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Installation Manual

SOLAR METER SOCKET ADAPTER V5.2 DATA OUT



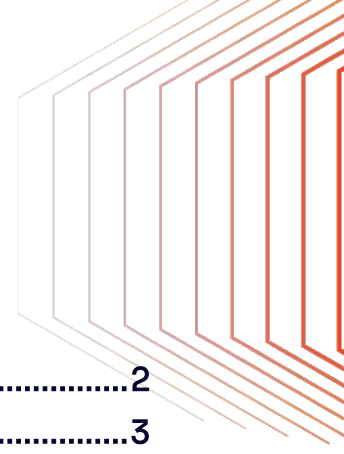


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REVISION TABLE

Revision	Date	Change Description
F	07/2026	• Correct discrepancy in figure caption labels.
E	07/2026	• Emphasize that installing the NEUTRAL pigtail is a requirement. • Add quick reference guide for Key Components • Include additional installation best practices (Connection Module latches, proper lock ring installation, etc.). • Add guidance on clearance related to meter main combos with top door breaker panels. • Improve several images.
D	09/2025	• Include proper clearances when using meter main combo with breaker panel door on right side of meter socket.
C	08/2025	• Add CT and BESS Line Diagram to Solar DO Manual
B	07/2025	• Add information on MSA compatibility with BESS for retail arbitrage use only.
A	07/2025	• First Release

SYMBOLS USED IN THIS MANUAL



WARNING – Designates information highlighting the risk of death, serious injury, or damage to property.



NOTE – Designates information that is key to a successful installation.

IMPORTANT SAFETY INFORMATION



WARNING – The Solar Meter Socket Adapter Data Out (Solar MSA DO) must be installed by a licensed electrician or other qualified personnel. Unqualified persons attempting to install or service the Solar MSA Data Out could result in damage, serious injury, or death. Always follow company and local safety/PPE requirements related to OSHA and NFPA 70E.



WARNING – Solar MSA Data Out must be installed only with the pluggable Connection Module at the top. Do not install Solar MSA Data Out in any other orientation. Installation and servicing of Solar MSA Data Out, associated wiring and interconnections must be performed only by qualified personnel.

Always follow company and local safety/PPE requirements related to OSHA and NFPA 70E.

Installers must be intimately aware of local and company safety/PPE requirements. If safety/PPE requirements are unknown, STOP work. DO NOT proceed further. Installers must ensure all PPE has the minimum appropriate rating for the application.

A NEUTRAL conductor is furnished and MUST BE INSTALLED with each Solar Meter Socket Adapter Data Out. The governing electric utility may require a power outage to de-energize the meter socket to perform work in and/or terminate the neutral conductor. Please follow the prescribed process for work in meter sockets by the governing utility.

The installer assumes all responsibility and risk associated with the safe and intended use of Solar MSA Data Out as expressed in the current installation document. Any deviation from the methods or applications in this manual will violate the product's listing, NEC Article 110.3(B), and void the product warranty.



NOTE – The **NEUTRAL** pigtail conductor between the MSA and the meter socket **MUST BE INSTALLED** for all installations. See section labeled “INSTALLATION PROCEDURE” for more details.



NOTE – Proper lock ring installation is critical to secure the MSA to the socket (for ring type sockets) and the meter to the MSA to prevent water ingress. Ensure the thicker flange faces the socket. If the ring is marked with “FRONT”, install with arrows facing away from the socket.



NOTE – **BOTH LATCHES** (front and rear) of the Connection Module must be fully closed and locked with the tamper-prevention seals. Failure to secure both latches could compromise ingress protection and may lead to water damage.



NOTE – Plan to route and support the CT Output Cable from Solar MSA Data Out to the inverter in a professional and skillful manner. Do not coil any excess slack around the meter or the MSA. Use appropriately sized and outdoor/UV rated cable clips.

Contact ConnectDER, Inc. at www.connectder.com/contact. for technical support with installing, replacing, and/or servicing the Solar MSA Data Out. Always follow the requirements of the serving electric utility and Authority Having Jurisdiction (AHJ).

Please read these instructions in their entirety before installing Solar MSA Data Out.

QUICK REFERENCE GUIDE – KEY COMPONENTS

The key components of Solar MSA Data Out are shown in Figure 1. The Connection Module is reversible and accommodates conduit entry from the left side or the right side.

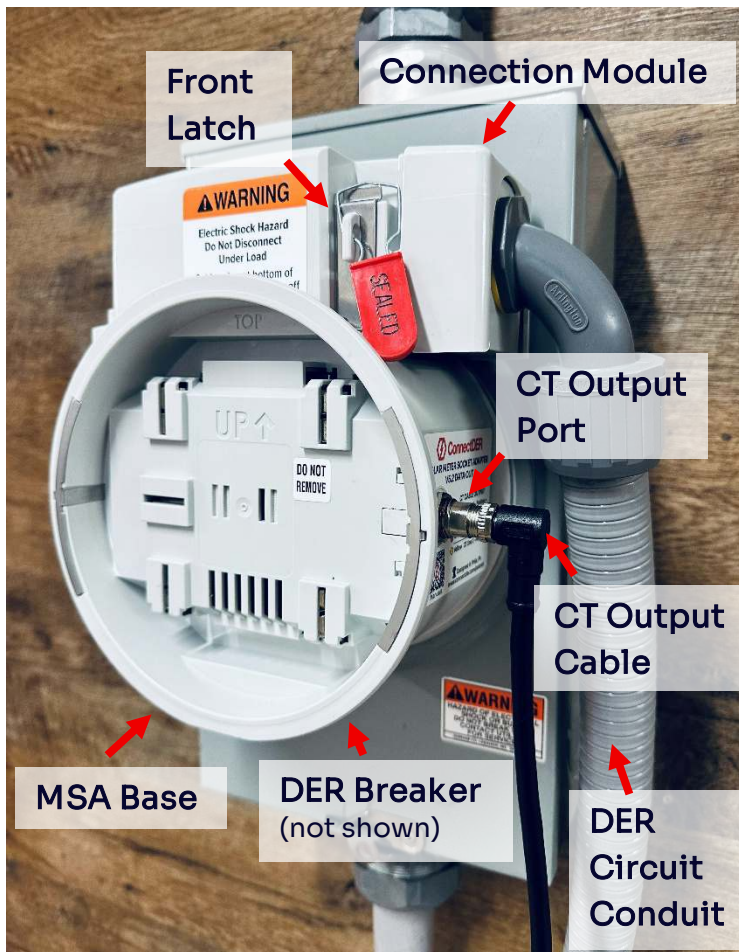


Figure 1. Key Components of the Solar Meter Socket Adapter Data Out (Solar MSA DO). The Connection Module allows field wiring terminations. It is reversible but always sits on top of the MSA Base. It includes a front latch (shown) and rear latch (not shown). The CT Output Port is on the right side of the MSA Base. There is a PV/DER circuit breaker under a cover at the bottom of the MSA Base (not shown).

INTRODUCTION

It is the responsibility of the party (“the installer”) installing, replacing, and/or servicing the Solar MSA Data Out to obtain and follow the most current installation document.

You can access installer resources (e.g., manuals, technical specifications, and more), by either going to www.connectder.com/resources or scanning the QR code below:



The above QR Code also links to the Product Registration page. **Product registration is required to activate and validate the warranty.**

Solar MSA Data Out is an Intertek Listed device that enables rapid interconnection of grid-ready distributed energy resources (DERs). It creates a safe, standardized, low-cost alternative to traditional wiring methods.

Intertek Testing Services, Inc. (ETL) grants its listing after verifying that products meet a high level of safety and quality, and conform to numerous codes and standards, including the 2023 edition of the National Electrical Code (NEC).

Solar MSA Data Out operates in parallel with the utility grid. It is approved for use with interconnected electric power production sources in accordance with Article 705 of the NEC such as Listed grid-interactive photovoltaic (PV) systems where the inverter(s) meets UL 1741 requirements.

CAUTION - Solar MSA Data Out is only intended for installation on the supply side of the service disconnecting means. Solar MSA Data Out must be installed only with the Connection Module at the top and the PV/DER circuit breaker at the bottom. Do not install Solar MSA Data Out in any other orientation. The installer must furnish an electrical insulation blanket and hot jaw safety cover mentioned in the installation steps in this document. Installation and service of Solar MSA Data Out, associated wiring and interconnections must be performed only by qualified personnel.

Turn off the power supply and all other potential electricity sources before installing or servicing Solar MSA Data Out. The graphics in this document mostly depict **deenergized** equipment.

Comply with national and local codes for rules governing backfeeding power. Follow the serving electric utility's meter removal and installation rules. The installer must furnish and use 1" trade size liquid-tight flexible conduit complying with the Standard for Liquid-Tight Flexible Metal Conduit, UL 360, or the Standard for Liquid-Tight Flexible Nonmetallic Conduit, UL 1660, and fittings complying with UL 514B. Solar MSA Data Out has no Wi-Fi or other communications capability.

Use a calibrated voltmeter to confirm conductive parts are deenergized before touching. Install Solar MSA Data Out using factory-insulated tools.

Do not alter Solar MSA Data Out or any other equipment or conductor in a manner that would void its listing or warranty. Do not attempt to replace the integrated circuit breaker(s) or modify any other components. ConnectDER recommends practicing the installation and wiring of Solar MSA Data Out using deenergized equipment before proceeding with live field installations.



NOTE – LOADS AND EVs. The MSA shall not be used to interconnect electric vehicle supply equipment (EVSE) or other non-controlled loads. The 200-amp combined utility and DER rating is permitted only when the DER is an input source to the MSA. Loads connected to the MSA must be limited to the minimal current that the inverter(s) requires to start, commission, and monitor a solar PV system.



NOTE – BATTERIES. While Solar MSA is primarily designed for grid-tied solar PV systems without battery energy storage, it can accommodate Battery Energy Storage Systems (BESS) for retail arbitrage. However, it does not support home backup because it lacks the capability to isolate your home from the grid. Any BESS connected to Solar MSA must be charged exclusively by solar PV, not by utility power. Consult your inverter's installation instructions for connecting BESS for retail arbitrage applications only. If interested in home backup applications, please ask a ConnectDER sales rep about IslandDER MSA.

SOLAR MSA DATA OUT FEATURES

- Enables rapid connectivity for PV systems and other DERs.
- Quick-connect and quick-release weatherproof Connection Module accommodates field wiring from the left or right side. Utility meter technicians can safely remove the Connection Module for inspection and servicing, leaving the DER branch circuit field wiring intact.
- Readily accessible supplemental PV/DER circuit breaker (located at the bottom of the MSA) for overcurrent protection and disconnecting means. Available in standard sizes from 15-80 amps and 10k or 22k AIC.
- Lockout/tagout capability for safety and security.
- Compatible with ringless, ring-type, and horn/lever bypass meter sockets* ANSI form 2S, 120/240v, ANSI form 12S, 120/208v, single phase, up to 200 amps maximum.
- 200-amp continuous combined utility and PV/DER rating (load-side of meter PV/DER interconnection point).
- Integrated whole-home consumption CTs that can save the installer time and reduce the risk of incorrect CT installation (i.e., reverse polarity).

WARNING – For lever bypass sockets, ConnectDER recommends:



- Locking out alternate/backup sources of power.
- Removing power from the premises loads and opening the main service disconnect.
- Actuating the lever bypass to facilitate meter removal.
- Removing the meter.
- Positioning the lever bypass to deenergize the load-side meter socket jaws.

