lunar energy



WI-000240

Meter Socket Adapter Controller (MSAC) Installation Manual

Revision History

Revision	Description of Change	Effective Date
1	Initial Release	06/09/2025
2	LED Indicator Update	09/02/2025

WI-000240 **2**
Revision History 3
Legal Information 6
A. Contact 6
B. Legal Statement 6
C. Documentation 6
D. Specifications 6
E. Copyright 6
A. Trademarks 7
B. Electronics and Battery Disposal 7
C. Warranty Information 7
Important Safety Instructions 8
A. Intended Use 8
B. Safety and Advisory Symbols 9
C. Documentation 10
D. Service Contact Information 10
E. Safety Rules and General Information 10
F. Storage, Installation, and Use 13
G. Environmental Conditions 16
H. Warning Symbols 17
I. Qualified Personnel 18
Regulatory Statements 19
A. Compliance Summary 19
B. Compliance Statements 19
Lunar Meter Socket Adapter Controller (MSAC) Specifications 21
System 21
Environmental 21
Mechanical Specifications 21
System Overview 22
Site Requirements 22
A. Location 22
B. Clearances 22
C. Maximum Distance between System Components 22
Tools and Materials 24
A. Required Tools 24
B. Materials 24

Installation 25
A. Unpack the MSA-Controller 25
B. Anchoring 25
C. Orientation 25
D. Mounting 26
MSA-Controller Wiring 30
Power 30
Communication 30
Commissioning 31
Troubleshooting 32
LED Indicators 32

Legal Information

A. Contact

Lunar Energy, Inc.
755 Ravendale Drive
Mountain View, CA 94043
USA
www.lunarenergy.com
Attention: legal@lunarenergy.com

B. Legal Statement

For complete legal information, including copyrights, trademarks, licensing, terms of use, warranties, and customer privacy policy, visit www.lunarenergy.com.

C. Documentation

Lunar Energy makes no representation or warranty, express or implied, with respect to this documentation or any of the equipment or software it may describe, including any implied warranties of utility, merchantability, or fitness for any particular purpose. Neither Lunar Energy nor its distributors or dealers shall be liable for any indirect, incidental, or consequential damages under any circumstances.

All information contained in this document is accurate at the time of publication. Lunar Energy reserves the right to make technical corrections and updates at any time without advance notice. The images in this document are provided for demonstration purposes only. For the latest installation and user documentation, visit www.lunarenergy.com.

D. Specifications

All specifications contained in this document are accurate at the time of publication. Lunar Energy reserves the right to make product modifications at any time without advance notice. For the latest product information, visit www.lunarenergy.com.

E. Copyright

©2025 Lunar Energy, Inc. All rights reserved.

All information in this document is subject to copyright and other intellectual property rights of Lunar Energy, Inc. This material may not be modified, reproduced or copied, stored in a retrieval system, or transmitted, in whole or in part, without the prior written permission of Lunar Energy.

A. Trademarks

lunar energy	Lunar Energy Lunar Battery Lunar Bridge Lunar Maximizer Lunar Maximizer Hub Lunar Meter Socket Adapter Controller

All other trademarks in this document are the property of their respective owners. The unauthorized use of any trademark displayed in this document or on the product is strictly prohibited.

B. Electronics and Battery Disposal

Waste electrical products should not be disposed of with household waste. Proper disposal of electronic equipment is required. Refer to local codes for disposal requirements.

Contact Lunar Energy for further guidance to identify how to properly decommission, dispose, recycle, and/or return hardware to Lunar Energy.

C. Warranty Information

The warranty for Lunar products depends on a reliable internet connection, which allows the system to receive regular over-the-air firmware updates. If a Lunar product is disconnected from the internet for an extended period, its warranty may be limited to five years. Refer to www.lunarenergy.com/warranty for more information.

Important Safety Instructions

SAVE THESE INSTRUCTIONS

This installation document provides instructions for storing, transporting, installing, commissioning and decommissioning the Lunar Meter Socket Adapter Controller. These instructions are for qualified installers and service technicians only.

Follow these instructions during installation, maintenance, and operation of the equipment. This section contains safety information that must be observed at all times when working on or using the equipment.

ATTENTION

Read this entire document before installing the equipment. Failure to follow the warnings or instructions in this document can result in electric shock, serious injury, or loss of life, or can damage the equipment, potentially rendering it inoperable.

Lunar Energy assumes no liability for injury or property damage due to installation or service attempted by unqualified individuals, or due to a failure of installers or service technicians to properly follow safety, installation and service instructions.

A. Intended Use

The product is a microgrid interconnect sensor/controller for a solar photovoltaic and battery energy storage system. It is used in the Lunar Energy System alongside a hybrid inverter and is designed for use with the ConnectDER IslanDER Meter Socket Adapter.

The product is intended for residential use in 120/240-volt split-phase, 3-wire electrical distribution systems in the North American region. Additional requirements are outlined in the Installation Manual. The equipment includes an integrated PCBA and enclosure assembly that monitors current and voltage, and it is compliant for use as part of a Power Control System (PCS) with the Lunar Inverter.

The product must be operated with ConnectDER's IslanDER Meter Socket Adapter and must comply with the electrical standards applicable in the jurisdiction of installation.

