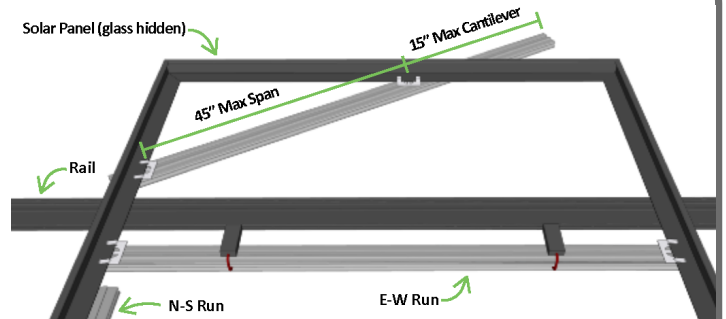


A. PREPARE MODULES

Like conduit, PVshield is fully customizable. Cut to any length, pivot to any angle, mount to any part of the array. Limit spans to 45" and cantilevers to 15".

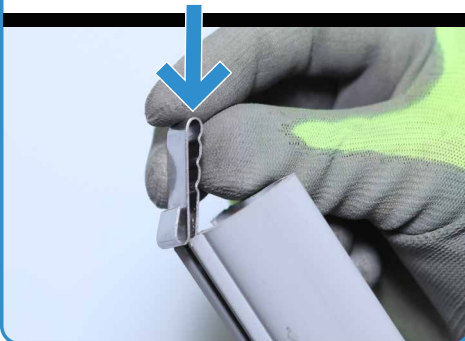
Prepare: Mount MLPES, connect module leads, and cut PV Shield to desired length with a 2.5 inch PVC pipe cutter or fine tooth blade.

Clip Mount: Use South Clip on downslope edge of panel frame. Use Set Clip on all other edges.

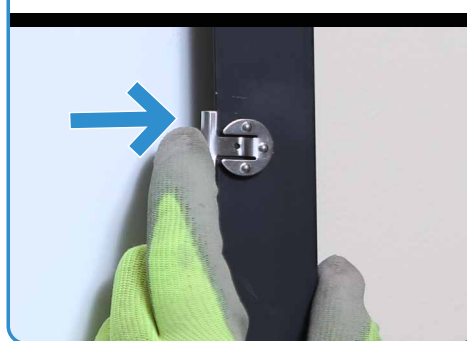


B. STEP BY STEP INSTRUCTIONS

1. When PVshield runs North-South (up-down slope), install South Clip on the downslope end. Hold Clip at an angle. Rotate and push into the mounting slot.



2. Slide Set Clip onto module frame.



3. Align mounting slot and slide onto Set Clip until end is 6 inches past frame.



4. Slide in opposite direction to push SouthClip onto frame.



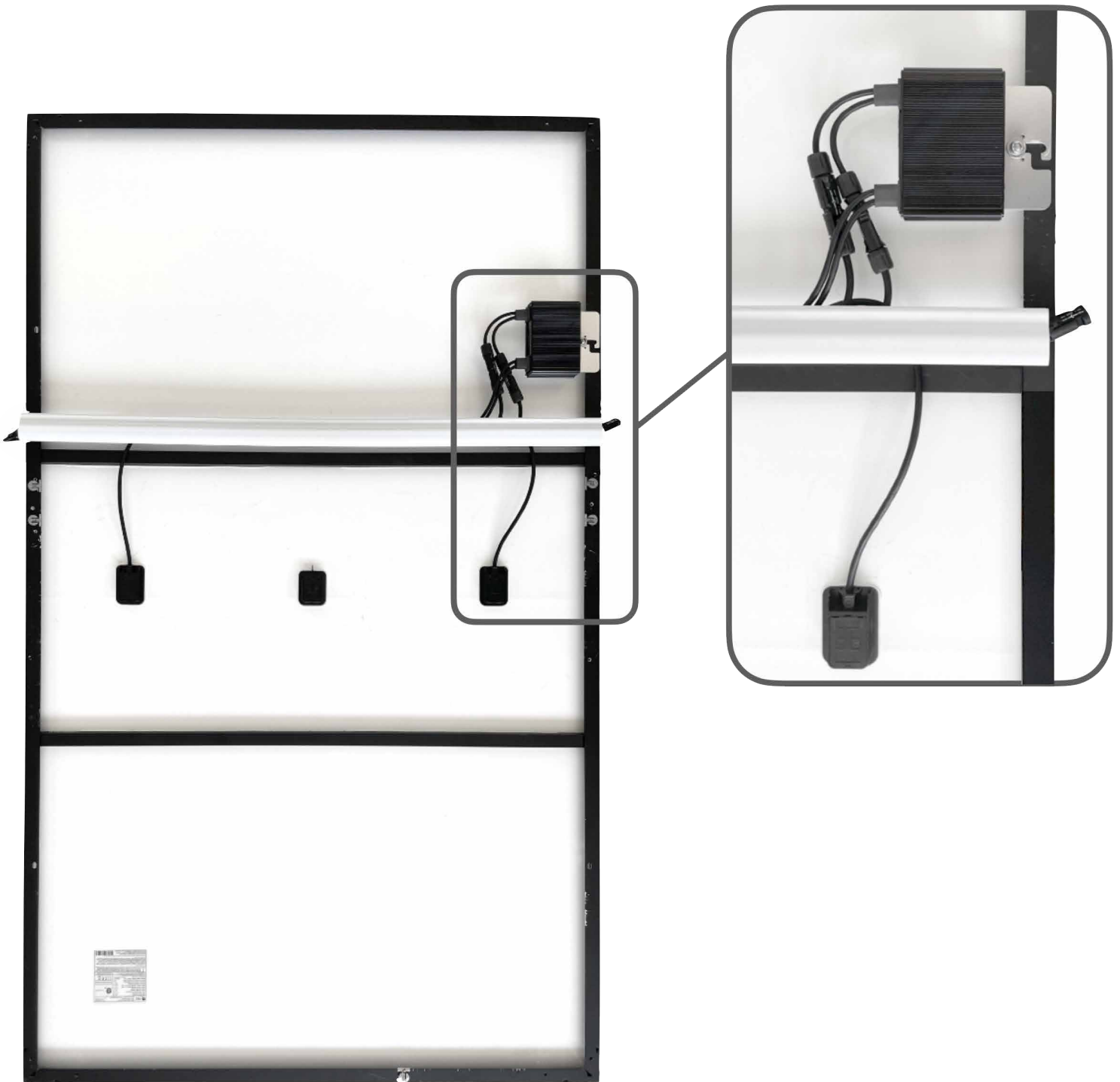
5. Form wire into U shape and push into opening.



