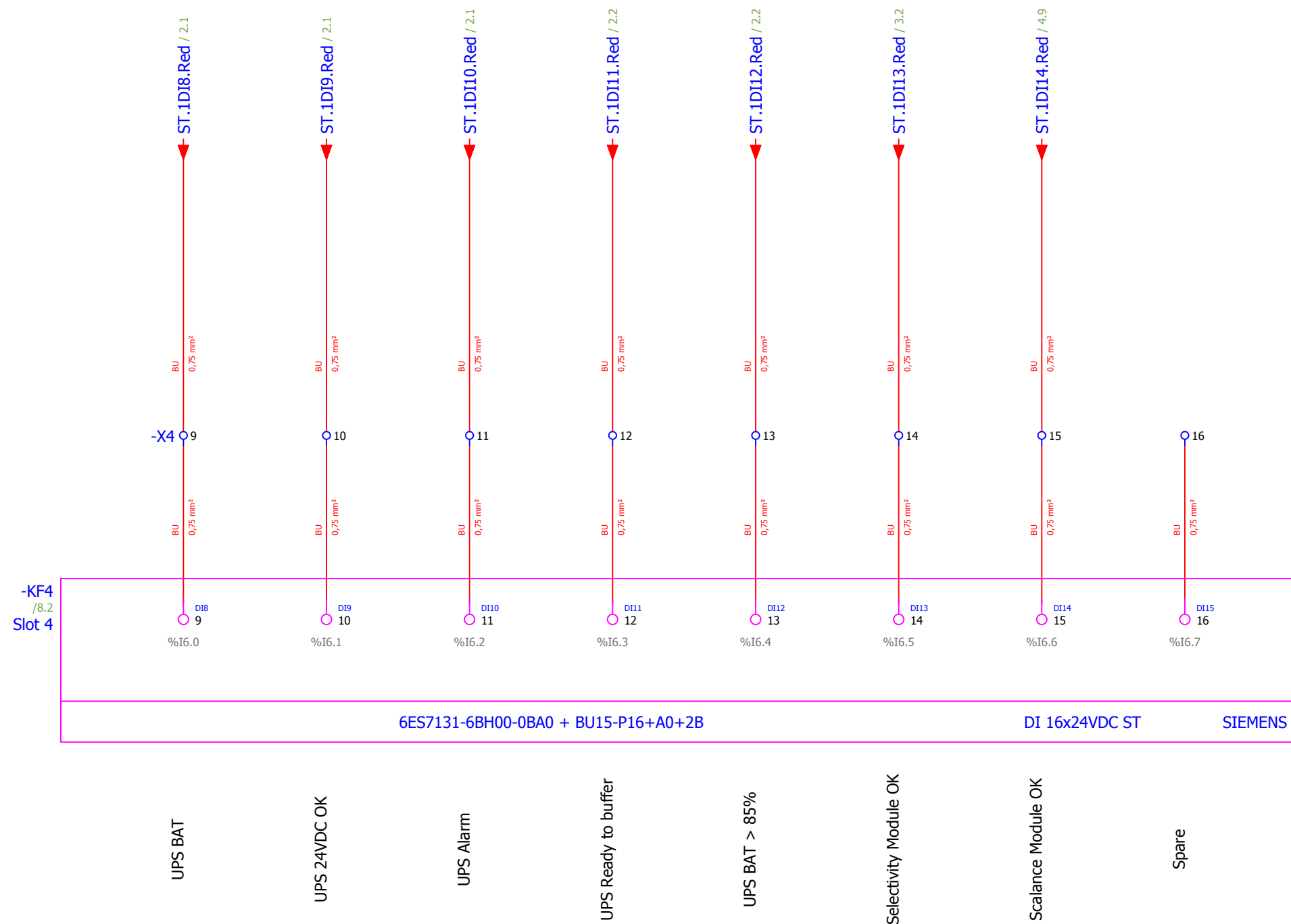
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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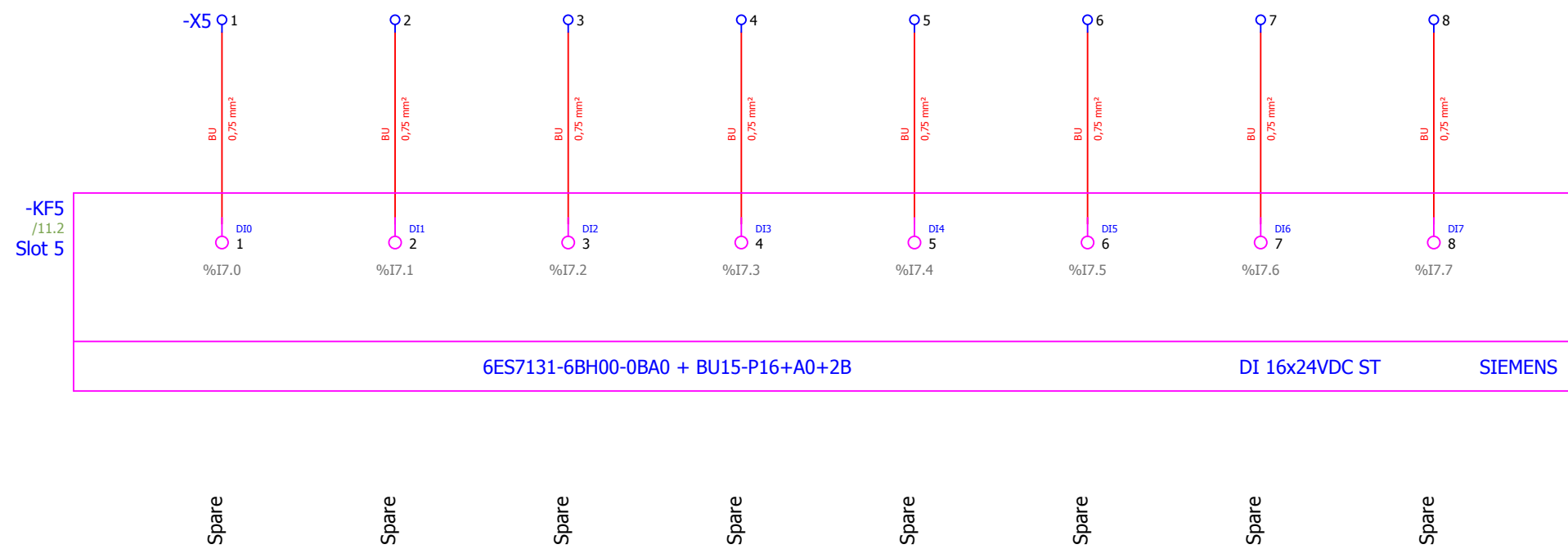
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2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
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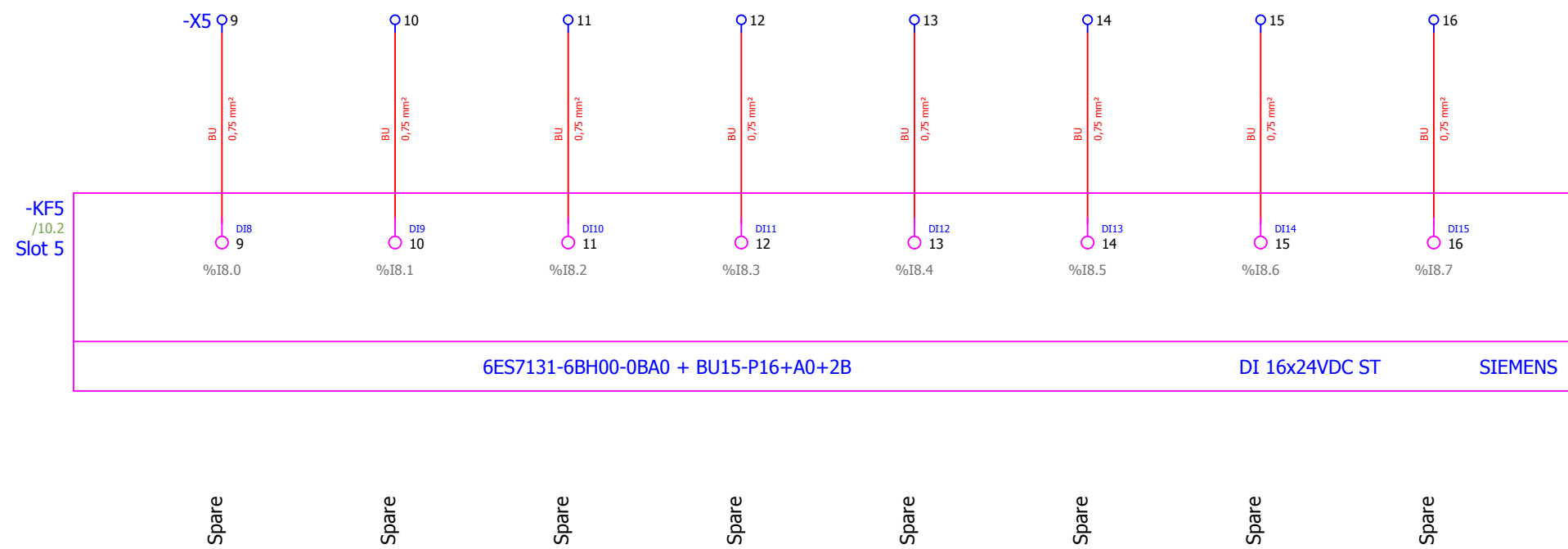
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



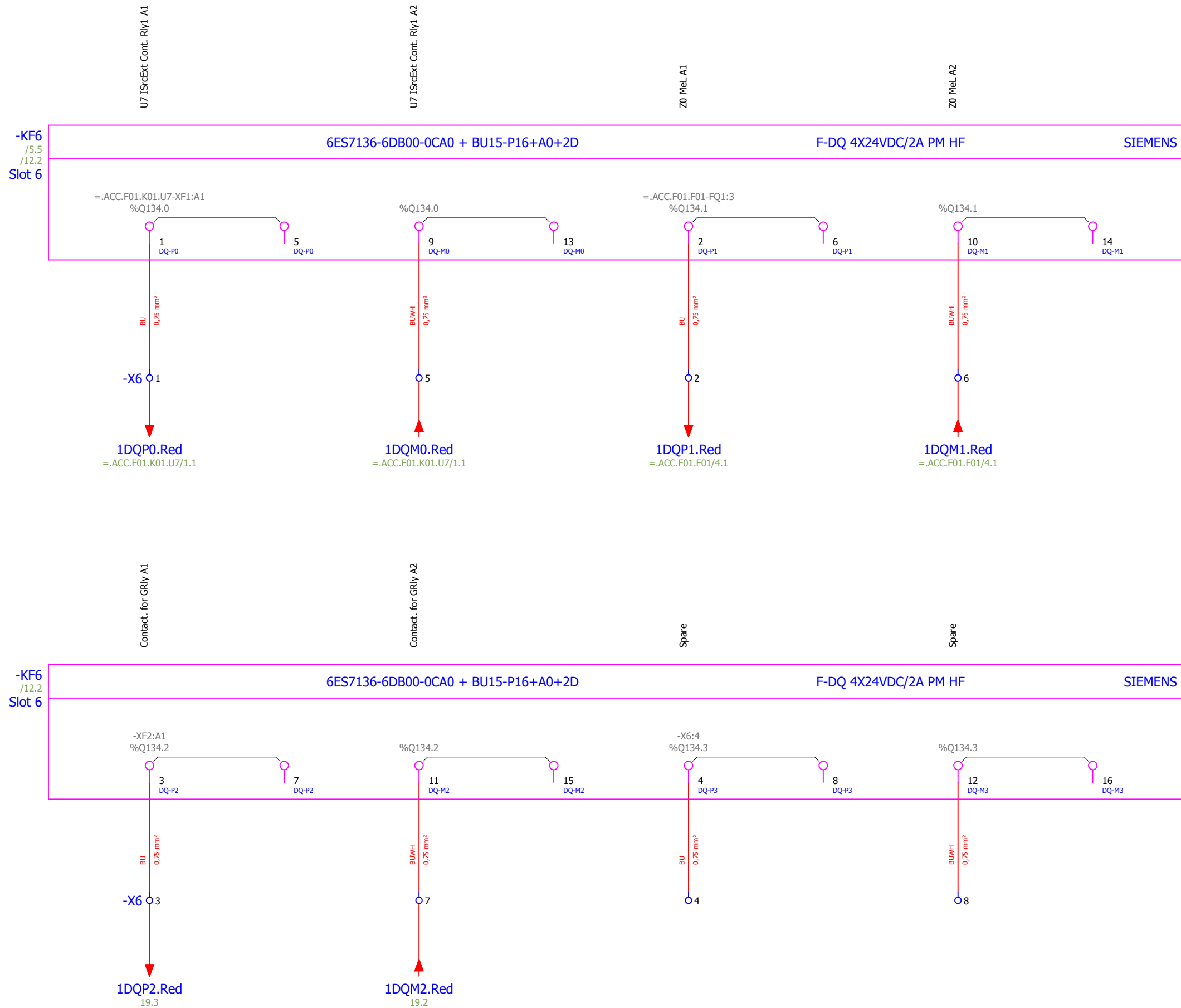
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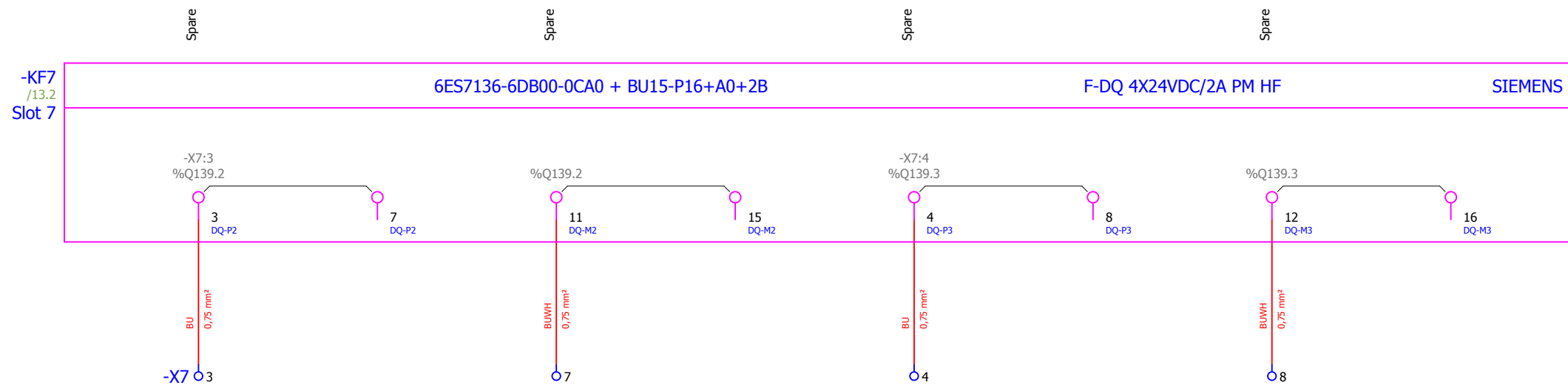
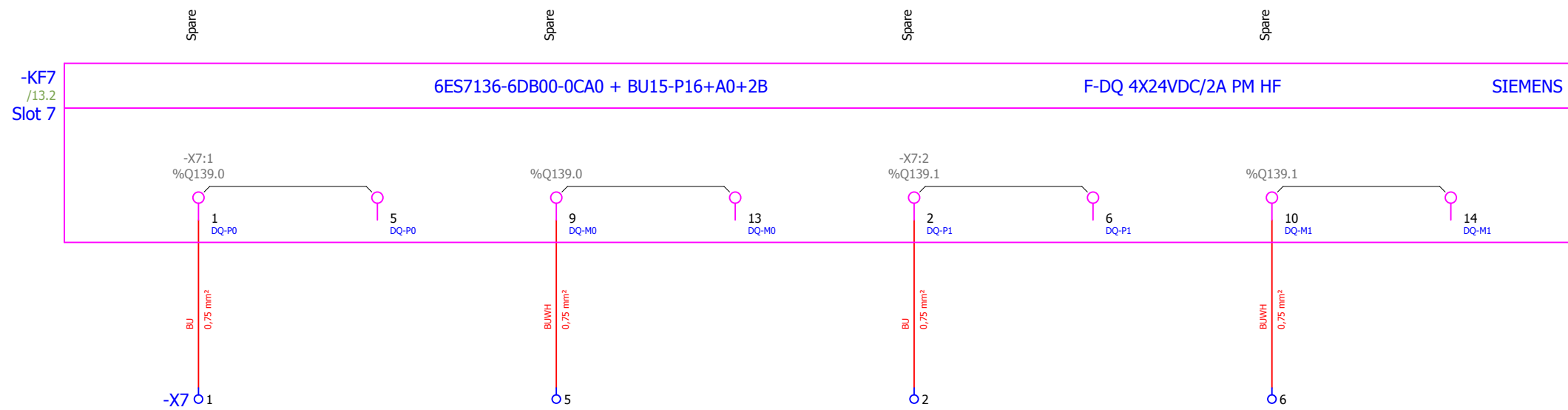
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

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 Documentation protection ISO 16016
EPLAN electric 8 V2.7.3

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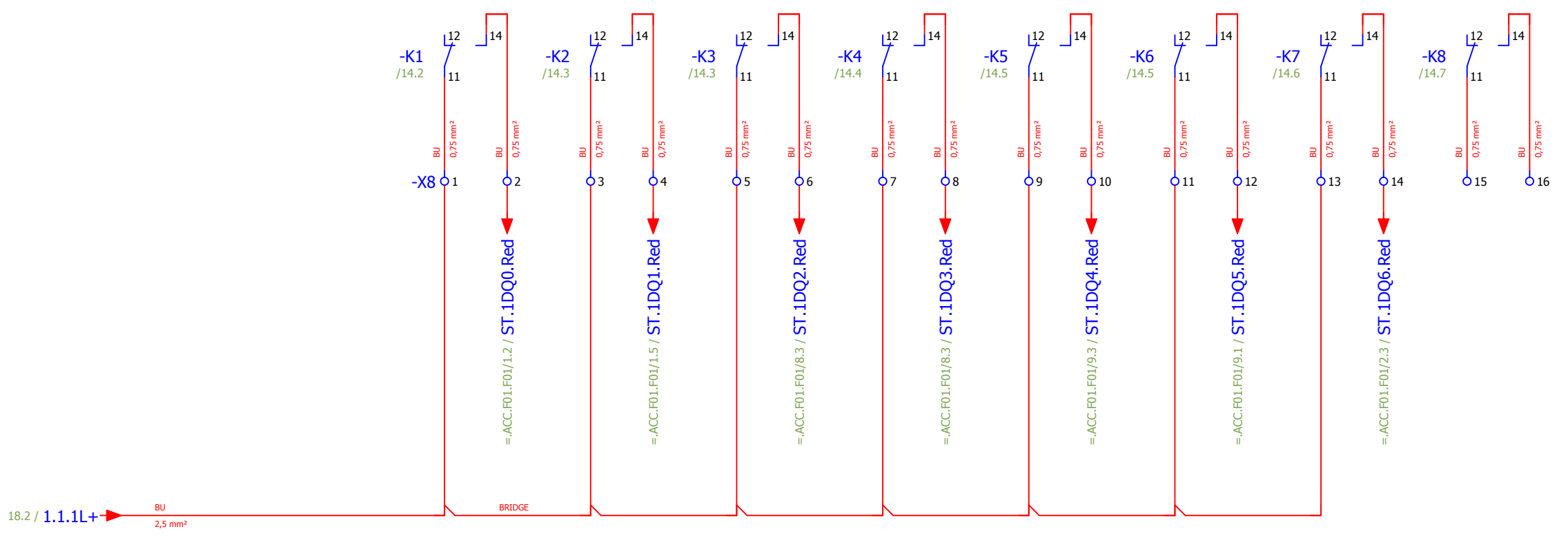
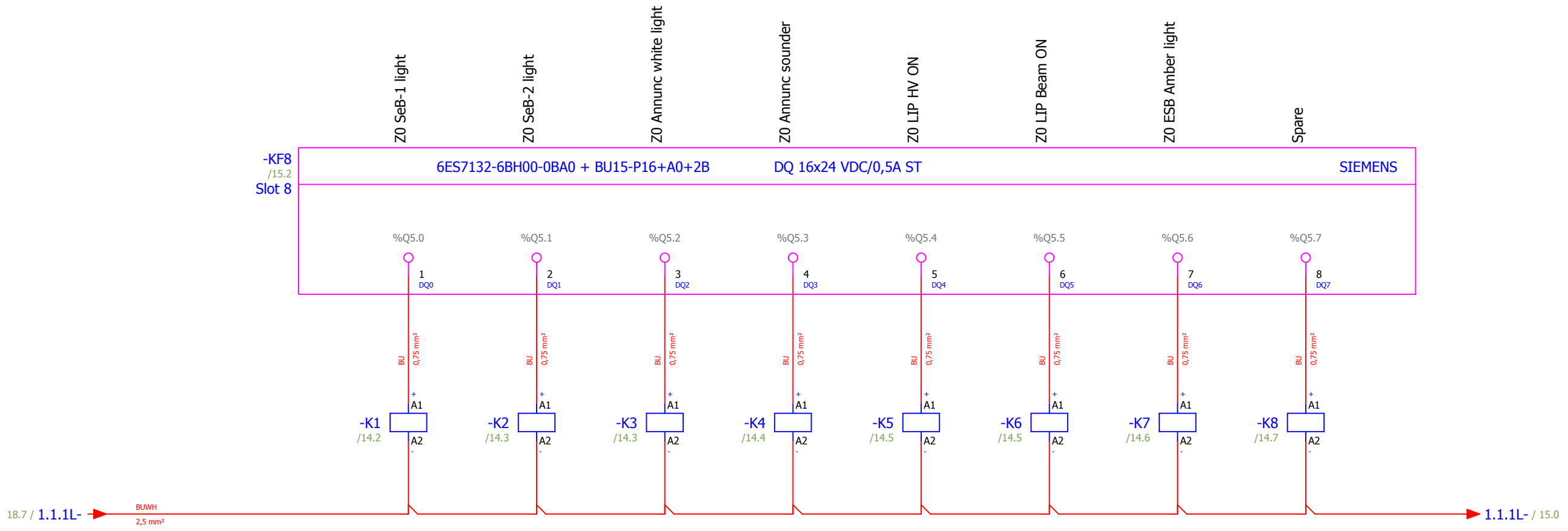
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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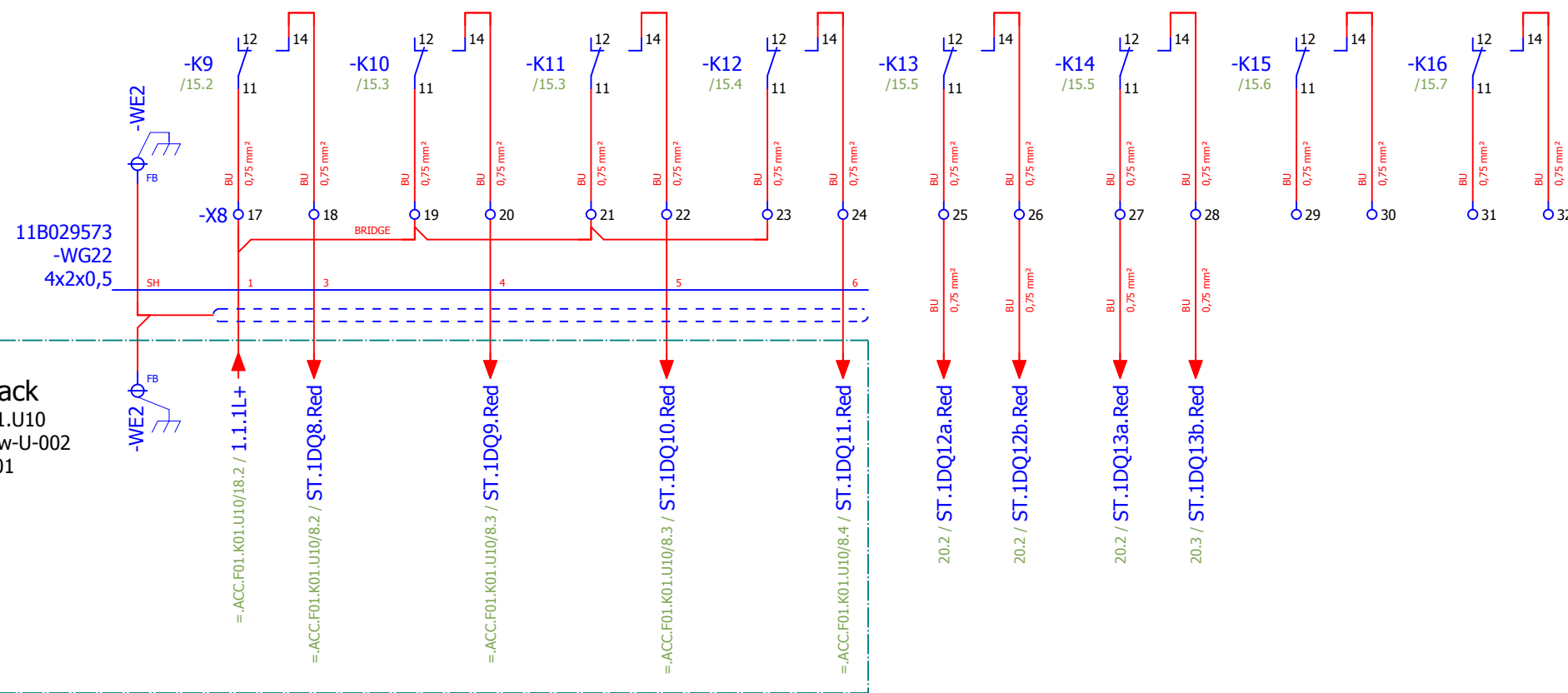
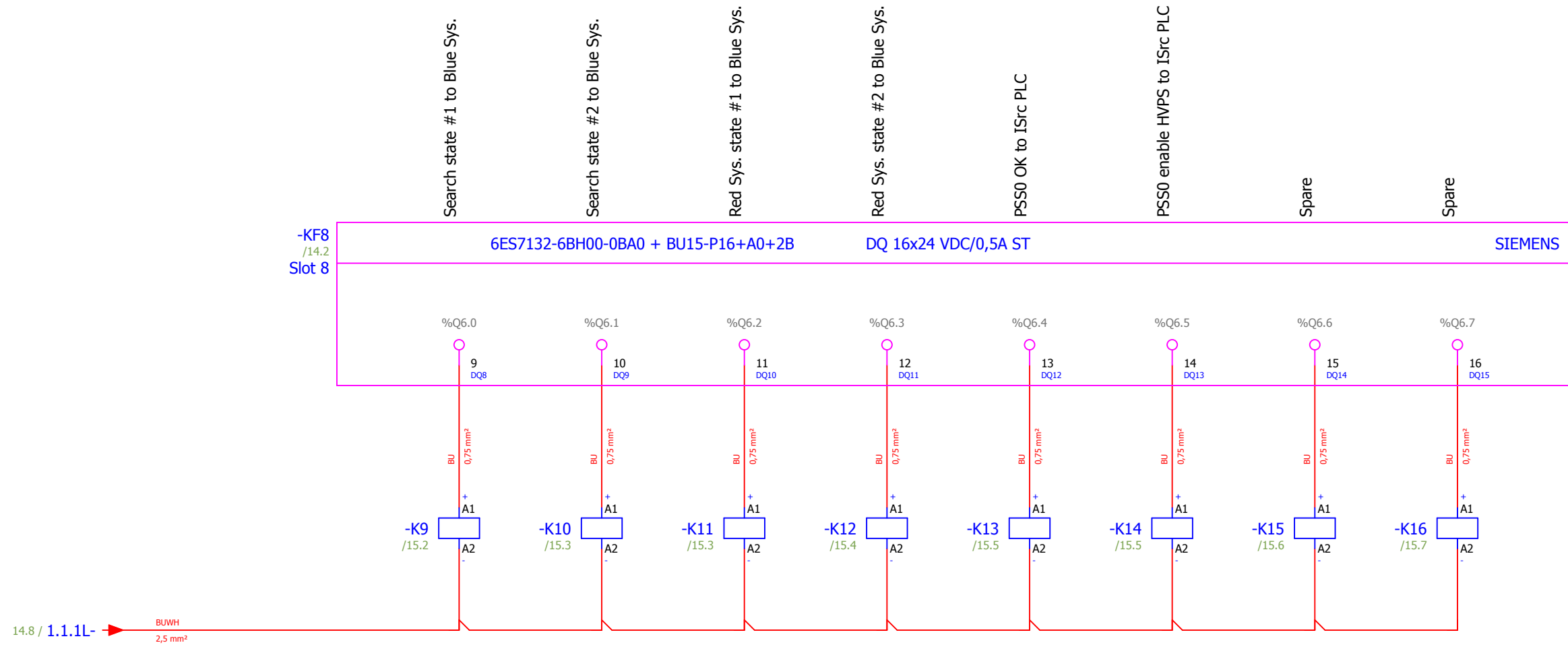
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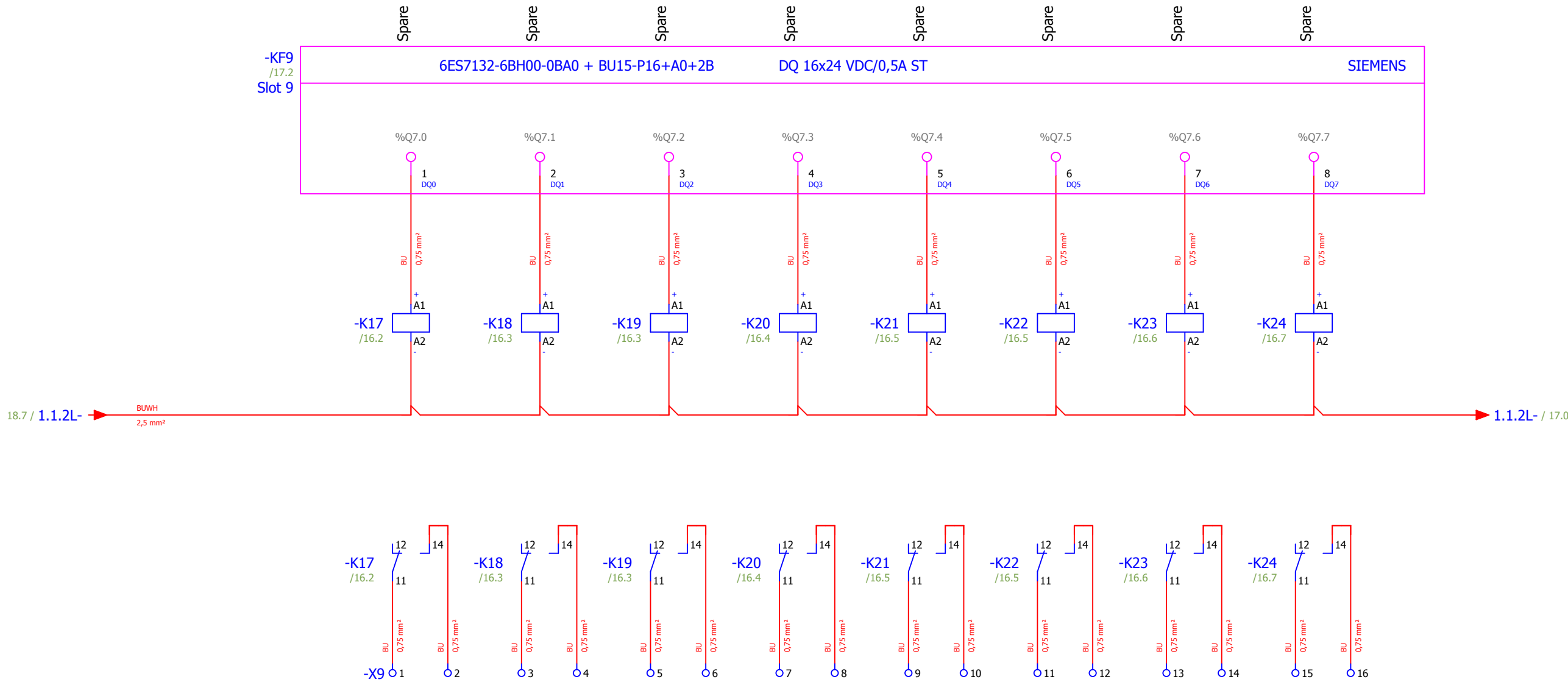
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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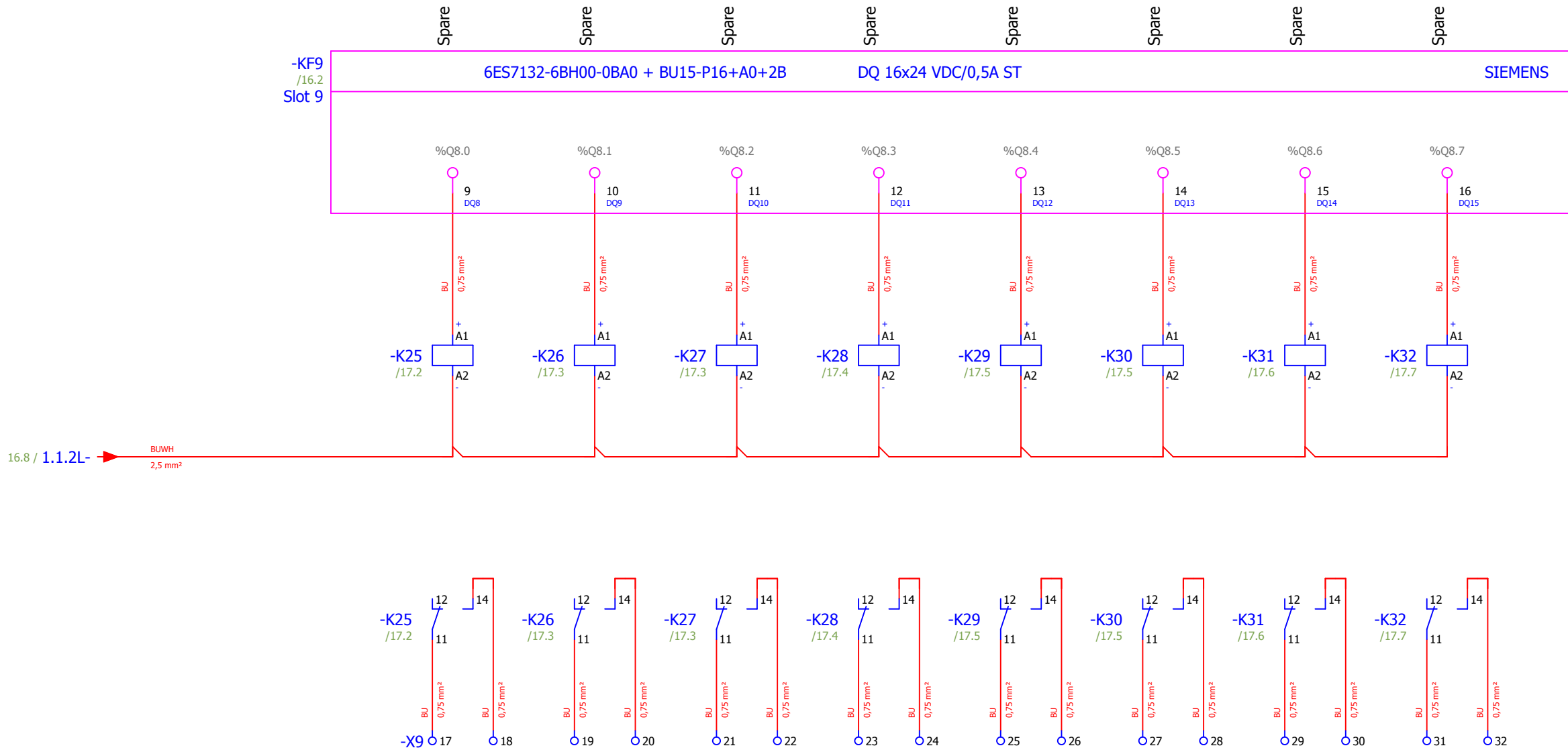