WIRING SCHEMATICS

ONE-LINE SYSTEM DIAGRAM

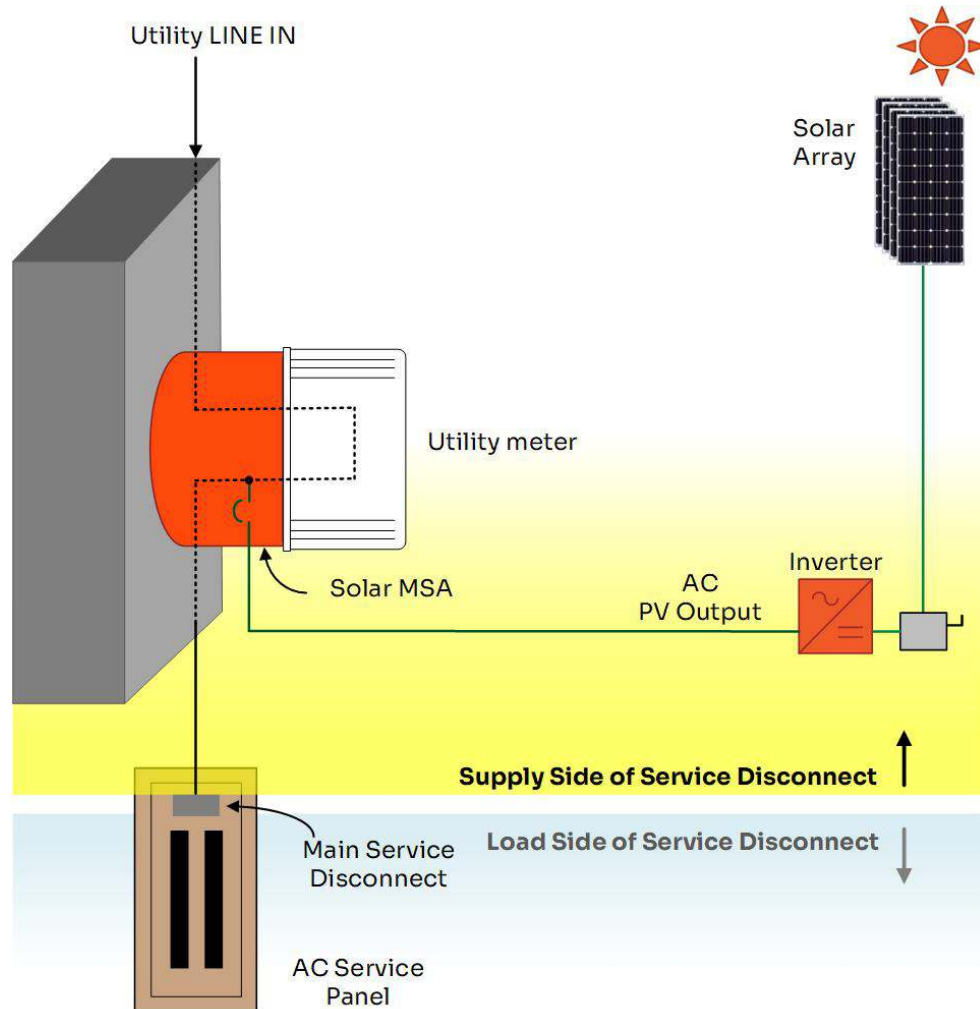


Figure 2. One-Line System Diagram. Note: CT Out connection is not shown.



NOTE – Solar MSA Data Out creates a supply side (of the main service disconnect) interconnection to the load side of the billing meter. Solar MSA Data Out contains a factory-installed neutral-to-ground bond.

POWER WIRING SCHEMATIC – LOAD SIDE OF METER INTERCONNECTION

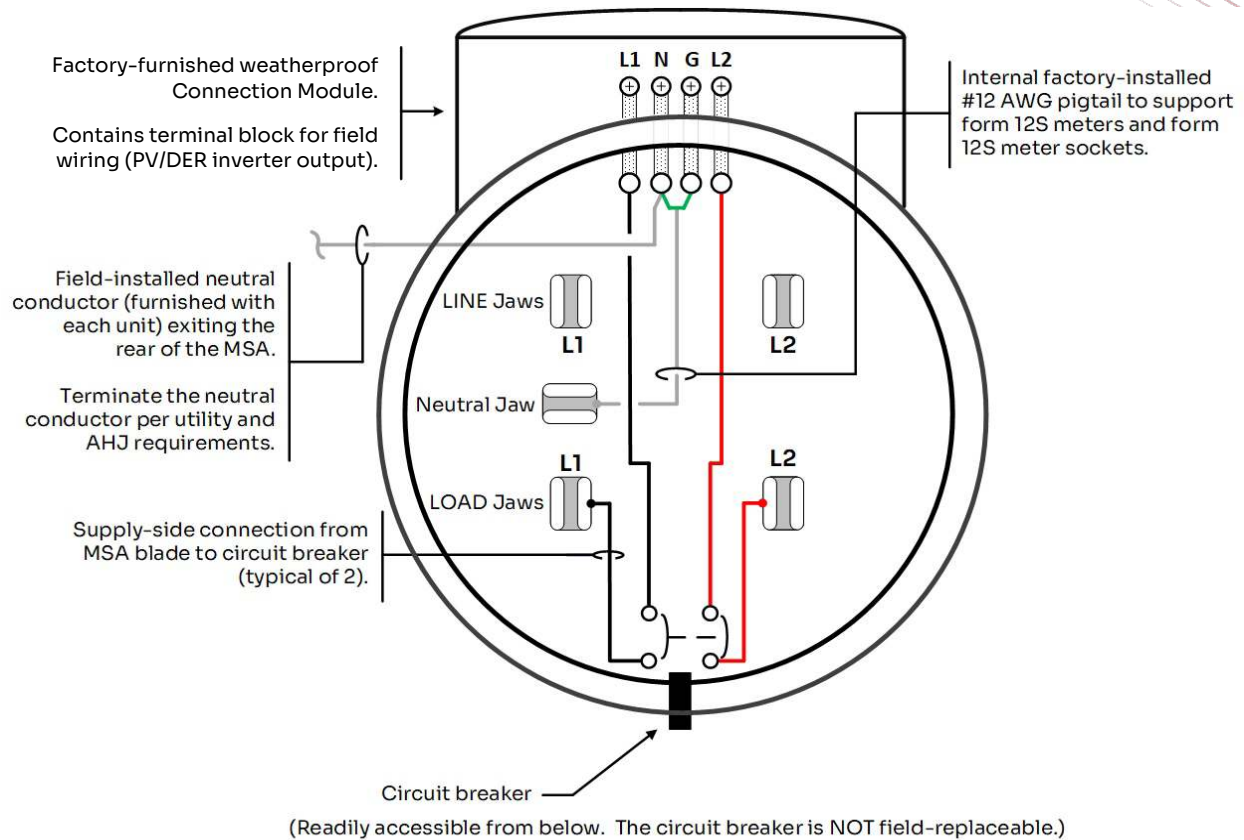


Figure 3. Power Wiring Schematic, Solar MSA Data Out with Load-Side of Meter Interconnection.



NOTE – Solar MSA Data Out has provisions for connecting to the line side of the meter with approval from the utility. These models can be ordered and used only through utility programs. See Reference 2 in the Appendix for a line-side (of billing meter) power wiring schematic diagram.



WARNING – Solar MSA is only suitable for use on the supply side of the service disconnecting means.

Solar MSA must be installed with the Connection Module at the top and the PV/DER circuit breaker at the bottom. Do not install the MSA in any other orientation.

BOX CONTENTS

Qty.	Item
------	------

- | | |
|---|--|
| 1 | MSA Base (Solar Meter Socket Adapter base). |
| 1 | MSA Connection Module assembly, with (qty. 1) 1" conduit trade size closure plug. |
| 2 | Spare Connection Module screws - 6/32 x 1/4" socket head machine screws. |
| 1 | Lock ring for attaching the meter to the MSA or MSA to ring type socket. |
| 1 | Neutral pigtail, white, #6, AWG THHN stranded copper, (furnished with units with PV/DER circuit breakers rated 60 amps or less). |
| 1 | Neutral pigtail, white, #4, AWG THHN stranded copper, (furnished with units with PV/DER circuit breakers rated 80 amps). |
| 5 | Tamper-resistant seals. |
| 1 | 5 th stab and #4-20 x 5/16" thread-forming screw for use with 12S/5-jaw meter sockets. |
| 1 | Accessory bag with installation reminders & QR code link to Solar MSA Data Out documentation. |
| 1 | Product Registration Card with QR Code to Product Registration Form. |
| 1 | Installation Instructions (1-page printed front and back). |
| 1 | 1" Type LFNC liquidtight flexible nonmetallic conduit connector. |
| 1 | 20 ft. CT Output Cable. |



NOTE – The Solar MSA installer must furnish and use 1" trade size liquid-tight flexible conduit complying with the Standard for Liquid-Tight Flexible Metal Conduit, UL 360, or the Standard for Liquid-Tight Flexible Nonmetallic Conduit, UL 1660, and fittings complying with UL 514B.



WARNING – It is the responsibility of the MSA installer to ensure the white NEUTRAL pigtail is installed with **EVERY unit**. Attach the neutral pigtail from the MSA to a neutral terminal in accordance with utility and AHJ requirements.

Verify the contents are complete before proceeding with installation. For missing or damaged items, please reach out at www.connectder.com/contact.

INSTALLATION PREPARATION

SITE INSPECTION

There are several types of residential meter sockets suitable for Solar MSA Data Out installation. Some common types, namely single gang/standalone, multi-gang, and combination meter socket/load centers are covered here. All three are available in ringless and ring type configurations.



NOTE - Any physical obstruction created by the MSA Base or Connection Module that would impede the operation, maintenance, or inspection of the meter socket and/or main distribution panel disqualifies a Solar MSA installation.

Begin assessing the suitability of a meter socket by ruling out two instances:

1. Rule out shallow meter sockets (sometimes referred to as “button” or puck-type” meter sockets as shown in Figure 4. They lack the interior space and a means to accommodate connection of a neutral pigtail.



Figure 4. Shallow Meter Socket (not recommended).

2. Rule out all meter sockets lacking space to install a neutral pigtail, signs of damage, excessive rust, evidence of loose or damaged service conductors, and enclosures loosely secured to the structure.

3. Confirm if the serving electric utility is restricting MSA usage to ringless (Figure 5) or ring type (Figure 6) meter sockets. Solar MSA supports both configurations.



Ringless meter sockets use a small raised flange to hold the meter in place with the cover closed. They do not use a separate locking ring.

Ringless meter sockets are locked through a sliding lever as shown here, or by other means implemented by the utility.

Figure 5. Single Gang/Standalone Ringless Meter Socket.



Ring type meter sockets have an extruded flange on the cover...



...for a locking ring to secure the utility meter.

Figure 6. Single Gang/Standalone Ring Type Meter Socket.

4. Confirm if multi-gang meter sockets (Figure 7) are on the utility's approved equipment list. They may present additional neutral wiring and service access issues over single gang meter sockets. ConnectDER recommends researching the manufacturer's documentation for potential compatibility.

Solar MSA Data Out compatibility with multi-gang meter sockets may be permitted by the utility on a case-by-case basis. Ensure that the Solar MSA Connection Module can be inserted and disconnected (lifted up a minimum of 2") and the field wiring raceway permits access to circuit breakers, and the removal of meter socket covers.

Multi-gang meter sockets may accommodate only the top socket, or left & right sockets, or possibly none at all.



Figure 7. Multi-Gang Meter Sockets.

5. Confirm if meter socket/load centers (Figure 8) are on the utility's approved equipment list. They may present additional neutral wiring and service access issues over single gang meter sockets. ConnectDER recommends researching the manufacturer's documentation for potential compatibility.



Figure 8. Combination Meter Socket/Load Centers.



NOTE – The NEUTRAL pigtail is REQUIRED as part of the installation with every unit. The neutral pigtail is normally terminated in the meter socket compartment. It is a component of the Solar MSA itself; therefore, it may be confined to the meter compartment. Verify with the AHJ and utility if the neutral connection must remain entirely within the meter socket compartment or terminate in the customer premises wiring section.



WARNING – Do not alter Solar MSA or any other equipment in a manner that would void its listing or warranty.

6. A Solar MSA shall not be installed on meter sockets already equipped with another socket adapter as shown in Figure 9.



Figure 9. Existing Meter and Meter Socket Adapter.



NOTE - Only install Solar Data Out in a Top Door Combination Meter Socket / Load Center **IF the MSA Base and fully seated Connection Module do not inhibit normal access to the adjacent compartments.**

7. Account for other considerations:
 - a. Check with the utility for other potential MSA prohibited installations. Do not install a Solar MSA where it is subject to physical damage.
 - b. Verify the Solar MSA model number(s) approved for use in the utility's service area.
 - c. Verify the Solar MSA would be accessible after the installation with adequate working clearance. Solar MSA extends the billing meter approximately 4.6 inches forward from the meter socket.
 - d. Check with the utility and AHJ before installing an MSA indoors. Solar MSA contains an overcurrent device. Overcurrent devices are not permitted in bathrooms, over steps of a stairway, and where subject to physical damage.
 - e. Verify the existing meter indicates the service voltage is 240v, 200 amps maximum, 3-wire, ANSI form 2S, or 208v, 200 amps maximum, 3-wire, form 12S. Some utilities require 12S/5-jaw meter sockets but are installing 2S/4-jaw meters. The Solar MSA is furnished with a 5th stab kit to support 12S/5-jaw meter sockets with the 5th jaw at the 9 o'clock position.
8. Additional examples of meter sockets **NOT suitable** for Solar MSA installation:

- a. Meter socket enclosures with damage, excessive rust, or are poorly mounted. See Figure 10.



