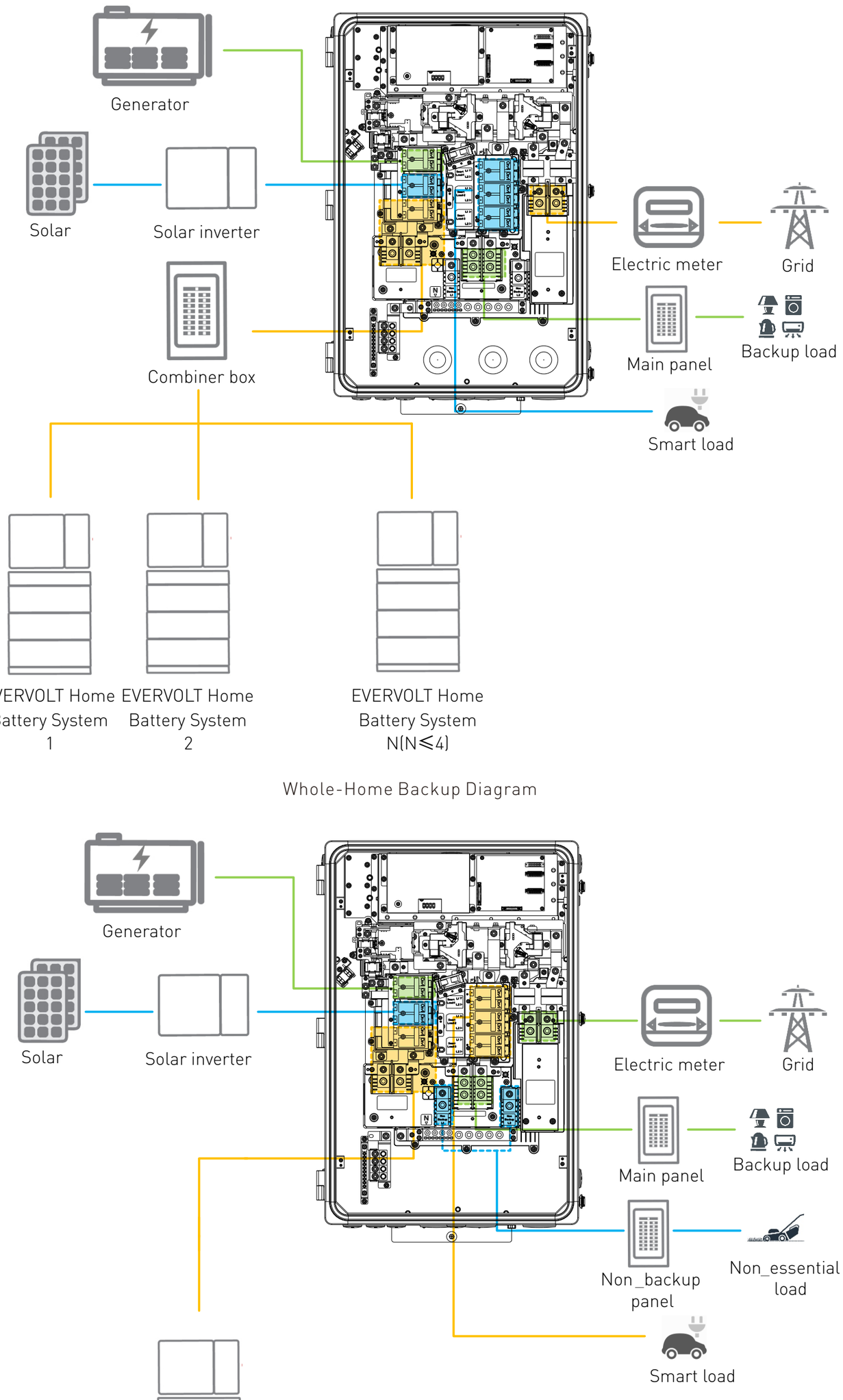
Quick Installation Guide SmartBox

EVERVOLT®

1. Introduction

Smart Box has two solutions:

