

DESCRIPTION:
COMMS SINGLE LINE

SYSTEM TYPE:
TESLA

REV.	DESCRIPTION	DATE	BY
1	SINGLE LINE PUBLISHED	01.04.24	KM
2	ETB CONTROLLER UPDATE	07.16.24	LL
3	CONTROL CENTER UPDATE	09.24.24	LL



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ETB Controller
Installation
Manuals

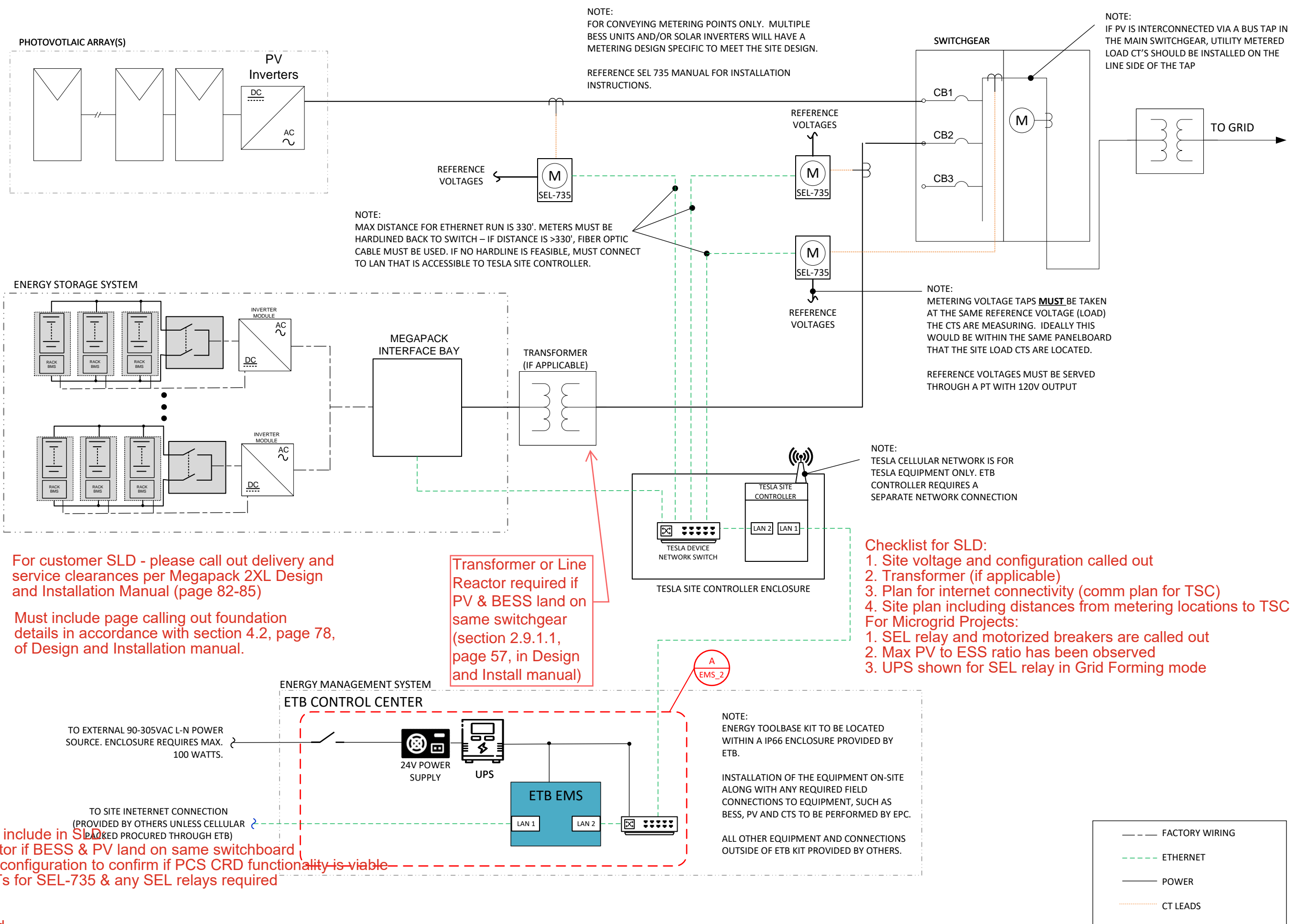
TITLE:
ETB CONTROLLER
SINGLE LINE

DRAWING NUMBER:
EMS_1

SCALE:
NS

SHEET:
1 OF 5

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CONDITIONS ELECTRICAL
CODES, UTILITY
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CODE ENFORCEMENT.



For customer SLD - please call out delivery and service clearances per Megapack 2XL Design and Installation Manual (page 82-85)

Must include page calling out foundation details in accordance with section 4.2, page 78, of Design and Installation manual.