Figure 10. Rusty, Damaged, Poorly Mounted Meter Sockets.

- b. Meter sockets with vertical brackets as shown in Figure 11. The neutral pigtail furnished with Solar MSA must be terminated at the 12 o'clock position at the rear of the MSA. The spot welds above and/or below the socket opening may indicate a bracket obstruction without removing the utility meter. Future MSA enhancements will address this issue.

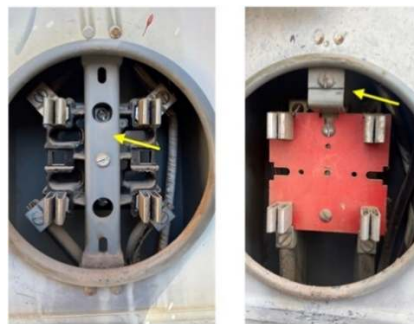


Figure 11. Meter Socket Bracket Obstruction.

- c. Meter sockets with signs of corrosion, overheating, or loose jaws. Figure 12 shows an example of corroded jaws.

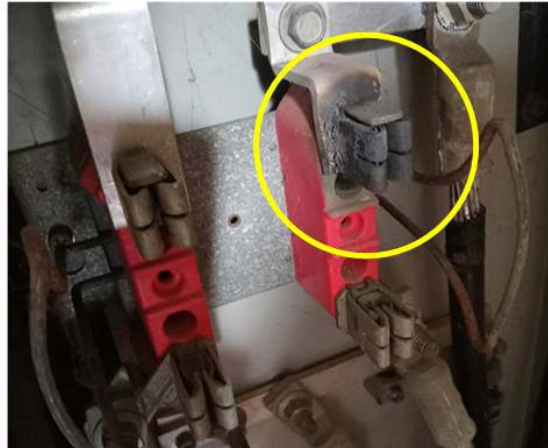


Figure 12. Corroded Jaw.

- d. Meter main combos that do not allow proper clearance for the CT Output Cable (see Figure 13). When using a meter main combo *where the breaker panel door is to the right of the meter socket adapter*, be aware of clearance restrictions.

- 1) **Ring-type sockets:** A minimum clearance of $1\frac{1}{16}$ " is required from the outer edge of the meter socket ring to the edge of the breaker panel.
- 2) **Ringless sockets:** A minimum clearance of $1\frac{1}{16}$ " is required from the inner circumference of the meter socket hole to the edge of the breaker panel.

Proper clearance is essential to ensure the breaker panel door can be opened while the CT Output Cable is connected without the risk of damage.

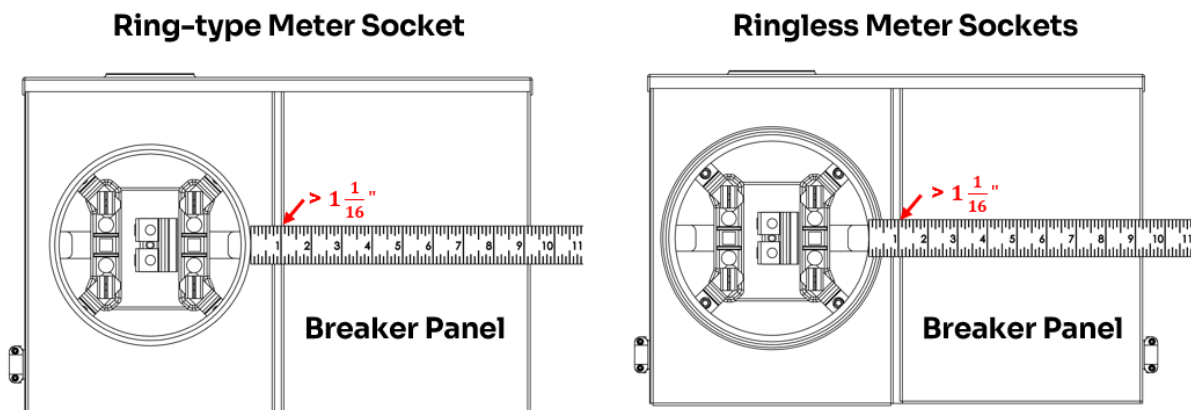


Figure 13. A minimum clearance of $1\frac{1}{16}$ " is required to ensure breaker door can open without needing to disconnect the CT Output Cable.

- e. Meter sockets where the MSA installation **inhibits access to adjacent compartments / service disconnects / breakers**. Figure 14 depicts a Top Door Combination Meter Socket / Load Center, which is typically not suitable for MSA installation since the MSA's Connection Module often inhibits access to the service disconnect / breaker enclosure.



Figure 14. Top Door Combination Meter Socket / Load Centers. Once the Connection Module is installed on top of the MSA Base, If it inhibits access to the service disconnect / breaker enclosure, this meter socket is NOT suitable for a Solar MSA Data Out installation.

9. Confirm the existing utility meter is either a form 2S or 12S, 3-wire, 200 amps maximum. See Figure 15.



Figure 15. Meter Form 2S and 12S.



NOTE – A 2S meter has 4 stabs. It fits into (and operates properly) in meter sockets with either 4 or 5 jaws. If the utility meter is form 12S, (5 stabs), OR if the existing

meter socket has 5 jaws (even if a form 2S/4-jaw meter is installed), follow the steps starting on Page 18 to install the 5th stab that is furnished with every unit.

PACKAGE INSPECTION

1. Inspect the box and verify the contents are complete and in good condition. For missing or damaged items, please reach out at www.connectder.com/contact.
2. Open the circuit breaker access door at the bottom of Solar MSA and verify the ampere rating on the PV/DER circuit breaker handle matches what was ordered.

ITEMS REQUIRED FOR SOLAR MSA INSTALLATION



NOTE – The following items must be provided by the installer to install a Solar MSA into a meter socket. Use factory-insulated tools wherever possible. Field wiring termination is covered later in this document.

Qty. Item

- | | |
|-------|---|
| 1 | One or more calibrated torque drivers to cover a range from 5 to 50 in-lbs. |
| 1 | 7/64" hex key. |
| 1 | 7/64" hex bit for use with a torque driver. |
| 1 | 1/4" flat blade screwdriver. |
| 1 | 1/4" flat blade bit for use with a torque driver. |
| 1 | Wire cutter. |
| 1 | Knife or wire stripper for the neutral pigtail furnished with the MSA. |
| 1 | Calibrated digital volt-ohmmeter or other suitable metering equipment. |
| 1 | Approved wiring connector and tools to terminate the pigtail inside the meter socket, if needed. |
| 1 lot | Additional tamper-prevention seals. Six are furnished with each unit to secure the Connection Module clasps, lock rings, etc. |
| 1 lot | Insulation material for the neutral connection in the meter socket, if needed. |
| 1 | "Meter Grabber™" or equivalent tool to safely remove and reinstall the electric meter. |

5TH STAB INSTALLATION FOR 12S/5-JAW METER SOCKETS

When to Install the 5 th Stab Kit on the Rear of the Solar MSA	
Utility Meter & Meter Socket Configuration	Install the 5 th Stab Kit?
Utility Meter = Form 12S/5-blade Meter Socket = Form 12S/5-jaw	YES
Utility Meter = Form 2S/4-blade Meter Socket = Form 12S/5-jaw	YES
Utility Meter = Form 2S/4-blade Meter Socket = Form 2S/4-jaw	NO



NOTE – Solar MSA is only compatible in 12S meter sockets with the 5th jaw at the 9 o'clock position.

1. In the box contents, locate the 5th stab and #4-20 x 5/16" thread-forming screw for use with 12S/5-jaw meter sockets. See Figure 16.



Figure 16. 5th Stab and Thread-Forming Screw.

2. Use a 1/4" flat-blade screwdriver to loosen the N/G lug located on the top of the Solar MSA Base, on the **right** side as viewed from the rear. This will allow the top tab of the 5th stab to insert into the lug. See Figure 17.

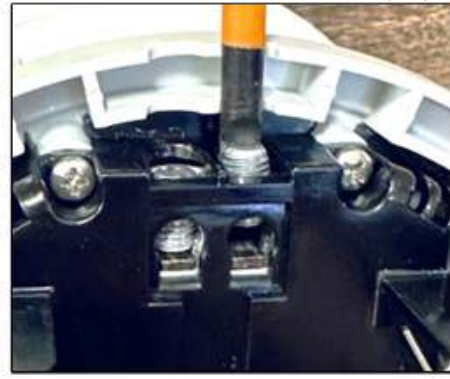


Figure 17. Loosen the Right-Side N/G Screw.

3. Insert the 5th stab onto the rear of the Solar MSA Base until it sits in the plastic recess with the tab in the open lug. See Figure 18. Lightly tighten the lug screw.



Figure 18. 5th Stab Inserted to the back of the Solar MSA Base.

4. Install the #4-20 thread-forming screw. Gently tighten until the screw is fully seated and the blade is secured. Be careful not to overtighten. Torque the top N/G lug to 35 in-lbs. See Figure 19.

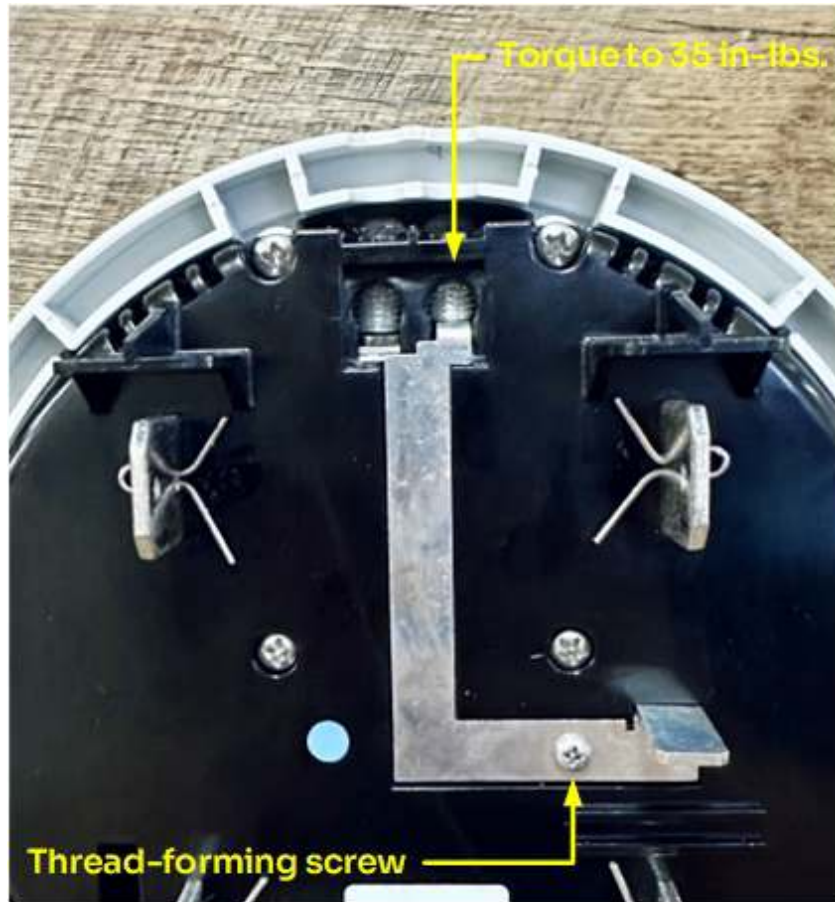


Figure 19. 5th Stab Completely Installed on the back of the MSA Base.

SAFETY EQUIPMENT

Always follow company and local safety/PPE requirements related to OSHA and NFPA 70E.

Installers must be intimately aware of local and company safety/PPE requirements. If safety/PPE requirements are unknown, STOP work. DO NOT proceed further. Installers must ensure all PPE has the minimum appropriate rating for the application.

Examples of common PPE and other protective devices are listed below:

Qty.	Item
1	Safety glasses.
1	Full-face arc flash shield.
1	Leather/rubber insulated electrical glove kit.
1 lot	Calorie rated clothing for the site's arc flash rating.
1 pair	Safety footwear.

ConnectDER recommends insulating energized parts within the meter socket using an appropriately rated electrical insulation blanket that can be cut to size, temporarily applied, then taped and/or clamped into place. A hot jaw safety cover may also suffice (Figure 20). Contact the serving utility for other safety tips or procedures.

Photo courtesy of
A.E. Products, Inc.



