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INSTALLATION MANUAL

Sol-Ark Optimization Rapid Shutdown System

0900-80V

TX 12K-A

V1.0

April, 2023

Sol-Ark Library

READ THE INSTRUCTIONS COMPLETELY BEFORE OPERATING THE EQUIPMENT

Verify that the inverter is turned off before installing the TX 12K-A.

To use the TX 12K-A transmitter in the Sol-Ark 12K-2P-N a battery system is required.

LEGAL WARNING

UNLESS AGREED TO IN WRITING, SOL-ARK:

(a) DOES NOT WARRANT THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN ITS MANUALS OR OTHER DOCUMENTATION.

(b) ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGES, WHETHER DIRECT, INDIRECT, CONSEQUENTIAL, OR INCIDENTAL, ARISING OUT OF THE USE OF SUCH INFORMATION. USE OF SUCH INFORMATION SHALL BE ENTIRELY AT THE USER'S RISK.

Sol-Ark is not responsible for system failure, damage or injury resulting from improper installation of its products.

Information in this manual is subject to change without notice.

This version is only focused on O900-80V optimizers and TX 12K-A transmitters.

Contact

Phone: (USA) 1-972-575-8875 ext. (2)

Email: SUPPORT@SOL-ARK.COM

Website: WWW.SOL-ARK.COM

SAFETY INSTRUCTIONS

- Review the functions and features, and carefully read the contents of this manual.
- This manual mainly introduces the product functions, the installation process, and the use of the O900-80V in operation with the PLC TX 12K-A transmitter. Please familiarize yourself with this product before installing and using it.
- ¡Risk of electric shock! Do not remove the cover, disassemble, or repair the parts inside the equipment. If equipment fails, contact Sol-Ark Technical Support. Damaging or opening the product will void the warranty.
- Perform all electrical installations in accordance with local codes.
- DO NOT disconnect the PV module from the O900-80V under load.
- Note that the body of the TX 12K-A transmitter board contains elements that are susceptible to static shock, so do not touch the body of the TX 12K-A board without wearing an antistatic wrist strap.
- Do not attempt to install in adverse weather conditions.
- Note that the body of the O900-A in operation contains a heat sink at the bottom and can reach high temperatures. To reduce the risk of burns, do not touch the body of the O900-A where the heat sink is located.
- To make it easier for you to get the latest product information and technical support documents, you can go to the official Sol-Ark website: www.sol-ark.com and download the latest version of the user manual.
- An emergency button connected to pins 11 and 12 of the sensor pin-out board must be installed in the Sol-Ark 12K-2P-N to initiate “EMERGENCY STOP” and comply with rapid shutdown requirements.

To reduce the risk of electric shock and to ensure the safe installation and operation of the Sol-Ark O900-80V optimizer and TX 12K-A transmitter, the following symbols appear throughout this document to indicate hazardous conditions and important safety instructions.

A dangerous situation that could result in injury or product damage.

Important operating notes.

The following symbols appear on the O900-80V optimizers.

Risk of electric shock.

Risk of burns.

PROPERLY QUALIFIED PERSONNEL

Operators/maintenance personnel must have relevant electrical knowledge, understand circuit principles, and have a sense of safe operation.

For the purposes of the safety information in this manual, a "qualified person" is someone who is familiar with EMC, electrical system, and safety requirements and is authorized to energize, ground, and tag equipment, systems, and circuits in accordance with established safety procedures.

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SYSTEM OVERVIEW

The Sol-Ark Rapid Shutdown System with Optimization uses the O900-80V optimizers, and the TX 12K-A transmitter integrated into the Sol-Ark 12K-2P-N inverters to enable a PV Rapid Shutdown System (PVRSS) UL listed and NEC compliant for new and existing PV systems.

By turning off the TX 12K-A transmitter, the O900-80V receivers will drop the voltage to 0.9 VDC per O900-80V and the string voltage to less than 30 VDC.

In addition to offering Rapid PV Shutdown (PVRSS), the O900-80V optimizers add power optimization advantages to each PV module making it an independent maximum power point tracker.

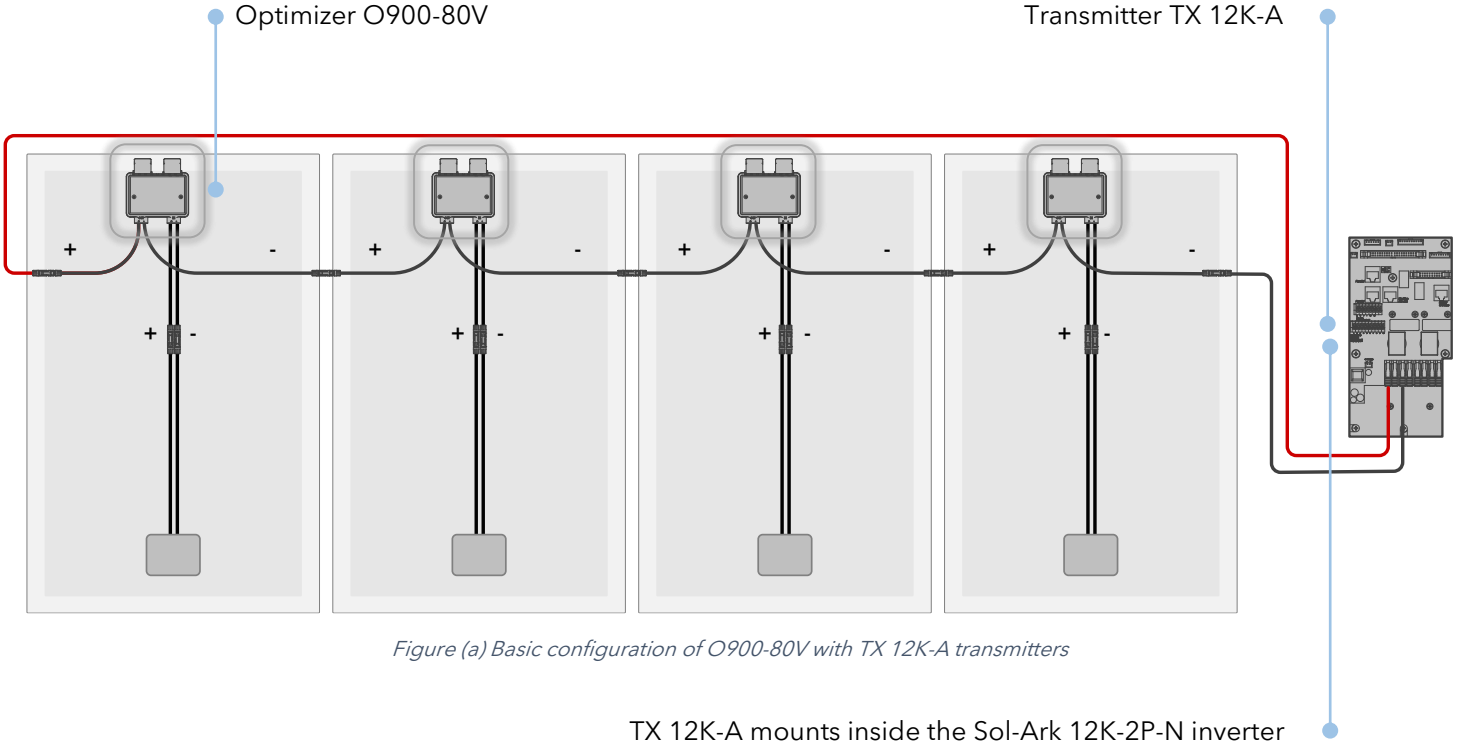


Figure (a) Basic configuration of O900-80V with TX 12K-A transmitters

By having the TX 12K-A transmitter integrated into the Sol-Ark 12K-2P-N inverter, the strings with the O900-80V optimizers installed from the photovoltaic array are connected directly to the PV inputs on the inverter. Thus simplifying the installation of the PVRSS.

1. PRODUCTS

O900-80V

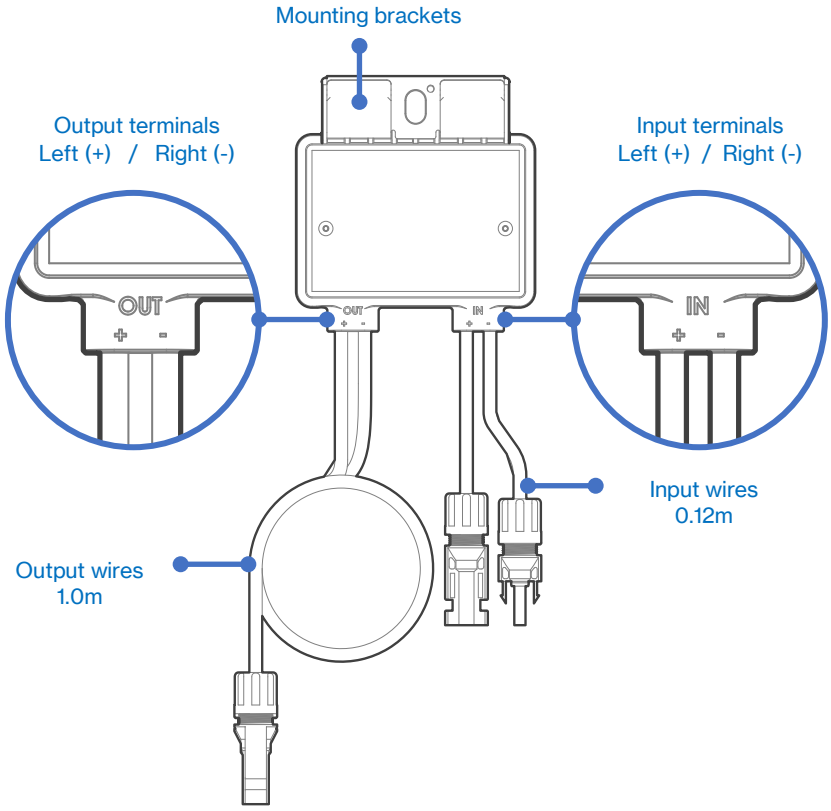
- *Maximum production efficiency towards the inverter in optimal or shady conditions.*
- *SunSpec RSD certified for interoperability with compatible inverters.*
- *Complies with rapid shutdown listed in 2017 NEC 690.12 and 2020 NEC 690.12*

