

NOTES:

- △ 1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
- 2. REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
- 3. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
- △ 4. A MINIMUM OF 39.37 Inches [1000mm] FRONT, 7.87 Inches [200mm] TOP CLEARANCE REQUIRED. 3.94 Inches [100mm] REAR CLEARANCE IS REQUIRED ONLY FOR SEISMIC ANCHORING INSTALLATION. CLEARANCE DIMENSIONS ARE FOR AIRFLOW AND SERVICE ACCESS ONLY.
- △ 5. ALL DIMENSIONS EXCLUDES SCREW PROJECTION OUTSIDE THE ENCLOSURE.
- 6. CABLE ENTRY IS FROM TOP OF THE UNIT.
- △ 7. REFER TO TABLE FOR APPLICABLE SKUs & WEIGHT DETAILS. WEIGHT OF ONE BATTERY MODULE IS 36.38 lb [16.5 kg].
- 8. COLOR: RAL9003, GLOSS LEVEL 85%.
- 9. PROTECTION CLASS: IP20.
- 10. OPERATING TEMPERATURE: 64 - 82°F [18 - 28°C]. TO OPTIMIZE THE LIFE OF BATTERY, IT IS RECOMMENDED TO MAINTAIN 77°F [25°C].
- △ 11. THIS INFORMATION PROVIDES APPROXIMATE CENTER OF GRAVITY CALCULATION.
- 12. BATTERY RACKS CAN BE CONNECTED SIDE BY SIDE AND BACK TO BACK. REFER TO INSTALLATION MANUAL FOR DETAILS.



SKU NUMBER	WEIGHT IN lb [kg]		COG IN Inch [mm]					
	Empty Rack	Fully loaded	Empty Rack			Fully loaded Rack		
			X-diection	Y-diection	z-diection	X-diection	Y-diection	Z-diection
LIBSESMG13UL	465 [211]	915 [415]	12.66 [321.5]	40.61 [1031.5]	12.25 [311.2]	12.51 [317.8]	41.79 [1061.4]	11.12 [282.4]

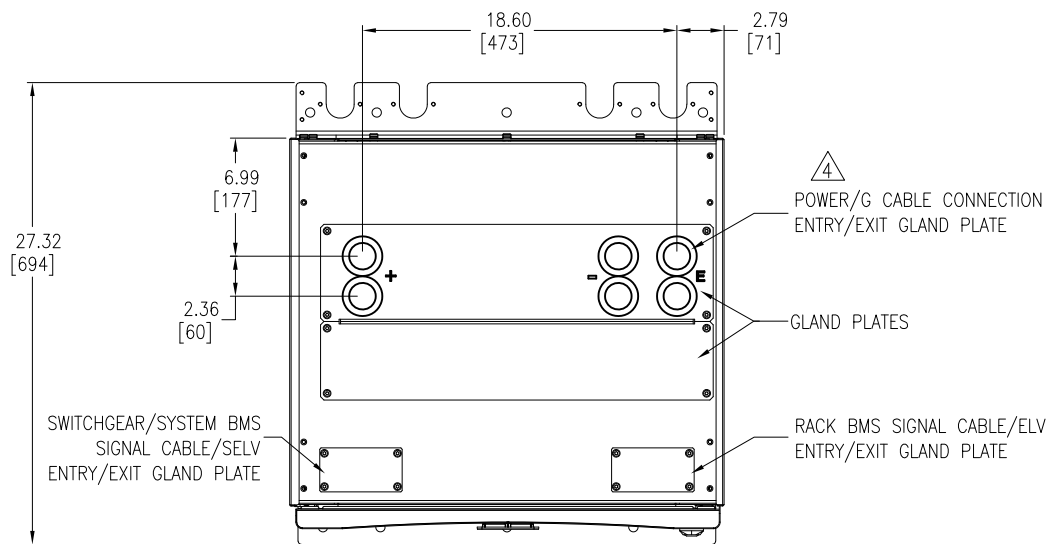
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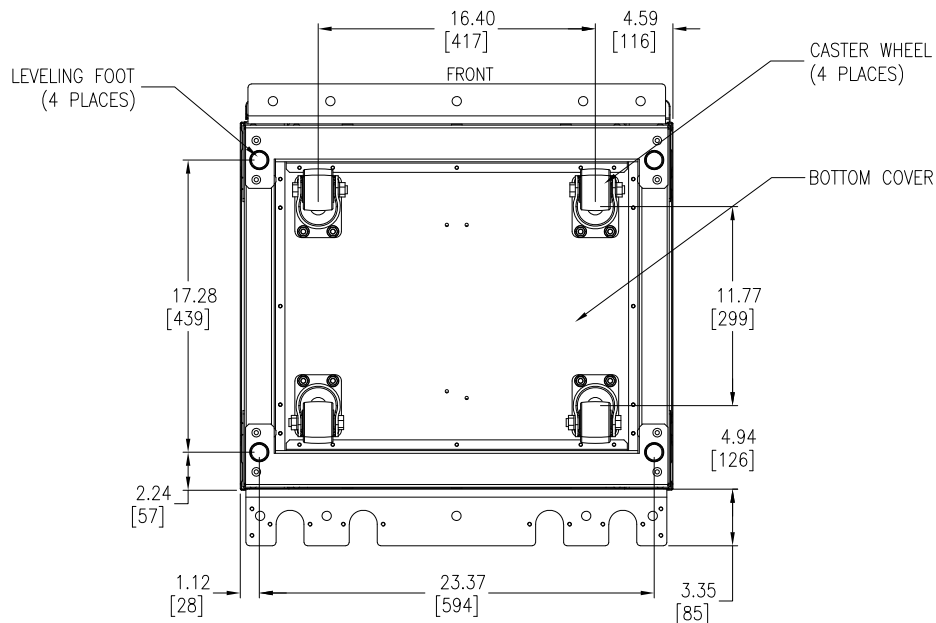
TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
GENERAL ARRANGEMENT

PROJECT: SUBMITTAL DRAWING SHEET 1 OF 9

DWG NO:	LIBSESMGMWUL	REV.	0
DRAWN BY:	Jayaprakash	10-OCT-21	THIRD
ENGINEER:	Fred XIA/Karsten	11-OCT-21	ANGLE
APPROVED BY:	Fred/Karsten/Jeffrey	11-OCT-21	PROJECTION



