

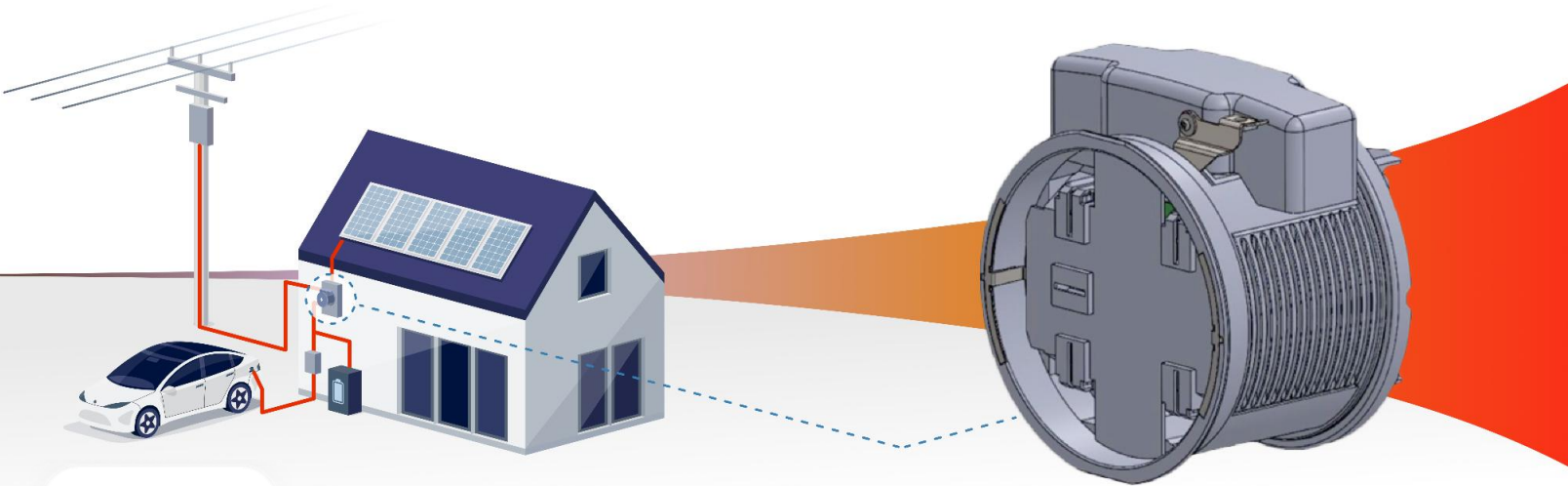
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# Installation Manual

## IslandDER METER SOCKET ADAPTER V1



Intertek  
5028888

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

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## ABBREVIATIONS

|         |                                                            |
|---------|------------------------------------------------------------|
| ANSI    | American National Standards Institute                      |
| BESS    | Battery Energy Storage System                              |
| Comms   | Communications Data connection to 3rd party DER controller |
| CT      | Current Transformer                                        |
| DER     | Distributed Energy Resource                                |
| ETL     | Electrical Testing Laboratories (also known as Intertek)   |
| EV      | Electric Vehicle                                           |
| EVPE    | Electric Vehicle Power Export Equipment                    |
| EVSE    | Electric Vehicle Supply Equipment                          |
| IOU     | Investor Owned Utility                                     |
| LED     | Light Emitting Diode                                       |
| MID     | Microgrid Interconnect Device                              |
| MDP     | Main Distribution Panel                                    |
| MSA     | Meter Socket Adapter                                       |
| NRTL    | Nationally Recognized Testing Laboratory                   |
| RMA     | Return Merchandise Authorization                           |
| PPE     | Personal Protective Equipment                              |
| PV      | Photovoltaic                                               |
| QR Code | Quick Response Code                                        |
| SPD     | Surge Protective Device                                    |
| UL      | Underwriters Laboratories                                  |

## SYMBOLS USED IN THIS MANUAL



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



**NOTE** – Designates helpful information.

## IMPORTANT SAFETY INFORMATION



**WARNING** – The ConnectDER IslandDER Meter Socket Adapter (MSA) must be installed by a licensed electrician or other qualified personnel. Unqualified persons attempting to install or service the IslandDER MSA could result in damage, serious injury, or death. Use only with approved 3<sup>rd</sup> party DER systems.

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.

**CAUTION:** Only use the IslandDER MSA with approved 3<sup>rd</sup> party equipment listed for use as a complete system.

The governing electric utility may require a power outage to deenergize the meter socket to install the IslandDER MSA. 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 the IslandDER MSA as expressed in the current installation document. Any deviation from the methods or applications in this manual will violate the product's NRTL listing, NEC Article 110.3(B), and void the product warranty.

Contact ConnectDER, Inc. at [support@connectder.com](mailto:support@connectder.com) for technical support with installing, replacing, and/or servicing the IslandDER MSA. Always follow the requirements of the serving electric utility and Authority Having Jurisdiction (AHJ).

Please read these instructions in their entirety before installing an IslandDER MSA.

## INTRODUCTION

It is the responsibility of the party installing, replacing, and/or servicing the IslandDER MSA (“the installer”) to obtain and follow the most current installation document, found here:

LINK: <https://connectder.com/installers/>

### QR CODE



The IslandDER V1 MSA (IslandDER MSA) is a Listed device that enables rapid interconnection of interactive distributed energy resources (DERs), while avoiding service upgrades and other expensive electrical work for means of utility isolation. It provides current and voltage sensing and a microgrid interconnect device (MID) for whole-house isolation (“Islanding”) from the utility to a connected 3<sup>rd</sup> party system listed to:

- UL 1741 (Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources).
  - Including applicable supplements such as SA, SB, and PCS-CRD.

The 3<sup>rd</sup> party system may also be listed to other standards such as:

- UL 9741 (Electric Vehicle Power Export Equipment (EVPE))
- UL 3141 (Scheduled for release in 2025 or 2026 for Power Control Systems, or PCS).

Intertek grants its “ETL Listed Mark” after verifying that products meet a high level of safety and quality, and conform to numerous codes and standards. This includes the 2023 edition of the National Electrical Code (NEC) – the latest available at the time the IslandDER was

developed . The IslandDER MSA conforms to UL standard 414 (including supplements A, B, and C) and is suitable for use as service equipment.

The IslandDER MSA simplifies whole- and partial-house backup power behind the meter. It must be installed in conjunction with a 3<sup>rd</sup> party vendor who has integrated IslandDER MSA into a listed system to support Solar PV, battery energy storage systems (BESS), uni/bidirectional EV charging, and other applications.

PATENTS PENDING. See <https://connectder.com/patents>.

**CAUTION** - The IslandDER MSA must be installed only with the pluggable Connection Module at the top. Do not install the IslandDER MSA in any other orientation. Installation and servicing of the IslandDER MSA, associated wiring and interconnections must be performed only by qualified personnel.

The IslandDER MSA provides two-way data communication for a 3<sup>rd</sup> party system to open or close the MID, and optimize sources and loads for on-grid and off-grid operations. It has no wireless communications or power connection for external equipment. The IslandDER MSA provides wired data communications and MID control capability only.

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

Comply with local codes for rules governing backfeeding power. Follow the serving electric utility's meter removal and installation rules.

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

Do not alter the IslandDER MSA or any other equipment or conductor in a manner that would void its listing or warranty. There are no serviceable parts.

ConnectDER recommends practicing the installation of the IslandDER MSA using deenergized equipment before proceeding with live field installations.

## IslandDER V1 MSA FEATURES

- 15-minute installations of MID integration for Solar PV, EV, BESS, Vehicle-to-Home, and more.
- 200 amp MID relay to safely isolate (“Island”) the home for bidirectional applications.
- Manual MID override switch to provide fail-safe reclose function preventing extended outages if the 3<sup>rd</sup> party system fails.
- NRTL listed to UL 414 SA, SB, SC, for use with systems listed to UL 1741 and others such as UL 9741 and UL 3141.
- Provides easy access to whole-house voltage and current data (line- and load-side Rogowski Coils + line-side ANSI 0.2 Class CTs).
- Provides easy access to whole-house voltage and current data.
- Utility meter technicians can safely remove the Connection Module for inspection and servicing.
- Compatible with ringless, ring-type, and horn or lever bypass meter sockets ANSI form 2S, 120/240v, ANSI form 12S, 120/208v, single phase, 200 amps maximum.
- 200 amp continuous rating with no fan or moving components.
- Quick-connect and quick-release pluggable weatherproof Connection Module with integrated data cable for analog communications.

The Communications Module is reversible. This permits the Communications Cable to be routed from the left side or the right side of the meter socket to the 3<sup>rd</sup> party system.

- Internal surge protective device (SPD) for MSA internal component protection only, not to protect services and feeders as required by 2023 NEC 230.67.

## IslandDER MSA OPERATIONAL OVERVIEW

The IslandDER MSA must be paired with/connected to a listed 3<sup>rd</sup> party system specifically evaluated for use with IslandDER.

Supported applications include:

- Utility-interactive solar PV systems.
- Solar + storage systems.
- EV charging (level 2 uni- or bidirectional EVSE).
- Vehicle-to-Home/Grid (V2X).
- Whole-house backup power.
- Partial-home backup power.
- Grid-support functions.
- Retail arbitrage, self-consumption.
- Virtual power plants (VPP).

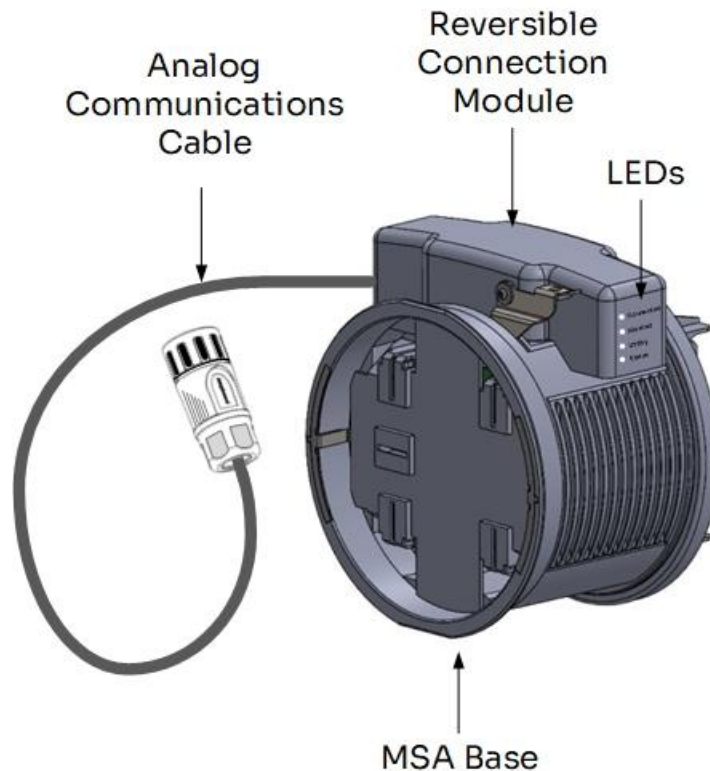
The IslandDER MSA integrated MID safely isolates (“islands”) the home from the utility, allowing for microgrid operations via alternate power source(s) to the home.

The IslandDER provides voltage and current sensing to a 3<sup>rd</sup> party system. The MID is operated via 3<sup>rd</sup> party control signals.



## IslandDER MSA KEY COMPONENTS

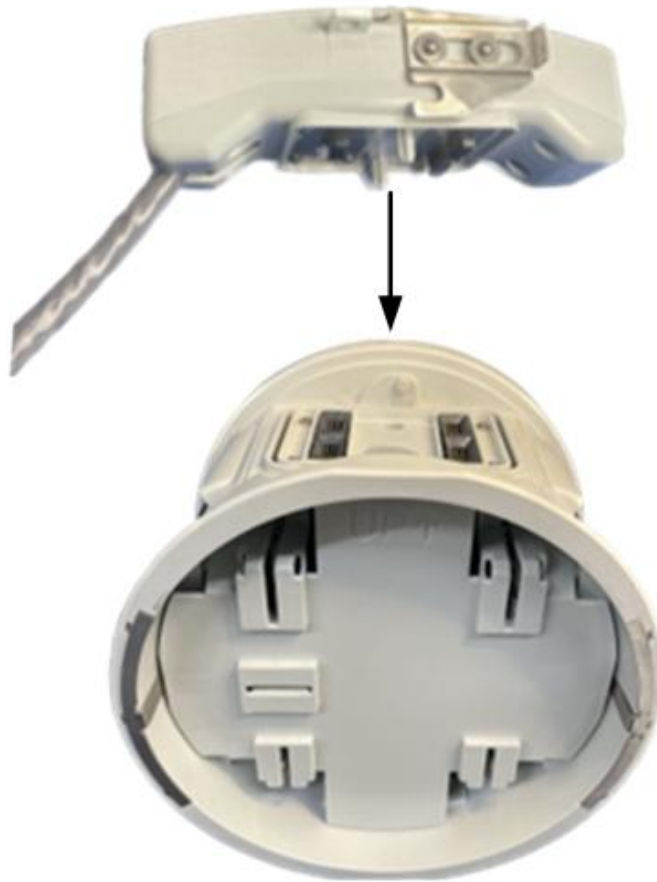
The key components of the IslandDER MSA are shown in Figure 1.



*Figure 1 – IslandDER MSA Key Components.*

The Connection Module is permanently wired with a factory-integrated data cable and plug to connect to the 3<sup>rd</sup> party system.

The IslandDER MSA Base is paired with the pluggable Analog Connection Module. See Figure 2.



*Figure 2 – IslandDER MSA Base with Analog Connection Module.*

The IslandDER MSA is comprised of:

- one MSA Base and
- one Analog Connection Module.

The Analog Connection Module is integrated with a 6 ft. Communications Cable. Longer lengths up to 25 ft. may be possible by special order. See Figure 3.