6. Slide wire into tray. The spring action wire catch will GRIP and SECURE the wires.



Install Panels: As each panel is secured to racking, connect cables and push any remaining slack into PVshield.



C. WIRING & PROPER USE

PV Shield is a continuous support wire positioning and management system for use on PV solar arrays. All wires are to be rated for outdoor applications without a raceway such as UL4703 listed Photovoltaic Wire. Wire insulation must be rated 75°C or higher. PV connectors must be listed to UL 6703.

Due to site specific needs, mounting hardware does not come with PV Shield and must be ordered separately from EZ Solar. It is the responsibility of the installer to specify the proper components for the installation. Follow the installation instructions from the solar panel, wire, and PV connector manufacturers and National Electrical Code, ANSI/NFPA 70 wiring methods and guidelines.

The PV Shield is nonconductive and therefore does not need to be grounded. However, this also means the box cannot be used to maintain an electrical bond between fittings. Ensure all proper jumpers or other bonding mechanisms are in place per NEC. The PV system grounding shall be installed per the requirements of Sections 690.41 through 690.47 of the National Electrical Code, ANSI/NFPA 70, UL1741 and is the responsibility of the installer.

To ensure structural integrity, PV Shield must be secured with approved mounting hardware as shown in the manufacturers installation instructions. The distance between supports (span) shall not be greater than 45 inches. The distance from end of PV Shield to support (cantilever) shall not be greater than 15 inches.

Maintain clearance of at least 1" between PV module back sheet and PV Shield. Ensure bottom of PV modules are nominally on average 3 inches or more above the roof surface. Ensure minimum of 1/4 inch gap between modules and 75% of vertical area around each contiguous group of modules is open.

D. SYSTEM SPECIFICATIONS & RATINGS

- Maximum Voltage: 1,000 Volts
- Allowable Wire Size: 14 AWG – 8 AWG
- Wire Capacity
 - For typical capacities, see Table 1 and Table 2
 - Verify with applicable codes and wire dimensions
 - Cross Sectional area with wire catch in closed position: 0.99 in²
 - Cross Sectional area with wire catch in open position: 1.29 in²
- Compatibility
 - Mount to typical solar panel frame with PVS Clip
 - Mount to racking and structural components with #8 truss head self drilling screw
- Spacing and Clearance
 - For rooftop arrays only:
 - Minimum clearance of 3 inches between module backsheet and roof surface
 - Minimum 1/4 inch gap between modules
 - Minimum 1 inch space between PVshield and module backsheet and any MLPEs.
 - Max distance between support points: 45 inches
- Maximum Ambient Temperature: 70°C
- Periodic Re-inspections: If re-inspections yield loose components, loose fasteners, corrosion between components, or warping, immediately replace components that are found to be affected.

