/ARRAY/

Installation Instructions for the SlimFit and SlimFitXT Photovoltaic Modules

Introduction

This manual provides important safety instructions for the Sunflare SlimFit and SlimFitXT and should be read and understood in its entirety prior to handling and installation. These modules have been certified by CSA Group to be UL1703 and UL790 for installation on standing seam metal roofing systems. These installation instructions are valid for SlimFit and SlimFitXT modules.

Installation, commissioning, servicing and repairs to the module, and an array, should only be carried out by qualified and authorized persons in compliance with local and national electrical, fire, and health and safety codes. If there are any discrepancies between these instructions and the applicable local or national codes, the local and national codes take precedence.

Sunflare SlimFit and SlimFitXT modules are categorized as Building Applied Photovoltaics (BAPV) and should be listed as such in any permit documents.

These instructions are intended as a guideline for professional solar system integrators and installers only, and should be retained for future reference in case of maintenance, ownership change, or disposal.

General & Electrical Safety Information

- **Danger!** These modules can produce lethal electrical voltages when connected in series. Read all safety information prior to handling. Failure to adhere to the following safety guidelines can lead to arcs, fires, and electric shock hazards.
- The module is considered in compliance with UL 1703 only when the module is mounted in the manner specified by the mounting instructions below.
- The PV modules should only be used for the purpose for which they are intended.
- Concentrated or artificial sunlight shall not be directed onto the PV module.
- All work on the PV system should be performed by qualified personnel only.
- **Warning!** Solar modules generate direct current (DC) when exposed to light. Breaking or opening a connection under load, i.e. when current is flowing, can cause an electric arc which will not self-extinguish.
- Never work on the system or module under load.
- Always turn off and disconnect the inverter or other loads before working on the system.
- Under normal conditions, a photovoltaic module is likely to experience conditions that produce more current and/or voltage than reported at standard test conditions. The requirements of the National Electrical Code (NEC) in Article 690 shall be followed to address these increased outputs. In installations not under the requirements of the NEC, the values of Isc and Voc marked on this module should be multiplied by a factor of 1.25 when determining component voltage ratings, conductor ampacities, overcurrent device ratings, and size of controls connected to the PV output.
- Installing solar photovoltaic modules and systems requires specialized skills and knowledge. Do not attempt to install these modules if not qualified to do so.
- The installer assumes all risks of injury that might occur during installation, including but not limited to the risk of electric shock.
- **Danger!** A single module generates more than 30V DC when exposed to sunlight and system voltages can be as high as 1000 V. Contact with voltages greater than 30V DC can be hazardous, leading to electric shock and possibly death.
- **Danger!** Even though it is safe to walk on the SlimFit modules, it could become dangerous if the top surface has been damaged, degrading the dielectric resistance of the module. This could lead to electric shock. Have qualified personnel ensure all modules surfaces are undamaged before walking on them.

- **Danger!** Water exposure can lead to increased risk of electric shock if the module's encapsulation system has been compromised. Have qualified personnel ensure there is no current leakage and the system is in safe working order before walking on or working on the modules.
- **Danger!** SlimFit modules may become slippery when wet. This could cause a slip hazard. If modules are wet, walk carefully, and keep your center of gravity. Failure to do so could result in a fall hazard leading to personal injury. If working on a roof without a parapet or other curb type system, fall protection needs to be deployed.
- **Danger!** Do not stand or walk on modules unless they are clean. Dirt and debris could damage the outer surface of the module exposing electrical components leading to electric shock.
- **Danger!** Do not drop objects such as tools onto the modules. This could damage the modules encapsulation surfaces exposing electrical components leading to risk of electric shock.
- **Warning!** Short circuits on the DC side of the installation can cause arcing. Unlike arcs occurring in low voltage AC wiring, these arcs are not self-extinguishing. The high temperatures generated by these arcs can destroy connectors. If not handled and installed according to instructions, PV modules can present a lethal as well as a fire hazard.
- **Danger!** Damaged modules, cables, and connectors can present a shock hazard resulting in electrocution and death. Do not attempt to install, service, remove, touch or modify a damaged module. Damaged modules should only be removed by qualified professionals wearing appropriate personal protection equipment for high voltage. If damaged modules are found, they should be immediately identified and secured from access by unauthorized individuals. Never attempt to remove or otherwise service a damaged module if it is wet or raining.
- **Danger!** To service a module, (1) isolate the string from others in the system, (2) use blackout blankets on the entire string to remove voltage from the system and then (3) disconnect the target module. You may then remove the module from the roof keeping the blackout blanket over the module to prevent voltages from developing during removal. Failure to follow these procedures may lead to electric shock.
- All electrical work must be performed by qualified personnel only. All electrical material must be suitable for DC and rated for the existing system voltage. If exposed to sunlight, the electrical material must be UV resistant.
- String configuration should be planned in accordance with the inverter manufacturer's instructions.
- If the installation is taking place in Canada, it must be in accordance with CSA C22.1, Safety Standard for Electrical Installations, Canadian Electrical Code, Part1.

Fire Safety

- The presence of photovoltaic modules on a roof can change the roofing system's fire performance.
- Roof construction and photovoltaic systems may affect the fire safety of a building. Improper installation may create a hazard in the event of a fire.
- The module is certified by CSA for use over a Class A standing seam metal roofing system when installed per these instructions. They are not certified for other applications.
- Only butyl-based adhesives are certified to adhere the SlimFit modules to a metal standing seam roof.
- Use components such as ground fault circuit breakers and fuses as required by local authorities.
- Provide rapid shutdown devices per the NEC.
- The fire rating of this module is valid only when mounted in the manner specified in the mechanical mounting instructions in this manual.
- Consult your local authority for guidelines and requirements for building and or structural fire safety.
- Do not install this module near flammable materials or materials with flammable off gasses.

Installation Safety

- Follow all local and national safety precautions when on a roof, including but not limited to fall protection, gloves, helmets, and safety glasses.
- **Warning!** A photovoltaic module can act as a sail in even low wind conditions knocking or pulling an installer off a roof. In addition, modules can become missiles if unsecured and blown away by the wind. A flying module can injure roofers or people on the ground. Use all appropriate precautions including fall protection and module capture devices to ensure safe handling in the event of winds or wind gusts.

Note, wind gusts can be unpredictable and are not always preceded by increased wind speeds. Care must be taken to ensure modules are always safely secured.

- When handling electrical components use all appropriately rated personal protective equipment for handling any possible voltages at the job site.
- **Warning!** Do not install solar systems when it is raining or the work surfaces are wet, icy, or otherwise slippery. This could lead to personal injury.
- **Warning!** Do not install in the rain, snow or in windy conditions. This could lead to personal injury.
- Avoid exposing cables to direct sunlight to help prevent their degradation over time.
- **Danger!** Never open electrical connections (such as connectors) when the circuit is under load.
- **Danger!** Contact with electrically charged parts of the modules, such as terminals, can result in burns, sparks and lethal shock whether or not the module is connected.
- Keep unqualified persons away from the work area and the system during transportation and installation.
- Completely cover the module with an opaque material during installation to prevent electricity from being generated.
- Do not wear metallic jewelry including ear, nose, and lip rings, watchbands, pins, or any other metallic object during installation or troubleshooting of photovoltaic systems.
- Use only insulated tools that are approved for working on electrical installation at the voltages possible present at the job site.
- Follow all safety regulations and instructions in the installation manuals for all components of the system.
- Do not remove or modify any leads or connectors provided with your module. Doing so could result in electrical shock, arcing, and fires as well as void the module's warranty.
- Use only MC4 connectors from Multi-Contact when connecting to these modules.

