AEC

THREE-PHASE ONLINE UPS · 208/120 V · VRLA

AUREON 10–30 kVA

Quick Installation Guide

From delivery to normal operation: place the UPS, fit the battery modules, wire it and start it. Qualified electricians only. Read every safety message.

AUREON 10 | AUREON 20 | AUREON 30

AEC-QG-AUR-US · REV. A · NOVEMBER 2026



1 Safety first

IMPORTANT SAFETY INSTRUCTIONS — SAVE THESE INSTRUCTIONS. The full safety chapter is in the user manual.

⚠ DANGER

Hazardous voltage and high temperature inside. The battery is 240 V DC between BATT. + and BATT. – (±120 V DC to BATT. N): this voltage is lethal. Before you move, rewire or service the UPS, disconnect every power source — AC input, bypass and battery (battery plug-ins and external battery breaker). Wait at least 10 minutes after the UPS is fully off, and check with a voltmeter.

⚠ WARNING

- Only authorized, qualified personnel install the UPS and the batteries. Wire it to the National Electrical Code (NFPA 70) and local codes.
- Ground the UPS properly. Connect the ground conductor first.
- Never connect live cables. Unplug the battery plug-ins, and open the breaker of an external battery cabinet, before you connect the battery terminals.
- Remove watches, rings and other conductive objects. Wear rubber gloves and use tools with insulated handles. Never short-circuit or reverse the battery terminals.
- Each battery module weighs 99–132 lb (45–60 kg): two people or a lifting aid.
- In case of fire, use a dry-chemical (powder) extinguisher.

2 Check the delivery and the site

1. Check the packaging for transport damage. If it is damaged, notify the carrier immediately.
2. Remove the outer packaging, take out the accessories and check them against the packing list. Report anything missing to AEC.
3. Inspect the UPS for transport damage.

The site.

- Indoors, in a well-ventilated room: 23–104 °F (–5 to +40 °C), 0–95 % relative humidity, non-condensing; up to 6,560 ft (2,000 m). VRLA batteries last longest at about 77 °F (25 °C).
- No flammable or explosive gas, no conductive dust, no direct sunlight, water, corrosive or salt air.
- A flat floor, tilted no more than 5°, rated for the weight of the UPS with its batteries (Table 2-1).
- At least 12 in (300 mm) behind and beside the UPS: the air enters at the front and leaves at the rear (Figure 2-1). Do not put the rear against a wall.

- The terminal blocks and breakers are at the rear: keep the NEC working space there, at least 36 in (914 mm) deep (NEC 110.26(A)). Keep the front door free to open, for the battery modules.

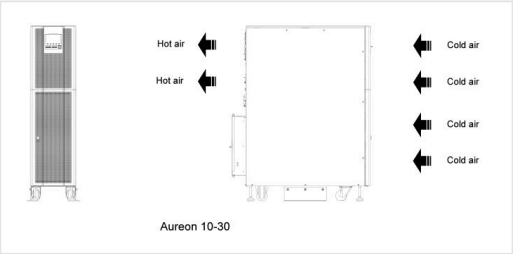


FIGURE 2-1 Cooling: cold air in at the front, hot air out at the rear

TABLE 2-1 Weight

	AUREON 10	AUREON 20	AUREON 30
Frame only	231 lb (104.8 kg)	258 lb (117 kg)	282 lb (127.9 kg)
With internal batteries (standard configuration)	465 lb (211 kg), 40 blocks	609 lb (276 kg), 60 blocks	750 lb (340 kg), 80 blocks

Size W × D × H, all models: 14.9 × 39.1 × 49.2 in (378 × 993 × 1,250 mm) overall; cabinet 12.6 in (320 mm) wide.

3 Place the UPS

⚠ CAUTION

Two people move the UPS, one on each side, to keep it from tipping. Keep it upright; move it gently with a forklift or a pallet jack, centered on the forks.