Transformer or Line Reactor required if PV & BESS land on same switchgear (section 2.9.1.1, page 57, in Design and Install manual)

- Checklist for SLD:**
1. Site voltage and configuration called out
 2. Transformer (if applicable)
 3. Plan for internet connectivity (comm plan for TSC)
- For Microgrid Projects:**
1. SEL relay and motorized breakers are called out
 2. Max PV to ESS ratio has been observed
 3. UPS shown for SEL relay in Grid Forming mode

Things to include in SLD:
 Line reactor if BESS & PV land on same switchboard
 Metering configuration to confirm if PCS CRD functionality is viable
 PTs & CTs for SEL-735 & any SEL relays required

*Microgrid
 - SEL 700G relay

DESCRIPTION:
NETWORKING DIAGRAM W/ LTE

SYSTEM TYPE:
TESLA

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TITLE:
ETB CONTROLLER
SINGLE LINE

DRAWING NUMBER:
EMS_2

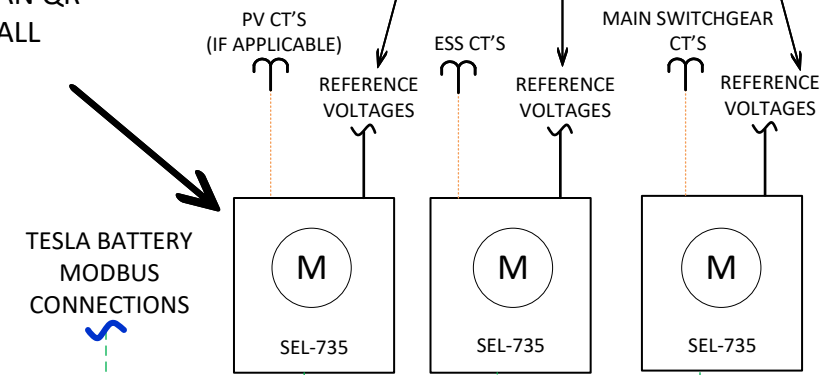
SCALE:
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SHEET:
2 OF 5

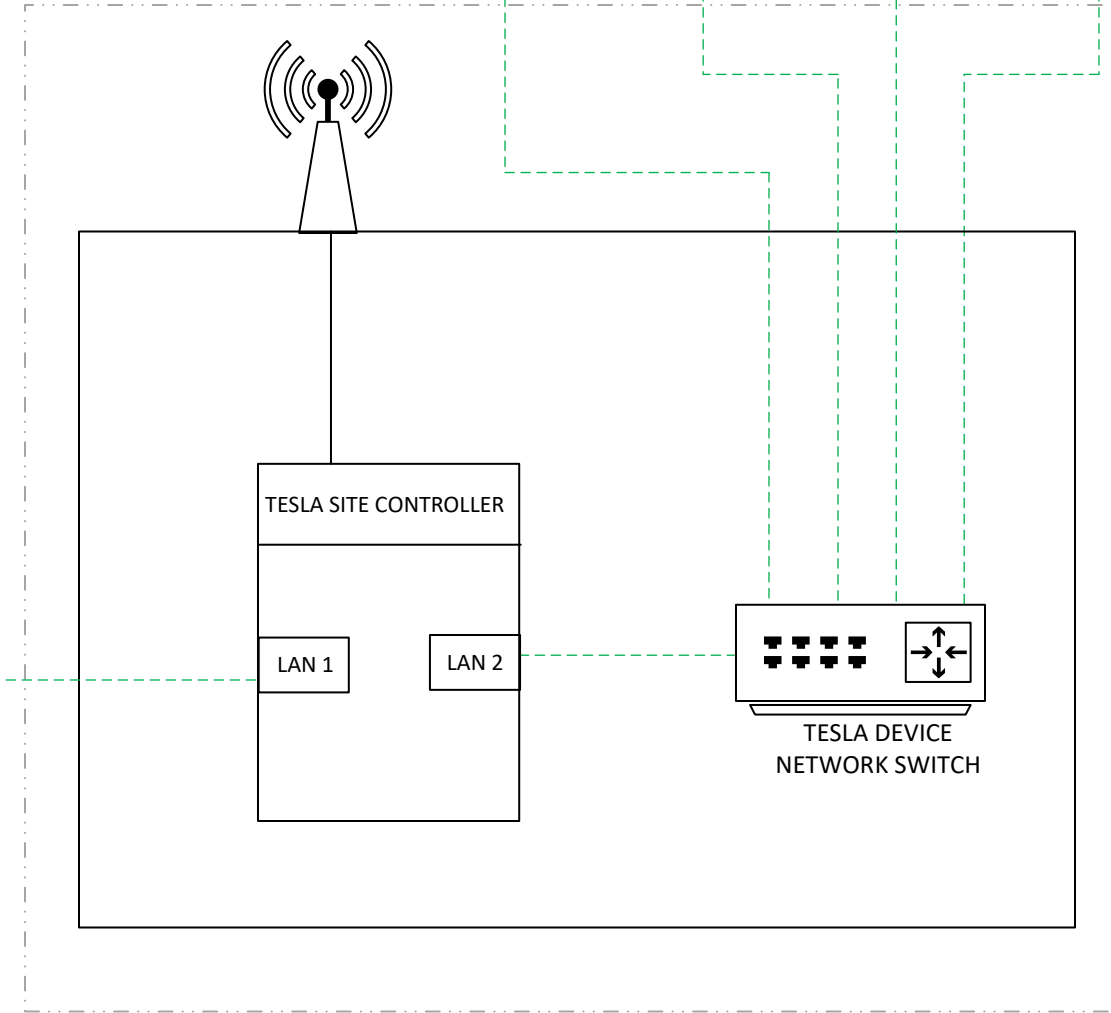
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REFERENCE SEL 735 MANUAL
FOR INSTALLATION. SCAN QR
CODE FOR ETB INSTALL
GUIDES.