Electrical Insulation
Blanket



Figure 20. Protection From Energized Parts.

INSTALLATION PROCEDURE



WARNING – Solar MSA installation must be performed by qualified personnel only. Electric shock, arc flash hazards, serious injury or death may result if power is not removed prior to the Solar MSA installation.

REMOVE THE EXISTING UTILITY METER

In some service territories, the meter must be removed by the utility. An increasing number of utilities are permitting qualified personnel to remove the meter and install the Solar MSA.

A NEUTRAL conductor is furnished and MUST BE INSTALLED with each Solar Meter Socket Adapter. The governing electric utility may require a power outage to de-energize the meter socket to perform work in and/or terminate the neutral conductor. Please follow the prescribed process for work in meter sockets by the governing utility

1. Notify the homeowner that power will be interrupted.
2. Verify/assist the homeowner in isolating alternate electrical sources such as backup generators, battery systems, etc.
3. Turn off all power to the loads at the service equipment, then open the main service disconnect to prevent arcing when removing and reinstalling the meter. **The line side meter socket jaws will remain energized unless the utility has disconnected the incoming power at the pole/street/transformer, etc.**
4. Remove all jewelry, **put on the appropriate PPE**, and follow your employer's safety procedures. Remove the tamper-prevention seals.
5. Remove the locking ring (for ring-type meter sockets). For ringless meter sockets, remove the meter socket cover.
6. For lever bypass meter sockets, actuate the lever to permit meter removal.
7. Using a "Meter Grabber™" or similar tool, remove the utility meter and store it safely.
8. For lever bypass sockets, position the lever bypass to deenergize the load-side meter socket jaws.
9. Inspect the meter socket terminals for loose or broken wires, damaged/compromised jaws, and other signs of damage. Confirm the meter socket and service entrance conductors are in good condition. Comply with utility requirements and local codes.

INSTALL THE NEUTRAL LEAD – **REQUIRED** FOR ALL SOLAR MSA INSTALLATIONS

It is the responsibility of the Solar MSA installer to ensure a white **NEUTRAL PIGTAIL IS INSTALLED WITH EVERY UNIT**, regardless of the Form (2S / 12S) of the meter. Attach the white neutral pigtail (furnished with the unit) from the rear of the MSA to a neutral point inside of the meter socket as follows:

1. Remove the neutral pigtail from the box and **tape up/safe-off one end with electrical tape.**
2. Put on the appropriate PPE.
3. Install an insulation blanket over live parts if the meter socket must remain energized.
4. Identify the method to terminate the neutral pigtail inside the meter socket. Figure 21 depicts the interior of a typical 4-jaw meter socket. This model has a single accessory position, circled in yellow. A second accessory position may be available where the blue dot is shown.

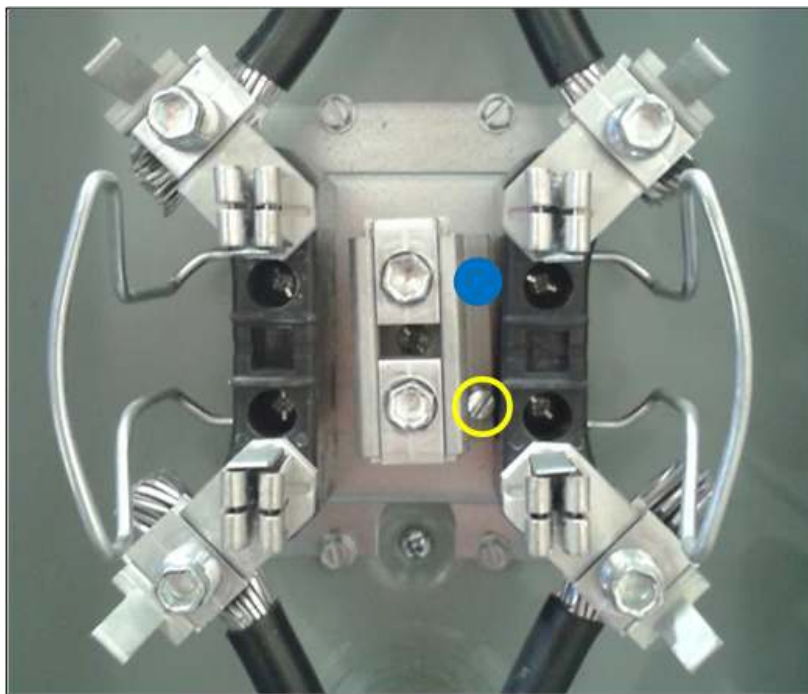


Figure 21. 4-Jaw Meter Socket.

These accessory positions may contain pressure terminals or hardware for the connection of compression lug terminals. Terminate the neutral pigtail in accordance with the manufacturer's torque specifications.

5. Terminate the neutral pigtail into the meter socket using a spare accessory as shown in Figure 22. If no spare accessory position is available, terminate the neutral pigtail using an approved wiring termination method suitable for use in meter sockets, meter/main or meter/combo panels acceptable to the utility and the authority having jurisdiction (AHJ).

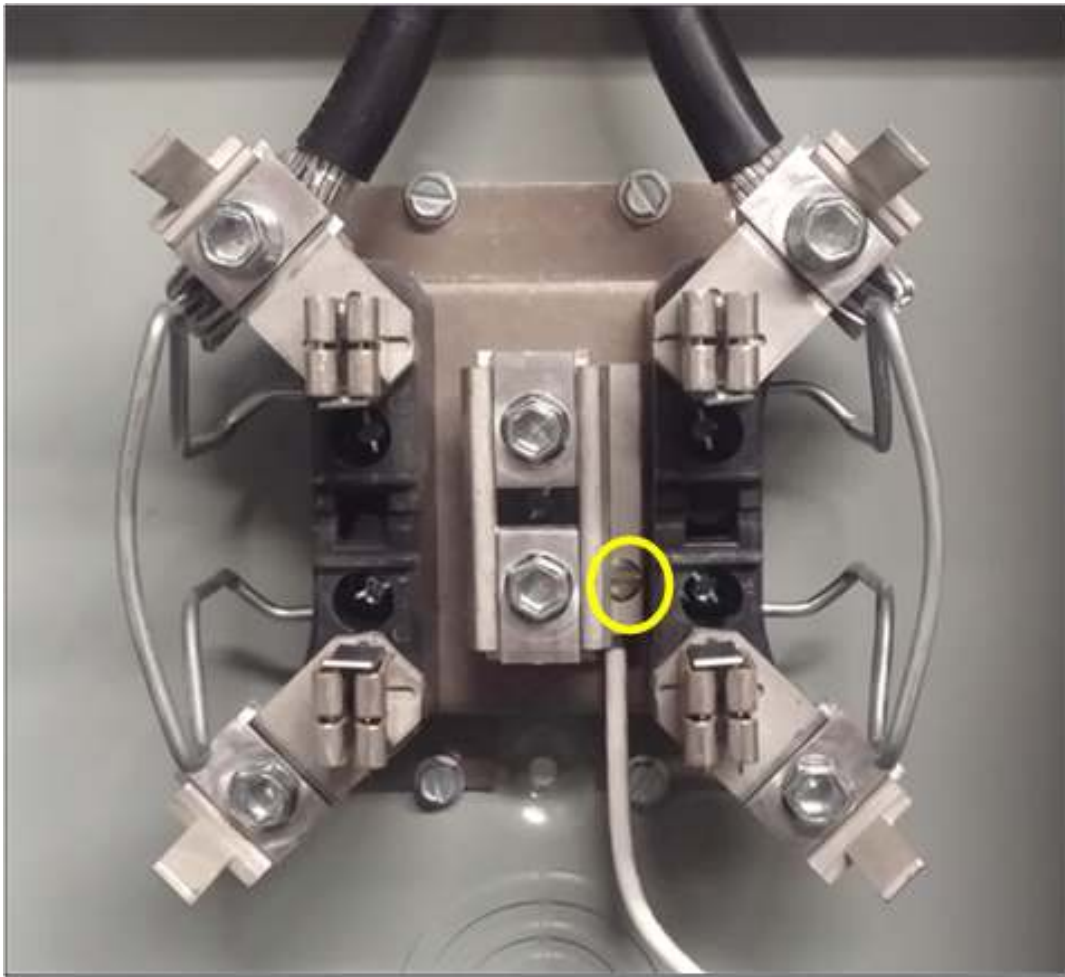


Figure 22. Terminate the Neutral to the Meter Socket.



NOTE – In case an accessory position is unavailable: As of January 1, 2023, **NEC 230.46 (2020 & 2023 editions)** requires pressure connectors and devices for splices

and taps installed on service conductors to be marked “suitable for use on the line side of the service equipment” or equivalent.

Figure 23 shows a parallel tap conductor that is UL Listed as suitable for use on the line side of service equipment.

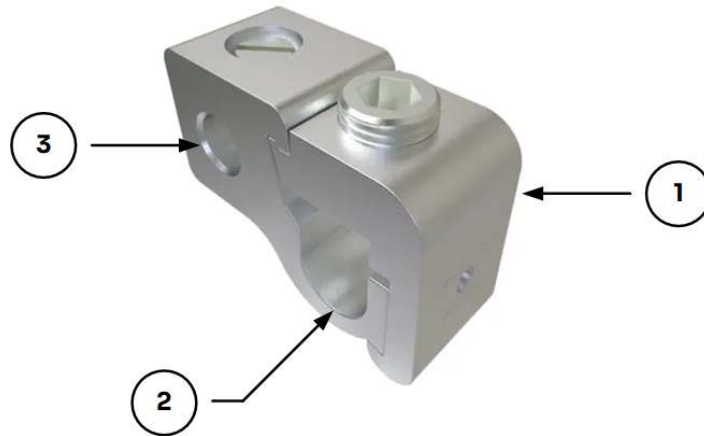


Figure 23. Ilco GTA-250-0 Parallel Tap Connector.

This parallel tap connector has a removable component (1), leaving an open U-shaped groove (2) allowing the installer to slip the connector around the existing neutral conductor. The removable component is reinstalled, and the connection is torqued to the manufacturer’s specifications. The remaining opening (3) accommodates the neutral pigtail supplied with the Solar MSA.

Figure 24 shows a similar parallel tap connector installed on the existing load side (of the meter) neutral service entrance conductor.

For more information on neutral connection options, please refer to Appendix: Reference 7 – Neutral Connection Options.

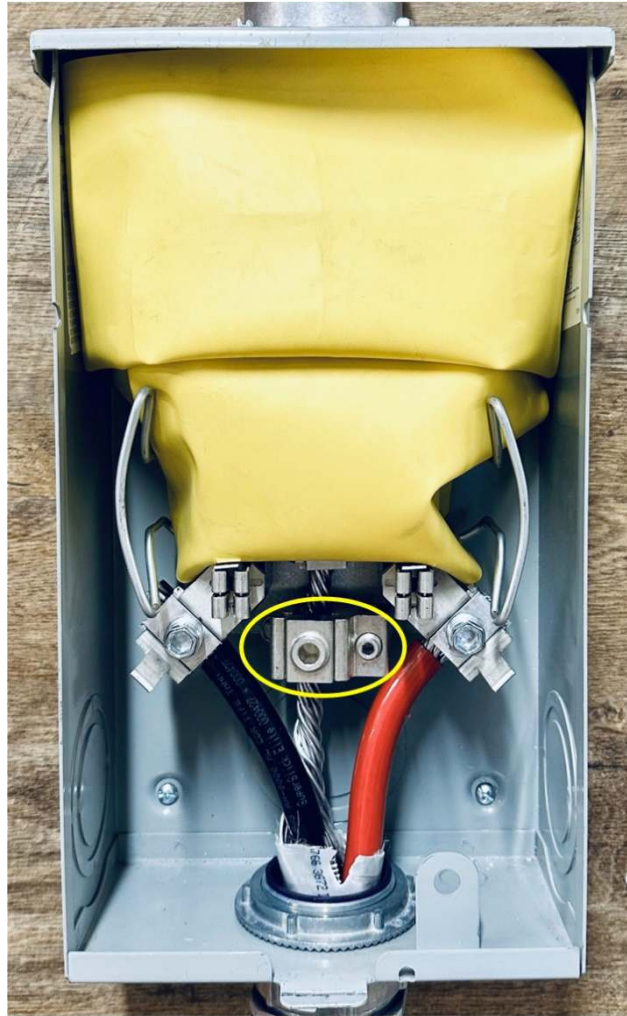


Figure 24. Parallel Tap Connector Installed.



