Conext™ Mini Power Distribution Panel Installation Guide

B Important Safety Information

This Guide is intended for qualified personnel. Certain configuration tasks should only be performed by qualified personnel in consultation with your local utility and/or an authorized dealer. Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. Servicing of batteries must only be performed by qualified personnel with knowledge of batteries and their required precautions.

Qualified personnel have training, knowledge, and experience in:

- Installing electrical equipment
- Applying applicable installation codes
- Analyzing and reducing the hazards involved in performing electrical work
- Installing and configuring batteries
- Selecting and using Personal Protective Equipment (PPE)

No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

1. The Mini PDP is compatible with the Conext XWX/XW+ inverter/charger only.

Before installing the Mini PDP and using it with the inverter, read all instructions and cautionary markings on the unit, the batteries, and all appropriate sections of this manual.

2. Use of accessories not recommended or sold by the manufacturer may result in a risk of fire, electric shock, or injury to persons.

3. The Mini PDP and inverter are designed to be permanently connected to your AC and DC electrical systems. The manufacturer recommends that all wiring be done by a certified technician or electrician to ensure adherence to the local and national electrical codes applicable in your jurisdiction.

4. To avoid a risk of fire and electric shock, make sure that existing wiring is in good condition and that wire is not undersized. Do not operate the inverter with damaged or substandard wiring.

5. To avoid the risk of electrical shock, disconnect both AC and DC power from the inverter before attempting any maintenance or cleaning or working on any components connected to the inverter. Pulling the unit in standby mode will not reduce the risk.

6. The inverter must be provided with an equipment-grounding conductor connected to the AC input ground. Do not expose the Mini PDP and the inverter to rain, snow, or liquids of any type. These products are designed for indoor use only. Damp environments will significantly shorten the life of this product and corrosion caused by dampness will not be covered by the product warranties.

7. Do not lay tools or other metal parts on top of batteries.

8. Wear protective glasses, gloves, and boots.

9. Use tools with insulated handles.

10. Do not expose the Mini PDP and the inverter to rain, snow, or liquids of any type. These products are designed for indoor use only. Damp environments will significantly shorten the life of this product and corrosion caused by dampness will not be covered by the product warranties.

11. To reduce the chance of short-circuits, always use insulated tools when installing or working with this equipment.

12. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with electrical equipment.

C Materials List

Factory Installed Components

- 3 x 2-pole, 60 Amp 120/240 VAC breakers (Square D D20260) and bypass dam level
- 1 x GJ 250A 160 VDC, 3/8" stud DC breaker
- 5 x #6 AWG (13.3 mm²) cable for grounding (labelled)
- Pre-wired—

3 x 2-pole, 60 Amp 120/240 VAC breakers (Square D D20260) and bypass dam level
- 1 x GJ 250A 160 VDC, 3/8" stud DC breaker
- 5 x #6 AWG (13.3 mm²) cable for grounding (labelled)

Mini PDP enclosure with cabinet door, manual handle, and removable footplate

Additional DC breakers are required for connecting MPPT 60 150 and MPPT 80 600 solar charge controllers to the Mini PDP. There are two additional breaker positions that are available for mounting DC and/or PV breakers.

Installing Provided Tools and Materials:

- Torque screwdriver (up to 60 in-lbf)
- Torque wrench (up to 150 in-lbf)
- Screwdriver (Phillips, flathead)
- Phillips head bits
- Torx bits
- T-shaped wrench
- Long nose pliers
- Wire cutters
- 1/2" drive ratchet wrench
- 3/8" inch drive ratchet

Other hardware:

- 3 x plastic bushings for AC knockouts between XW/XW+
- 1 x #2 AWG (33.6 mm²) cable for grounding (labelled)
- Pre-wired—

- 3 x plastic bushings for AC knockouts between XW/XW+
- 1 x #2 AWG (33.6 mm²) cable for grounding (labelled)
- Pre-wired—

- 3 x plastic bushings for AC knockouts between XW/XW+
- 1 x #2 AWG (33.6 mm²) cable for grounding (labelled)
- Pre-wired—

- 3 x plastic bushings for AC knockouts between XW/XW+
- 1 x #2 AWG (33.6 mm²) cable for grounding (labelled)
- Pre-wired—

Connecting Conext MPPT Solar Charge Controllers to the Mini PDP

Additional DC breakers are required for connecting MPPT 60 150 and MPPT 80 600 solar charge controllers to the Mini PDP. There are two additional breaker positions that are available for mounting DC and/or PV breakers.