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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY ATZ	DATE 20/09/2018	DRAWING TITLE Accelerator PSS
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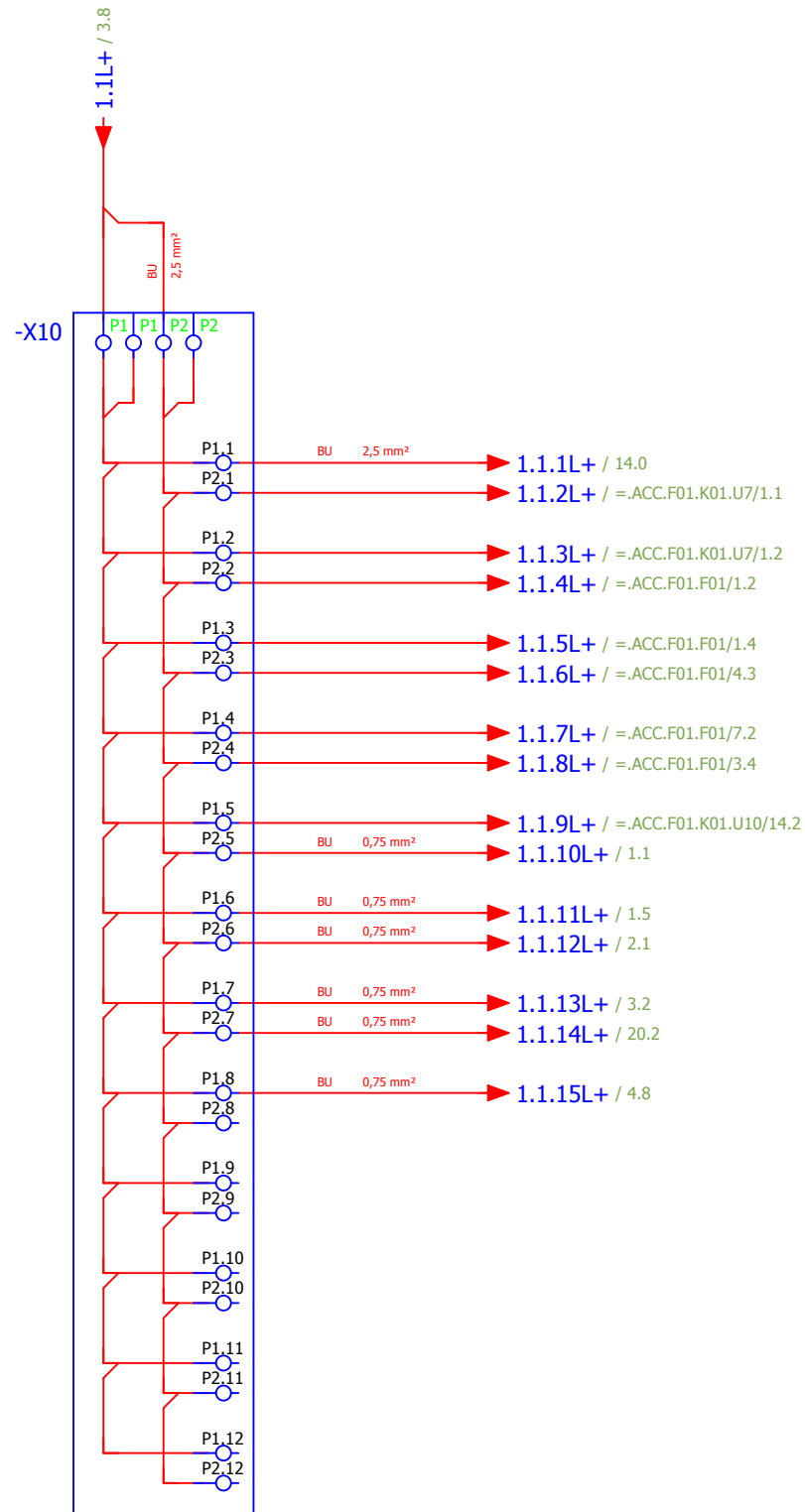
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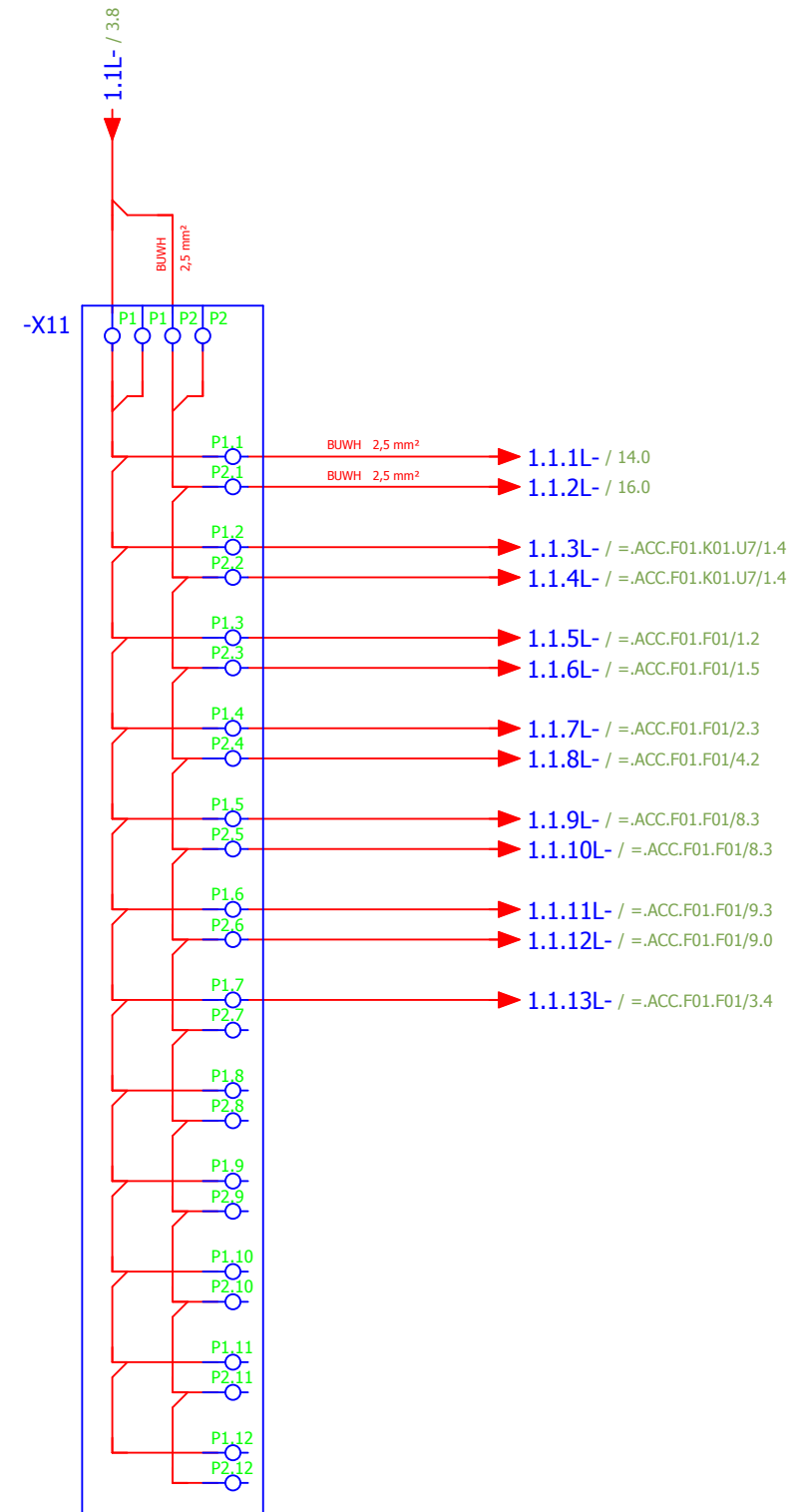
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24V DC

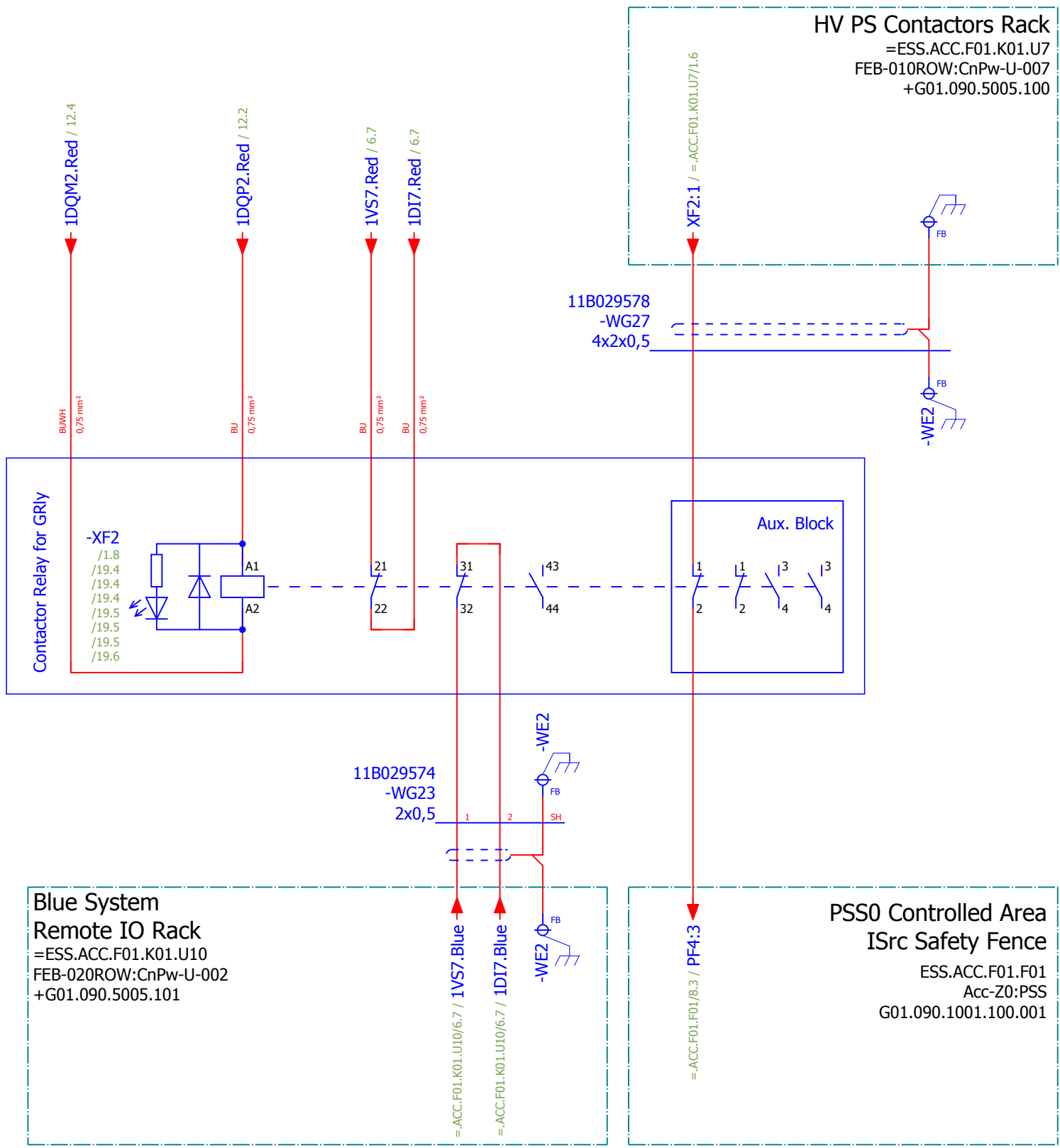


0V DC

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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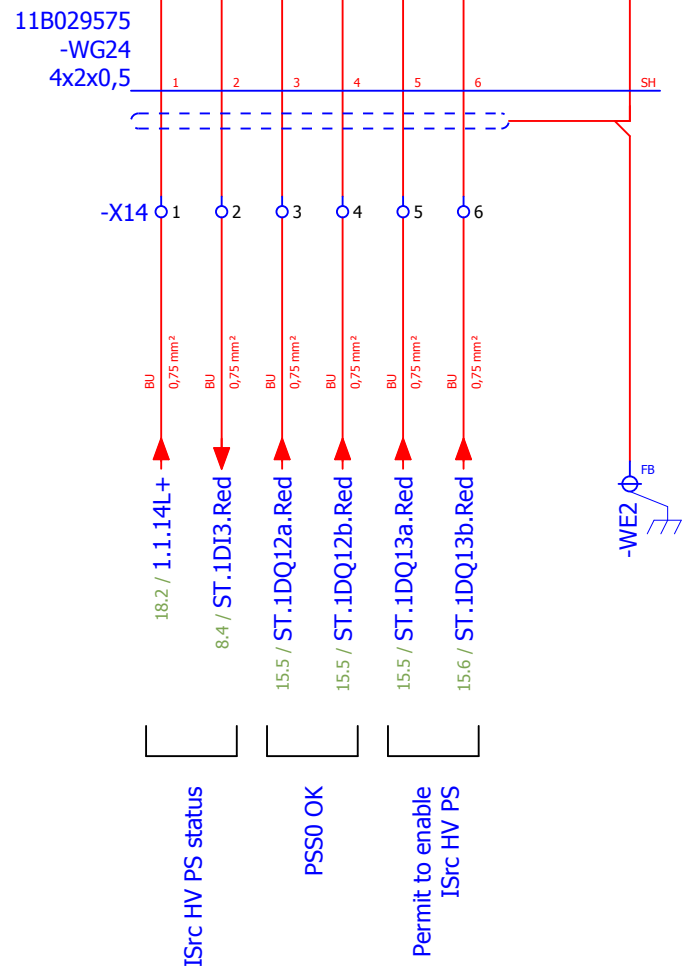
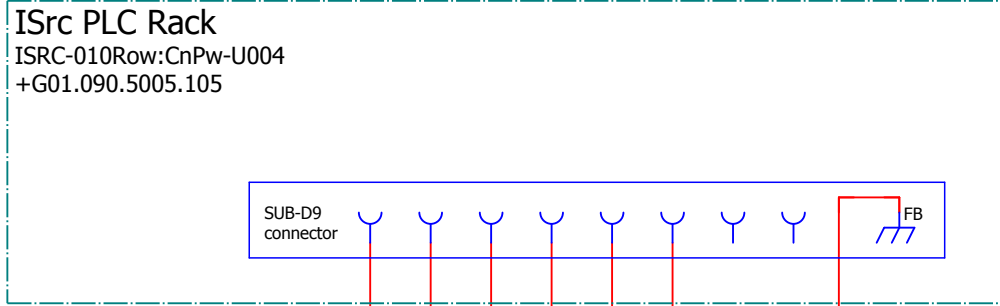


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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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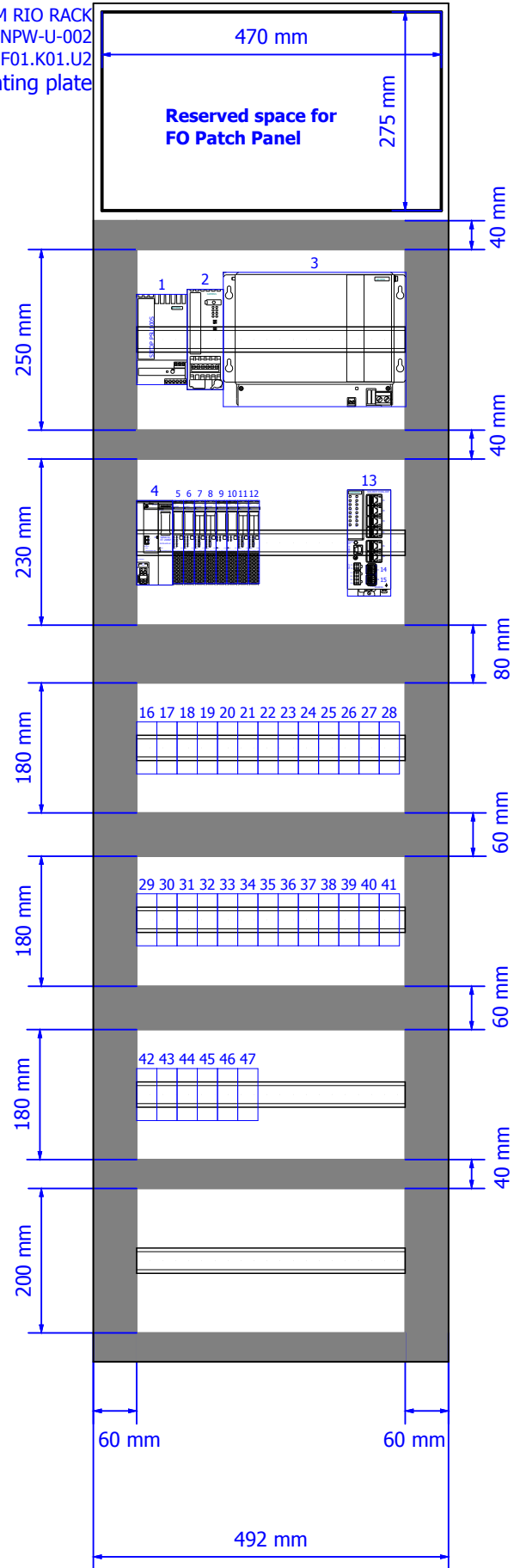


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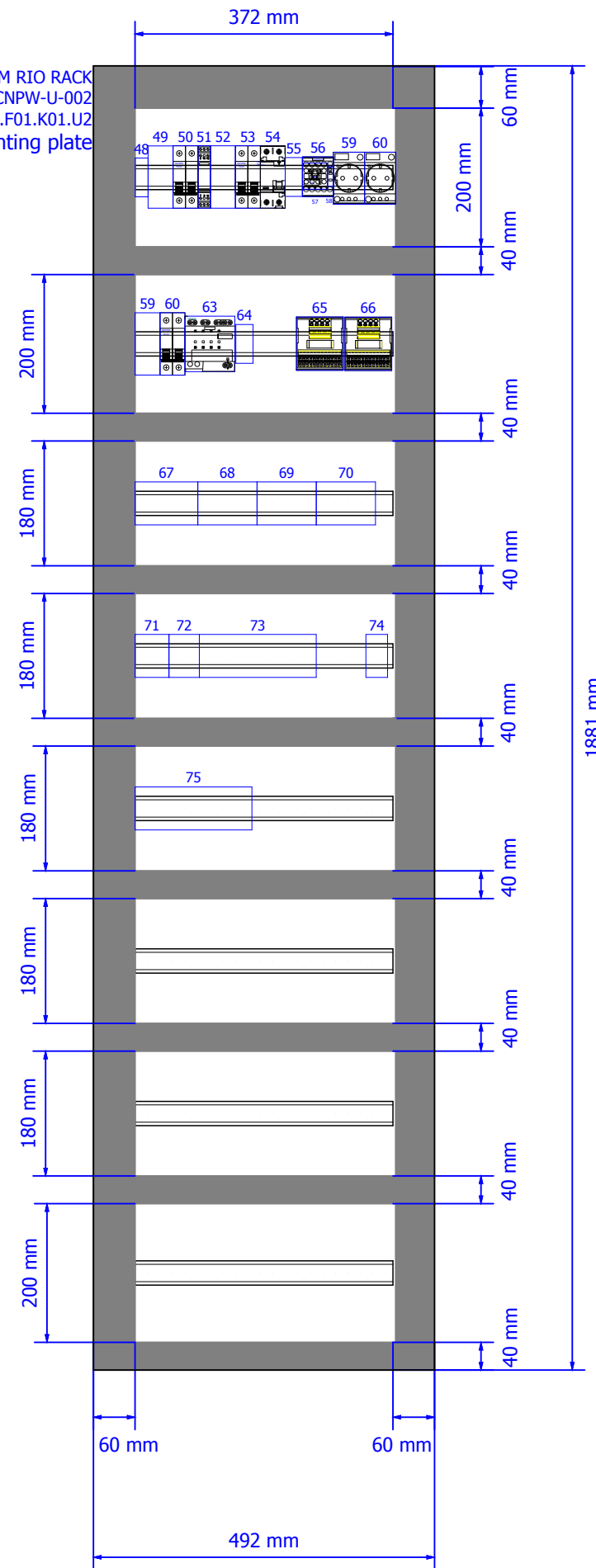
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-RED SYSTEM RIO RACK
FEB-010ROW:CNPW-U-002
ACC.F01.K01.U2
Front mounting plate



-RED SYSTEM RIO RACK
FEB-010ROW:CNPW-U-002
ACC.F01.K01.U2
Back mounting plate



Enclosure legend

Item	FBS-Tag		
1	-TA1	59	-QB2
2	-RB1	60	-XG2
3	-GB1	60	-FC4
4	-KF1	63	-FC3
5	-KF2	64	-X12
6	-KF3	65	-X10
7	-KF4	66	-X11
8	-KF5	67	-X2
9	-KF6	68	-X3
10	-KF7	69	-X4
11	-KF8	70	-X5
12	-KF9	71	-X6
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
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DRAWN BY ATZ	DATE 20/09/2018	DRAWING TITLE Accelerator PSS
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Parts list

ESS_Parts_list_ver1-2018-ATZ

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=ESS.ACC.F01.K01.U2-FC1	1	CIRCUIT BREAKER 6KA 1+N-P C16	5SL6516-7	Siemens	SIE.5SL6516-7	
=ESS.ACC.F01.K01.U2-FC2	1	CIRCUIT BREAKER 6KA 1+N-P C10	5SL6510-7	Siemens	SIE.5SL6510-7	
=ESS.ACC.F01.K01.U2-FC3	1	SITOP PSE200U	6EP1961-2BA11	Siemens	SIE.6EP1961-2BA11	
=ESS.ACC.F01.K01.U2-FC4	1	CIRCUIT BREAKER 6KA 1+N-P C4	5SL6504-7	Siemens	SIE.5SL6504-7	
=ESS.ACC.F01.K01.U2-FC5	1	CIRCUIT BREAKER 10KA 2POL C5	5SY4211-7	Siemens	SIE.5SY4211-7	
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=ESS.ACC.F01.K01.U2-K3	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K4	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K5	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K6	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K7	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K8	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K9	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K10	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K11	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K12	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K13	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K14	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U2		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	Physical location (LBS): +G01.090.5005.100.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC1	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U2-K15	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K16	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K17	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K18	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K19	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K20	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K21	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K22	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K23	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K24	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K25	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K26	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K27	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K28	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K29	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K30	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K31	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-K32	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U2-KF1	1	IM155-6 PN HF / BA 2XRJ45	6ES7155-6AU00-0CN0 / 6ES7193-6AR00-0AA0	Siemens	SIE.6ES7155-6AU00-0CN0+BA_2xRJ45	
=ESS.ACC.F01.K01.U2-KF2	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U2-KF3	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U2-KF4	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U2		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	Physical location (LBS): +G01.090.5005.100.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC2	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U2-KF5	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U2-KF6	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U2-KF7	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U2-KF8	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U2-KF9	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U2-QB1	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U2-QB2	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U2-RB1	1	SITOP UPS1600	6EP4134-3AB00-2AY0	Siemens	SIE.6EP4134-3AB00-2AY0	
=ESS.ACC.F01.K01.U2-TA1	1	SITOP PSU100S	6EP1334-2BA20	Siemens	SIE.6EP1334-2BA20	
=ESS.ACC.F01.K01.U2-X1	1	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U2-X1	1	Feed-through terminal block	PT 4 BU	Phoenix Contact	PXC.3211760	
=ESS.ACC.F01.K01.U2-X1	1	Ground modular terminal block	PT 4-PE	Phoenix Contact	PXC.3211766	
=ESS.ACC.F01.K01.U2-X2	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X2	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U2-X2	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X3	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X3	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X4	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X4	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X5	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X5	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X6	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U2		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	Physical location (LBS): +G01.090.5005.100.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC3	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U2-X6	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U2-X6	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X7	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X7	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X8	32	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X8	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X9	32	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-X9	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U2-X10	1	Interface module	UMK- PVB 2/24/ZFKDS	Phoenix Contact	PXC.2302366	
=ESS.ACC.F01.K01.U2-X11	1	Interface module	UMK- PVB 2/24/ZFKDS	Phoenix Contact	PXC.2302366	
=ESS.ACC.F01.K01.U2-X12	4	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U2-X13	4	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U2-X14	6	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U2-XF1	1	SCALANCE XC206-2SFP	6GK5206-2BS00-2AC2	Siemens	SIE.6GK5206-2BS00-2AC2	
=ESS.ACC.F01.K01.U2-XF1	4	SFP991-1LD	6GK5991-1AF00-8AA0	Siemens	SIE.6GK5991-1AF00-8AA0	
=ESS.ACC.F01.K01.U2-XF2	1	CONTACTOR RELAY, 2NO+2NC DC 24V, W. INTEGRATED DIODE	3RH2122-1FB40	Siemens	SIE.3RH2122-1FB40	
=ESS.ACC.F01.K01.U2-XF2	1	AUX. SWITCH BLOCK , 2NO+2NC COND. PATHS: 1NC, 1NC,	3RH2911-1HA22	Siemens	SIE.3RH2911-1HA22	
=ESS.ACC.F01.K01.U2-XF2	1	SURGE SUPPRESSOR, SUPPRESSION DIODE WITH LED,	3RT2916-1LM00	Siemens	SIE.3RT2916-1LM00	
=ESS.ACC.F01.K01.U2-XG1	1	SCHUKO SOCKET for mounting on support rails	SIE.5TE6800	Siemens	SIE.5TE6800	
=ESS.ACC.F01.K01.U2-XG2	1	SCHUKO SOCKET for mounting on support rails	SIE.5TE6800	Siemens	SIE.5TE6800	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U2		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-010Row:CnPw-U-002 RED SYSTEM RIO RACK	Physical location (LBS): +G01.090.5005.100.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC4	