Characteristics:

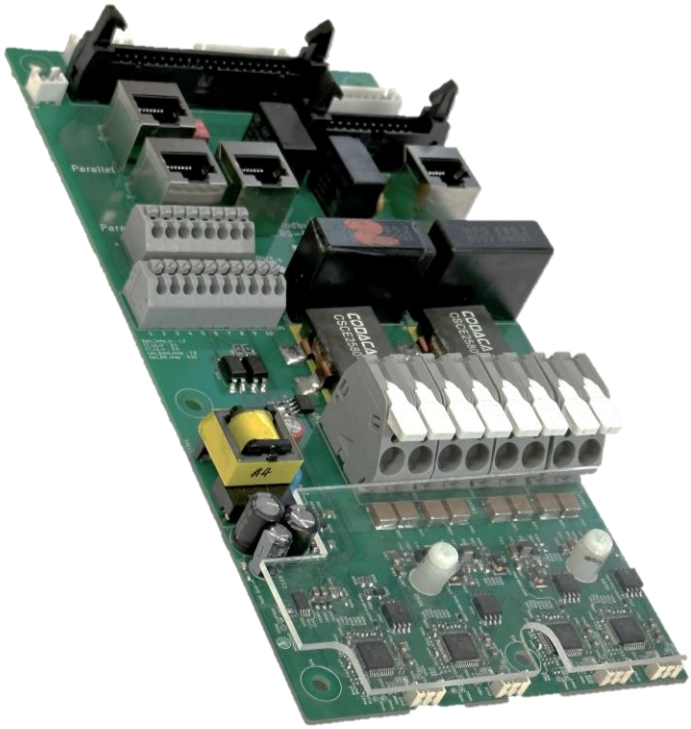
Sol-Ark O900-80V offers a state-of-the-art PV module Rapid Shutdown Device (RSD) and Maximum Power Point Tracking (MPPT) energy optimization.

O900-80V can be connected to each PV module and provide RSD (Rapid Photovoltaic Shutdown) required by UL 1741 and NEC 690.12. It will compensate for shaded panels to maintain maximum power output.

When installed and receiving a "clear to operate" signal from the TX 12K-A or TX 15K-A transmitters, the O900-80V initiates proper operation of the PV system.



TX 12K-A



- *Provides "permission to operate" signal for Rapid Shutdown*
- *SunSpec Rapid Shutdown Certification*
- *Complies with rapid shutdown listed in 2017 NEC 690.12 and 2020 NEC 690.12*
- *No need to add cores for PLC communication*

Characteristics:

Sol-Ark TX 12K-A transmitters are part of the Rapid Shutdown Line, located inside Sol-Ark 12K-2P-N inverters.

Provides via PLC the “permission to operate” signal when combined with the Sol-Ark O900-80V or any other device certified by SunSpec-RSD to comply with Rapid Shutdown in the system according to the 2017 and 2020 NEC 690.12 specifications.

The TX 12K-A transmitters can be installed in an existing previously commissioned Sol Ark 12K-2P-N.

It is not necessary to install toroids for Power Line Communication (PLC) because TX 12K-A has the transmitter integrated in the MPPT board of the Sol Ark 12K-2P-N.

2. INSTALLATION NOTES

Installation must comply with local safety codes:

- Perform all electrical installations in accordance with local codes.
- Please note that only qualified professionals should install and/or replace the TX 12K-A.
- Before installing or using the TX 12K-A, read all instructions and warnings in the technical documents and on the Sol-Ark 12K-2P-N inverter itself, as well as on the PV array.
- Be aware that the installation of this equipment has a risk of electric shock.
- Do not touch any live part of the system, including the PV array, when the system has been connected to the mains.
- Make sure that the PV module and inverter have been disconnected before installing a TX 12K-A.

If parallel string connections are required, be sure to install O900-80V optimizers on all parallel strings.

Do not make parallel connections between strings that have the O900-80V and strings that do not have the O900-80V!

Recommended Practices

- Limit the round-trip length (positive to negative) of a PV conductor to 300m(985ft).
- Keep at least 20cm(8in) between other conductors using different PLC transmitters.
- The maximum open circuit voltage of the PV module must not exceed the specified maximum input voltage of the O900-80V.

After installation of the TX 12K-A transmitter in the Sol-Ark 12K-2P-N inverter, it is necessary to install a NEC 690.12 (C) approved “emergency stop” RSS quick disconnect to pins 11 and 12 of the board of connections for sensors in the Sol-Ark 12K-2P-N.

Place the Rapid Shutdown System label no more than 1 m (3 ft) from the igniter or any lanyard stop switch.

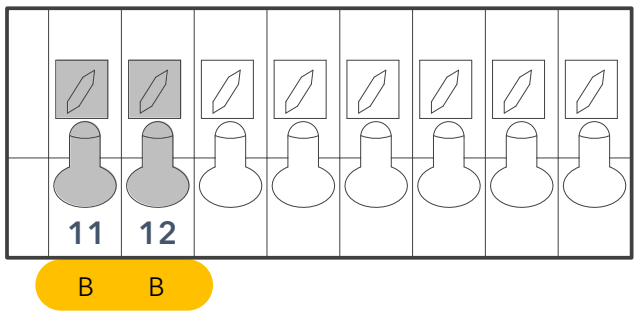


Figure (2.1) Terminal board for sensors on the Sol-Ark 12K-2P-N

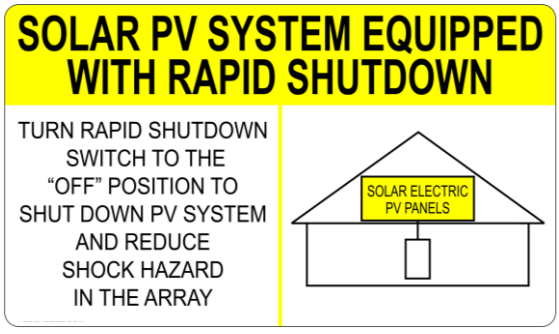


Figure (2.2) Rapid Shutdown System Label, NEC 690.12 (C)

3. INSTALLING THE OPTIMIZER O900-80V

Installation procedure

STEP 1: Remove the barcode label

Remove the QR/barcode label and paste it on the “Installation Map Card” located on the back of this manual. To make it easy for you to obtain the latest product information, you can find the Installation Map Card on our official Sol-Ark website: www.sol-ark.com.

1. Each Sol-Ark O900-80V contains a label with a barcode and its serial number that can be removed and pasted on the installation map. Place each label in its respective location.
2. Indicate the MPPT in which each of the strings of the photovoltaic array was installed.
3. Complete the registration of the O900-80V optimizers on the www.mysol-ark.com portal for monitoring. The equipment warranty must be registered on the www.sol-ark.com website.

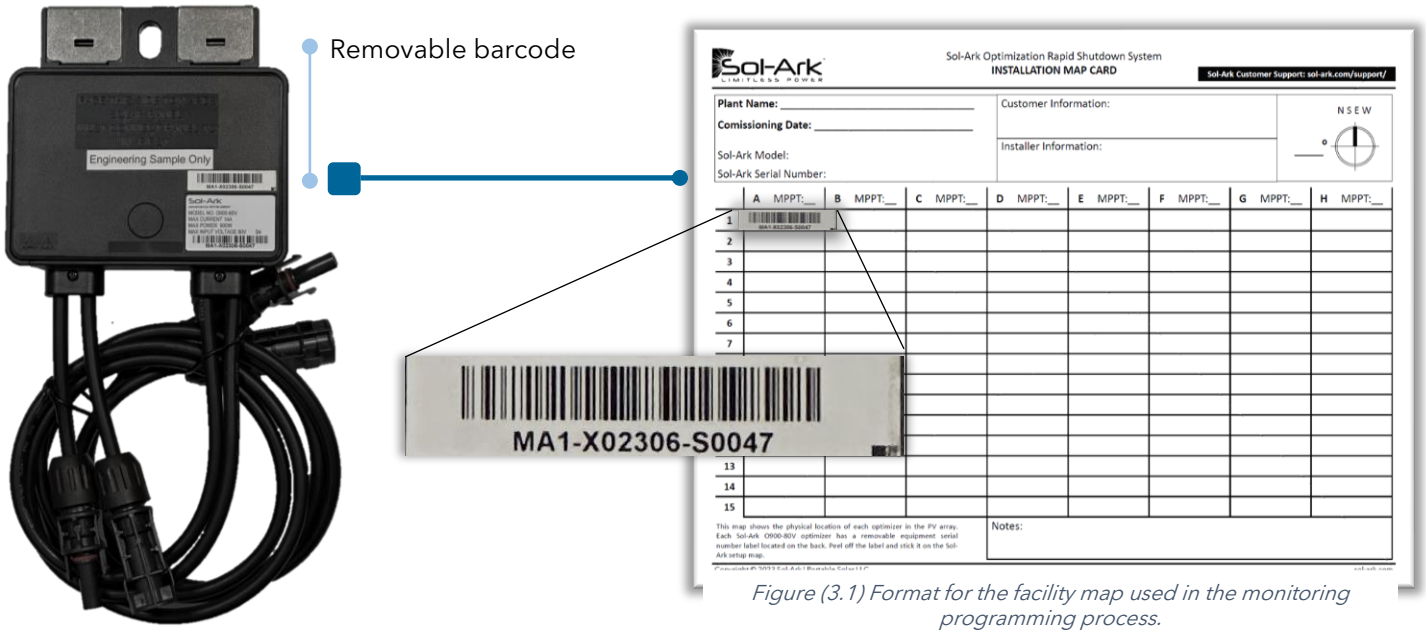


Figure (3.1) Format for the facility map used in the monitoring programming process.