REFERENCE VOLTAGES MUST BE SERVED
THROUGH A PT WITH 120V OUTPUT



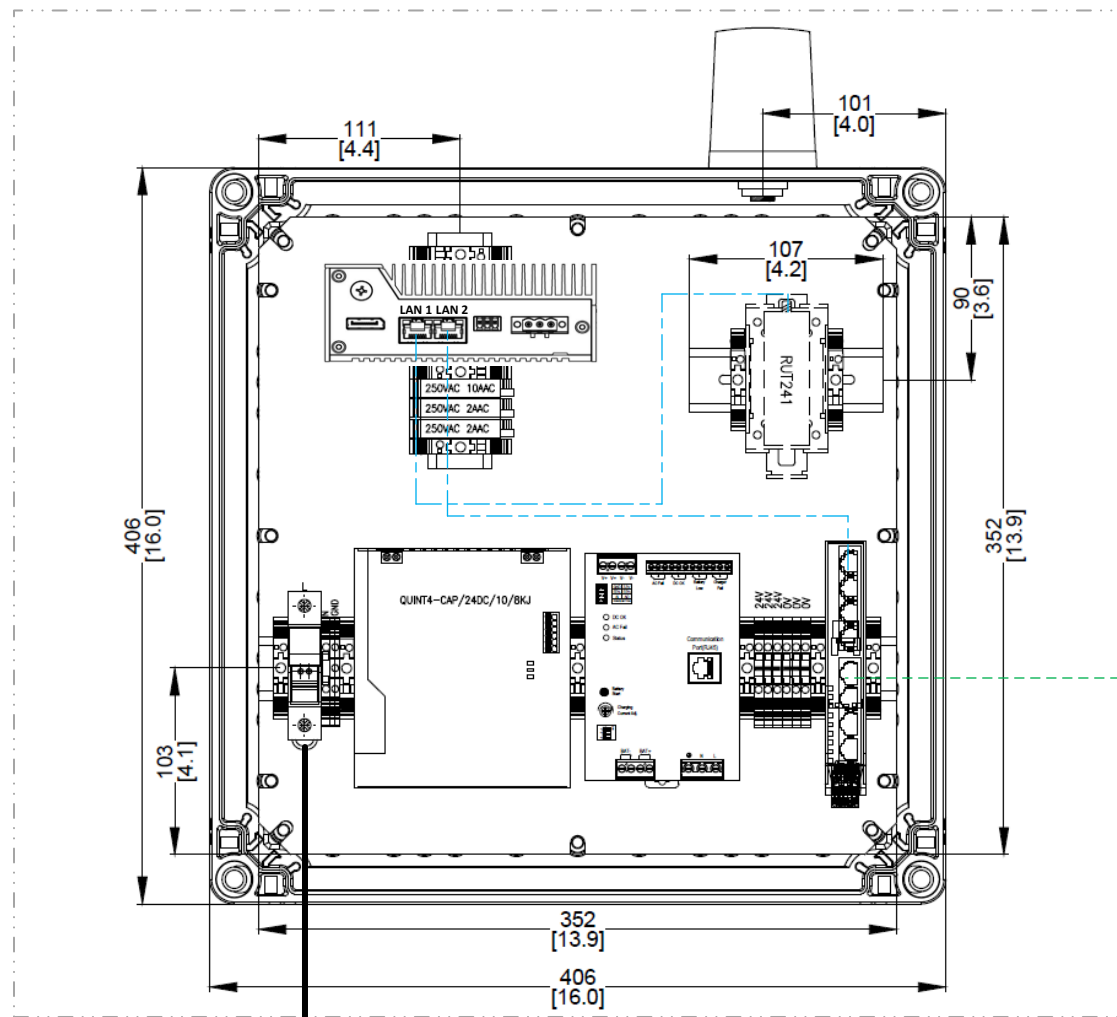
TESLA SITE CONTROLLER ENCLOSURE



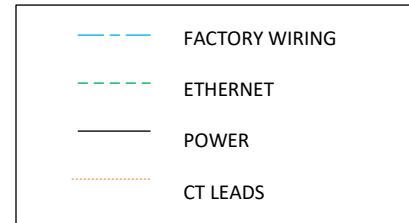
ENERGY STORAGE
SYSTEM MODBUS/TCP
DATA CONNECTION