B. Safety and Advisory Symbols

The following symbols are used in this document to indicate important information:

	**WARNING**: Indicates a hazardous situation where failure to follow instructions or use proper materials may result in **serious injury, loss of life, or destruction of equipment**. Use caution and do not proceed until the indicated conditions or required procedures are fully understood and met.
	**CAUTION**: Indicates a hazardous situation where failure to follow instructions or use proper materials may result in **minor injury or damage to equipment**. Do not proceed until the indicated conditions or required procedures are fully understood and met.
	**NOTE:** Indicates an important step or additional information that highlights best practices or procedures. To avoid damage to equipment and achieve optimum results, follow the instructions carefully.

Les symboles suivants sont utilisés dans ce document pour indiquer des informations importantes:

	**AVERTISSEMENT:** Indique une situation dangereuse dans laquelle le non-respect des instructions ou l'utilisation de matériaux inappropriés peut entraîner **des blessures graves, la mort ou la destruction de l'équipement**. Soyez prudent et ne continuez pas tant que les conditions indiquées ou les procédures requises ne sont pas entièrement comprises et respectées.
	ATTENTION: Indique une situation dangereuse dans laquelle le non-respect des instructions ou l'utilisation de matériaux inappropriés peut entraîner **des blessures légères ou des dommages matériels**. Ne continuez pas tant que les conditions indiquées ou les procédures requises ne sont pas entièrement comprises et respectées.
	**NOTE:** Indique une étape importante ou des informations supplémentaires qui **mettent en évidence les meilleures pratiques ou procédures**. Pour éviter d'endommager l'équipement et obtenir des résultats optimaux, suivez attentivement les instructions.

C. Documentation

⚠ **WARNING:** Follow all safety precautions in the owner's manual, installation manual, and other documents included with the equipment.
⚠ **WARNING**: Read all instructions and cautionary markings in this document and on the equipment before installing the equipment. Failure to follow any of the instructions or warnings in this document may result in electric shock, serious injury, or loss of life.
⚠ **AVERTISSEMENT**: Suivez toutes les précautions de sécurité contenues dans le manuel du propriétaire, le manuel d'installation et les autres documents fournis avec l'équipement.
⚠ **AVERTISSEMENT**: Lisez toutes les instructions et mises en garde contenues dans ce document et sur l'équipement avant installation. Le non-respect des instructions ou des avertissements de ce document peut entraîner un choc électrique, des blessures graves, voire la mort.

D. Service Contact Information

For assistance with installation, service, or repairs, you can reach Lunar Energy Installer Support between 8 AM and 7 PM (PST), Monday - Friday, through the following methods:

- Telephone: 650-535-1969
- Email: installersupport@lunarenergy.com
- Lunar Installation App (live-chat)

When reaching out to Lunar Energy Installer Support for service or parts inquiries, please have the product model and serial number, readily available.

E. Safety Rules and General Information

All installations must conform to the laws, regulations, codes and standards applicable in the jurisdiction of installation. Before starting an installation, consult a local building or electrical inspector for local codes, permit and inspection requirements.

Jurisdiction	Code
United States	National Electrical Code (ANSI/NFPA 70)
Canada	Canadian Electrical Code (CSA Z462, CSA C22.1, Part 1)

⚠ **WARNING**: Only qualified electrical personnel should install, troubleshoot, service, or replace the equipment.

⚠ **WARNING**: Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices.

⚠ **WARNING**: Turn off all power supplying this equipment before working on or inside the equipment. Always use a properly-rated voltage sensing device to confirm power is off. Replace all devices, covers, and doors before turning on power to the equipment.

⚠ **WARNING**: To protect the equipment and its components from damage when transporting, handle with care. To help prevent damage, leave all equipment in its shipping packaging until it is ready to be installed.

⚠ **WARNING**: Inspect the equipment for damage before installing. Do not install the equipment if it has been damaged in any way.

⚠ **WARNING**: Do not attempt to open, disassemble, repair, tamper with, or modify the equipment. The equipment contains no user-serviceable or field-replaceable parts. Contact the installer who installed the equipment for any repairs.

⚠ **WARNING**: Do not insert foreign objects into any part of the equipment.

⚠ **WARNING**: Do not expose the equipment or any of its components to direct flame.

⚠ **WARNING**: This product is not intended to be used in a critical life support application. Failure to adhere to this warning could result in loss of life or serious injury.

⚠ **WARNING**: Prop 65 Warning for California Residents: This product may contain chemicals known to the State of California to cause cancer, birth defects, and other reproductive harm.

⚠ **CAUTION**: Do not use parts or accessories other than those specified for use with the equipment.

⚠ **CAUTION**: Do not paint any part of the equipment, including any internal or external components or covers.

⚠ **CAUTION**: Do not use solvents to clean the equipment, or expose the equipment to flammable or harsh chemicals or vapors. Do not allow petroleum-based paints, solvents, or sprays to contact nonmetallic parts of the equipment.

⚠ **AVERTISSEMENT**: Seul un électricien qualifié doit installer, dépanner, entretenir ou remplacer l'équipement.

⚠ **AVERTISSEMENT**: Appliquez les équipements de protection individuelle (EPI) appropriés et suivez les procédures de sécurité électrique.

⚠ **AVERTISSEMENT**: Coupez toute alimentation électrique alimentant cet équipement avant de travailler sur ou à l'intérieur de l'équipement. Utilisez toujours un dispositif de détection de tension correctement calibré pour confirmer que l'alimentation est coupée. Remplacez tous les appareils, capots et portes avant de mettre l'équipement sous tension.