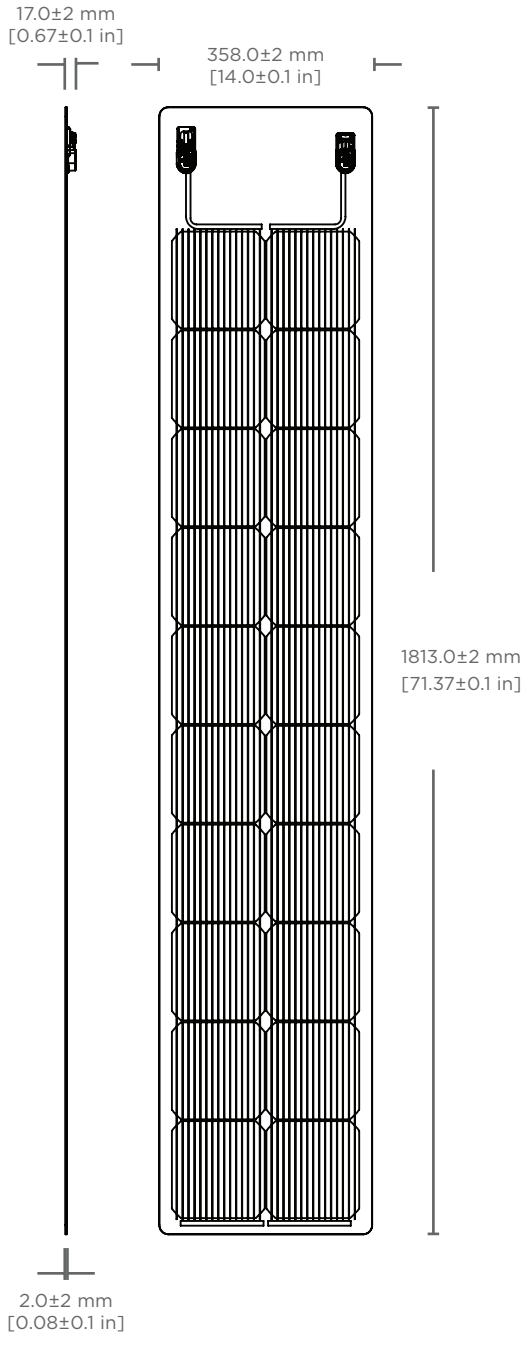
Handling Safety

- System designers and installers are responsible for proper support structure design. Sunflare is not responsible for supporting structures, including but not limited to the roof structure.
- Follow all local, regional, and national statutory regulations and obtain all required building permits.
- Only use equipment, connectors, wires, and support systems suitable for solar electric systems.
- Do not lift or carry the module by its junction box or electrical leads.
- Do not stand or step on the module until they are fully installed.
- Do not stand or walk on modules unless they are clean. Dirt and debris underfoot could cause damage to the surface of the module reducing its electrical performance.
- Do not drop the module or allow objects to fall on the module.
- Do not place heavy or sharp objects on the module.
- Use only original packaging when transporting or moving the modules.
- Do not disassemble the modules or remove any nameplates, serial numbers, or components from the modules.
- Do not cut, trim, apply paint or adhesive, or modify the module in any way.
- **Warning!** Do not scratch, hit or damage the top sheet or the back sheet in any way. Damage to these components could create an electric shock hazard.
- A module with a damaged or torn top sheet or back sheet cannot be repaired and must not be used.
- Work only under dry conditions, and use only dry tools. Do not handle modules when they are wet.
- **Danger!** Keep uninstalled modules in their box until it is time to install them. Make jumper connections to the junction boxes immediately upon installation to keep water and debris from penetrating the junction box connectors. If immediate connection isn't possible, take measures to prevent water and dirt from entering the junction box connectors. Failure to protect the electrical connections could result in electrical arcs leading to fire and possibly shock hazards.
- **Danger!** All electrical contacts should be kept dry and clean. Failure to do so could lead to electrical arcs resulting in fire and possible shock hazards.
- Keep all connectors and wires away from the roof or any area which may collect water.
- Modules should not be subjected to concentrated loads or stresses during or after installation other than those from environmental factors such as wind and snow loads.

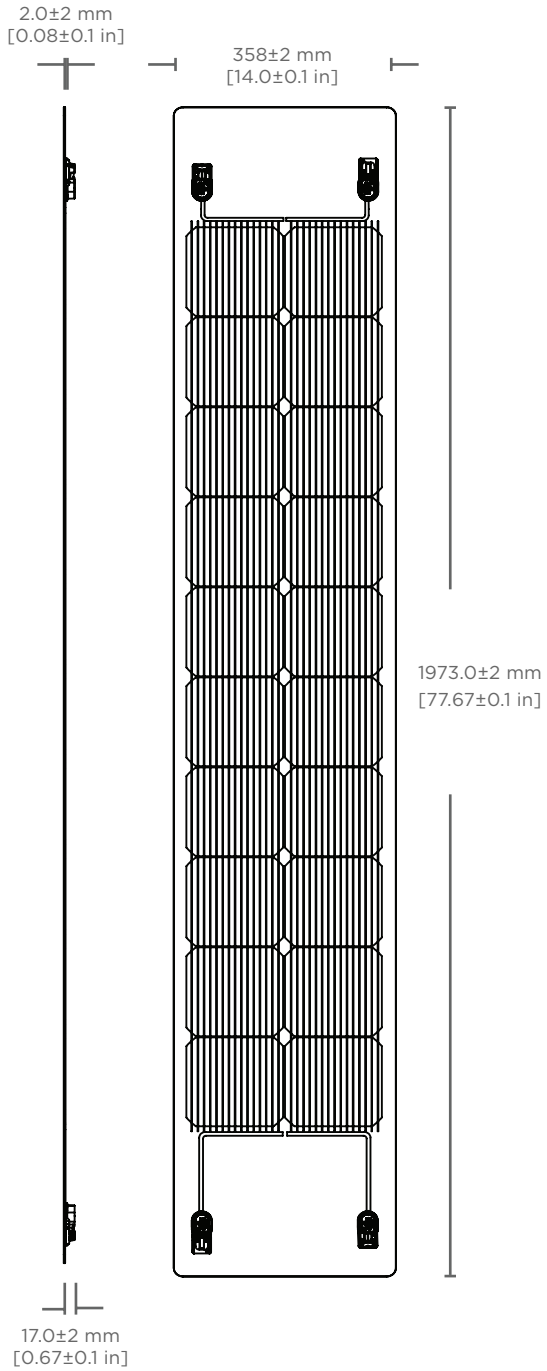
Physical Dimensions

All dimensions have a tolerance of +/- 2 mm

SlimFit



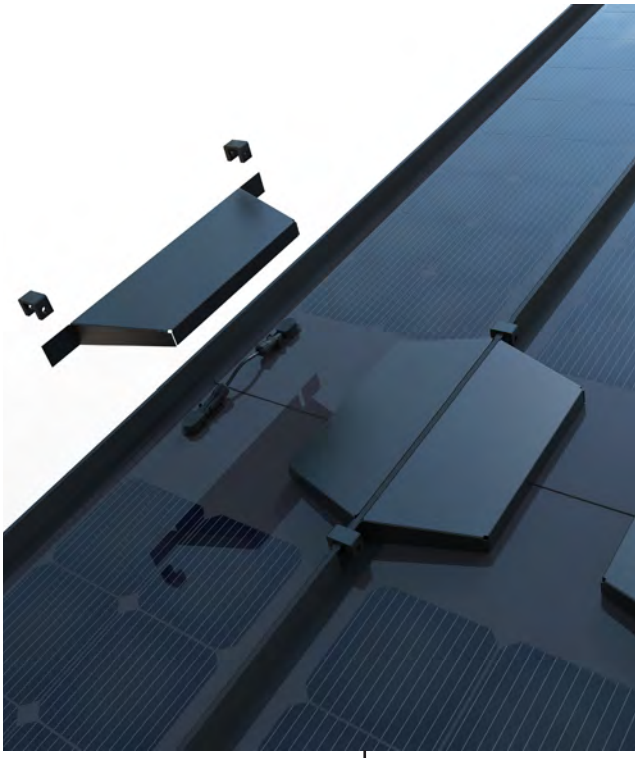
SlimFitXT

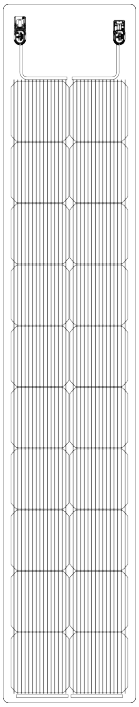


Mechanical Installation

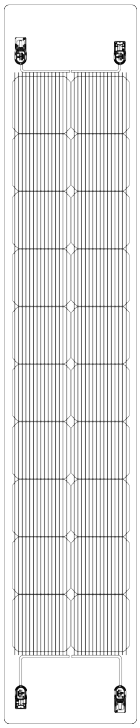
The Sunflare SlimFit Solar System is composed of 2 modules- SlimFit is 71.37” long with connections in 2 corners and SlimFitXT is 77.67” long with connections in 4 corners.

Each unique roof section will dictate the arrangement of either just a single row of SlimFit at the ridge, if the roof length cannot fit more than 1 module, or a combination of SlimFit and SlimFitXT for longer roof sections. See the “Module Installation” section below for detailed instructions.