ETHERNET (CAT5/6) TO
NETWORK SWITCH
MAX LENGTH: 330'

ETB CONTROL CENTER + LTE



INPUT POWER:
90-305VAC L-N
100W MAX. OPERATING
POWER



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ETB CONTROLLER
SINGLE LINE

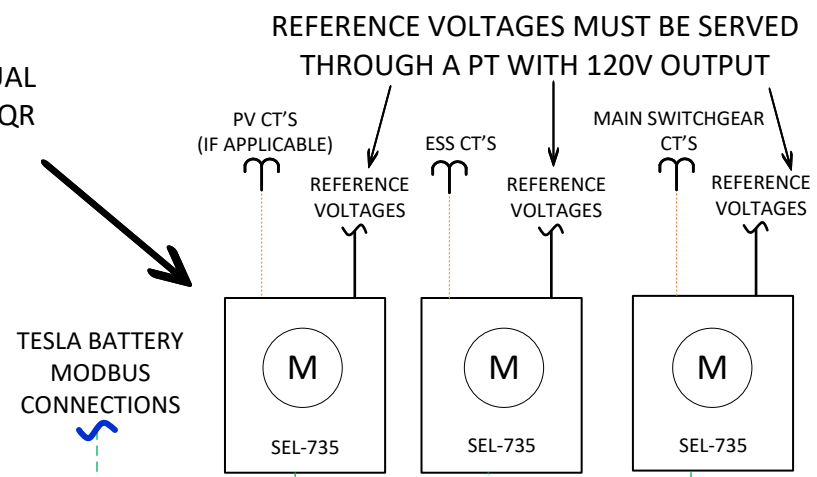
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SCALE:
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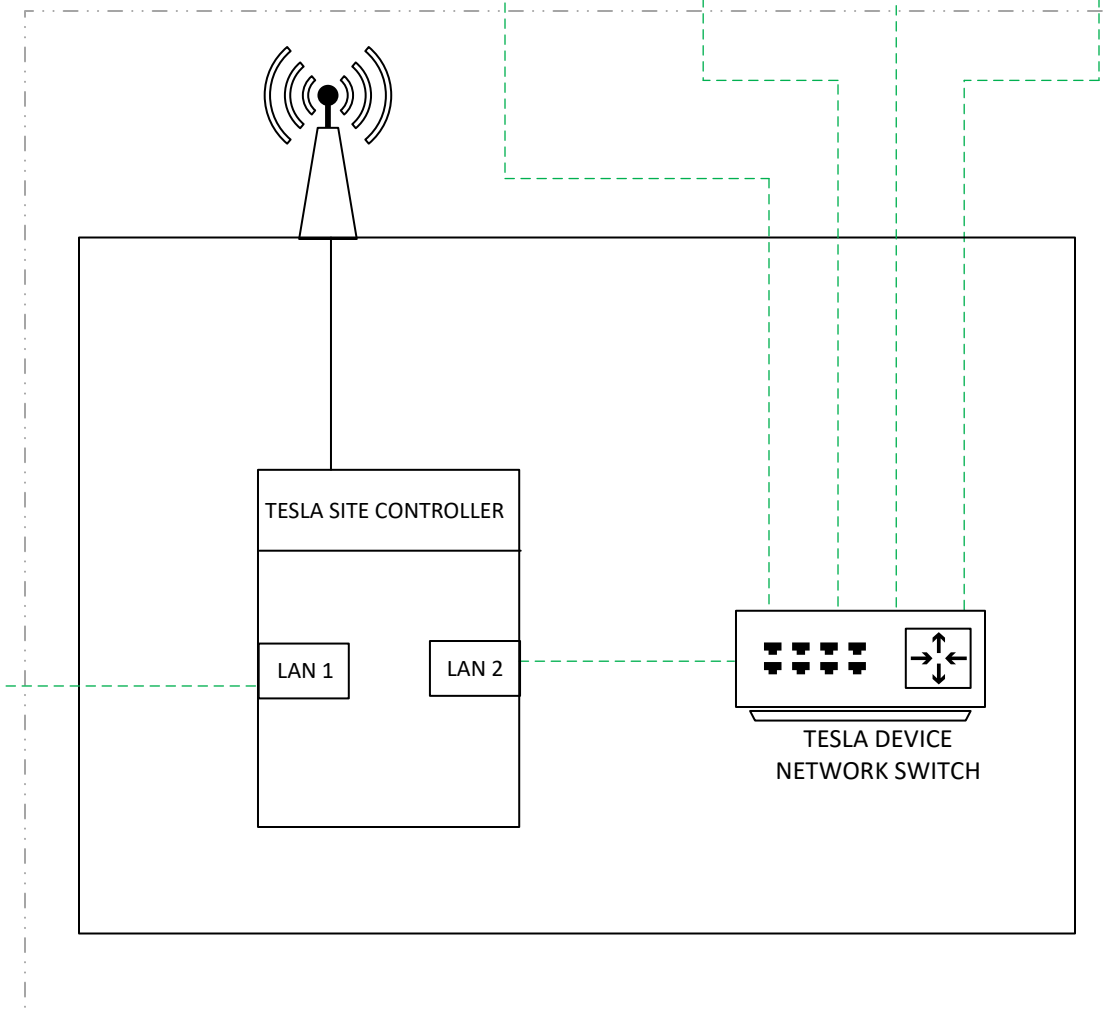
SHEET:
3 OF 5