*Figure 3 – IslandDER MSA Base with Analog Connection Module*

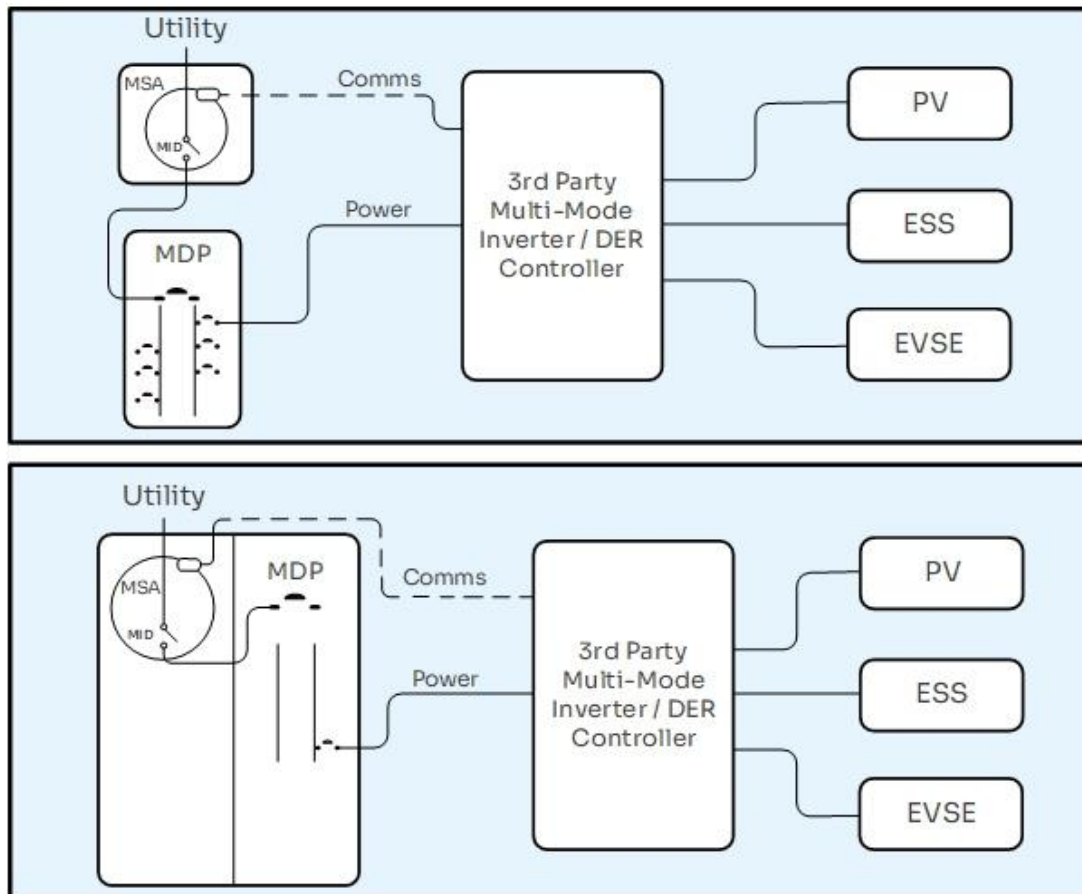
Both the MSA Base and the Analog Connection Module have no serviceable parts, and the Communications Cable is not field-replaceable.



**WARNING** – Follow the installation instructions for the 3<sup>rd</sup> party system before connecting the Communications Cable. The Communications Cable plug has touch-safe potential for communication signals on its sleeves when the Connection Module is connected to the MSA Base in a live meter socket.

## IslandDER SYSTEM DIAGRAMS

### WHOLE HOUSE BACKUP: IslandDER INSTALLED ON THE UTILITY METER SOCKET



*Figure 4 – IslandDER on a Utility Standalone Meter Socket (Top) and Utility Meter/Main Combination Panel (Bottom).*



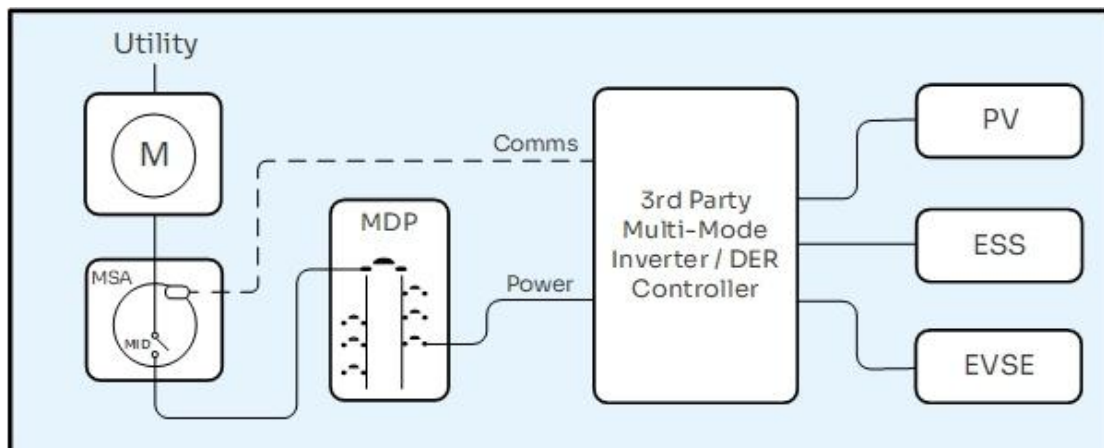
**NOTE** –These configurations require permission from the serving electric utility.

The IslandDER MSA provides data to (and receives control signals from) the 3<sup>rd</sup> party system, shown above as the Multi-Mode Inverter / DER Controller.

Power wiring to the Main Distribution Panel (MDP), Electric Vehicle Supply Equipment (EVSE), Energy Storage System (ESS), and Solar Photovoltaic (PV) components is installed by

others as part of the 3<sup>rd</sup> party system.

#### WHOLE HOUSE BACKUP: IslandDER INSTALLED ON A 2<sup>nd</sup> CUSTOMER-OWNED METER SOCKET



*Figure 5 – IslandDER on a Second Customer-Owned Meter Socket  
(Between a Standalone Utility Meter and Main Distribution Panel).*



**NOTE** –This configuration requires installing a new 2S or 12S meter socket between the existing utility meter and main distribution panel.

The IslandDER MSA provides data to (and receives control signals from) the 3<sup>rd</sup> party system, shown above as the Multi-Mode Inverter / DER Controller.

Power wiring to the Main Distribution Panel (MDP), Electric Vehicle Supply Equipment (EVSE), Energy Storage System (ESS), and Solar Photovoltaic (PV) components is installed by others as part of the 3<sup>rd</sup> party system.

## PARTIAL HOME BACKUP: IslandDER INSTALLED ON A 2<sup>nd</sup> CUSTOMER-OWNED METER SOCKET

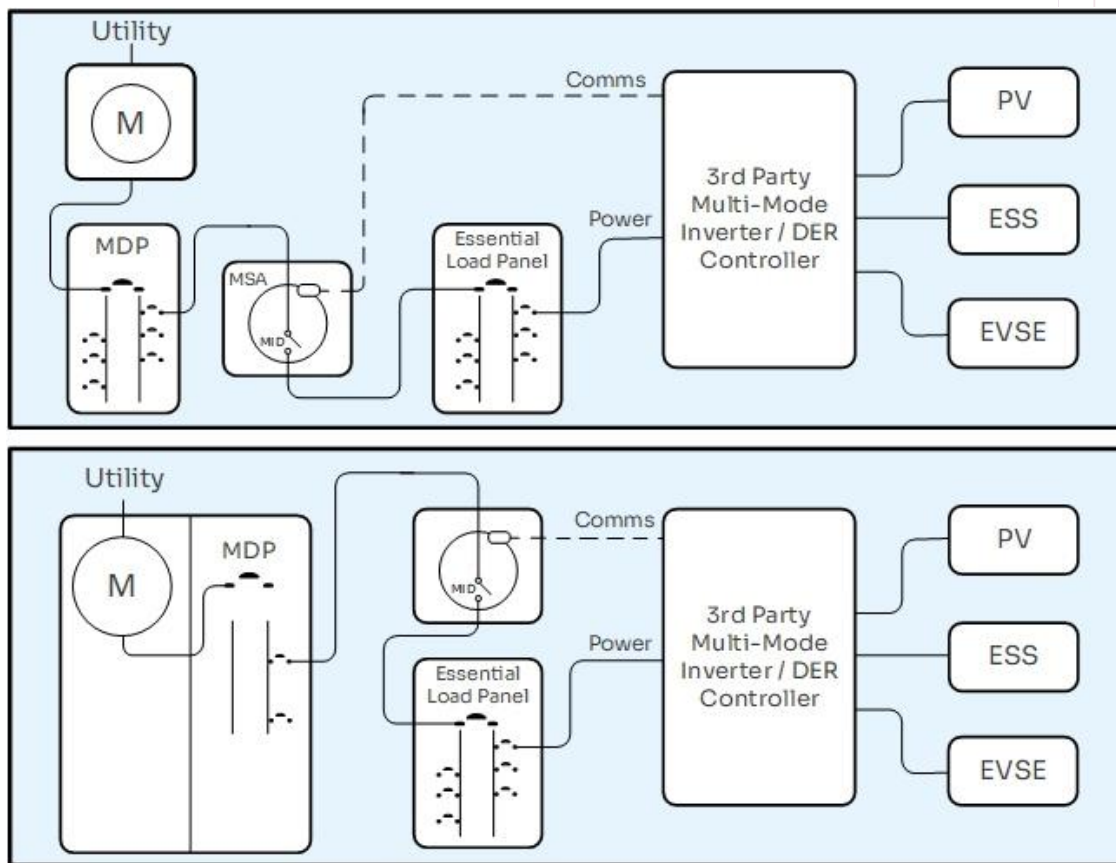


Figure 6 – IslandDER on a Second Customer-Owned Meter Socket Between the Standalone MDP (top) or Meter/Main MDP (bottom) and the Essential Load Panel.



**NOTE** –This configuration requires installing a new 2S or 12S meter socket between the MDP and Essential Load Panel.

The IslandDER MSA provides data to (and receives control signals from) the 3<sup>rd</sup> party system, shown above as the Multi-Mode Inverter / DER Controller.

Power wiring to the Main Distribution Panel (MDP), Essential Load Panel, Electric Vehicle Supply Equipment (EVSE), Energy Storage System (ESS), and Solar Photovoltaic (PV) components is installed by others as part of the 3<sup>rd</sup> party system.

## BOX CONTENTS

The package contains the following items:

| Qty. | Item                                                                                                                                                                                                                |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | IslandDER MSA Base.                                                                                                                                                                                                 |
| 1    | Quick-connect and quick-release pluggable Connection Module with a permanently wired factory-integrated data cable (6 feet long, standard) and plug. Longer lengths up to 25 feet may be possible by special order. |
| 1    | Locking ring for attaching the meter to the MSA.                                                                                                                                                                    |
| 1    | Accessory bag with installation reminders, label & QR code link to IslandDER MSA documentation. Includes:                                                                                                           |
| 5    | Tamper-resistant seals.                                                                                                                                                                                             |
| 1    | 5 <sup>th</sup> stab kit for 12S meter sockets (stab, lock washer, screw).                                                                                                                                          |
| 1    | Installation Instructions for the electrician (1-page printed front and back).                                                                                                                                      |
| 1    | User Manual for the homeowner (1-page printed front and back).                                                                                                                                                      |

Verify the contents are complete before proceeding with installation. For missing or damaged items, contact [rma@connectder.com](mailto:rma@connectder.com).

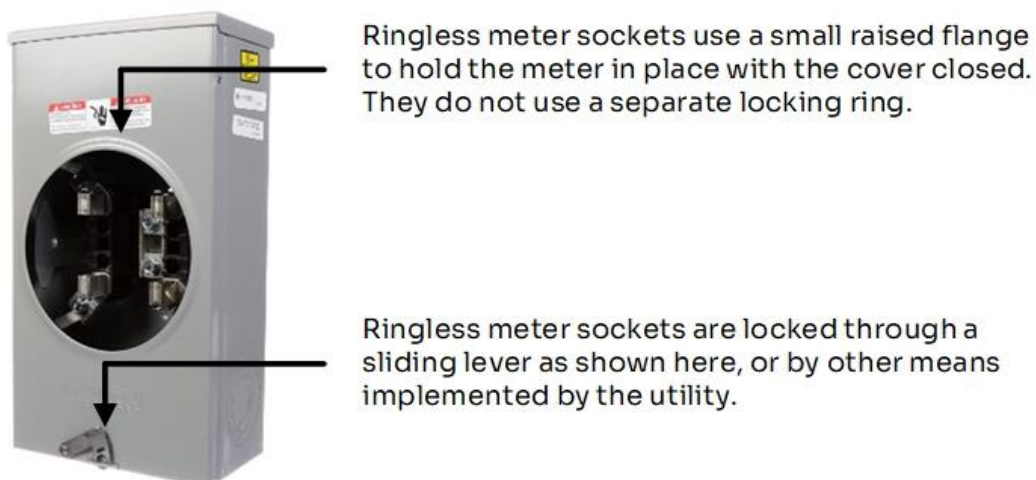


## INSTALLATION PREPARATION

### SITE INSPECTION

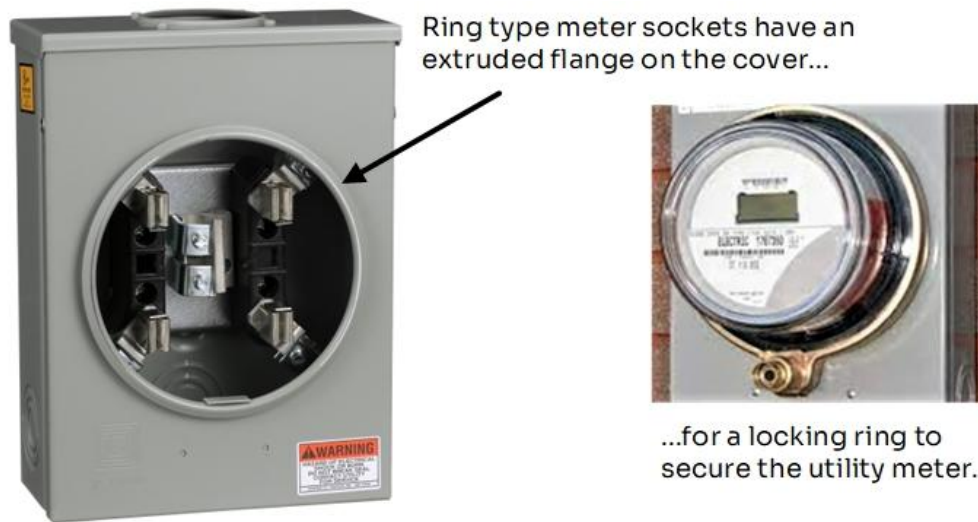
There are several types of residential meter sockets suitable for IslandDER MSA installation. Some common types, namely single gang/standalone, multi-gang, and combination meter socket/load centers are covered here. All three are available in ringless and ring type configurations.