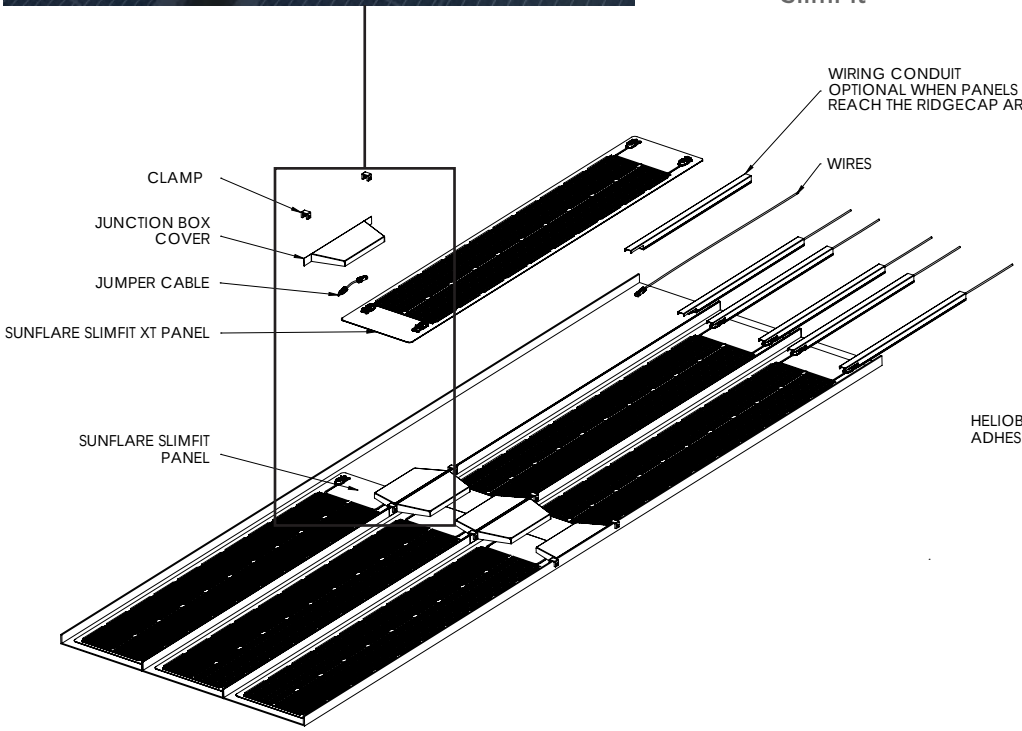


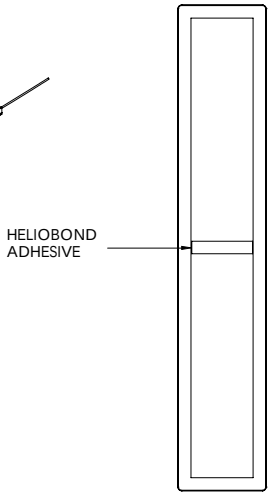


SlimFit

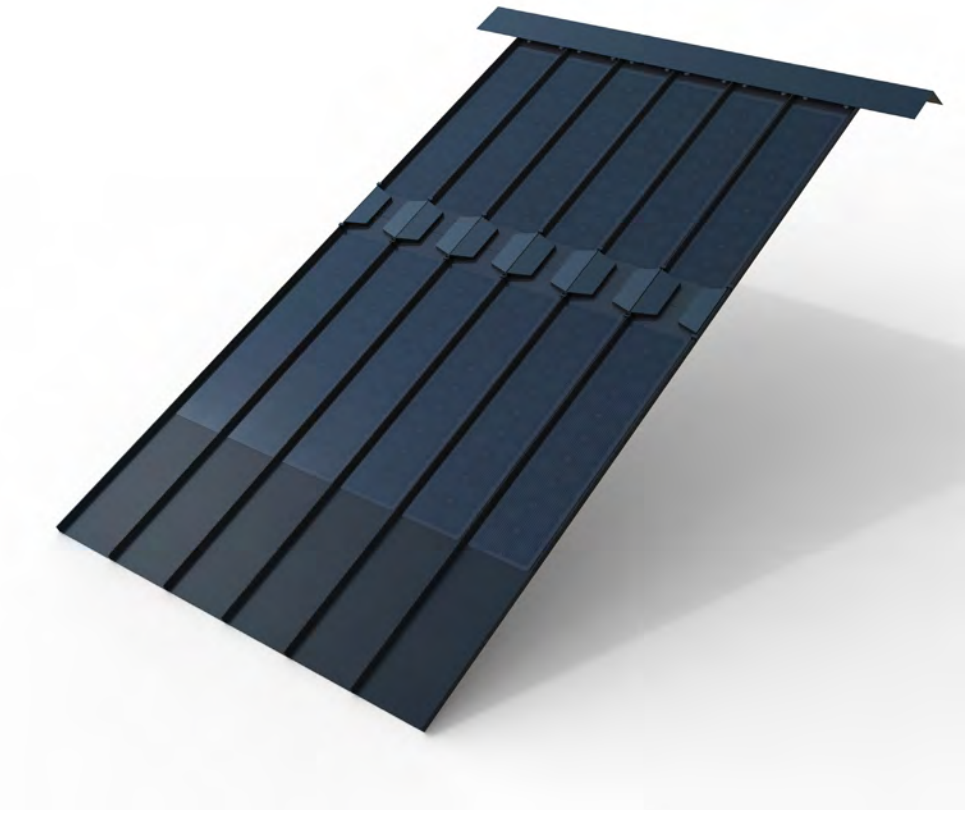


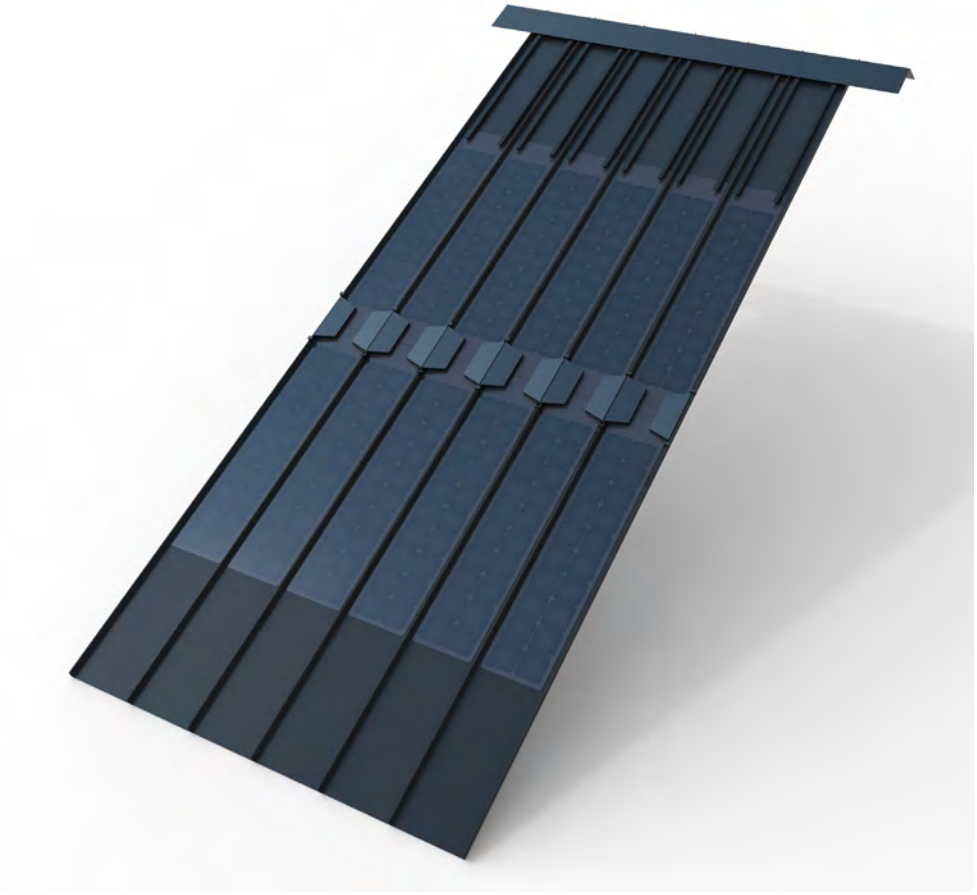
SlimFitXT





BACK OF THE PANEL





Approved Roof Systems

SlimFit and SlimFitXT modules with Heliobond adhesive and the Sunflare Wire Management System (WMS) are certified by CSA as part of a Class A roofing system per UL790 when installed according to these instructions over any Class A metal standing seam roofing construction.

SlimFit and SlimFitXT modules are 14" wide, therefore the required space between the raised seams is 14.5" measured on-center. The metal roof space between the raised seams must be fully smooth with no ribbing or striations, and the maximum roof pitch is 10/12.

In some cases, a partial warranty waiver may be signed by the customer if there are very low striations or a pitch over 10/12. Please speak to the Sunflare Sales Team for more information about a partial warranty waiver.

Metal Roof Manufacturer Approvals

SlimFit and SlimFitXT modules are fully engineered to reduce stresses on metal standing seam roofs and provide a compatible interface. However, before installing SlimFit with Heliobond PVA 600BT per these instructions, you may want to obtain approval from the metal standing seam roof manufacturer. Ensure you follow all their recommendations and requirements. Sunflare makes no guarantees or warranties in relation to the roofing and therefore takes no liability for damage that might be caused from installing the modules.

Roofing Prep

The roof surface must be thoroughly cleaned and clear of debris prior to installation. Failure to properly clean the roof can result in poor adhesion of the modules. Once clear of dirt and debris, wipe all surfaces with a microfiber cloth and isopropyl alcohol of 70% or more.

Besides dust and debris, the roof surface must be dry and free from water, ice or snow prior to module installation. The roof surfaces must be between 40°F -120°F (4°C to 49°C) during installation. Failure to follow these requirements will result in poor adhesion that could lead to premature failure resulting in electrical arcs, fires, flying debris, and personal injury. In addition, poor adhesion due to insufficient roof prep can result in moisture conditions under the modules that facilitates unwanted microbial buildup. This could lead to mold and rot of the laminate and the roof surface. Sunflare will not take liability for degradation or failure of the module or the roofing surface resulting from poor installation.

If SlimFit modules with Heliobond installed on the back have been stored for 12 months or longer, the roof surface must be prepped with a primer that will re-activate the Heliobond adhesive. Recommended: Millennium Single-Ply Primer made by Royal Adhesives and Sealants.

SlimFit System Installation

Please see the Balance of System document at the end of this manual for details regarding the wire management system (WMS) that is required with a SlimFit system (junction box covers, clamps, and optional conduit) as well as a list of other necessary equipment and tools.

1. Installation of SlimFit (single row across installed up to ridge)

a. After the roof has been cleaned to the requirements above, the components can be adhered to the roof. Align the first SlimFit module with the connections on top, up to the roof ridge so that the top junctions will be covered by the roof's ridge cap.

b. It is important to plan ahead for the available ridge cap space in which the MLPE or RSD will be installed. Consult MLPE spec sheets for exact dimensions.

c. Peel the adhesive backing off the module and apply pressure to the module to adhere it to the flat space. Use a rubber wheeled roller to ensure the proper pressure is applied to the module. **Do not skip this step! The Heliobond adhesive is pressure-activated.**

d. Continue along the roof ridge lining up each module before removing the adhesive backing and installing it in the standing seam channel next to the previous module.

e. Once all SlimFit modules have been adhered, the short jumper cables can be connected to the male and female ends of the Rapid Shutdown Device (RSD) or Multiple Level Power Electronics (MLPE), such as an optimizer, in the void space under the ridge cap. Home run cables from the ridge cap to the meter and inverter will be completed by the installing electrician according to the SLD in the permit set.

f. When connecting the RSD or MLPE it is important to understand the voltage limitations with SlimFit modules. Be sure to consult with the RSD or MLPE spec sheets for voltage limitations.

g. The assignment of ancillary components such as inverters and MLPEs are the responsibility of the solar installer.

h. A small, simple RSD solution is the AP Smart RSD. No more than 6 modules should be connected in series to one AP Smart component. Any more than 6 will result in failure of the PV system.