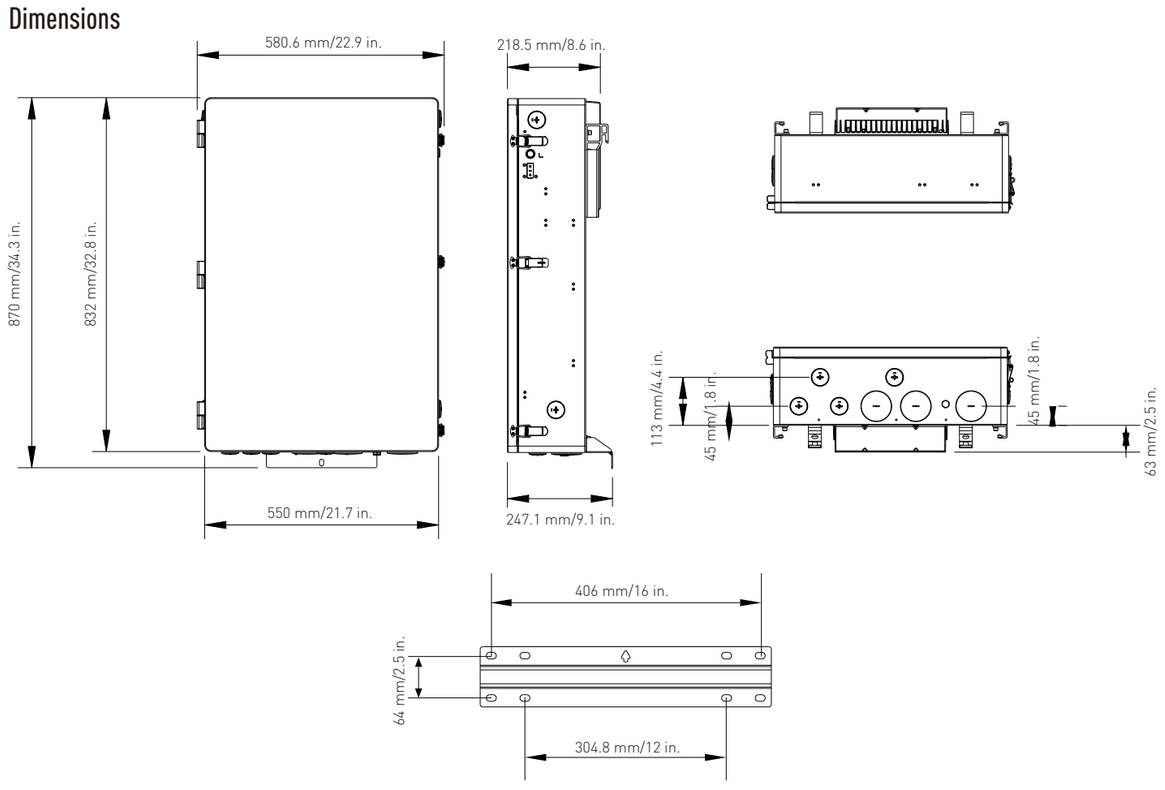


Whole-Home Backup Diagram

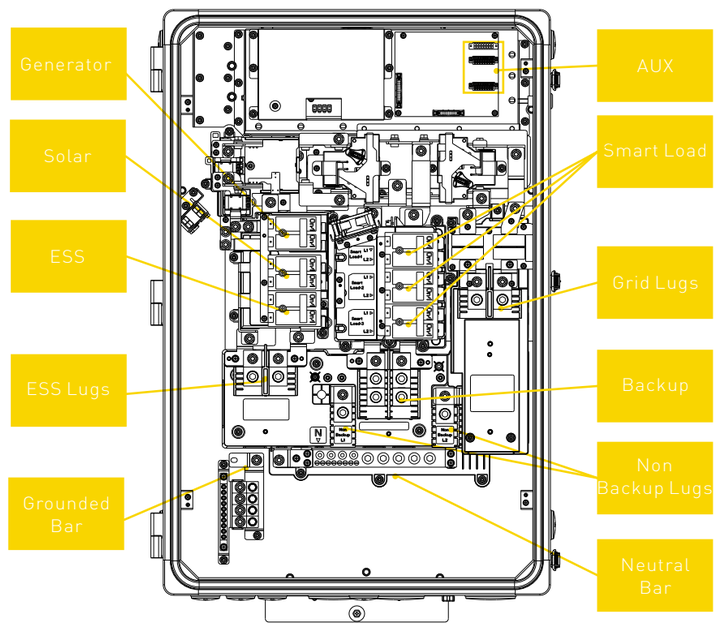
Partial Backup Diagram

2. Overview

2.1 Dimensions



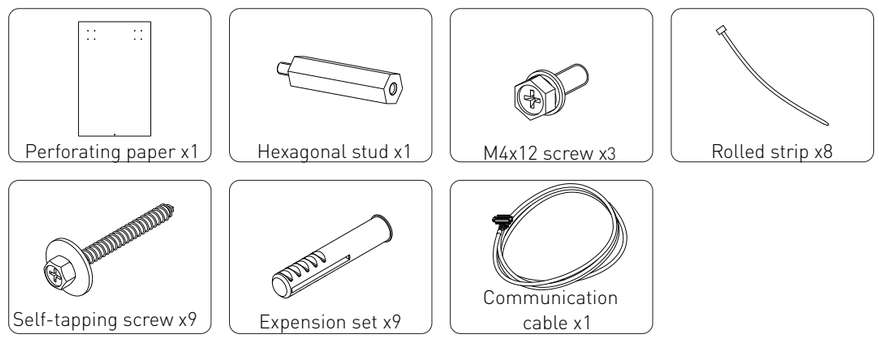
2.2 Overview of Terminals



3. Preparation

3.1 Check Packing List

Open the package and check the materials and accessories according the following list.

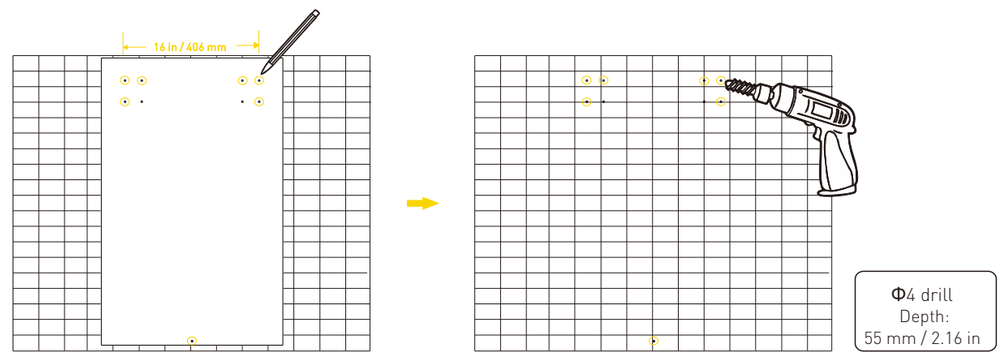


3.2 Tools



4. Mounting