Fill out the Sol-Ark registration card, which provides system information and the installation map. Feel free to provide your own layout if a larger or more complex facility map is required. The Installation Map Card is designed to accommodate labels in landscape orientation.

For more information about programming in the MySol-Ark app, refer to the Sol-Ark Rapid Shutdown System with Optimization Programming and Monitoring Guide at www.sol-ark.com/resources.

MySol-Ark
Powering Families Through Life

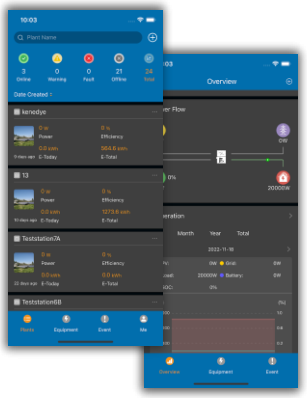


Figure (3.2) Views of the MySol-Ark App

STEP 2: Secure each O900-80V to the solar panel frame

Secure the O900-80V module to the solar panel frame. The heat sink side should be pointing away from the solar module, the wires, and connectors of the O900-80V should not touch the roof surface.

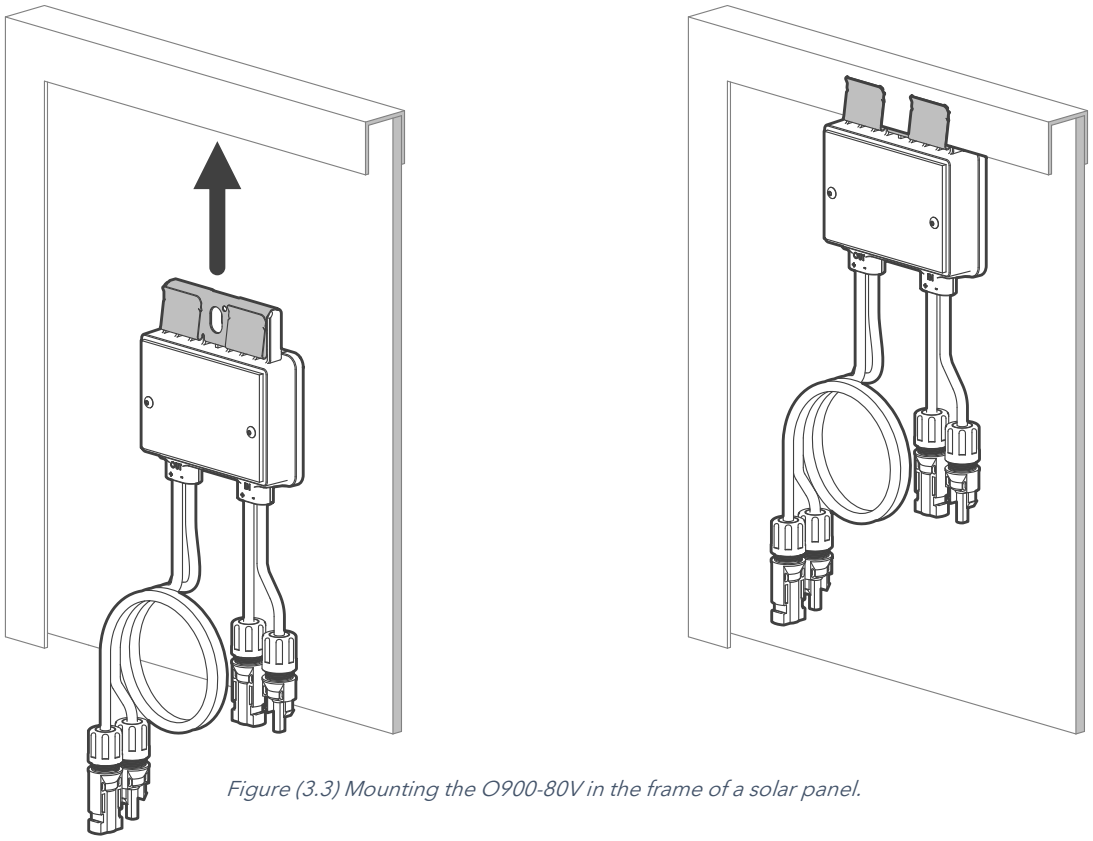


Figure (3.3) Mounting the O900-80V in the frame of a solar panel.

Do not place the O900-80V where it will be exposed to sun, rain, or snow, or between modules.

Leave a minimum of 1.5cm(0.75in) between the surface of the solar panel and the bottom of the O900-80V to allow proper airflow.

Check the dimensions of the O900-80V prior to installation on the PV module frame to ensure sufficient space for natural ventilation.

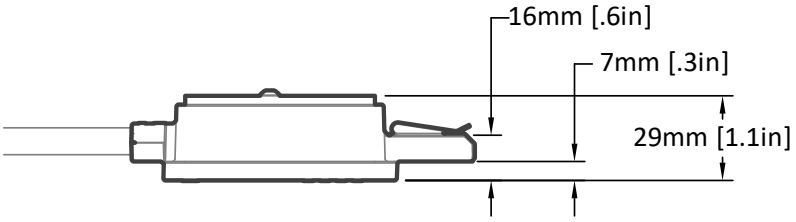
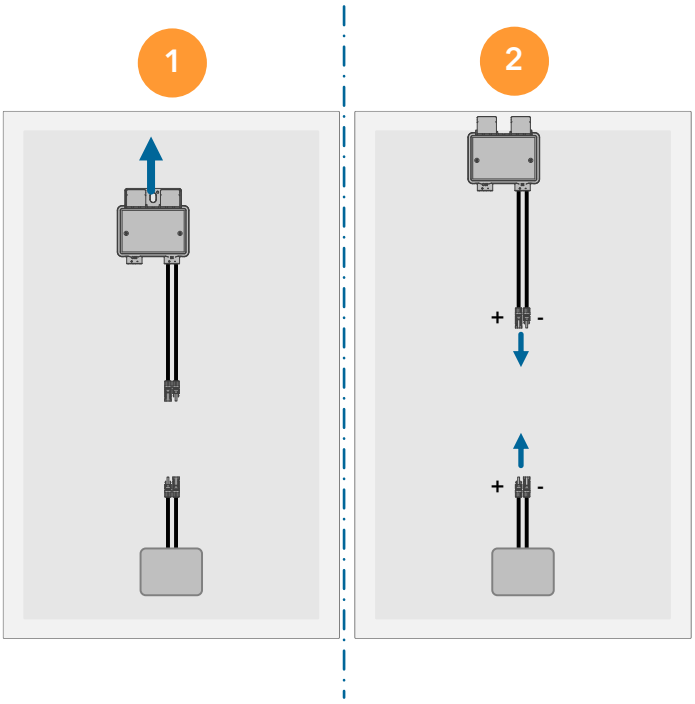


Figure (3.4) Side view of the O900-80V with the measurements of its sides, not including the cables and connectors.

STEP 3: Connect the shorter cables to the PV modules.

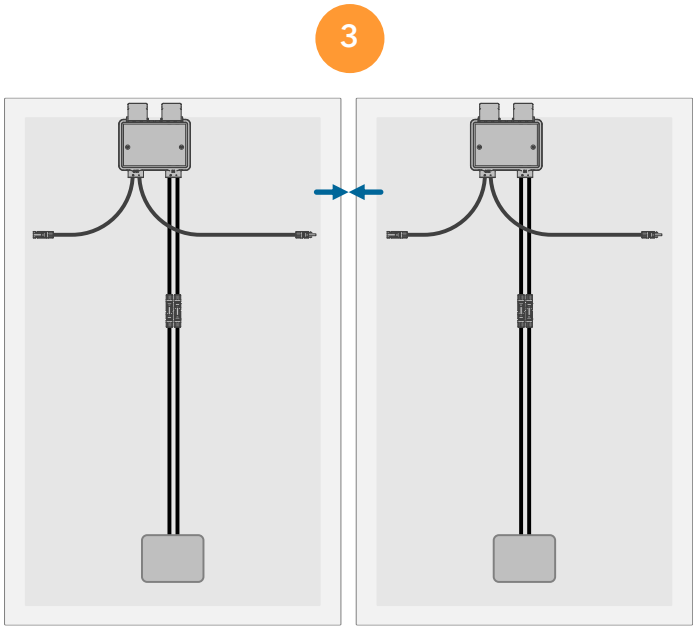
Connect the input terminals of each O900-80V module to the positive and negative wires respectively of each of the solar panels.



You must connect the shorter input cables from the O900-80V to the PV modules before connecting them to the string series with the remaining O900-80V. Failure to do so may damage the O900-80V units.

STEP 4: Connect the longer wires to build a string.

Connect the longer set of output cables from the O900-80V to the neighboring optimizer to create a string.



Mounting the O900-80V on frameless solar modules

In addition to using the support clip, the O900-80V can also be mounted on a frameless PV module with screws and nuts (parts are not included in the product). For this, it is necessary to check if there is a hole in the solar panel.