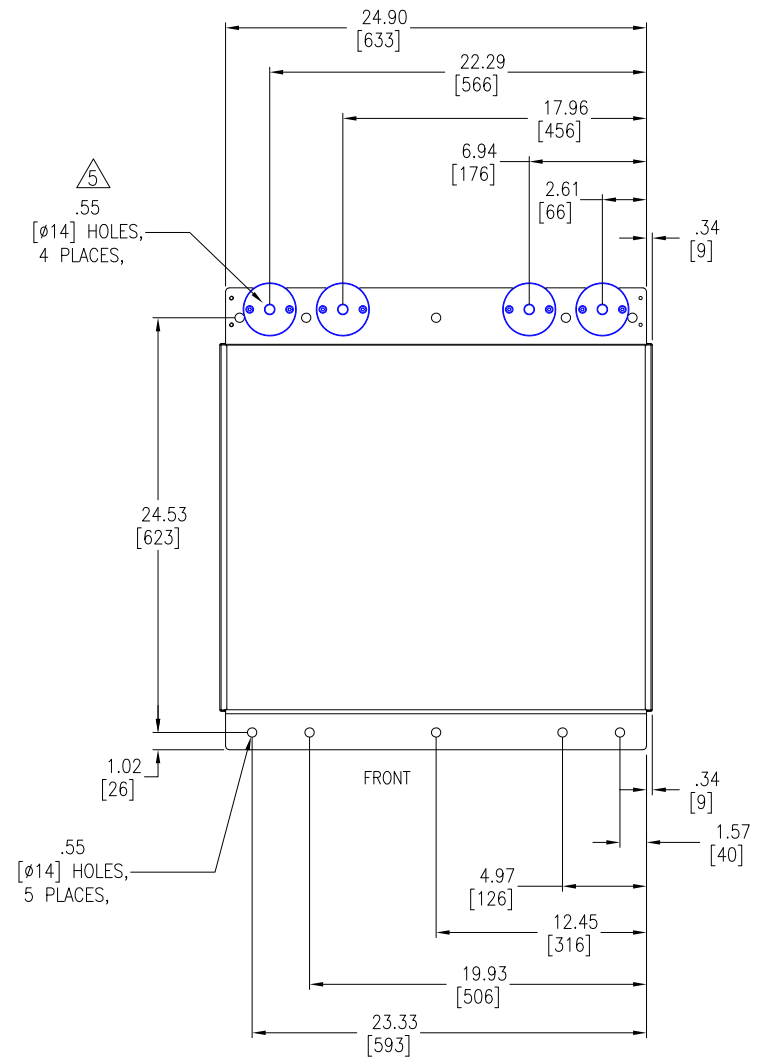
FRONT
TOP VIEW



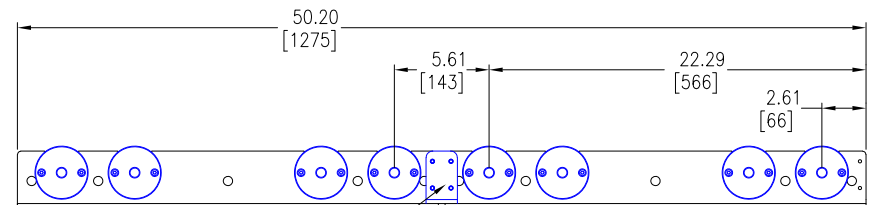
BOTTOM VIEW

- NOTES:
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 3. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
 4. DO NOT DRILL/PUNCH HOLES WITH THE GLAND PLATES INSTALLED.
REMOVE THE GLAND PLATE FROM BATTERY RACK BEFORE DRILLING/PUNCHING.
DRILL/PUNCH HOLES ACCORDING TO THE LABEL ON THE GLAND PLATE.
REMOVE THESE GLAND PLATES FOR TOP HAT CABLE ENTRY INSTALLATION.
 5. USE ACCESSORY KIT (0M-95331) TO ANCHOR THE UNIT IN SEISMIC LOCATION.
FOR SEISMIC ANCHORING, M12 SCREWS OF STRENGTH GRADE 8.8 HARDWARE ARE REQUIRED TO BE USED.

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SEISMIC ANCHORING DETAILS - 1 BATTERY RACK



△ INTER CONNECTION PLATE
SEISMIC ANCHORING DETAILS FOR MORE THAN ONE BATTERY RACK

Schneider Electric

TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
TOP/BOTTOM VIEW & ANCHORING DETAILS