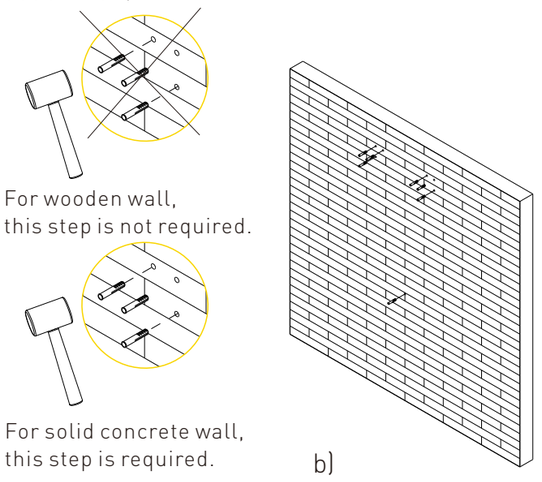
a) Use the mounting reference paper as a template to mark the screw hole location on the wall. And drill seven holes on the wall.



a)

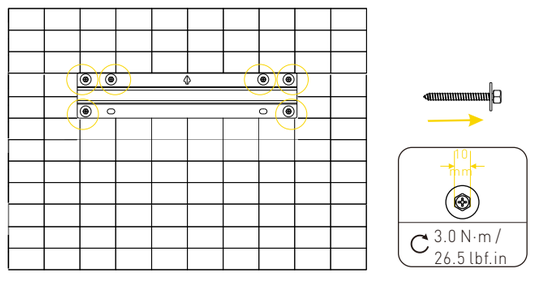
Note:
For solid concrete wall, please use Φ10 drill.
The inner-side hole of the bracket is 305 mm / 12 in.

b) Use mallet to knock the seven expansion tubes into wall (This step can be ignored in case of wooden wall).