1. Lower the front panel of the pallet to form a ramp (Figure 3-1).
2. Remove the bolts that fix the UPS and its support plates to the pallet (circled), and remove the support plates.
3. Slowly roll the UPS down the ramp to the floor.
4. Mark the mounting holes of the support plates on the floor (Figure 3-2).
5. Drill four 0.39 in (10 mm) holes with a hammer drill (tolerance ±0.08 in / ±2 mm). Fit M8 expansion anchors (Figure 3-3). The exposed height of an anchor must not exceed 2.0 in (50 mm).
6. Move the UPS over the holes. Fit the support plates loosely and align their holes with the anchors.
7. Fit the M8 flat washers, spring washers and bolts. Tighten the anchor bolts, then the six screws of the support plates.
8. Lower the four leveling feet together (counterclockwise) until they rest on the floor and carry part of the load (Figure 3-4). Lock the casters.

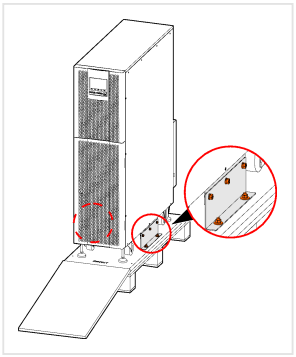


FIGURE 3-1 Pallet ramp and fixing bolts (circled)

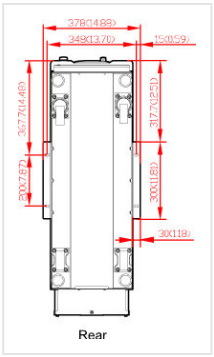


FIGURE 3-2 Mounting holes of the support plates, bottom view, mm (in)

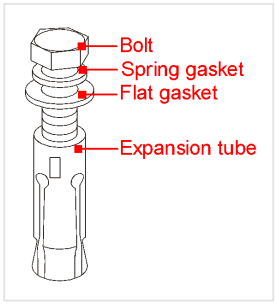


FIGURE 3-3 M8 expansion anchor: bolt, spring washer, flat washer, sleeve

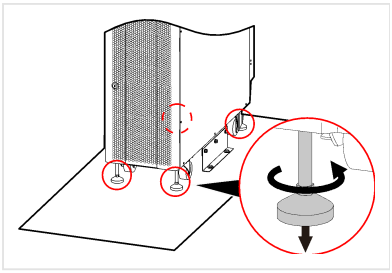


FIGURE 3-4 Lowering the leveling feet

4 Fit the battery modules

AUREON 10: 2 to 4 modules · AUREON 20: 3 or 4 · AUREON 30: 4. Fit them from the bottom position up.

UPS supplied with internal batteries. Remove the cable ties that hold the module handles for transport: press and hold the release tab of each tie (Figure 4-2). Leave the plug-ins unplugged.

UPS ordered without internal batteries.

1. Insert the key and turn it clockwise to open the front door (Figure 4-1).
2. Remove the screws and the plug-in on the cover plate of the bottom position (Figure 4-3).
3. Remove the screws and the cover plate (Figure 4-4).
4. Slide the battery module into the UPS (Figure 4-5).
5. Tighten the screws to secure the module (Figure 4-6).
6. Repeat steps 2 to 5 for the next position upward.
7. Leave the plug-ins unplugged: plug them in only after the wiring is complete (step 8 of the wiring).



- 3 Battery module 1 — bottom position, fit first
- 4 Battery module 2
- 5 Battery module 3
- 6 Battery module 4 — top position
- 7 Battery plug-in of each module
- 9 Front door with key lock
- 11 Touchscreen, 4.3-inch color
- 12 Status indicators (five)
- 13 ON keys (press both together)
- 14 OFF keys (press both together)
- 15 EPO button (red)

FIGURE 4-1 Front — door open, AUREON 30 with four modules (left); upper front (right)