Exclusion for Documentation

(A) UNLESS SPECIFICALLY AGREED TO IN WRITING, SELLER

(B) MAKES NO WARRANTY AS TO THE ACCURACY, SUITABILITY, OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION OR MATERIAL PROVIDED IN ITS MANUALS OR OTHER DOCUMENTATION;

Contact Information

Please contact your local Schneider Electric Sales Representative or visit the Schneider Electric website at:

http://solar.schneider-electric.com
**D Knockout and Product Dimensions**

**NOTICE**

**EQUIPMENT DAMAGE**

Do not drill, cut or punch holes into the XW/XW+ chassis or Mini PDP. Use only the knockouts provided for conduit entry. Failure to follow these instructions can result in damage to equipment.

**NOTE** When removing your choice of knockouts, ensure no debris remains inside the chassis. Insert appropriately-sized UL/CSA strain reliefs.

**E Removing the Mini PDP Door and Faceplate**

1. **To access the wiring and breakers, open the door, remove the front faceplate (as shown) on the Mini PDP. Set aside the 8 screws.**

2. **Remove the door, if desired.**

3. **Optional:** To mount the door on the other side of the Mini PDP, remove the top and bottom screws holding the brackets in place and reattach on the opposite side. Remove and reverse the two brackets on the top and bottom of the door assembly. Reposition the magnetic latch.

**F Wall Mounting the Mini PDP**

1. **Wall mount the Conext XW/XW+.**

   Before mounting the Mini PDP, mount the Conext XW/XW+ to the wall first.

   Refer to the Conext XW/XW+ Inverter/Charger Installation Guide for detailed mounting instructions.

2. **Loosen the attachment screws and remove the DC terminal bolts and washers on the XW/XW+.**

   Loosen the 2 attachment screws (included) on the bottom of the XW/XW+ unit.

   Remove the DC terminal flat and split washers and bolts (included with the XW/XW+ unit).

3. **Attach the Mini PDP to the XW/XW+.**

   Align the keyholes on the top of the Mini PDP and push it up flush against the bottom of the XW/XW+.

   **Optional:** To mount the door on the other side of the Mini PDP, remove the top and bottom screws holding the brackets in place and reattach on the opposite side. Remove and reverse the two brackets on the top and bottom of the door assembly. Reposition the magnetic latch.

   **Tighten the attachment screws (2x) to the XW/XW+. Torque screws to 12 in-lbf.**

   **NOTE:** Detach the front breaker assembly if necessary to ease securing the attachment screws to the XW/XW+.

   **Secure the bottom mounting bracket with 4 wall screws (not provided).**
**Conext™ MiniPower Distribution Panel Installation Guide**
865-1013-01  solar.schneider-electric.com

---

4. Replace the DC terminal flat and split washers then the bolts on the Positive (+) (shown) and Negative (-) DC terminals in the correct order as shown below.

5. Replace the DC terminal caps (provided with the XW/XW+) on the DC terminals to cover them.

---

**G Wiring the Mini PDP**

1. Remove the XW/XW+ AC access panel.

   **XW+ unit (shown)**

2. Complete all internal AC and DC wiring. See wiring diagrams on pages 4 and 5.
   - Connecting AC wires to the inverter
   - Connecting Generator AC wires to a fourth AC breaker and to the Inverter
   - Connecting PV Inverter AC wires to a fourth AC breaker and to the Bypass terminals
   - Connecting DC cables from the PV breaker to the MPPT 60 150 and to the PV array

3. Complete all communication and analog wiring (for example, Xanbus, AC sync, AUX, and BTS). Ensure all communication and analog wires are routed through the routing trays and barriers as shown.

4. For detailed communication and analog wiring instructions, see the Conext XW/XW+ Inverter/Charger Installation Guide

5. Replace the front faceplate of the Mini PDP.
   - Replace the 8 screws previously set aside (step E1) to secure the faceplate.