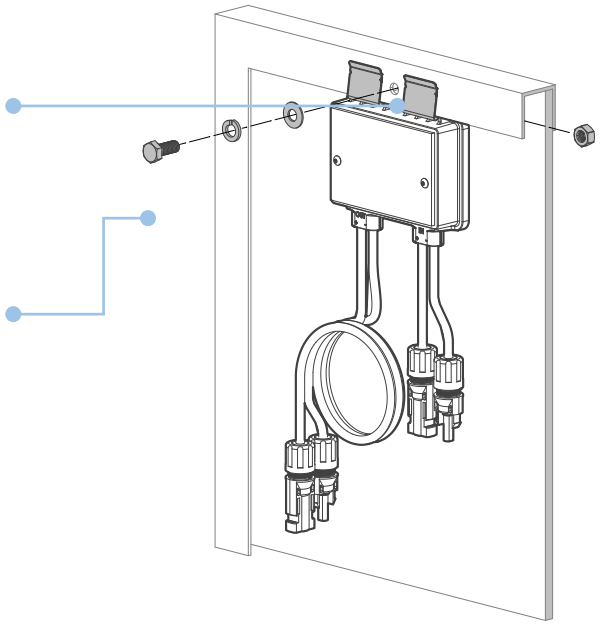
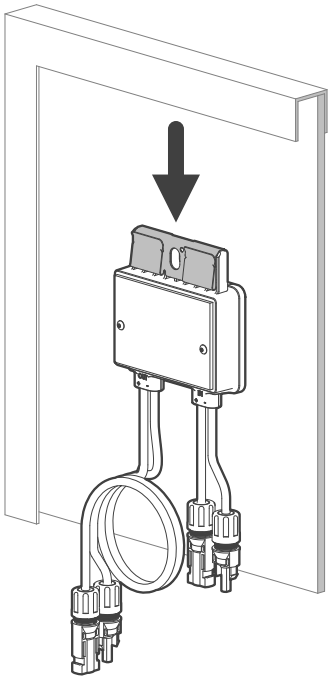


Figure (3.5) Mounting the O900-80V on a frameless solar panel

Disconnection of the O900-80V

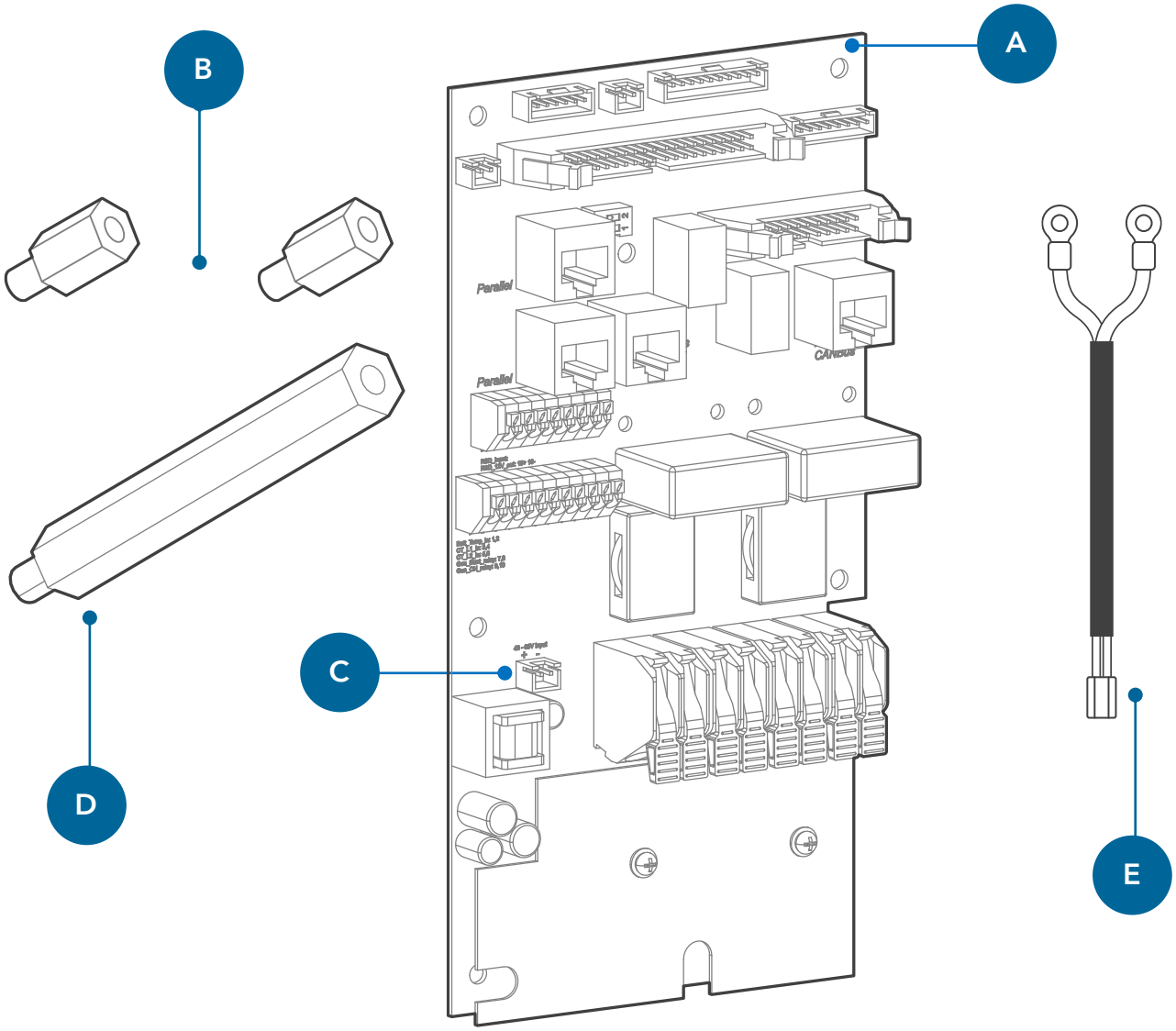
- Activate the rapid shutdown system by pressing the designated emergency stop button (PVRSS).
- Wait 30 seconds after a rapid shutdown activation before disconnecting the DC cables. Check the voltage must be under 30V.
- Disconnect individual O900-80V output wires from a string before disconnecting O900-80V input wires from each module's junction box.



Always assume that the O900-80V is energized and in the "ON" state of operation.

4. INSTALLATION OF THE TRANSMITTER TX 12K-A

Parts and components



Component	Description
A	Transmitter TX 12K-A
B	2 x 10mm standoffs
C	Connector to 48VDC power supply
D	50mm standoff
E	Power cable for the TX 12K-A

If your Sol-Ark 12K-2P-N inverter already has the TX 12K-A transmitter installed, skip to page 20 to continue installing the rapid shutdown label on the system.

Installation procedure

The PLC TX 12K-A transmitter will be installed in the wiring area of the Sol-Ark 12K-2P-N inverter. From the factory, the Sol-Ark has a previously installed “CON board”, which has communication ports with other elements of the inverter. For the installation of the TX 12K-A, the CON board is removed, and it is replaced with the new TX 12K-A board.

The installation of the TX 12K-A provides the Sol-Ark 12K-2P-N with SunSpec capabilities to send a “permission to operate” signal to the O900-80V optimizer receivers via PLC. The system will be in normal operation until the power is interrupted and the signal is interrupted.

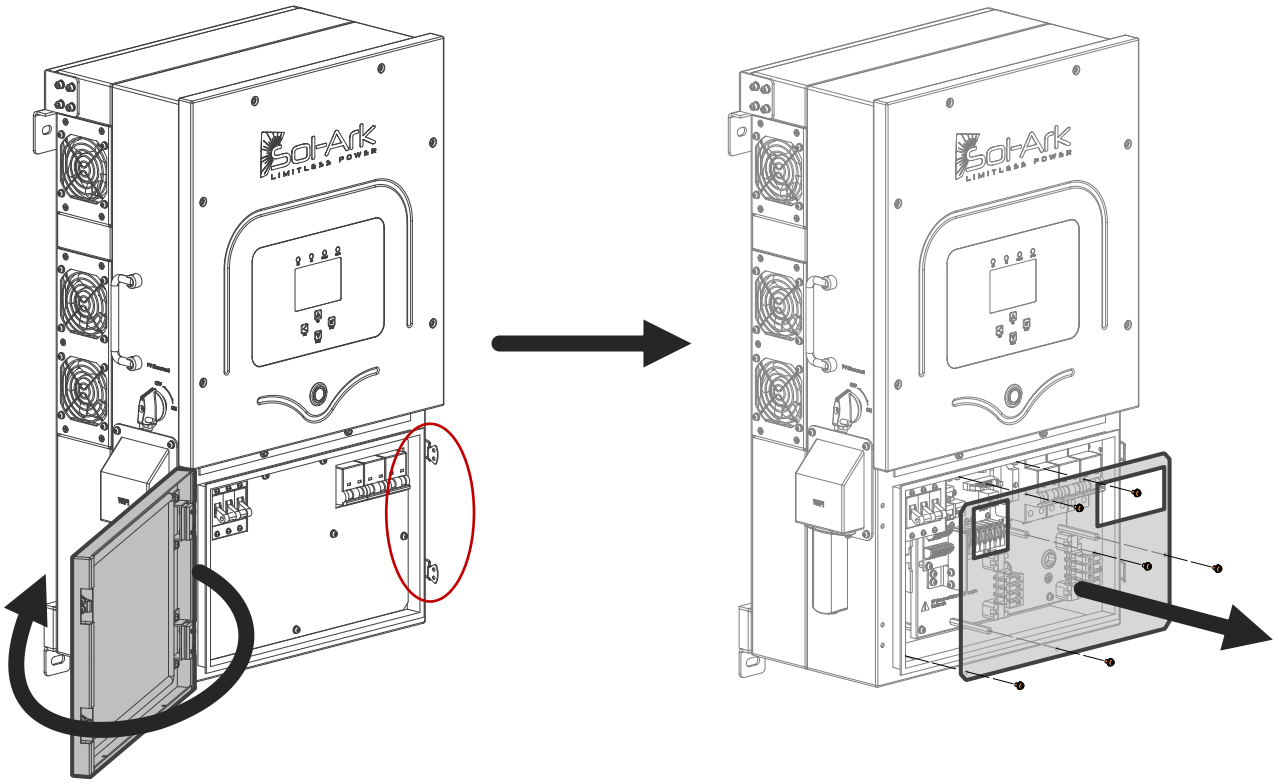
STEP 1: Access the wiring area

Make sure the Sol-Ark 12K-2P-N is turned off and all power is disconnected.

Check the PV switch of the solar panels it must be in the OFF position!