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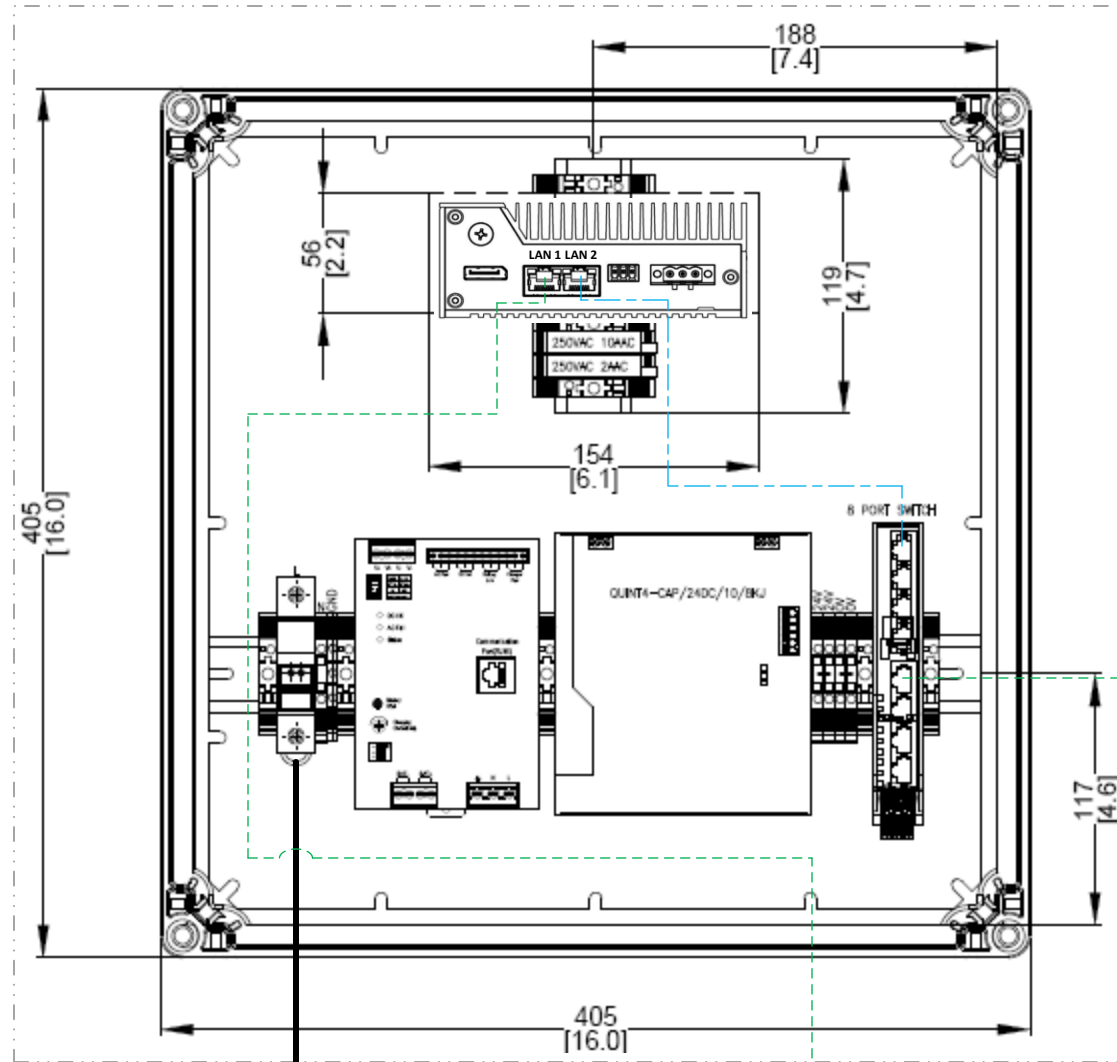