6. Replace the door of the Mini PDP, if previously removed.

7. Replace the XW/XW+ AC access panel from step E1.

8. Installation complete. Follow XW/XW+ Installation Guide instructions to complete unit commissioning.

---

---

---

---
Connecting AC wires to the inverter

1. Connect the labeled wire ends to the XW/XW+ unit’s AC (L1-N-L2 LOAD and L1-N-L2 GRID) and Ground terminals (as shown).

2. Install AC wires (not provided) between the L1 and L2 bypass terminal lugs AND the AC source box. Route the wires through one of the knockout holes.

3. Install AC wires (not provided) between the L1 and L2 bypass terminal lugs AND the AC load box. Route the wires through one of the knockout holes.

4. Install DC cables (not provided) between the battery terminals and the Mini PDP’s battery terminal lugs.

Add UL/CSA approved strain relief clamps to knockout holes.

Connecting Generator AC wires to the Inverter for Off-Grid

1. Connect the labeled wire ends to the XW/XW+ unit’s AC (L1-N-L2 LOAD and L1-N-L2 GRID*) and Ground terminals (as shown).

* the wires labeled GRID connect to AC IN GEN (AC2)

2. Install AC wires (not provided) between the L1 and L2 bypass terminal lugs AND the AC source box. Install Neutral and Ground wires (not provided) between the Neutral and Ground bus bars AND the AC source box. Route the wires through one of the knockout holes.

3. Install AC wires (not provided) between the L1 and L2 bypass terminal lugs AND the AC load box. Install Neutral and Ground wires (not provided) between the Neutral and Ground bus bars AND the AC source box. Route the wires through one of the knockout holes.

4. Install DC cables (not provided) between the battery terminals and the Mini PDP’s battery terminal lugs.

Add UL/CSA approved strain relief clamps to knockout holes.
Add UL/CSA approved strain relief clamps to knockout holes.

Connecting Generator AC wires to a fourth AC breaker and to the Inverter

1. Install a fourth AC breaker (not provided) in the highlighted slot.
2. Connect L1 and L2 wire ends to the AC2 terminals (GEN) (as shown).
3. Connect L1 and L2 wire ends to the breaker output terminals (as shown).
4. Connect L1 and L2 wire ends to the breaker input terminals.
5. Connect L1 and L2 wire ends to the generator’s AC OUT terminals. GENERATOR CONNECTION ONLY

Connecting PV Inverter AC wires to a fourth AC breaker and to the Bypass terminals

1. Install a fourth AC breaker (not provided) in the highlighted slot.
2. Connect L1 and L2 wire ends to the breaker output terminals.
3. Connect L1 and L2 wire ends to the breaker input terminals. (2nd pair)
4. Connect L1 and L2 wire ends to the bypass terminals.
5. Connect L1 and L2 wire ends to the PV Inverter’s AC OUT terminals. PV INVERTER CONNECTION ONLY

NOTE: All wires, cables, and breakers in this illustration are not provided with the Mini PDP. See section B Materials List for information on DC breakers.

NOTE: All wires, cables, and breakers in this illustration are not provided with the Mini PDP. See section B Materials List for information on DC breakers.
Connecting DC cables from the PV breaker to the MPPT 60 150 and to the PV array

NOTE: All wires, cables, and breakers in this illustration are not provided with the Mini PDP. See section B Materials List for information on DC breakers.

1. Install the battery breaker (not provided) as shown in the highlighted slot.
2. Install the PV breaker (not provided) as shown in the highlighted slot.
3. Connect the end of a DC cable (#1) to the battery breaker's in terminal.
4. Connect the end of a DC cable (#2) to the PV breaker's in terminal.
5. Connect the end of a DC cable (#3) to the PV breaker's out terminal.
6. Install a DC cable (#4) between the battery breaker's out terminal and the Mini PDP's battery (+) lug.
7. Route the DC cables through a knockout and connect them to their proper terminals.

Add UL/CSA approved strain relief clamps to knockout holes.

MPPT 60 150 Battery (+)
MPPT 60 150 PV (+)
PV Array PV (+)