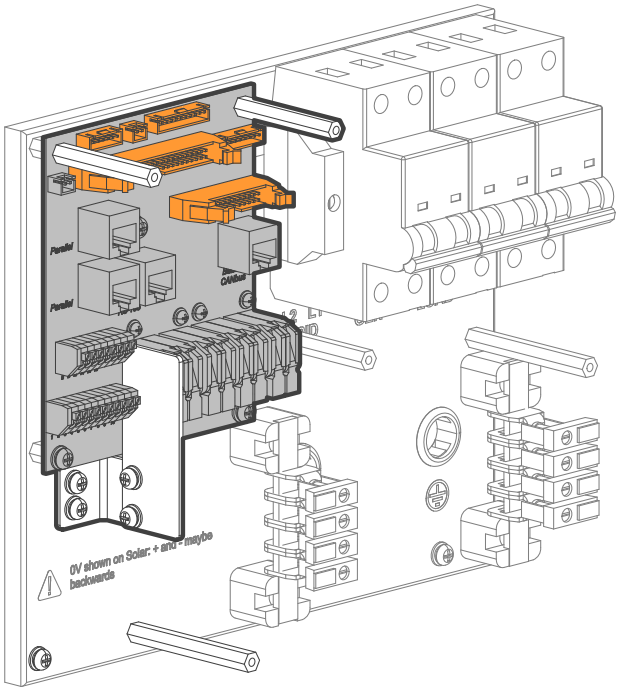
Open the lower door in the wiring area by opening the two (2) metal latches on the right side of the equipment.

- Remove the six (6) screws on the plastic cover, remove the plastic cover, and access the wiring area.
- Make sure that the DC power cables coming from the solar array are not connected to the MPPT terminals.
- Disconnect all sensors and communication cables from the CON board containing the MPPT terminals.



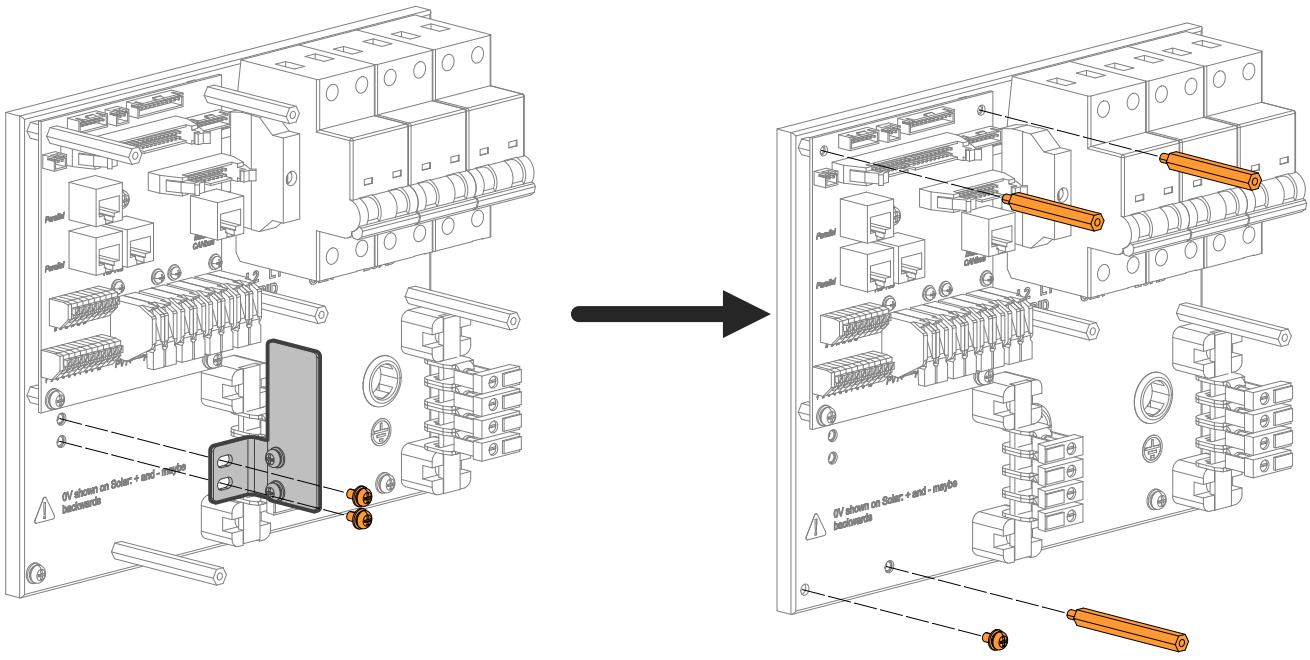
STEP 2: Remove the existing board

Locate and disconnect the three (3) ribbon cables and the three (3) connectors located at the top of the communications board.

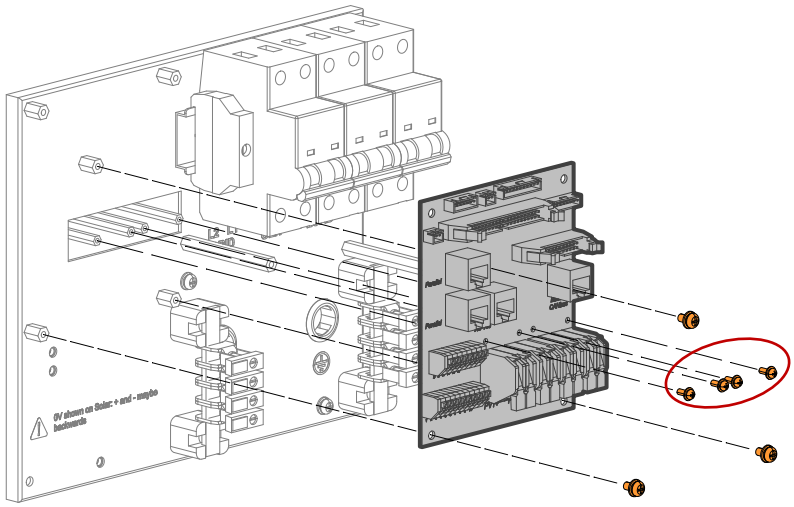


To remove the communications board, you must unscrew and remove:

- The plastic separator of the wiring area located to the left of the terminals of the MPPTs.
- The three (3) metal spacers of 50mm and 60mm located at the top and bottom of the communications card.
- Remove the M5 screw at the bottom left.



Carefully remove the four (4) M3 screws located at the top of the MPPTs terminals (M1, M2, M3 and M4), then remove the remaining screws on the communications board.



Do not use an electric screwdriver to remove the four (4) M3 screws on the MPPTs.

Do not apply more than 5 in-lbs of torque to the bolts.

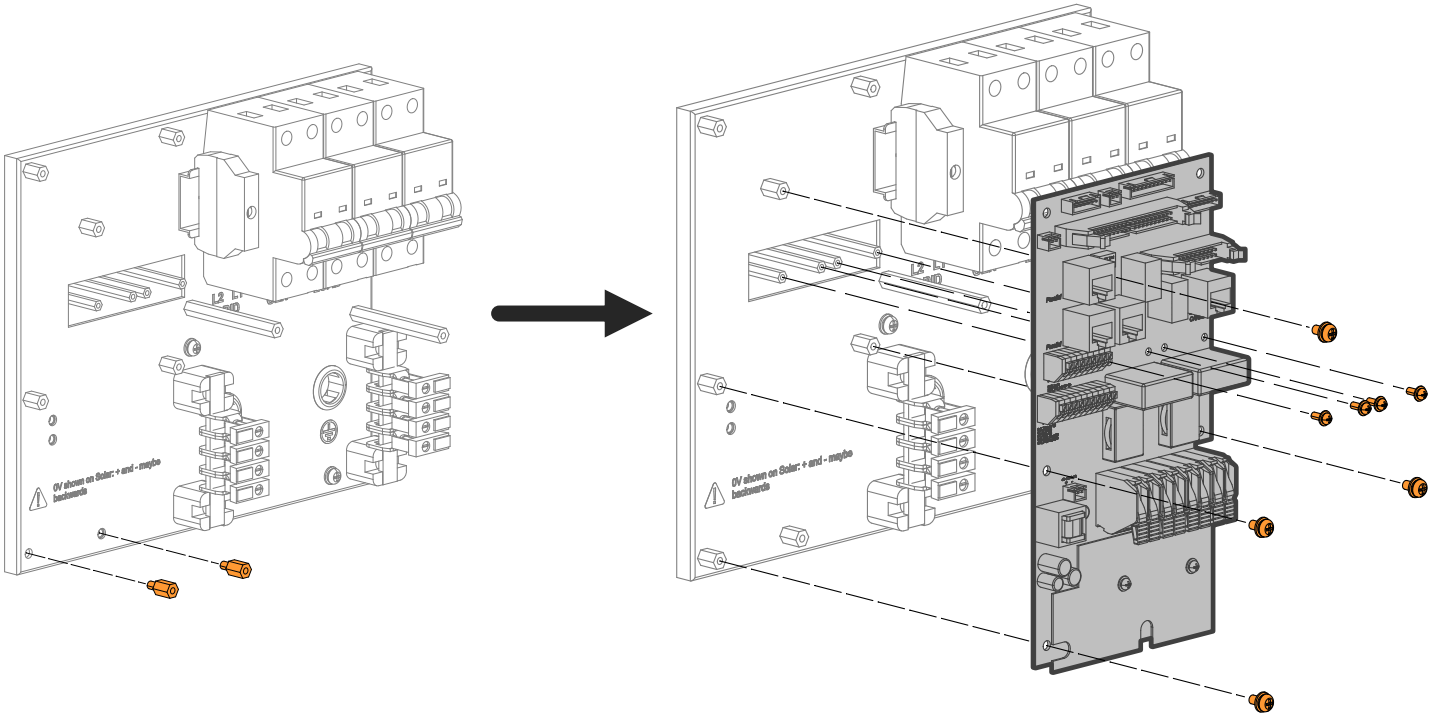
It will damage the equipment!

Adjustment screws of the MPPTs circuits.