⚠ **AVERTISSEMENT**: Pour protéger l'équipement et ses composants contre les dommages liés au transport, manipulez avec précaution. Pour éviter tout dommage, laissez l'équipement dans son emballage d'origine jusqu'à ce qu'il soit prêt à être installé.

⚠ **AVERTISSEMENT**: Inspectez l'équipement pour déceler tout dommage avant installation. N'installez pas l'équipement s'il a été endommagé de quelque manière que ce soit.

⚠ **AVERTISSEMENT**: N'essayez pas d'ouvrir, de démonter, de réparer, de falsifier ou de modifier l'équipement. L'équipement ne contient aucune pièce réparable par l'utilisateur. Contactez l'installateur qui a installé l'équipement pour toute réparation.

⚠ **AVERTISSEMENT**: N'insérez aucun objet étranger dans l'équipement.

⚠ **AVERTISSEMENT**: N'exposez pas l'équipement ou l'un de ses composants à une source de chaleur directe.

⚠ **AVERTISSEMENT**: Ce produit n'est pas destiné à être utilisé dans une application critique de survie. Le non-respect de cet avertissement pourrait entraîner la mort ou des blessures graves.

⚠ **AVERTISSEMENT**: Avertissement Prop 65 pour les résidents de Californie : ce produit peut contenir des produits chimiques connus par l'État de Californie pour provoquer le cancer, des malformations congénitales et d'autres problèmes de reproduction.

⚠ **ATTENTION**: Ne pas utiliser de pièces ou accessoires autres que ceux spécifiés pour être utilisés avec l'équipement.

⚠ **ATTENTION**: Ne peignez aucune partie de l'équipement, y compris les composants ou couvercles internes ou externes.

⚠ **ATTENTION**: N'utilisez pas de solvants pour nettoyer l'équipement et n'exposez pas l'équipement à des produits chimiques ou des vapeurs inflammables ou agressifs. Ne laissez pas les peintures, solvants ou sprays à base de pétrole entrer en contact avec les parties non métalliques de l'équipement.

F. Storage, Installation, and Use

⚠ **WARNING**: Do not store the equipment for more than six (6) months, or permit the electrical feed to the equipment to be disconnected for more than six (6) months, without placing the equipment into a storage condition as approved by Lunar Energy.

⚠ **WARNING**: These service instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that specified in the operating instructions unless you are qualified to do so.

⚠ **WARNING**: Before making any connections, verify that the circuit breaker(s) are in the off position. Double check all wiring before applying power.

⚠ **WARNING**: Before making any connections, verify that the inverter rotary disconnect switch is in the OFF position.

⚠ **WARNING**: Ensure that all wiring is correct and that none of the wires are pinched or damaged.

⚠ **WARNING**: Do not connect this equipment to an electrical system with other power production sources unless directed to do so in these installation instructions.

⚠ **WARNING**: Only use approved devices, fasteners, and wiring as outlined in these instructions.

⚠ **WARNING**: Ensure that the equipment is properly grounded before applying power.

⚠ **WARNING**: Always de-energize the equipment before servicing. It is best practice to de-energize the equipment before disconnecting it.

⚠ **WARNING**: Only perform service on the equipment as detailed in these instructions, or under the instruction of Lunar Energy.

⚠ **WARNING**: Ensure that power coming from any connected equipment is de-energized before servicing or installing.

⚠ **WARNING**: Do not install the equipment or any of its components near heating equipment.

⚠ **WARNING**: Do not immerse the equipment or any of its components in water or other fluids.

⚠ **WARNING**: Do not open or disassemble the equipment, or any of its components, outside of what is instructed in this manual.

⚠ **WARNING**: Do not inflict mechanical damage (such as dropping, deforming, impacting, cutting, or penetrating with a sharp object) on the equipment or otherwise modify it.

⚠ **WARNING**: Do not heat the equipment. Keep it away from sources of ignition and operate it only

within the permissible temperature range.

⚠ **WARNING**: Do not short-circuit the equipment.

⚠ **WARNING**: Do not use equipment in a manner not specified by the manufacturer. Doing so may cause injury or loss of life, or damage to equipment.

⚠ **WARNING**: Do not use equipment if it is defective, appears to be damaged, or fails to operate.

⚠ **WARNING**: Risk of electric shock and fire. Use only with PV modules with a maximum system voltage rating of 600V or higher.

⚠ **WARNING**: When a ground fault is indicated, normally ungrounded conductors may be grounded.

⚠ **CAUTION**: Ensure that all wire connections are tightened to the factory-specified torque value.

✓ **NOTE**: The equipment is intended to operate with a connection to the Internet. Failure to maintain an Internet connection may affect the warranty.

✓ **NOTE**: The Lunar Battery will not operate as intended unless installed with the Lunar Bridge, Lunar Maximizers, and Lunar Maximizer Hub.

⚠ **AVERTISSEMENT**: Ne stockez pas l'équipement pendant plus de six (6) mois, et ne permettez pas que l'alimentation électrique de l'équipement soit déconnectée pendant plus de six (6) mois, sans placer l'équipement dans un état de stockage approuvé par Lunar Energy.

