



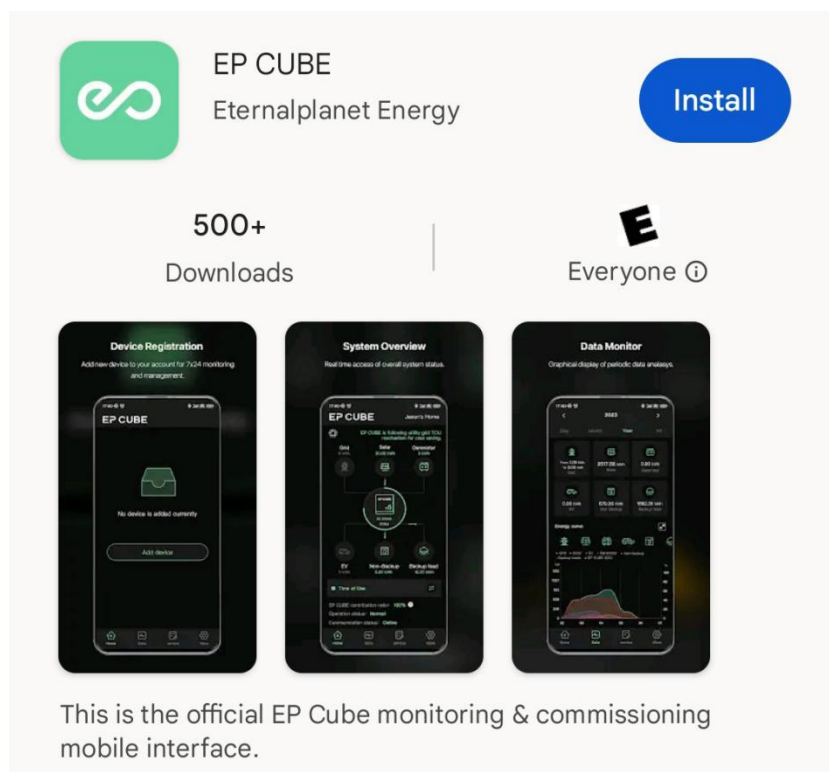
EP CUBE

INSTALLATION PREPARATION GUIDE V1.0



Afternoon before install preparation

1. Installer has completed training, downloaded app, and has confirmed credentials are active as needed to commission the installation.



2. Unbox Batteries
 - a. Remove batteries from box.
 - b. Remove battery base from box.
 - c. Check battery finish.
 - d. Check battery fit on top and bottom (if one battery seems too wide it should go on top).
 - e. Unbag and pre-assemble all battery brackets (anti-sieze may be needed to prevent nut/bolt galling).
 - f. Install mounting tabs on sides, snug fit screws into batteries to prevent loss.
 - g. Dispose of battery boxes.
3. Unbox Hybrid
 - a. Remove hybrid from box.
 - b. Check hybrid case for shipping damages.
 - c. Confirm rapid shut-down matches RSD switch on PV panels (Tigo TS-4-AF/2F or APS/Sunspec).
 - d. Pre-assemble hybrid brackets.
 - e. Install end-of-line resistor.
 - f. Remove $\frac{3}{4}$ or 1" knockout bushings as needed (if 1" knockout is used enlarge side trim panel slot).

- g. Pre-assemble/wire hybrid to gateway whip if possible.
 - h. Dispose of hybrid box.
- 4. Unbox Gateway
 - a. Remove gateway from box.
 - b. Check gateway for shipping damages.
 - c. Inspect gateway for parts or screws that may have loosened during shipping.
 - d. Install breakers on din-rail for multiple hybrids, EV chargers, AC PV, or other loads then cut out corresponding holes on gateway deadfront panel.
 - e. Pre-drill or punch out holes in the bottom of the gateway for entrance/exit conduits between service, loads, and hybrid.
 - f. Pre-drill/punch wireway or gutter if one is being used.
 - g. Prefab any required conduit with known length/spacing.
- 5. Familiarize yourself with the template, pay attention to hybrid bracket spacing as it is different than battery spacing. Mark proper holes with sharpie.
- 6. If E-stop is required, confirm it is available including communication cable for E-Stop button.
- 7. Review details and plans for the specific site the night design before heading to the site.
- 8. Plan all conduit and wire runs in advance, confirm conduit and wire is available.
- 9. Plan for all required tools, benders, cutters, meters, etc.
- 10. Prepare all BOS equipment needed to avoid Home Depot runs (Home Depot runs kill productivity and profit) .
- 11. Obtain the rated DC PV power/voltage and evaluate the appropriate number of MPPT.
- 12. Obtain the backup load power information and check whether it meets the system capacity requirements.