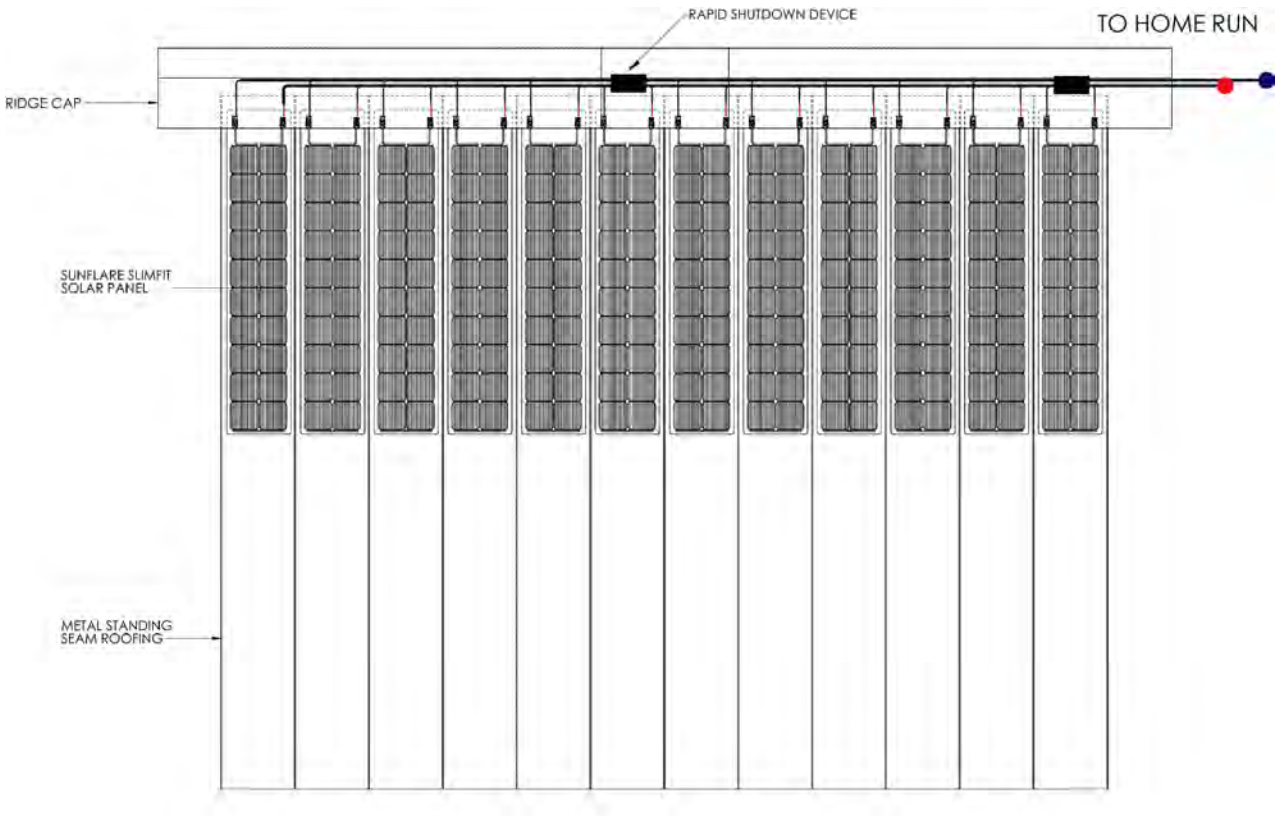


Figure 1. One row of SlimFit modules installed up to the roof ridge so the junctions will be covered by the ridge cap.

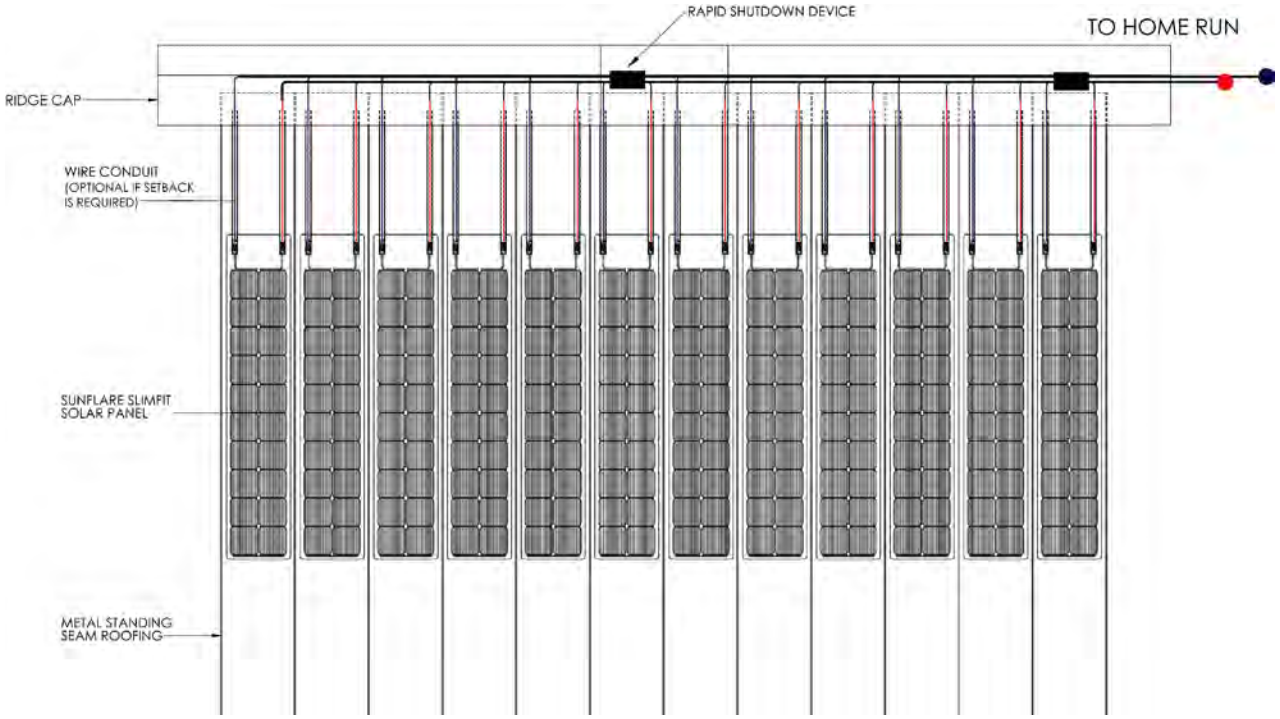


Figure 2. One row of SlimFit modules installed with a setback from ridge and Sunflare custom conduit.

2. Installation of SlimFit + SlimFitXT (2-6 modules in a standing seam channel)

a. For installation of more than one SlimFit in a channel, start with a SlimFitXT. Align on the roof up to the roof ridge so that the connection will be covered by the ridge cap.

b. It is important to plan ahead for the available ridge cap space in which the MLPE or RSD will be installed. Consult MLPE spec sheets for exact dimensions.

c. Continue along the roof ridge lining up each module before removing the adhesive backing and installing it in the standing seam channel next to the previous module.

d. If there will be 2 modules in a channel, the second module below the SlimFitXT will be a SlimFit with the connections at the top to join the bottom of the first module installed.