⚠ **AVERTISSEMENT**: Avant d'effectuer des connexions, vérifiez que le(s) disjoncteur(s) est (sont) en position d'arrêt. Vérifiez à nouveau tout le câblage avant de mettre sous tension.

⚠ **AVERTISSEMENT**: Avant d'effectuer des connexions, vérifiez que le sectionneur rotatif de l'onduleur est en position OFF.

⚠ **AVERTISSEMENT**: Assurez-vous que tout le câblage est correct et qu'aucun fil n'est pincé ou endommagé.

⚠ **AVERTISSEMENT**: Ne connectez pas cet équipement à un système électrique avec d'autres sources de production d'énergie, sauf indication contraire dans ces instructions d'installation.

⚠ **AVERTISSEMENT**: Utilisez uniquement des appareils, des fixations et un câblage approuvés, comme indiqué dans ces instructions.

⚠ **AVERTISSEMENT**: Assurez-vous que l'équipement est correctement relié à la terre avant de mettre sous tension.

⚠ **AVERTISSEMENT**: Mettez toujours l’équipement hors tension avant de procéder à l’entretien. Il est recommandé de mettre l'équipement hors tension avant de le débrancher.

⚠ **AVERTISSEMENT**: N'effectuez l'entretien de l'équipement que comme détaillé dans ces instructions ou sous les instructions d’une personne qualifiée par Lunar Energy.

⚠ **AVERTISSEMENT**: Assurez-vous que l’alimentation provenant de tout équipement connecté est hors tension avant l’entretien ou l’installation.

⚠ **AVERTISSEMENT**: N'installez pas l'équipement ou l'un de ses composants à proximité d'un équipement de chauffage.

⚠ **AVERTISSEMENT**: Ne plongez pas l'équipement ou l'un de ses composants dans l'eau ou autres liquides.

⚠ **AVERTISSEMENT**: N'ouvrez pas et ne démontez pas l'équipement, ou l'un de ses composants, en dehors de ce qui est indiqué dans ce manuel.

⚠ **AVERTISSEMENT**: N'infligez pas de dommages mécaniques (tels que chute, déformation, impact, coupure ou pénétration avec un objet pointu) à l'équipement Ne modifiez pas l'équipement de quelque manière que ce soit.

⚠ **AVERTISSEMENT**: Ne chauffez pas l’équipement. Tenez-le à l'écart des sources de chaleur et faites-le fonctionner uniquement dans la plage de température autorisée.

⚠ **AVERTISSEMENT**: Ne court-circuitez pas l'équipement.

⚠ **AVERTISSEMENT**: N'utilisez pas l'équipement d'une manière non spécifiée par le fabricant. Cela pourrait provoquer des blessures, voire la mort, ou endommager l'équipement.

⚠ **AVERTISSEMENT**: N'utilisez pas l'équipement s'il est défectueux, s'il semble endommagé ou s'il ne fonctionne pas.

⚠ **AVERTISSEMENT**: Risque de choc électrique et d'incendie. Utiliser uniquement avec des modules PhotoVoltaïques avec une tension nominale maximale du système de 600 V ou plus.

⚠ **ATTENTION**: Assurez-vous que toutes les connexions filaires sont serrées au couple spécifié en usine.

✓ **NOTE**: L'équipement est destiné à fonctionner avec une connexion à Internet. Le fait de ne pas maintenir une connexion Internet peut affecter la garantie.

✓ **NOTE**: La batterie Lunar ne fonctionnera pas comme prévu à moins d'être installée avec le Lunar Bridge, les Lunar Maximizers et le Lunar Maximizer Hub.

G. Environmental Conditions

⚠ **WARNING**: Do not expose the equipment to ambient temperatures outside of the storage and operating conditions outlined in this document.

⚠ **WARNING**: The equipment is certified for indoor and outdoor installation. However, the equipment should be installed in a location that prevents damage from flooding, directed water flow, or pressurized water. Ensure that no water sources are above or near the equipment, including downspouts or large sprinklers.

⚠ **CAUTION**: To ensure proper ventilation, do not allow debris to accumulate on or around the equipment.

⚠ **AVERTISSEMENT**: N'exposez pas l'équipement à des températures en dehors des conditions de stockage et de fonctionnement décrites dans ce document.

⚠ **AVERTISSEMENT**: L'équipement est certifié pour une installation intérieure et extérieure. Cependant, l'équipement doit être installé dans un endroit qui évite les dommages dus aux inondations. Assurez-vous qu'aucune source d'eau ne se trouve au-dessus ou à proximité de l'équipement, y compris les descentes pluviales, les arroseurs ou les robinets.

⚠ **ATTENTION**: Pour garantir une ventilation adéquate, ne laissez pas les débris s’accumuler sur ou autour de l’équipement.

H. Warning Symbols

These symbols used in labels on the product indicate important safety information:

	**CAUTION**: Indicates caution is necessary when operating the device or the control near the symbol.
	**RISK OF ELECTRIC SHOCK**: Indicates components that present risk of electric shock.
	**GROUNDING TERMINAL**: Indicates location of grounding connection on the equipment.
	**REFER TO INSTRUCTIONS**: Indicates that the user should refer to operating or installation instructions before proceeding.
O	**OFF**: Indicates the OFF position
I	**ON**: Indicates the ON position

Ces symboles utilisés sur les étiquettes du produit indiquent des informations de sécurité importantes:

	**ATTENTION**: Indique qu'une ATTENTION est nécessaire lors de l'utilisation de l'appareil ou de la commande à proximité du symbole.
	**RISQUE DE CHOC ELECTRIQUE**: Indique les composants présentant un risque de choc électrique.
	**BORNE DE MISE À LA TERRE**: Indique l'emplacement de la connexion à la terre sur l'équipement.
	**RÉFÉREZ-VOUS AUX INSTRUCTIONS**: Indique que l'utilisateur doit se référer aux instructions d'utilisation ou d'installation avant de procéder.