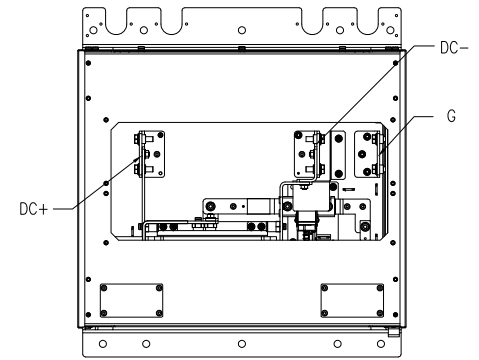
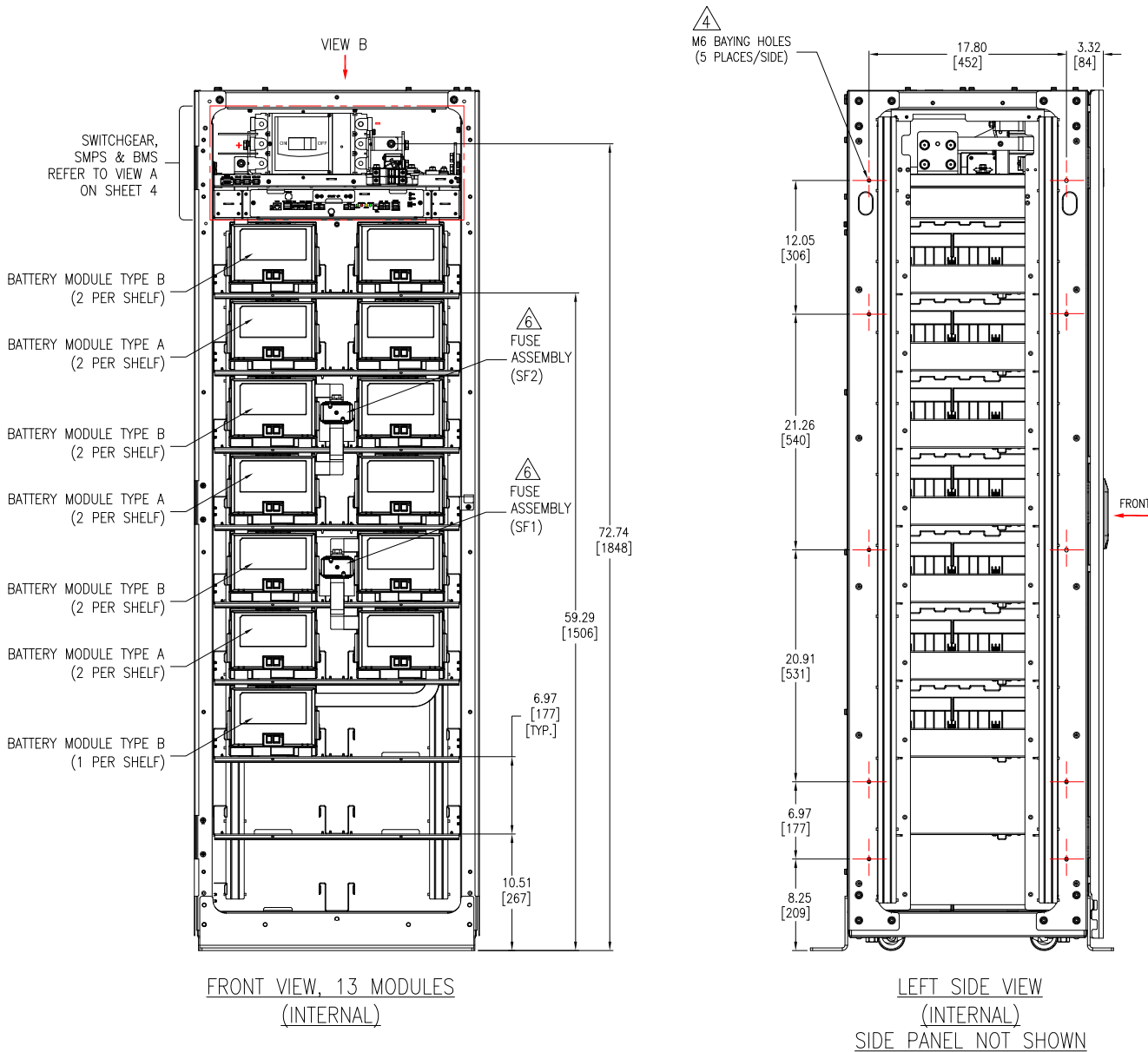
DWG NO: LIBSESMGMWUL REV. 0

DRAWN BY: JAYAPRAKASH 10-OCT-21 THIRD

ENGINEER: Fred XIA/Karsten 11-OCT-21 ANGLE

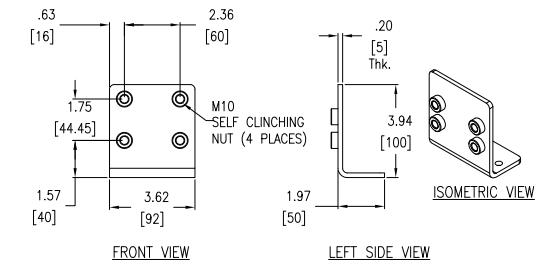
PROJECT: SUBMITTAL DRAWING SHEET 2 OF 9

APPROVED BY: Fred/Karsten/Jeffrey 11-OCT-21 PROJECTION

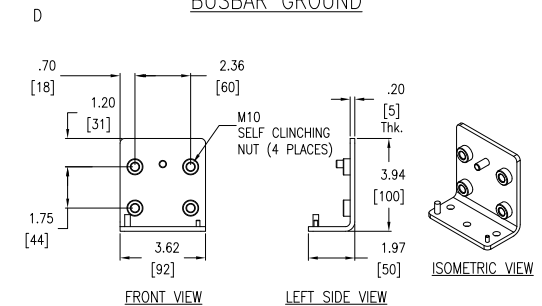


VIEW B
GLAND PLATES NOT SHOWN

BUSBAR DETAILS



BUSBAR GROUND



BUSBAR DC+/DC-

NOTE: BOLT AND NUTS ARE PROVIDED WITH THE TERMINALS.
RECOMMENDED TORQUE FOR M10 BOLTS IS 22.13 lb-ft [30Nm]

- NOTES:**
- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
 - REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
 - ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
 - USE M6x16 SCREWS FOR MOUNTING MULTIPLE RACKS SIDE BY SIDE. REMOVE SIDE PANELS OF ADJACENT BATTERY RACKS WHILE BAYING.
 - THE SYSTEM BMS IS LOCATED IN BATTERY RACK 1 ONLY.
 - FUSE TYPE: Merson MPN PC33UD69V500TF OR LITTLEFUSE MPN PSR033FL0500Z WITH 500A 600Vdc 100KAIC.
 - SOME STRUCTURAL DETAILS HAVE BEEN OMITTED FOR THE PURPOSE OF CLARITY.

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TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
INTERNAL VIEWS