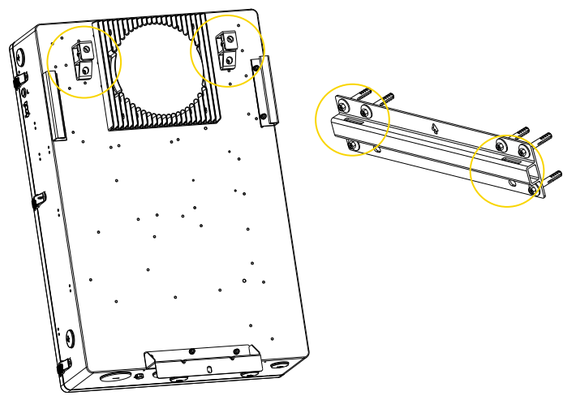
b)

c) Secure the bracket on the wall with tapping screw and washer using torque wrench. Please hold the bracket firmly to the surface of the wall when fixing bracket.



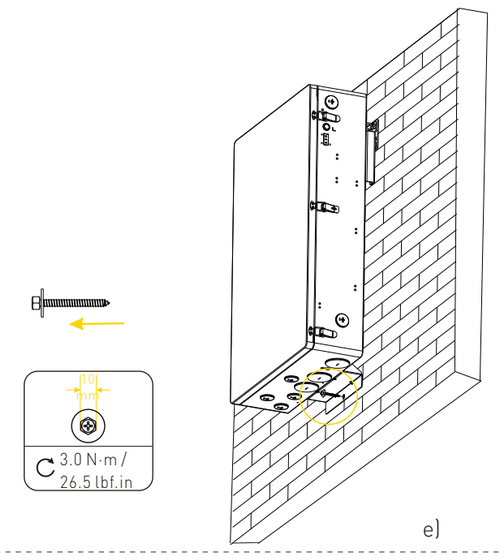
c)

d) Hang the SmartBox on the bracket. Please make sure the cleat is well seated on the bracket.



d)

e) Secure the SmartBox by screwing in the tapping screw with washer on the bottom of SmartBox.



e)

5. Wiring Connection

5.1 Required Wire Sizes and Torques

Terminal	Cross-section Area Range	Strip Length	Torque (in-lbs)	Tool
ESS 2 lugs	4-4/0 AWG	25 mm/1.0 in.	275	8 mm HEX Key
Non-Backup Load lugs	4-4/0 AWG	25 mm/1.0 in.	275	8 mm HEX Key
Backup Load lugs	4-4/0 AWG	25 mm/1.0 in.	275	5/16 HEX Key
Grid terminals	4-4/0 AWG	25 mm/1.0 in.	275	8 mm HEX Key
Neutral terminals small hole	14-4 AWG	10 mm/0.40 in.	26	1.0*5.0 mm Slotted
Neutral terminals medium hole	14-4 AWG 2-2/0 AWG	25 mm/1.0 in.	26 110	3/16 HEX Key
Neutral terminals large hole	4-4/0 AWG	25 mm/1.0 in.	275	5/16 HEX Key
Ground terminals small hole	14-4 AWG	10 mm/0.40 in.	26	1.0*5.0 mm Slotted
Ground terminals large hole	6-2/0 AWG	17 mm/0.70 in.	110	3/16 HEX Key
M6 Nuts on Bus Bar (Secure Breakers or Lugs on Smart Load Module)	-	-	45	10 mm HEX Socket

