FranklinWH BESS and PV Disconnect Switch Installation Guidance

Background

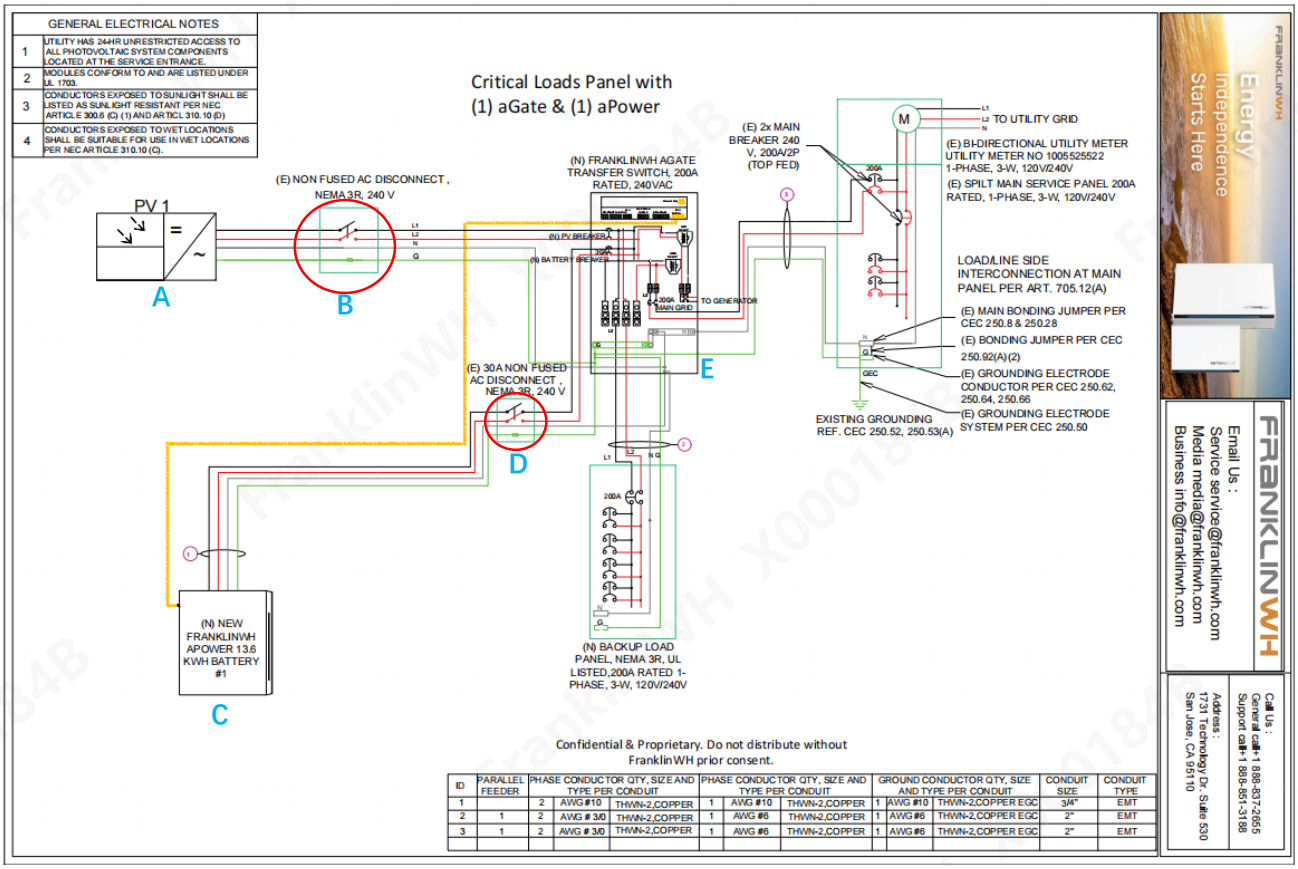
NEC 2020 706.15 (NEC 2017 706.7) requires an AC disconnect switch installed between the aPower and the aGate

NEC 2020 690.12 (NEC 2017 690.13) requires an AC disconnect installed between the PV combiner and the aGate.

This document provides information for installers about where a disconnect switch is needed in compliance with NEC requirements. Two cases are used to illustrate the recommended location.

Case study: Customer's project that has PV and Franklin Home Power installed

AC disconnects are required for utility load-side generation sources, such as PV and aPower battery as described below in the red circles.