PROJECT: SUBMITTAL DRAWING **SHEET 3 OF 9**

DWG NO: LIBSESMGMWUL **REV.** 0

DRAWN BY: JAYAPRAKASH 10-OCT-21 **THIRD**

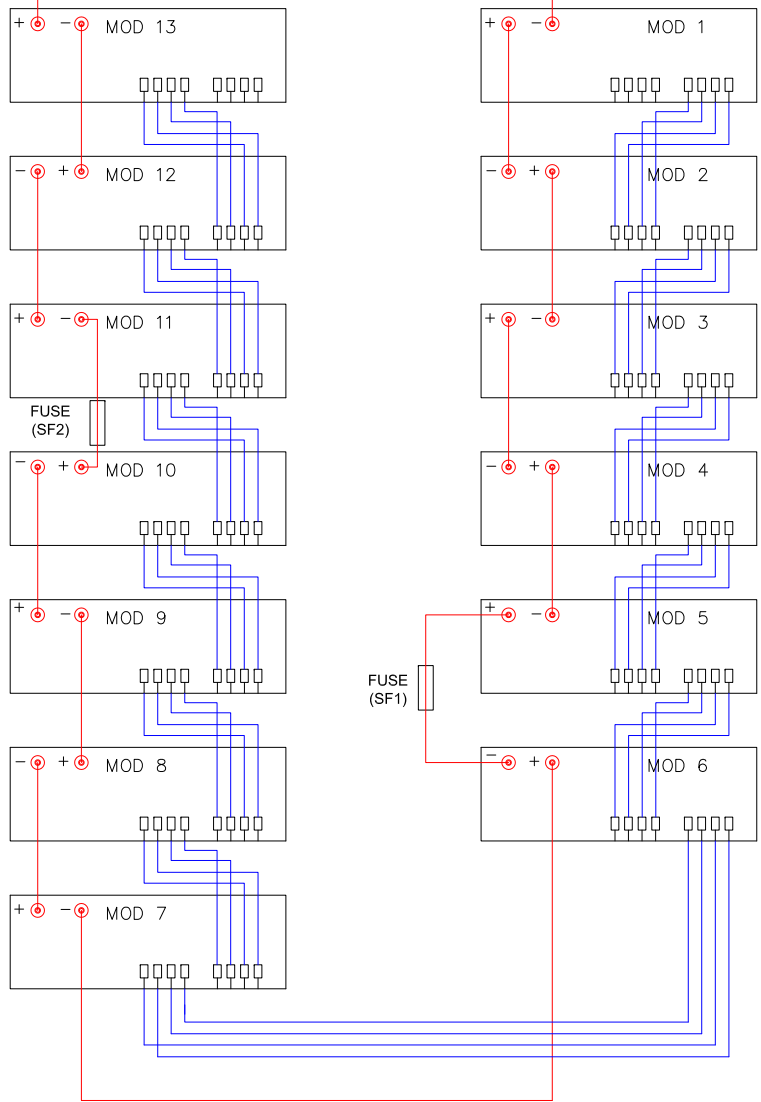
ENGINEER: Fred XIA/Karsten 11-OCT-21 **ANGLE**

APPROVED BY: Fred/Karsten/Jeffrey 11-OCT-21 **PROJECTION**

13 MODULES/STRING

BATT+

BATT-



LEGEND:

CONTROL CABLE —————
 BUS BAR —————

NOTES:

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TITLE:
 Lithium-ion Battery cabinet
 Symmetra MW, UL
 CABLING DIAGRAM

DWG NO: LIBSESMGMWUL

REV. 0

DRAWN BY: JAYAPRAKASH 10-OCT-21

THIRD

ENGINEER: Fred XIA/Karsten 11-OCT-21

ANGLE

PROJECT: SUBMITTAL DRAWING **SHEET** 4 OF 9

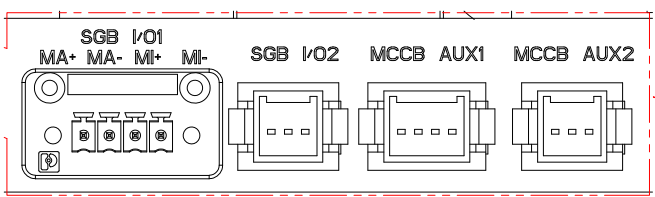
APPROVED BY: Fred/Karsten/Jeffrey 11-OCT-21

PROJECTION

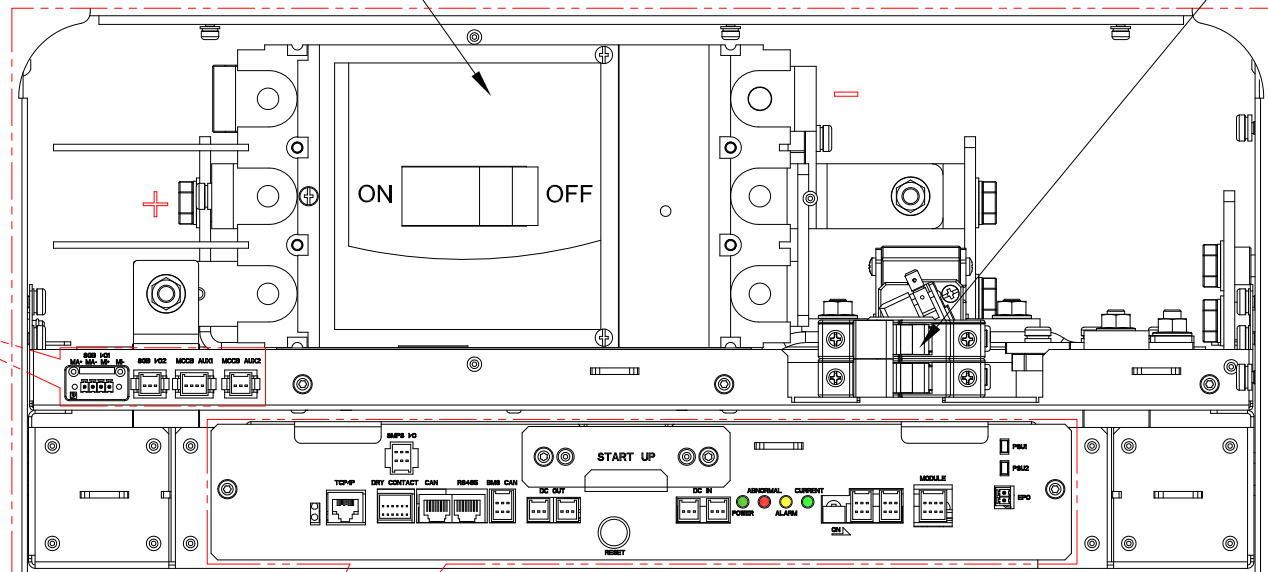
MCCB SETTINGS:
 $I_m = 1500A$
 APPLY TO ALL CONFIGURATIONS.