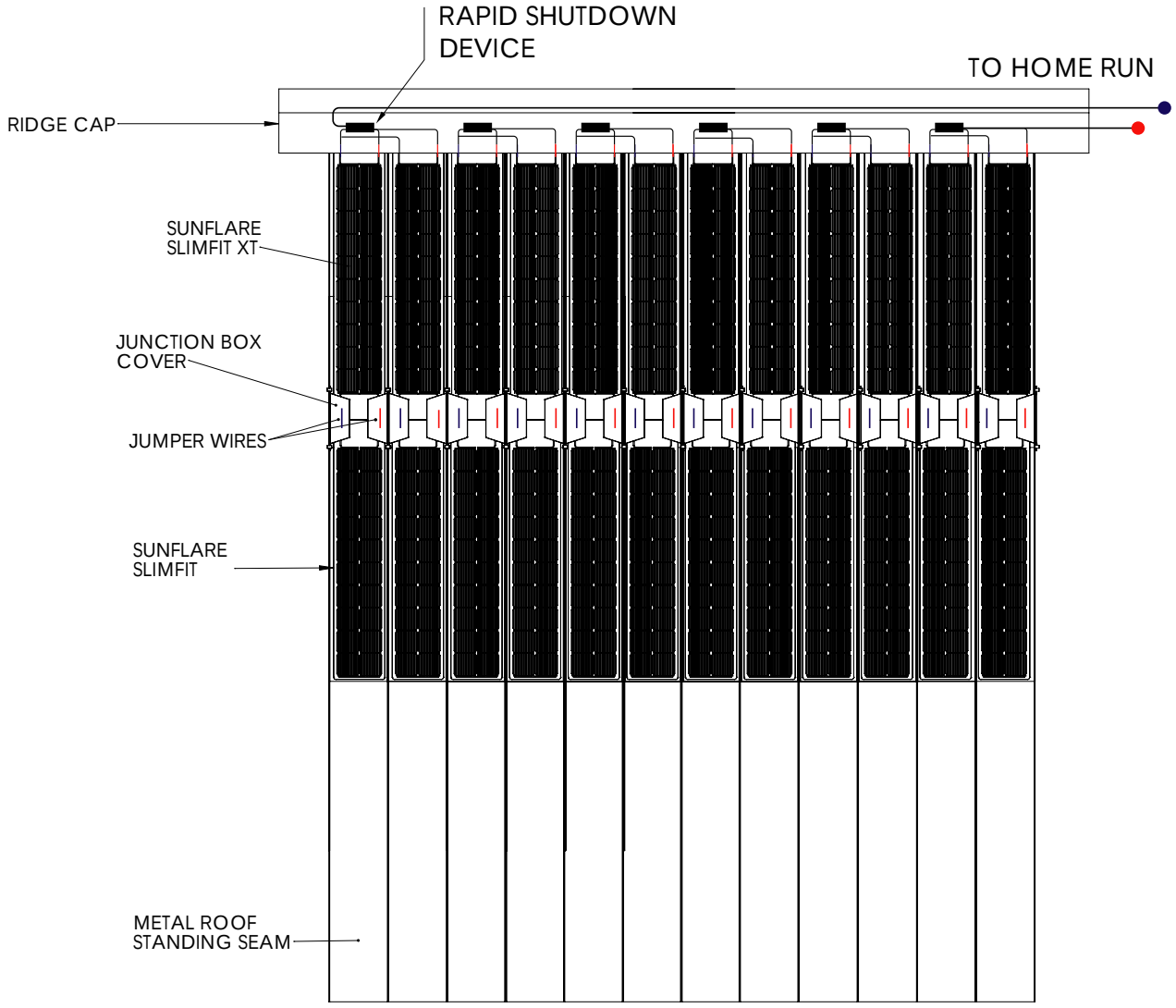


Figure 3. 1 SlimFitXT installed to the ridge and 1 SlimFit below connected with 12" jumper.

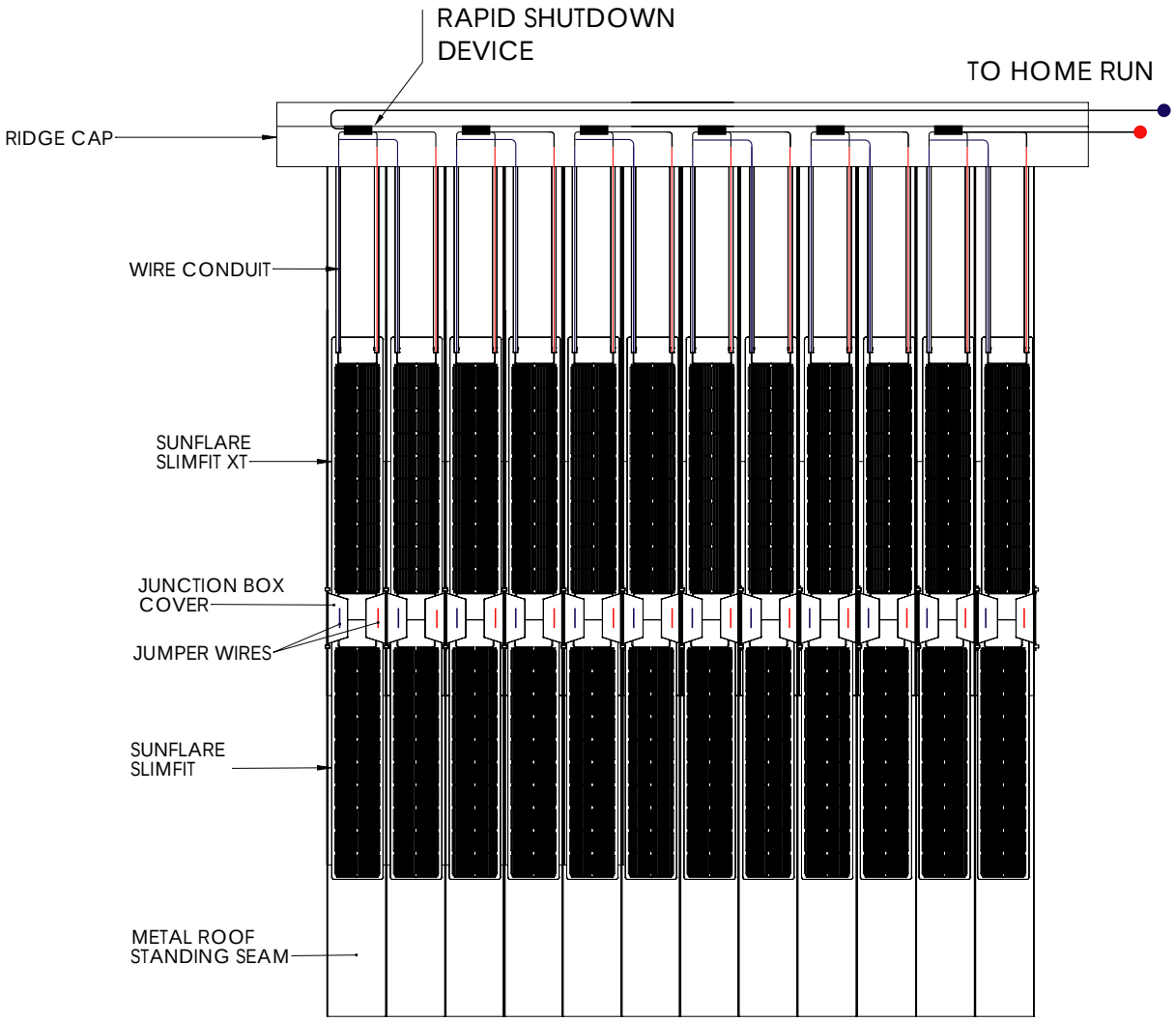


Figure 4. 1 SlimFitXT and 1 SlimFit with conduit to the ridge.

e. For 3-6 modules in a channel, follow suit by aligning SlimFitXT modules until the bottom module which will be a SlimFit.

f. Peel the adhesive backing off the module and apply pressure to the module to adhere it to the flat space. Use a rubber wheeled roller to ensure the proper pressure is applied to the module. **Do not skip this step! The Heliobond adhesive is pressure-activated.**

g. Continue lining up each module before removing the adhesive backing and installing it in the standing seam channel below the previous module.

h. Once all SlimFitXT modules have been adhered, and each vertical row terminating with a SlimFit is adhered, the short jumper cables can be connected. Connect the male and female ends of the Rapid Shutdown Device (RSD) or Multiple Level PowerElectronics (MLPE), such as an optimizer, in the void space under the ridge cap. Home run cables from the ridge cap to the meter and inverter will be completed by the installing electrician according to the SLD in the permit set.

i. When connecting the RSD or MLPE it is important to understand the voltage limitations with SlimFit modules. Be sure to consult with the RSD or MLPE spec sheets for voltage limitations.

j. The assignment of ancillary components such as inverters and MLPEs are the responsibility of the solar installer.

k. A small, simple RSD solution is the AP Smart RSD. No more than 6 modules should be connected in series to one AP Smart component. Any more than 6 will result in failure of the PV system.