EUROPEAN SPALLATION SOURCE

Description: HV PS Contactors Rack

Functional Location (FBS): =ESS.ACC.F01.K01.U7

Physical Location (LBS): +ESS.G01.090.5005.100

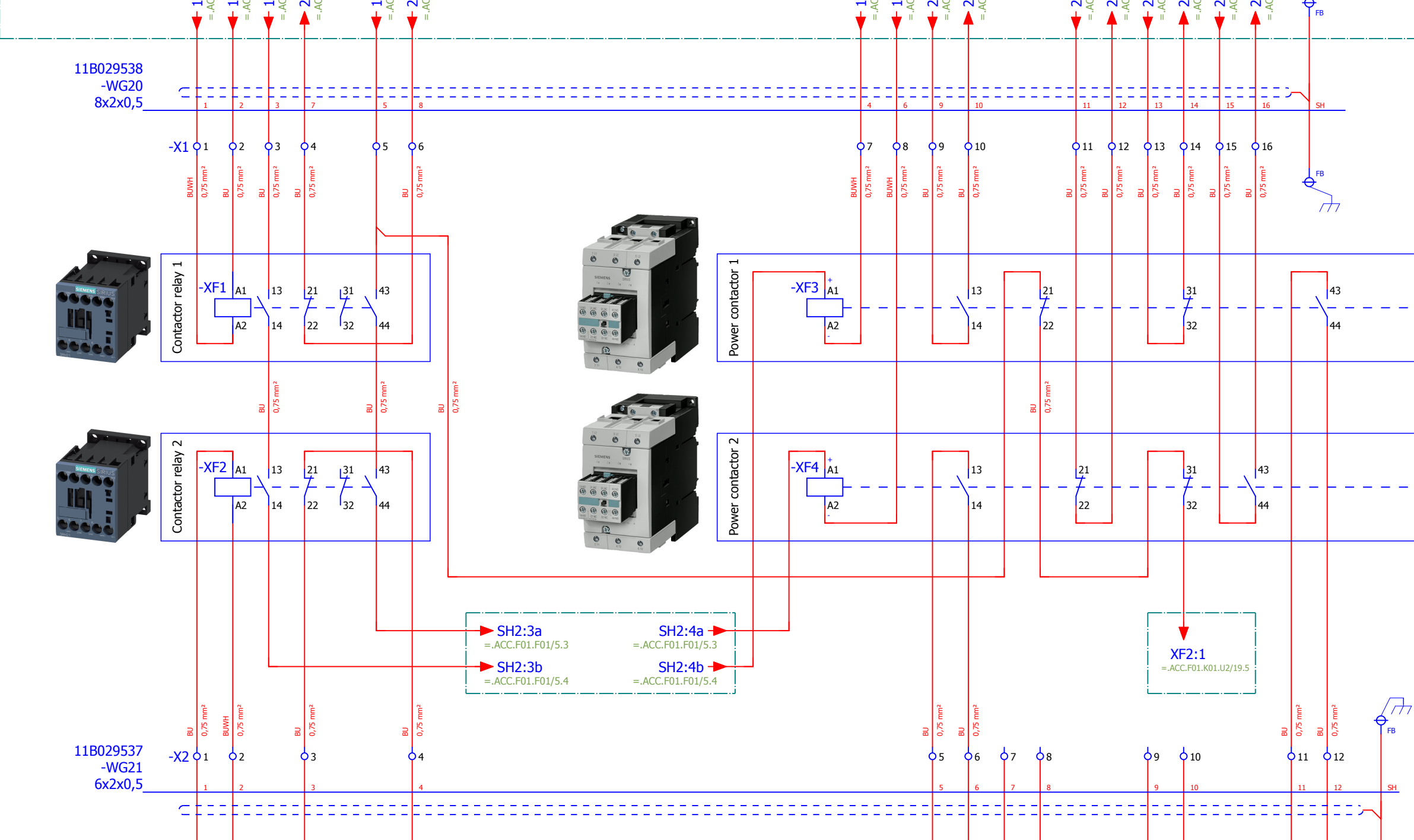
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY	DATE	PAGE TYPE	Functional location (FBS):		
				MMI	20/09/2018	Graphic	=ESS.ACC.F01.K01.U7		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY	DATE	FUNCTION	Physical location (LBS):		
				SBH	20/09/2018	FEB-010Row:CnPw-U-007	+G01.090.5005.100.007		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE	ESS	HV PS Contactors Rack	CHESS Doc. NR:		Document:
							ESS-0151602		&AA1



Red System

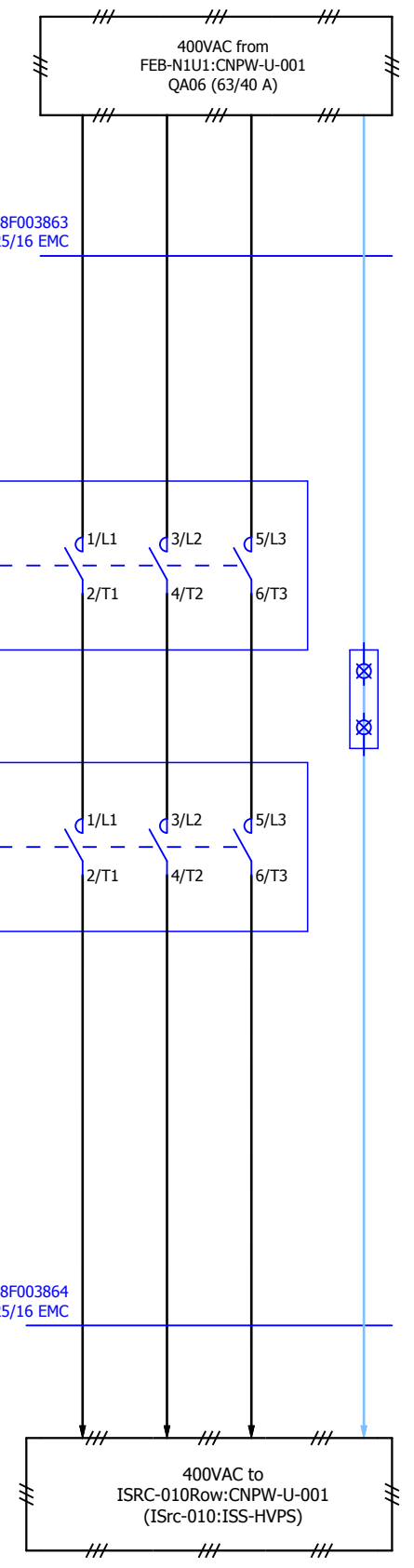
Remote IO Rack
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 FEB-010ROW:CnPw-U-002
 +G01.090.5005.100



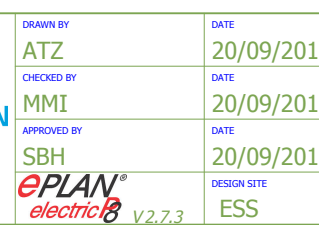
Blue System

Remote IO Rack
 =ESS.ACC.F01.K01.U10
 FEB-020ROW:CnPw-U-002
 +G01.090.5005.101

11B029577 Blue System to HV PS Contactors Rack (4x2x0.5 Spare Cable)
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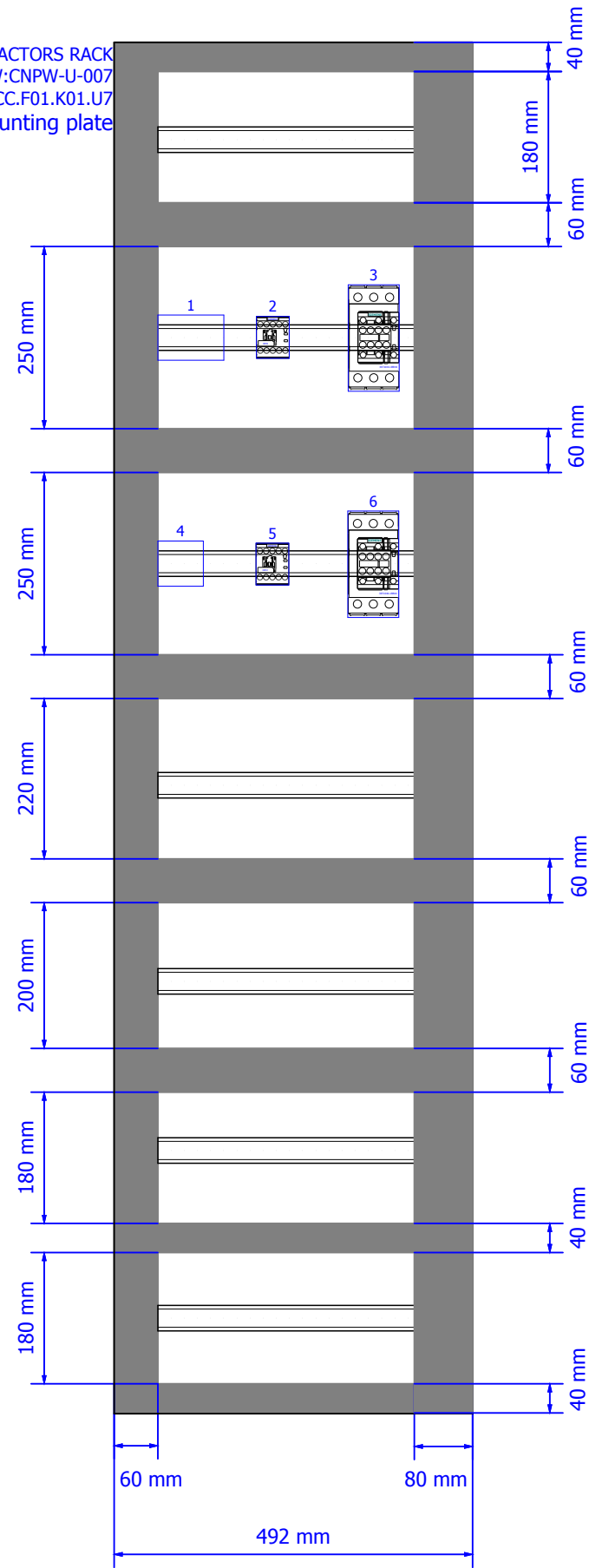
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
2	20/09/2018	As built	Modification based on ZHAW recommendations	MMI	20/09/2018	Schematic multi-line	Functional location (FBS): =ESS.ACC.F01.K01.U7		
				SBH	20/09/2018	FEB-010Row:CnPw-U-007 HV PS Contactors Rack	Physical location (LBS): +G01.090.5005.100.007		
							CHESS Doc. NR: ESS-0151602		Document: &FS1



Enclosure legend

Item	FBS-Tag
1	-X1
2	-XF1
3	-XF3
4	-X2
5	-XF2
6	-XF4

-HV PS CONTACTORS RACK
 FEB-010ROW:CNPW-U-007
 ACC.F01.K01.U7
 Front mounting plate



REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
PAGE TYPE	Panel layout
FUNCTION	FEB-010Row:CnPw-U-007 HV PS Contactors Rack

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
Functional location (FBS):	=ESS.ACC.F01.K01.U7				
Physical location (LBS):	+G01.090.5005.100.007				
CHESS Doc. NR:	ESS-0151602	Document:	&LU1		

Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U7-X1	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U7-X1	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U7-X1	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U7-X2	12	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U7-XF1	1	CONTACTOR RELAY, 2NO+2NC DC 24V, W. INTEGRATED DIODE	3RH2122-1FB40	Siemens	SIE.3RH2122-1FB40	
=ESS.ACC.F01.K01.U7-XF2	1	CONTACTOR RELAY, 2NO+2NC DC 24V, W. INTEGRATED DIODE	3RH2122-1FB40	Siemens	SIE.3RH2122-1FB40	
=ESS.ACC.F01.K01.U7-XF3	1	AC-3 65 A, 30 kW / 400 V 24 V DC	3RT1044-1BB44	Siemens	SIE.3RT1044-1BB44	
=ESS.ACC.F01.K01.U7-XF4	1	AC-3 65 A, 30 kW / 400 V 24 V DC	3RT1044-1BB44	Siemens	SIE.3RT1044-1BB44	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
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DRAWN BY ATZ	DATE 20/09/2018	DRAWING TITLE Accelerator PSS
CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list
APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-010Row:CnPw-U-007 HV PS Contactors Rack
DESIGN SITE ESS		

Lifecycle label: Preliminary	Rev: 2	Page size: A3
Functional location (FBS): =ESS.ACC.F01.K01.U7		
Physical location (LBS): +G01.090.5005.100.007		
CHESS Doc. NR: ESS-0151602	Document: &PC1	



EUROPEAN SPALLATION SOURCE

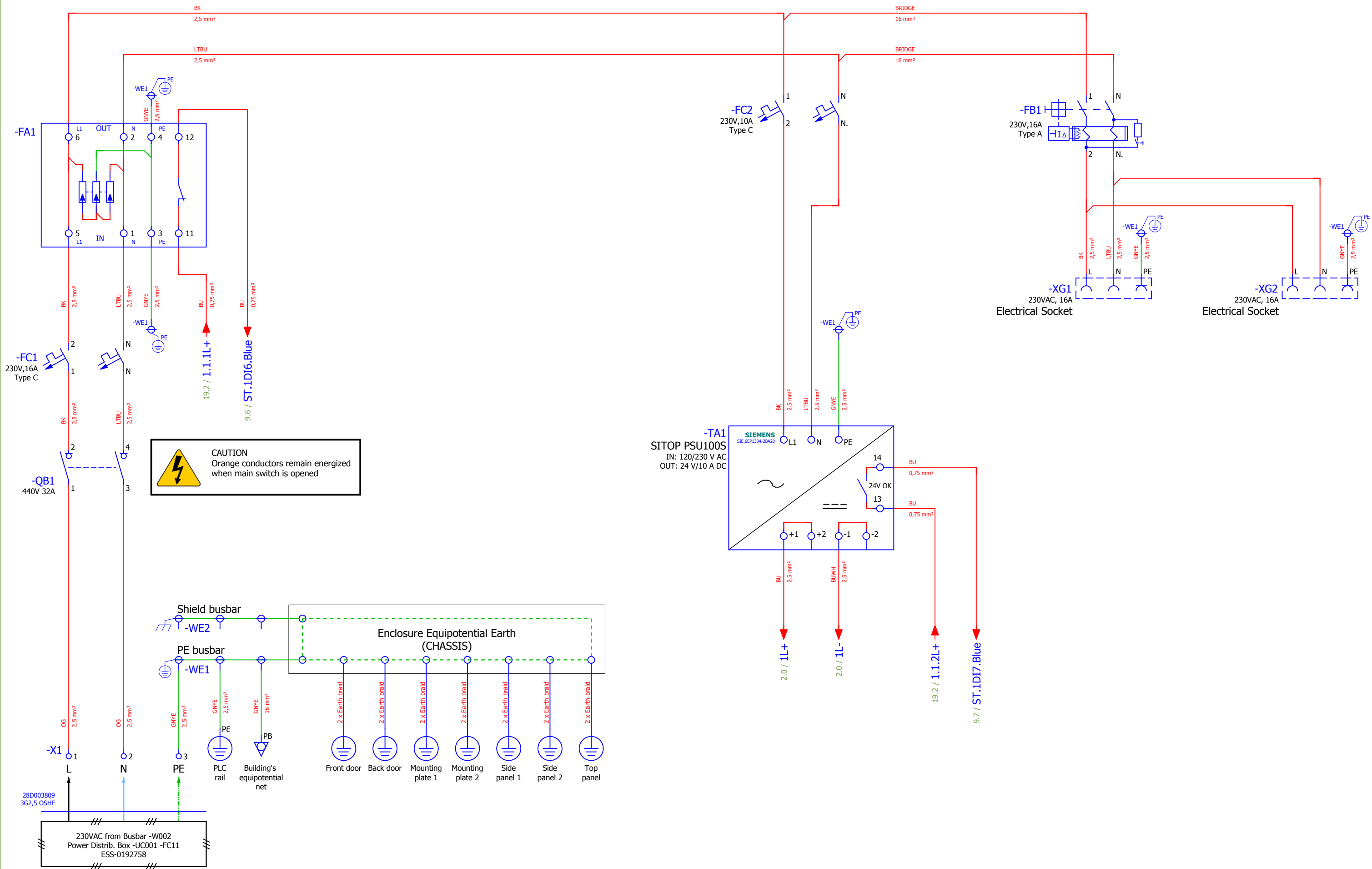
Description: Blue Sys. PLC Rack

Functional Location (FBS): =ESS.ACC.F01.K01.U9

Physical Location (LBS): +ESS.G01.090.5005.101

ESS Name: FEB-020ROW:CnPw-U-001

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2	20/09/2018	As built	Modification based on ZHAW recommendations	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	MMI	20/09/2018	Graphic	Functional location (FBS): =ESS.ACC.F01.K01.U9		
				SBH	20/09/2018	FUNCTION FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	Physical location (LBS): +G01.090.5005.101.001		
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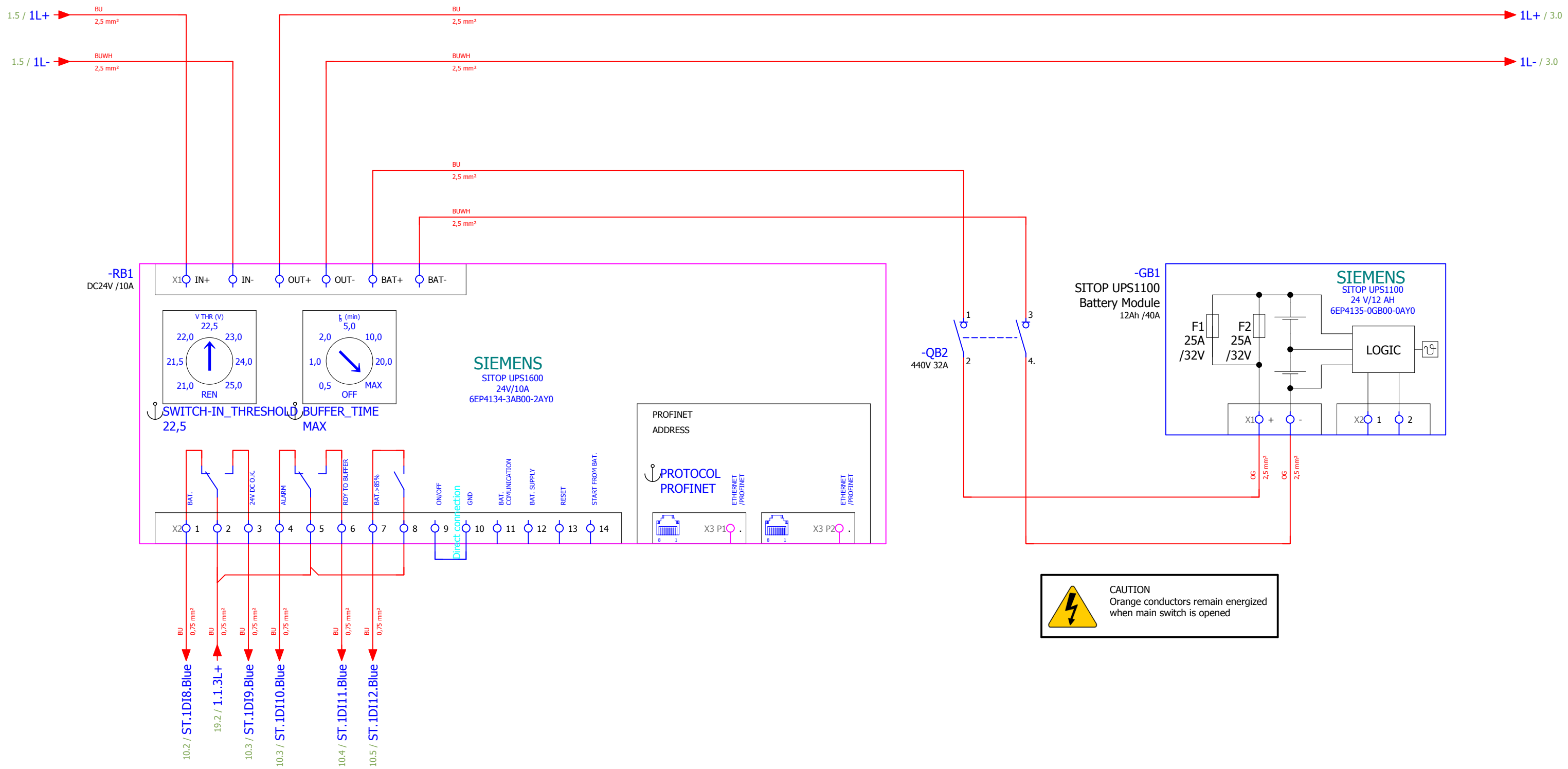


CAUTION
 Orange conductors remain energized when main switch is opened

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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CAUTION
Orange conductors remain energized when main switch is opened

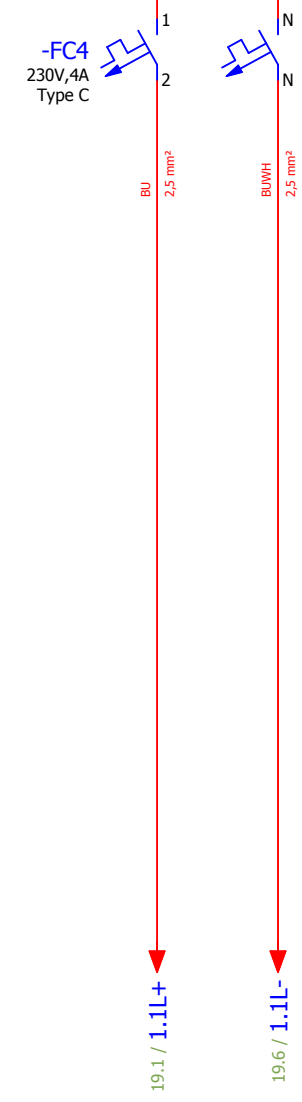
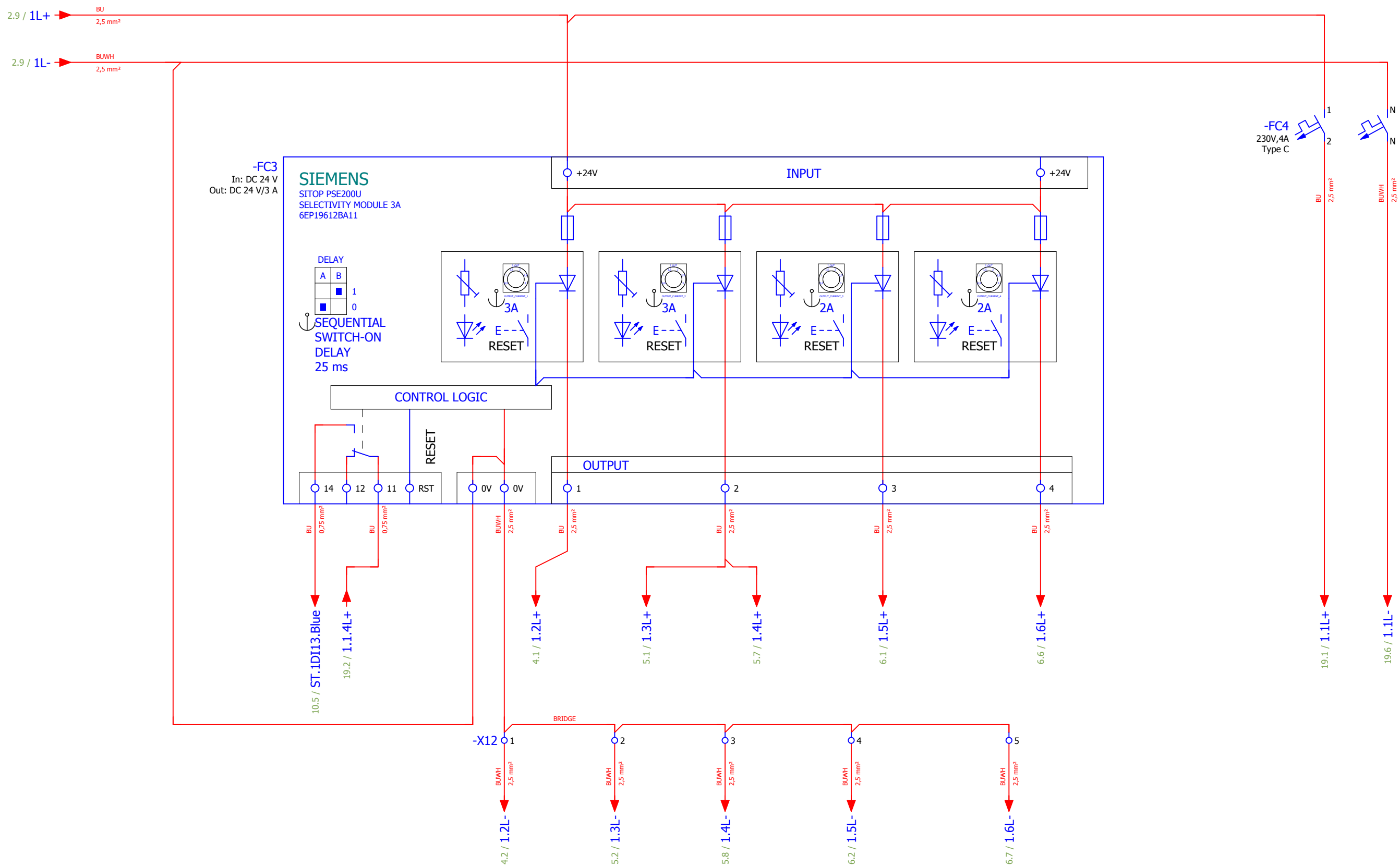
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2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
CHECKED BY	MMI	DATE	20/09/2018
APPROVED BY	SBH	DATE	20/09/2018
DESIGN SITE	ESS		

DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
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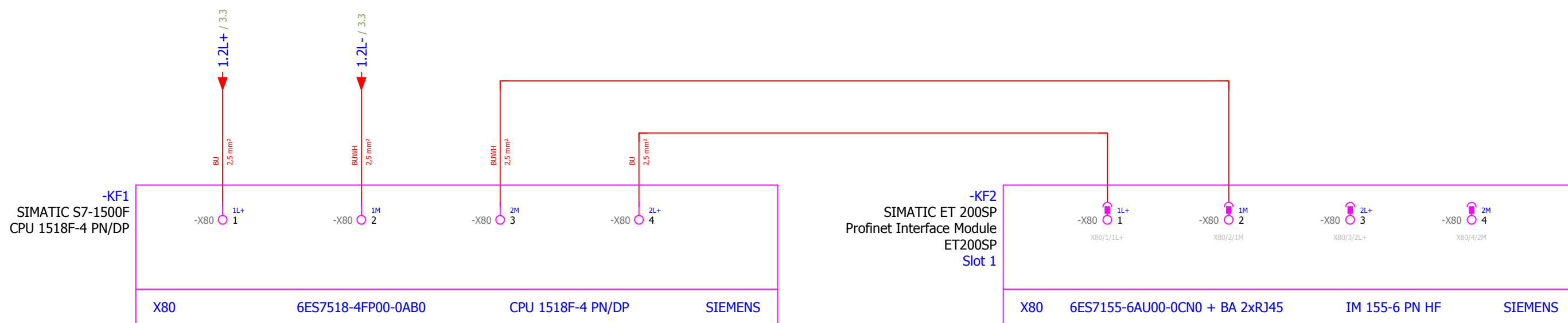
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2	20/09/2018	As built	Modification based on ZHAW recommendations
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DRAWN BY	DATE
ATZ	20/09/2018
CHECKED BY	DATE
MMI	20/09/2018
APPROVED BY	DATE
SBH	20/09/2018
DESIGN SITE	ESS

DRAWING TITLE	FUNCTION
Accelerator PSS	FEB-020Row:CnPw-U-001
Schematic multi-line	BLUE SYSTEM PLC RACK