WARNING – It is the responsibility of the installer to verify that a pressure connector or device for splices and taps is suitable for use on the line side of the service equipment when following the 2020/2023 edition of the NEC.

6. Route the neutral conductor within the meter socket (Figure 25) in a manner to avoid damaging the insulation and remain clear of the meter socket jaws. Position the free end to terminate near the top and center of Solar MSA.

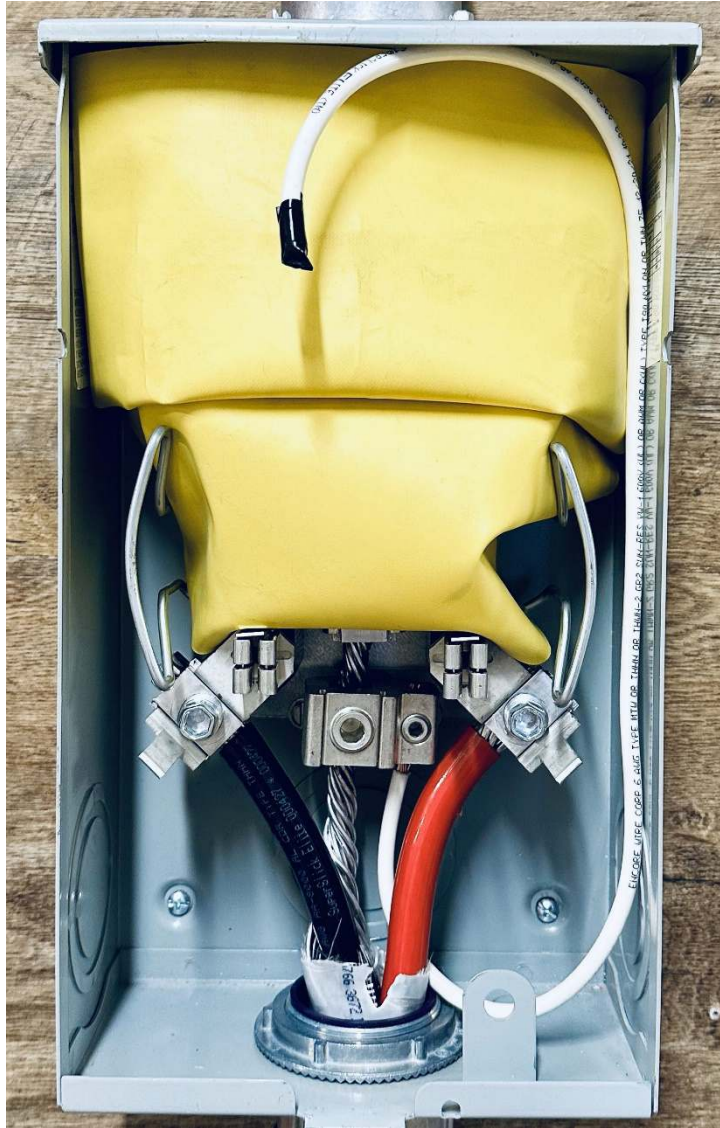


Figure 25. Route the Neutral Within Meter Socket.

7. For ring-type meter sockets, remove the insulation blanket and reinstall the meter socket cover. Route the neutral lead through the cover opening (Figure 26). For ringless meter sockets, connect the neutral lead to Solar MSA before reinstalling the cover (see step #9).



Figure 26. Reinstall the Ring-Type Cover.

8. Open the clasps on Solar MSA and remove the Connection Module from the MSA Base by hand, pulling it straight upward.
9. Strip $\frac{1}{2}$ " (approximately 13mm) of insulation from the neutral pigtail as shown in Figure 27.

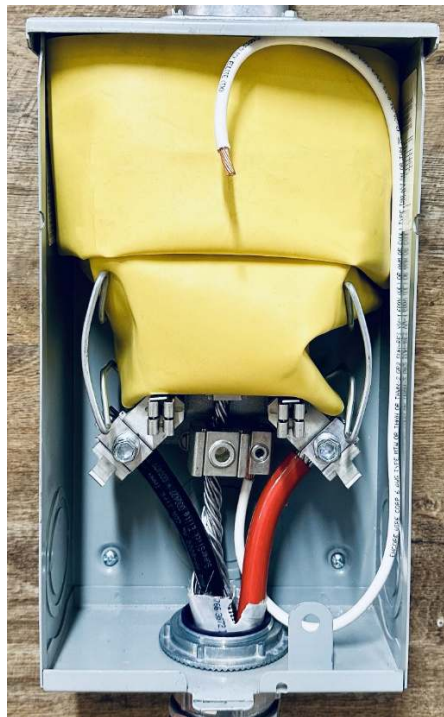


Figure 27. Neutral Ready for Solar MSA Termination.

10. There are two lug terminals on the rear of Solar MSA. Terminate the neutral pigtail to either lug on the MSA using a 1/4" flat blade screwdriver as shown in Figure 28. The spare terminal may be used in case the utility or AHJ requires a grounding electrode conductor.



Figure 28. Terminate the Neutral to the Solar MSA Base.

11. Torque the neutral connection at the MSA to 45 in-lbs.

INSTALL THE SOLAR MSA INTO THE METER SOCKET

1. Confirm the Solar MSA PV/DER circuit breaker at the bottom of the unit is in the open (OFF) position. See Figure 29.



Figure 29. Verify the PV/DER circuit breaker is open (OFF) on the bottom of the MSA Base.

2. Remove the temporary insulation protection.
3. Shut the circuit breaker cover.
4. Ensure Solar MSA is positioned with the Connection Module power interface contacts at the top and the PV/DER breaker at the bottom.
5. Align the Solar MSA stabs with the socket jaws, ensuring all wire and additional terminations will avoid non-insulated parts within the meter socket.
6. Firmly insert Solar MSA into the meter socket. **Ensure the MSA stabs are securely seated in the meter socket jaws. The MSA should not move freely once properly seated.** For lever bypass meter sockets, return the lever to the normal operating position.
7. For ringless meter sockets, reinstall the meter socket cover over Solar MSA, taking care not to cause damage. Tight clearances may necessitate gentle manipulation of the cover around the Solar MSA Base. See Figure 30.



Figure 30. Reinstall the Meter Socket Cover.

8. For ring-type meter sockets, install a locking ring to secure Solar MSA to the meter socket cover with the thicker/wider flange facing the meter socket.
9. Verify the meter socket cover is fully engaged. Confirm the PV/DER circuit breaker cover opens freely. See Figure 31.



Figure 31. Circuit Breaker Cover opens on the bottom of the MSA Base.

REINSTALL THE UTILITY METER

1. Using a “Meter Grabber™” or similar tool, align the utility meter stabs with the Solar MSA jaws.
2. Firmly insert the meter into the Solar MSA Base, ensuring a secure fit.
3. Install a lock ring to secure the utility meter to Solar MSA with the thicker/wider flange facing the meter socket.

VERIFY VOLTAGE AT THE SOLAR MSA

1. Place the PV/DER circuit breaker at the bottom of Solar MSA in the ON position.
2. Using proper PPE, verify the presence of appropriate service voltage at power interface on the top of the MSA as shown in Figure 32. Check L1-L2, L1-N/G, and L2-N/G. Do not proceed with installation until the voltages meet expected values.

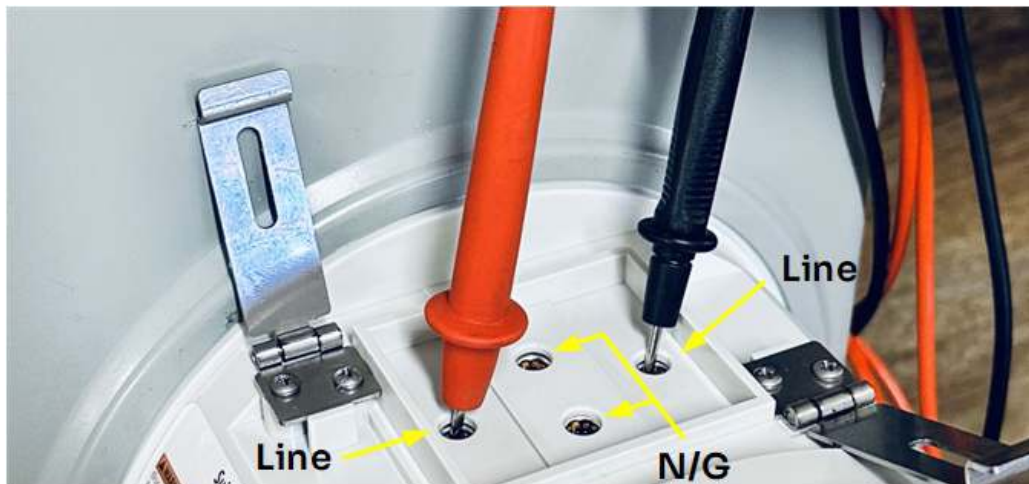


Figure 32. Verify Voltage at the Power Interface of the MSA Base.

3. Return the PV/DER circuit breaker to the OFF position.
4. Re-test to verify there is no voltage at the power interface.
5. Shut the circuit breaker cover and lock it out until the PV/DER wiring is interconnected.

INSTALL THE SOLAR MSA CONNECTION MODULE

1. Confirm the Solar MSA PV/DER circuit breaker is OFF and locked out.
2. Flip open the Connection Module locking clasps as shown in Figure 33.



Figure 33. Connection Module Locking Clasps.

3. Confirm the 7/64" screws on the bottom of the Connection Module (Figure 34) are torqued to 8 in-lbs. in case they loosened during shipping.



Figure 34. Torque the Connection Module Screws.

4. Install the Connection Module by aligning its pins with the MSA power interface on the MSA Base and press firmly downward. Close the Connection Module clasps and ensure the conduit entry hole closure plug is installed as shown in Figure 35.



Figure 35. The MSA Connection Module is installed on top of the MSA Base. The clasps are closed and the black conduit entry hole closure plug remains in place (bottom image).

5. Install tamper-prevention seals on the lock ring(s), the meter socket cover, and the Connection Module clasps as shown in Figure 36 unless directed otherwise by the utility or the AHJ.



NOTE - Proper lock ring installation is critical to secure the MSA to the socket (in the case of a ring-type socket) and the electric meter to the MSA. Proper installation also



6. Verify with the homeowner that any alternate/backup power solutions are in position to restore utility power to the service equipment.
7. Restore utility power and shut the main service disconnecting means.
8. The installation of Solar MSA is complete and ready for PV/DER interconnection.

INSTALL THE PV/DER FIELD WIRING

ITEMS REQUIRED FOR PV/DER FIELD WIRING INSTALLATION



NOTE – The following items (provided by the installer) are required to connect branch circuit wiring to the Solar MSA:

Qty.	Item
1	One or more calibrated torque drivers that cover a range from 5 to 50 in-lbs.
1	7/64" hex key.
1	7/64" hex bit for use with a torque driver.
1	5/16" flat blade screwdriver.
1	5/16" flat blade bit for use with a torque driver.
1	Wire cutter.
1	Knife or wire stripper for field wiring.
1	Calibrated digital volt-ohmmeter or other suitable metering equipment.
1 lot	Tools and materials to install PV/DER raceway to the Solar MSA Connection Module. Use 1" trade size liquid-tight flexible conduit complying with the Standard for Liquid-Tight Flexible Metal Conduit, UL 360, or the Standard for Liquid-Tight Flexible Nonmetallic Conduit, UL 1660, and fittings complying with UL 514B.
1 lot	Additional tamper-prevention seals. Five are furnished with each unit to secure the Connection Module clasps, meter socket rings and cover (if ringless).



WARNING – Solar MSA installation must be performed by qualified personnel only. Follow your employer's requirements for personal protective equipment (PPE) and procedures.

INSTALL PV/DER FIELD WIRING AT THE SOLAR MSA CONNECTION MODULE



NOTE – The reversible Connection Module accommodates conduit entry from the left or right side. A 45-degree or 90-degree connector is recommended to be used at the Connection Module. Provide enough slack (i.e., service loop) in the flexible conduit to permit Connection Module removal (pulling straight up a minimum of 2 inches) for ease of utility inspection and maintenance.



NOTE – The Solar MSA Connection Module wiring should be terminated **first**. It is easier to accommodate an angled connector at the MSA Connection Module by wiring it first.