5.2 Installation of Breakers

For Service Equipment

The product is "SUITABLE FOR USE AS SERVICE EQUIPMENT". For this scenario,

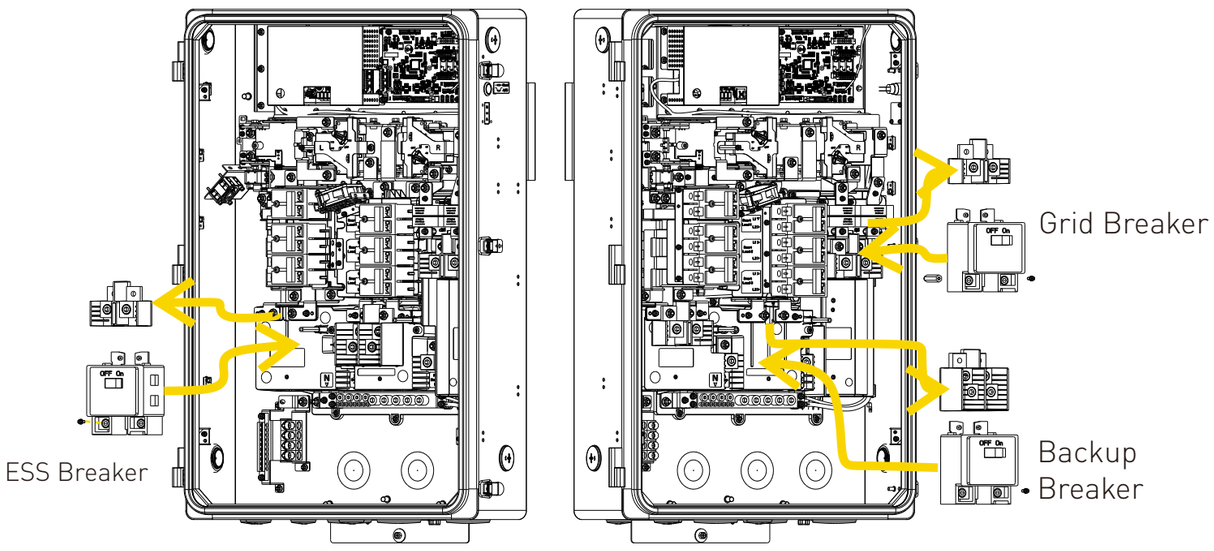
1. The following main breaker accessory needs to be installed.
   a. Eaton main breaker b. Line side barriers
2. Apply the marked as "SUITABLE FOR USE AS SERVICE EQUIPMENT".
3. Neutral is bonded to ground with "Bonding Jumper".
4. APPLY THE "SERVICE DISCONNECT" LABELS ADJACENT TO APPROPRIATE CIRUIT BREAKERS.

For Subpanel

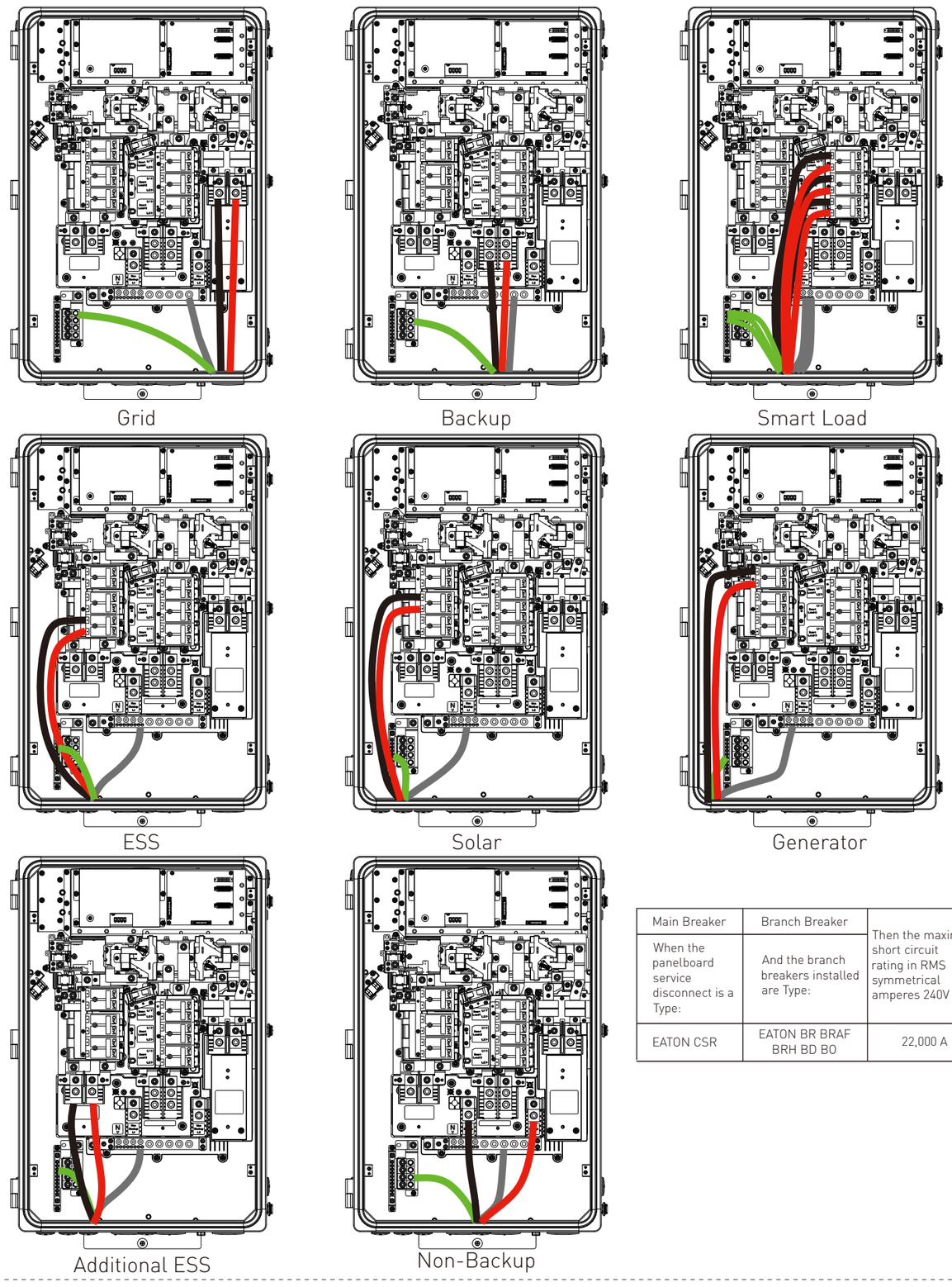
1. Disconnect the "Bonding Jumper" from ground.