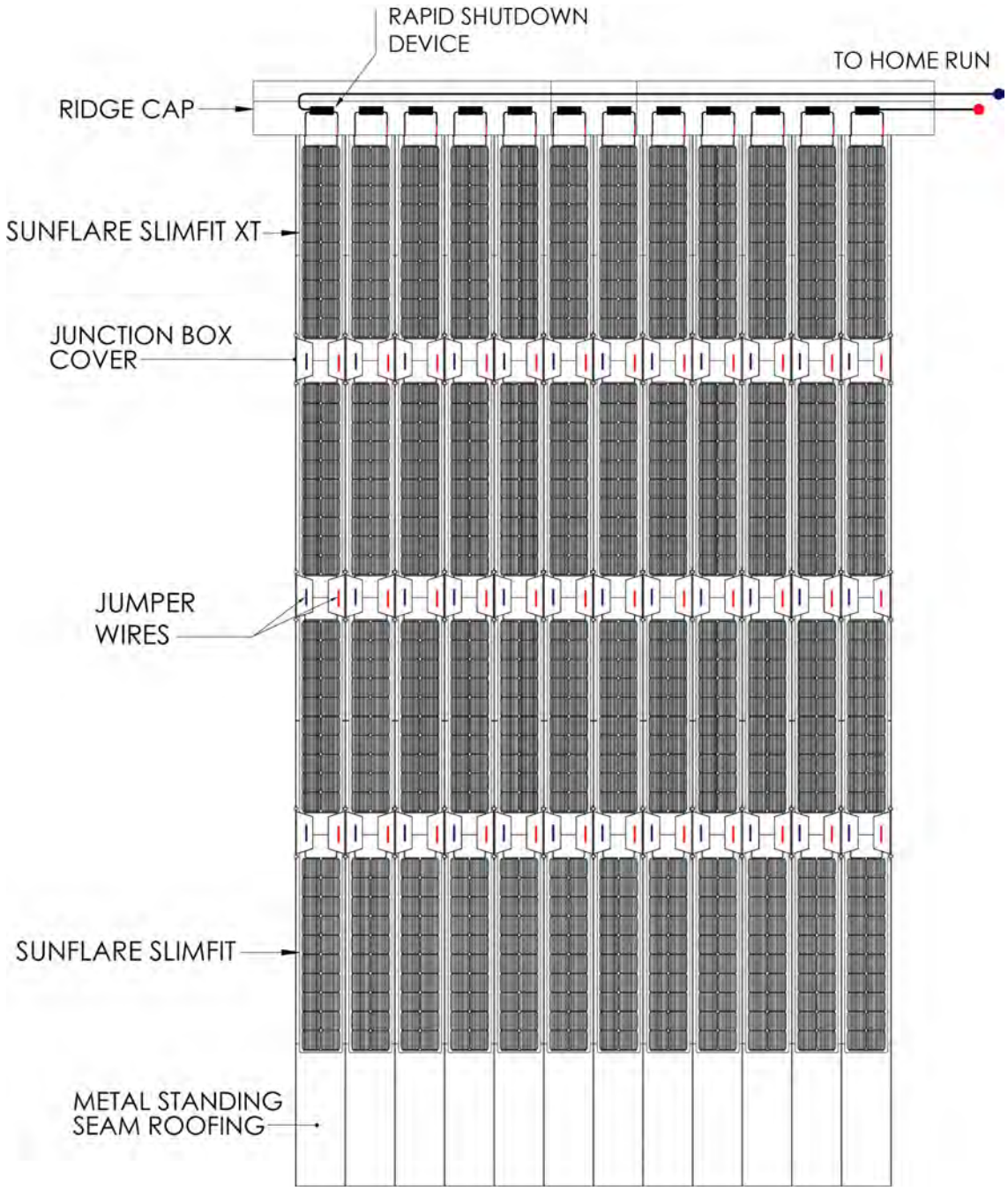


Figure 3: Modules installed up to the roof ridge so junctions will be covered by the ridge cap. Three rows of SlimFitXT, ending with 1 row of SlimFit modules

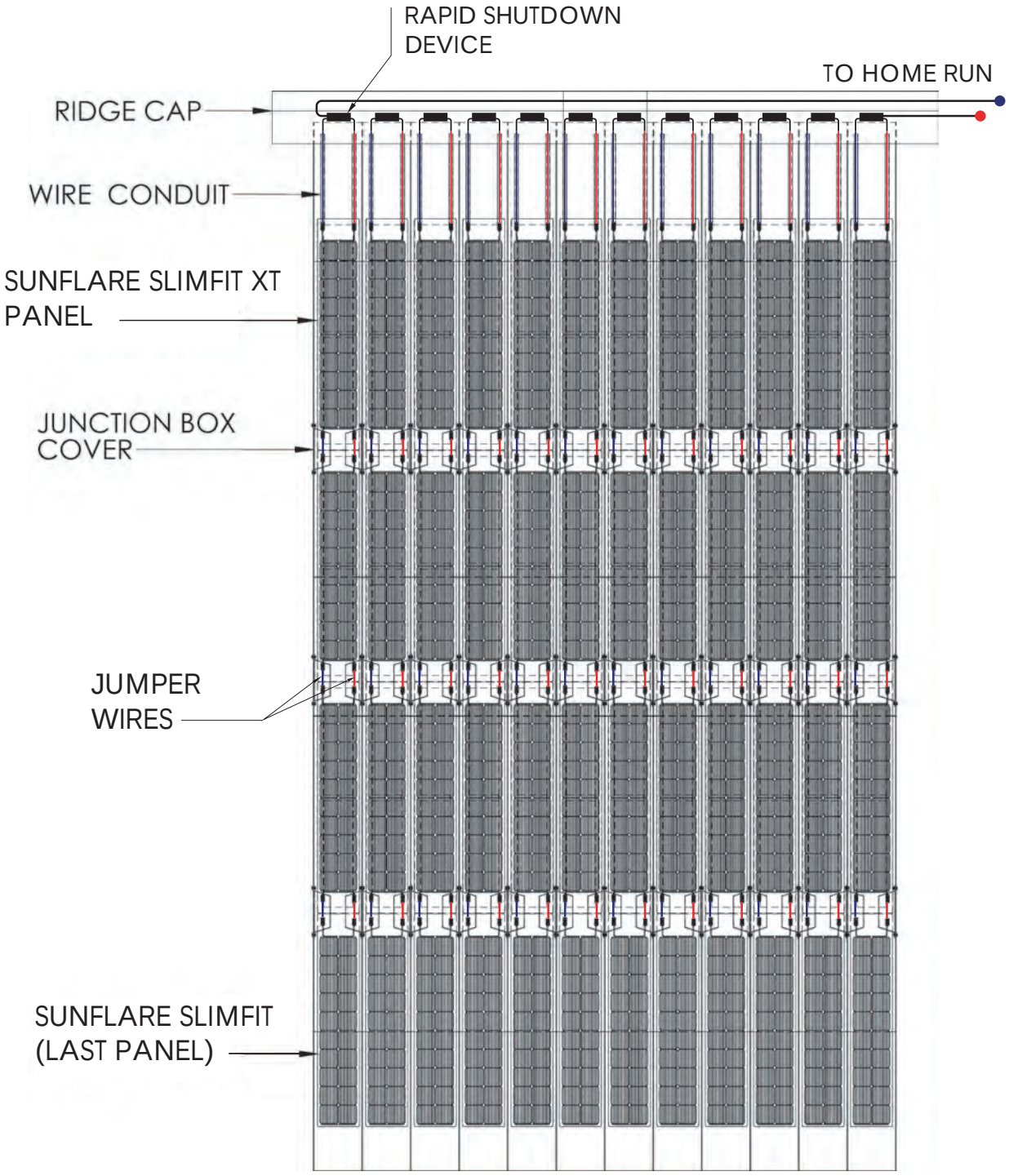


Figure 4: Modules installed with setback from ridge and Sunflare custom conduit. Three rows of SlimFitXT, ending with 1 row of SlimFit modules.

Roof Sections with No Available Ridgespace

For shed-type roof sections with no void space under a ridge cap, an alternative housing will need to be devised by the solar installer.

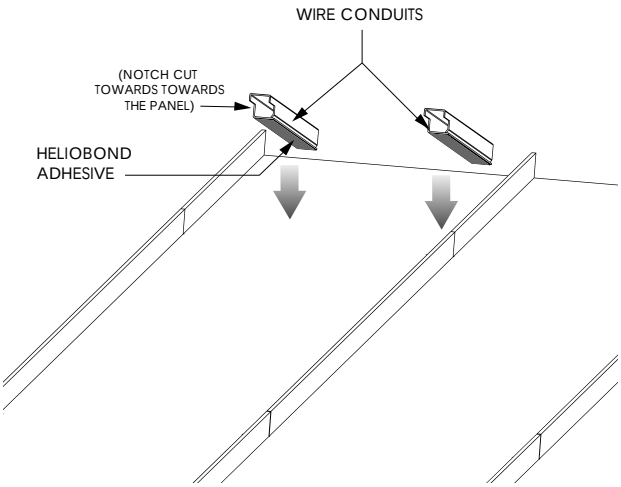
Please see this **link** for alternative options for housing cables and MLPEs. In addition, soffits or attic space may be utilized, in accordance with local fire and building codes.

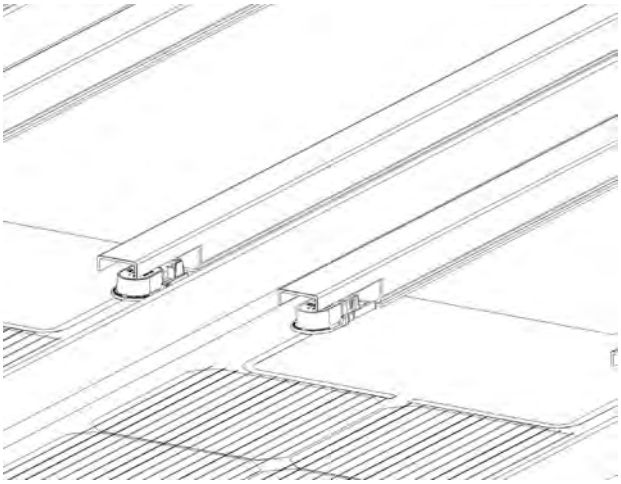
Optional Conduit Installation

Sunflare custom conduit is square, black UV resistant ASA material. Conduit pieces come in 5 ft. lengths and can be cut on site to accommodate modules that do not reach the ridge, or where setbacks from the ridge are required.

Each conduit piece has a notch cut on one end to cover the top junctions.

Sunflare conduit comes with peel and stick Heliobond pre-applied. (the same adhesive as the modules). Once installed, **the Heliobond must be activated by using the wheeled pressure rolled along the length of the conduit**. Additional silicone sealant may be used on the sides of the conduit if desired.

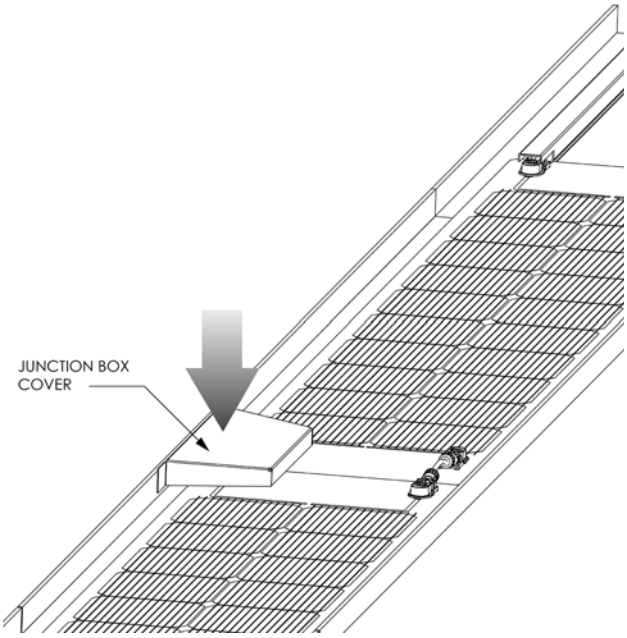




Junction Box Cover Installation

The SlimFit custom junction box covers are made of UV resistant ASA plastic material. They are placed on the metal standing seam, over each junction box + jumper cable connection, and held in place with a clamp and set screw.