1. Use type THHN/THWN-2 insulated, **copper conductors only**. Select the wire gauge by following the ampacity at 75°C. Do not use aluminum or copper-clad aluminum conductors.
2. Verify the PV/DER field wiring is clear of faults using suitable metering equipment.
3. Remove jewelry, put on the appropriate PPE, and follow your employer's safety procedures.
4. Place the PV/DER circuit breaker in the open (OFF) position.
5. Shut the circuit breaker cover and lock it out following your company's lockout/tagout (LOTO) practices.
6. Follow procedures for removing the tamper-prevention seals from the Connection Module clasps.
7. Flip open the Connection Module clasps.
8. Pull the Connection Module up by hand to remove it from the Solar MSA Base. Once removed, ensure that no moisture or debris enters the power interface of the MSA Base while wiring the Connection Module. See Figure 37.



Figure 37. Connection Module Removed from the MSA Base.

9. Using a 7/64" hex key, remove the bottom cover of the Connection Module, taking care not to damage the gasket material. Set the screws aside in a safe place.
10. Remove the 1" weatherproof plug from the Connection Module and identify the terminals.



NOTE - When you reverse the Connection Module (i.e., switch the conduit entry from left to right) the positions of the L1 and L2 lugs in the Connection Module also reverse. To ensure each CT monitors the correct line, these models have additional labeling inside the Connection Module to guide proper wire termination. See Figure 38 and Figure 39 for more details.



Figure 38. Connection Module Terminals. The colored L1/L2 labels provide additional guidance for landing the lines depending on if the conduit entry will be on the right or left.

11. Install the liquidtight conduit connector onto the Connection Module and tighten the locknut with the connector at the desired angle.
12. Pull the DER branch circuit wiring through the conduit connector.
13. Strip the conductor insulation to expose the copper 1/2" (approximately 13mm).
14. Before sliding each conductor into its individual lug, decide if the conduit will exit on the right or left side of Solar MSA (see Figure 39). As mentioned earlier, the direction of the conduit determines which lugs will correspond to L1 and L2.

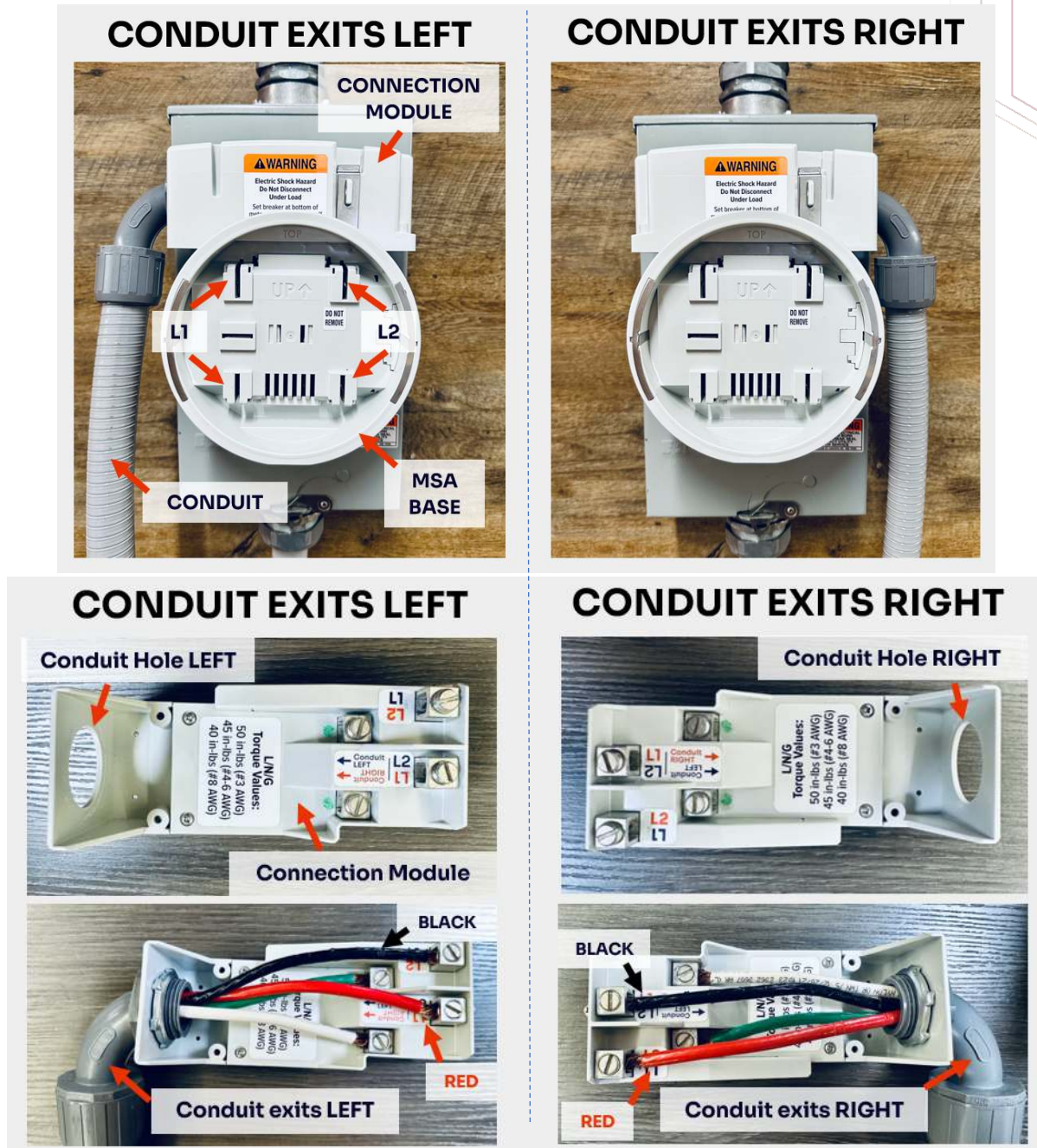


Figure 39. The left image illustrates the conduit exiting from the left side of the Connection Module, while the right image shows the conduit exiting from the right side. To ensure the CTs are reading their respective line, line conductors must be landed in the Connection Module lugs corresponding to the conduit's exit side. In the field wiring shown in the bottom two photos, L1 is BLACK and L2 is RED. GROUND is GREEN and NEUTRAL is WHITE (note: GROUND and NEUTRAL can be reversed).

15. Slide each conductor into its individual lug. Ensure all strands from each conductor enter the screw terminal area.
16. Use a 5/16" flat blade screwdriver to hand-tighten the screw terminals ensuring that only the copper conductor is being compressed (**not** the insulation).
17. Perform a gentle "pull test" to ensure all connections are secure.
18. Torque each screw terminal according to conductor size. See Figure 40.

#14-#10 AWG: 35 in-lbs.	#8 AWG: 40 in-lbs.
#6-#4 AWG: 45 in-lbs.	#3 AWG – 2/0: 50 in-lbs.
19. Route the excess slack back through the conduit connector and reassemble the Connection Module.
20. Reinstall the 7/64" screws and torque to 8 in-lbs.
21. Slide the liquidtight raceway over the wiring and secure it to the raceway connector.

INSTALL THE CONNECTION MODULE

1. Verify the power interface area is clear of moisture and debris that could cause a fault. Align the pins of the Connection Module over the power interface in the Solar MSA Base as shown in Figure 40.



Figure 40. Align the Connection Module Pins over the Power Interface of the MSA Base.

2. Insert the Connection Module onto the MSA Base. Press firmly to ensure it is seated.

3. Secure the Connection Module with the metal clasps in front of and behind the box. See Figure 41.



Figure 41. Secure the Connection Module Clasps.

4. Install two tamper-resistant seals – one each at the front clasp and rear clasp as shown in Figure 42.



Figure 42. Tamper-Prevention Seals installed on the Connection Module clasps.

INSTALL THE CT OUTPUT CABLE

1. A black CT Output Cable is provided with Solar MSA V5.2 Data Out. Locate it. Note that it has a terminated end (that plugs into the MSA Base) and a non-terminated end (that terminates in the inverter), as shown in Figure 43. The cable is about 20 ft long, and rated for 600V, UV, and Outdoors.



Figure 43. The CT Output Cable provided with Solar MSA V5.2 Data Out. Left: Non-terminated end (lands in the inverter). Right: Terminated end (plugs into MSA).

2. Route the CT Output Cable according to company policy, AHJ requirements, and utility guidelines (e.g., sharing a conduit with power conductors or run separately). Reminder that the cable is rated for 600V, UV, and Outdoors.
3. If needed, carefully strip the non-terminated end of the CT Output Cable jacket to expose the four individual conductors (Figure 44).



WARNING – route, cut, and strip the CT Output Cable as needed BEFORE terminating in the inverter or plugging into Solar MSA. Do not cut, strip, or route cable if plugged in or energized.

MSA CT OUTPUT CABLE



Figure 44. The non-terminated end of the CT Output Cable. The jacket has been stripped to expose the four conductors.

4. Land the CT Output Cable in the inverter. The pinout shown in Table 1 associates each CT Out Cable conductor with a CT and polarity. Table 2 and Figure 45 show the use case for a SolarEdge inverter. For further details, please refer to the specific inverter model's installation manual.

MSA CT Cable	Description
○ Solid White	L1 CT: Positive (+)
● Solid Black	L1 CT: Negative (-)
◐ White - Black Stripe	L2 CT: Positive (+)
◑ Black - White Stripe	L2 CT: Negative (-)

Table 1. Pinout for the CT Output Cable.

MSA CT Cable	Inverter Terminal Blocks
○ Solid White	○ L1 CT: White Circle (+)
● Solid Black	● L1 CT: Black Circle (-)
◐ White - Black Stripe	○ L2 CT: White Circle (+)
◑ Black - White Stripe	● L2 CT: Black Circle (-)

Table 2. CT Output Cable pinout for a use case with a SolarEdge inverter.

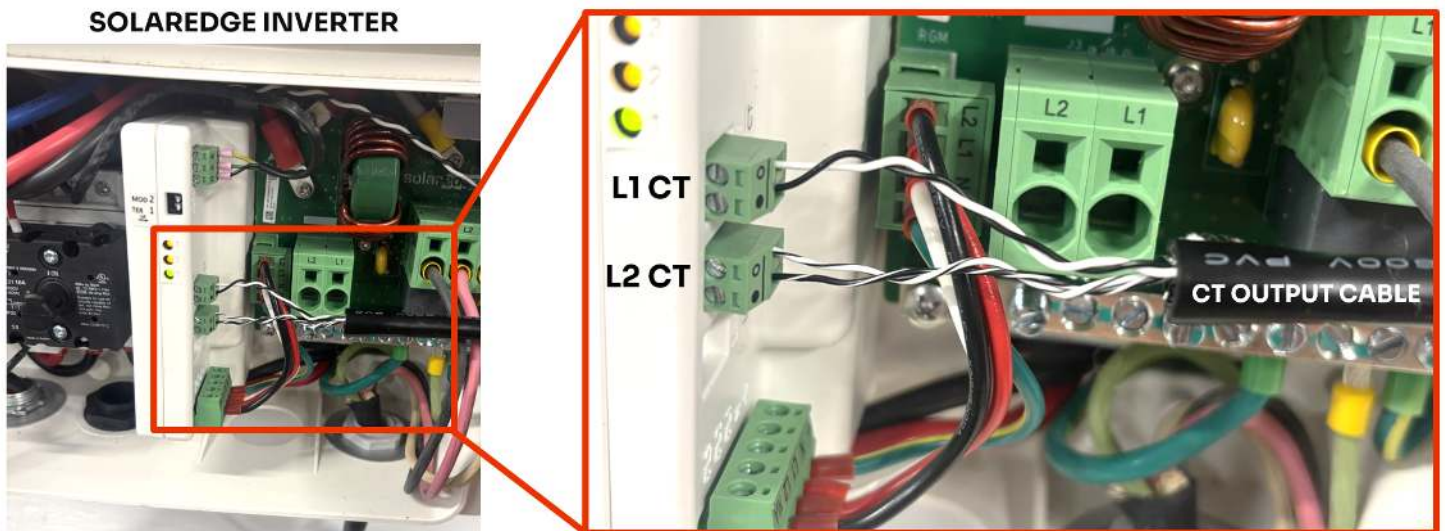
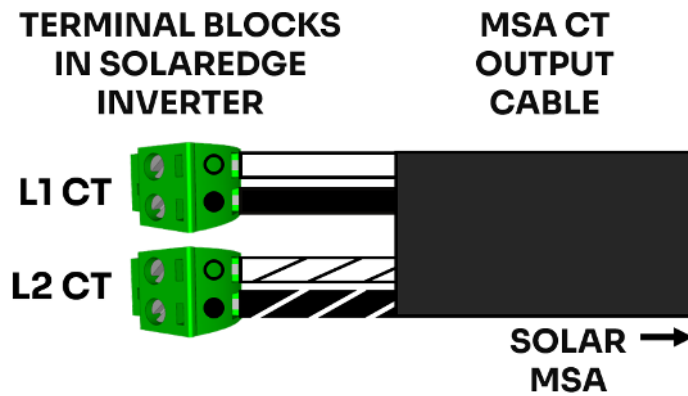


Figure 45. CT Output Cable landed in the CT Terminal blocks of the SolarEdge inverter.