1. Begin assessing the suitability of a meter socket by ruling out all meter sockets with signs of damage, excessive rust, evidence of loose or damaged service conductors, and enclosures loosely secured to the structure.
2. Confirm if the serving electric utility is restricting IslandDER MSA usage to ringless (Figure 7) or ring type (Figure 8) meter sockets. The IslandDER MSA supports both configurations.



*Figure 7 – Single Gang/Standalone Ringless Meter Socket.*





*Figure 8 – Single Gang/Standalone Ring Type Meter Socket.*

3. Confirm if multi-gang meter sockets (Figure 9) are on the utility's approved equipment list. They may present neutral wiring and service access issues versus single gang meter sockets. ConnectDER recommends researching the manufacturer's documentation for potential compatibility.

IslandDER MSA compatibility with multi-gang meter sockets may be permitted by the utility on a case-by-case basis. Care must be taken to ensure that the IslandDER MSA Connection Module can be inserted and disconnected (lifted up a minimum of 1").

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



*Figure 9 – Multi-Gang Meter Sockets.*

4. Confirm that meter socket/load centers (Figure 10) are on the utility's approved equipment list. They may present neutral wiring and service access issues versus single gang meter sockets. ConnectDER recommends researching the manufacturer's documentation for potential compatibility.



*Figure 10 – Combination Meter Socket/Load Centers.*



**WARNING** – Do not alter the IslandDER MSA or any other equipment in a manner that voids its listing or warranty.

5. An IslandDER MSA shall not be installed on meter sockets already equipped with another socket adapter as shown in Figure 11.



*Figure 11 – Existing Meter and Meter Socket Adapter.*



6. Account for other considerations:

- a. Check with the utility for other potential IslandDER MSA prohibited installations. Do not install an IslandDER MSA where it is subject to physical damage.
- b. Verify the IslandDER MSA model number(s) approved for use in the utility's service area.
- c. Verify the IslandDER MSA would be accessible after the installation with adequate working clearance. The IslandDER MSA extends the billing meter approximately 5 inches forward from the meter socket.
- d. Check with the utility and AHJ before installing an IslandDER MSA indoors. For example, the AHJ may not permit the IslandDER MSA in bathrooms, or over the steps of a stairway.
- e. Verify the existing meter indicates the service is ANSI form 2S, 120/240v, ANSI form 12S, 120/208v, single phase, 3-wire, 200 amps maximum. Some utilities require 12S/5-jaw meter sockets but are installing 2S/4-jaw meters. The IslandDER MSA is furnished with a 5<sup>th</sup> stab kit to support 12/5-jaw meter sockets with the 5<sup>th</sup> jaw at the 9 o'clock position.

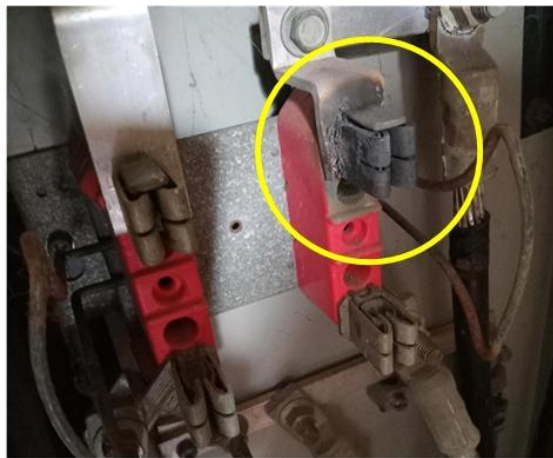
7. Additional examples of meter sockets NOT suitable for an IslandDER MSA installation:

- a. Meter socket enclosures with damage, excessive rust, or are poorly mounted. See Figure 12.



*Figure 12 – Rusty, Damaged, Poorly-Mounted Meter Sockets.*

- b. Meter sockets with signs of corrosion or overheating as shown in Figure 13.



*Figure 13 – Corroded Jaw.*

8. Confirm the existing utility meter is either form 2S or 12S, 3-wire, 200 amps maximum. See Figure 14.



Figure 14 – Meter Form 2S and 12S.

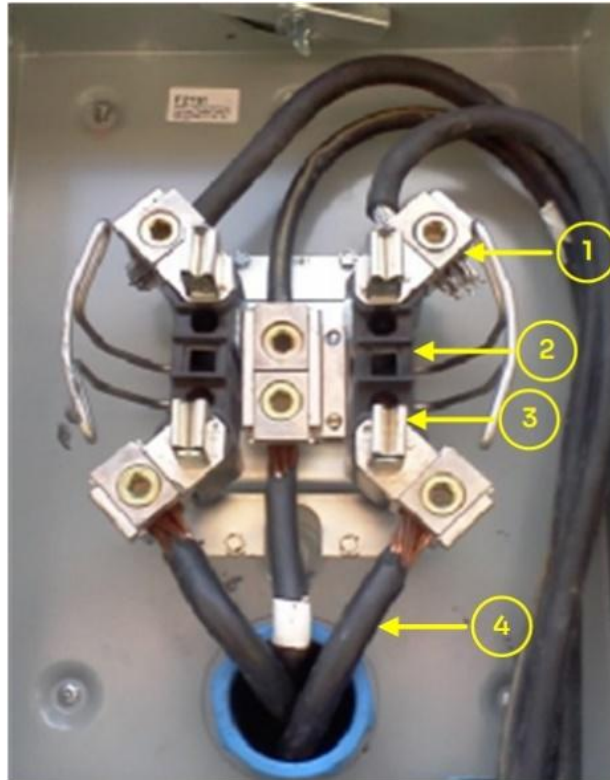


NOTE – A 2S meter has 4 stabs. It fits into (and operates properly) in meter sockets with either 4 or 5 jaws. A 2S meter does not operate properly when a 5-jaw socket is used with a 120/208V system.

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 in the INSTALLATION PROCEDURE to install the 5<sup>th</sup> stab that is furnished with every unit.

9. A meter socket in good condition should have (1) tight conductor connection with no corrosion, (2) insulation blocks not cracked or broken, (3) jaws that tightly grip the meter stabs with no gaps, pits, or corrosion, and (4) conductor insulation intact and not frayed or cracked. See Figure 15.





*Figure 15 – Existing meter socket in good condition.*

## PACKAGE INSPECTION

Inspect the box and verify the contents are complete and in good condition. Take photos and contact ConnectDER at [RMA@connectder.com](mailto:RMA@connectder.com) in case of damaged or missing items.

## ITEMS REQUIRED FOR IslandDER MSA INSTALLATION



NOTE – The following items must be provided by the installer to install an IslandDER MSA into a meter socket. Use factory-insulated tools wherever possible.

Communications wiring installation is covered later in this document. For installs in California, please refer to the “CALIFORNIA IOU MSA PROCESS GUIDELINES” for additional requirements.

| Qty. | Item                                                                                   |
|------|----------------------------------------------------------------------------------------|
| 1    | Wire cutter, e.g., diagonal pliers.                                                    |
| 1    | “Meter Grabber™” or equivalent tool to safely remove and reinstall the electric meter. |
| 1    | Calibrated digital volt-ohmmeter or other suitable metering equipment.                 |
| 1    | Small plastic bag and 1 roll of electrical tape for cable plug protection.             |

The following items are only required for meter sockets w/5th jaw at the 6 o’clock position:

|        |                                                                                                                                                 |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Wire stripper.                                                                                                                                  |
| 1      | Approved wiring connector (if needed) and tools to terminate a #10 AWG stranded copper conductor (furnished by others) inside the meter socket. |
| 1      | 5/32” hex key.                                                                                                                                  |
| 1      | 5/32” hex bit for use with a torque driver.                                                                                                     |
| 1 lot  | Electrical insulation blanket.                                                                                                                  |
| 1      | Calibrated torque driver, minimum setting 35 in. lbs.                                                                                           |
| 18 in. | #10 AWG THHN stranded copper wire.                                                                                                              |



NOTE – In most cases a neutral wire will not be installed.

Only meter sockets with the 5<sup>th</sup> jaw at the 6 o’clock position will require a neutral wire (requires replacing the existing meter with an ANSI 12S meter, with its 5<sup>th</sup> jaw at the 9 o’clock position). Please refer to the “INSTALLATION PROCEDURE” section later in this document.

## 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.                                        |

If utility power cannot be deenergized as part of the MSA installation, ConnectDER recommends insulating energized parts within the meter socket. Work safely when installing a #10 AWG neutral wire to the MSA to accommodate a replacement ANSI 12S meter with its 5<sup>th</sup> jaw at the 9 o'clock position. Use an appropriately rated electrical insulation blanket that can be cut to size and temporarily applied. See Figure 16.



*Figure 16 – Protection From Energized Parts.*

## INSTALLATION PROCEDURE



**WARNING** – IslandDER 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 IslandDER MSA installation.



**NOTE** – 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 IslandDER MSA.

The governing electric utility may require a power outage to deenergize the meter socket. Please follow the prescribed process for work in meter sockets by the governing utility.

For meter sockets with a 5<sup>th</sup> jaw at the 9 o'clock position, install the 5<sup>th</sup> stab kit as directed below in the "IslandDER MSA INSTALLATION INSTRUCTIONS".

\*\*\*For meter sockets with a 5<sup>th</sup> jaw at the 6 o'clock position, coordinate with the utility in advance to change the billing meter to form 12S with the 5<sup>th</sup> stab at the 9 o'clock position. A #10 AWG neutral wire will need to be installed to one of the neutral terminals on the rear of the MSA if performing a form conversion here.\*\*\*

Follow the instructions below in the "IslandDER MSA INSTALLATION INSTRUCTIONS" to install the 5<sup>th</sup> stab at the 9 o'clock position, AND install a #10 AWG copper neutral wire.

## INSTALLATION PLANNING INSTRUCTIONS

1. Plan to route and support the Communications Cable from the IslandDER MSA to the 3rd party system in a professional and skillful manner.
2. Determine the desired orientation of the Connection Module. The Communications Cable may exit to the left or to the right.
3. Confirm the IslandDER MSA Communications Cable has the required length to reach the 3rd party system. The Analog Communications cable is 6 feet long and factory-assembled with the Connection Module. The cable itself is not field-replaceable.
4. Comply with working clearances and access to equipment as required by the utility and authority having jurisdiction (AHJ).
5. If the IslandDER MSA is installed prior to the 3<sup>rd</sup> party system, the Communications Cable will have low voltage on its plug connector sleeves.

Ensure the plug connector dust cap is installed and cover it with a plastic bag fastened with electrical tape. Plan to coil and temporarily support the Communications Cable to prevent physical damage until it is ready to connect to the 3<sup>rd</sup> party system.



NOTE - Some electric utilities are installing the IslandDER MSA and require the balance of the DER system to be installed first. Please refer to the “CALIFORNIA IOU MSA PROCESS GUIDELINES” section later in this document.

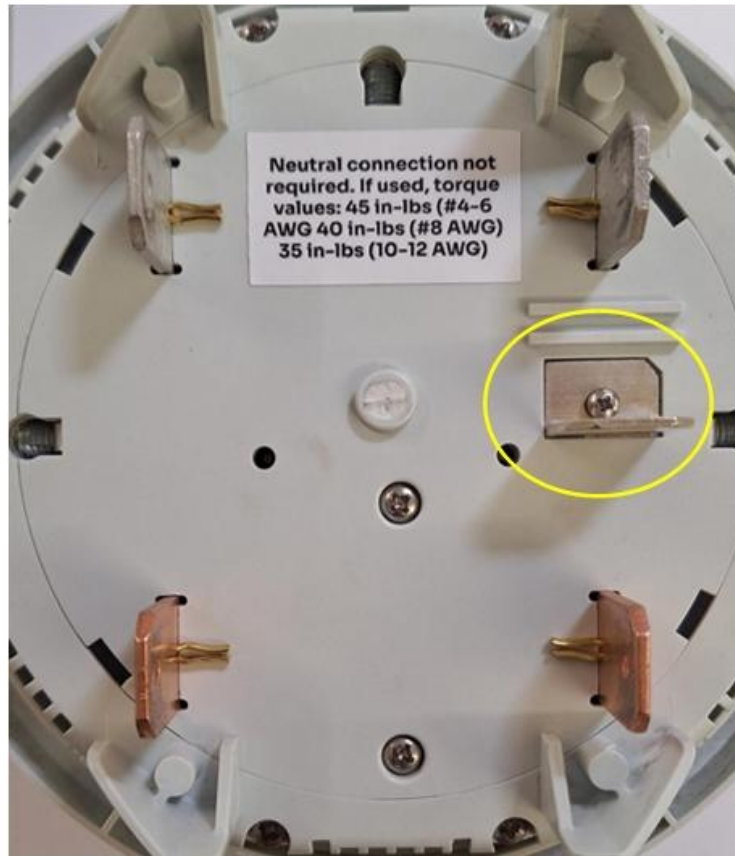
## IslandDER MSA INSTALLATION INSTRUCTIONS

1. Open the box and remove all the contents.
2. For a form 12S meter socket with a 5<sup>th</sup> jaw at the 9 o'clock position, locate the 5<sup>th</sup> stab kit (Figure 17). For a form 2S meter socket, skip to Step 4.