Life cycle label:	Rev:	Page size:
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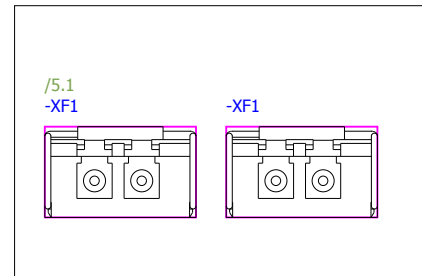
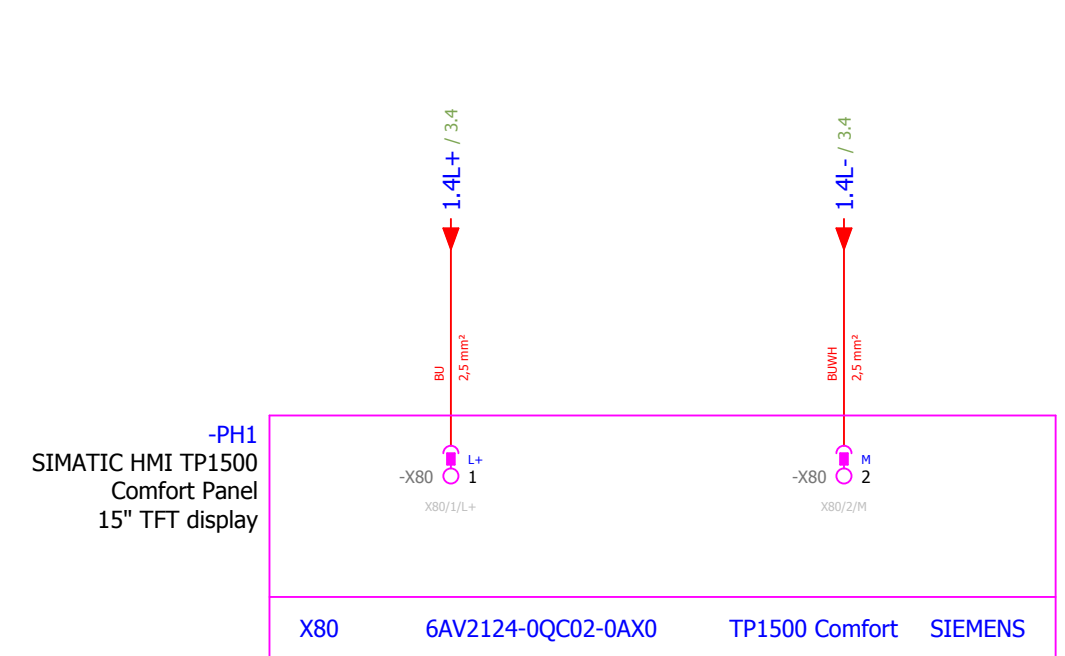
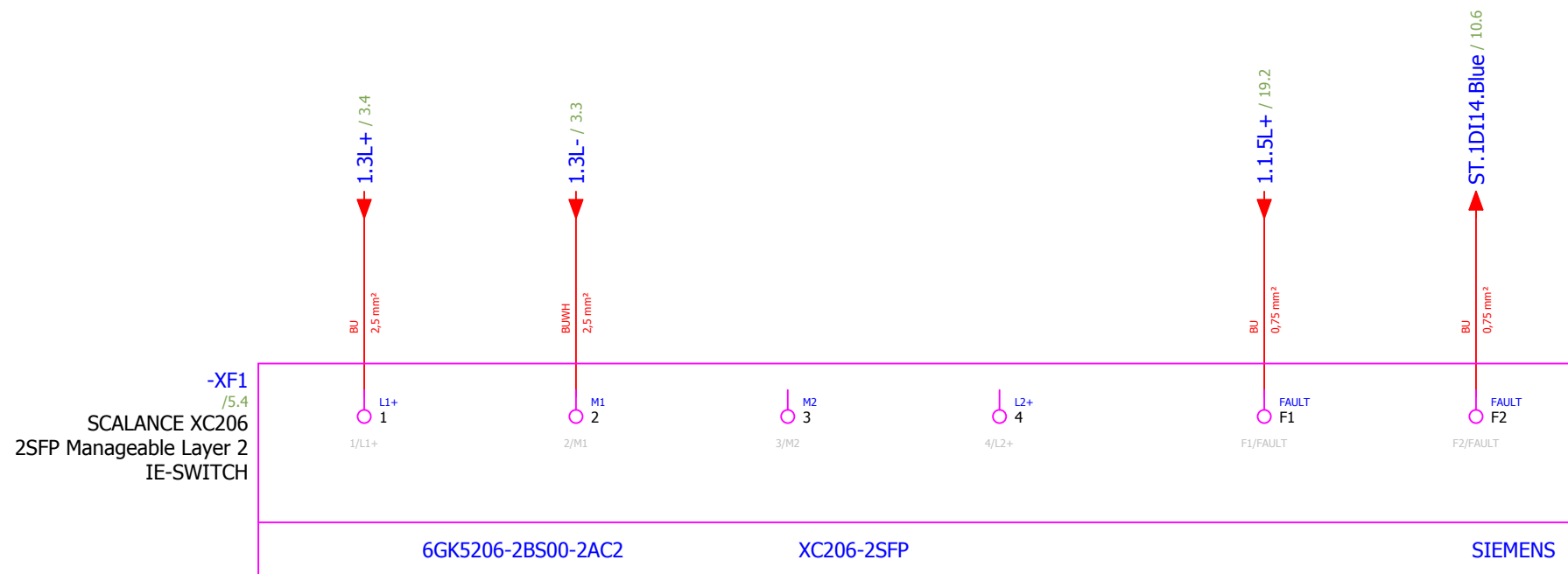
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DRAWING TITLE	Accelerator PSS
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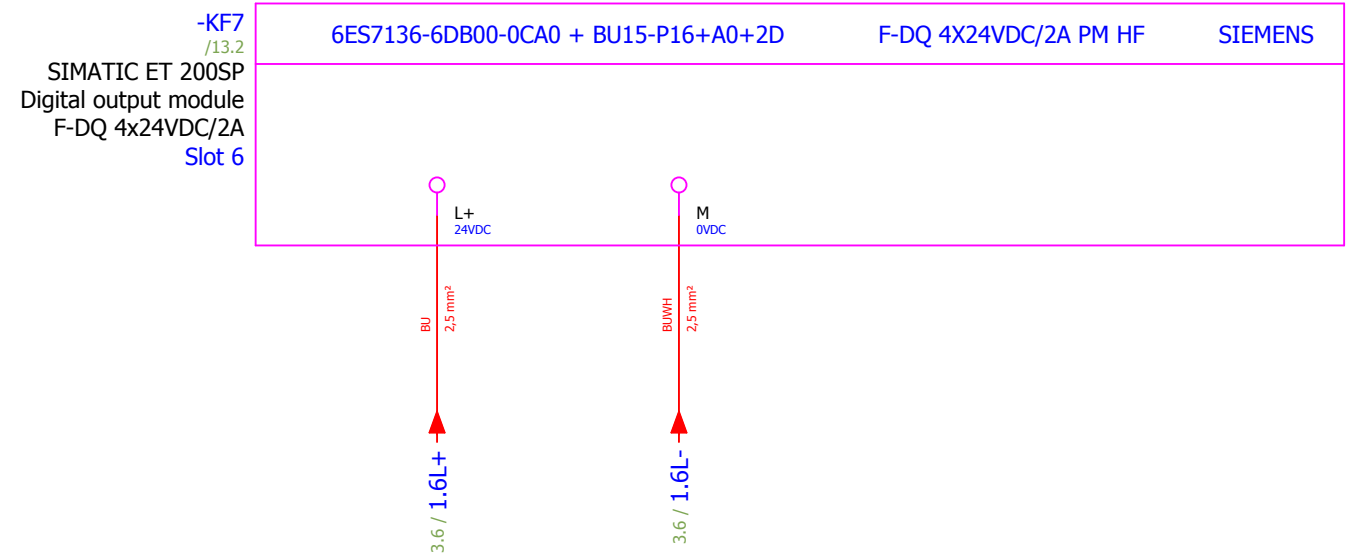
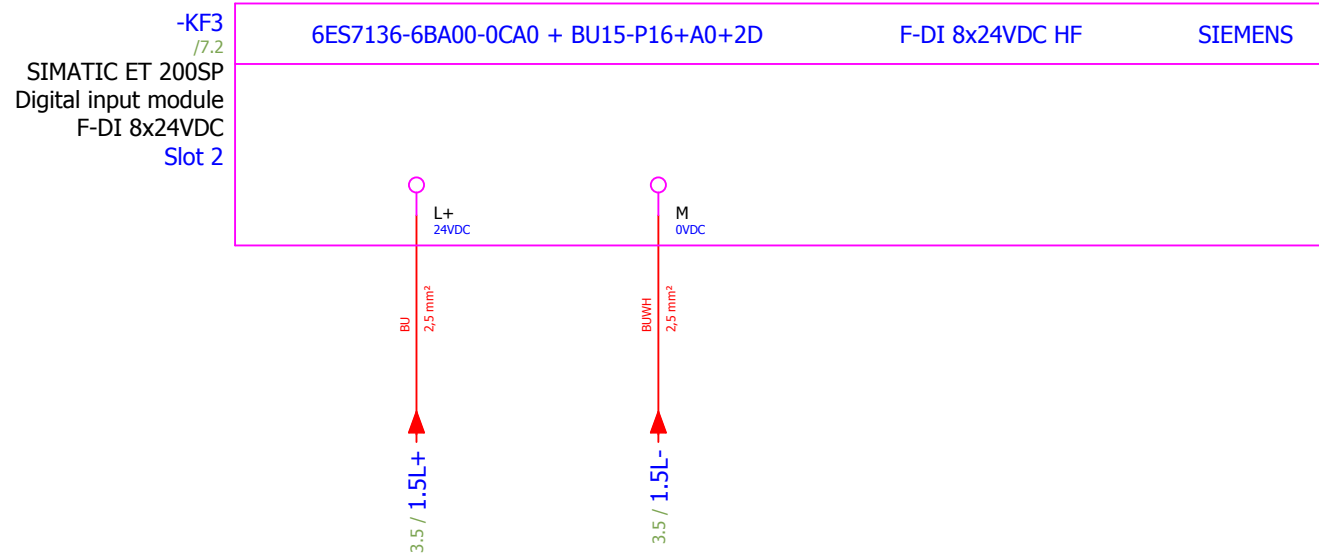


SFP pluggable transceiver for media modules
100MBIT/S LC-PORT OPTICAL

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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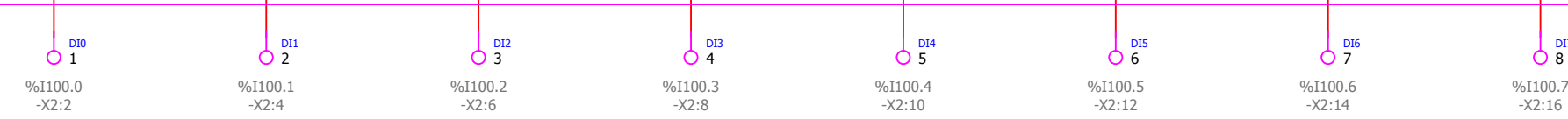
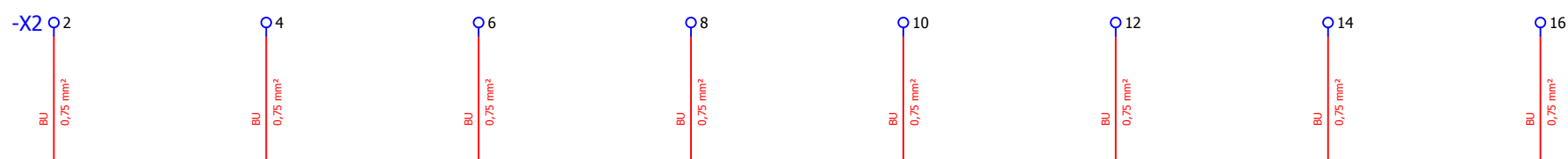
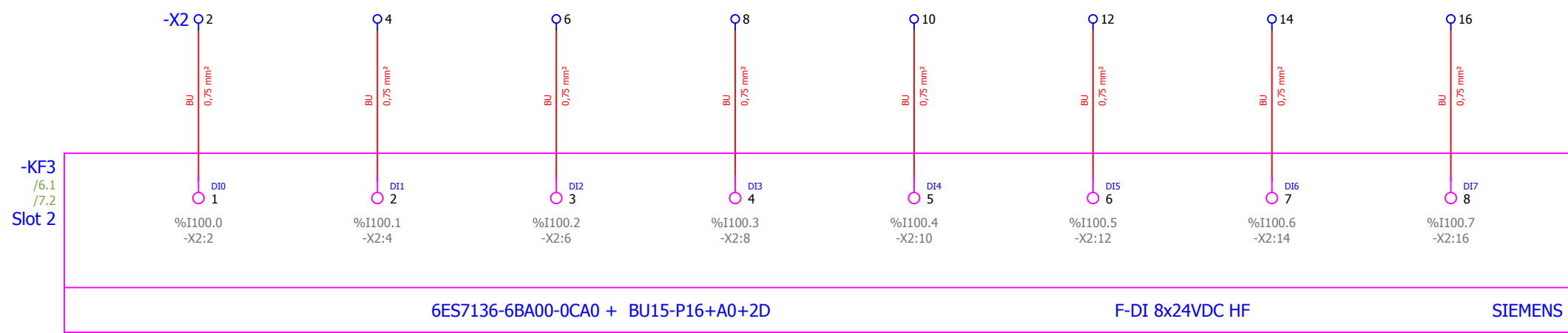
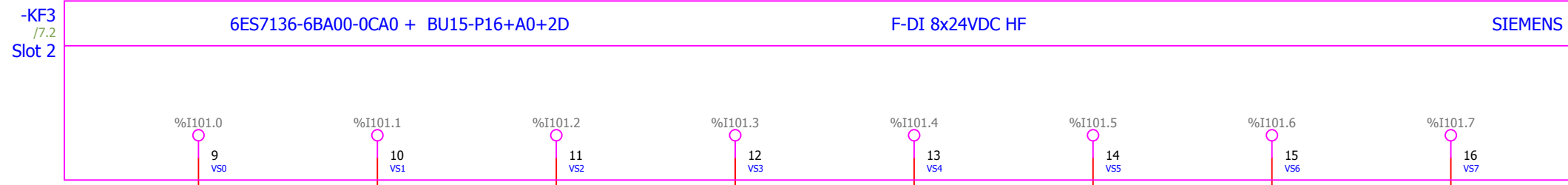
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APPROVED BY	SBH	DATE	20/09/2018
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DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
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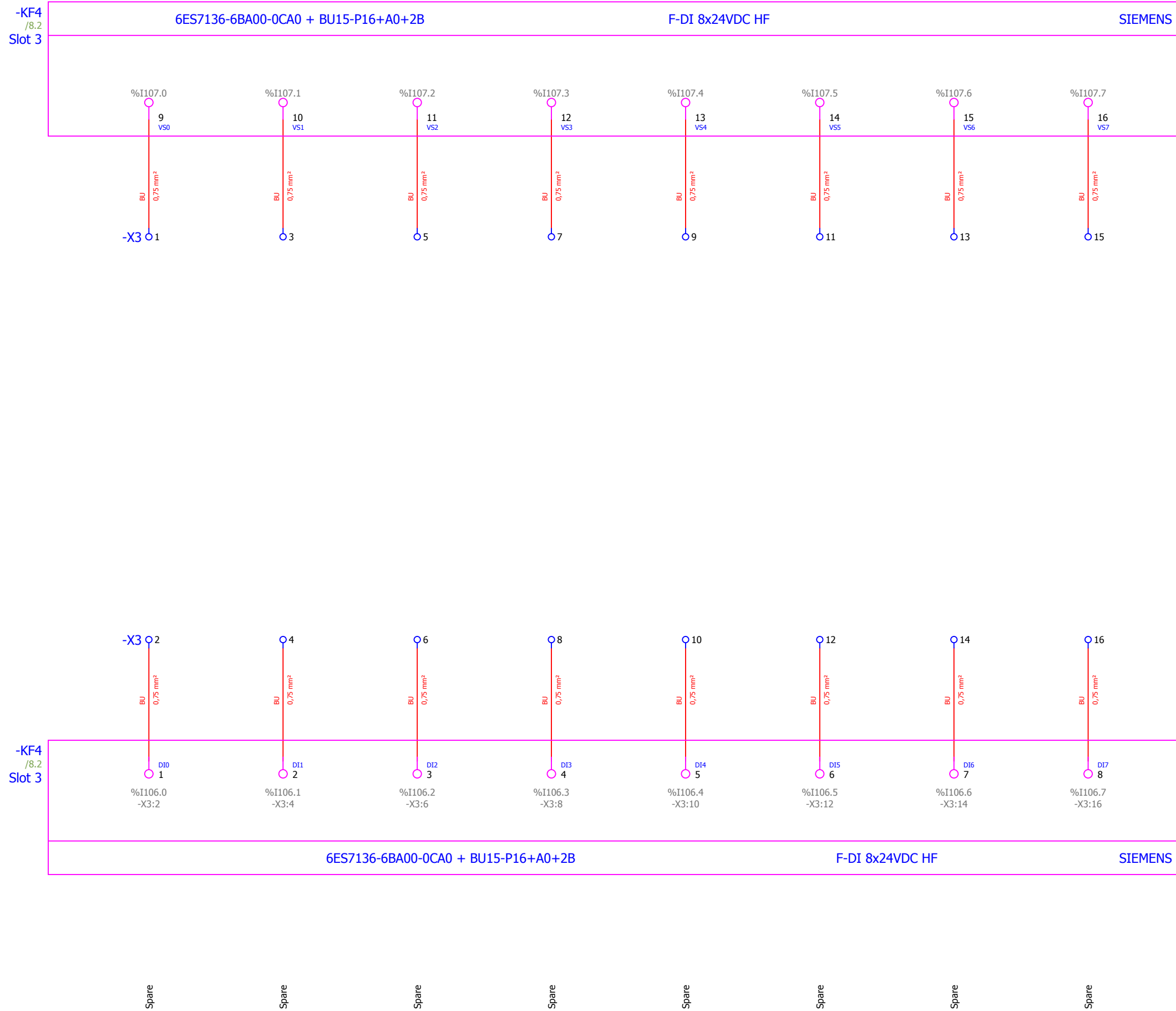


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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018	DRAWING TITLE	Accelerator PSS	Lifecycle label:	Preliminary	Rev:	2	Page size:	A3
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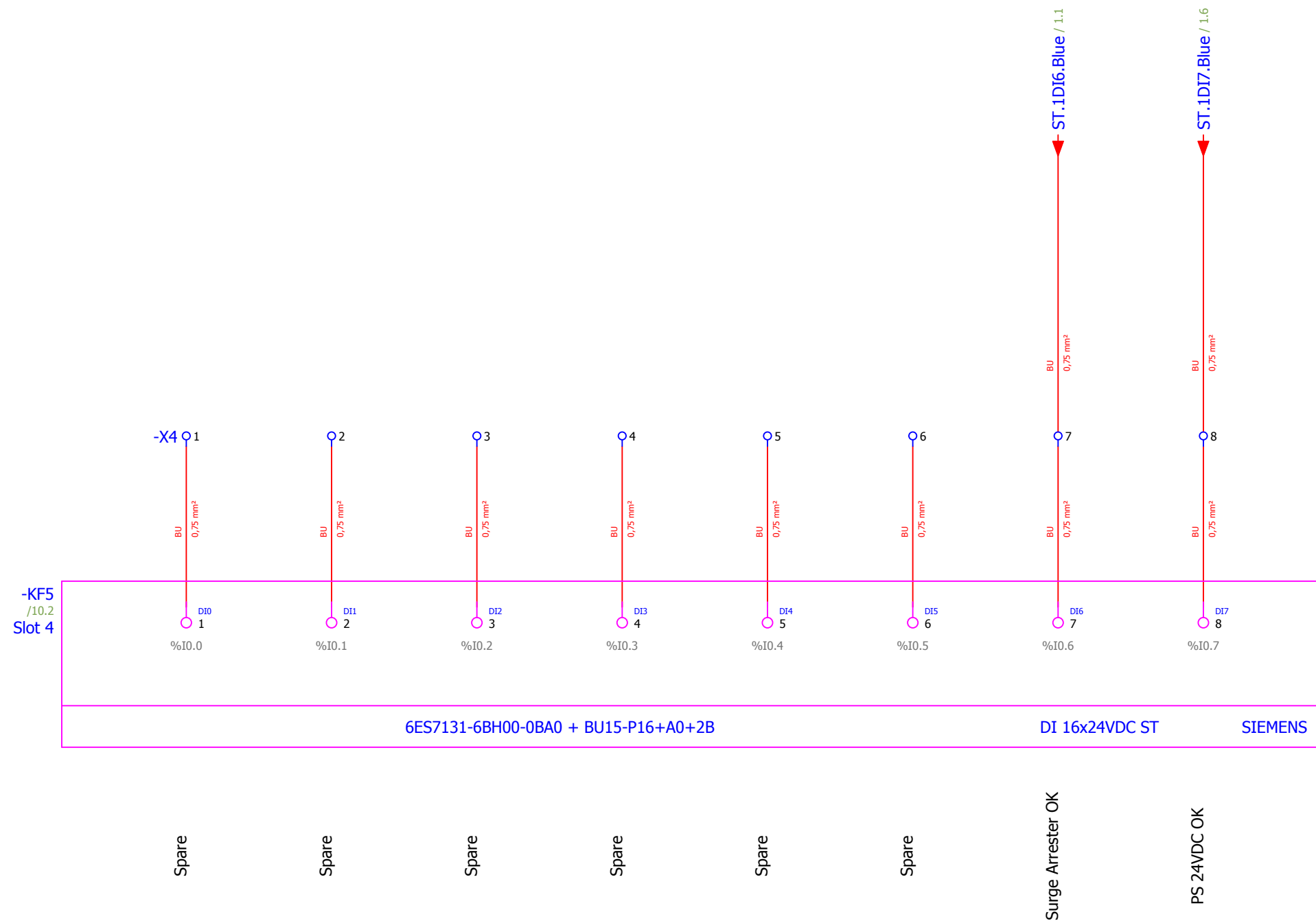
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DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

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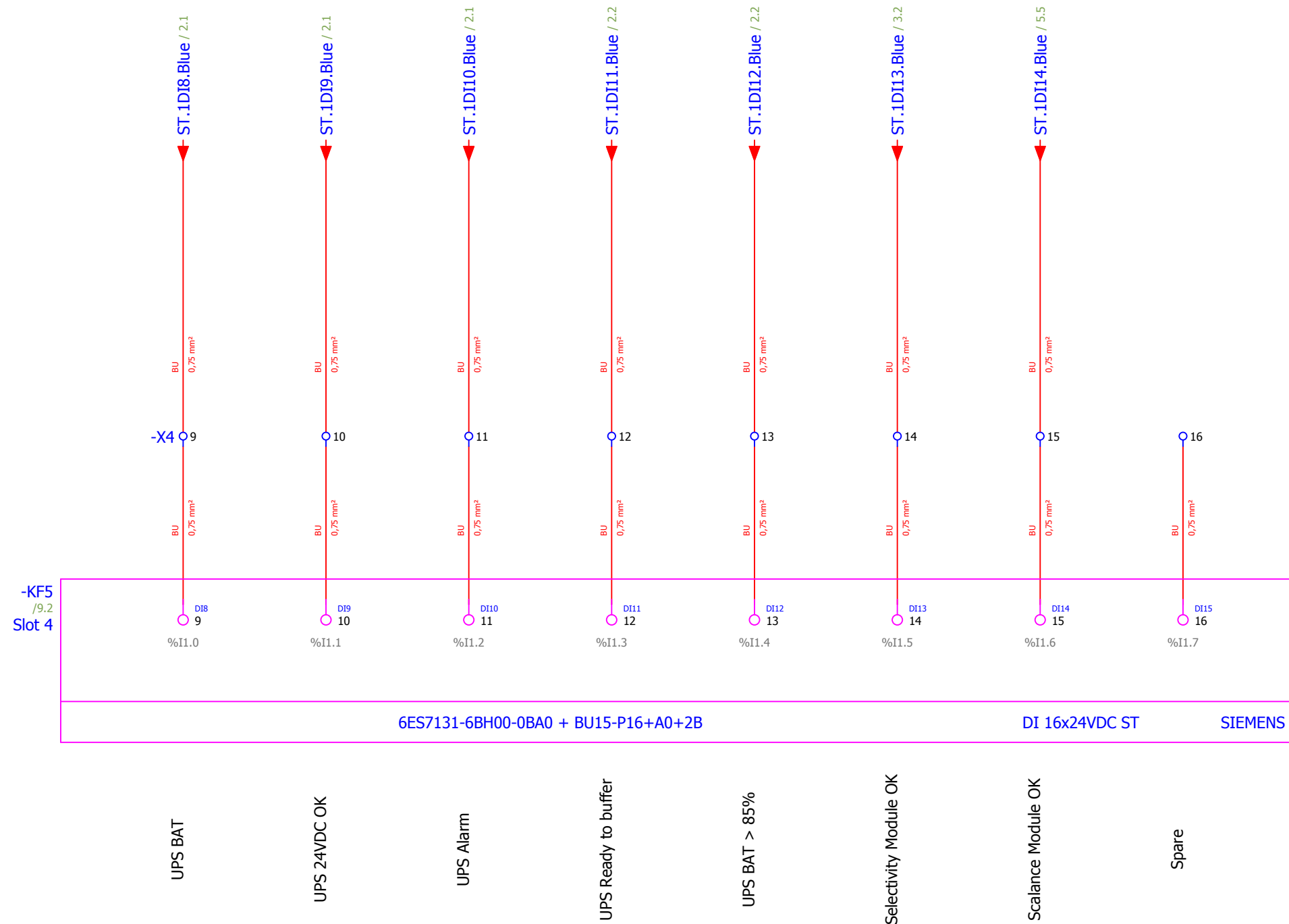
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	ATZ	DATE	20/09/2018
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DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

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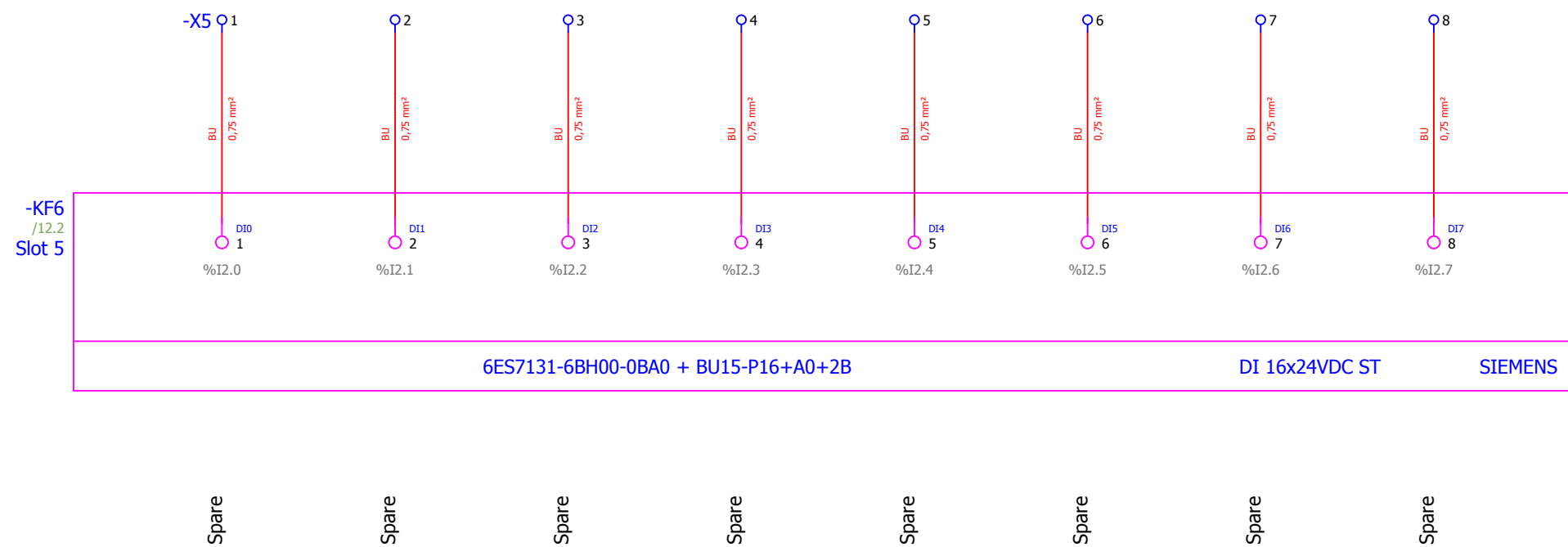
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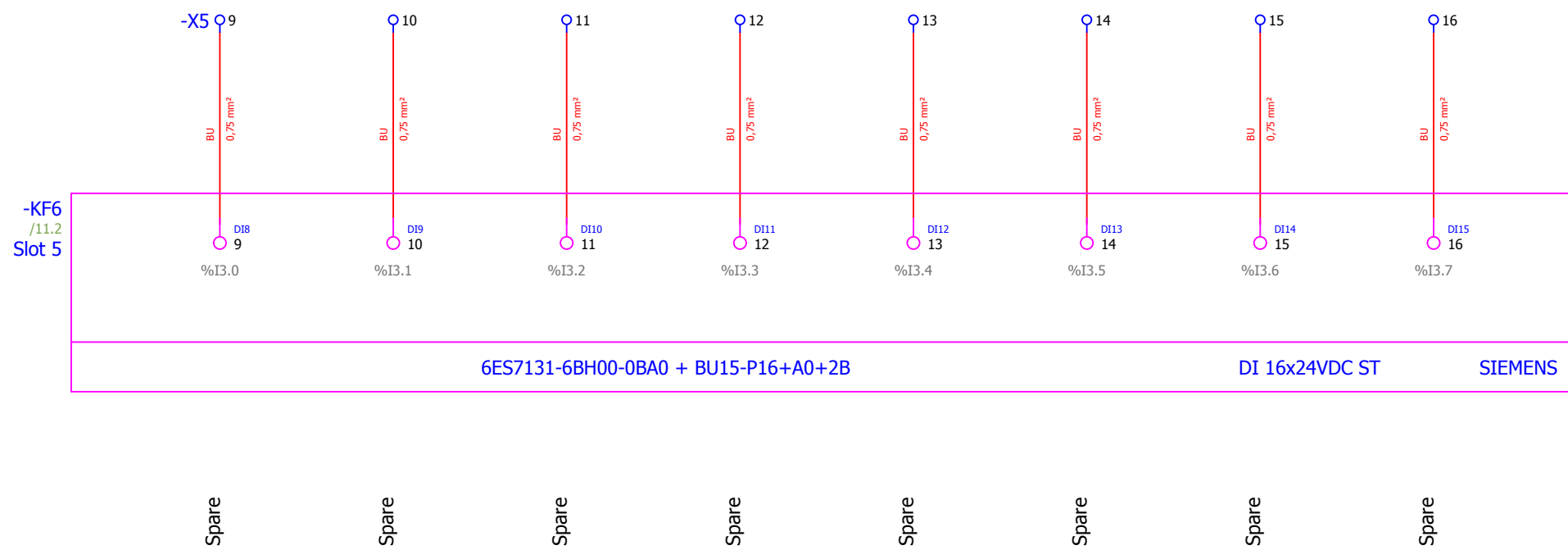
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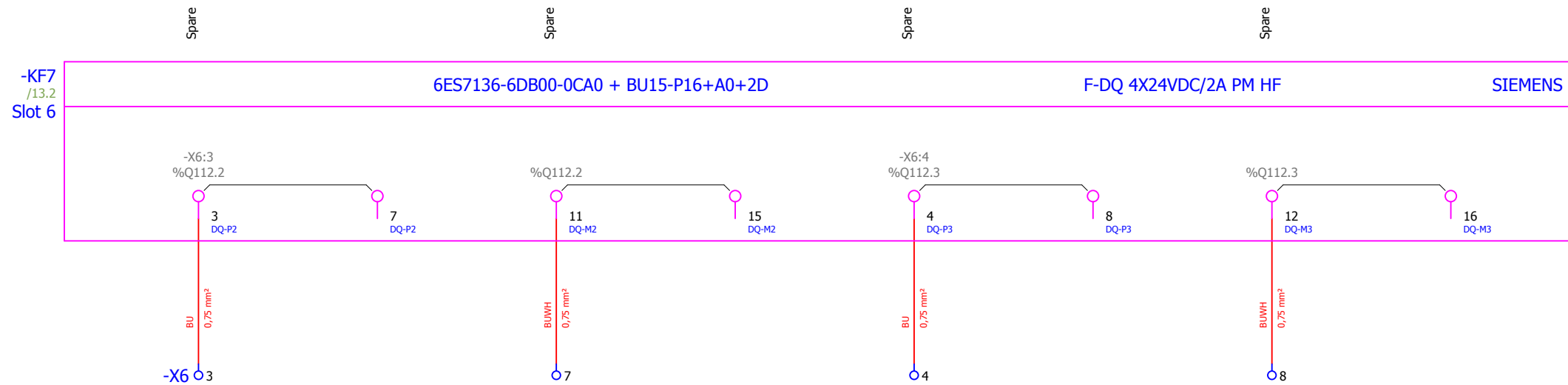
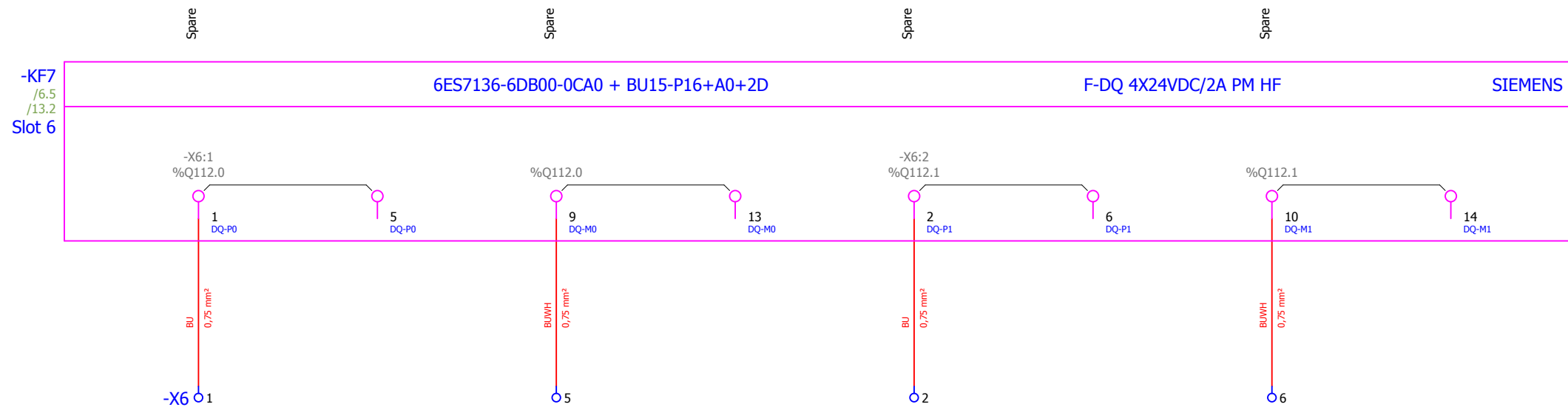
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
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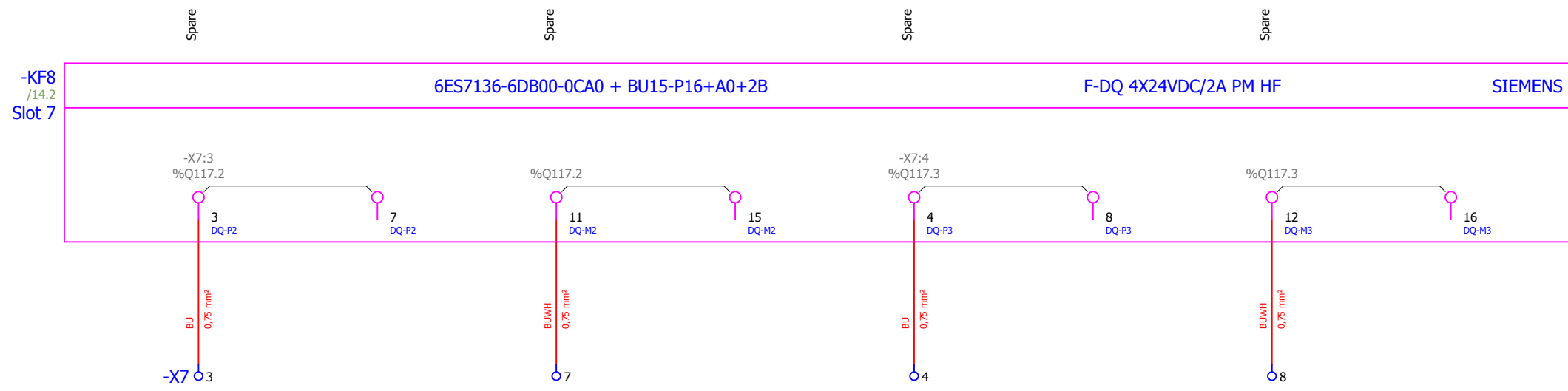
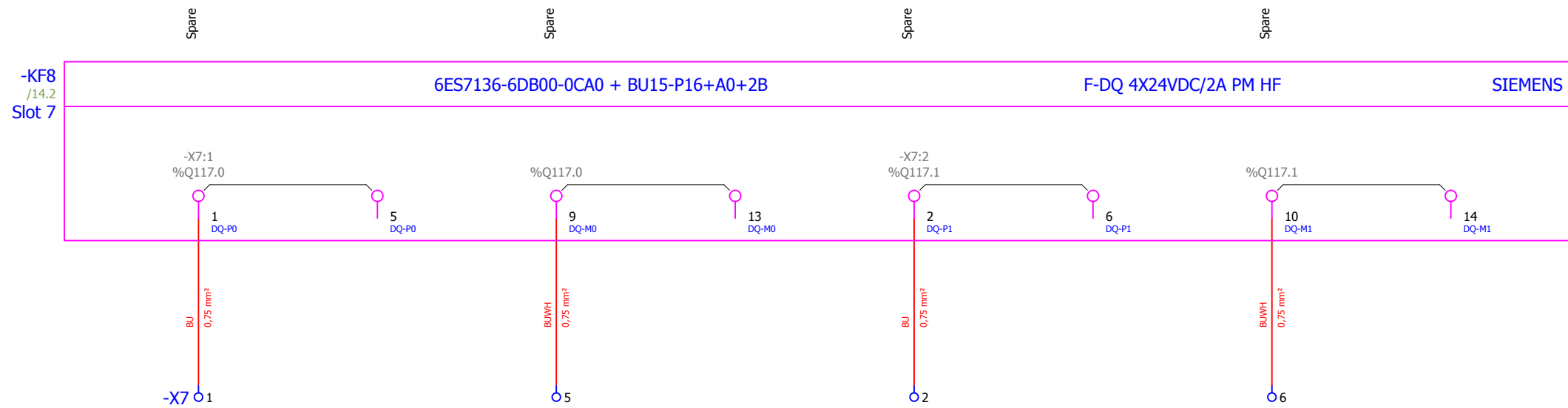
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DRAWN BY	ATZ	DATE	20/09/2018
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APPROVED BY	SBH	DATE	20/09/2018
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DRAWING TITLE	Accelerator PSS
PAGE TYPE	Schematic multi-line
FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