MCCB ($U_i=750V$; $I_n=600A$ dc)

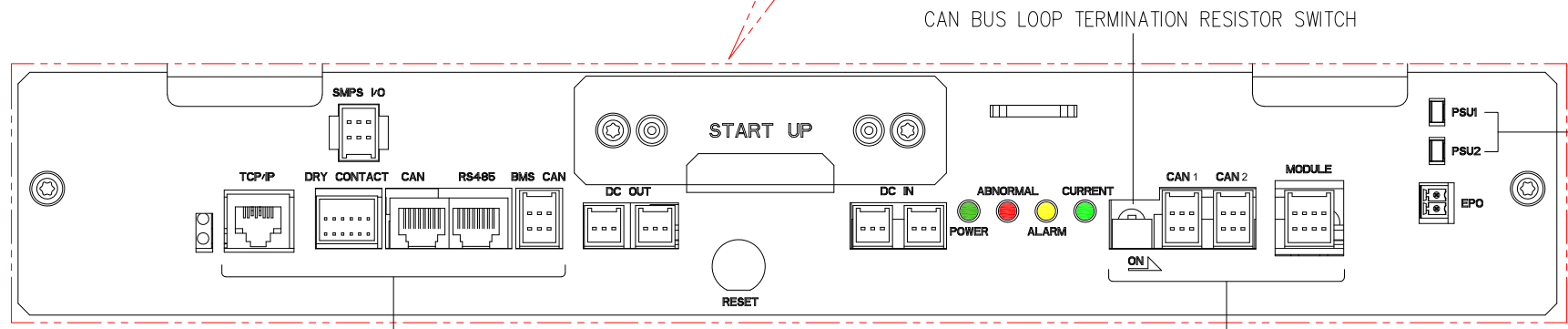
3 SMPS FUSES



SWITCHGEAR PORTS



VIEW A (ENLARGED)
 SWITCHGEAR SMPS AND BMS



SYSTEM BMS PORTS

SMPS AND BMS

RACK BMS PORTS

CABLING NOTES:
 CANBUS COMMUNICATIONS BETWEEN RACKS IS SUPPLIED AND INSTALLED BY SCHNEIDER ELECTRIC.

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 2. REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
 3. FUSE TYPE: LITTLEFUSE MPN OSPF003.T OR EQUIVALENT WITH 3A 1000Vdc 20KAIC.
 4. THE SYSTEM BMS IS LOCATED IN BATTERY RACK 1 ONLY.

THIS DRAWING AND SPECIFICATIONS HEREIN ARE THE PROPERTY OF SCHNEIDER ELECTRIC AND SHALL NOT BE COPIED, REPRODUCED OR USED IN WHOLE OR IN PART, AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION FROM SCHNEIDER ELECTRIC. THIS DRAWING IS BASED UPON LATEST AVAILABLE INFORMATION AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

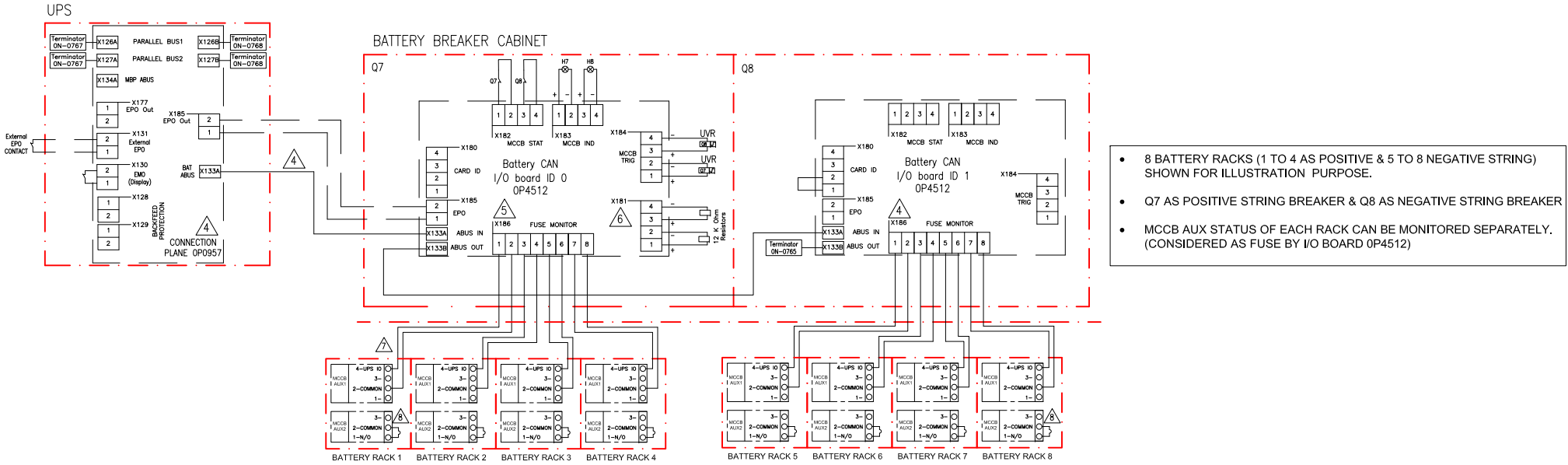


TITLE:
 Lithium-ion Battery cabinet
 Symmetra MW, UL
 INTERNAL VIEWS

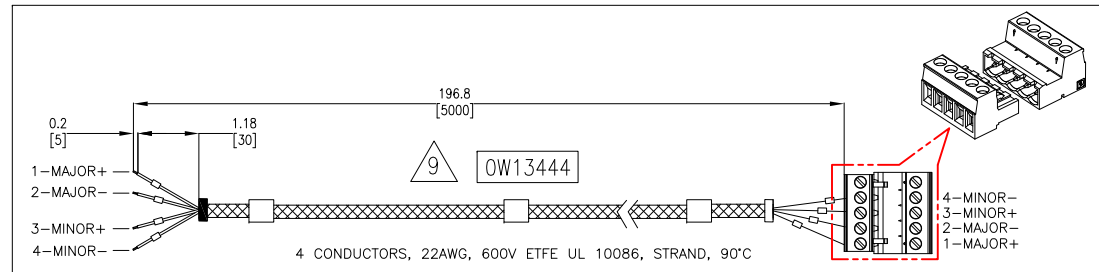
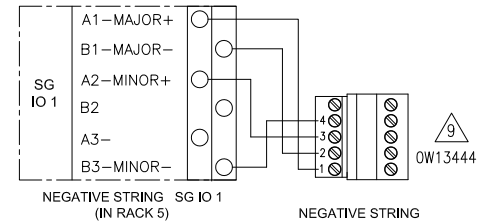
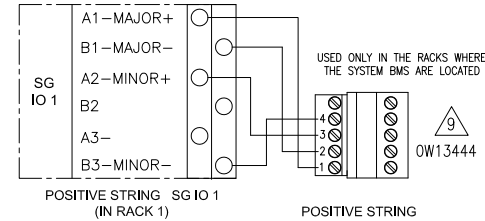
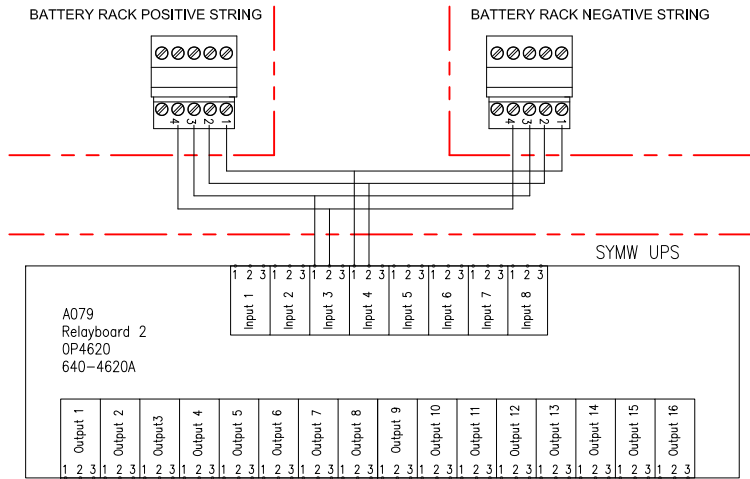
PROJECT: SUBMITTAL DRAWING SHEET 5 OF 9