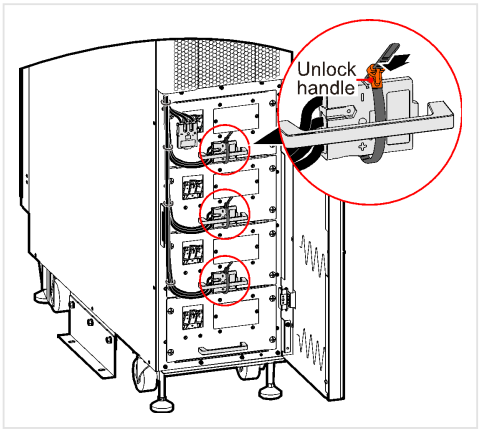


FIGURE 4-2 Transport cable ties on the module handles, and the release tab

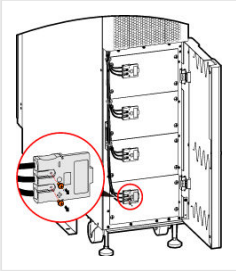


FIGURE 4-3 Step 2 — remove the plug-in on the cover plate

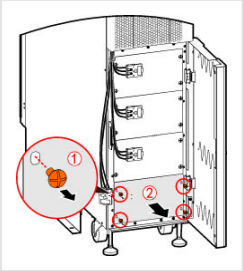


FIGURE 4-4 Step 3 — remove the cover plate

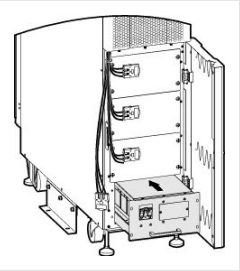


FIGURE 4-5 Step 4 — slide the module in

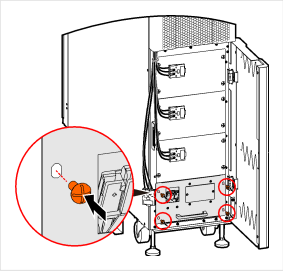


FIGURE 4-6 Step 5 — fix the module

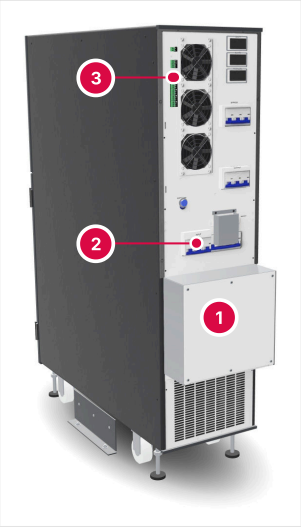
5 Wire the power

Make sure the upstream breakers, the four UPS breakers and the external battery breaker are open (Figure 6-1) and the battery plug-ins are unplugged. Do not move the UPS after it has been wired.

TABLE 5-1 Breakers (3-pole) — AEC recommended rating, NEC minimum in brackets — and copper conductors, 75 °C

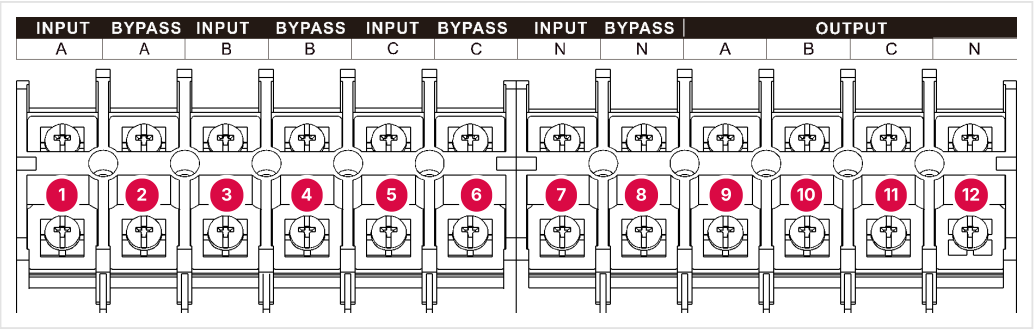
Circuit	AUREON 10	AUREON 20	AUREON 30
AC input (37.0 / 75.9 / 100.0 A)	63 A (50 A) · 6 AWG	100 A (100 A) · 3 AWG	125 A (125 A) · 1 AWG
Bypass input (30.3 / 60.6 / 90.9 A)	63 A (40 A) · 6 AWG	100 A (80 A) · 3 AWG	125 A (125 A) · 1 AWG
AC output (30.3 / 60.6 / 90.9 A)	63 A (40 A) · 6 AWG	100 A (80 A) · 3 AWG	125 A (125 A) · 1 AWG
External battery, DC (45.3 / 91.6 / 137.4 A)	60 A (60 A) · 2 AWG	125 A (125 A) · 1 AWG	180 A (175 A) · 3/0 AWG
Ground (PE) · battery cabinet ground	8 AWG · 2 AWG	3 AWG · 2 AWG	1 AWG · 1/0 AWG
Cable entry hole in the bottom plate	1.09 in (27.8 mm)	1.72 in (43.7 mm)	1.97 in (50 mm)