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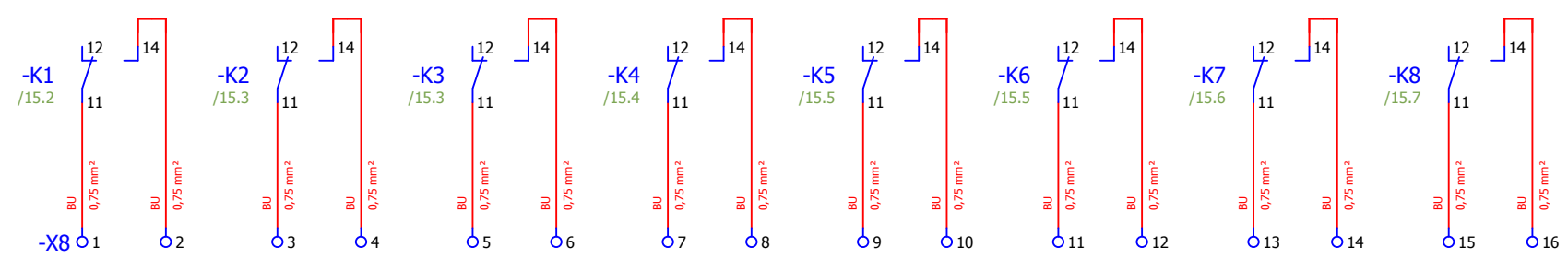
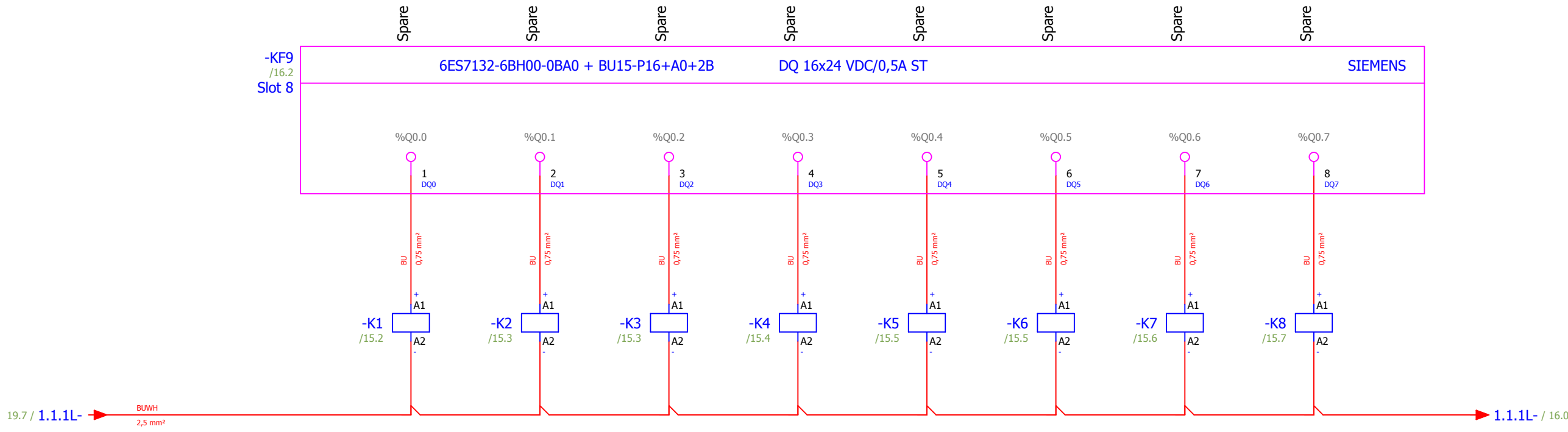
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PAGE TYPE	Schematic multi-line
FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

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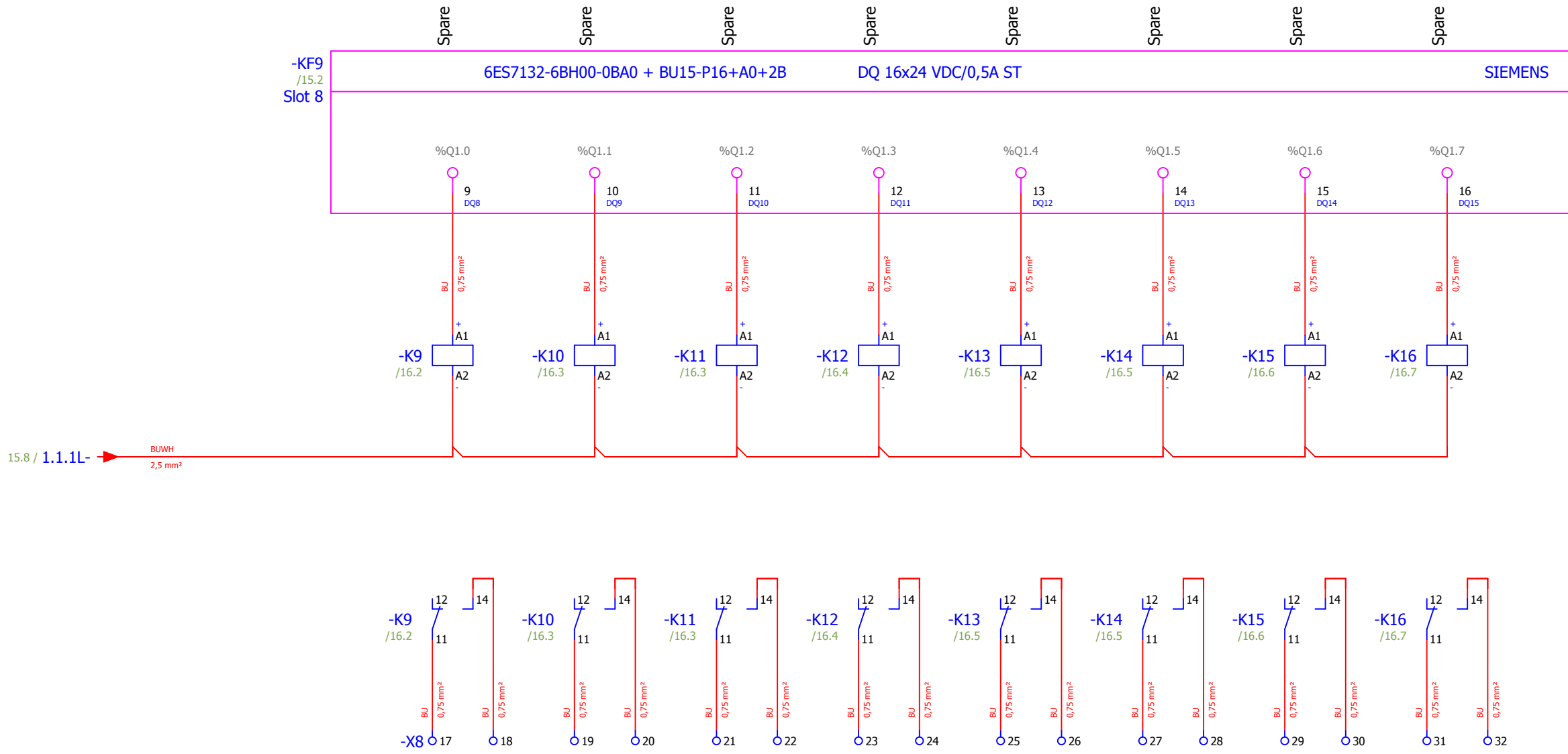
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DRAWING TITLE	Accelerator PSS
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FUNCTION	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK

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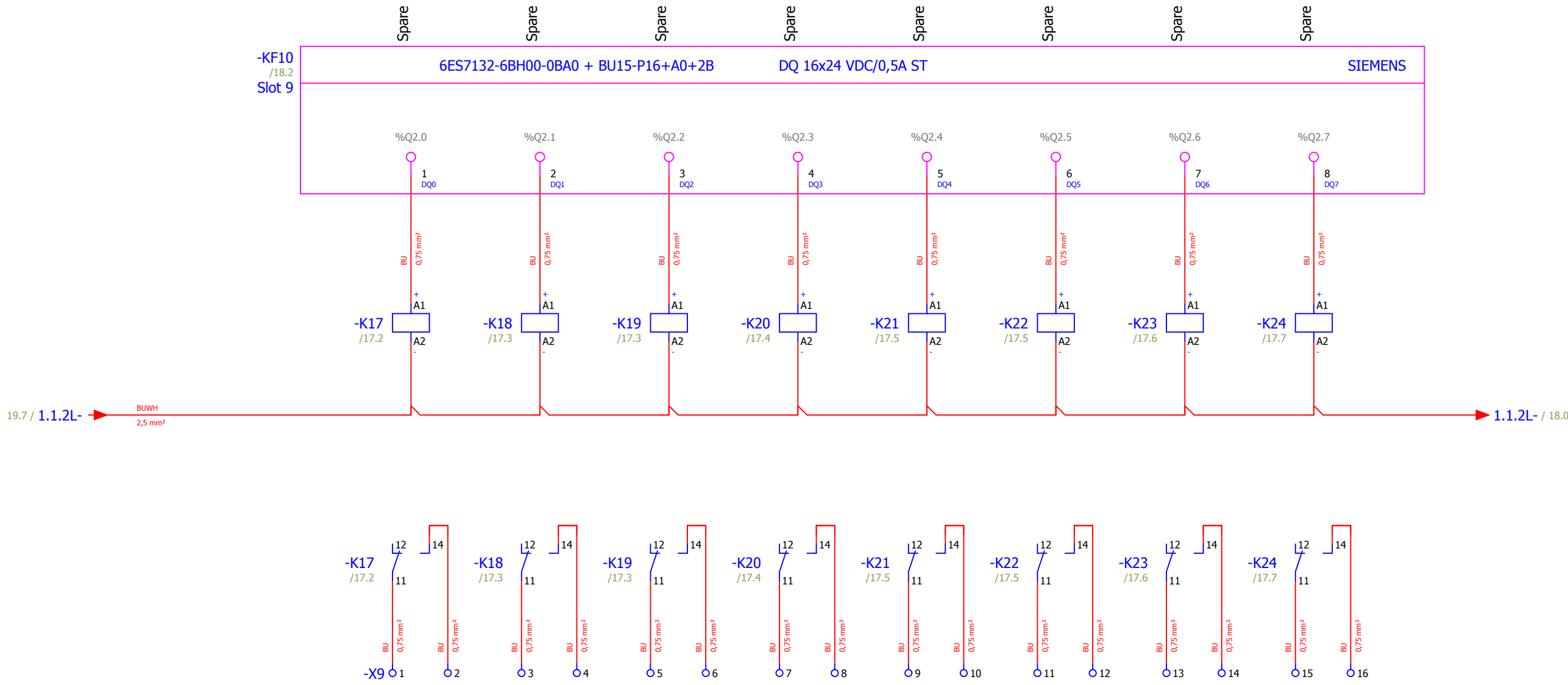
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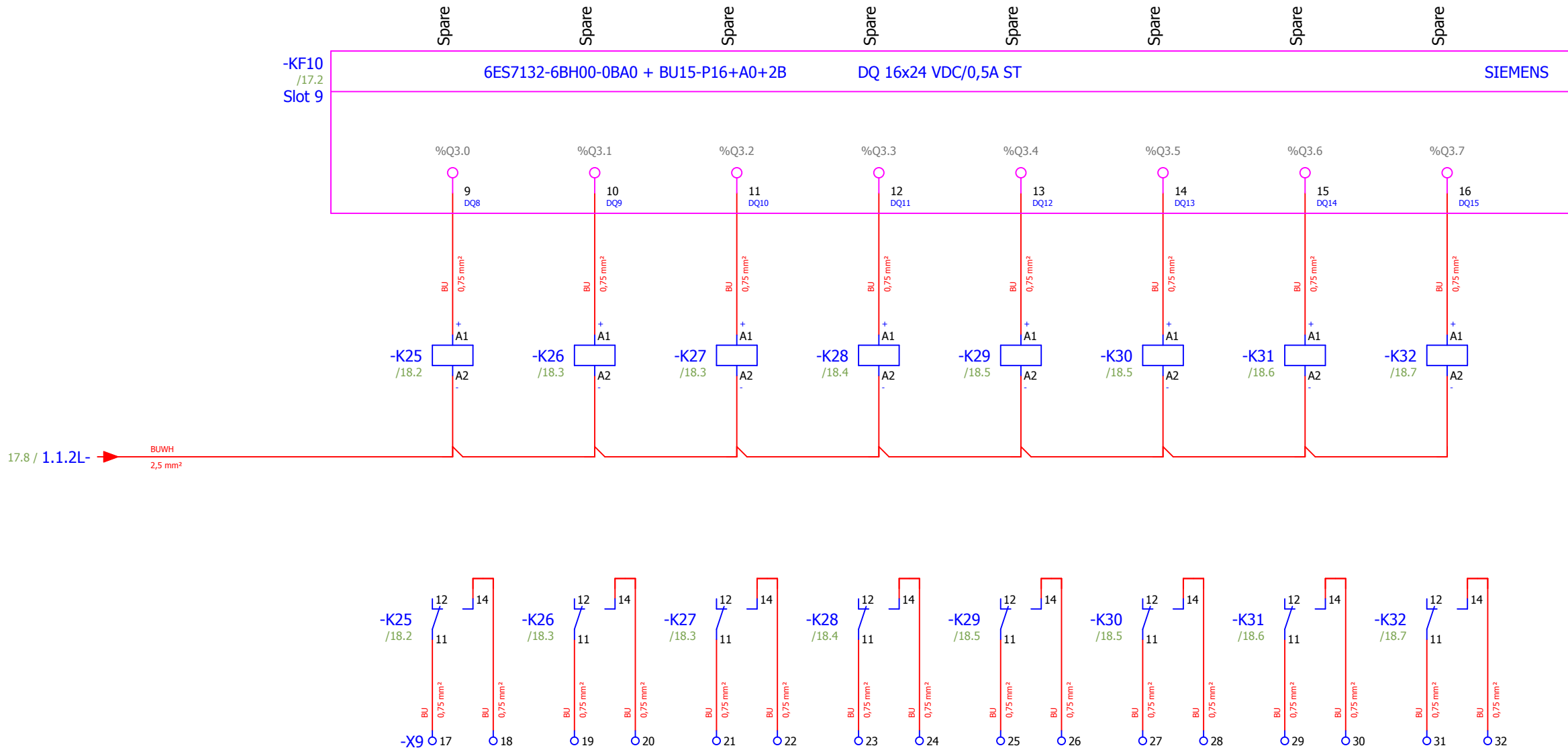
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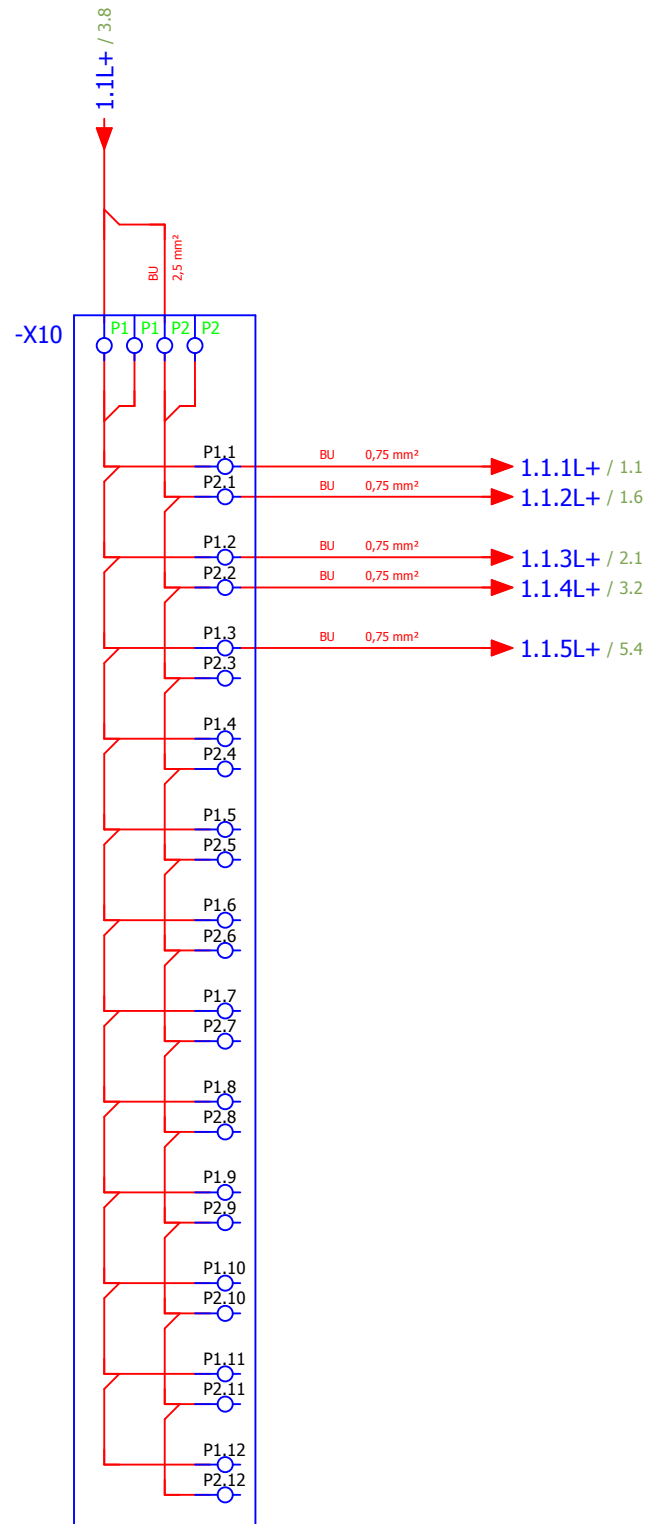
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



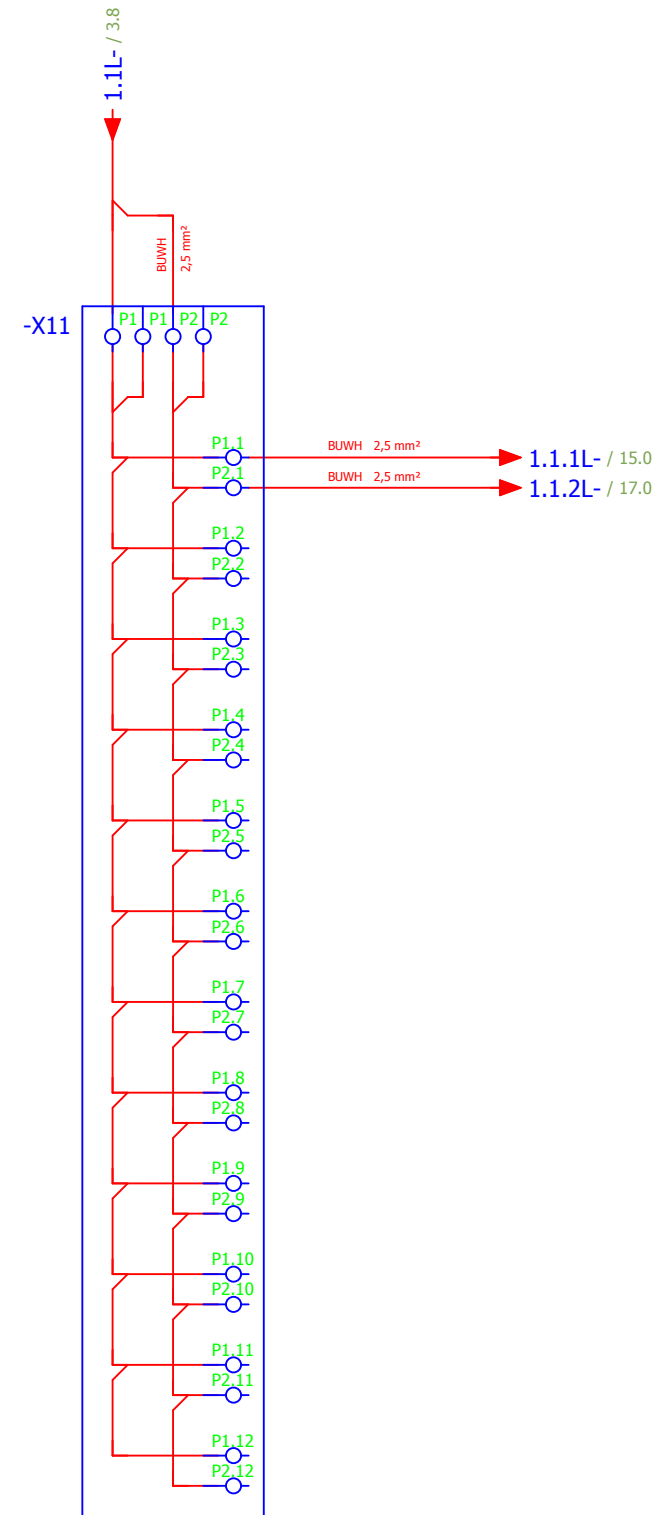
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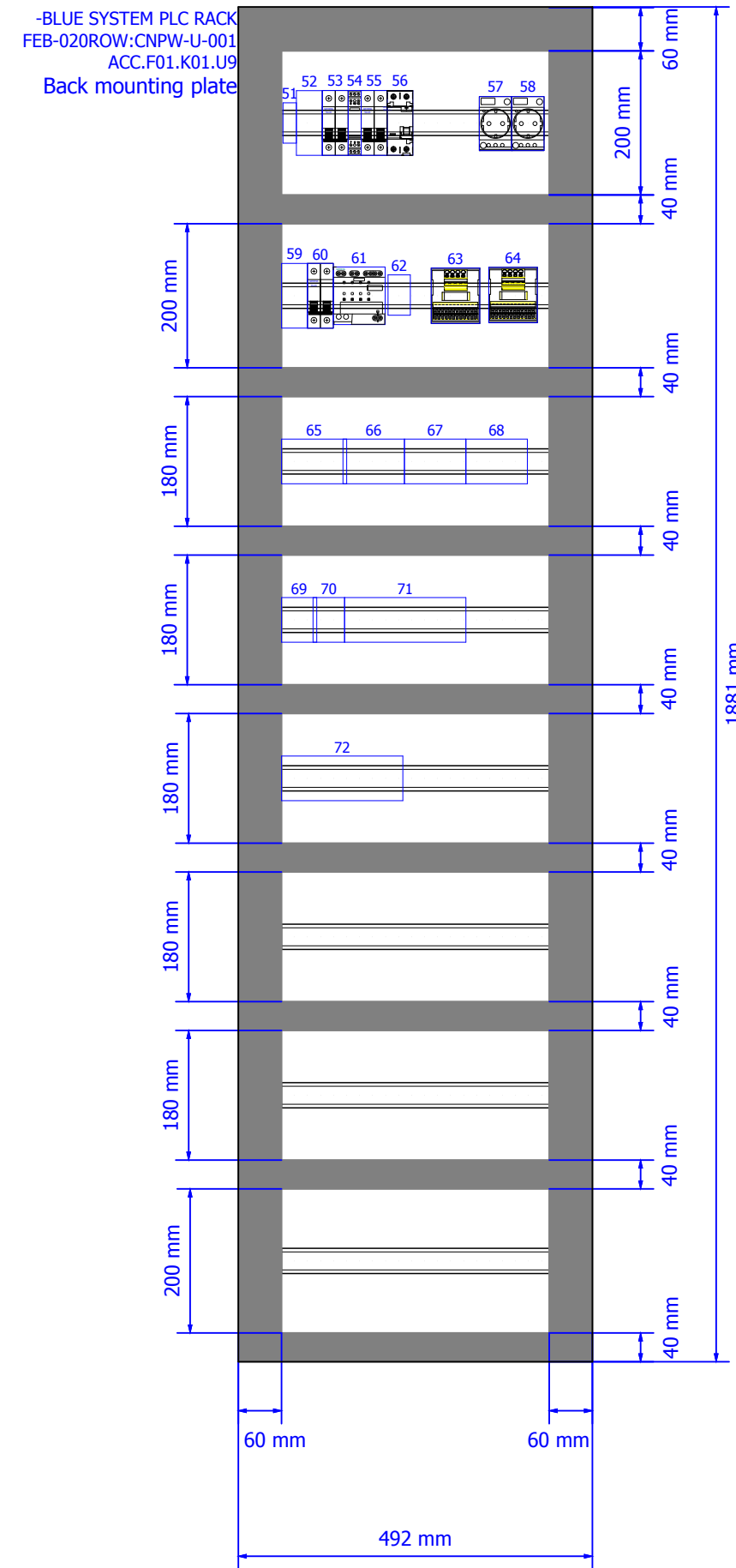
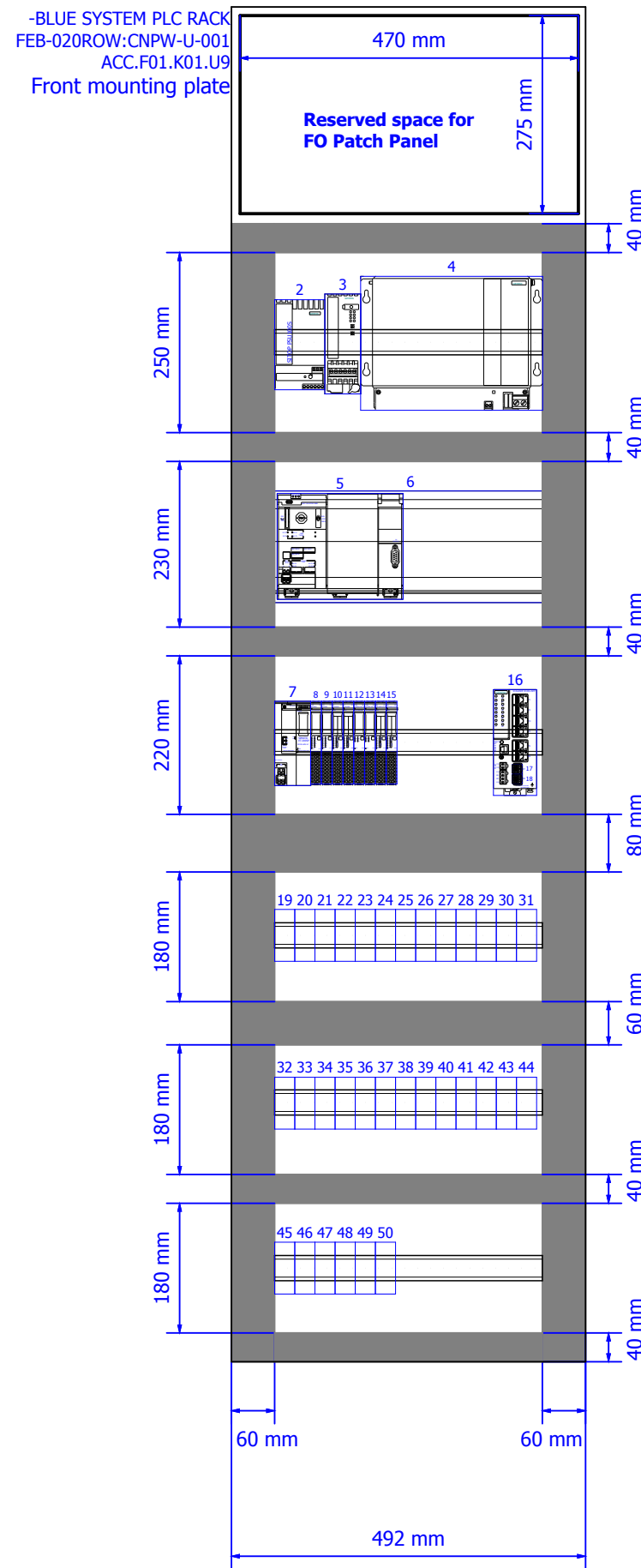
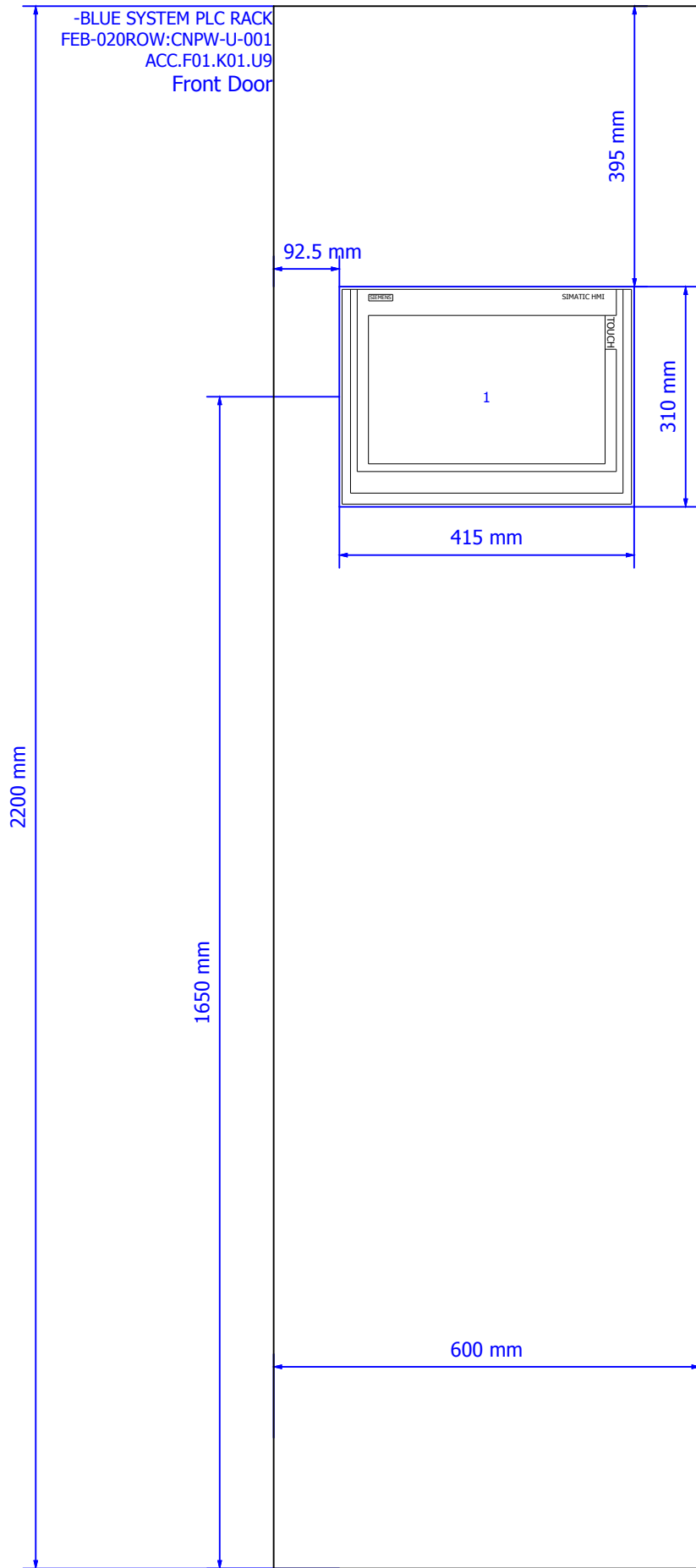