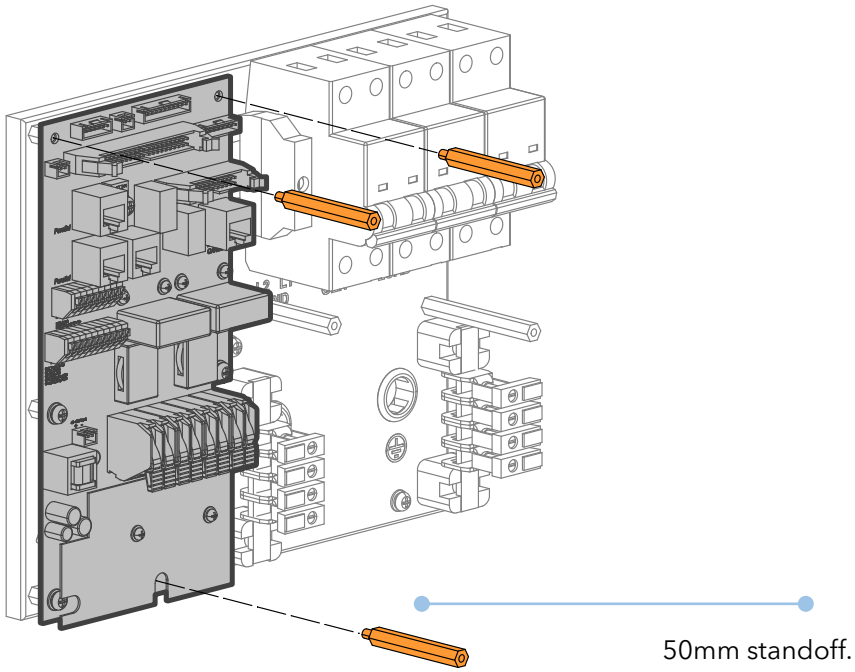
STEP 3: Place the TX 12K-A board in position

Once the communications board has been removed, install the two (2) standoffs to hold the TX 12K-A board with the integrated transmitter. Secure the board with the M5 and M3 screws.

- Use the four (4) M5 screws to fasten the TX 12K-A board in the inverter wiring area.
- Use the four (4) previously removed M3 screws (M1, M2, M3 and M4) to secure the connections of the MPPTs connectors. Remember not to exceed a maximum torque of 5 in-lbs.



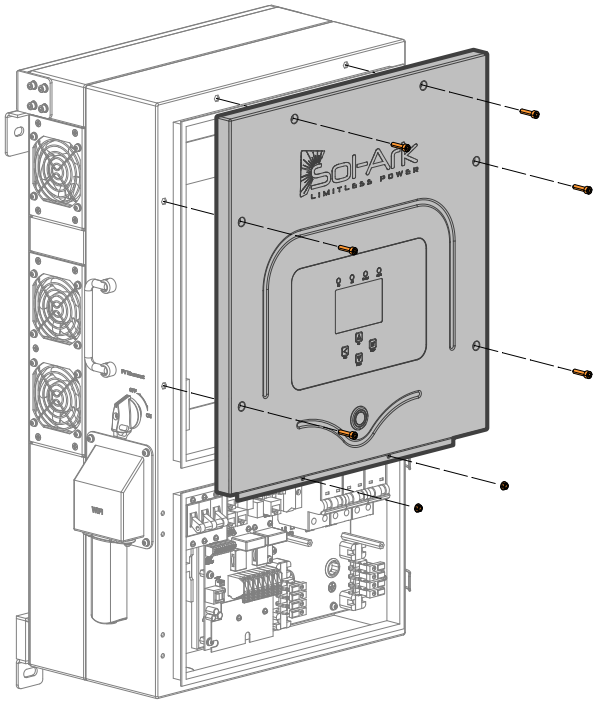
Install the two (2) 50mm standoffs on top of the TX 12K-A board, and use the extra 50mm standoff, included in the installation pack, to secure the board in the bottom.



STEP 4: Connect the power cable to the TX 12K-A

Once the TX 12K-A board is secured, remove the top cover of the inverter to access the battery power bars, to remove the cover:

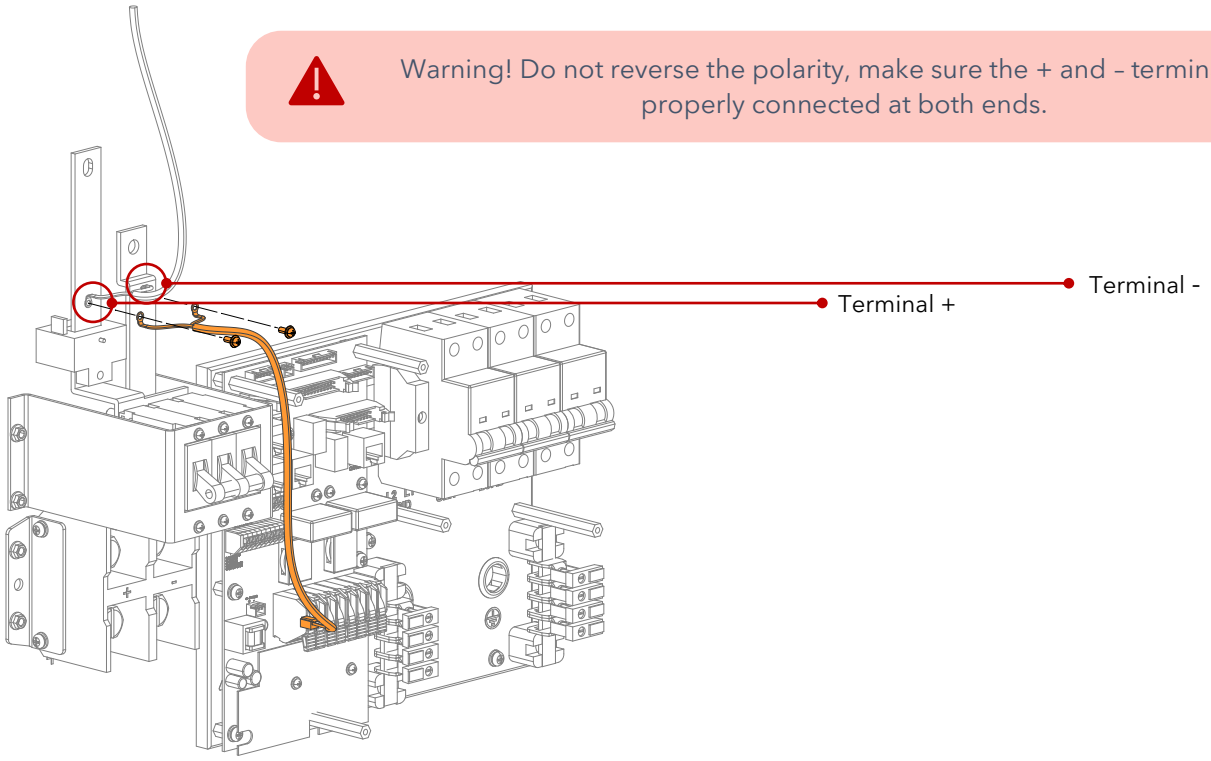
- Remove the two (2) nuts located at the bottom of the cover.
- Unscrew and remove the six (6) screws at the ends of the cover.



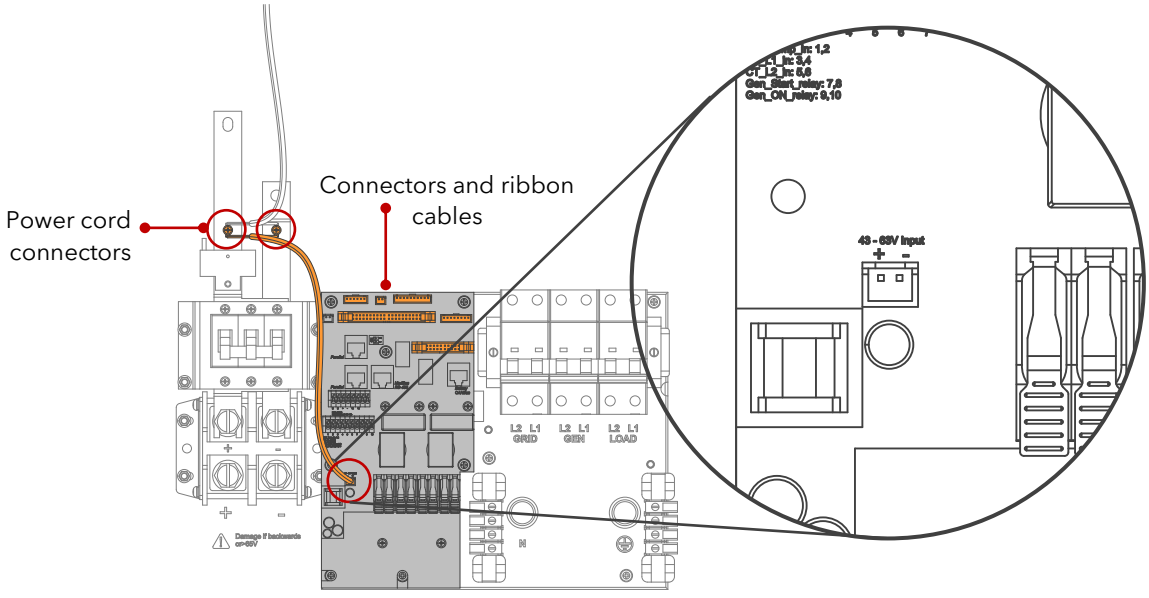
The top cover contains three (3) ribbon cables that power the LCD, you can slide the cover to the side of the inverter to avoid damaging the connectors.

For the power cable connection:

- Locate the two (2) screws located on the bar terminals at the top of the battery switch.
- Unscrew and use these screws to secure the power cable of the TX 12K-A board.
- Connect the red wire to the positive terminal and the black wire to the negative terminal.



Connect the power cable to the “43-63V” input of the TX 12K-A board. Finally, reconnect the three (3) ribbon cables and three (3) connectors to the TX 12K-A board.