Table 1: Capacity for Typical PV Cable

Quantity	Gauge
10	14 awg
8	12 awg
7	10 awg
4	8 awg

Table 2: Capacity for Enphase Q-Cable

Quantity	Gauge
5	2-12 awg trunk cable

WARNING! STOP IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS AND SAFETY WARNINGS PRIOR TO INSTALLATION



This manual contains important instructions that shall be followed during installation and maintenance of the system. This manual should be stored near the product's installation and must be available at all times.

This product is only to be installed by qualified personnel. These installation instructions are for qualified personnel only and the instructions herein are provided for those individual(s) only. To reduce the risk of electric shock, injury or death, all installation work, wiring and connections must be performed by qualified personnel. Do not perform any installation or service other than that to which you are qualified to perform. Protect you and all persons and property during installation and servicing of this equipment. If you have any doubt concerning your competence or expertise, consult a qualified expert to perform the installation.

Lethal voltages are present during the installation, operation and service of PV Solar equipment. Proper precautions must be taken at all items to ensure the safety of the service personnel. At all times follow state and federal occupational safety and health administration (OSHA) guidelines and regulations. Utilize proper Personal Protective Equipment (PPE) as required per national and local regulations as well as for installation best practices.

Ensure the electrical installation is in accordance with the National Electrical Code (NEC), ANSI, NFPA 70, all local electrical codes, and with the authority having jurisdiction. If there are any contradictions between the NEC and this document, follow the NEC requirements.

Install, operate, and use this product in a manner consistent with the instructions provided. Failure to follow the procedures indicated may result in roof leaks, property damage, or consequential damage.

- Ensure all electrical conductors are at zero voltage potential before installing or servicing this unit.
- Never break contact on a circuit without using the appropriate disconnect device.
- Follow established lockout-tagout procedures for all electrical conductors prior to servicing.
- Photovoltaic systems produce potentially lethal electrical energy when exposed to light. Use all appropriate procedures to de-energize the photovoltaic system and the conductors leaving the system prior to service.
- Ensure all wires are in good service condition. Nicked, pinched, or damaged wires can lead to electrocution or cause a fire.
- Be aware of and work away from power lines. Contact with power lines could result in electrocution, personal injury, or death.
- When disconnecting source or supply circuits, provide sufficient time as stated in the power electronics manufacturer's instruction manual in order to ensure discharge of all conductors in the circuit
- Always verify the integrity and proper installation of the electrical components prior to energizing electrical circuits.
- This device is not grounded and does not provide grounding means
- Wear safety equipment rated for a minimum of 600V or as required for the specific site conditions.
- Disconnect all conductors from the array prior to making or breaking connections within any point of the circuit.
- Activating the AC and/or DC disconnect switch within a circuit does not shut off potential electrical energy or voltage from the photovoltaic panels. Ensure the photovoltaic array is disconnected and there is zero voltage potential on the conductors being installed before servicing this product.
- Do not use this equipment in a manner other than that outlined in these instructions. Doing so may cause personal injury or death.
- Check all wiring and connections for integrity and proper installation prior to energizing the circuit.
- Always de-energize the DC and AC circuits prior to installation or service. Neglecting to do so could result in property damage, personal injury of death.
- If any part of this product becomes damaged, remove and discard the entire unit, and replace with a new one. Failure to do so could result in fire, property damage, personal injury, electrocution, or death.

- When disconnecting the inverter, allow 15 minutes for all electrical storage components to discharge before servicing any conductors in that circuit.
- Do not install if the roof is wet, frosted, or covered by ice or snow.
- Do not use the product to anchor fall protection equipment.
- When determining ambient operating temperature, system designer must take into account external sources of heat such as irradiance from the sun or the environmental conditions under which the product is installed such as under a PV module. Exceeding the temperature rating could cause failure that could result in property damage, fire, electrocution, personal injury or death.
- The installation of this product requires working on roofs. Follow applicable safety regulations and best practices to avoid falling from the work area. Take steps to prevent objects from falling off the roof.
- Never work alone. Someone should always be in range of your voice or close enough to come to your aid in the event of an accident.
- Remove all rings, bracelets, necklaces, watches or other metal equipment that could become energized while working with electrical conductors and equipment.
- If modules are required to be removed or lifted during servicing, ensure the system is designed such that the removal of the module will not disturb or break the system ground path. In addition, ensure the lifted module maintains its ground during servicing. Failure to follow these instructions could produce a shock hazard leading to personal injury or death.
- Use a very sharp tool to cut the Tray then clean all burs.

Easy Solar Products Inc assumes no responsibility for the failure of an architect, contractor, installer, or building owner to comply with all applicable laws, building codes and requirements, and adequate safety precautions.