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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
CHECKED BY	DATE <td>PAGE TYPE <td colspan="3">Functional location (FBS):</td> </td>	PAGE TYPE <td colspan="3">Functional location (FBS):</td>	Functional location (FBS):		
MMI	20/09/2018	Schematic multi-line	=ESS.ACC.F01.K01.U9		
APPROVED BY	DATE <td>FUNCTION <td colspan="3">Physical location (LBS):</td> </td>	FUNCTION <td colspan="3">Physical location (LBS):</td>	Physical location (LBS):		
SBH	20/09/2018	FEB-020Row:CnPw-U-001	+G01.090.5005.101.001		
DESIGN SITE <td>ESS</td> <td>BLUE SYSTEM PLC RACK</td> <td colspan="3">CHES Doc. NR:</td>	ESS	BLUE SYSTEM PLC RACK	CHES Doc. NR:		
			ESS-0151602		Document:
			&FS19		



Enclosure legend

Item	FBS-Tag		
1	-PH1	60	-FC4
2	-TA1	61	-FC3
3	-RB1	62	-X12
4	-GB1	63	-X10
5	-KF1	64	-X11
6	-KF1	65	-X2
7	-KF2	66	-X3
8	-KF3	67	-X4
9	-KF4	68	-X5
10	-KF5	69	-X6
11	-KF6	70	-X7
12	-KF7	71	-X8
13	-KF8	72	-X9
14	-KF9		
15	-KF10		
16	-XF1		
17	-XF1		
18	-XF1		
19	-K1		
20	-K2		
21	-K3		
22	-K4		
23	-K5		
24	-K6		
25	-K7		
26	-K8		
27	-K9		
28	-K10		
29	-K11		
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47	-K29		
48	-K30		
49	-K31		
50	-K32		
51	-X1		
52	-QB1		
53	-FC1		
54	-FA1		
55	-FC2		
56	-FB1		
57	-XG1		
58	-XG2		
59	-QB2		

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



DRAWN BY	DATE	DRAWING TITLE
ATZ	20/09/2018	Accelerator PSS
CHECKED BY	DATE <td>PAGE TYPE </td>	PAGE TYPE
MMI	20/09/2018	Panel layout
APPROVED BY	DATE <td>FUNCTION </td>	FUNCTION
SBH	20/09/2018	FEB-020Row:CnPw-U-001
DESIGN SITE	ESS	BLUE SYSTEM PLC RACK

Lifecycle label:	Rev:	Page size:
Preliminary	2	A3
Functional location (FBS):	=ESS.ACC.F01.K01.U9	
Physical location (LBS):	+G01.090.5005.101.001	
CHES Doc. NR:	ESS-0151602	
Document:	&LU1	

Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U9-FA1	1	SURGE ARR. D/T3/III 230V 1-PHASE	5SD7432-1	Siemens	SIE.5SD7432-1	
=ESS.ACC.F01.K01.U9-FB1	1	RCCB TYPE A 16/2 30MA 2MW	5SV3311-6	Siemens	SIE.5SV3311-6	
=ESS.ACC.F01.K01.U9-FC1	1	CIRCUIT BREAKER 6KA 1+N-P C16	5SL6516-7	Siemens	SIE.5SL6516-7	
=ESS.ACC.F01.K01.U9-FC2	1	CIRCUIT BREAKER 6KA 1+N-P C10	5SL6510-7	Siemens	SIE.5SL6510-7	
=ESS.ACC.F01.K01.U9-FC3	1	SITOP PSE200U	6EP1961-2BA11	Siemens	SIE.6EP1961-2BA11	
=ESS.ACC.F01.K01.U9-FC4	1	CIRCUIT BREAKER 6KA 1+N-P C4	5SL6504-7	Siemens	SIE.5SL6504-7	
=ESS.ACC.F01.K01.U9-GB1	1	SITOP UPS1100	6EP4135-0GB00-0AY0	Siemens	SIE.6EP4135-0GB00-0AY0	
=ESS.ACC.F01.K01.U9-K1	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K2	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K3	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K4	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K5	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K6	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K7	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K8	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K9	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K10	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K11	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K12	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K13	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K14	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K15	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U9		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	Physical location (LBS): +G01.090.5005.101.001		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC1	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U9-K16	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K17	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K18	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K19	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K20	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K21	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K22	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K23	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K24	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K25	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K26	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K27	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K28	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K29	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K30	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K31	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-K32	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U9-KF1	1	CPU 1518F-4 PN/DP, 6 MB PROG, 20MB DATA	6ES7518-4FP00-0AB0	Siemens	SIE.6ES7518-4FP00-0AB0	
=ESS.ACC.F01.K01.U9-KF1	1	MOUNTING RAIL 482MM (19")	6ES7590-1AE80-0AA0	Siemens	SIE.6ES7590-1AE80-0AA0	
=ESS.ACC.F01.K01.U9-KF2	1	IM155-6 PN HF / BA 2XRJ45	6ES7155-6AU00-0CN0 / 6ES7193-6AR00-0AA0	Siemens	SIE.6ES7155-6AU00-0CN0+BA_2xRJ45	
=ESS.ACC.F01.K01.U9-KF3	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U9-KF4	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2B	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
2	20/09/2018	As built	Modification based on ZHAW recommendations	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	MMI	20/09/2018	Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U9		
				SBH	20/09/2018	FUNCTION FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	Physical location (LBS): +G01.090.5005.101.001		
						DESIGN SITE ESS	CHESS Doc. NR: ESS-0151602	Document: &PC2	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U9-KF5	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U9-KF6	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U9-KF7	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U9-KF8	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U9-KF9	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U9-KF10	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U9-PH1	1	TP1500 COMFORT	6AV2124-0QC02-0AX0	Siemens	SIE.6AV2124-0QC02-0AX0	
=ESS.ACC.F01.K01.U9-QB1	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U9-QB2	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U9-RB1	1	SITOP UPS1600	6EP4134-3AB00-2AY0	Siemens	SIE.6EP4134-3AB00-2AY0	
=ESS.ACC.F01.K01.U9-TA1	1	SITOP PSU100S	6EP1334-2BA20	Siemens	SIE.6EP1334-2BA20	
=ESS.ACC.F01.K01.U9-X1	1	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U9-X1	1	Feed-through terminal block	PT 4 BU	Phoenix Contact	PXC.3211760	
=ESS.ACC.F01.K01.U9-X1	1	Ground modular terminal block	PT 4-PE	Phoenix Contact	PXC.3211766	
=ESS.ACC.F01.K01.U9-X2	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X2	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U9-X2	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X3	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X3	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X4	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X4	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X5	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U9		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	Physical location (LBS): +G01.090.5005.101.001		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC3	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U9-X5	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X6	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X6	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U9-X6	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X7	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X7	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X8	32	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X8	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X9	32	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U9-X9	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U9-X10	1	Interface module	UMK- PVB 2/24/ZFKDS	Phoenix Contact	PXC.2302366	
=ESS.ACC.F01.K01.U9-X11	1	Interface module	UMK- PVB 2/24/ZFKDS	Phoenix Contact	PXC.2302366	
=ESS.ACC.F01.K01.U9-X12	5	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U9-XF1	1	SCALANCE XC206-2SFP	6GK5206-2BS00-2AC2	Siemens	SIE.6GK5206-2BS00-2AC2	
=ESS.ACC.F01.K01.U9-XF1	2	SFP991-1LD	6GK5991-1AF00-8AA0	Siemens	SIE.6GK5991-1AF00-8AA0	
=ESS.ACC.F01.K01.U9-XG1	1	SCHUKO SOCKET for mounting on support rails	SIE.5TE6800	Siemens	SIE.5TE6800	
=ESS.ACC.F01.K01.U9-XG2	1	SCHUKO SOCKET for mounting on support rails	SIE.5TE6800	Siemens	SIE.5TE6800	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	 EUROPEAN SPALLATION SOURCE <small>Documentation protection ISO 16016</small>	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE		CHECKED BY	DATE	PAGE TYPE	Functional location (FBS):	2	A3
2	20/09/2018	As built	Modification based on ZHAW recommendations		APPROVED BY	DATE	FUNCTION	Physical location (LBS):		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams		 SBH 20/09/2018 DESIGN SITE ESS	FEB-020Row:CnPw-U-001 BLUE SYSTEM PLC RACK	CHESS Doc. NR: ESS-0151602	Document:	&PC4	



EUROPEAN SPALLATION SOURCE

Description: Blue Sys. RIO Rack

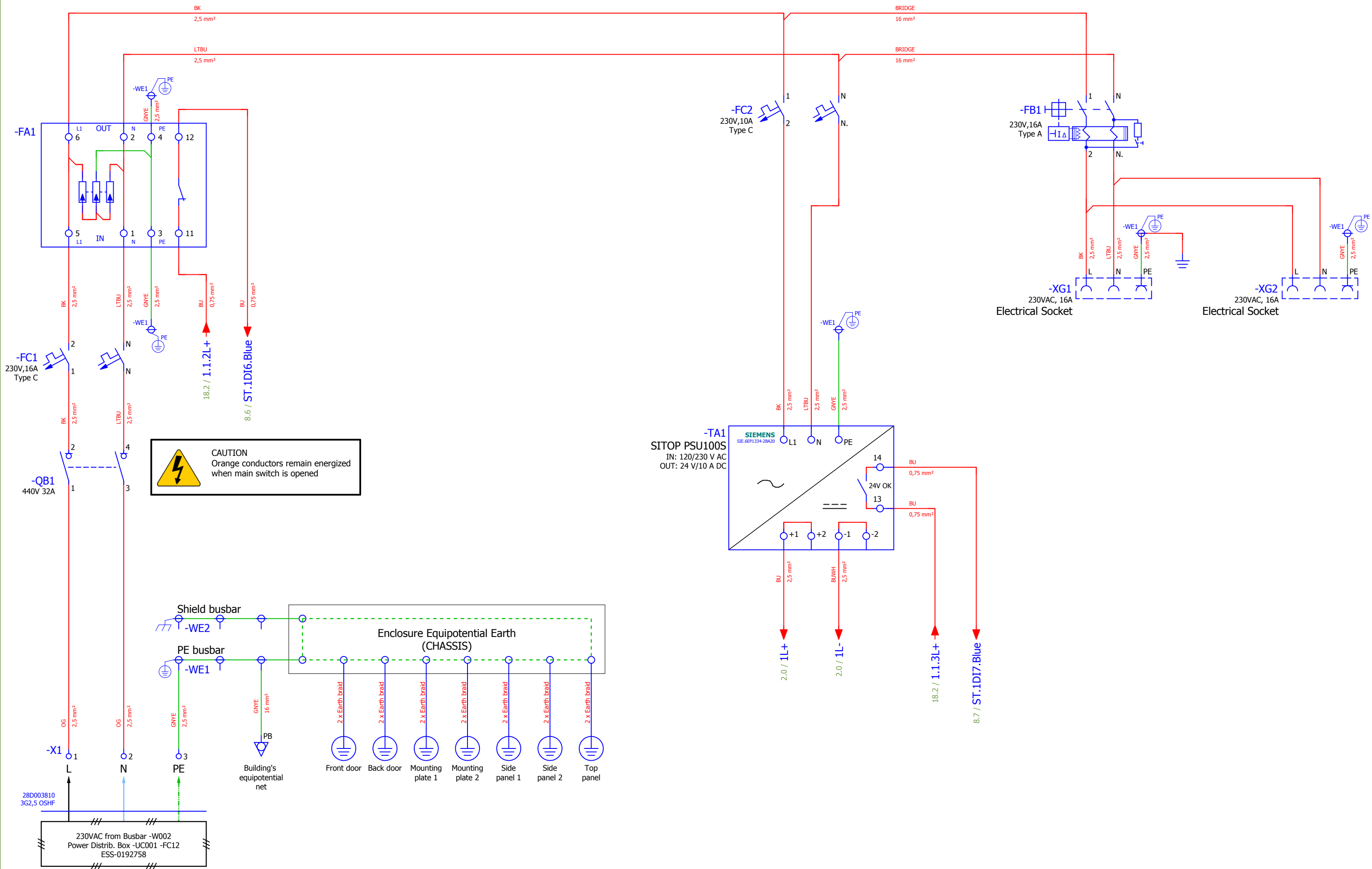
Functional Location (FBS): =ESS.ACC.F01.K01.U10

Physical Location (LBS): +ESS.G01.090.5005.101

ESS Name: FEB-020ROW:CnPw-U-002

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY	DATE	PAGE TYPE	Functional location (FBS):		
				MMI	20/09/2018	Graphic	=ESS.ACC.F01.K01.U10		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY	DATE	FUNCTION	Physical location (LBS):		
				SBH	20/09/2018	FEB-020Row:CnPw-U-002	+G01.090.5005.101.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE	ESS	BLUE SYSTEM RIO RACK	CHESS Doc. NR:		Document:
							ESS-0151602		&AA1

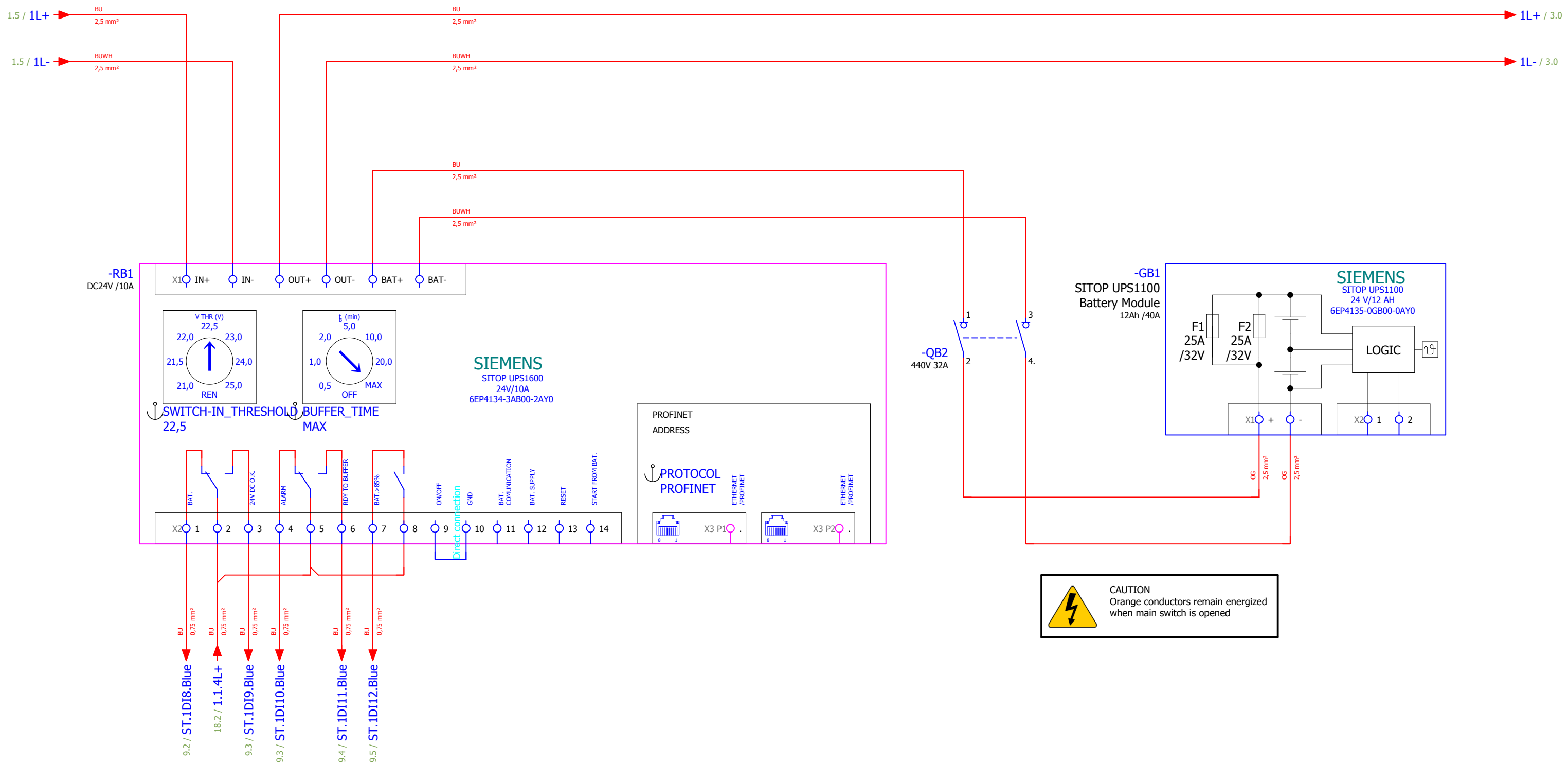




REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
2	20/09/2018	As built	Modification based on ZHAW recommendations
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams



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CAUTION
Orange conductors remain energized when main switch is opened

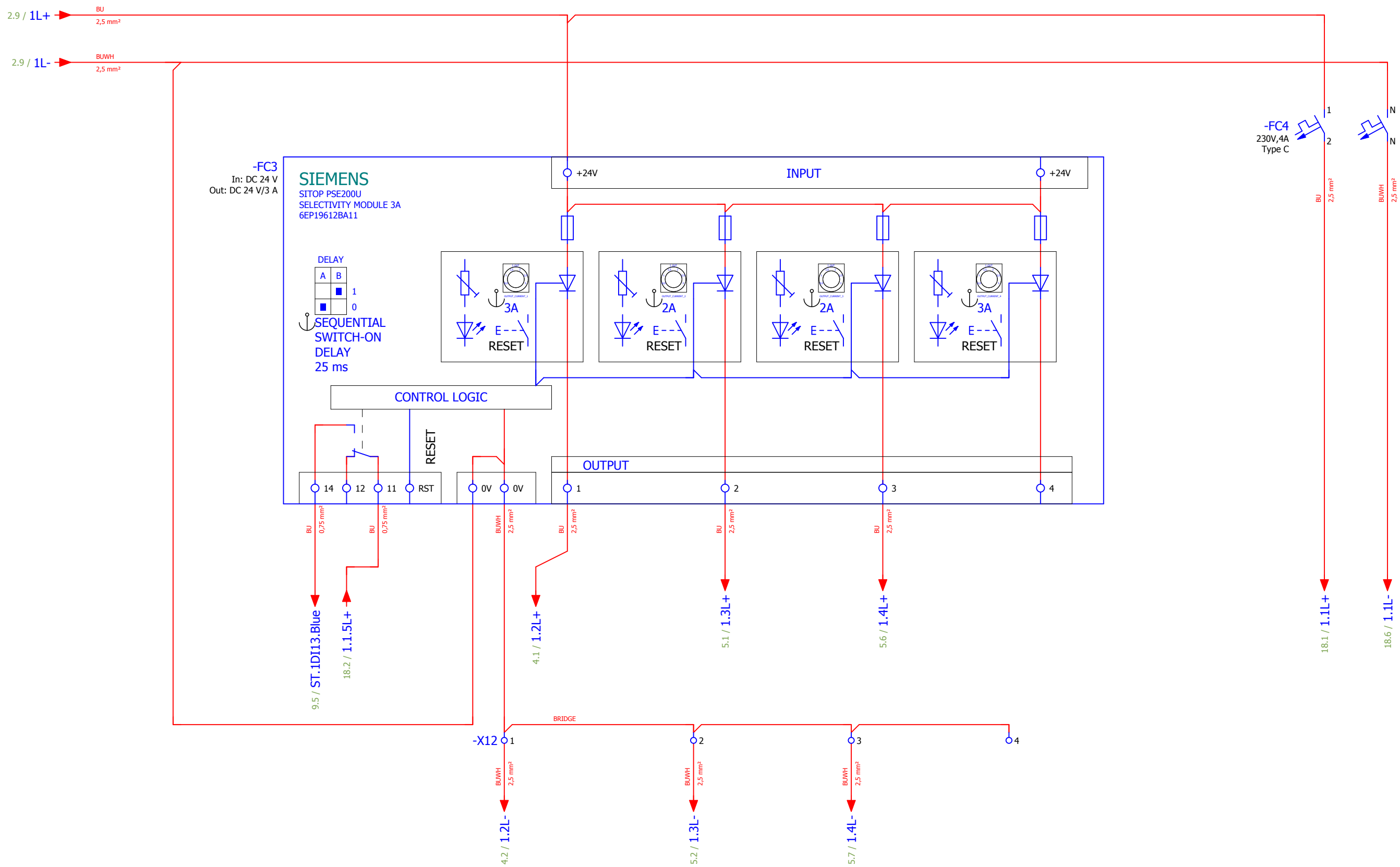
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2	20/09/2018	As built	Modification based on ZHAW recommendations
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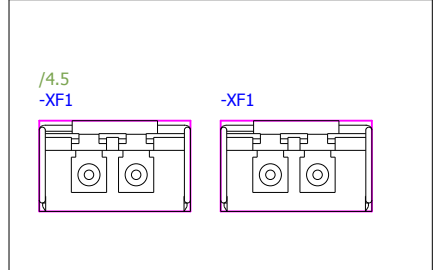
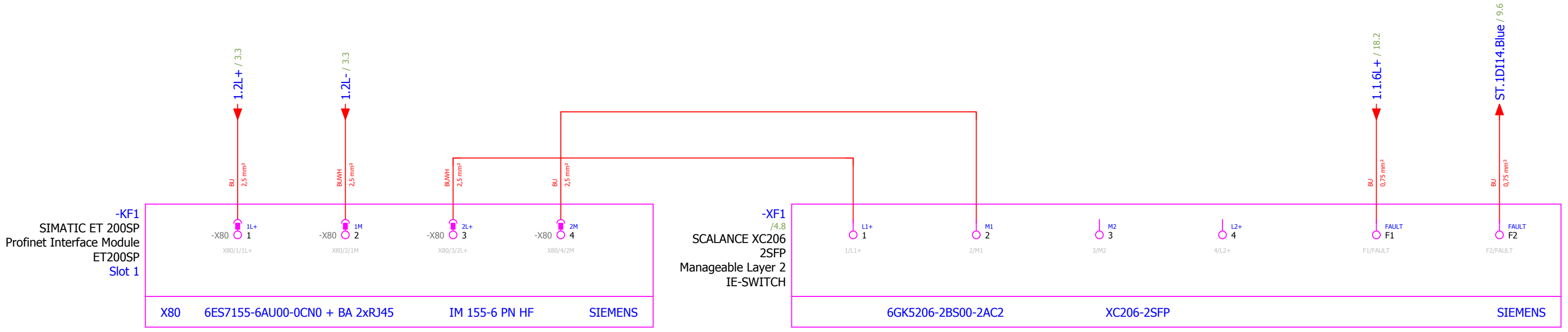
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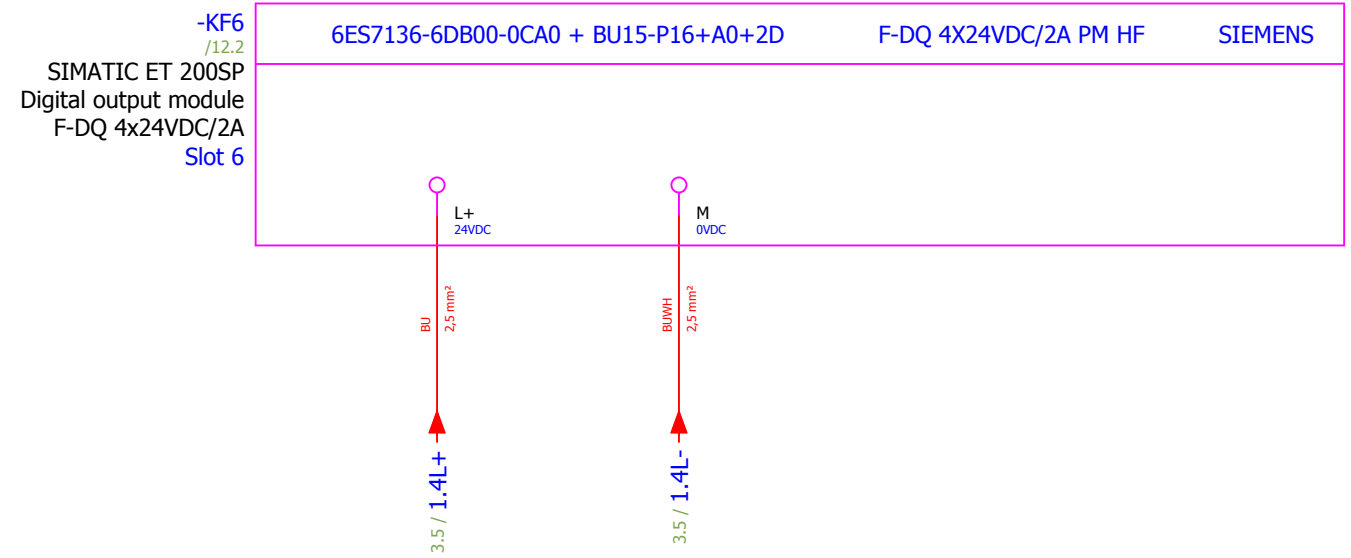
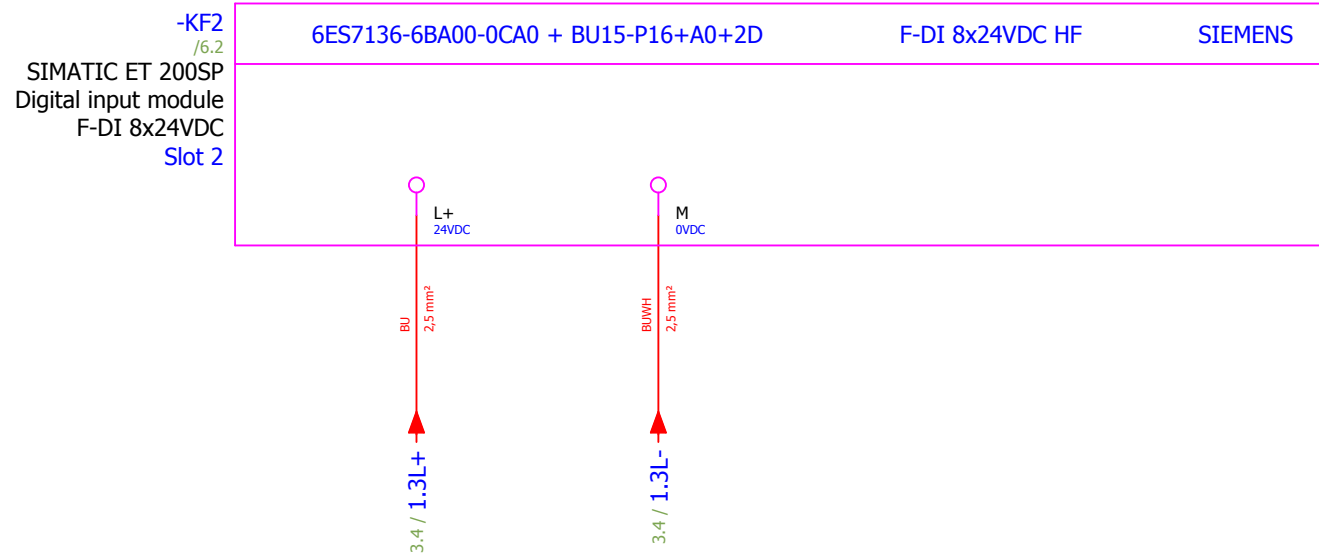
SFP pluggable transceiver for media modules
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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DRAWN BY	DATE	DRAWING TITLE
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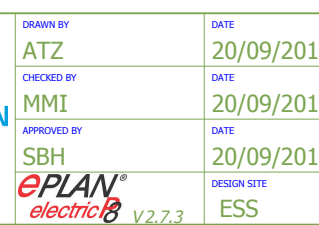
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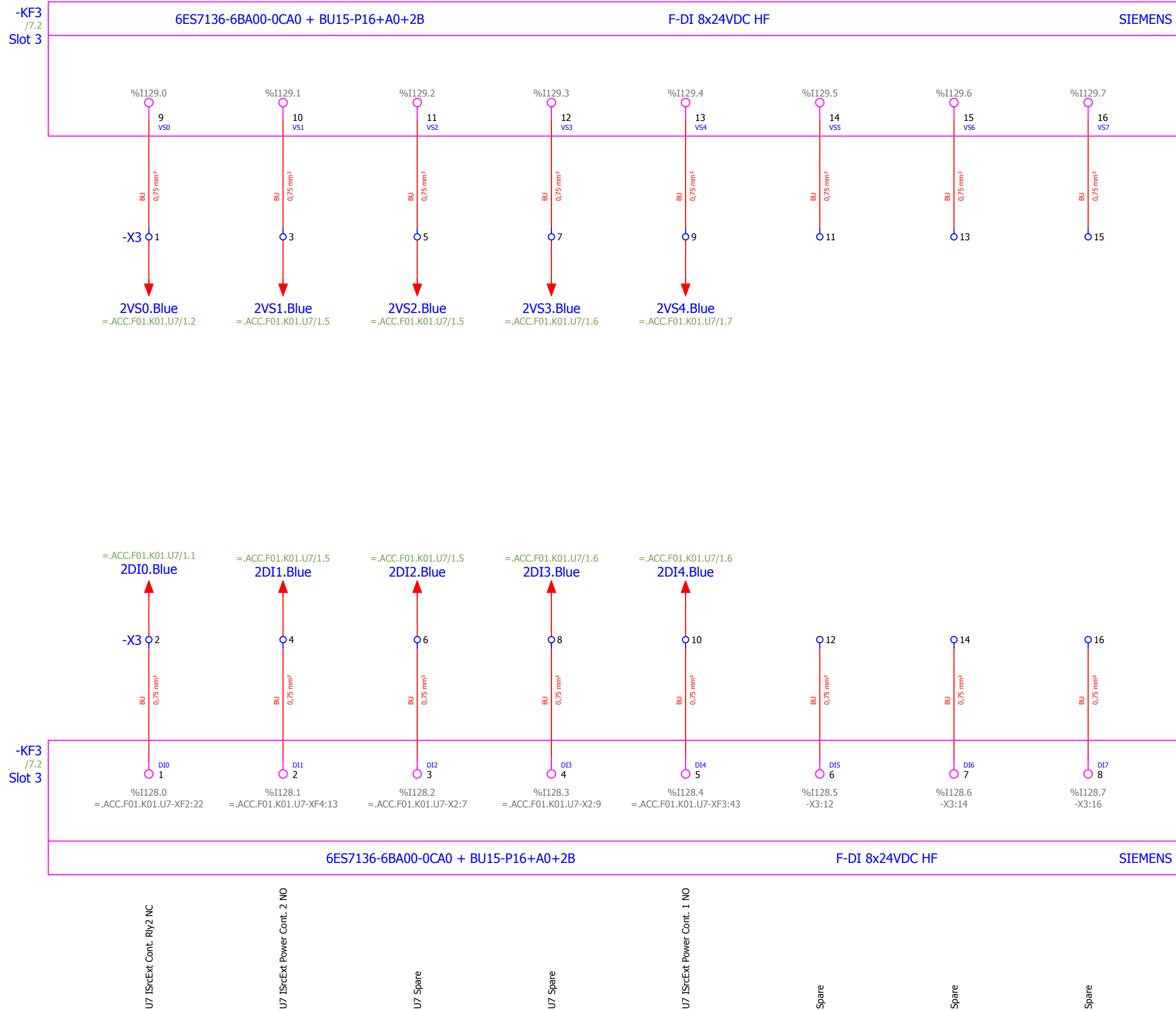
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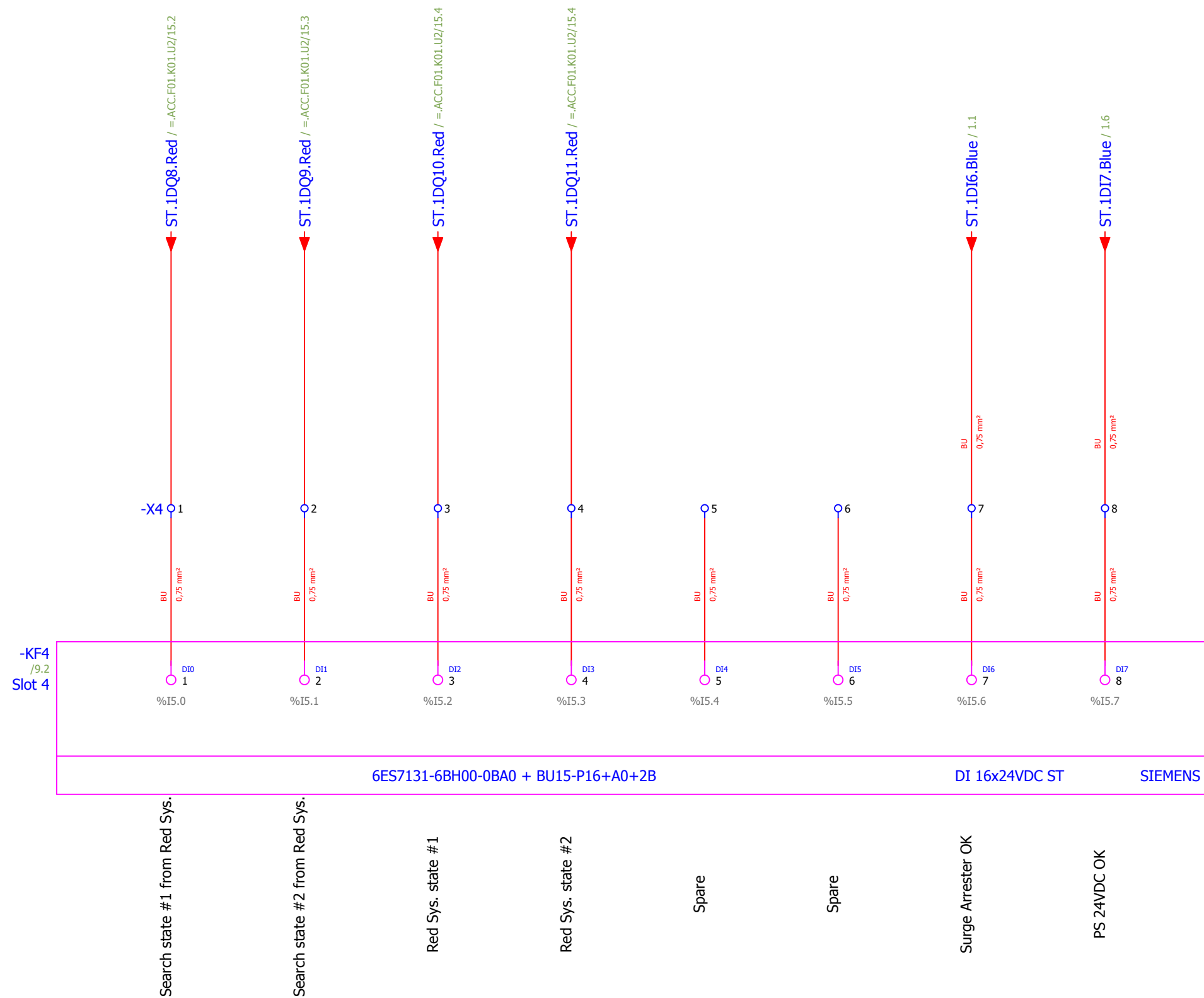
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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams

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Accelerator PSS	FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK

Lifecycle label:	Rev:	Page size:
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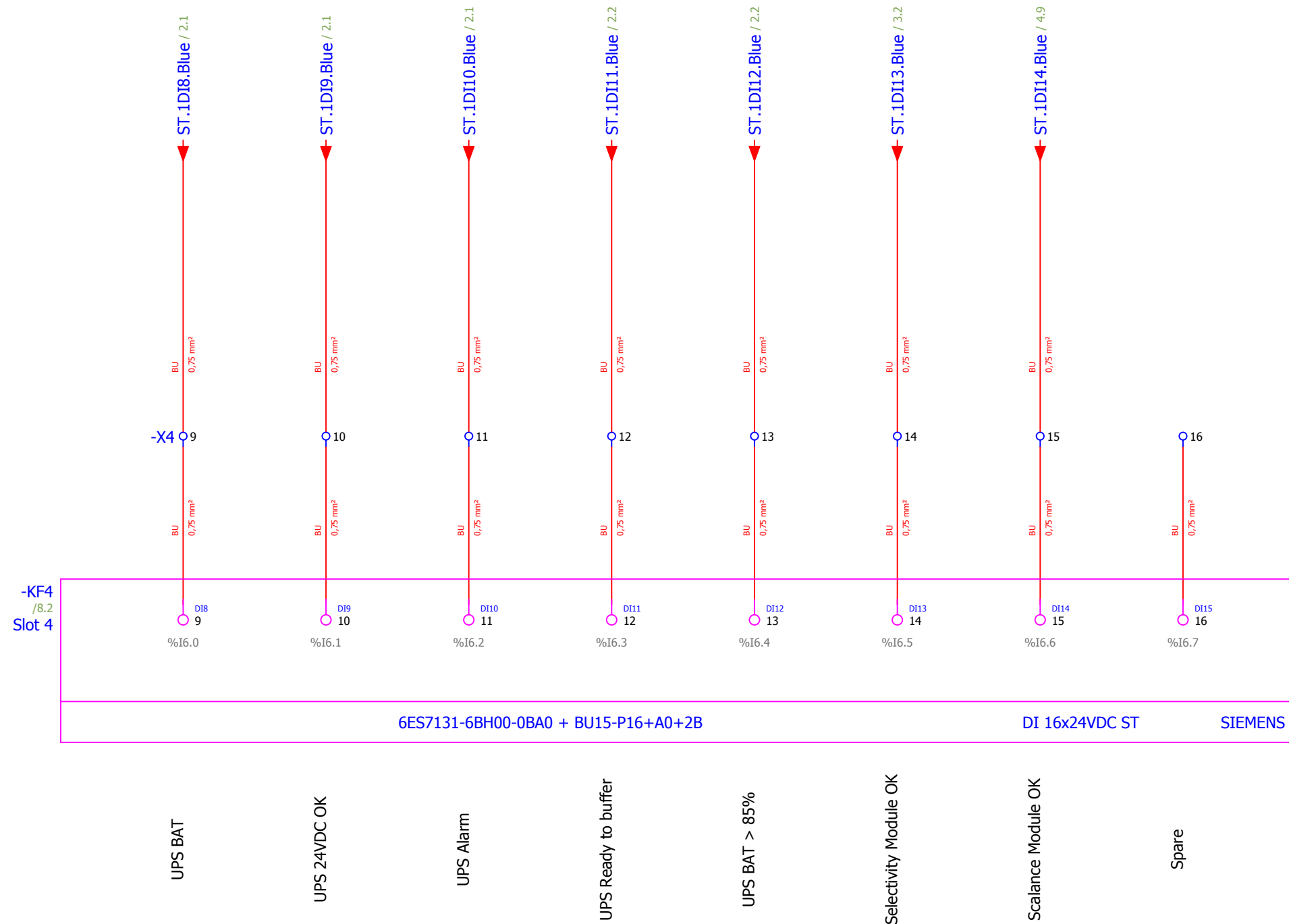
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ATZ	20/09/2018
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APPROVED BY	DATE
SBH	20/09/2018
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DRAWING TITLE
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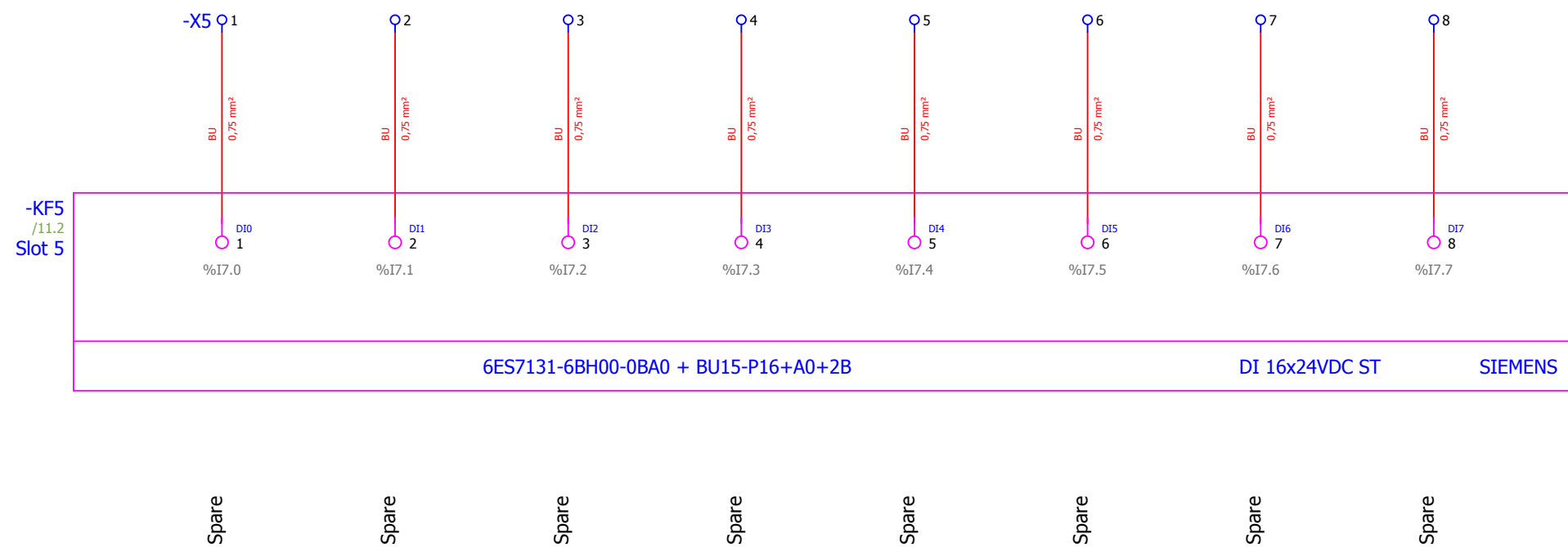


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Documentation protection ISO 16016