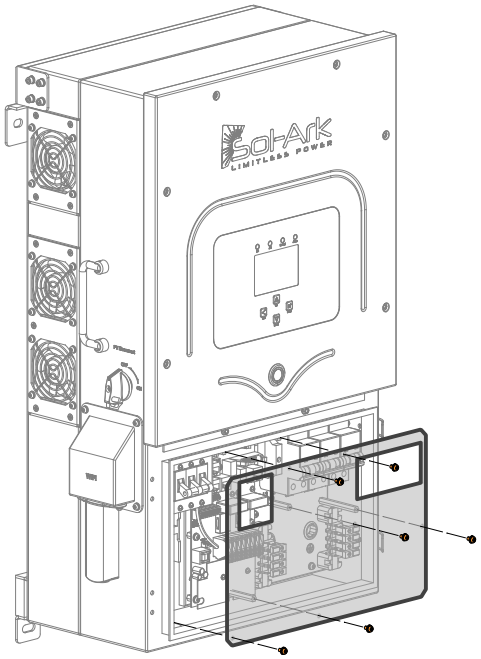


The TX 12K-A card will energize as soon as the battery terminals have 48V, it is necessary that the switch is in the ON position.

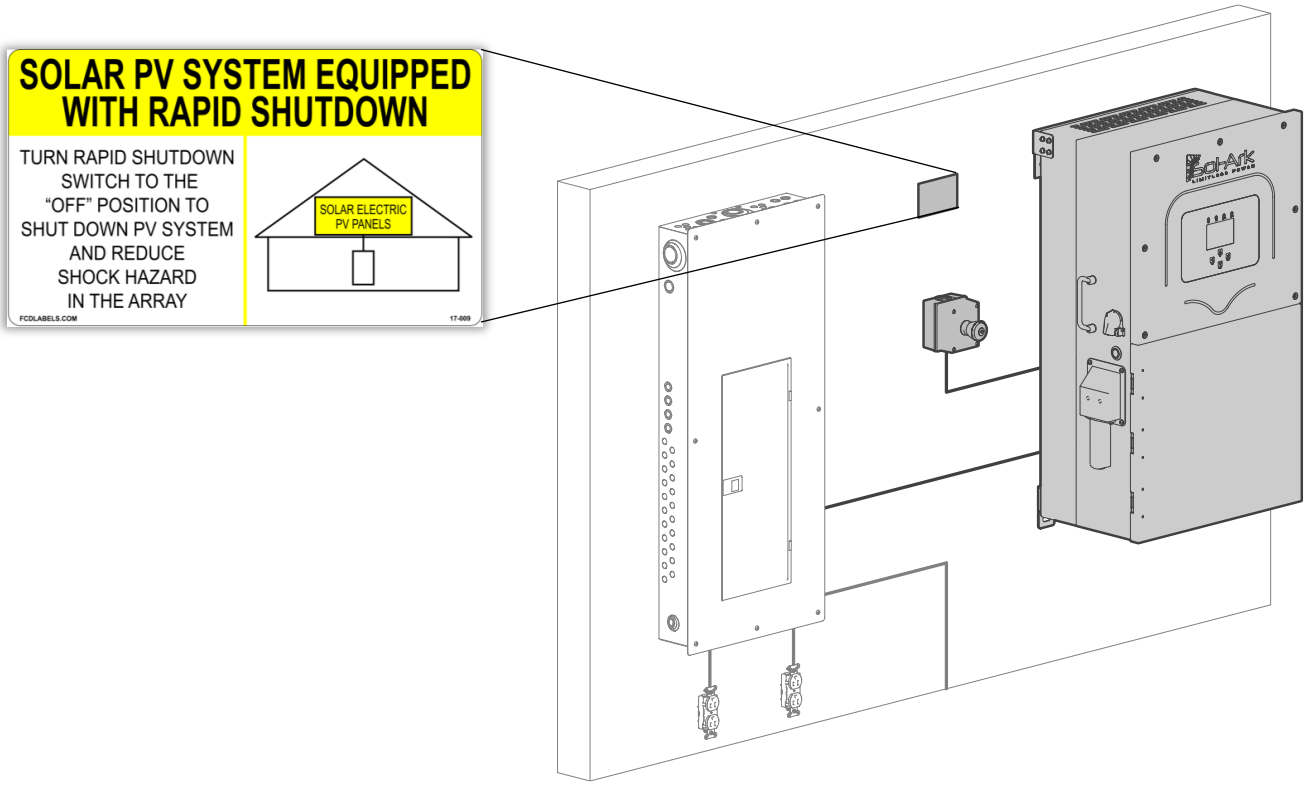
STEP 5: Installing the top cover and rapid shutdown label.

Once the TX 12K-A board is secure, reinstall the top cover of the inverter, and reconnect the DC PV wires.

Install the plastic cover in the wiring area of the Sol-Ark 12K-2P-N.



After installation of the TX 12K-A transmitter a rapid shutdown device must be installed. The Sol-Ark 12K-2P-N has the terminals to connect an emergency stop button, which must be easily accessible. Recommendation, place the emergency stop tag within 1m(3ft) of the emergency device. Always follow your local codes.



5. COMISSIONING TESTS

Before starting up the system, confirm the following conditions are met in the installation of the system:

- All PV modules are connected to an O900-80V.
- The power supply of the TX 12K-A board is wired correctly.
- The string voltage is ≤0.9 V multiplied by the number of O900-80V in the string.
- The PVRSS label is within 3 feet of the E-Stop switch or another initiating device.

To power up the TX 12K-A transmitter, the Sol-Ark 12K-2P-N must be powered up by battery and the TX 12K-A board will automatically power up. Using a multimeter, confirm that all strings carry full voltage at their inverter terminals.

To test system functionality with the TX 12K-A transmitter

- Verify that the test string is working normally and that all modules are generating voltage.
- Check the 4 green LEDs on the bottom side of the TX 12K-A.
- Activate the string rapid shutdown initiator, the voltage should drop to less than 30V in 30 seconds.
- If the string voltage drops to less than 0.9V for the number of O900-80Vs in the string, the rapid shutdown system is working properly.

Wait 60 seconds after activation of the rapid shutdown device before disconnecting the DC cables from the TX 12K-A.

6. TROUBLESHOOTING

Troubleshooting tests must be performed by qualified personnel:

TX 12K-A transmitter does not turn on

- It is possible that the transmitter is not receiving voltage from the battery terminals. Make sure your system has a battery connected and the Sol-Ark 12K-2P-N inverter is in one of the battery modes of operation.
- The power cable may have reversed polarity when connected to the battery bars. Check polarity.
- The power connector is not properly secured with the TX 12K-A transmitter.
- The TX 12K-A board has 2 similar connectors. Make sure the power cable is plugged into the connector labeled “43-63V input”.

A string has no voltage

- If the output voltage in the string is 0VDC, it is likely that the string is in open circuit, if the voltage is between 0.9V and 10V, the system is in emergency stop operation, since each O900-80V delivers 0.9V.
- If the output voltage is still at 0VDC check polarity at the MPPT terminals.
- Perform a visual inspection of the O900-80V modules, check that the wiring and connectors are in good condition. Verify that the equipment is properly connected.

An O900-80V has no voltage

The O900-80V must output 0.9VDC when connected to a solar panel that is not connected to the TX 12K-A transmitter, so if 0VDC is measured it could be indicative of a problem with the O900-80V.

- Turn off the system for 1 minute and turn everything on again, measure the voltage on the O900-80V, it should be 0.9V.
- If the voltage is still 0V, disconnect the solar panel from the O900-80V to measure that the voltage Voc of the solar panel is at least 18V. If the voltage on the module is not at least 18V, it may be a problem in the solar panel. Replace it with another solar panel and test again.
- If the Voc voltage at the solar panel is in the operating range of O900-80V, then the equipment has a technical fault, contact Sol-Ark technical support at www.sol-ark.com/support/.

Technical Support

If the problem persists after following the troubleshooting steps listed in this manual, visit Sol-Ark website, and contact technical support. If you open a support ticket, please include the following information:

- Brief description of the tests carried out.
- Name of the inverter’s plant.
- Serial number of the O900-80V and the serial number of the Sol-Ark inverter.
- System information such as number of strings, type of solar panels and length of the strings of the photovoltaic array.

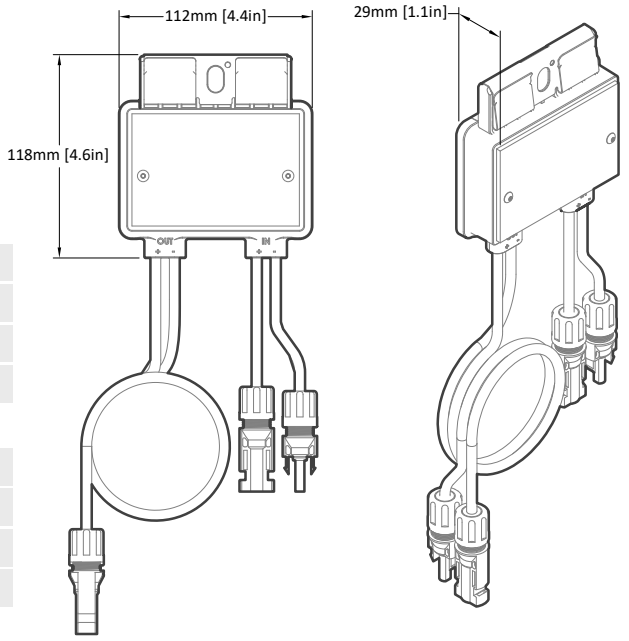
If necessary, you can include photos in the attention ticket.