Legend

A: Rooftop PV **B:** AC disconnect for PV located outside near PV equipment or service equipment

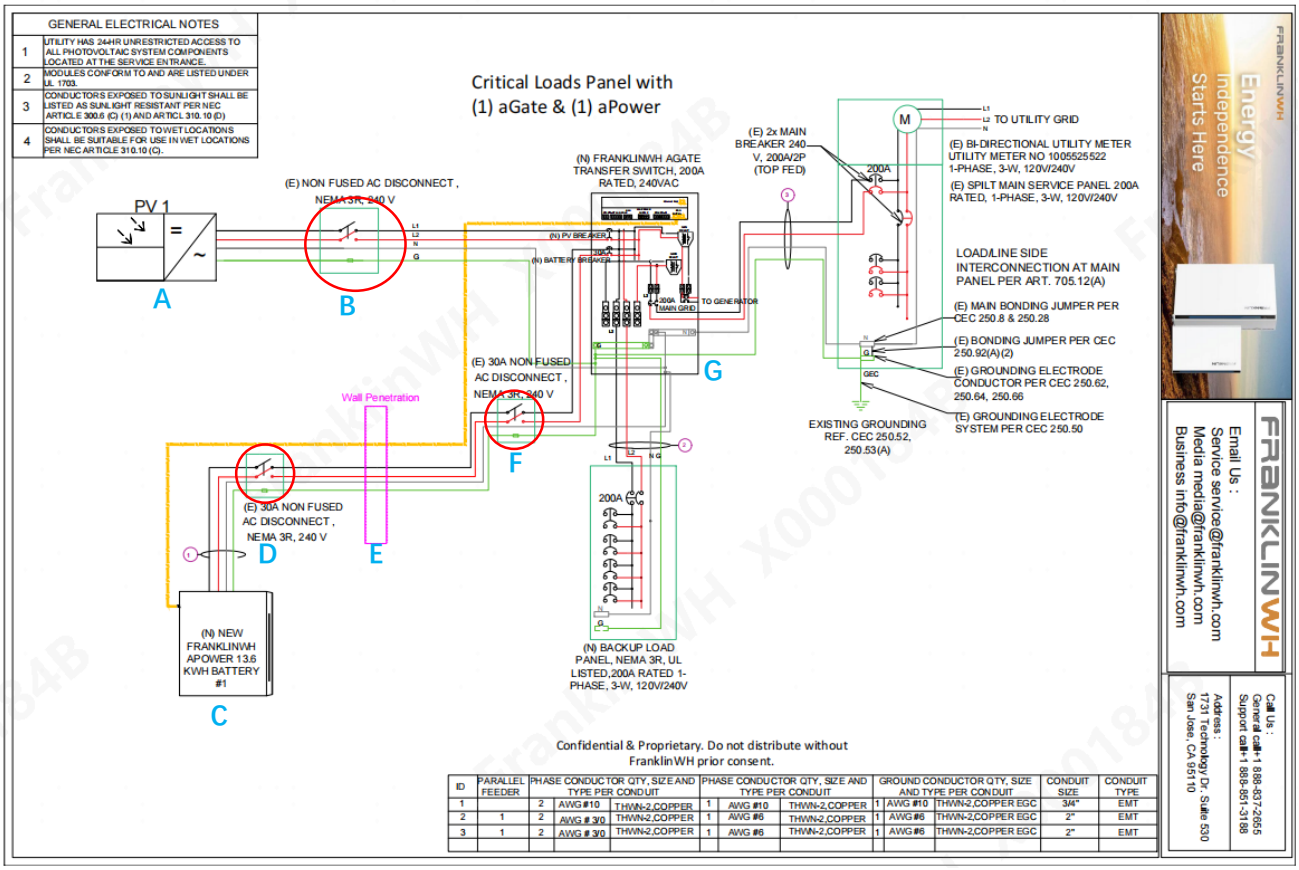
C: aPower **D:** AC disconnect located near aPower before aGate connection

E: aGate

Case study: Customer's project that has PV and Franklin Home Power installed with wall penetration

Since the aPower to aGate conductors are passing through a wall, the NEC requirement for the ESS AC disconnect is adjacent to the aPower, inside the garage.

If the local AHJ (DPP/Fire) also requires a service disconnect switch on an exterior wall by the meter for the ESS, then a second one on the outside wall will be needed on this same circuit between the aGate and the aPower, or inquire with the AHJ to find out if exterior disconnect requirement can be served by the aPower breaker inside the aGate and a visible placard showing the aPower located inside the garage with the NEC-required disconnect location, as shown in the following diagram.



ID	PARALLEL FEEDER	PHASE CONDUCTOR QTY, SIZE AND TYPE PER CONDUIT			PHASE CONDUCTOR QTY, SIZE AND TYPE PER CONDUIT			GROUND CONDUCTOR QTY, SIZE AND TYPE PER CONDUIT			CONDUIT SIZE	CONDUIT TYPE
1		2	AWG #10	THWN-2,COPPER	1	AWG #10	THWN-2,COPPER	1	AWG #10	THWN-2,COPPER EGC	3/4"	EMT
2	1	2	AWG # 3/0	THWN-2,COPPER	1	AWG #6	THWN-2,COPPER	1	AWG #6	THWN-2,COPPER EGC	2"	EMT
3	1	2	AWG # 3/0	THWN-2,COPPER	1	AWG #6	THWN-2,COPPER	1	AWG #6	THWN-2,COPPER EGC	2"	EMT

Legend

A: Rooftop PV
B: AC disconnect for PV located outside near PV equipment or service equipment
C: aPower
D: AC disconnect located at aPower location
E: Exterior wall
F: AC disconnect located on the other side of wall (near aGate)
G: aGate