For secondary power source, like solar inverter or generator, apply the following markings to breaker.

a. "Parallel Energy Source Disconnect".
b. "POWER SOURCE OUTPUT CONNECTION.
c. DO NOT RELOCATE THIS OVERCURRENT DEVICE".



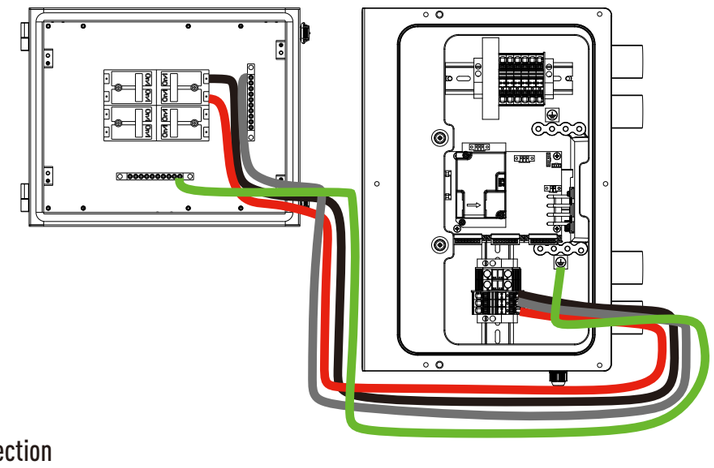
5.3 Connections of Load



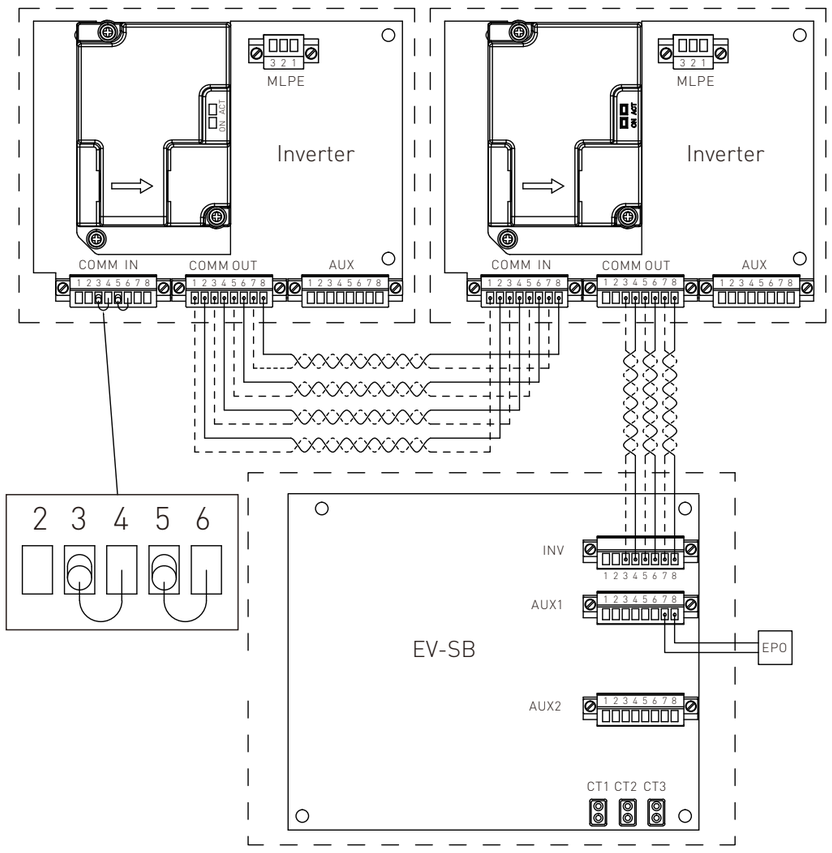
Main Breaker	Branch Breaker	Then the maximum short circuit rating in RMS symmetrical amperes 240V is:
When the panelboard service disconnect is a Type:	And the branch breakers installed are Type:	
EATON CSR	EATON BR BRAF BRH BD BO	22,000 A