O	**HORS TENSION** : Indique la position HORS TENSION
I	**EN MARCHE** : Indique la position EN MARCHE

I. Qualified Personnel

This manual and the procedures described within are intended for use by qualified installers and service technicians only. Qualified personnel must have the following skills and experience:

- Knowledge of the principles and operation of on-grid and off-grid (backup) electrical systems.
- Knowledge of the risks associated with installing and using electrical devices and acceptable mitigation methods.
- Knowledge of installation of electrical devices.
- Knowledge of and adherence to all applicable safety precautions and best practices.

Regulatory Statements

A. Compliance Summary

The product is listed to the applicable product standards shown in the following table for the indicated jurisdictions.

North America	
Certifications	UL 1741, UL/CSA 61010-1, UL/CSA 61010-02-30
Emissions	FCC Part 15 Class B

B. Compliance Statements

1. 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.

   This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation if this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

   - Reorient or relocate the receiving antenna.
   - Increase the separation between the equipment and receiver.
   - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
   - Consult the dealer or an experienced radio/TV technician for help.

⚠ **CAUTION**: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Information:
This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

2. **ISED Notice:**
   This device complies with Innovation, Science and Economic Development Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
   this device may not cause interference, and this device must accept any interference, including interference that may cause undesired operation of the device.

   Le présent appareil est conforme aux CNR Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: l'appareil ne doit pas produire de brouillage, et l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en.

   This Class B digital apparatus complies with Canadian ICES-003.

   Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

   ISED Radiation Exposure Statement

   This device complies with RSS-102 radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the ISED radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

   Cet appareil est conforme aux limites d'exposition aux rayonnements de la CNR-102 définies pour un environnement non contrôlé. Afin d'éviter la possibilité de dépasser les limites d'exposition aux fréquences radio de la CNR-102, la proximité humaine à l'antenne ne doit pas être inférieure à 20 cm (8 pouces) pendant le fonctionnement normal.

3. **Signage:**
   Where NFPA 855 signage is required, the installer shall provide it.

Lunar Meter Socket Adapter Controller (MSAC) Specifications

System	
Model Number	LE-MSAC-01
Part Number	10-06687A
MSAC Connection Voltage	12 VDC
MSAC Connection Rating	0.35 A
Inverter Connection Voltage	13 VDC
Warranty	12.5 years

Environmental	
Operating Temperature	–40°F (–40°C) to 140°F (60°C)
Storage Temperature	–40°F (–40°C) to 140°F (60°C)
Environment	Indoor and outdoor
Ingress Rating	Type 3R
Humidity	100%
Maximum Elevation	9,843 ft (3000m)

Mechanical Specifications	
Dimension (L x W x D)	11.9 in x 7.02 in x 2.99 in (303 mm x 178.4 mm x 76 mm)
Mass	2.2 lb (1 kg)
Mounting	Wall

System Overview

The Lunar Meter Socket Adapter Controller (MSAC) is a component of the Lunar Energy integrated solar battery and energy storage system. The system consists of a smart hybrid inverter, a modular battery system, a microgrid interconnect device, and module-level power electronics that allow control of solar generation, energy storage, and loads.

This section outlines how the MSA-Controller interacts with the ConnectDER IslandDER Meter Socket Adapter (MSA) and the rest of the Lunar Energy system.

Site Requirements

A. Location

The MSA-Controller can be installed indoors or outdoors, with environmental conditions matching the ratings of the product. The MSA-Controller is mounted independent of the ESS and the MSA.

B. Clearances

Clearances for Installation of MSAC	
Minimum Wall Space	14” x 14”
Minimum Clearance on Left Side	1”
Minimum Clearance on Right Side	1”
Minimum Clearance Above	1”
Minimum Clearance Below	6”
Minimum Space in Front of MSAC	Abide by local code required clearances.
Maximum Deviation from Level	Side-to-side: +/– 5° Back-to-front: +/– 5°

C. Maximum Distance between System Components

The Lunar MSA-Controller supports the following distances between connected components

Maximum Wire Lengths between System Components		
Wiring Distance	**Wire Gauge (AWG)**	**Maximum Wire Length**
Inverter to MSAC Communication	Cat5e, Cat6, Cat6a, 14 - 22 AWG (shielded, twisted or un-twisted)	95 ft (29.5 m)
MSAC to MSA	Only use ConnectDER supplied cable	

Tools and Materials

A. Required Tools

The following tools are the minimum requirement for the installation of the Lunar MSA-Controller. Additional standard construction tools may be needed.

- Personal protective equipment rated for electrical installation (safety glasses, insulated gloves, protective footwear)
- Drill and drill bit (Use recommended size by wall anchor manufacturer)
- Screwdriver (Manual or Powered)
- Wire stripper/cutter for 14 AWG - 22 AWG wires
- Multimeter

B. Materials

The following materials are the minimum requirement for the installation of the MSAC. Additional standard materials and consumables may also be needed.