*Figure 17 – 5<sup>th</sup> Stab Kit.*

3. Attach the 5<sup>th</sup> stab to the rear of the MSA Base at the 9 o'clock position (Figure 18) using a #0 or #1 Philips screwdriver until the screw is fully seated. Torque to 5 in. lbs.



*Figure 18 – 5<sup>th</sup> Stab Kit with 5<sup>th</sup> jaw at 9 o'clock.*

4. Remove all jewelry, put on the appropriate PPE, and follow your employer's safety procedures.
5. Notify the homeowner that power will be interrupted.
6. Turn OFF the premises main service disconnect.
7. Cut and remove the utility tamper-prevention seals and remove the locking ring (and socket cover if ringless).
8. For lever bypass meter sockets, actuate the lever to permit meter removal.
9. Using a "Meter Grabber™" or similar tool, remove the utility meter and store it safely.

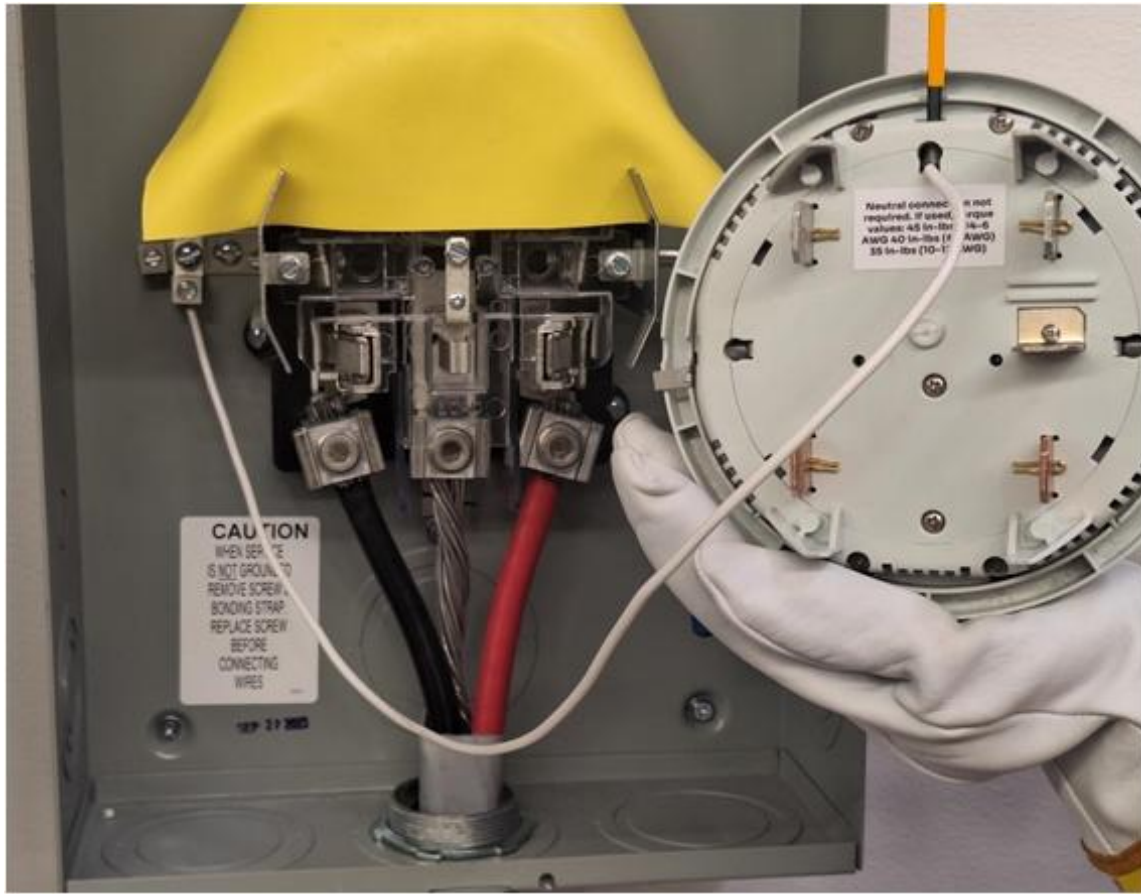
10. Inspect the meter socket terminals for loose or broken wires, damaged jaws, and other signs of damage. Confirm the meter socket and service entrance conductors are in good condition before proceeding.
11. Actuate the lever bypass, if any, to deenergize the load side jaws.
12. For meter sockets with a 5<sup>th</sup> jaw at the 6 o'clock position, cover the line side jaws with an electrical insulation blanket. See Figure 19. For form 2S sockets or form 12S meter sockets with a 5<sup>th</sup> jaw at the 9 o'clock position, skip to Step 16.



*Figure 19 – Meter socket with 5<sup>th</sup> jaw at 6 o'clock.*

13. Install a #10 AWG copper stranded neutral wire from the meter socket interior.

14. For ring-type meter sockets, reinstall the meter socket cover, routing the neutral through the cover. Terminate the other end to the MSA neutral terminal at its 3, 9, or 12 o'clock position. Torque to 35 in-lbs. using a 5/32" hex bit. See Figure 20.



*Figure 20 – Field-Supplied Neutral Connection for Meter Sockets w/5<sup>th</sup> Jaw at 6 o'clock.*

15. Remove the electrical insulation blanket, if used.
16. For lever bypass sockets, actuate the lever to permit meter base installation.
17. Insert the MSA Base into the meter socket with the Connection Module contacts at the top. Ensure it is fully and securely seated. See Figure 21.

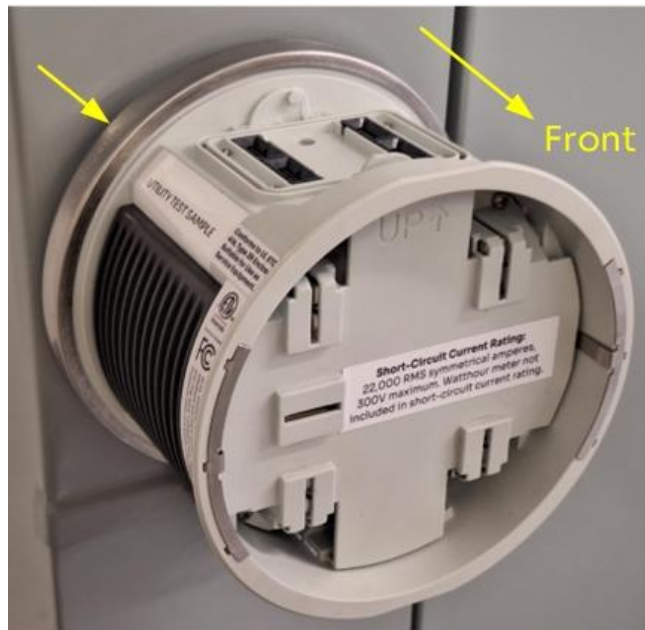
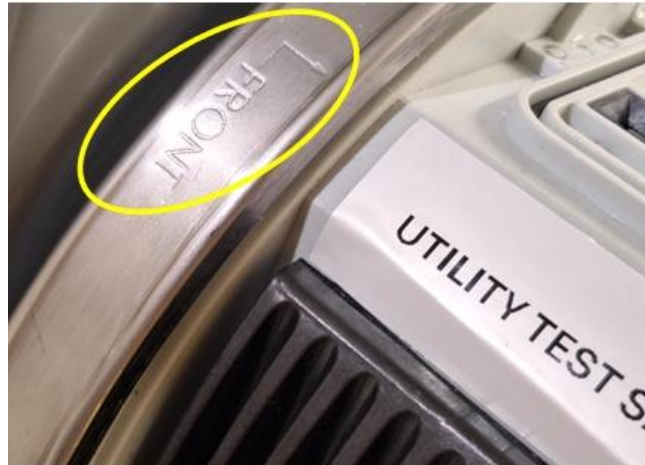




*Figure 21 – MSA Base Inserted.*

18. For lever bypass meter sockets, return the lever to the normal position.
19. For ringless meter sockets, reinstall the meter socket cover over the MSA Base. Proceed with caution as the MSA line side jaws are now energized.
20. For ring-type meter sockets, install a lock ring to secure the MSA base to the meter socket cover with the thicker/wider flange facing the meter socket. If the lock ring says “Front” on it, install it with the arrow facing away from the meter socket as shown in Figure 22.





*Figure 22 – MSA Base with Lock Ring Installed.*

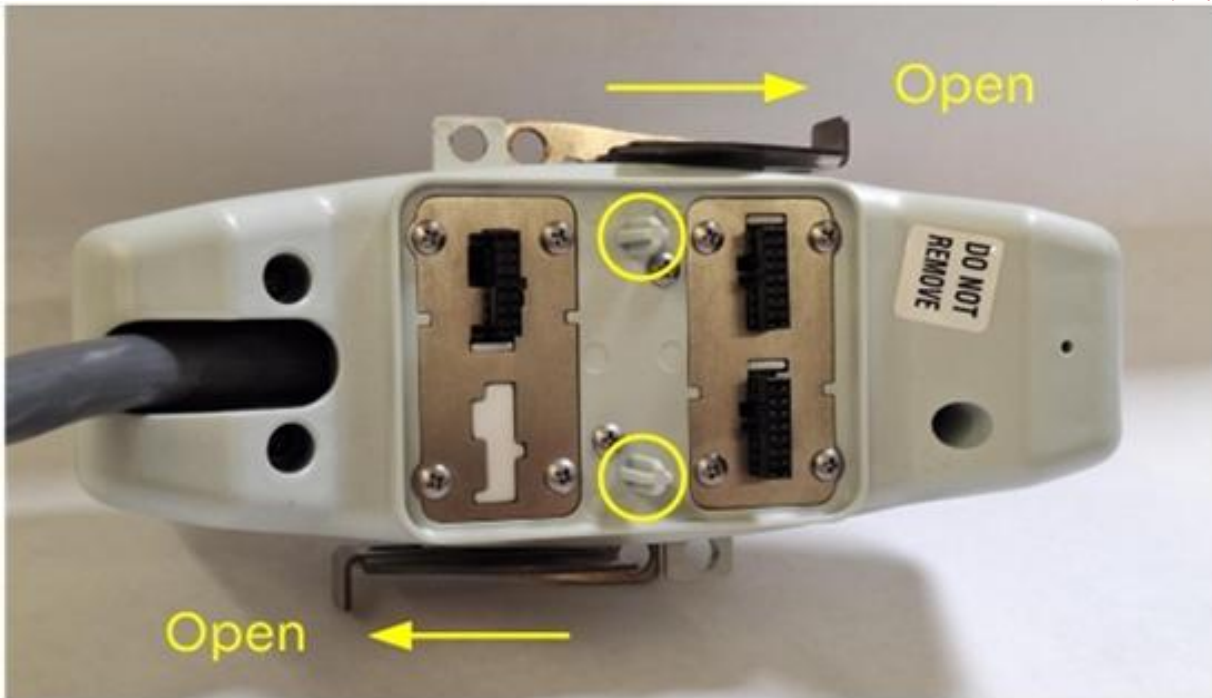
21. Using a “Meter Grabber™” or similar tool, reinstall the utility meter, or install the new replacement utility meter.

22. Install a lock ring to secure the utility meter to the MSA Base with the thicker/wider flange facing the meter socket. If the ring says “Front” on it, install it with the arrow facing away from the meter socket. See Figure 23.



*Figure 23 – MSA Base with Utility Meter Installed.*

23. Note the guide pins on the bottom of the Connection Module, circled in Figure 24. Slide the front and rear latches to the open position.



*Figure 24 – Connection Module Guide Pins and Latches.*

24. Confirm the Connection Module contacts at the top of the MSA Base are clear of any debris. Position the Connection Module above the MSA Base with the Communications Cable exiting toward the desired direction.