TECHNICAL SUPPORT 7 DAYS A WEEK:

https://www.sol-ark.com/contact-us/

7. TECHNICAL SPECIFICATIONS

O900-80V Spec Sheet

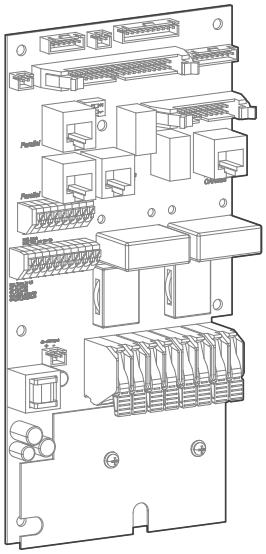


MODEL	O900-80V
INPUT DATA (DC)	
Input Operating Voltage Range	18-80V
Maximum Input Current (Imax)	14A
Maximum Short Circuit Current (Isc)	15A
Maximum Power	900W
OUTPUT DATA (DC)	
Output Operating Voltage Range	18-80V
Maximum System Voltage	1000V
Maximum Series Fuse Rating	30A
Safety Voltage (without heartbeat signal)	0.9V
MECHANICAL DATA	
Operating Ambient Temperature Range	-40F to + 176F (-40°C to +85°C)
Passthrough mode capacity	14A up to 140F / 9A up to 185F (+65°C, +85°C)
Optimization mode capacity	14A up to 95F / 6A up to 185F (+35°C, +85°C)
Dimensions W x L x H (without cable & connectors)	4.41in x 4.64in x 1.1in (112mm x 118mm x 28mm)
Cable Length	Input 4.72in, Output 39.37in (0.12m, 1m)
Cable Cross Section Size	UL: 12AWG
Connector	Friends PV5e (MC4 Compatible)
Enclosure Rating	NEMA Type 6P / IP68
FEATURES	
Power Optimization	Yes (MPPT)
Communication Signal	Power Line Communication (P LC)
Maximum number of PV modules per O900-80V MLPE	1
Over-Temperature Protection	Yes
Warranty	25 years
STANDARDS COMPLIANCE	
Photovoltaic Rapid Shutdown System	NEC 2017 (690.12), NEC 2020 (690.12)
Safety Compliance	UL 1741, CSA 22.2 No. 107.1
EMC Compliance	FCC Part 15 Class B; IEC 61000-6-2; IEC 61000-6-3
Others	SunSpec RSD Certified

Download complete specifications for all Sol-Ark products at www.sol-ark.com

Download page (www.sol-ark.com/products/.

TX 12K-A Spec Sheet



MODEL	TX 12K-A
INPUT DATA (DC)	
On-board Power Supply Input Voltage	48VDC**
On-board Power Supply Input Current	0.5A
Maximum PV System Voltage	500VDC
Number of PV String Inputs	4
Maximum RSD Devices in series per string	30 (subject to NEC 690.12)
MECHANICAL DATA	
Dimensions	110 mm x 214 mm
Weight	316g
PV String Connection	WAGO Terminal block 221-613 10WG
ENVIRONMENTAL	
Operating Ambient Temperature Range	-13F to +131F (-25°C to + 55°C)
Altitude	4000m (13,100ft)
Cooling Method	Natural Convection (within Sol-Ark inverter wire box)
Installation Method	Field replaceable
FEATURES	
Communication Signal	Power Line Communication (PLC)
Warranty	10 years
STANDARDS COMPLIANCE	
Photovoltaic Rapid Shutdown System	NEC 2017 (690.12), NEC 2020 (690.12)
Safety Compliance	UL 1741, CSA 22.2 No. 107.1
EMC Compliance	FCC Part 15 Class B; IEC 61000-6-2; IEC 61000-6-3
Others	SunSpec RSD Certified

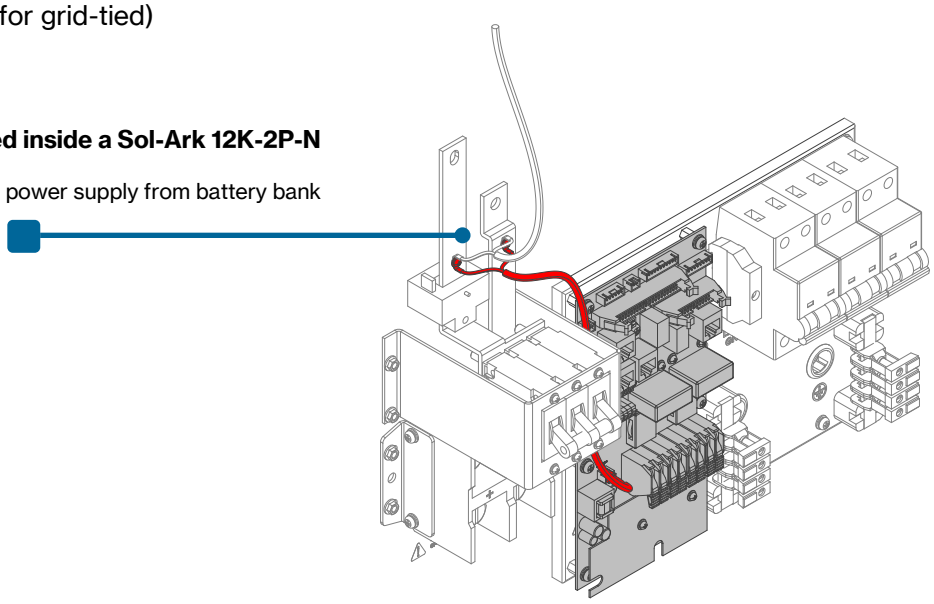
** It is required to have a **battery based system** to use the On-board Power Supply.

Transmitter TX 12K-A can be powered from:

- On-board Power Supply (Battery required, see TX 12K-A Quick Installation Guide for more details).
- External 48VDC power supply (for grid-tied)

TX 12K-A installed inside a Sol-Ark 12K-2P-N

Installation using on-board power supply from battery bank



8. WARRANTY

25-year limited warranty for SOL-ARK (Portable Solar LLC) O900-80V. Sol-Ark offers a limited twenty-five (25) year "Warranty" against defects in material and workmanship on its Sol-Ark products. The term of this warranty begins on the date of initial purchase of the product(s), or the date the product(s) is received by the end user, whichever is later. This must be indicated on the invoice, bill of sale from your installer. This warranty applies to the original purchaser of the Sol-Ark product and is transferable only if the product remains installed in the original place of use. Call Sol-Ark to let us know if you are selling your home and tell us the name and contact information of the new owner.

The warranty will not apply to products or parts of products that have been modified or damaged by the following:

- Installation or uninstallation
- Modification or disassembly
- Normal wear and tear
- Accident or abuse
- Firmware / Software updates or unauthorized programming alterations.
- Corrosion
- Repair or service by an unauthorized repair shop/center
- Operation or installation contrary to the manufacturer's instructions.
- Fire, flood, or natural phenomena
- Shipping or transportation
- Incidental or consequential damage caused by other components of the energy service.
- Any product whose serial number has been altered, defaced, or removed.
- Any other event not foreseeable by Sol-Ark (Portable Solar, LLC)

Contact: (USA) 1-972-575-8875

Information/Sales:

sales@sol-ark.com | ext.1

Technical Support/Warranties:

support@sol-ark.com | ext.2

Administrative Support: ext.3

Sol-Ark (Portable Solar LLC)'s liability for any defective Product, or any part of the Product, shall be limited to repair or replacement of the Product, at Sol-Ark's (Portable Solar LLC) option. Sol-Ark does not warrant or guarantee the workmanship performed by any person or company installing its products. This warranty does not cover the costs of installation, removal, shipping or reinstallation of products or parts of products.

THIS LIMITED WARRANTY IS THE EXCLUSIVE WARRANTY APPLICABLE TO SOL-ARK (PORTABLE SOLAR LLC) PRODUCTS. SOL-ARK EXPRESSLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTIES ON ITS PRODUCTS. SOL-ARK ALSO EXPRESSLY LIMITS ITS LIABILITY FOR A PRODUCT DEFECTIVE TO REPAIR OR REPLACEMENT IN ACCORDANCE WITH THE TERMS OF THIS LIMITED WARRANTY AND EXCLUDES ALL LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, ANY LIABILITY FOR PRODUCTS NOT AVAILABLE FOR YOUR USE OR LOSS OF REVENUE OR PROFITS, EVEN IF YOU ARE AWARE OF SUCH POTENTIAL DAMAGES.

Return Policy - Returns will not be accepted without prior authorization and must include the Return Material Authorization (RMA) number. Call and speak to one of our engineers to obtain this number at (EU)1-972-575-8875. Return Material Authorization (RMA) - Request for an RMA number requires all of the following information: 1. Product model and serial number; 2. Proof of purchase in the form of a copy of the original purchase invoice for the product or receipt confirming the model number and serial number of the product; 3. Description of the problem; 4. Validation of the problem by Technical Support and 5. Shipping address for the repaired or replaced equipment. Upon receipt of this information, the Sol-Ark representative can issue an RMA number. Any product being returned must be new, in excellent condition, and packaged in the original manufacturer's box with all applicable hardware and documentation. Returns must be shipped freight prepaid and ensured through the shipping company of your choice to arrive at Sol-Ark within 30 days of initial delivery or pickup. Shipping costs are not refundable. All returns are subject to a 35% restocking fee. Returns will not be accepted beyond 30 days after original delivery. If you have any questions about our returns policy, please email us at sales@sol-ark.com or call us at the number above during normal business hours (Monday to Friday).

Sol-Ark Optimization Rapid Shutdown System

INSTALLATION MAP CARD

Sol-Ark Customer Support: sol-ark.com/support/

Plant Name: _____

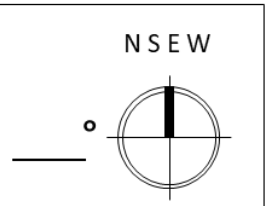
Comissioning Date: _____

Sol-Ark Model:

Sol-Ark Serial Number:

Customer Information:

Installer Information:



	A MPPT:__	B MPPT:__	C MPPT:__	D MPPT:__	E MPPT:__	F MPPT:__	G MPPT:__	H MPPT:__
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This map shows the physical location of each optimizer in the PV array. Each Sol-Ark O900-80V optimizer has a removable equipment serial number label located on the back. Peel off the label and stick it on the Sol-Ark setup map.

Notes:

NOTES:

Sol-Ark

sol-ark.com