5. Locate the CT Output Port on the right side of the MSA Base. If there is a dust cap on the port, remove it first, as shown in Figure 46.



Figure 46. The CT Output Port can be found on the right side of the MSA Base.

6. As shown in Figure 47, plug in the terminated side of the CT Output cable with the cable facing down. It is keyed, it will only go in this way.



Figure 47. The CT Output Cable plugs in with the cable facing down.

7. Make sure it is fully seated.



Figure 48. Make sure the CT Output Cable is fully seated in the CT Output Port before screwing it in.

8. Screw the ring on the CT Output Cable clockwise until it no longer screws in.



Figure 49. Once the CT Output Cable is on the CT Output Port, screw it in until it is secure.

NOTES:



- The CT Output Cable is about 20ft long. If the installation requires a longer cable, use a shielded CT extension cable (SolarEdge recommends a cable that can be purchased separately).
- If you need to remove the CT Output Cable: unscrew the ring, unplug the CT Output Cable, and replace the dust cap on the CT Output Port. Though the CT Output Port is IP-67 rated without the dust cap, use of dust cap is recommended. Safely store the CT Output Cable to provide protection from physical damage, water, and debris.

COMPLETE THE CONDUIT, WIRING, ENERGIZE AND TEST

1. Install, support, and terminate the other end of the raceway and conductors to the next enclosure (such as an AC PV disconnect or PV production meter). Support the liquidtight conduit per NEC/AHJ requirements. If possible, provide enough slack (i.e., a service loop) in the flexible conduit to permit Connection Module removal (pulling straight up a minimum of 2 inches).
2. When ready to energize and commission the PV/DER system, remove the lockout/tagout device at the PV/DER branch circuit breaker and place it in the (ON) position.
3. Put on PPE and test for proper voltage and polarity at the next enclosure.
4. Follow your employer's safety and working procedures to extend the wiring as needed.
5. Follow the manufacturer's instructions to commission the PV/DER system.
6. Position the metal tabs on the PV/DER circuit breaker covers to hold it the closed (weatherproof) position. For additional protection, install spare tamper-prevention seals or other lockout devices.

TROUBLESHOOTING

See Table 3 below for troubleshooting tips.

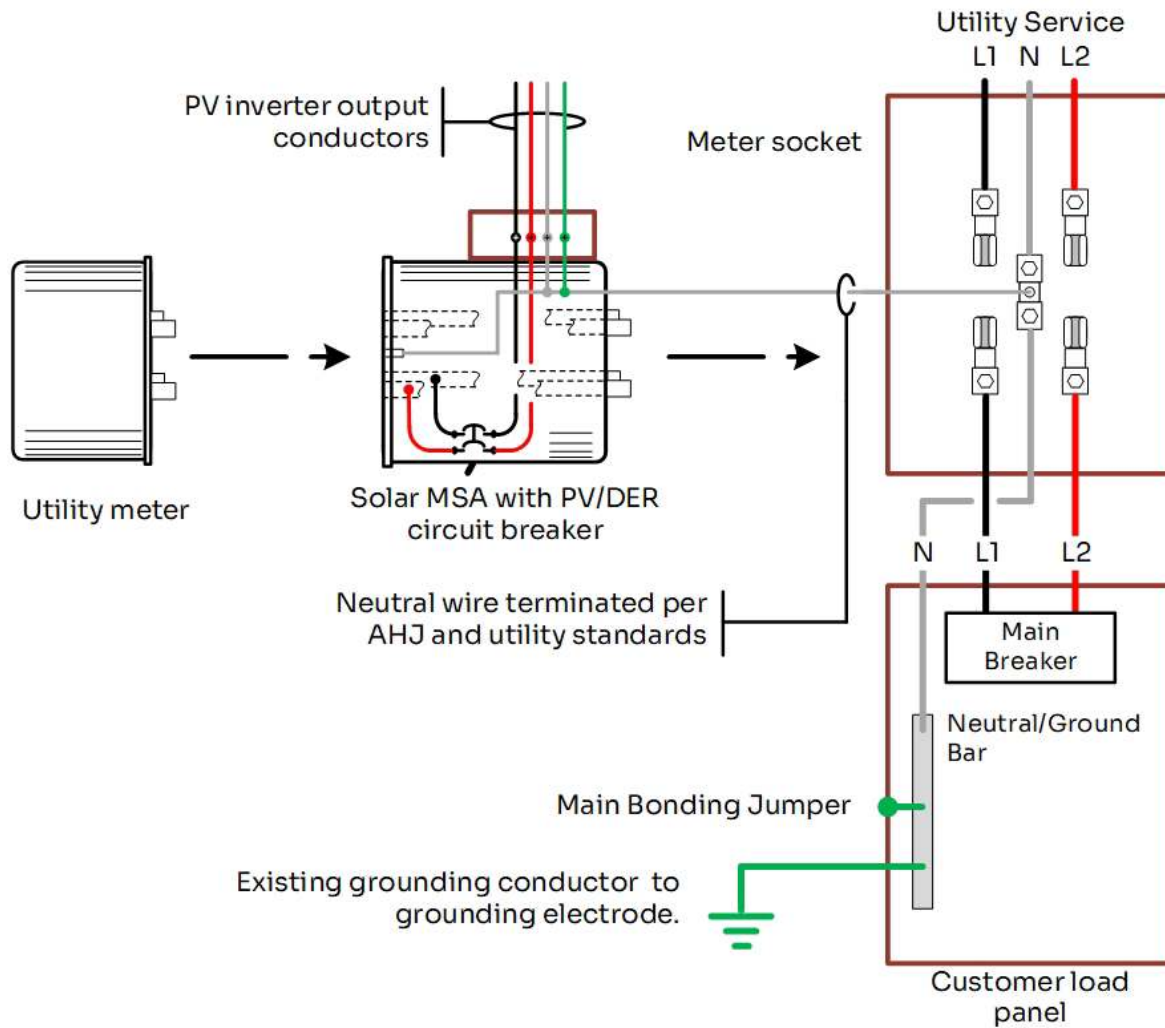
Symptom	Corrective Action
No voltage at the MSA Connection Module terminals.	Verify the PV/DER circuit breaker at the bottom of Solar MSA is ON, not OFF or TRIPPED. If tripped, turn all the way OFF, then ON again.
The PV/DER circuit breaker trips repeatedly.	1) Verify the total inverter continuous output current is no more than 80% of the PV/DER circuit breaker rating. 2) Verify the field wiring is clear of faults.
Inverter(s) won't connect to the Internet.	Solar MSA has no Wi-Fi or other communications capability. It provides a power connection for external equipment.
Out-of-range voltage readings at the MSA Connection Module terminals.	Confirm the NEUTRAL pigtail furnished with MSA is properly installed.
Inverter not picking up / reading correctly the CT signals	1) Ensure the CT Output Cable is properly connected on both sides (on the CT Output port on the right side of the MSA Base and in the inverter). See Section titled "INSTALL THE CT OUTPUT CABLE." 2) Check that the CT Output Cable is intact. 3) Make sure each line is landed in the MSA Connection Module depending on the direction of the Connection Module conduit. See Figure 40.

Table 3. Troubleshooting Solar MSA.

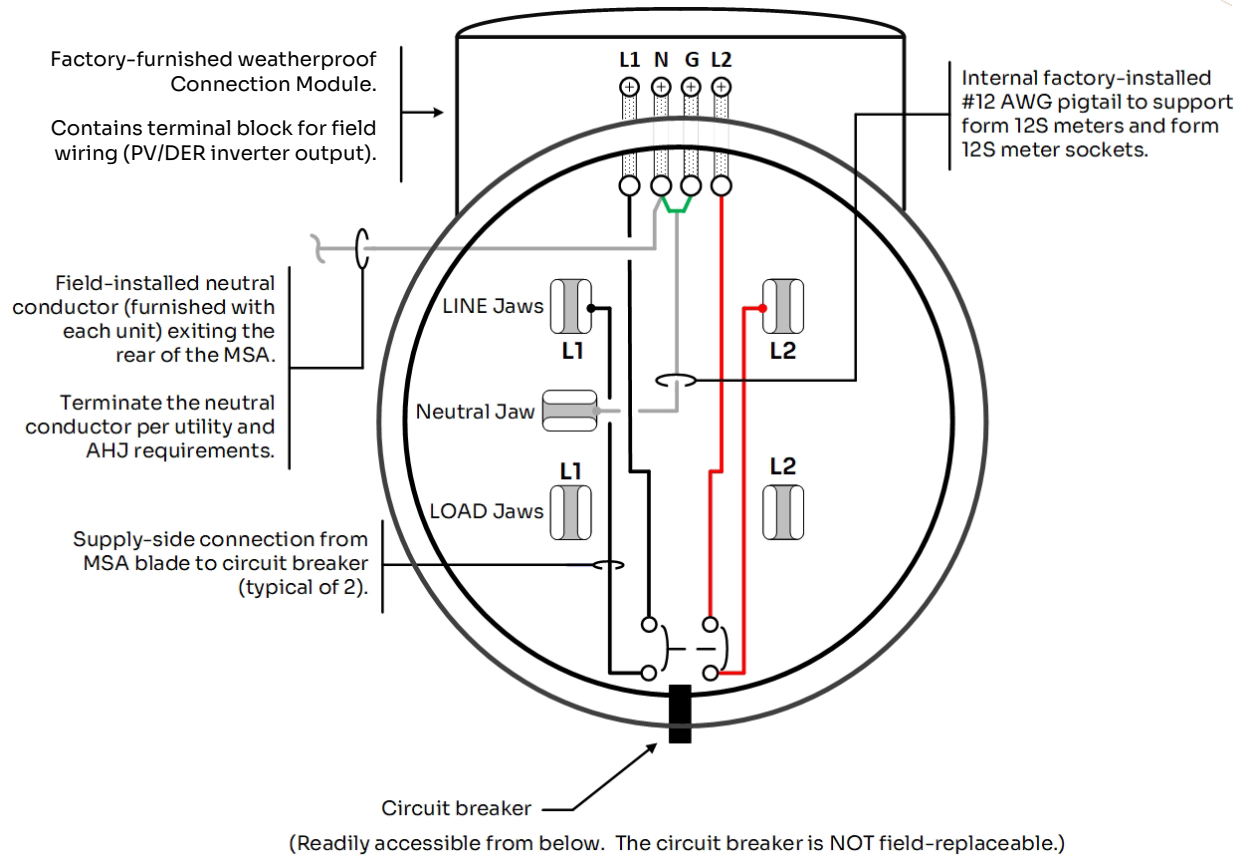
For more information, contact ConnectDER at www.connectder.com/contact.