The set screws in the clamps are the hex socket type and must be tightened to a torque of 20 in/lb.



Compatibility

The Sunflare SlimFit system is compatible with most name brand inverter systems/microinverters/ optimizers and energy storage systems (batteries). For more on specific component model compatibility, please refer to our Compatibility Listing **here**.

Electrical Installation

Whenever possible use the jumper cables provided by Sunflare. They are cut to the correct size and have the proper mating connectors for the modules.

The SlimFit system does not require grounding. The junction box cover is made of ASA plastic and is secured with metal clamps and set screws that do not come in contact with the solar module. Sunflare modules are double insulated and have no exposed metal components. Be sure to use only non-conductive polymeric wire management devices and components within the array. Using metal components could result in grounding requirements and a safety hazard.

Sunflare offers stamped electrical plans for a fee. If not using Sunflare's service, a licensed solar installer or electrician must prepare the electrical design to be included in the permit submission to the AHJ. The choice of inverters, rapid shutdown devices, optimizers or microinverters and the wiring scheme are the responsibility of the solar installer or electrician. Sunflare solar modules are compatible with all major brands of inverters and multi-level power electronics.

Please consult with the MLPE spec sheet and the SlimFit spec sheet for voltage limitations and installation.

Conductors

Use only USE-2 or UL 4703 "PV Wire" for jumpers and home run cables. These wires meet NEC requirements per Section 690.31 (C) for use in outdoor exposures in solar arrays. Minimum wire gauge is AWG 12 (4mm2). Use larger gauge wire (lower gauge number) for longer runs or where reduced electrical resistance is desired. Follow all NEC guidelines for wire size and installation requirements.

Connectors

Use only Multi-Contact MC4 plug connectors from Staubli (www.staubli-alternative-energies.com). Using any other connector with a Sunflare SlimFit module will void the warranty.

Fuses

All Sunflare SlimFit modules must be protected by appropriate overcurrent protection devices per NEC guidelines. The maximum series fuse rating for the SlimFit module is 12A. Follow all NEC guidelines for fuse rating requirements including size and type.

Connecting in Series

Only connect SlimFit modules in series strings and protect each series from other paralleled strings with proper overcurrent protection. If using the AP Smart RSD component, it is recommended that no more than 6 modules should be in series per component. No more than 20 AP Smart components should then be connected in series.

Maintenance and Repair

The Sunflare SlimFit module is designed for a 25-year life and under normal circumstances should require no maintenance. However, due to the wide variety of environmental conditions and installation practices it is recommended to have the system fully inspected by a licensed professional every 12-24 months.

Read these installation instructions thoroughly before inspecting or servicing a Sunflare SlimFit system. Inspection and service should only be carried out by qualified personnel using all appropriate OSHA recommended personal protection equipment. Disconnect the system prior to inspection. Replace any wires and connectors that show signs of wear or damage. Replace any WMS junction box cover that is damaged or significantly degraded. If a module is damaged, leave it in place. Do not attempt to remove the module from the roofing surface unless it poses an electrical risk. For module removal – the instructions in this **link** must be followed to avoid breaching the metal roof coating.

If service, inspection, or removal is required, disconnect the string of the module to be inspected from all other strings and use black out blankets to cover all modules in that string. Check that voltages are below 5V. Then, disconnect the module from the string and plug the ends of its junction box connections using the MC4 Staubli sealing caps PV-BVK4, and PV-SVK4. Then jumper around the module and reconnect the string.

If the damaged module has compromised electrical encapsulation it can be removed or encapsulated in place using a black silicone sealant. Sunflare will not be liable for roof damage if removing the module or for any issues that may arise from encapsulation by applying a sealant.

Cleaning

As is the case with all solar pv systems, Sunflare SlimFit modules will require periodic cleaning to remove dust, soot, bird droppings, sap, pollen, or other deposits on your modules that could lessen their power production. If cleaning is found necessary to achieve desired power performance, then it should only be cleaned by professional cleaners. Prior to cleaning the system, it must be inspected for safety and approved for cleaning by qualified personnel. Failure to inspect the system could lead to electric shock and possibly death.

Never use brushes, harsh detergents, or robotic cleaners intended for use on glass modules to clean the SlimFit modules. Do not use a power washer. Use only water with mild soap, and a soft sponge. Do not walk onto the array unless absolutely necessary. Do not walk on dirty modules or over clean modules with dirty shoes. Debris underfoot can damage the topsheet of the module leading to power loss and possibly module failure.

Mechanical Load Rating

For design purposes, ASC7-16 Section 30 “Components and Cladding” should be used for calculating the load requirements on the module. Do not use the photovoltaic specific paragraphs in Section 29 for load development on the SlimFit product. Those sections are only relevant to products that are mounted above the roof surface and thus do not apply to the adhered SlimFit modules. Set the effective wind area equal to one module.

Liability Limitation

Sunflare is not in control of the installation of the module and hence does not accept responsibility nor liability for damages arising from improper use, incorrect installation, operation, or maintenance of the product.

The information provided by this manual is based upon Sunflare’s knowledge and understanding and is believed to be correct and reliable. However, the customer is responsible for the installation, operation and maintenance of the product and any damage that might occur to the product or the roof as a consequence of those activities even if the customer followed guidelines and descriptions set forth in this manual. Sunflare takes no responsibility for material incompatibility between Sunflare components and non-Sunflare components, nor to any roofing products with which they may come in contact.

Sunflare accepts no liability for: damages, financial losses of any kind, business interruptions, or lost earnings, whether they be direct or incidental, as a result of the use of the information contained in these instructions, and whether or not they are based upon Sunflare’s negligence.

No suggestions, recommendations, power ratings, or any other guidance set forth in this document constitutes an expressed or implied warranty. Product warranties are not made in this document. Warranties are included in a separate warranty document, or through purchase agreements.

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Balance of System

Sunflare Array SlimFit and SlimFitXT modules require ancillary components and materials- some of which can be procured from Sunflare. Other components are available from various suppliers. This page should be used as guidance to ensure all the proper components are procured before installation begins

Metal Standing Seam Roof Width Requirement

For a SlimFit module to be properly installed, the width between the internal peaks of the seams must be at least 14.5" (measured on center).

SlimFit is only compatible with flat standing seam roofs. Any striations, ribbing, or other non-flat surfaces may prevent the module from adhering for the intended lifetime, as well as cause moisture and microbial build-up under the module.

SlimFit should only be installed on roof slopes of 40 degrees or less.

Any metal roofing gauge is OK - SlimFit modules are only 0.5 lbs. per sq. ft. and a total of 1 lb. per sq. ft. with the covers, clamps and jumpers.

Any standard metal roof coatings are OK, including zinc and copper. Non-stick Teflon-type coatings are not compatible.

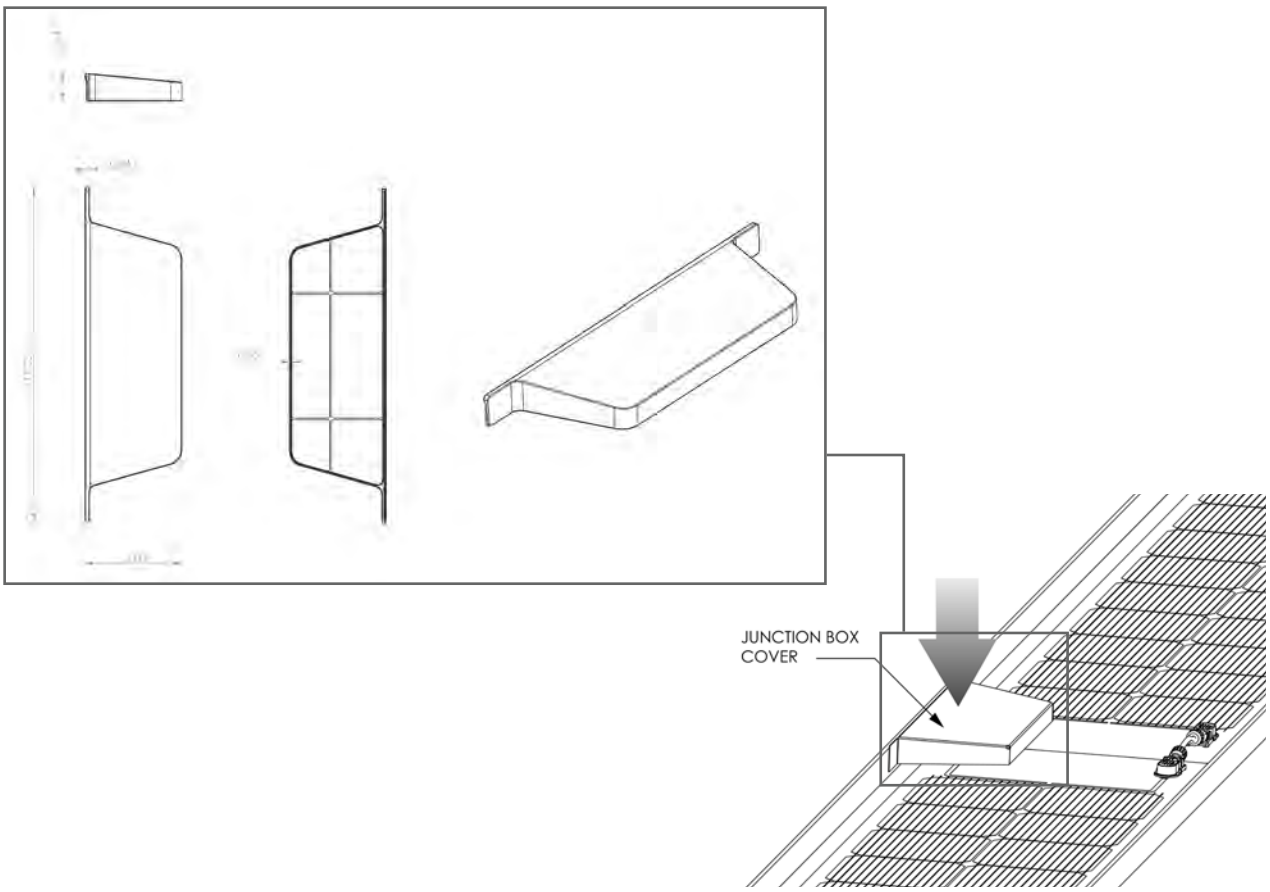
If the solar modules with Heliobond pre-applied have been stored for more than 12 months, a primer must be used on the roof surface to activate the adhesive.