i NOTE Breakers at least 125 % of the continuous current (NEC 215.2, 215.3); conductors sized for the AEC breaker from the 75 °C column of NEC 310.16 (the larger of the AEC and NEC sizes). Where 63 A is not a US standard rating, use 70 A or the NEC minimum, and size the conductors for the breaker you install. AC breakers rated at least 250 V AC, DC breaker above 500 V DC. No ground-fault (leakage) breakers. The installer's calculation for the actual installation prevails.



1. Wiring cover: AC block, PE bar and EXTERNAL BATTERY block behind it
2. INPUT breaker
3. Communication ports

FIGURE 5-1 Where the terminals are — rear, behind the wiring cover (illustration from the AEC 3D model of the frame)



1. INPUT A — utility L1
2. BYPASS A — bypass L1
3. INPUT B — utility L2
4. BYPASS B — bypass L2
5. INPUT C — utility L3
6. BYPASS C — bypass L3
7. INPUT N — utility neutral
8. BYPASS N — bypass neutral
9. OUTPUT A — load L1
10. OUTPUT B — load L2
11. OUTPUT C — load L3
12. OUTPUT N — load neutral

FIGURE 5-2 AC terminal block, rear view, as marked on the block — behind the wiring cover; the PE bar is below it

NOTICE

Terminal bolts on the AEC wiring drawing: AC terminals M4, PE M6, external battery M10. The recommended AC ring terminals suggest larger studs, and no torque is given: check the terminals on your unit and ask AEC for the bolt size and torque.

1. Loosen the screw at the bottom of the wiring box and remove the bottom plate (Figure 5-3).
2. Drill the cable entry holes in the bottom plate (Figure 5-7, sizes in Table 5-1), then refit the plate.
3. Remove the wiring cover: unscrew its bolts, then slide the cover upward (Figure 5-4).
4. Connect the ground (PE) conductors of the input, bypass, output and battery cabinet **first**, to the PE bar.

5. Connect the input, bypass and output cables exactly as marked on the AC terminal block (Figure 5-2). Input and bypass alternate, phase by phase; keep the same phase rotation on the input and the bypass.
6. Divide the cables into four bundles and tie them to the cable tie bar (Figure 5-5).
7. Check that every cable is securely connected, then refit the wiring cover.
8. Plug in the battery plug-in of every installed module (Figure 5-6).
9. Turn the key counterclockwise to close the front door, and remove the key.