**WARNING** - The pins in the MSA base are fragile. Proceed with caution to avoid bending or damaging the pins.

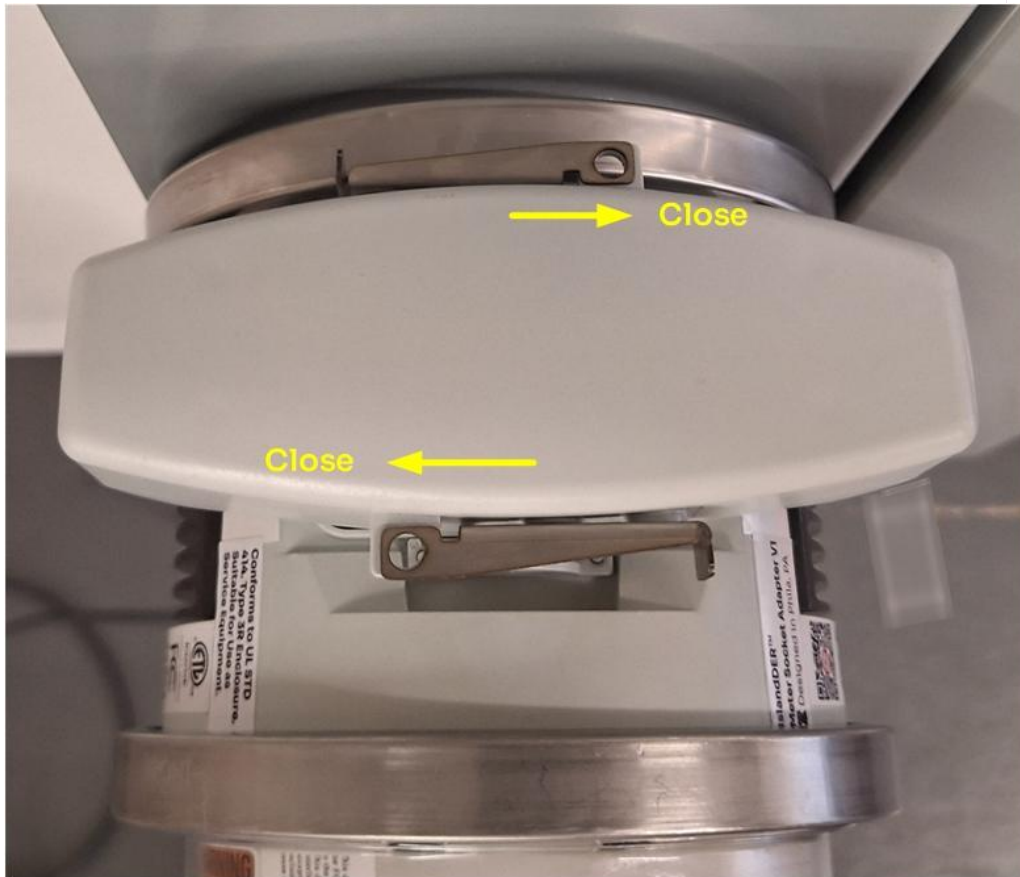
25. Align the Connection Module guide pins with the holes in the MSA Base. See Figure 25.

Level the connection module and carefully insert it into the top of the MSA Base.



*Figure 25 – Insert the Connection Module.*

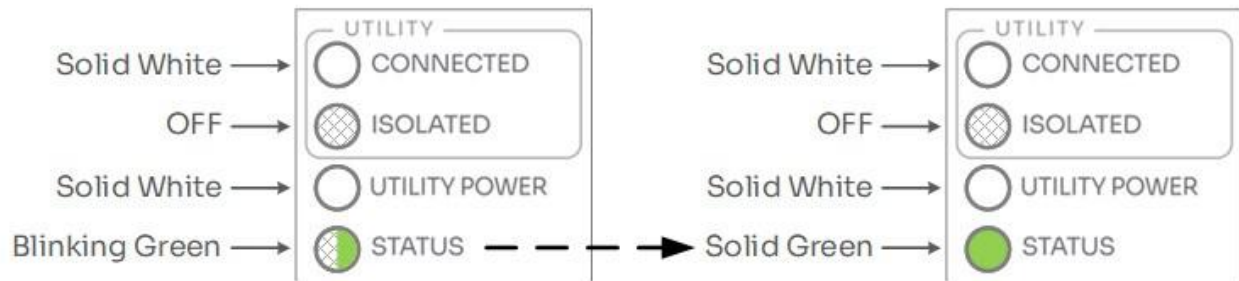
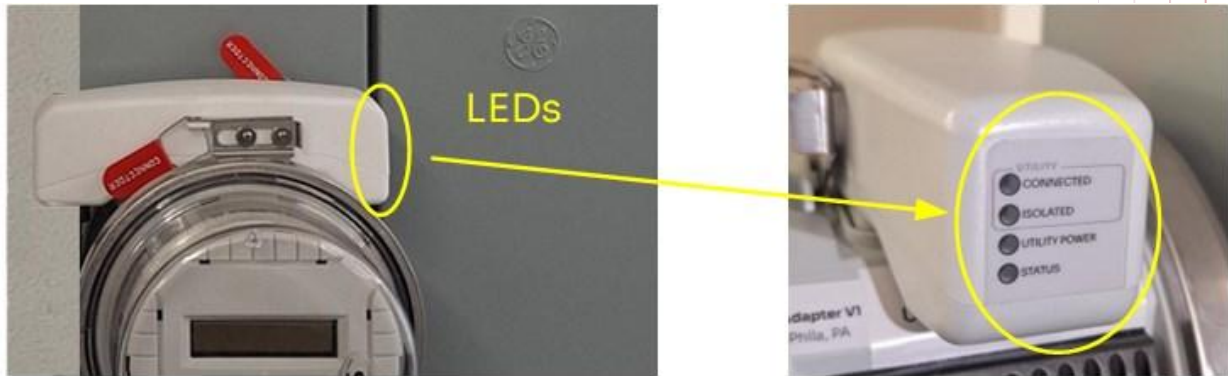
26. Slide the front and rear latches to secure the Connection Module to the MSA Base as shown in Figure 26.



*Figure 26 – Slide the latches closed.*

27. Turn ON the premises main service disconnect to restore utility power.
28. Install tamper-prevention seals on the lock rings, the meter socket cover, and the two Connection Module latches.
29. Check the LED status on opposite end of the Connection Module from the Communications Cable. Confirm the 'Utility Connected' white light is on, and the 'Status' LED is solid green after blinking a few minutes. See Figure 27.





*Figure 27 – Normal Startup LED Status.*

30. Verify the Communications Cable is secured and the plug is capped off and protected from physical damage, debris, etc. Tape a plastic bag around the plug connector (circled) to protect it further. See Figure 28. Provide enough slack in the cable between the pluggable Connection Module and the first cable strap to permit unimpeded removal of the Connection Module.



*Figure 28 – IslandDER Analog Installed and Ready for 3<sup>rd</sup> Party Integration.*

**IslandDER MSA Installation Task Checklist:**

- ✓ IslandDER MSA Base and Connection Module installed.
- ✓ Lock rings installed.
- ✓ Tamper-preventive seals installed on Connection Module latches, lock rings, and meter socket cover.
- ✓ LEDs indicating normal status.
- ✓ Communications cable supported in a professional and skillful manner.
- ✓ Communications Cable plug connector bagged and taped.

31. The IslandDER V1 MSA installation is complete. Refer to the instructions below to connect the Communications Cable to the 3<sup>rd</sup> party system.



## CONNECT COMMUNICATIONS CABLE TO 3<sup>RD</sup> PARTY SYSTEM

### ITEMS REQUIRED TO CONNECT COMMUNICATIONS CABLE TO 3<sup>RD</sup> PARTY SYSTEM



NOTE – The following items (provided by the installer) are required to connect the IslandDER MSA Communications Cable to the 3<sup>rd</sup> party system.

| Qty.   | Item                                                                                                                                                                                                                                               |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Wire cutter, e.g., diagonal pliers.                                                                                                                                                                                                                |
| 1      | Calibrated digital volt-ohmmeter or other suitable metering equipment, and/or other tools required to commission the 3 <sup>rd</sup> party system according to the manufacturer's instructions.                                                    |
| 1 lot  | Tools and materials to route and support the Communications Cable from the IslandDER MSA to the 3 <sup>rd</sup> party system in a professional and skillful manner, and protect the cable from physical damage.                                    |
| 1 lot  | Insulation blanket material to temporarily protect the IslandDER Connection Module contacts if it is removed (and deenergized) from the MSA Base. This allows the Communications Cable to be safely connected to the 3 <sup>rd</sup> party system. |
| 1 roll | Electrical tape.                                                                                                                                                                                                                                   |
| 1 lot  | Additional tamper-prevention seals. Five are furnished with each unit to secure the Connection Module hasps, meter socket rings and cover.                                                                                                         |



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

## CONNECT THE COMMUNICATIONS CABLE TO THE 3<sup>RD</sup> PARTY SYSTEM



NOTE – Follow the installation instructions provided with the 3<sup>rd</sup> party system. Confirm the 3<sup>rd</sup> party system is ready for the Communications Cable to be connected before proceeding.

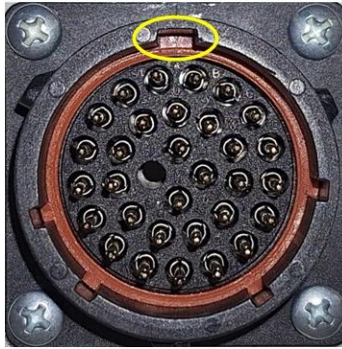
1. Remove temporary supports from the Communications Cable, if any. Keep the plug connector capped off and bagged. It has low voltage on its sleeves unless the Connection Module is removed from the MSA Base.
2. Route and support the Communications Cable toward the 3<sup>rd</sup> party system in a professional and skillful manner that protects the cable from physical damage. The Communications Cable is NOT approved for direct burial.
3. Provide a drip loop to prevent water entering the 3<sup>rd</sup> party system and the Connection Module. Do not connect to the 3<sup>rd</sup> party system yet.
4. Confirm that working clearances and equipment access comply with utility and AHJ requirements.
5. If the 3<sup>rd</sup> party system requires the Communications Cable to be deenergized before connecting:
  - a. Cut and remove the tamper-prevention seals from the Connection Module latches.
  - b. Slide the latches open and remove the Connection Module from the top of the MSA Base. This removes the low voltage on the Communications Cable.
  - c. Gently relocate the Connection Module to a resting position off of the MSA Base. Add additional support such as electrical tape, cable ties, etc. as needed to prevent damage to any components. Place an electrical insulation blanket on top of the MSA Base to protect the fragile electrical pins and cover the guide pin holes. See Figure 29.



*Figure 29 - Connection Module Temporarily Supported,  
Communications Cable Deenergized, MSA Base Protected.*

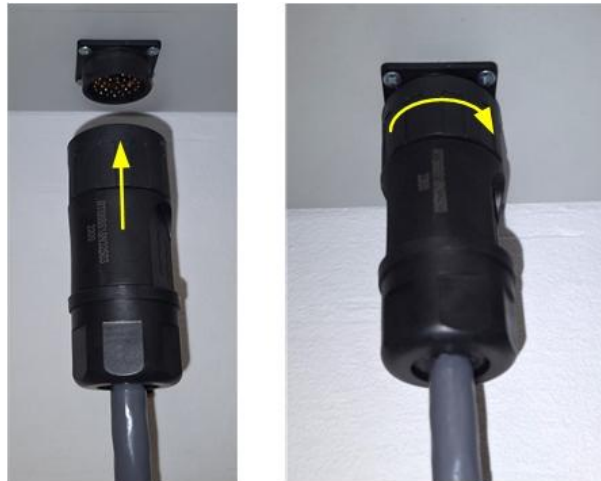
6. Remove the temporary protective bag from the plug connector. Remove the Communications Cable dust cap while keeping the plug connector clean and dry.
7. Align the Communications Cable plug's master keyway with the master keyway in the circular connector receptacle at the 3<sup>rd</sup> party system. See Figure 30.

## Master Keyway



*Figure 30 – Master Keyway.*

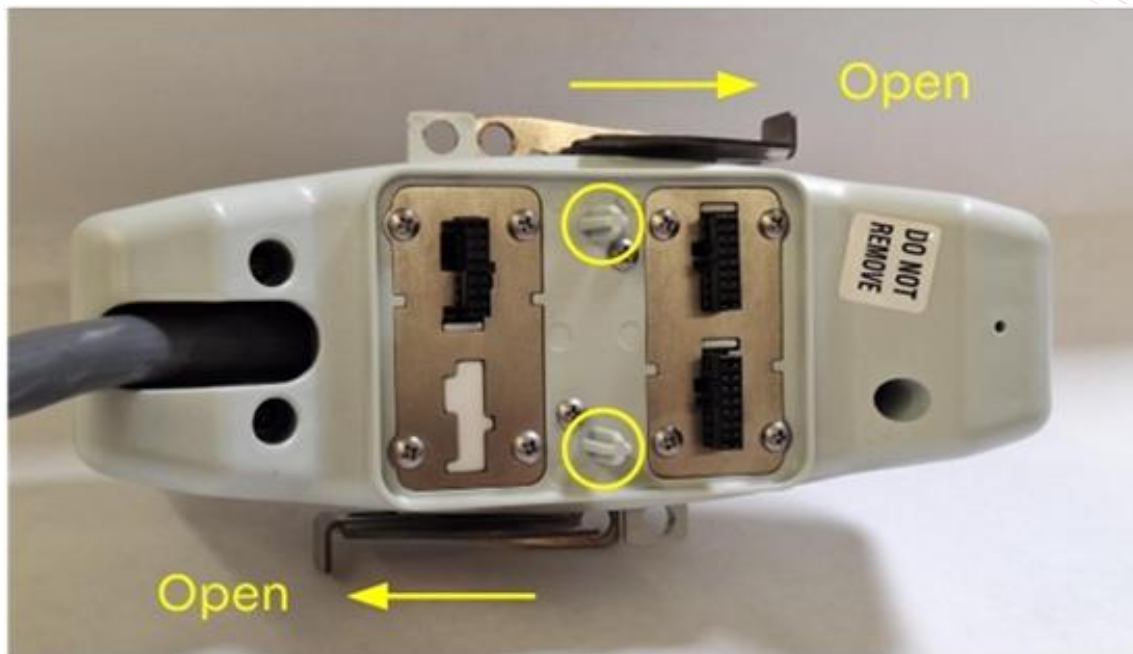
8. Insert the Communications Cable plug into the circular connector receptacle. Tighten it securely (approximately 1/4 turn until it stops) to establish a weatherproof connection. See Figure 31.



*Figure 31 – Communications Cable Connection to 3<sup>rd</sup> Party System.*

9. Remove the electrical insulation blanket from the MSA Base. Confirm the contacts at the top of the MSA Base are clear of any debris.
10. Confirm the 3<sup>rd</sup> party system is ready for the Connection Module to be energized.

11. Note the guide pins on the bottom of the Connection Module. See Figure 32. Slide the front and rear latches to the open position.