APPENDIX

Reference 1 – Solar PV Interconnection Example – Load Side MSA

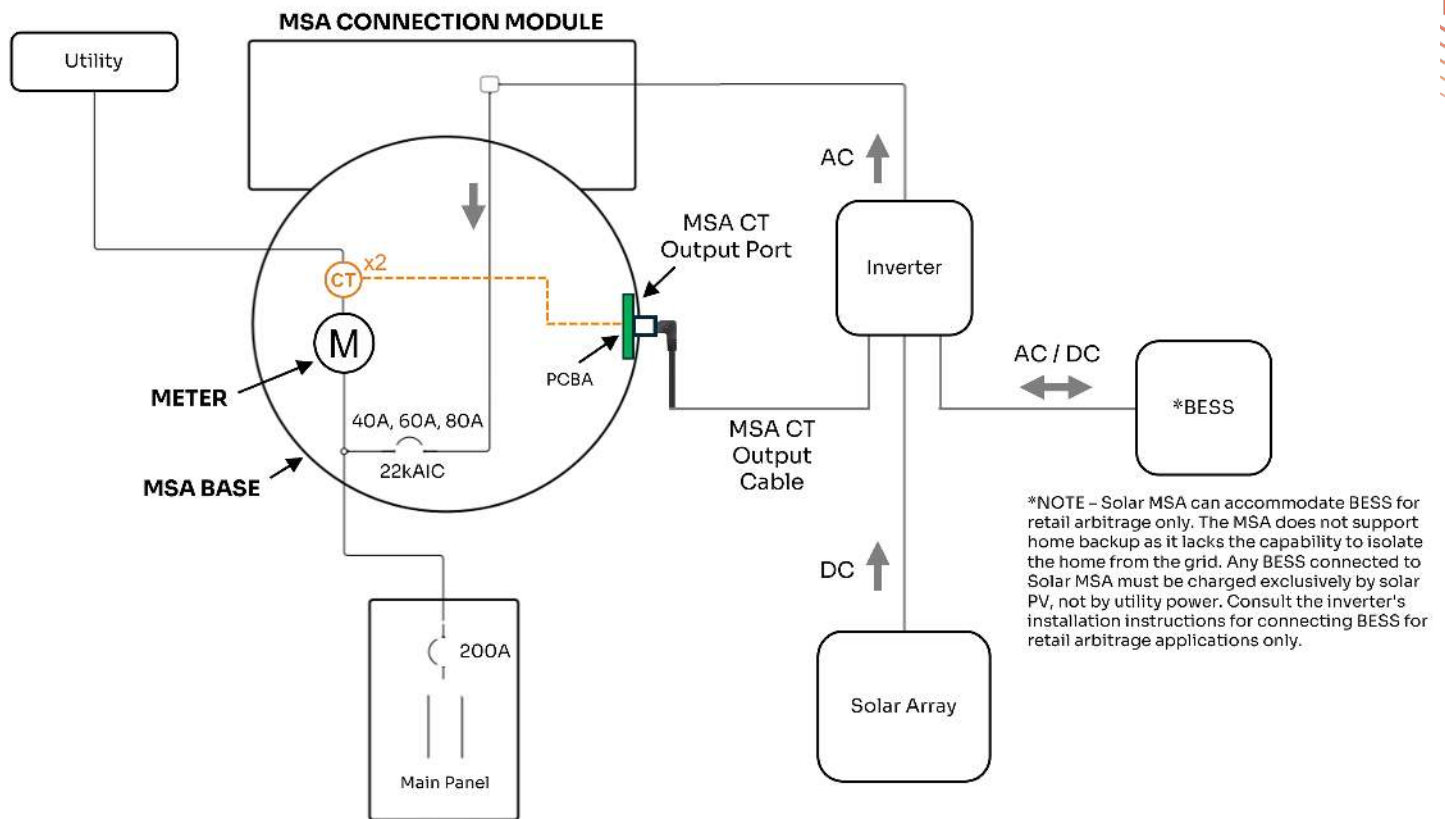


Reference 2 – Solar MSA Power Wiring Schematic – Line Side of Meter



NOTE –These models can be ordered and used **ONLY** through utility programs.

Reference 3 – Solar MSA V5.2 Data Out Single Line Diagram



NOTE – Solar MSA does not support home backup because it lacks the capability to isolate your home from the grid. Any BESS connected to Solar MSA must be charged exclusively by solar PV, not by utility power.

Reference 4 – Solar MSA V5.2 and Data Out Model Numbers

LOAD SIDE OF METER INTERCONNECTION

FORM 2S AND 12S COMPATIBLE							
Model Number	Product Version	CTs?	Meter Connection	No. of Jaws	No. of Stabs	AIC Rating	PV/DER Breaker Size
C-B-5-22-40	Simple 5.2	No	Load Side	5 Jaws	4, + 5 th Stab Kit	22,000	40 Ampere
C-B-5-22-60	Simple 5.2	No	Load Side	5 Jaws	4, + 5 th Stab Kit	22,000	60 Ampere
C-B-5-22-80	Simple 5.2	No	Load Side	5 Jaws	4, + 5 th Stab Kit	22,000	80 Ampere
D-B-5-22-40	5.2 Data Out	Yes	Load Side	5 Jaws	4, + 5 th Stab Kit	22,000	40 Ampere
D-B-5-22-60	5.2 Data Out	Yes	Load Side	5 Jaws	4, + 5 th Stab Kit	22,000	60 Ampere
D-B-5-22-80	5.2 Data Out	Yes	Load Side	5 Jaws	4, + 5 th Stab Kit	22,000	80 Ampere

LINE SIDE OF METER INTERCONNECTION – REQUIRES UTILITY APPROVAL

FORM 2S AND 12S COMPATIBLE						
Model	Product Version	Meter Connection	No. of Jaws	No. of Stabs	AIC Rating	PV/DER Circuit Breaker
C-T-5-22-40	Simple 5.2	Line Side	5 Jaws	4, + 5 th Stab Kit	22,000	40 Ampere
C-T-5-22-60	Simple 5.2	Line Side	5 Jaws	4, + 5 th Stab Kit	22,000	60 Ampere
C-T-5-22-80	Simple 5.2	Line Side	5 Jaws	4, + 5 th Stab Kit	22,000	80 Ampere



NOTE –These models can be ordered and used **ONLY** through utility programs.

Reference 5 – Solar MSA V5.2 Specifications

MECHANICAL SPECIFICATIONS		UTILITY-INTERACTIVE SOURCE RATINGS	
ENCLOSURE RATING	NEMA 3R	MAXIMUM POWER	15.36 KW AC using 80-amp DER breaker.
ENCLOSURE TYPE	Injection molded polycarbonate, UL 94 V0 flame rating	MAXIMUM VOLTAGE	240v
COOLING	Natural convection	MAXIMUM CONTINUOUS PV CURRENT	64A
DIMENSIONS (H X W X D)	6.7 x 6.7 x 4.6in collar only 8.6 x 7.0 x 4.6in with Connection Module	CONTINUOUS COMBINED CURRENT, PV/GRID	200A (load side of meter PV/DER interconnection)
WEIGHT	4.1 lbs. (1.9kg)	INVERTER WIRING TERMINATION	Terminal block
SHIPPING WEIGHT	5.6lbs. (2.5kg)	GRID CONNECTION TYPE	Split-Ø/3W (2S/4-jaw), Single- Ø/3W (12S/5-jaw)
MOUNTING SYSTEM	Blade interface with 4-jaw or 5-jaw meter socket	GRID TERMINATION METHOD	Blade interface with meter socket for L1/L2, pigtail for neutral
ELECTRIC METER COMPATIBILITY	Type 2S, type 12S	FIELD TERMINAL RATING	75°C
METER SOCKET COMPATIBILITY	Ringless and ring-type meter sockets, horn and lever bypass	CONDUIT CONNECTION	1" trade size.
DER INTERFACE POINT	Factory configured, load side. Line side is available for utility use only	TERMINAL CONNECTIONS	L1, L2, N, G; Up to #3 AWG wire
SAFETY INFORMATION		OVERCURRENT PROTECTION	
APPLICABLE SAFETY STANDARDS	UL 414 – Meter Sockets	TYPE	Eaton type BRH, Siemens type QH (22 kAIC) Thermal magnetic 240v, externally resettable
FILE NUMBER (STANDARDS)	E361188	OVERCURRENT RATINGS AVAILABLE	40A, 60A, 80A
AMBIENT AIR OPERATING TEMPERATURE RANGE	-22°F to 149°F (-30°C to 65°C)	CURRENT INTERRUPTING RATING	22 kAIC rating
AMBIENT AIR STORAGE TEMPERATURE RANGE	-40°F to 176°F (-40°C to 80°C)		

Reference 6 – Solar MSA V5.2 Data Out Key Product Labels

Product Label:

**Suitable for use as Service Equipment
Type 3R Enclosure**

Conforms to UL STD 414 | Certified to CSA STD C22.2#115

⚠ WARNING Dual power sources. Turning off parallel energy source disconnect does not de-energize the meter socket adapter. Turn off power from all sources before working inside. Suitable only for use with Listed utility interactive equipment in accordance with NEC Article 705.

⚠ WARNING Electric shock hazard. Do not touch terminals. Terminals on both Line and Load Sides may be energized in the open position.

⚠ WARNING No user serviceable parts inside. Tampering with or removal of this device is strictly prohibited. Hazard of electrical shock or burn. Do not break seal. Contact utility for service.

⚠ WARNING Suitable for use on supply side of service disconnecting means.

⚠ CAUTION For use only with Interactive Equipment.

NOTICE Not intended for use with disconnect sleeves or additional meter socket adapters.

NOTICE Models that incorporate a DER connection to the Line Side of the meter socket adapter will be marked accordingly, and approval from the serving utility is required before connection of these circuits.

NOTICE Suitable for use with 4 or 5-terminal ringless and ring-type meter sockets, 1ph, 3 wire+ ground, rated up to 200 amps maximum, 240Vac.

NOTE See additional labels at terminals for torque rating values. Field wiring terminal lugs for use with copper conductors only.



Intertek
5028888
Meter Socket
Adapter
CECHA
APPROVED

Serial Number Label:

Rated 200 Continuous Amps for Combined Utility and Alternate Energy Input when used in a meter socket rated 200 continuous amps. Rated 240Vac, 60Hz, 1ph, 3 wire, 80 Amps Maximum, 64 Continuous Amps for Alternate Energy Input. Short-circuit current rating of 22 kA, 120/240 V Maximum. Watthour meter not included in short-circuit current rating.

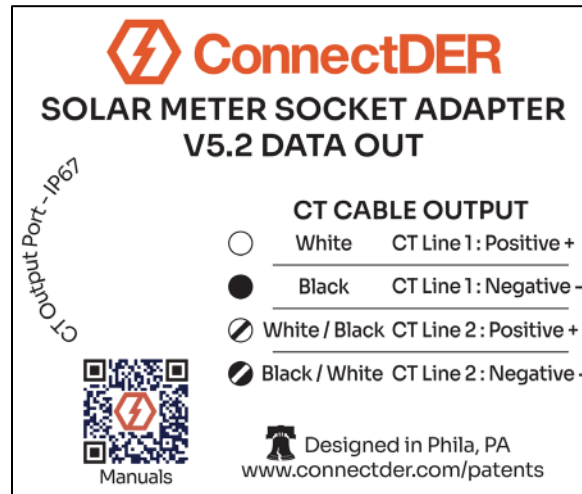
Model Number: 
D-B-5-22-80

Serial Number: 
XDR1S250500001

FM 2S/12S Compatible 80A DER Breaker

CECHA
APPROVED

Product Name and Pinout Label:



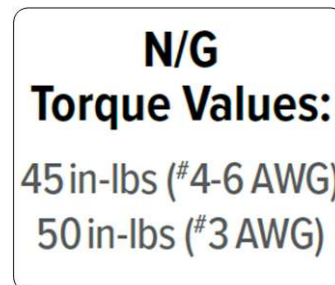
Connection Module Outer Label:



Connection Module Torque Values:



N/G Torque Values:



Reference 7 – Neutral Connection Options

The connectors listed below are 230.46-compliant and listed for use with both copper and aluminum conductors. They are examples and not an exhaustive list for blanket approval.

Part numbers cover wire ranges to support 100, 125, 150, 175, and 200-amp services. Research the part number for specifications including conductor size range.

Type	Manufacturer	Part Numbers	UL File Number
Split Bolt	ABB (includes T&B, Blackburn)	APS02, APS11, APS21, APS41	E9809
	Gardner Bender	GAK-2, GAK-1/0, GAK-2/0	E61528
	Erico	ESBP2, ESBP1/0, ESBP2/0	E323600
	Ideal	AS-2, AS-1/0, AS-2/0, AS-4/0	E5238
	IlSCO	SK-2, AK-2, AK-1/0, AK-2/0, AK-4/0	E6207
	Morris	90416, 90418, 90420	E175118
	Penn-Union	SWA-7, SWA-8, SWA-10	E12822
	Southwire	795	E155861
Parallel Tap	ABB	GP-2, GP-0, GP-250-0, GT-2, GT-0, GT-250-0, GT-250	E9089
	IlSCO	GTA-2-2, GTA-0-0, GTA-250-0	E6207
	Penn-Union	GPT-2, GPT-1/0, GPT-250-0, GPT-250	E12822

CALIFORNIA PROP 65 WARNING



WARNING: This product can expose you to chemicals including acrylonitrile, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

DISCLAIMER

The information presented in this document represents ConnectDER's understanding of standards / test procedures and is provided for informational purposes. ConnectDER makes no representation as to the accuracy, completeness, suitability, or validity of the information. ConnectDER will not be liable for any errors, omissions, losses, injuries, or damages arising from the use of this information.

For the official views of ETL, consult the appropriate standard, or contact Intertek directly regarding the ConnectDER Solar MSA, Intertek ETL File Number 5028888.