- Wall anchors (Select based on wall type and fastener size)
- Minimum of (2) 5/32”-1/4” diameter fasteners
- ¾” or ½” trade size cable gland
- Minimum 300V rated 4-conductor shielded copper (Cu) cable for communication connections (22 AWG - 14 AWG)
- ConnectDER IslanDER

Note: Fasteners are not provided with MSA-Controller.

Installation

A. Unpack the MSA-Controller

What components come inside the box:

- MSA-Controller
- *Optional* Lunar breaker hold down kit.

Open the box and review the parts list to ensure all contents are complete. Inspect the contents for any visible damage. If any parts are missing or damaged, do not install the component and contact Lunar Support at salesops@lunarenergy.com to arrange for replacements or returns.

⚠ **WARNING**: If a component is damaged in any way, do not install the component. Contact Lunar Energy Customer Service for assistance.

B. Anchoring

Table: Anchoring requirements of wall bracket for walls with 2 x 4 wooden studs.

Anchoring Requirements of Wall Brackets with 2 x 4 Wooden Studs		
	# Wall Studs (2 x 4)	**Mininum # of Screws**
Surface Mount	Minimum 1 stud (center or off-center) or minimum of 2 10-lb wall anchors.	Minimum 2 screws

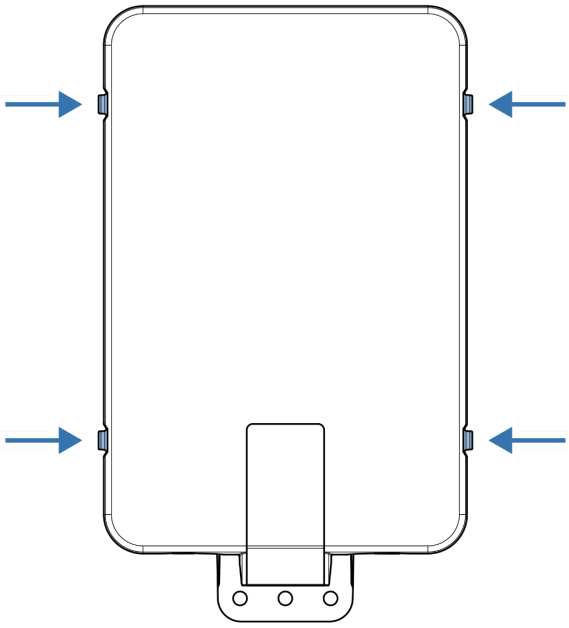
✓ **NOTE**: The anchoring details are minimum manufacturers recommendations. Refer to local building codes for requirements specific to the location.

C. Orientation

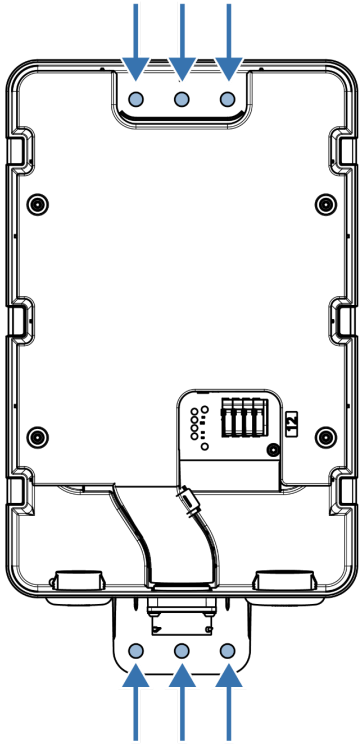
The MSA-Controller must always be installed in its correct orientation; it cannot be installed sideways or upside down under any circumstances.

D. Mounting

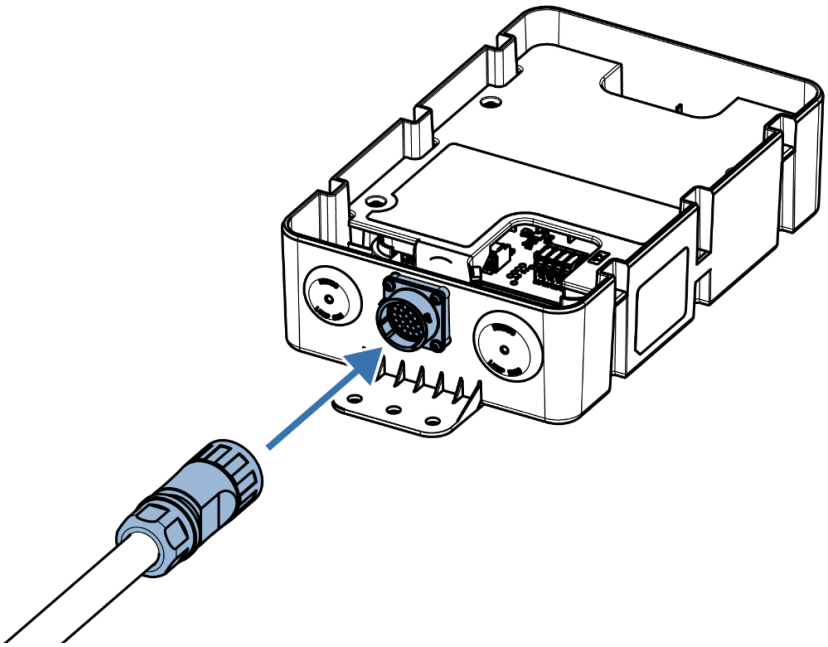
1. Remove the MSA-Controller cover
    a. Lift on the 4 flex tabs that are located on the right and left side of the cover and pull up.