*Figure 32 – Analog Connection Module Guide Pins and Latches.*

12. Position the Connection Module above the MSA Base with the Communications Cable exiting toward the desired direction.



**WARNING** - The pins in the MSA base are fragile. Proceed with caution to avoid bending or damaging the pins.

13. Align the Connection Module guide pins with the holes in the MSA Base. See Figure 33.

Level the Connection Module and carefully insert it into place.



*Figure 33 – Insert the Connection Module.*

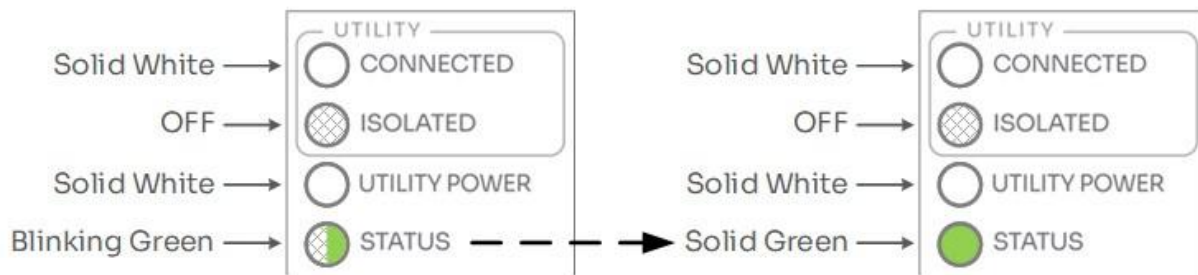
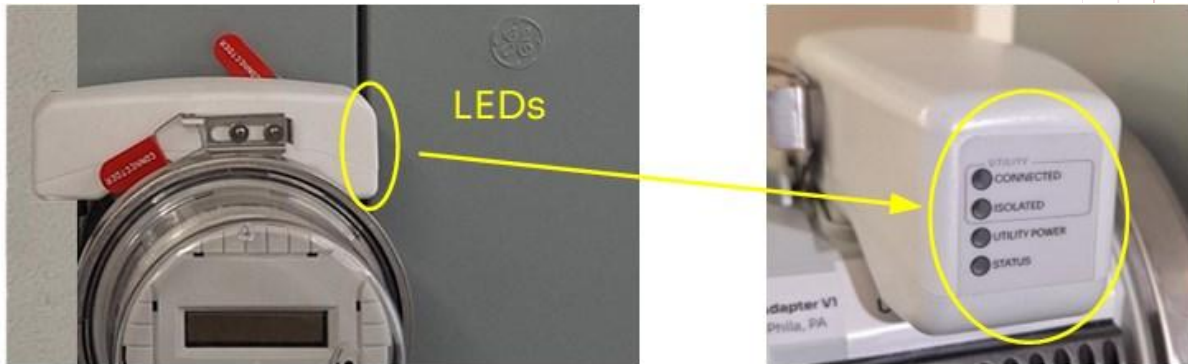
14. Slide the front and rear latches to secure the Connection Module to the MSA Base as shown in Figure 34.



*Figure 34 – Latches Closed.*

15. Check the LED status on opposite end of the Connection Module from the Communications Cable. Confirm the 'Utility Connected' white light is on, and the 'Status' LED is solid green after blinking a few minutes. See Figure 35.





*Figure 35 – Normal Startup LED Status.*

16. Install new tamper-prevention seals on the two Connection Module latches. A generic weatherproof enclosure is shown representing the termination means for the 3<sup>rd</sup> party system. See Figure 36.



*Figure 36 – IslandDER MSA Complete to 3<sup>rd</sup> Party System.*

17. Commission the 3<sup>rd</sup> party system according to the manufacturer's instructions.

## LED STATUS LIGHTS & TROUBLESHOOTING

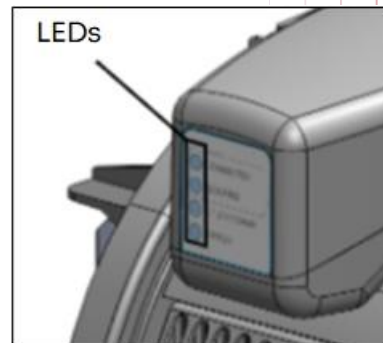
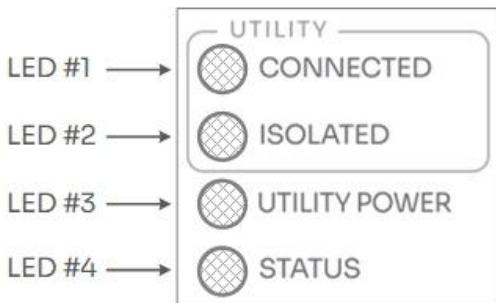


Table 1 – Individual LED status indicators.

| LED# | COLOR                                                                                                 | LABEL             | FUNCTION                                                                                                                          |
|------|-------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1    | <br>Solid White      | UTILITY CONNECTED | MID Closed.                                                                                                                       |
| 2    | <br>Solid Blue       | UTILITY ISOLATED  | MID Open.                                                                                                                         |
| 3    | <br>Solid White     | UTILITY POWER     | Utility power is present.                                                                                                         |
| 4    | <br>Blinking Green | STATUS            | MID relay is not ready to operate.<br>(Charging in progress.)                                                                     |
|      | <br>Solid Green    |                   | MID relay is ready to operate, no MSA faults, Tool Access Cover for Manual MID Operation is in place.                             |
|      | <br>Blinking Red   |                   | E-stop loop is open.<br>(Tool Access Cover for Manual MID Operation at the bottom is removed or 5V 'E_stop_in' signal is absent.) |
|      | <br>Solid Red      |                   | MSA fault.                                                                                                                        |

Table 1 – IslandDER MSA LED Behavior.

Table 2 – Grouped LED status indicators.



NOTE –This is for the MSA only. It does not verify the status of the 3<sup>rd</sup> party DER system.

| LED ARRAY                                                                                                                                                                                                                                                                                                                                                                                                                                                           | MSA STATUS & CORRECTIVE ACTION, IF ANY                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>LED #1 OFF →  CONNECTED</p> <p>LED #2 OFF →  ISOLATED</p> <p>LED #3 OFF →  UTILITY POWER</p> <p>LED #4 OFF →  STATUS</p>     | <p>No power from the utility, AND<br/>No power from alternate source(s).</p> <p>Verify 3<sup>rd</sup> party system is operating properly.</p>                                                                                                                                                                                                                                        |
| <p>Solid White →  CONNECTED</p> <p>OFF →  ISOLATED</p> <p>Solid White →  UTILITY POWER</p> <p>Blinking Green →  STATUS</p> | <p>MID relay is closed.<br/>Utility power present.<br/>MID relay is not ready to operate<br/>(charging in progress).</p> <p>Normal behavior upon initial startup.</p> <p>Wait up to 2 minutes until the MID capacitors are<br/>charged; blinking green will change to solid<br/>green.</p> <p>If green LED fails to turn solid, contact 3<sup>rd</sup> party<br/>system support.</p> |
| <p>Solid White →  CONNECTED</p> <p>OFF →  ISOLATED</p> <p>Solid White →  UTILITY POWER</p> <p>Solid Green →  STATUS</p> | <p>MID relay is closed.<br/>Utility power present.<br/>MID relay is ready to actuate if necessary.</p> <p>Indicates normal on-grid system operation.</p>                                                                                                                                                                                                                             |

Table 2 – Interpreting LED Status & Troubleshooting the IslandDER MSA.

Table 2 Continued - Grouped LED status indicators.

 NOTE –This is for the MSA only. It does not verify the status of the 3<sup>rd</sup> party DER system.

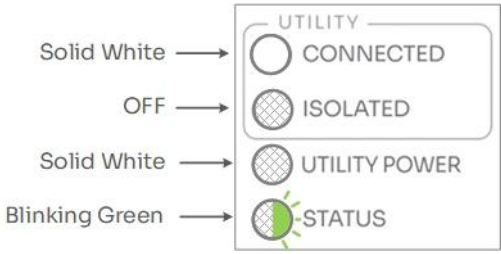
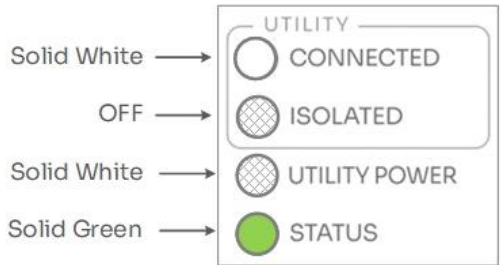
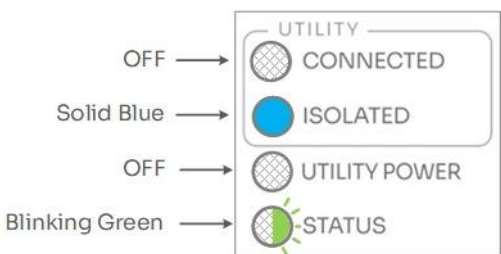
| LED ARRAY                                                                           | MSA STATUS & CORRECTIVE ACTION, IF ANY                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <p>MID relay is closed.<br/>Utility power is not present.<br/>MID relay is not ready to operate (charging in progress).</p> <p>Wait up to 2 minutes until the MID capacitors are charged; blinking green will change to solid green.</p> <p>If green LED fails to turn solid, contact 3<sup>rd</sup> party system support.</p>      |
|   | <p>MID relay is closed.<br/>Utility power is not present.<br/>MID relay is ready to actuate if necessary.</p> <p>3<sup>rd</sup> party system may command the MID to open (isolate from the utility) and connect a backup power source at its discretion.</p>                                                                        |
|  | <p>MID relay is open.<br/>Utility power is not present.<br/>MID relay is not ready to operate (charging in progress).</p> <p>Wait up to 2 minutes until the MID capacitors are charged; blinking green will change to solid green.</p> <p>If green LED fails to turn solid, verify the Communications Cable is clear of faults.</p> |

Table 2, CONTINUED – Interpreting LED Status & Troubleshooting the IslandDER MSA.

Table 2 Continued - Grouped LED status indicators.



NOTE –This is for the MSA only. It does not verify the status of the 3<sup>rd</sup> party DER system.

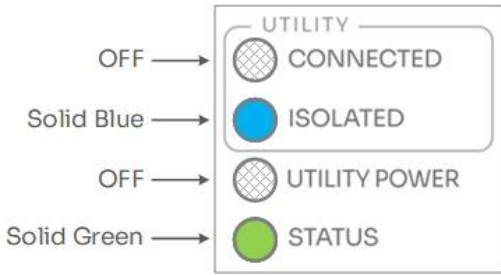
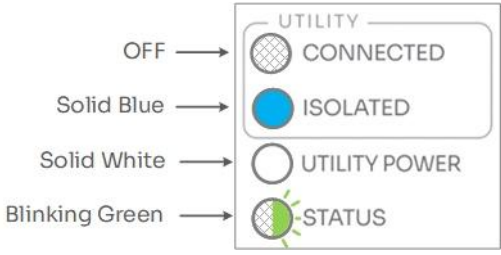
| LED ARRAY                                                                          | MSA STATUS & CORRECTIVE ACTION, IF ANY                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>MID relay is open.<br/>Utility power is not present.<br/>MID relay is ready to actuate if necessary.</p> <p>Indicates off-grid system operation.</p> <p>Wait for utility power to be restored. The 3<sup>rd</sup> party system will determine when to close the MID after utility power is restored.</p>                                                                                                                                                                    |
|  | <p>MID relay is open.<br/>Utility power present.<br/>MID relay is not ready to operate (charging in progress).</p> <p>Typical after a prolonged utility outage. The 3<sup>rd</sup> party system is preparing the MID for readiness to transfer to utility power.</p> <p>Wait up to 2 minutes until the MID capacitors are charged; blinking green will change to solid green.</p> <p>If green LED fails to turn solid, verify the Communications Cable is clear of faults.</p> |

Table 2, CONTINUED – Interpreting LED Status & Troubleshooting the IslandDER MSA.

Table 2 – Continued – Grouped LED status indicators.

 NOTE –This is for the MSA only. It does not verify the status of the 3<sup>rd</sup> party DER system.

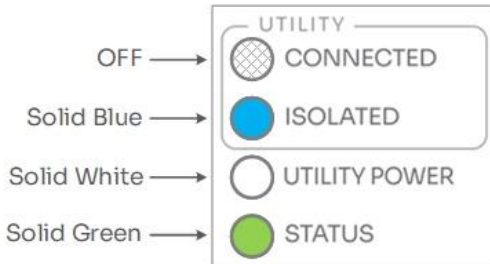
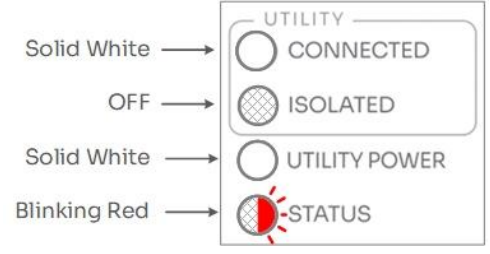
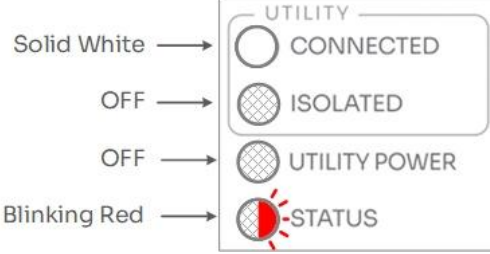
| LED ARRAY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | MSA STATUS & CORRECTIVE ACTION, IF ANY                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>OFF →  CONNECTED</p> <p>Solid Blue →  ISOLATED</p> <p>Solid White →  UTILITY POWER</p> <p>Solid Green →  STATUS</p>           | <p>MID relay is open.<br/>Utility power present.<br/>MSA OK.<br/>MID relay is ready to actuate if necessary.<br/>E-stop loop is closed.</p> <p>Indicates off-grid system operation. Utility power, if lost, has been restored.</p> <p>The 3<sup>rd</sup> party will command the MID to close at its discretion in order to reconnect to the utility.</p> |
|  <p>Solid White →  CONNECTED</p> <p>OFF →  ISOLATED</p> <p>Solid White →  UTILITY POWER</p> <p>Blinking Red →  STATUS</p> | <p>MID relay is closed.<br/>Utility power is present.<br/>E-stop loop is open.<br/>(Tool Access Cover for Manual MID Operation at the bottom is removed or 5V ‘E_stop_in’ signal is absent.)</p> <p>Notify the installer the red light is blinking. Only qualified personnel should service the MSA.</p>                                                 |
|  <p>Solid White →  CONNECTED</p> <p>OFF →  ISOLATED</p> <p>OFF →  UTILITY POWER</p> <p>Blinking Red →  STATUS</p>       | <p>MID relay is closed.<br/>Utility power is not present.<br/>E-stop loop is open.<br/>(Tool Access Cover for Manual MID Operation at the bottom is removed or 5V ‘E_stop_in’ signal is absent.)</p> <p>Notify the installer the red light is blinking. Only qualified personnel should service the MSA.</p>                                             |

Table 2, CONTINUED – Interpreting LED Status & Troubleshooting the IslandDER MSA.