5.4 Power Connection of the Inverter

Multiple inverters are first passed through Combiner and then connected to SmartBox.
One can be connected directly to SmartBox.



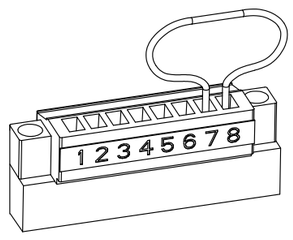
5.5 Communication Connection



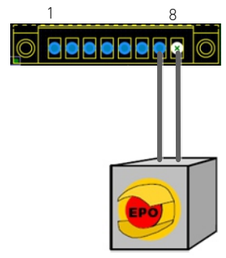
5.6 EPO Connection

For installing EPO on the SmartBox, follow the below installation instructions.

Step 1: Remove the factory-installed jumper from Pin 7 and 8 of the 8-position "AUX" connector inside the inverter.



Step 2: Use minimum 24 AWG conductors to connect Pin 7 and Pin 8 (labeled "12V" and "STOP_NO") to a suitable emergency stop switch.



6. Technical Data

GRID INPUT	
Nominal AC output voltage [V] / Nominal AC frequency [Hz]	240 / 60
Maximum continuous input current rating [A]	160
OUTPUT TO MAIN PANEL IN GRID TIED OPERATION	
Nominal AC output voltage [V] / Nominal AC frequency [Hz]	240 / 60
Maximum continuous output current rating [A]	160
OUTPUT TO MAIN PANEL IN BACKUP OPERATION	
Nominal AC output voltage [V] / Nominal AC frequency [Hz]	240 / 60
STAND-ALONE MODE (GRID DISCONNECT)	
Split phase imbalance output current [A]	41.7
Maximum output current [A]	160
INPUT FROM INVERTER	
Number of inverter inputs	4
Maximum input overcurrent protection device① [A]	200
Solar inverter production meter	Optional
NON-BACKUP PORT	
Nominal AC output voltage [V] / Nominal AC frequency [Hz]	240 / 60
Maximum continuous output current rating [A]	160
SOLAR INVERTER PORT	
Nominal AC output voltage [V] / Nominal AC frequency [Hz]	240 / 60
Maximum continuous output current rating [A]	64
GENERATOR	
Maximum AC power [W]	24000
Maximum input overcurrent protection device① [A]	125
Maximum continuous input current [A]	100
Auto generator start	Yes
SMART LOAD	
Number of "Smart Load 80A" branch [120V]	2
Number of "Smart Load 50A" branch [120V]	4
Combine 120V branches to 240V branch	Yes
GENERAL INFO	
Number of dry contact	4
Number of communication RS485 ports	2
LED display	3
Weight [kg / lbs]	45 / 99.2
Maximum elevation [m / feet]	3000 / 9842
Noise [dB]	< 40
Operating temperature range [°C / °F]	-25 to +45 / -13 to +113
Protection rating	NEMA 3R
Dimensions [H x W x D] [mm / in]	870 x 580.6 x 247.1 / 34.3 x 22.9 x 9.1
Warranty [years]	12
STANDARD COMPLIANCE	
Safety	UL 1741, CSA 22.2 NO.107.1, UL 67②, UL 869A②
Emissions	FCC part 15 Class B

①: Not included, Installer must provide correctly rated breaker as per circuit breaker list above.
②: Sections from these standards were used during the safety evaluation and included in the UL1741 listing.