DWG NO:	LIBSESMGMWUL	REV:	0
DRAWN BY:	JAYAPRAKASH	10-OCT-21	ANGLE
ENGINEER:	Fred XIA/Karsten	11-OCT-21	PROJECTION
APPROVED BY:	Fred/Karsten/Jeffrey	11-OCT-21	N.A.

INTERFACE DETAILS WHEN BATTERY RACK ARE CONNECTED TO THE SYMW UPS



DRY CONTACT MANAGEMENT



NOTES:

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3. ALL DIMENSIONS ARE IN INCHES [MILLIMETERS].
- △ 4. 15 CONDUCTOR IS SHIELDED TWISTED PAIR PROVIDED BY Schneider Electric.
- △ 5. UNUSED FUSE TERMINALS SHOULD BE FITTED WITH JUMPERS.
- △ 6. X181 CONNECTION IS APPLICABLE FOR FIRMWARE VERSION 24.87 ONLY. FOR LATER VERSION OF FIRMWARE, THESE TERMINAL CAN BE USED FOR TEMPERATURE SENSOR.
- △ 7. USE THE PROVIDED OW76929 TO CONNECT MCCB AUX 1 TO I/O BOARD 0P4512.
- △ 8. USE THE PROVIDED OW76930 TO CONNECT MCCB AUX 2 TO CONTACT.
- △ 9. USE THE PROVIDED OW13444 TO CONNECT MAJOR & MINOR FAULT CONTACTS. OW13444 IS A CABLE KIT WITH PLUG & SOCKET CONNECTOR FOR AN EXTENDED CONNECTION. THE ORIGINAL LENGTH OF OW13444 IS 5000mm. PLEASE CONTACT Schneider Electric IF CUSTOMER WANTS TO HAVE A SHORTER LENGTH OTHER THAN 5000mm INSIDE THE RACKS.

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Schneider Electric

TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
INTERFACE DETAILS

PROJECT: SUBMITTAL DRAWING **SHEET** 6 OF 9

DWG NO: LIBSESMGMWUL **REV.** 0

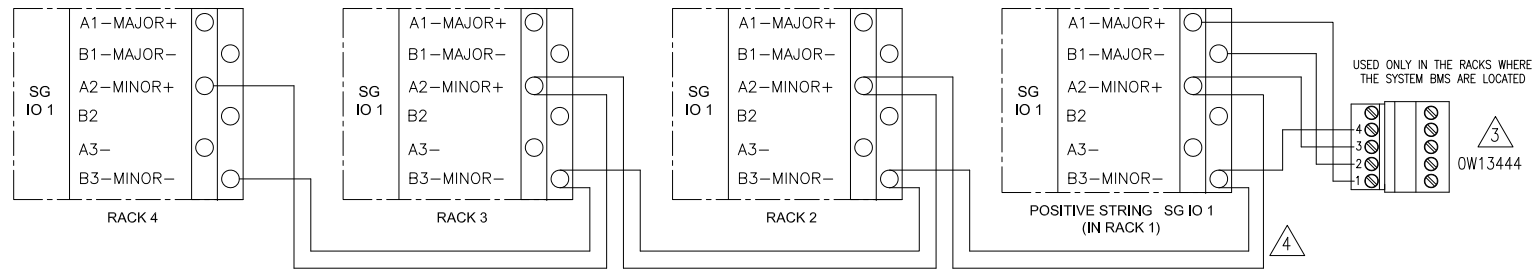
DRAWN BY: JAYAPRAKASH 10-OCT-21 **ANGLE**

ENGINEER: Fred XIA/Karsten 11-OCT-21 **PROJECTION**

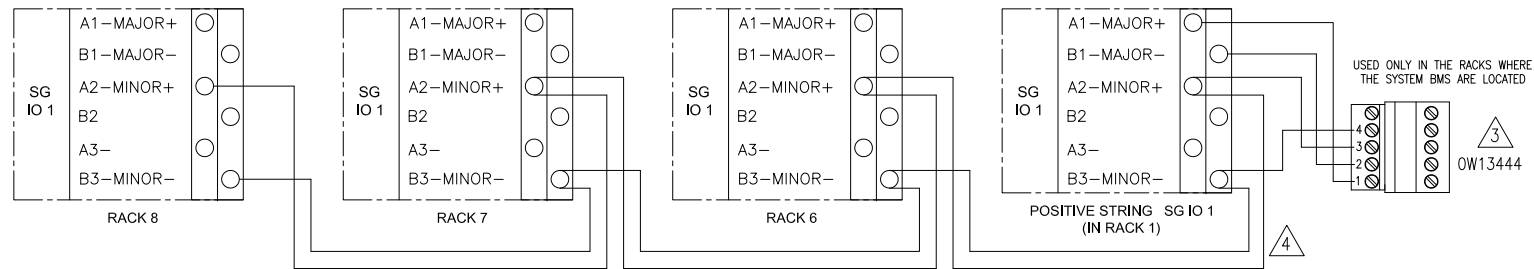
APPROVED BY: Fred/Karsten/Jeffrey 11-OCT-21 **N. A.**

INTERFACE DETAILS WHEN TWO STRINGS CONNECTED TO UPS

POSITIVE STRING



NEGATIVE STRING



NOTES:

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2. REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
- △ 3. USE THE PROVIDED OW13444 TO CONNECT MAJOR & MINOR FAULT CONTACTS.
- △ 4. USE THE PROVIDED OW76972 TO CONNECT MINOR FAULT ALARM CONTACTS.