Table 2, Continued - Grouped LED status indicators.



NOTE –This is for the MSA only. It does not verify the status of the 3<sup>rd</sup> party DER system.

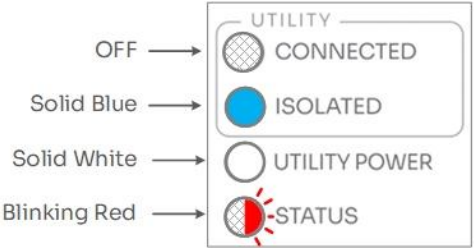
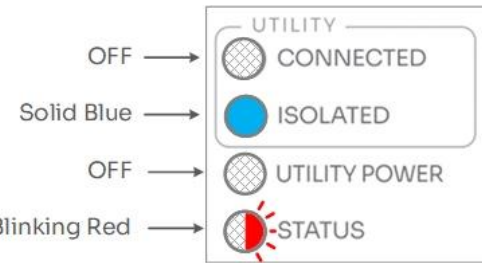
| LED ARRAY                                                                          | MSA STATUS & CORRECTIVE ACTION, IF ANY                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <p>MID relay is open.<br/>Utility power is present.<br/>E-stop loop is open.<br/>(Tool Access Cover for Manual MID Operation at the bottom is removed or 5V 'E_stop_in' signal is absent.)</p> <p><b>Notify the installer the red light is blinking. Only qualified personnel should service the MSA.</b></p>     |
|  | <p>Mid relay is open.<br/>Utility power is not present.<br/>E-stop loop is open.<br/>(Tool Access Cover for Manual MID Operation at the bottom is removed or 5V 'E_stop_in' signal is absent.)</p> <p><b>Notify the installer the red light is blinking. Only qualified personnel should service the MSA.</b></p> |

Table 2, CONTINUED - Interpreting LED Status & Troubleshooting the IslandDER MSA.

Table 2 Continued - Grouped LED status indicators.



NOTE –This is for the MSA only. It does not verify the status of the 3<sup>rd</sup> party DER system.

| LED ARRAY                                                                                                                                                                                                                                                                                                                                                                                     | MSA STATUS & CORRECTIVE ACTION, IF ANY                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div> <div> <div>OFF or Solid White</div> <div>→</div> <div> <div>UTILITY</div> <div>CONNECTED</div> </div> </div> <div> <div>OFF or Solid Blue</div> <div>→</div> <div> <div>ISOLATED</div> </div> </div> <div> <div>OFF or Solid White</div> <div>→</div> <div> <div>UTILITY POWER</div> </div> </div> <div> <div>Solid Red</div> <div>→</div> <div> <div>STATUS</div> </div> </div> </div> | <p>Any LED status combination with a solid red light.</p> <p><b>Non-recoverable fault. The MSA must be replaced. RMA the unit.</b></p> <p><b>When replacing the MSA, use proper PPE and uninstall the existing unit in reverse order.</b></p> |

Table 2, CONTINUED – Interpreting LED Status & Troubleshooting the IslandDER MSA.

For more information, contact [support@connectder.com](mailto:support@connectder.com).

## MANUAL MID OVERRIDE PROCEDURE



**WARNING** – The MID override procedure must be performed by qualified personnel ONLY. Unqualified persons attempting to install or service the IslandDER MSA could result in damage, serious injury, or death.

All power sources must be disconnected prior to operating this switch. Follow your employer's requirements for personal protective equipment (PPE) and procedures.

When utility power is lost, the 3<sup>rd</sup> party DER system commands the IslandDER MSA to open the MID. Opening the MID isolates (“islands”) the premises from the utility, thereby preventing inadvertent backfeeding to the grid, and safely facilitating backup power from a 3<sup>rd</sup> party system.

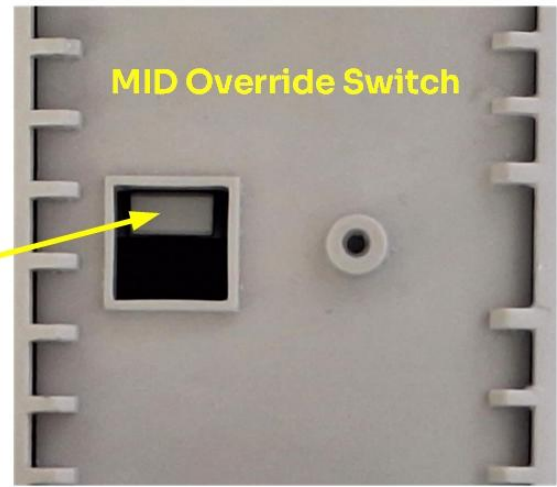
The 3<sup>rd</sup> party system can provide power to the premises for as long as its alternate source is available. If utility power is lost for an extended period of time and the 3<sup>rd</sup> party system is depleted (unable to supply 12V power to the IslandDER MSA), the entire system including the premises is powered off.

When utility power is restored, the IslandDER MSA powers on and updates its status to the 3<sup>rd</sup> party system. In the unlikely event the 3<sup>rd</sup> party system fails to signal the IslandDER to re-close the MID, the IslandDER MSA is equipped with a tool to manually close the MID, restoring utility power to the premises.

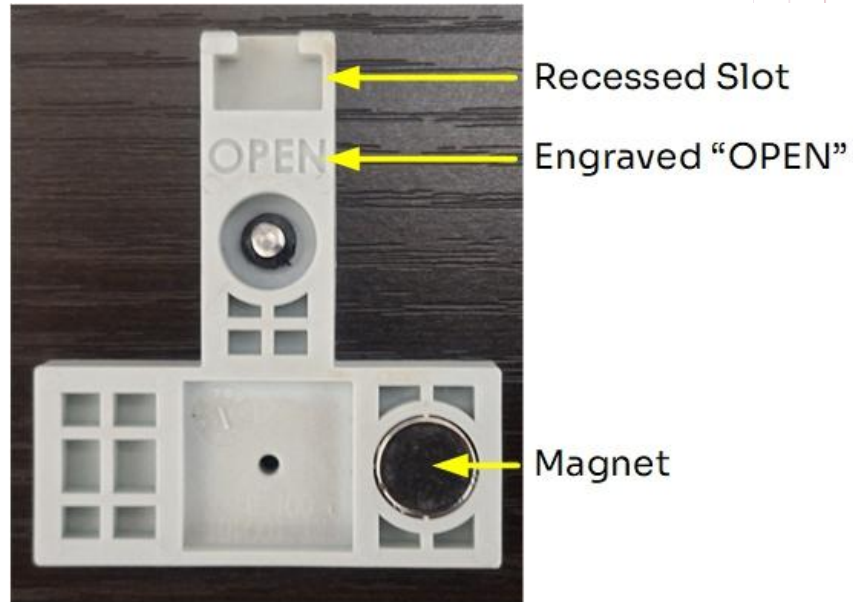
 **WARNING** – The MID override procedure must be performed by qualified personnel ONLY. Unqualified persons attempting to install or service the IslandDER MSA could result in damage, serious injury, or death.

All power sources must be disconnected prior to operating this switch. Follow your employer's requirements for personal protective equipment (PPE) and procedures.

- [illegible]

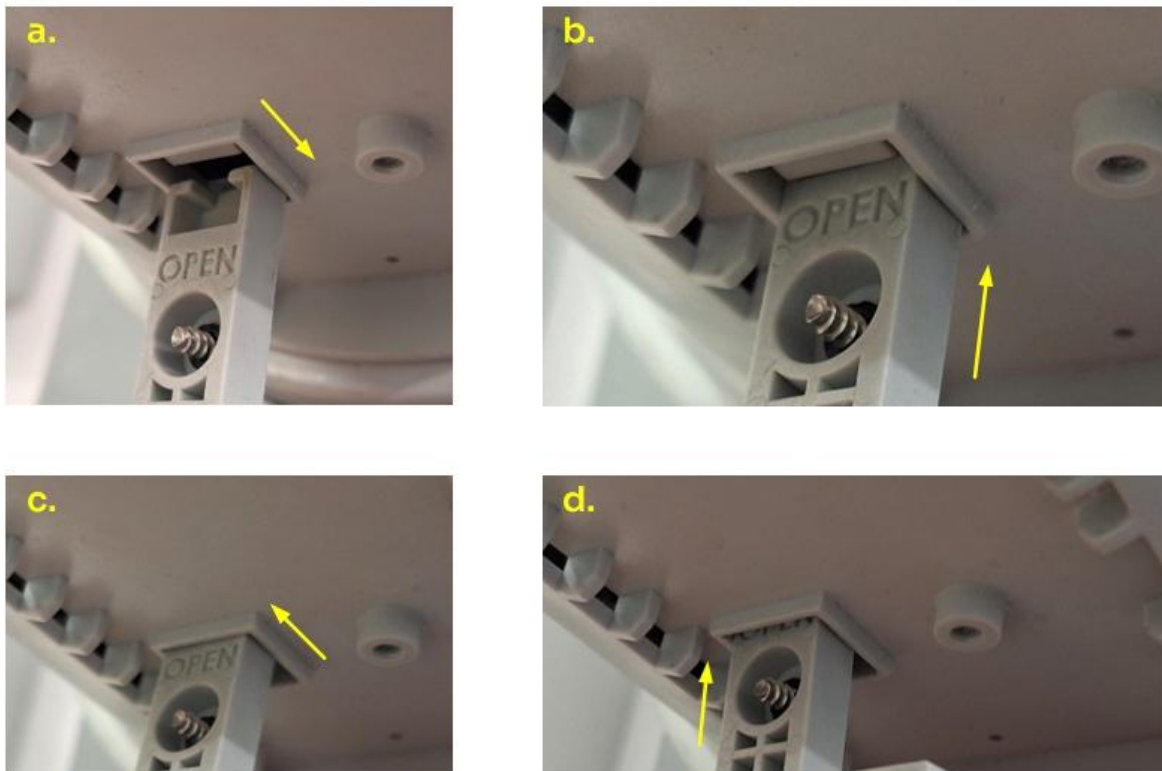


*Figure 38 – Manual MID Override Switch.*



*Figure 39 – Tool Access Cover for Manual MID Operation Features.*

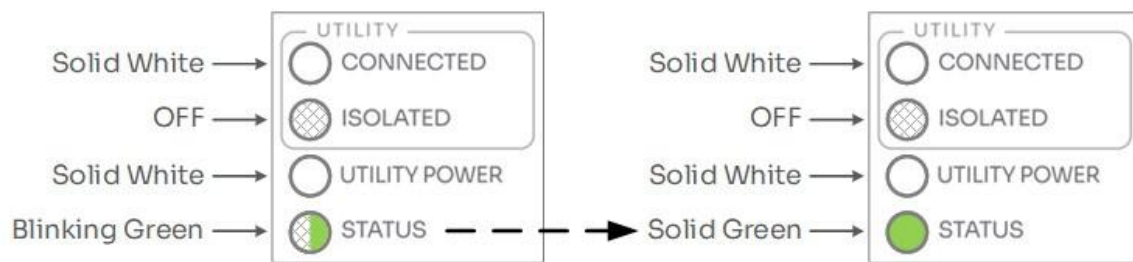
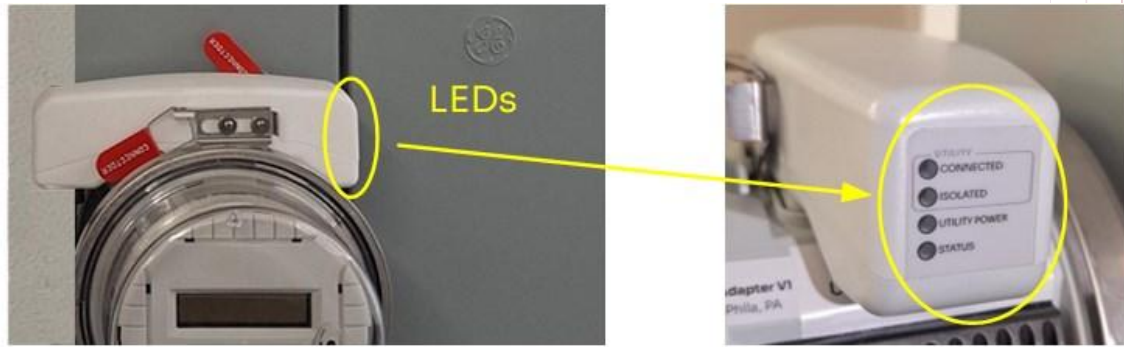
6. Refer to Figure 40 below.
  - a. Position the tool (with its recessed slot facing forward) toward the rear of the square opening (toward the meter socket).
  - b. Move the tool upward aligning the bottom of the slot with the MID Override Switch.
  - c. Move the tool forward until it latches onto the MID Override Switch.
  - d. Push tool upward again to close the MID Override Switch. The engraved "OPEN" will disappear from view.