TESLA SITE CONTROLLER ENCLOSURE



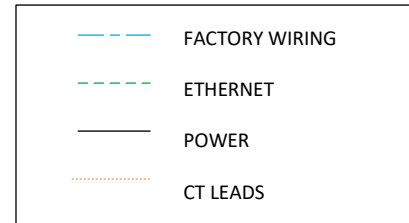
ENERGY STORAGE
SYSTEM MODBUS/TCP
DATA CONNECTION
ETHERNET (CAT5/6) TO
NETWORK SWITCH
MAX LENGTH: 330'

ETB CONTROL CENTER



SITE POWER:
90-305VAC L-N POWER
SOURCE. ENCLOSURE
REQUIRES MAX. 100 WATTS.

ETB DEDICATED SITE INTERNET
CONNECTION:
CAT5/6 TO EMS PC LAN 1 SWITCH



DESCRIPTION:
ETB CONTROL CENTER DETAILS

SYSTEM TYPE:
TESLA

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SINGLE LINE

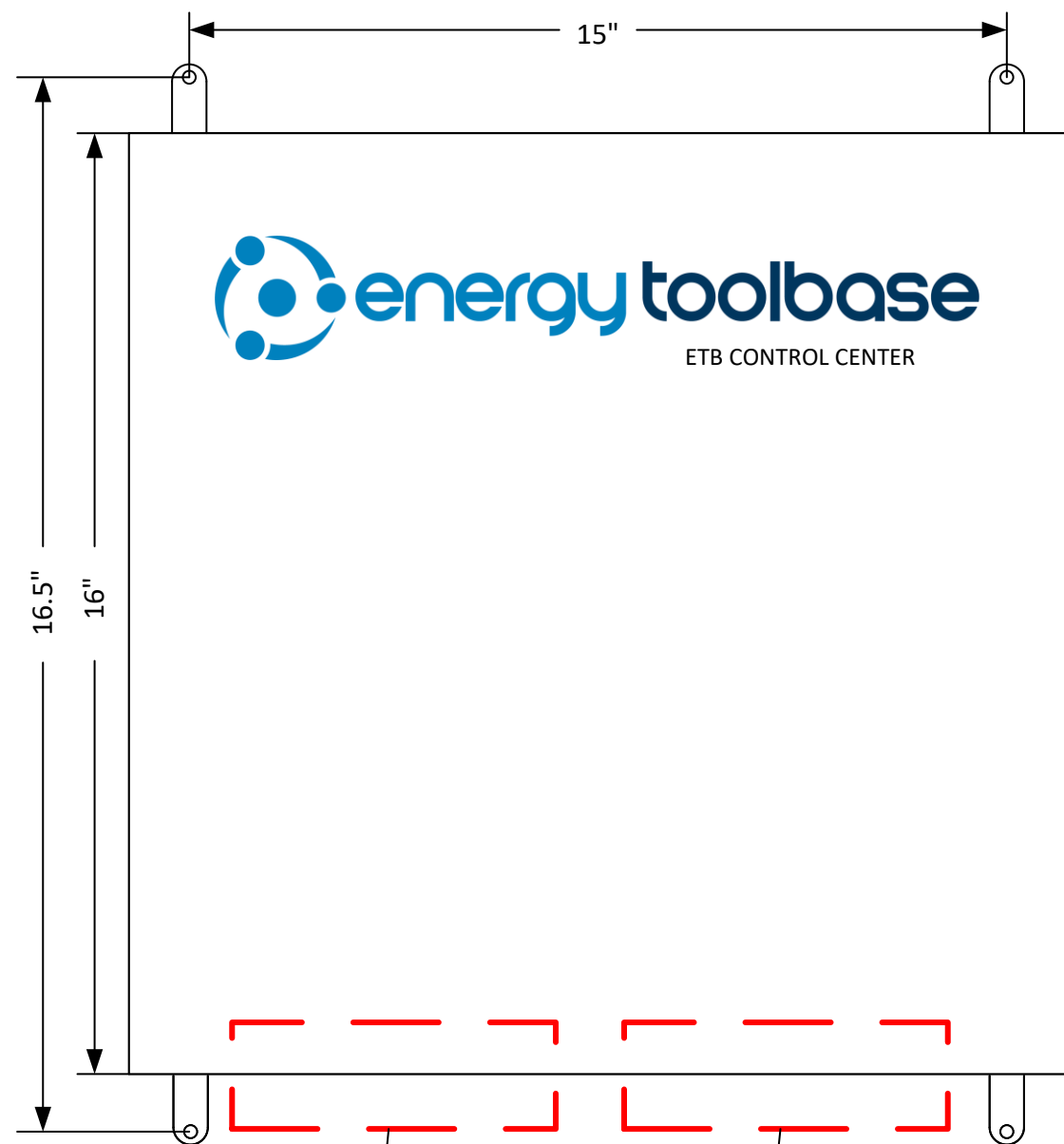
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SCALE:
NS