DRAWN BY	DATE	DRAWING TITLE
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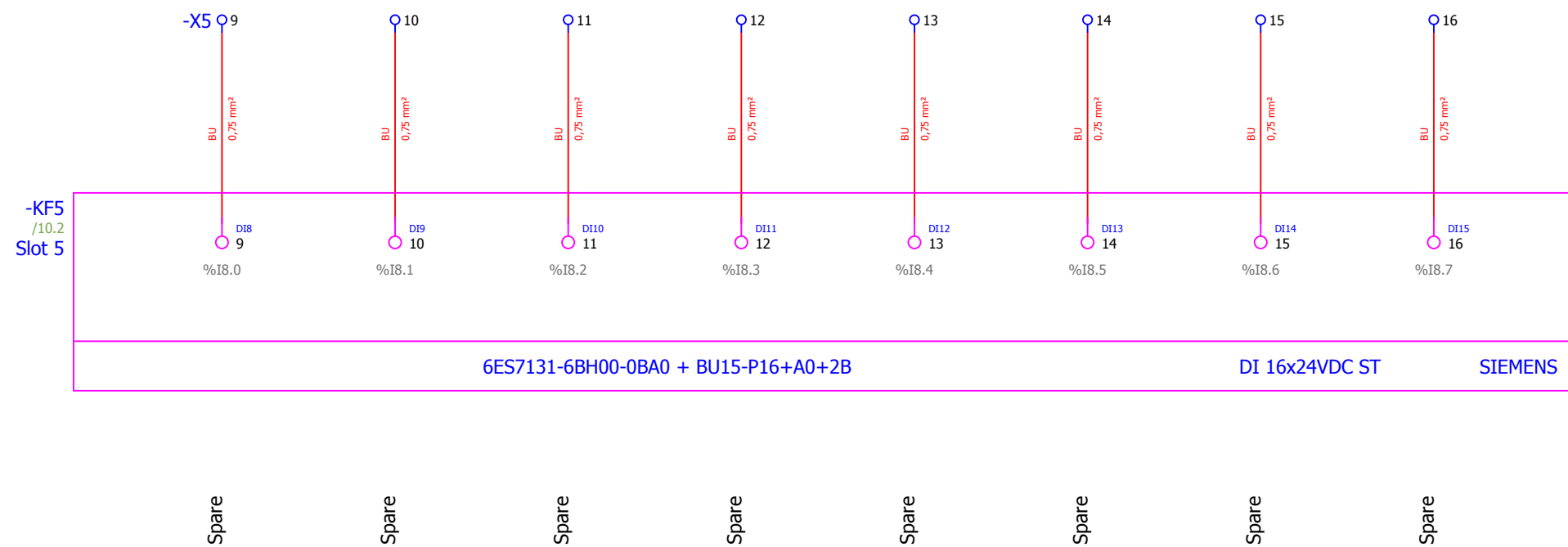
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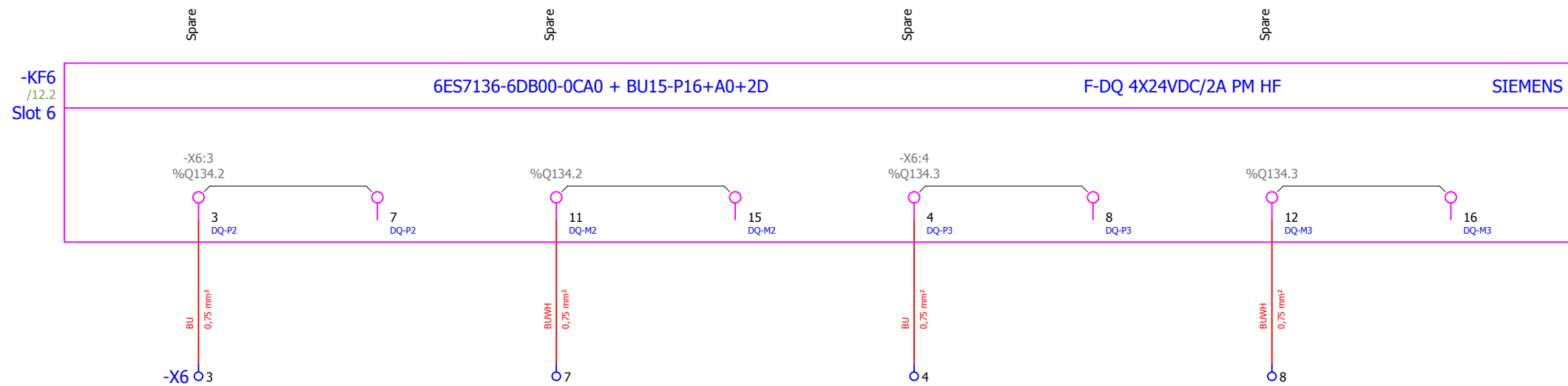
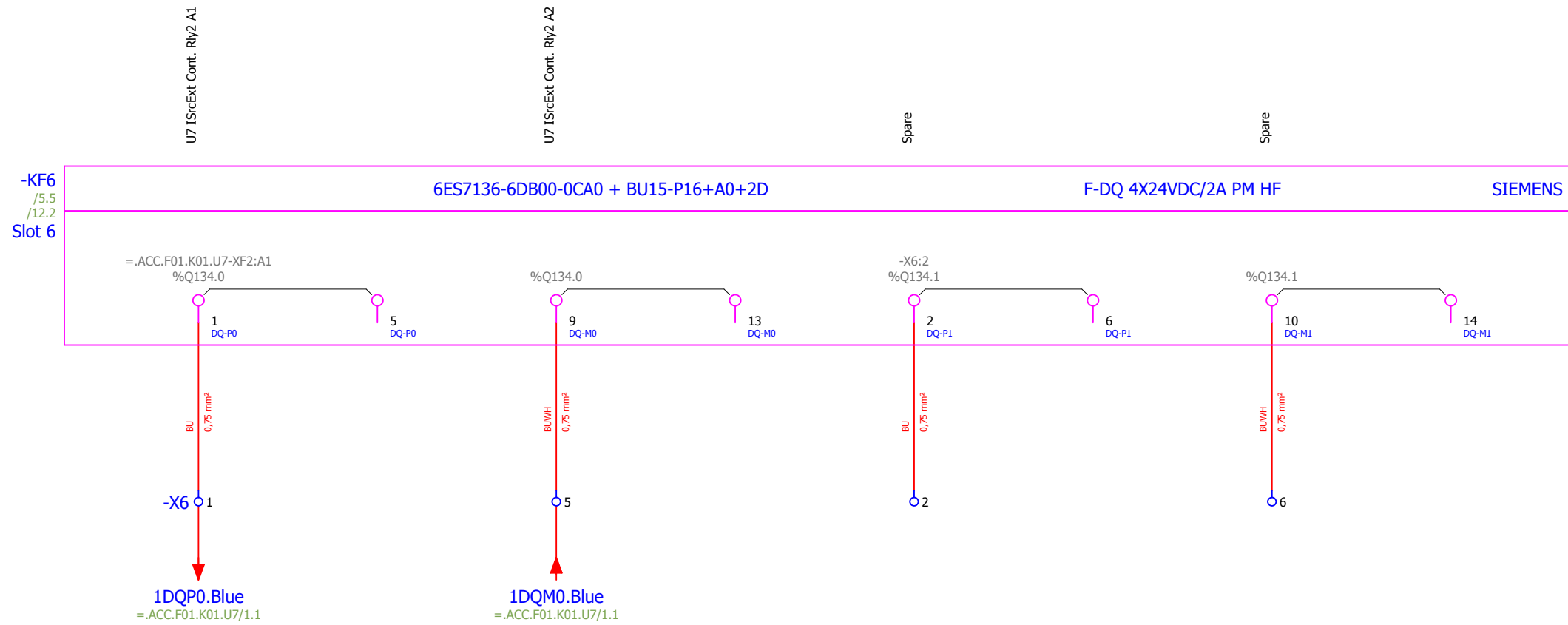
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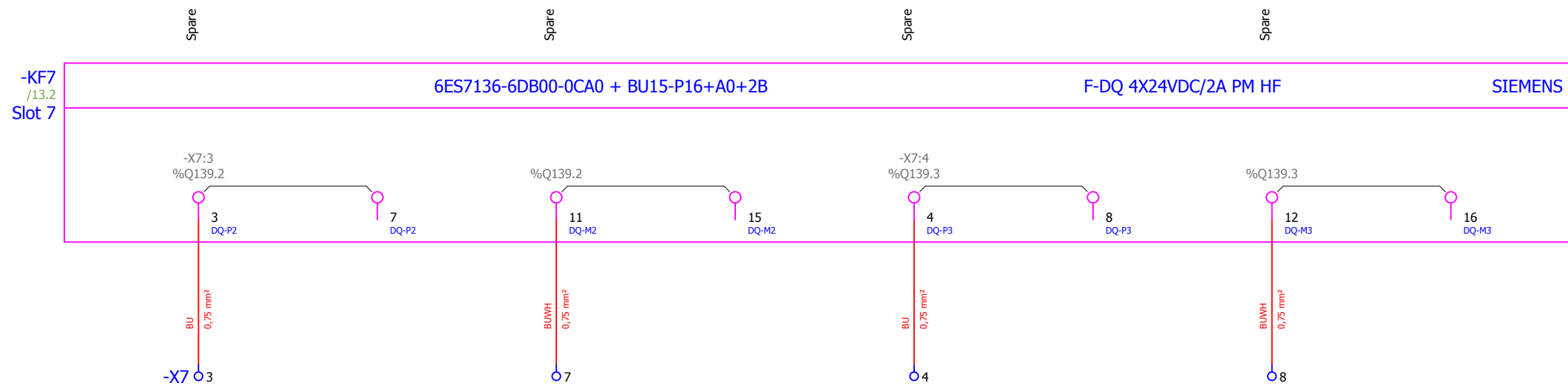
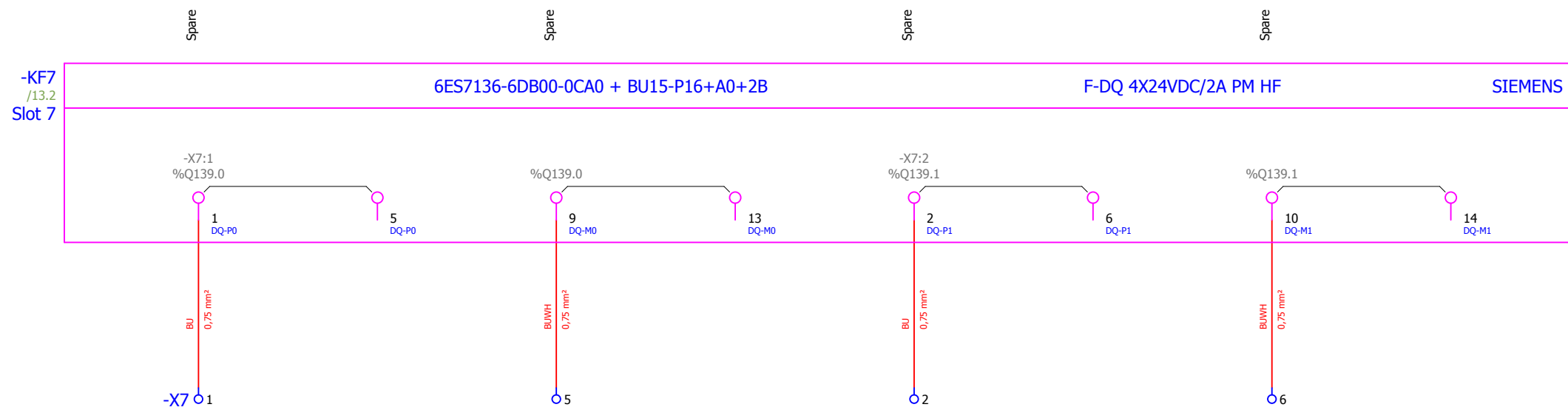
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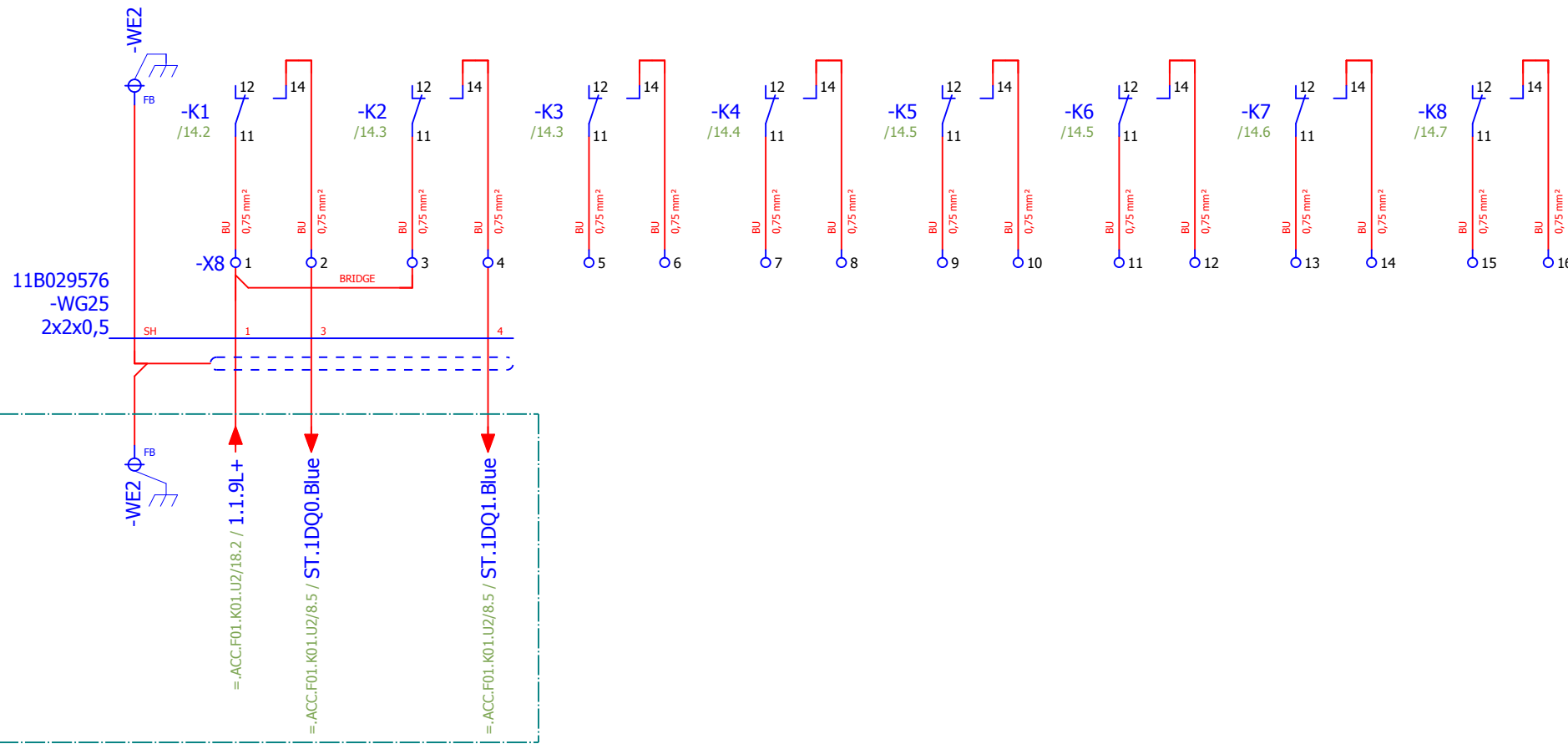
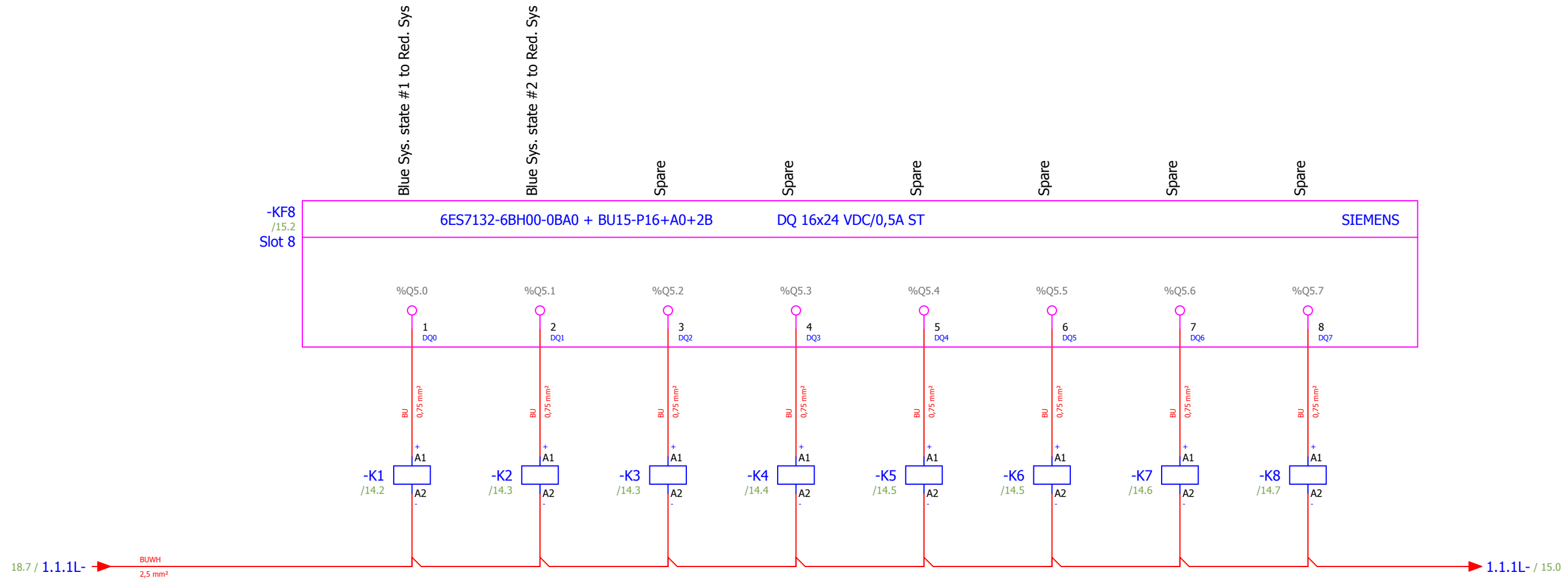
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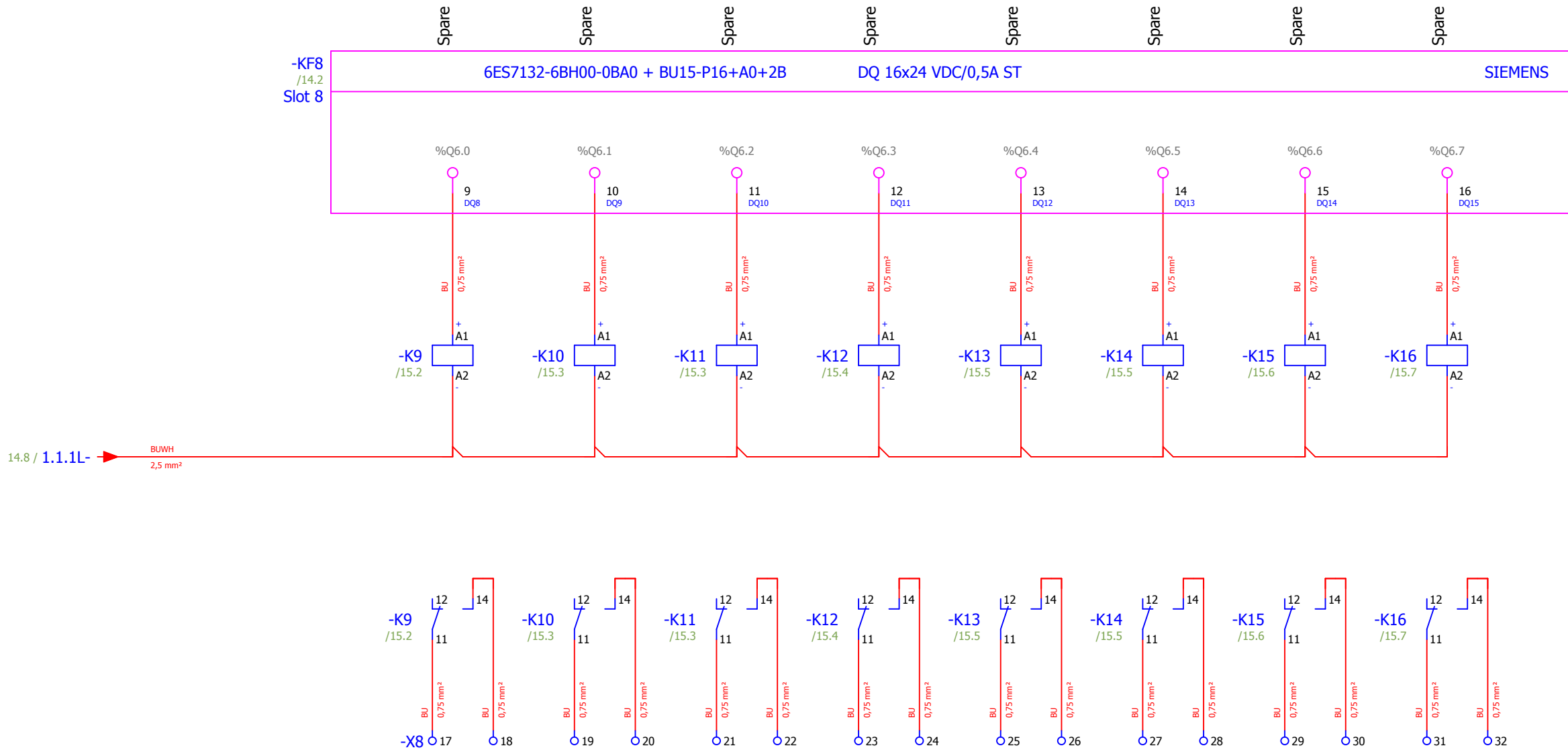
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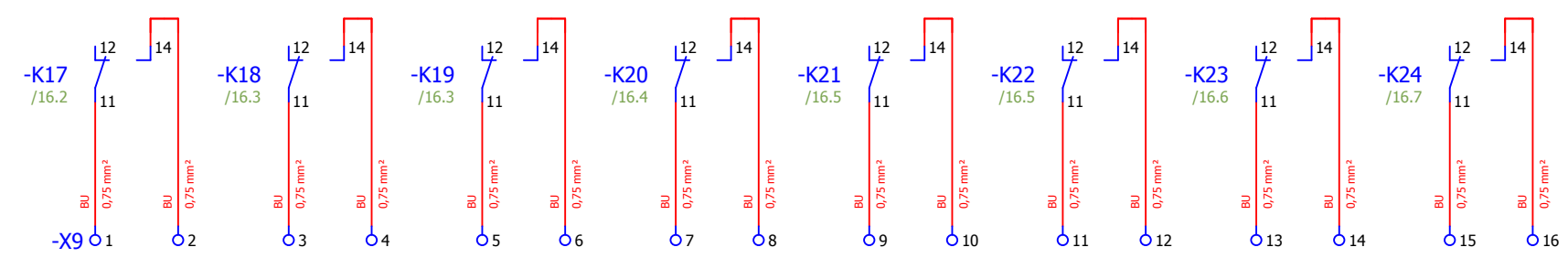
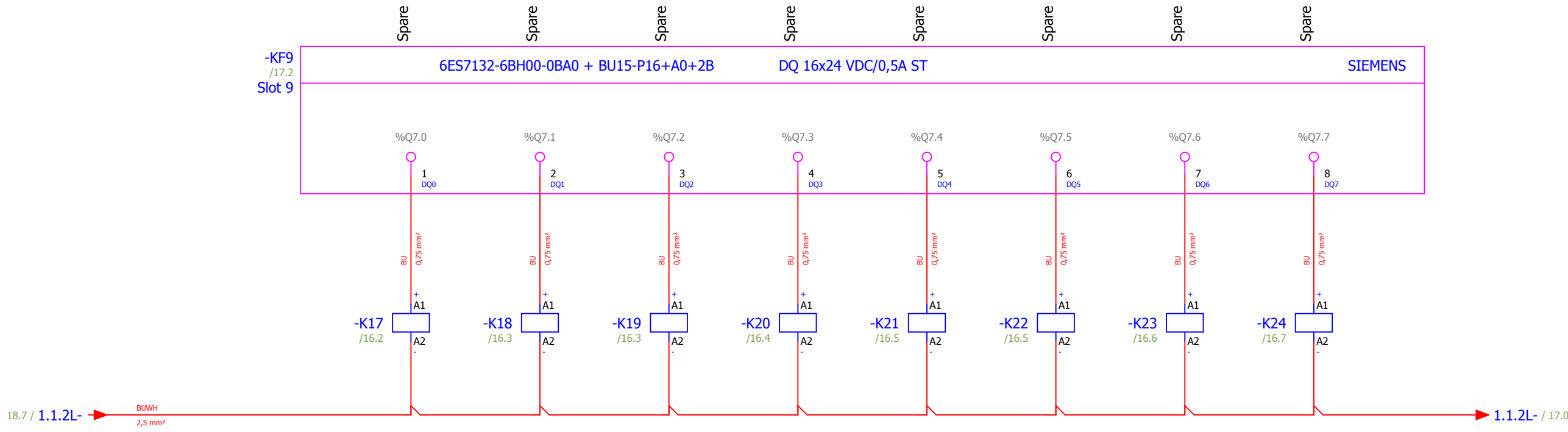
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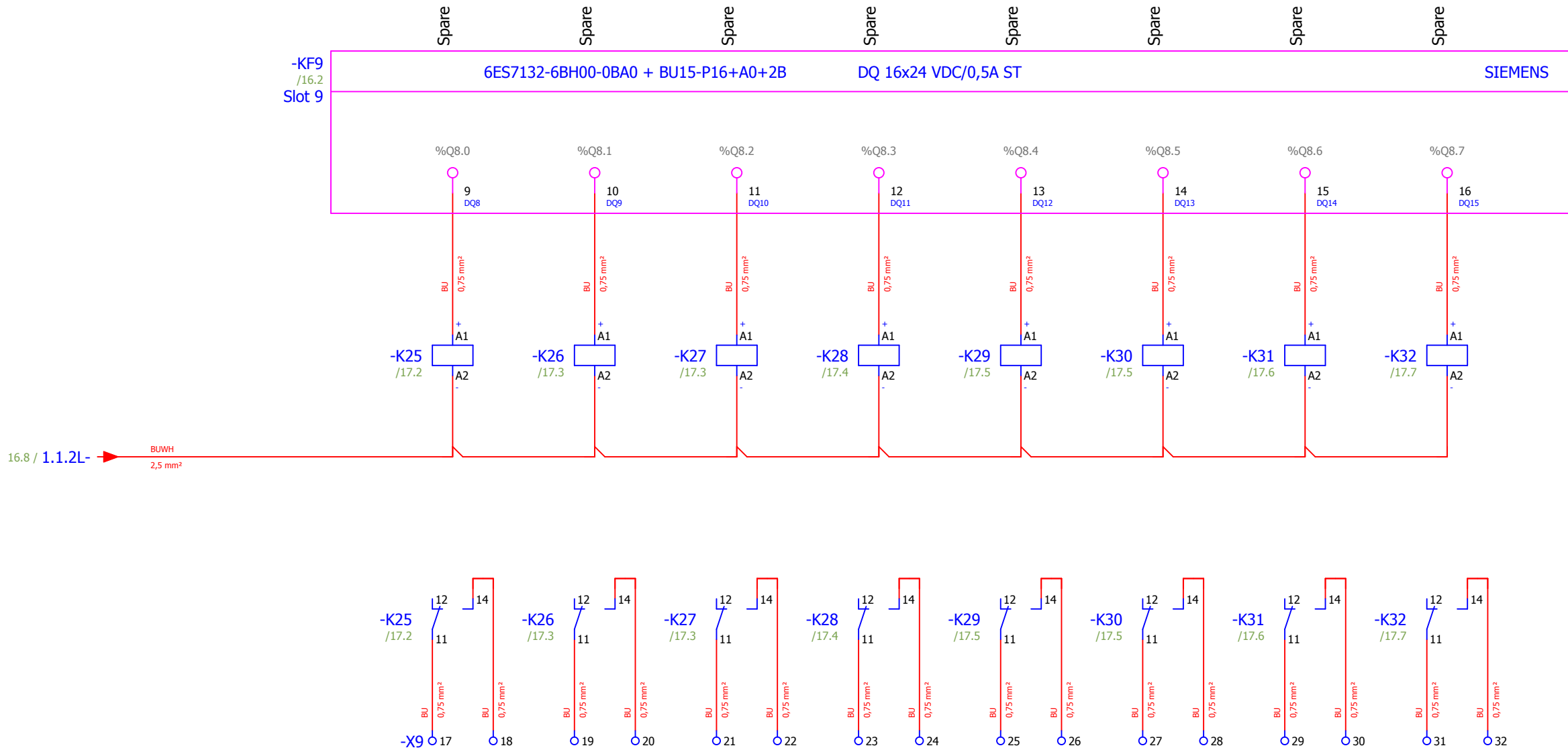
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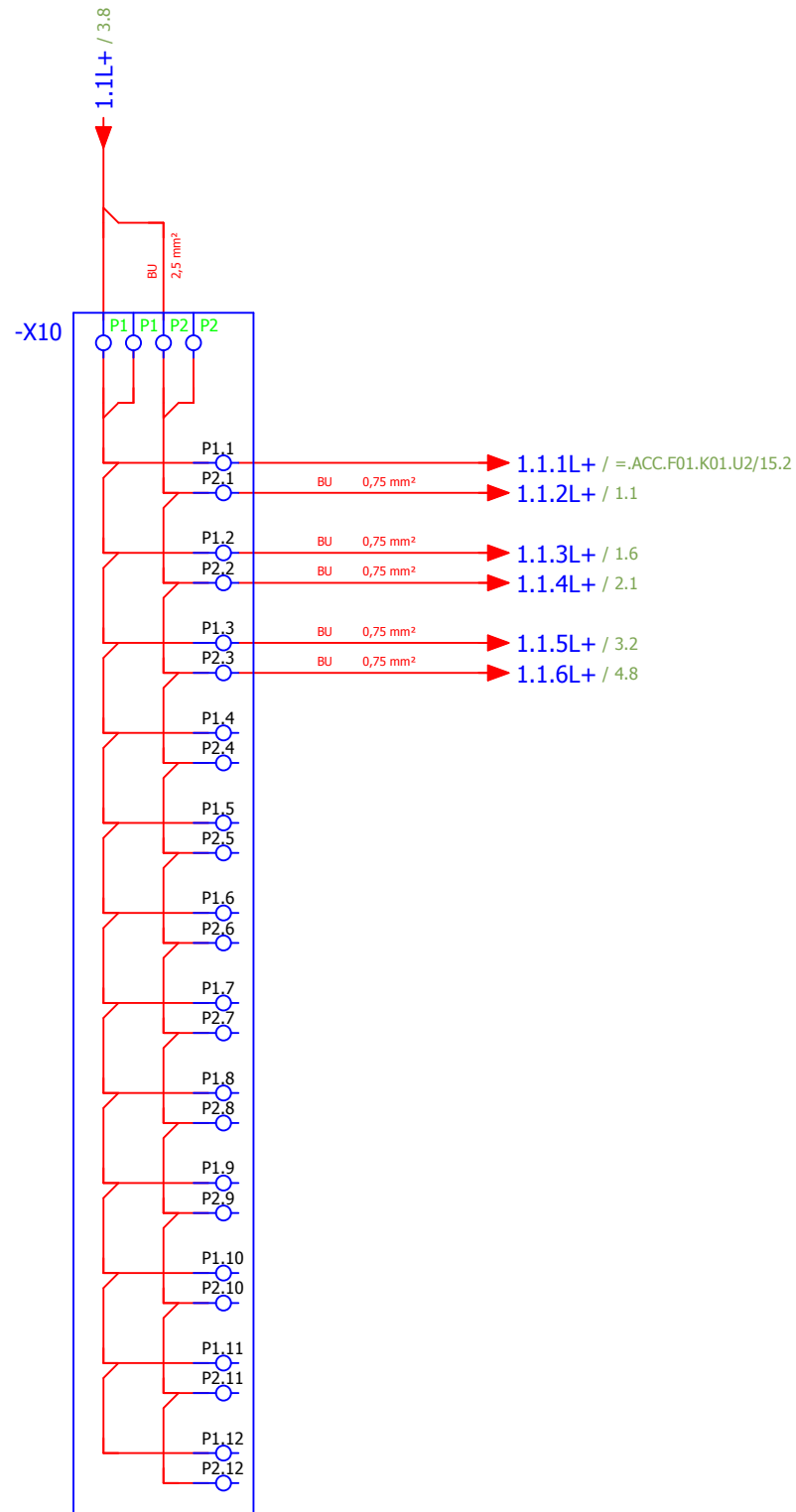
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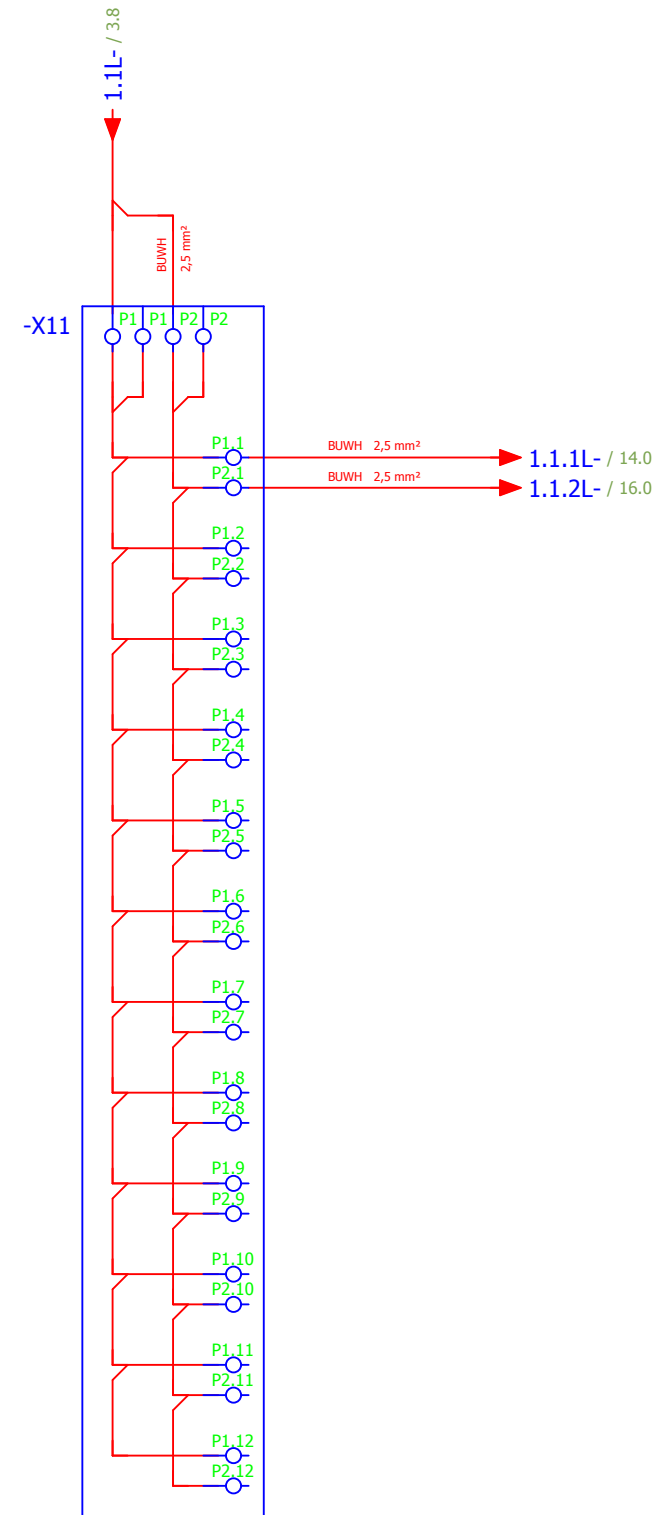
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24V DC



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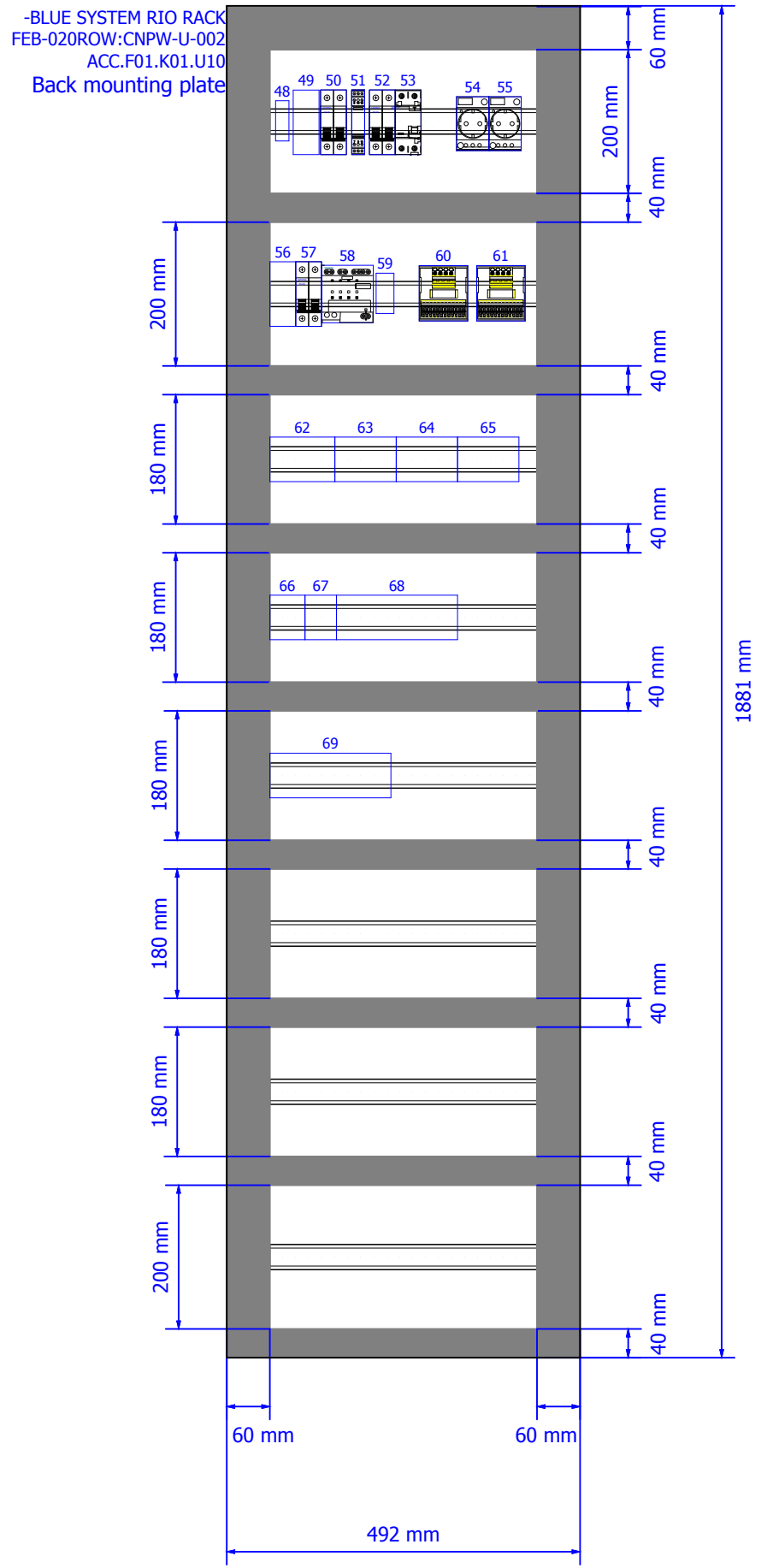
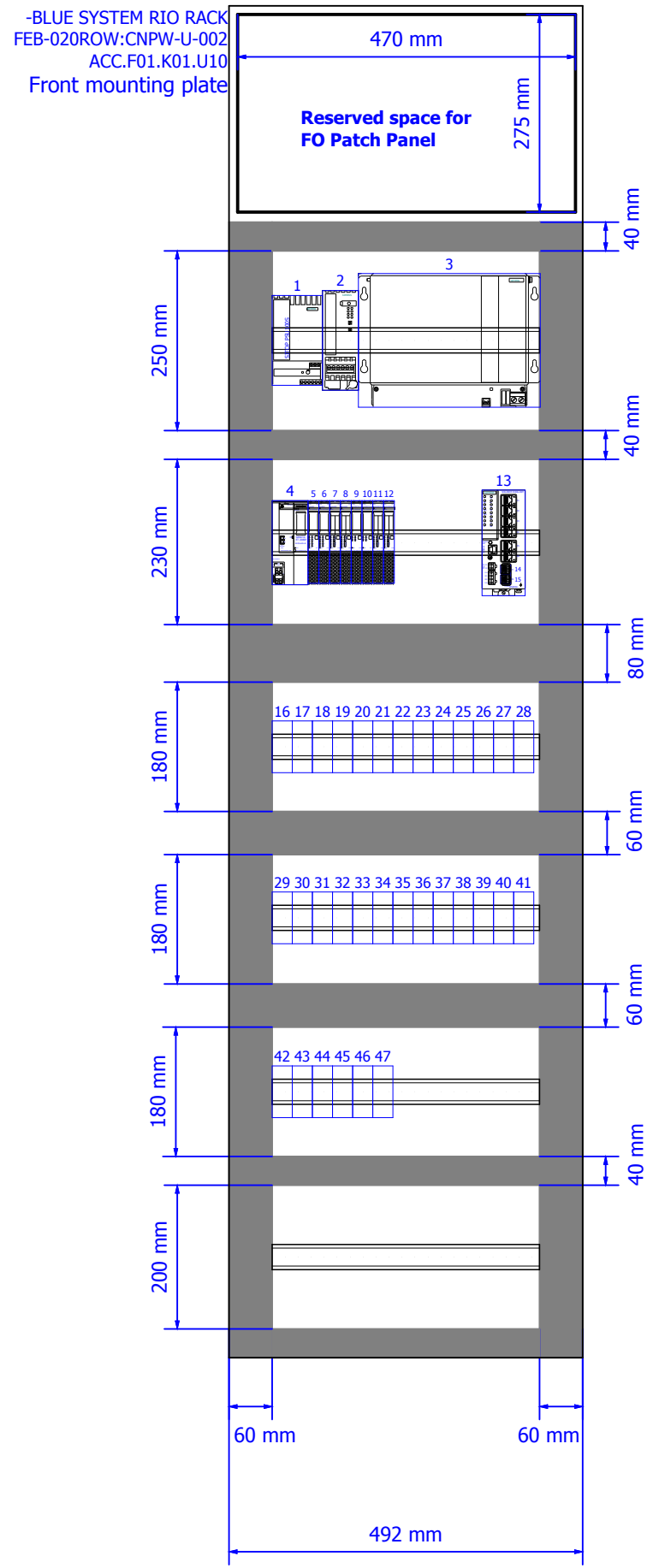
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REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE
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Lifecycle label: Preliminary	ESS Doc. NR: ESS-0151602
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=ESS.ACC.F01.K01.U10-FC1	1	CIRCUIT BREAKER 6KA 1+N-P C16	5SL6516-7	Siemens	SIE.5SL6516-7	
=ESS.ACC.F01.K01.U10-FC2	1	CIRCUIT BREAKER 6KA 1+N-P C10	5SL6510-7	Siemens	SIE.5SL6510-7	
=ESS.ACC.F01.K01.U10-FC3	1	SITOP PSE200U	6EP1961-2BA11	Siemens	SIE.6EP1961-2BA11	
=ESS.ACC.F01.K01.U10-FC4	1	CIRCUIT BREAKER 6KA 1+N-P C4	5SL6504-7	Siemens	SIE.5SL6504-7	
=ESS.ACC.F01.K01.U10-GB1	1	SITOP UPS1100	6EP4135-0GB00-0AY0	Siemens	SIE.6EP4135-0GB00-0AY0	
=ESS.ACC.F01.K01.U10-K1	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K2	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K3	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K4	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K5	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K6	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K7	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K8	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K9	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K10	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K11	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K12	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K13	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K14	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K15	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	CHECKED BY MMI	DATE 20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U10		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	DATE 20/09/2018	FUNCTION FEB-020Row:CnPw-U-002	Physical location (LBS): +G01.090.5005.101.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS		BLUE SYSTEM RIO RACK	CHESS Doc. NR: ESS-0151602	Document: &PC1	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U10-K16	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K17	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K18	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K19	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K20	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K21	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K22	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K23	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K24	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K25	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K26	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K27	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K28	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K29	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K30	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K31	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-K32	1	Plug-in relay complete unit 3 W, 24 V DC	LZS:PT3A5L24	Siemens	SIE.LZS:PT3A5L24	
=ESS.ACC.F01.K01.U10-KF1	1	IM155-6 PN HF / BA 2XRJ45	6ES7155-6AU00-0CN0 / 6ES7193-6AR00-0AA0	Siemens	SIE.6ES7155-6AU00-0CN0+BA_2xRJ45	
=ESS.ACC.F01.K01.U10-KF2	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U10-KF3	1	F-DI 8X24V DC HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6BA00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6BA00-0CA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U10-KF4	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U10-KF5	1	DI 16X24V DC ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7131-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7131-6BH00-0BA0+BU15-P16+A0+2B	

REVISION	REVISION DATE	CHANGE ORDER	REASON FOR REVISION CHANGE	DRAWN BY	DATE	DRAWING TITLE	Lifecycle label:	Rev:	Page size:
				ATZ	20/09/2018	Accelerator PSS	Preliminary	2	A3
				CHECKED BY MMI	20/09/2018	PAGE TYPE Parts list	Functional location (FBS): =ESS.ACC.F01.K01.U10		
2	20/09/2018	As built	Modification based on ZHAW recommendations	APPROVED BY SBH	20/09/2018	FUNCTION FEB-020Row:CnPw-U-002 BLUE SYSTEM RIO RACK	Physical location (LBS): +G01.090.5005.101.002		
1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS			CHESS Doc. NR: ESS-0151602	Document: &PC2	



Parts list

ESS_Parts_list_ver1-2018-ATZ

FBS-Tag ESS-Name	Quantity	Designation	Type number	Manufacturer	Part number	ESS-Part no.
=ESS.ACC.F01.K01.U10-KF6	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2D	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0DA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2D	
=ESS.ACC.F01.K01.U10-KF7	1	F-DQ 4X24V DC/2A PM HF / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7136-6DB00-0CA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7136-6DB00-0CA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U10-KF8	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U10-KF9	1	DQ 16X24V DC/0,5A ST / BASEUNIT TYPE A0, BU15-P16+A0+2B	6ES7132-6BH00-0BA0 / 6ES7193-6BP00-0BA0	Siemens	SIE.6ES7132-6BH00-0BA0+BU15-P16+A0+2B	
=ESS.ACC.F01.K01.U10-QB1	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U10-QB2	1	ISOLATOR 32A DOUBLE POLE	5TL1232-0	Siemens	SIE.5TL1232-0	
=ESS.ACC.F01.K01.U10-RB1	1	SITOP UPS1600	6EP4134-3AB00-2AY0	Siemens	SIE.6EP4134-3AB00-2AY0	
=ESS.ACC.F01.K01.U10-TA1	1	SITOP PSU100S	6EP1334-2BA20	Siemens	SIE.6EP1334-2BA20	
=ESS.ACC.F01.K01.U10-X1	1	Feed-through terminal block	PT 4	Phoenix Contact	PXC.3211757	
=ESS.ACC.F01.K01.U10-X1	1	Feed-through terminal block	PT 4 BU	Phoenix Contact	PXC.3211760	
=ESS.ACC.F01.K01.U10-X1	1	Ground modular terminal block	PT 4-PE	Phoenix Contact	PXC.3211766	
=ESS.ACC.F01.K01.U10-X2	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U10-X2	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	
=ESS.ACC.F01.K01.U10-X2	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U10-X3	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U10-X3	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U10-X4	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U10-X4	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U10-X5	16	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U10-X5	1	End cover	D-PT 2,5-MT	Phoenix Contact	PXC.3211003	
=ESS.ACC.F01.K01.U10-X6	8	Knife disconnect terminal block	PT 2,5-MT	Phoenix Contact	PXC.3210156	
=ESS.ACC.F01.K01.U10-X6	1	End clamp	CLIPFIX 35-5	Phoenix Contact	PXC.3022276	

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1	05/07/2018	Version valid for construction	Contains: mechanical drawings & electrical circuit diagrams	DESIGN SITE ESS		BLUE SYSTEM RIO RACK	CHESS Doc. NR: ESS-0151602	Document: &PC3	