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Schneider
Electric

TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
INTERFACE DETAILS 1

PROJECT: SUBMITTAL DRAWING SHEET 7 OF 9

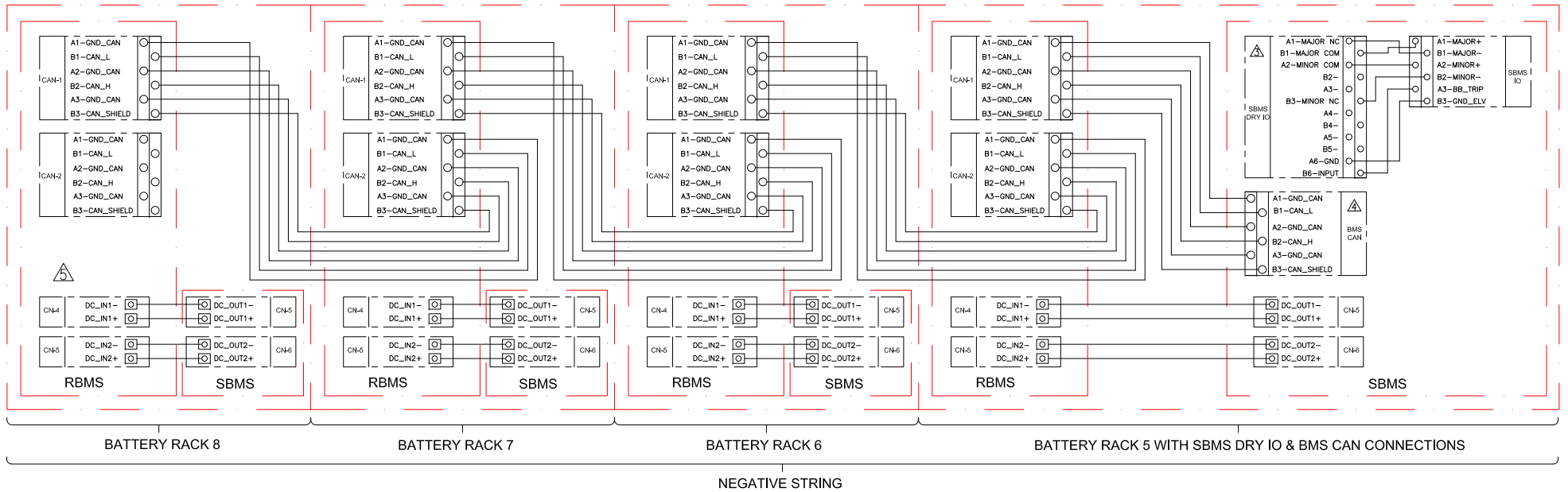
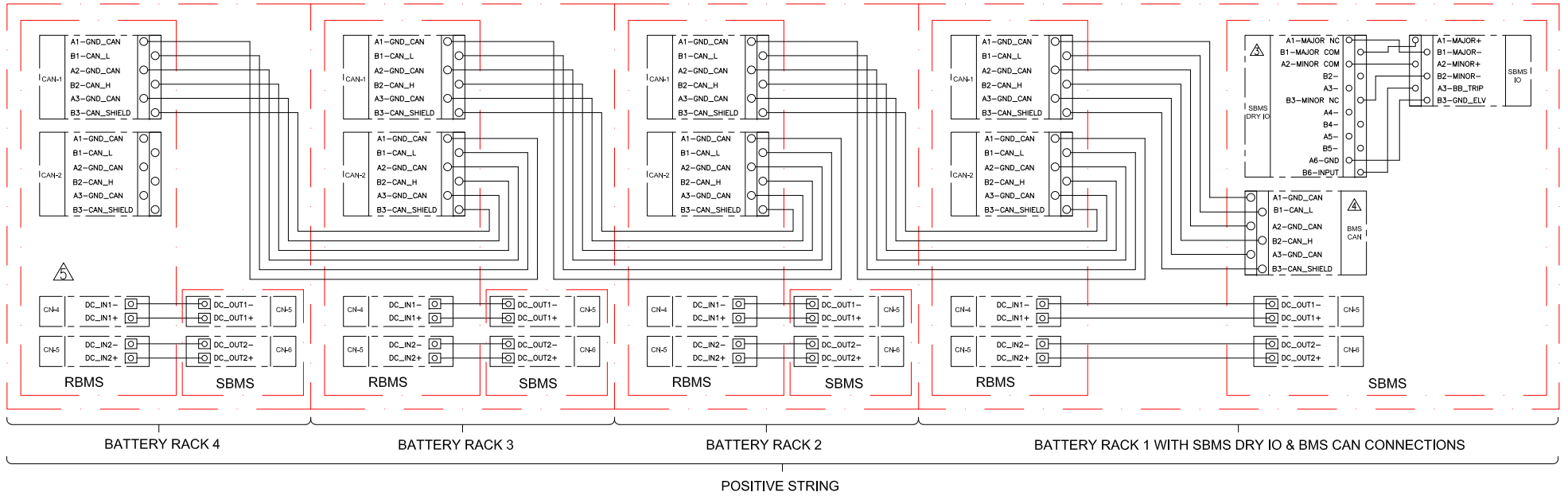
DWG NO: LIBSESMGMWUL REV. 0

DRAWN BY: JAYAPRAKASH 10-OCT-21 ANGLE

ENGINEER: Fred XIA/Karsten 11-OCT-21 PROJECTION

APPROVED BY: Fred/Karsten/Jeffrey 11-OCT-21 N.A.

BMS WIRING DETAILS UP TO EIGHT BATTERY RACKS (FOUR RACKS PER STRING)



NOTES:

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3. **SBMS DRY IO** IS CONNECTED IN BATTERY RACK 1 OF POSITIVE STRING AND BATTERY RACK 5 OF NEGATIVE STRING ONLY.
4. **BMS CAN** IS CONNECTED IN BATTERY RACK 1 OF POSITIVE STRING AND BATTERY RACK 5 OF NEGATIVE STRING ONLY.
5. SLIDE THE **CAN** BUS LOOP TERMINATION RESISTOR SWITCH TO **ON** POSITION IN THE LAST ONE BATTERY RACK.