SHEET:
4 OF 5

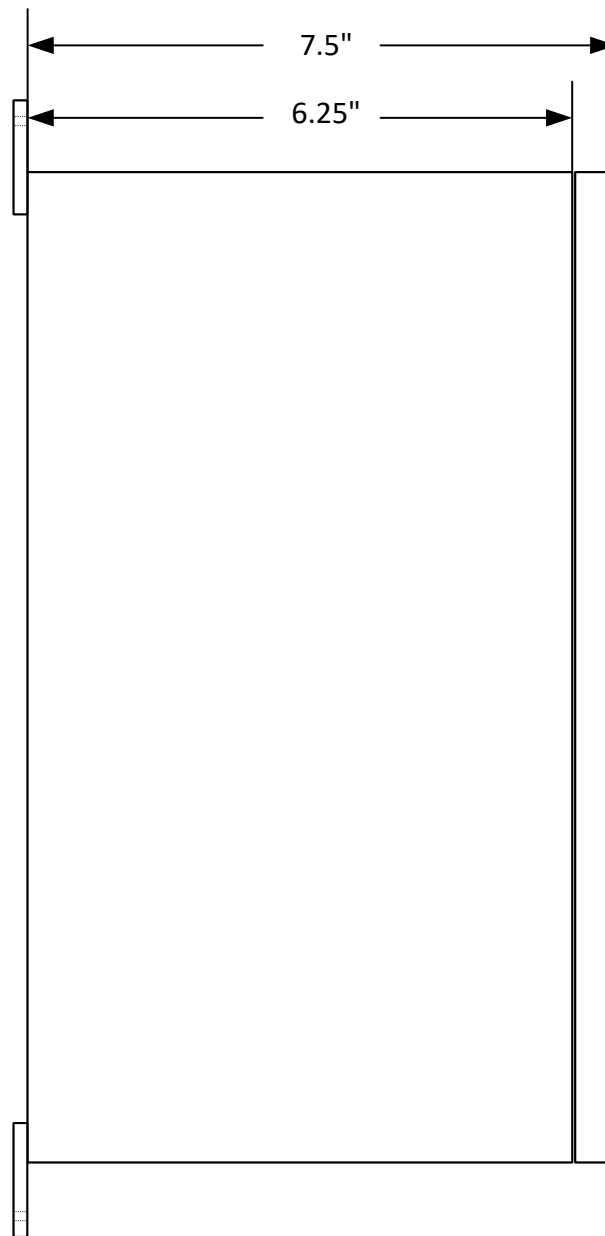
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ETB CONTROL CENTER



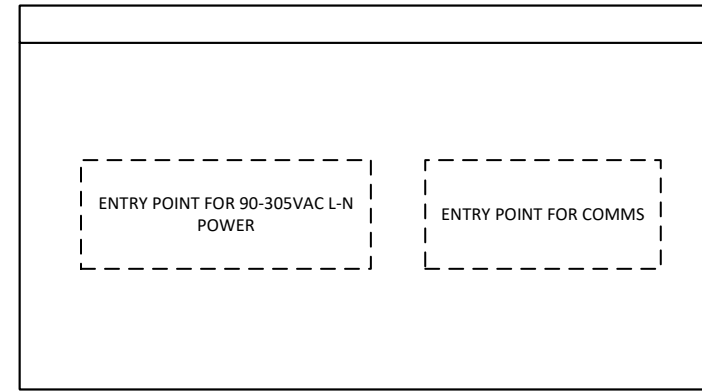
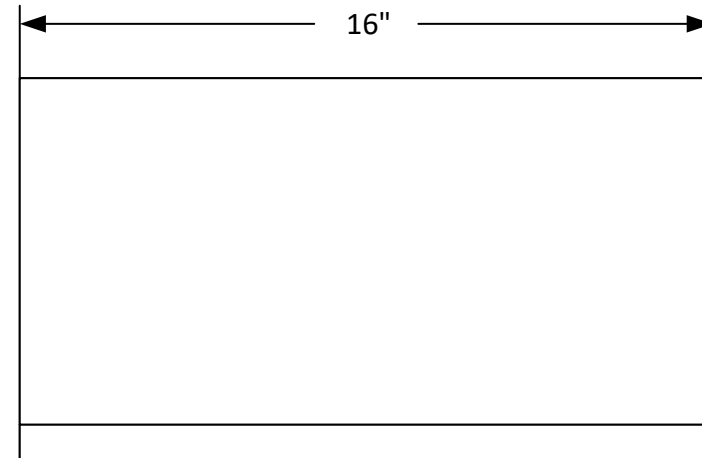
FRONT