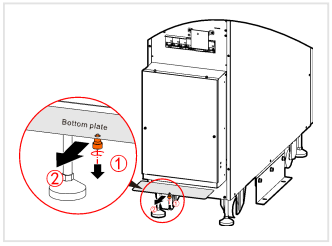


FIGURE 5-3 Step 1 — remove the bottom plate

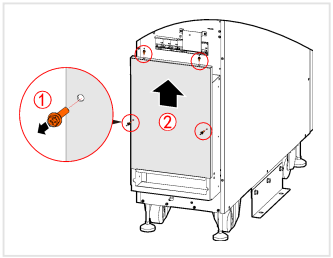


FIGURE 5-4 Step 3 — remove the wiring cover

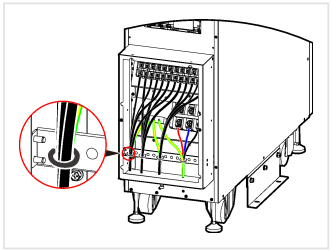


FIGURE 5-5 Step 6 — four bundles on the tie bar

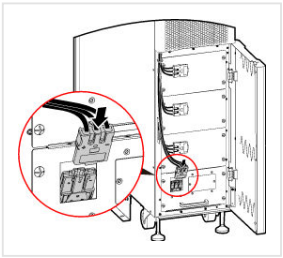


FIGURE 5-6 Step 8 — plug in each module

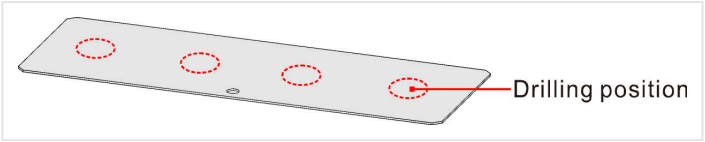
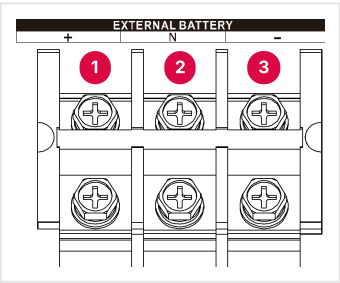


FIGURE 5-7 Step 2 — recommended drilling positions on the bottom plate

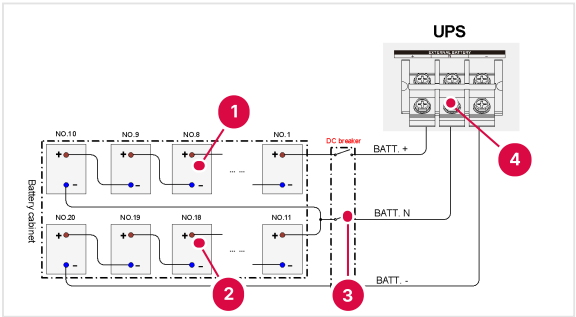
External battery cabinet (if used). It is required when the UPS has no internal batteries. The string is split: 8 to 10 blocks of 12 V on each side of the center point (10 + 10 by default), the same number of blocks as every internal module.

1. Check that the DC breaker of the battery cabinet is open and the module plug-ins are unplugged.
2. Connect the cabinet ground to the PE bar of the UPS.
3. Remove the plastic cover of the DC terminal block. Connect BATT. +, BATT. N and BATT. – from the cabinet breaker to the + N – terminals (Figure 5-8). Fix the cables vertically; adjacent terminals must not touch.
4. Check the polarity with a voltmeter. Refit the plastic cover. Leave the cabinet breaker open until start-up.



1. BATT. + — positive end of the string
2. BATT. N — center point
3. BATT. – — negative end of the string

FIGURE 5-8 DC terminal block — EXTERNAL BATTERY



1. Blocks No. 1 to No. 10: positive half
2. Blocks No. 11 to No. 20: negative half
3. 3-pole DC breaker in the battery cabinet
4. UPS DC terminal block, + N –

FIGURE 5-9 External battery wiring — 20 blocks, 3-pole DC breaker

6 Start the UPS

Check before the first start:

- All connections are tight; the UPS is properly grounded; the neutral-to-ground voltage is below 5 V AC.
- The external battery cabinet, if any, is wired correctly and securely.
- The battery plug-in of every installed module is plugged in.
- The output has no short circuit and the load does not exceed the UPS rating.
- The cover of the maintenance breaker is fitted and all breakers are open (Figure 6-1).