*Figure 40 – Manual MID Override Switch Closure Procedure.*

7. Utility power is now restored to the premises. If the MID needs to be manually opened, pull the tool downward until the word “OPEN” appears.
8. Remove the Tool Access Cover for Manual MID Operation from the MID Override Switch.
9. Re-attach the Tool Access Cover for Manual MID Operation to its original position using a #0 or #1 Philips screwdriver. Be careful not to overtighten. Torque to 5 in-lbs.
10. Check the LED status on opposite end of the Connection Module from the Communications Cable. Confirm the ‘Utility Connected’ white light is on, and the ‘Status’ LED is solid green after blinking a few minutes. See Figure 41.





*Figure 41 – Normal Startup LED Status.*

11. Follow the manufacturer's instructions to safely restore the 3<sup>rd</sup> party system to normal operational status.

## CALIFORNIA IOU MSA PROCESS GUIDELINES

Investor-owned utilities in California and other states install meter socket adapters and require the installation contractor and homeowner to follow strict guidelines. Check in advance for their specific process to avoid delays and payments for multiple truck rolls.

The contractor submits a request for the MSA to be installed via the utility's project portal and pays a fee. There is normally a 10-day or similar work window for the utility to complete the request.

Adhere to applicable utility clearance requirements from gas meters, etc. The utility may require the balance of the DER (solar, battery, EVSE, etc.) system to be completed first:

- a) The Analog Cable plug should be inserted into the 3<sup>rd</sup> party controller/system, AND
- b) The Connection Module should be fully seated on the MSA Base. Slide the latches closed and install tamper-prevention seals to keep them in place.

The complete MSA assembly must be left onsite and sealed in a high visibility, weatherproof bag near the existing meter with the Communications Cable connected. Tie the bag securely to a nearby conduit or other means suitable to the utility. See Figure 42.



NOTE – IF THIS PROCESS IS NOT FOLLOWED PROPERLY, THE UTILITY MAY REJECT THE MSA INSTALLATION AND CHARGE ANOTHER TRUCK ROLL FEE TO RETURN.



*Figure 42 – DER System Completed, Ready for MSA Installation*

## APPENDIX

### Reference 1 – ETL Authorization to Mark



#### AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

**Applicant:** ConnectDER, Inc

**Manufacturer:** ConnectDER, Inc

**Address:** 2037 Washington Ave.  
Philadelphia, PA19146

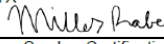
**Address:** 2037 Washington Ave.  
Philadelphia, PA19146

**Country:** USA

**Country:** USA

**Party Authorized To Apply Mark:** Same as Manufacturer  
**Report Issuing Office:** Intertek Testing Services NA, Inc., Plano, TX

**Control Number:** 5028888

**Authorized by:**   
for L. Matthew Snyder, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

This Authorization to Mark is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Authorization to Mark. Only the Client is authorized to permit copying or distribution of this Authorization to Mark and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement and in this Authorization to Mark. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.

Intertek Testing Services NA Inc.  
545 East Algonquin Road, Arlington Heights, IL 60005  
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672

|                     |                                                                   |
|---------------------|-------------------------------------------------------------------|
| <b>Standard(s):</b> | Meter Sockets [UL 414:2016Ed.9+R:01Mar2024]                       |
|                     | Meter-Mounting Devices (R2010) [CSA C22.2#115:1989 Ed.5+G1;G2;G3] |
| <b>Product:</b>     | Meter Socket Adapter                                              |
| <b>Brand Name:</b>  | IslandDER                                                         |
| <b>Models:</b>      | V-1-A-6, V-1-A-X, V-1-D, V-1-D-SE, V-1-D-X                        |

ATM for Report 105948363DAL-001

ATM Issued: 25-Apr-2025  
ED 16.3.15 (1-Jul-2022) Mandatory

## Reference 2 – IslandDER MSA Model Numbers

| Form 2S, 12S METER TYPES               |                  |                               |                                               |
|----------------------------------------|------------------|-------------------------------|-----------------------------------------------|
| IslandDER Product                      | MSA Base Model # | MSA Connection Module Model # | Combined Model Number (listed on the package) |
| V1, Analog, 6 ft. cable                | V-1              | A-6                           | V-1-A-6                                       |
| V1, Analog, Special Order Cable Length | V-1              | A-#                           | V-1-A-#<br>(# denotes length up to 25 ft.)    |

## Reference 3 – IslandDER MSA Specifications

| MECHANICAL SPECIFICATIONS                                          |                                                                              | COMMUNICATIONS                          |                                                                                                                                                           |
|--------------------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| ENCLOSURE RATING                                                   | NEMA 3R                                                                      | TYPE                                    | Discrete sensing, control, status, and 12V power signals                                                                                                  |
| ENCLOSURE TYPE                                                     | Injection molded polycarbonate, UL 94 5VA flame rating                       | CABLE                                   | Pre-Assembled, Multi-Conductor, Outdoor/UV Rated                                                                                                          |
| THERMAL MANAGEMENT                                                 | Passive Cooling, Heat Sinks                                                  | CONNECTION                              | Factory-Wired Pluggable Connection, Watertight, Reversible at Top of MSA, Pre-attached connector to 3 <sup>rd</sup> party equipment.                      |
| OPTIONAL NEUTRAL CONNECTION                                        | Wired to Meter Socket or 5 <sup>th</sup> Stab Options                        | POWER                                   | 12V DC bus to/from 3 <sup>rd</sup> party system, Max 5W power supply available to 3 <sup>rd</sup> party system from grid side of MID (load side of meter) |
| DIMENSIONS (W X H X D)                                             | 6.7" x 7.8" x 4.9" (with pluggable Connection Module)                        | CURRENT SENSING                         | ANSI 0.2 Accuracy Class CTs for Revenue Grade Sensing, Additional line and load side (of MID) Rogowski Coils at <5% accuracy                              |
| WEIGHT                                                             | 5.55 lbs. / 2.52 kg (with Connection Module and 6 ft analog cable)           | VOLTAGE SENSING                         | Line and Load (of MID) – 0.4% Accuracy at Ambient, 1% across Temperature Range                                                                            |
| SHIPPING WEIGHT                                                    | 7.75 lbs. (3.51 kg)                                                          | MID CONTROL                             | Discrete open/close signals with 1ms input noise rejection, Actuation time < 15ms                                                                         |
| MOUNTING SYSTEM                                                    | Blade interface with 4-jaw or 5-jaw meter socket                             | MSA STATUS                              | Discrete signals for: MID open/close status, manual MID override interlock, MID ready, grid power present, MSA fault                                      |
| ELECTRIC METER COMPATIBILITY                                       | Type 2S, type 12S                                                            | INTERNAL TEMPERATURE SENSING            | –58°F to 302°F (–50°C TO 150°C)                                                                                                                           |
| METER SOCKET COMPATIBILITY                                         | Ringless, Ring-type, Lever, Horn Bypass                                      |                                         |                                                                                                                                                           |
| MANUAL MID OVERRIDE                                                | Externally Accessible Switch, Protected by Interlocked Tool–Access Cover     |                                         |                                                                                                                                                           |
| RATINGS                                                            |                                                                              |                                         |                                                                                                                                                           |
| VOLTAGE                                                            | 208V, 240V                                                                   | EMISSIONS                               | FCC CFR Part 15 Class B, ANSI C12 / IEC 61000                                                                                                             |
| MAX CONTINUOUS CURRENT                                             | 200A                                                                         | ETL FILE NUMBER                         | 5028888                                                                                                                                                   |
| SHORT CIRCUIT RATING                                               | 22K AIC*                                                                     | AMBIENT AIR OPERATING TEMPERATURE RANGE | –22°F to 149°F (30°C TO 65°C)                                                                                                                             |
| MID RATED CYCLES                                                   | 10,000                                                                       | AMBIENT AIR STORAGE TEMPERATURE RANGE   | –40°F to 176°F (–40°C TO 80°C)                                                                                                                            |
| APPLICABLE SAFETY STANDARDS                                        | UL 414, SA, SB, SC – Meter Sockets, UL 1741 / UL 3141 / UL 9741 system ready |                                         |                                                                                                                                                           |
| * Rating independent of any external load side overcurrent devices |                                                                              |                                         |                                                                                                                                                           |

## Reference 4 – IslandDER V1 MSA Product Labels

IslandDER Product ID Label

1.5" x 0.6"



French Translation:

IslandDER™  
Adaptateur de socle de compteur d'électricité V1  
📍 Conçu à Philadelphie, PA

IslandDER UL Standard Label

1.5" x 0.6"

Conforms to UL STD  
414. Type 3R Enclosure.  
Suitable for Use as  
Service Equipment.

French Translation:

Conforme au standard UL 414.  
Boîtier de type 3R. Convient à  
une utilisation comme  
équipement de service.

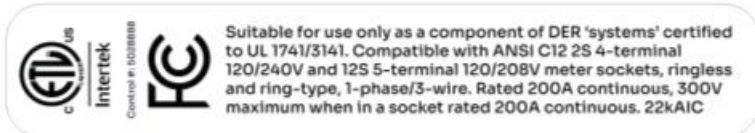
IslandDER ConnectDER Logo Label

4" x 0.7"



IslandDER Intertek Label

4" x 0.7"



French Translation:

Convient uniquement à une utilisation comme composante d'un système d'énergie décentralisée (DER) certifié au standard UL 1741/3141. Compatible avec des socles de compteur d'électricité ANSI C12 à 4 bornes, forme 2S, 120V/240V, et à 5 bornes, forme 12S, 120V/208V, sans anneau et de type anneau, monophasées, 3 fils. Spécifié jusqu'à 200 ampères nominal en service continu, 300 V maximum, lorsqu'il est utilisé avec un socle de compteur spécifié jusqu'à 200 ampères nominal en service continu. 22kAIC

### IslandDER Base Serial Number Label

1.5" x 1.5"



### IslandDER MID Override Switch Label

2.25" x 0.8"

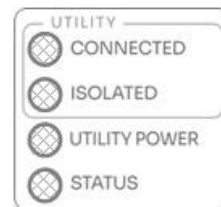
**QUALIFIED PERSONNEL ONLY**  
**Manual MID Override Switch**  
WARNING: All power sources must be  
disconnected prior to operating this switch

### French Translation:

**PERSONNEL QUALIFIÉ SEULEMENT**  
**Commande Manuelle d'Urgence du Dispositif**  
**d'Interconnexion de Microréseaux (MID)**  
**AVERTISSEMENT : Coupez l'alimentation de toutes les**  
**sources avant d'opérer le dispositif**

### IslandDER Connection Module Status Label

1.06" x 1.13"



### French Translation:

#### Service électrique

- Connecté
- Isolé
- Alimentation du service électrique
- Indicateur de statut

### IslandDER Short-Circuit Current Rating Label

3.5" x 1"

**Short-Circuit Current Rating:**  
22,000 RMS symmetrical amperes,  
300V maximum. Watthour meter not  
included in short-circuit current rating.



**French Translation:****Courant Nominal de Court-Circuit:**

Courant RMS symétrique de 22,000 ampères,  
300V maximum. Compteur d'électricité n'est pas  
inclus dans le courant de court-circuit nominal.

**Optional Neutral Lug Label**

1.8" x 1"

**Neutral connection not  
required. If used, torque  
values: 45 in-lbs (#4-6  
AWG 40 in-lbs (#8 AWG)  
35 in-lbs (10-12 AWG)**

**French Translation:**

Connection au neutre non requis. Si utilisé,  
tension de serrage: 5.2 Nm (#4-6 AWG),  
4.5 Nm (#8 AWG), 4 Nm (#10-12 AWG)

**IslandDER Connection Module  
Model & Serial Number Label**

1" x 1"

**Shipping Box Model Number Label**

4" x 2"



## IslandDER Accessory Bag Label

4" x 6"

**ConnectDER  
IslandDER Meter  
Socket Adapter V1**

Scan the QR code to access the  
product installation manual.  
Read the manual in its entirety  
before installation.

**Important Installation Reminders**

- Device must only be installed by qualified and competent personnel.
- Utility meters should only be removed with utility approval and best practices.
- Safety First! Always use appropriate PPE and follow NFPA 70E electrical safety best practices.
- Open all service disconnects and all other potential energy sources to de-energize power to the premises before installation. Installation should never occur under load.
- Install the provided tamper-resistant seals to secure pluggable connection module hasps, locking ring(s), and meter socket cover.
- Device must only be installed right side up, with the pluggable connection module on the TOP.
- The device has no serviceable parts, including the communications cable. Do NOT disassemble or modify under any circumstances.
- The device should only be installed in combination with a supported UL 1741/3141/9741 system that has been specifically evaluated for use with IslandDER. Connect the communications cable to IslandDER and 3rd party equipment per both the IslandDER and 3rd party installation instructions / manuals.
- Refer to both the IslandDER and 3rd party equipment instructions/manuals for commissioning, operations and service procedures.
- If installing in a 5-terminal socket and with a form 2S or 12S meter, install the provided 5th stab to the back of the MSA as specified in the installation instructions/manual.
- For use with form 2S and 12S, ring and ringless meter sockets
- MID Override Switch should ONLY be operated by qualified/competent professionals per the IslandDER installation manual, and only after all connected power sources have been deenergized.

**Questions? Contact [support@connectder.com](mailto:support@connectder.com)**

## FCC REGULATORY STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## 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](http://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 Intertek, consult the appropriate standard, or contact Intertek directly regarding the ConnectDER IslandDER MSA, Intertek ETL File Number 5028888.