Day of install

- 1. Connectivity
 - a. Homeowner downloads EP Cube user app.
 - b. Homeowner has created owner account.
 - c. Homeowner provides Wi-Fi access.

2. Layout

- a. Does the installation location meet the physical requirements for size, clearance, climate, structural needs?
- b. Does the location allow for a straightforward and efficient wiring layout?
- c. Is there adequate vehicle clearance, will a bollard be required?
- d. Is there a space in front of the unit to stand on when servicing the unit?
- e. Is there clearance to a gas meter if there is one?
- f. Layout the unit using the template or test fitting with the unit directly.
- g. Make sure mounting is square and level, adjust the wall brackets X/Y/Z to avoid any leaning or tilting.

3. Mounting

- a. Will the unit be mounted on the floor or the wall?
- b. Is the wall flat?
- c. What hardware is going to be used to mount the unit?
- d. Drill the holes, mount brackets to the wall.
- e. Mount the hybrid stack from the base up.
- f. Level base and grout if needed.
- g. After the hybrid is installed mount the gateway so it is level with the top of the hybrid or is at eye level. The units look best when the top of the gateway and hybrid top are at the same level. Anticipate battery expansion and raise the gateway if needed.

4. Wiring

- a. Before wiring confirm all switches/breakers are off. Silver buttons should be out (flush), test din-rail breakers with a continuity tester to confirm they are off, open fuse holders and remove fuses.
- b. If the system includes DC PV strings wire those first, ports in the side of the hybrid can be swapped with DC PV coming in the top port if needed to make the conduit layout more clean and simple. Conduits can be run behind the hybrid stack to help hide them if the layout permits.
- c. 1" conduit is recommended for more than 2 strings, best to switch from PV wire to THHN/THWN #10 or #12 as PV wire is difficult to work with inside conduit. Use a 2" long nipple at the hybrid so the plastic cover does not interfere with the conduit fitting or flex connector.
- d. Wire the hybrid to the gateway, any of the gateway hole locations can be used to keep the conduit layout most simple. The labels on the bottom of the gateway are simply suggestions. A ¾" conduit is usually adequate to house the cables between hybrid and gateway but a 1" conduit works better when you start to pull the electrical and communication wires. Use a hole saw or knockout punch to make holes in the bottom of the gateway (only enter gateway from the bottom).
- e. Addition of a 4x4x24" or a 6x6x24" NEMA 3R wireway can sometimes make the system installation go more smoothly.
- f. Attach all conduits to the wall within 18" of the equipment.
- g. Plastic flex or PVC can eliminate the need for bonding bushings and can simplify grounding if it is allowed by the AHJ.
- h. Respect and confirm L1/L2 polarity throughout all connected devices so CTs will read correctly.

5. Confirm all wires are firmly connected, confirm L1/L2 polarity.
6. Reconfirm hybrid breakers are off.
7. Plug in hybrid-battery connector, close the fuse holder, turn on main breaker.
8. Begin Commissioning, follow steps on the app. Homeowner WiFi name and password is needed, email address, and phone number. Local utility details are also needed, use 'IEEE Std 1547.1-2020' if the local utility is not listed. If the car charger make and model is not listed, choose one that it listed then make a note including the make and model of the car charger at the end of commissioning in the system description box.
9. If WiFi drops you will need to restart the commissioning process but it should take you back to where it dropped.
10. When system is updated and commissioning is completed, you will receive a page that mentions that you have completed commissioning.
11. Turn on all the hybrid breakers, turn on DC PV switches, press in silver buttons on hybrid and Smart Gateway, system should start within a few minutes.
12. System and app presentation to the customer.
13. Test system by turning main power off, make sure backup load does not exceed system capacity.

Congratulations, your system is complete.