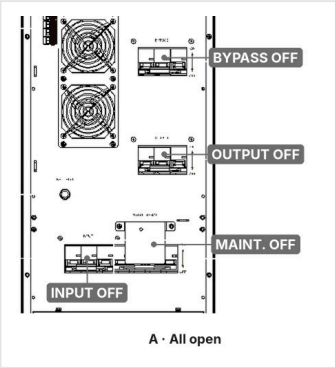


FIGURE 6-1 A — all open

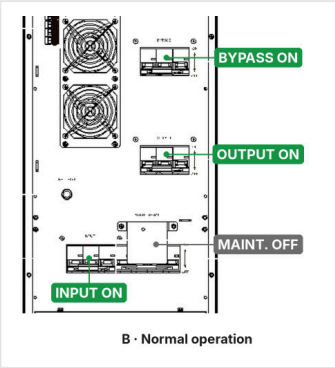
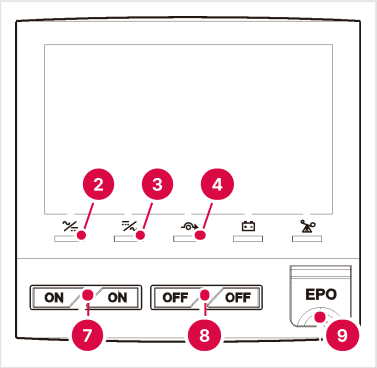


FIGURE 6-2 B — normal operation



2 AC/DC indicator
3 DC/AC indicator
4 BYP. indicator
7 ON keys (two)
8 OFF keys (two)
9 EPO button

FIGURE 6-3 Operation panel

1. Close the upstream utility and bypass breakers.
2. Close the **INPUT**, **BYPASS** and **OUTPUT** breakers on the rear panel (Figure 6-2). Close the DC breaker of the external battery cabinet, if any. The touchscreen lights; after initialization the bypass feeds the output (Figure 6-4).
3. Press both ON keys under the touchscreen together for 1 s (Figure 6-3, item 7). The UPS starts.
4. Wait about 10 s. The power path runs from Mains through REC. and INV. to Output (Figure 6-5); the AC/DC and DC/AC indicators are green.
5. Make the first-start settings (Step 7 Set and check).
6. Switch on the loads, the largest first and the smallest last.

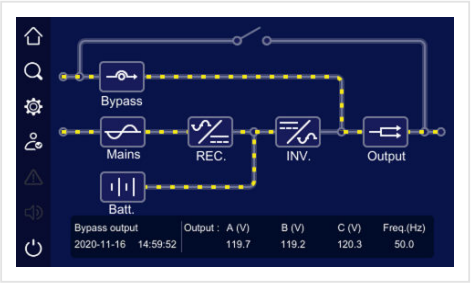


FIGURE 6-4 Step 2 — bypass output

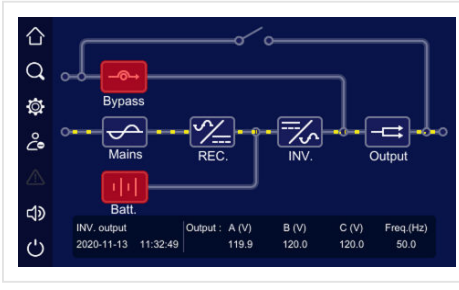
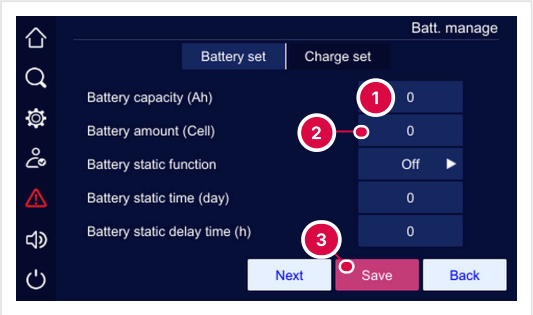


FIGURE 6-5 Step 4 — inverter (normal) mode

7 Set and check

1. On the main page touch the login icon. Type the administrator password (given by AEC technical service) and touch ENTER.
2. Touch the settings icon, then **Batt. manage › Battery set** (Figure 7-1).

3. Set **Battery capacity** and **Battery amount** to match the installed battery: the battery amount is **60** (cells of 2 V per half string) for the internal modules and for a 10 + 10 external string. Touch **Save**.
4. Touch **Sys. manage › Output set**. Check the output voltage **208 V** and the frequency **60 Hz**. Touch **Save** after any change.
5. Touch **HMI set** and set the date and the time.
6. On the password page, change the user (111) and administrator passwords. Keep them in a safe place.