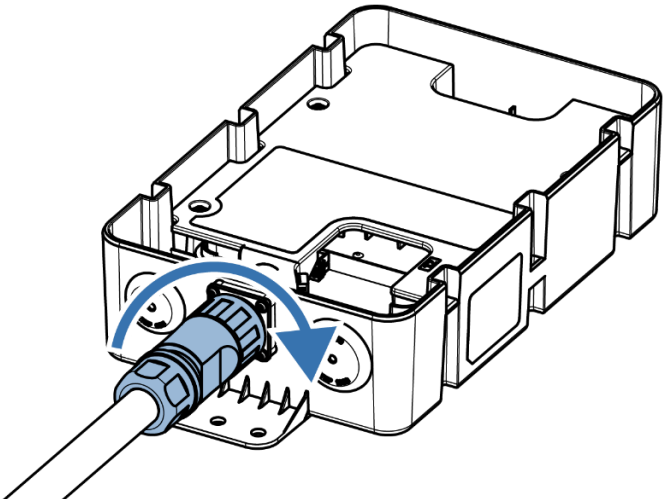


2. Mount the MSA-Controller enclosure with 2x fasteners.



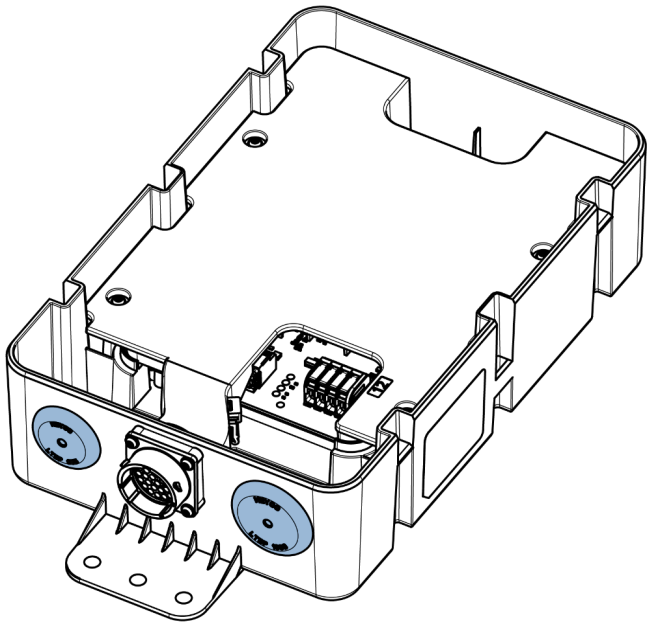
3. Attach the MSA cable



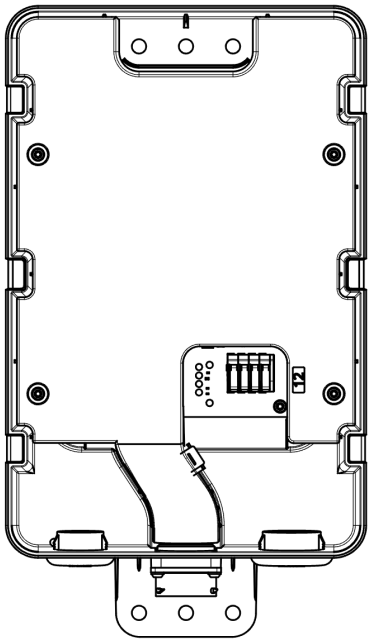


NOTE: Ensure you fully twist the MSA locking collar clockwise until it clicks into the final locked position. Verify that it is fully seated by confirming it has moved past the initial alignment position and is fully locked.

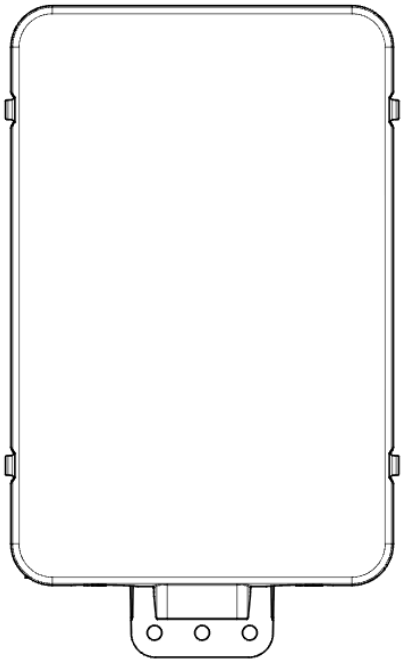
4. Remove conduit plug from knock out (KO) for the desired inverter wiring entry point. The MSA-Controller has a ¾” trade size (right) and ½” trade size (left) conduit entry KO.



5. Install the cable gland in the KO and route inverter communication wires inside the enclosure. Strip wires and land in their appropriate terminal.