SIDE

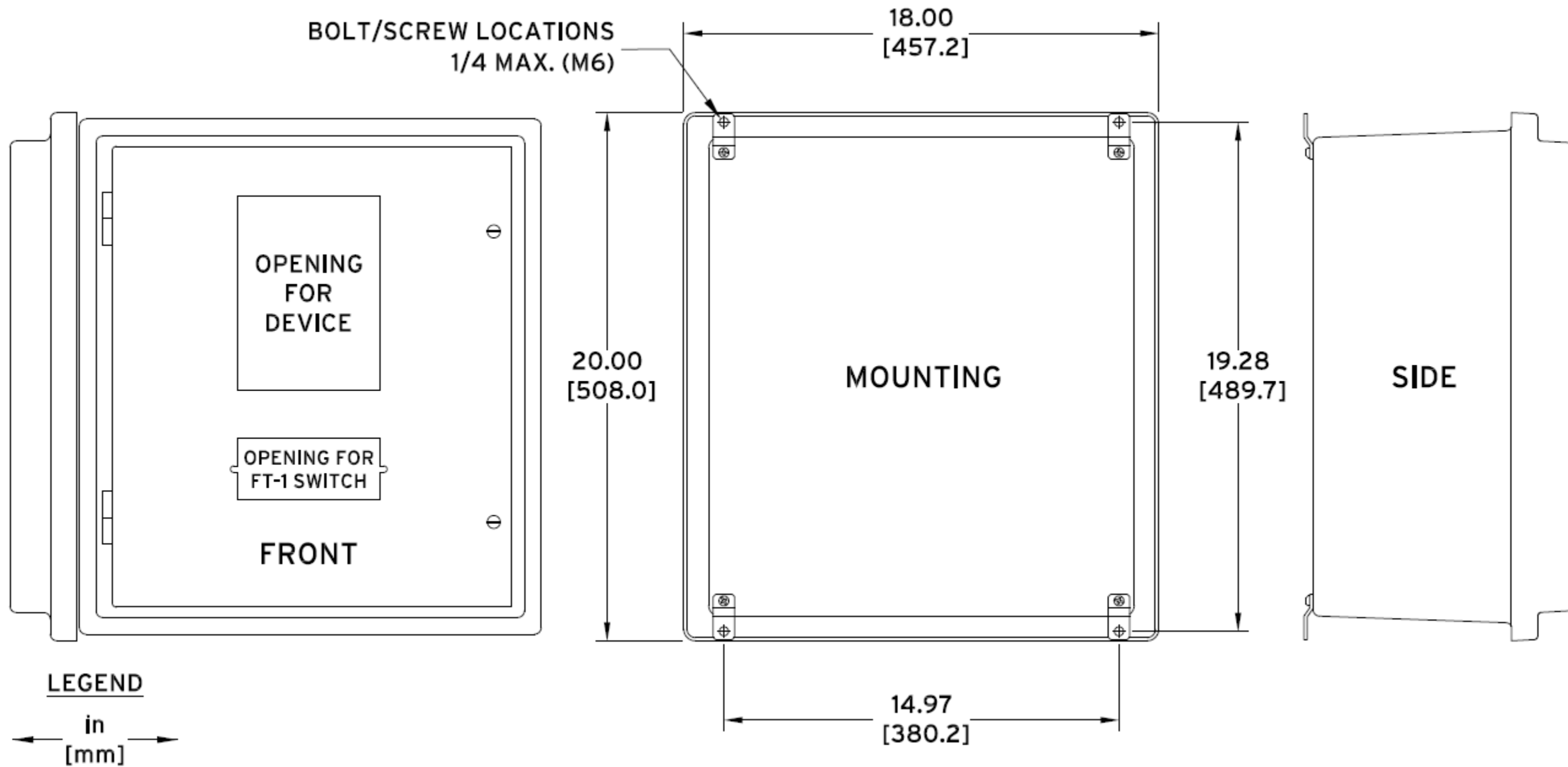


TOP

BOTTOM



NOTE 1: REFERENCE SECTION 2 OF SEL 735
 INSTALLATION MANUAL FOR DETAILED
 INSTALLATION INSTRUCTIONS



NOTE 2: FOR CT/PT INSTALLATION & WIRING -
 REFERENCE SECTION 2.10 THROUGH 2.15 OF SEL
 735 INSTALLATION MANUAL FOR DETAILED
 WIRING INSTRUCTIONS

DESCRIPTION:
 SEL-735 ENCLOSURE DETAILS

SYSTEM TYPE:
 TESLA

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 SINGLE LINE

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 NS

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 5 OF 5

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