1. Battery capacity (Ah)
2. Battery amount (Cell): 60 for the internal modules
3. Save

FIGURE 7-1 Batt. manage › Battery set, page 1

NOTICE

The battery amount must match the installed battery: every internal module and every external string has the same number of blocks. A wrong setting overcharges or undercharges the battery.

Check that the UPS is in normal mode: the power path runs through REC. and INV. to Output (Figure 6-5); the AC/DC and DC/AC indicators are green; no icon is red and there is no current fault.

i NOTE **Charge the battery for 10 hours** before you rely on the full runtime. The UPS can be used while it charges, but if the utility fails during this first charge the runtime may be shorter than rated.

8 Shut down and maintenance bypass

Shut down the UPS

1. Switch off the loads. Let the UPS run with no load for about 10 minutes to cool down.
2. Press both OFF keys together for 1 s. The UPS shuts down; if the bypass is present, it still feeds the output.
3. Open the external battery breaker, if any, then the **INPUT**, **BYPASS** and **OUTPUT** breakers (Figure 6-1), and the upstream breakers.
4. To isolate the internal battery, unplug the battery plug-ins of the modules.

Transfer the load to the maintenance bypass — to service the UPS without interrupting the load. The load then runs on unprotected utility power.

1. Check that the UPS is in normal mode (Figure 6-2) and the bypass icon is not red.
2. Remove the cover of the **MAINTENANCE** breaker. The door switch opens: the UPS transfers the load to bypass (Figure 8-1).
3. Close the **MAINTENANCE** breaker (Figure 8-2). The touchscreen shows the maintenance-bypass output.
4. Open the **INPUT**, **BYPASS** and **OUTPUT** breakers (Figure 8-3). Open the external battery breaker and unplug the battery plug-ins.

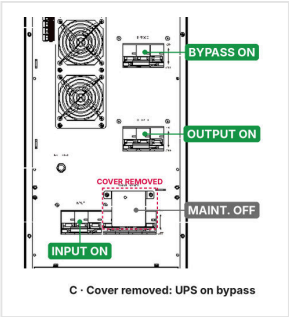


FIGURE 8-1 C — cover removed, UPS on bypass

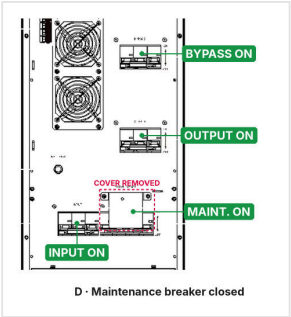


FIGURE 8-2 D — maintenance breaker closed

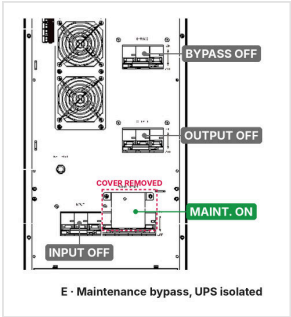


FIGURE 8-3 E — maintenance bypass, UPS isolated

DANGER

In state E the bypass input terminals, the output terminals and the maintenance breaker are still live, and the battery terminals are live while the battery is connected. Wait 10 minutes after the touchscreen goes dark and check with a voltmeter before you touch anything inside.

Return to the inverter

1. Plug in the battery plug-ins and close the external battery breaker, if any.
2. Close the **INPUT**, **BYPASS** and **OUTPUT** breakers, in that order (Figure 8-2).
3. When the touchscreen shows the bypass output voltage, open the **MAINTENANCE** breaker (Figure 8-1).
4. Refit the cover of the **MAINTENANCE** breaker (Figure 6-2).
5. Press both ON keys to start the inverter.

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Parallel systems, cold start, settings, alarms, maintenance and every detail: AUREON 10–30 kVA User Manual, AEC-UM-AUR-US (aecups.com · AEC app › Support › Downloads).