6. Reattach wiring cover.

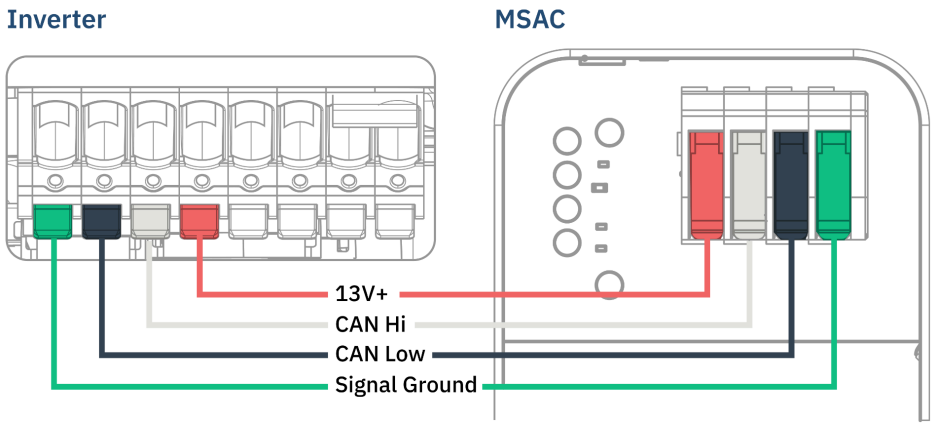


MSA-Controller Wiring

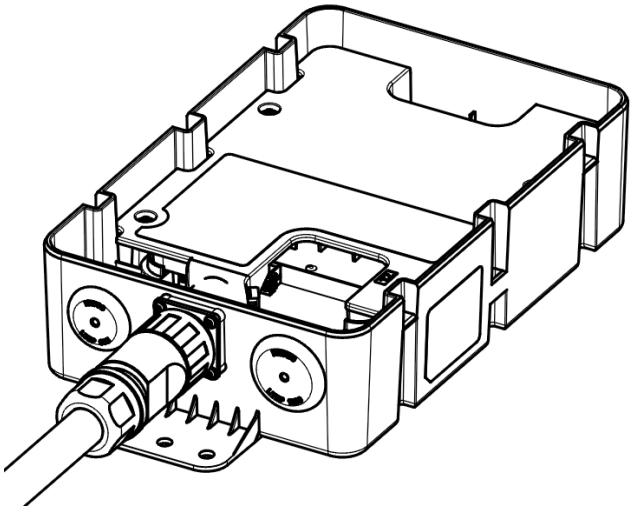
Power

Refer to the Battery Installation Manual for Lunar inverter AC wiring termination details.

Communication



Inverter to MSAC low voltage communication wiring.

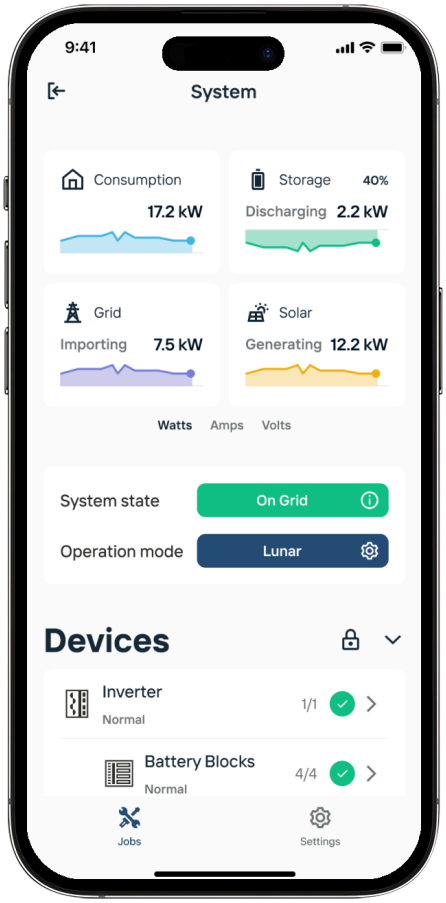


MSA to MSAC cable.

Commissioning

To commission the Lunar System:

1. Download the “Lunar Installer” application from your device’s app store.
2. Log in using Okta or your Lunar Installer account. If using your Lunar Installer account for the first time, use the details from your “Welcome to Lunar Installer” email.
3. Tap "Create Job" from the Installer App main screen, and select "Commission System".
4. Follow the instructions in the app to connect to and commission the system. Once connected, address all blue tasks, yellow warnings, and any red faults.
5. In the Devices section, select Meter Socket Adapter Controller. Tap into this row and address any tasks, warnings, or faults shown there.
6. If you are swapping a system’s Lunar Bridge for an MSAC, you may be shown a pop-up prompt to re-configure PCS limits. Follow this prompt, and accept the default limits or configure PCS as required.
7. Tap “Finish Job” once all items are addressed. The job review screen will show.
8. Tap “Submit” on the job review screen to complete commissioning and submit the Job Report to Lunar.
9. The Job Report PDF can then be viewed and shared, and will be available within Lunar Partner.



Troubleshooting

Most troubleshooting action takes place within the Installer App, which provides alerts and recommended actions.

LED Indicators

System State	LED Display	Recommended Action
Status On	Slow Blink	No action required.
Communication On	Slow Blink	
Status Off	Not illuminated	Check the DC voltage between the 13V and GND line on a multimeter. Measured value should be 13V.
Communication Off	Not illuminated	
Status On	Fast Blink	Contact Lunar Energy Support.