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TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
INTERFACE DETAILS-SBMS TO RBMS

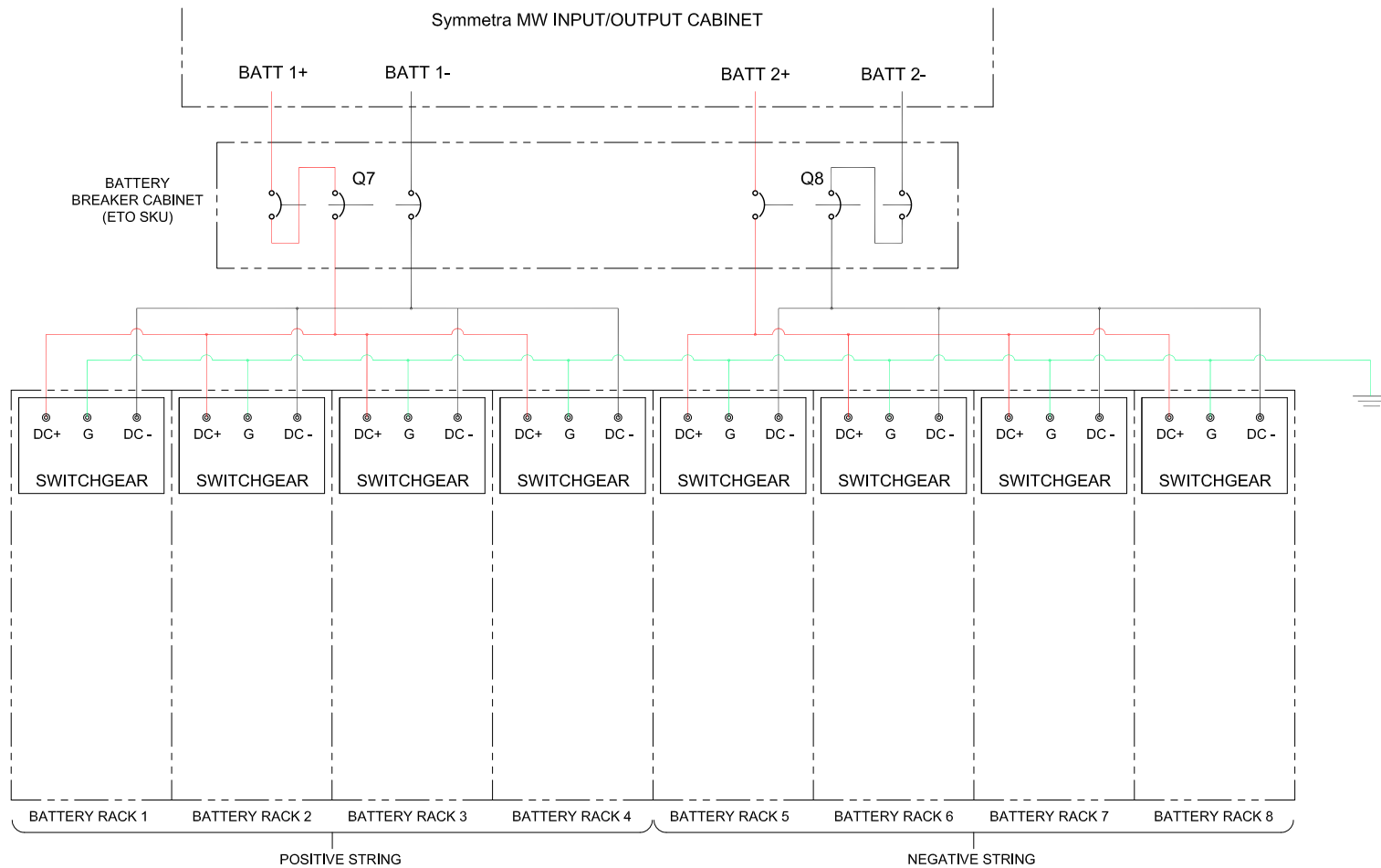
PROJECT: SUBMITTAL DRAWING SHEET 8 OF 9

DWG NO: LIBSESMGMWUL REV. 0

DRAWN BY: JAYAPRAKASH 10-OCT-21 ANGLE

ENGINEER: Fred XIA/Karsten 11-OCT-21 PROJECTION

APPROVED BY: Fred/Karsten/Jeffrey 11-OCT-21 N.A.



8 BATTERY RACKS (1 TO 4 POSITIVE STRING & 5 TO 8 NEGATIVE STRING) SHOWN FOR ILLUSTRATION PURPOSE

Recommended Battery Cable size: 350kcmil (Positive, Negative & Ground)

ELECTRICAL DATA	
SKU Number/Model	LIBSESMG13UL
Number of Battery Modules	13
Number of Type-A Battery Modules	6
Number of Type-B Battery Modules	7
Number of Battery cells in a string	104
Nominal Energy (kWh)	26.5
Nominal Battery Voltage (VDC)	395
Nominal capacity (Ah)	67
Charge current rate (CA rate)	0.7
Float charge Voltage (VDC)	436
End of discharge Voltage (VDC)	312
Maximum continuous discharge power (kW)	140
Peak current at end of discharge (A)	450
Short circuit rating RMS value (kA)	2.9

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 - ONE SBMS IS LOCATED IN BATTERY RACK 1 OF POSITIVE STRING AND ANOTHER SBMS IN BATTERY RACK 5 OF NEGATIVE STRING.
 - Symmetra MW SOLUTIONS WITH 13 BATTERY MODULES/RACK REQUIRES A MINIMUM OF 1 POSITIVE AND 1 NEGATIVE STRING.
 - UP TO 16 BATTERY RACKS (8 STRINGS) CAN BE CONNECTED DEPENDING UPON POWER AND RUNTIME REQUIREMENTS. CONTACT APPLICATION ENGINEERING TEAM FOR CONFIGURATION WITH MORE THAN 8 STRINGS.

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TITLE:
Lithium-ion Battery cabinet
Symmetra MW, UL
SCHEMATIC DIAGRAM

DWG NO: LIBSESMGMWUL

REV. 0

DRAWN BY: JAYAPRAKASH 10-OCT-21 ANGLE

ENGINEER: Fred XIA/Karsten 11-OCT-21 PROJECTION

PROJECT: SUBMITTAL DRAWING **SHEET:** 9 OF 9 **APPROVED BY:** Fred/Karsten/Jeffrey 11-OCT-21 N.A.