Sunflare Components List

The following components must be purchased through Sunflare or a certified Sunflare supplier.

Junction Box Covers

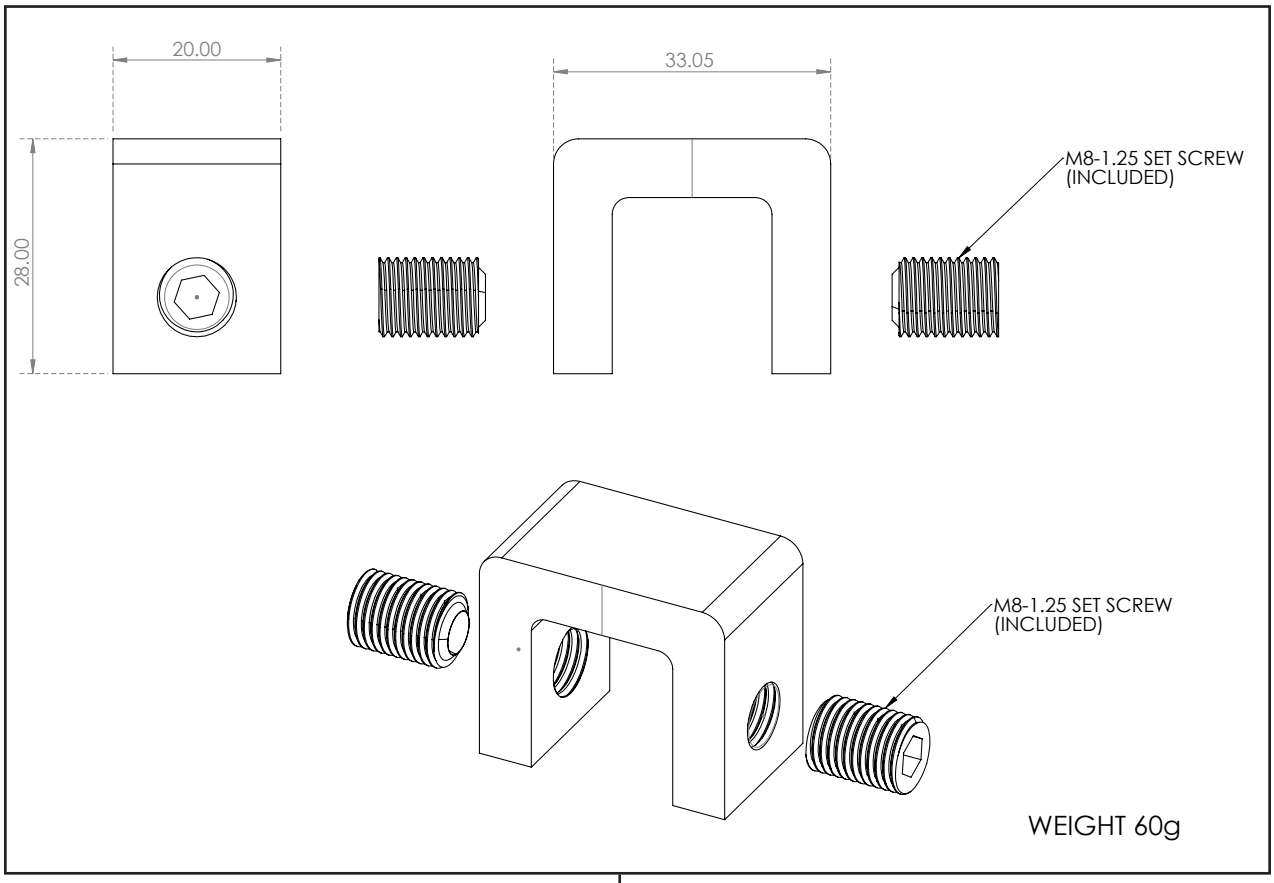
Black UV- resistant ASA material
2 pieces per SlimFit / SlimFitXT connection
Specs: 18.16" L x 5.44" W x 1.42" H

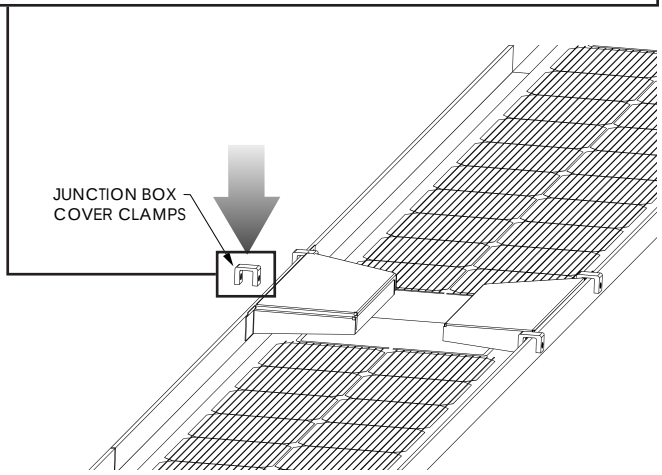


Clamps for Junction Box Cover

1 clamp per cover piece- 2 set screws per clamp (included)
Specs: 1.30” L x .79” W H

Metal clamps secure the covers onto the metal standing seams with set screws. The set screws in the clamps are the hex socket type and must be tightened to a torque of 20 in/lb.





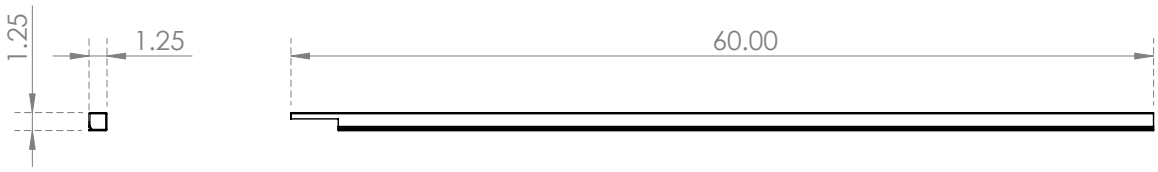
Custom Conduit with Junction Notch (optional)

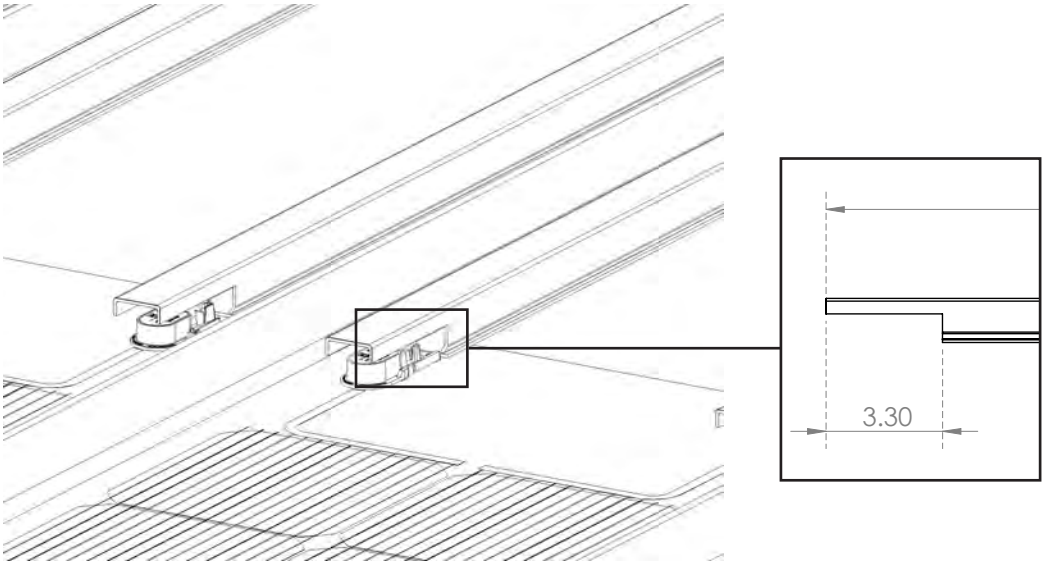
For use where modules do not reach roof ridge or where setbacks are required. Heliobond on the back. UV-resistant black ASA material.
2 per module.
Specs: 60” L x 1.25” W

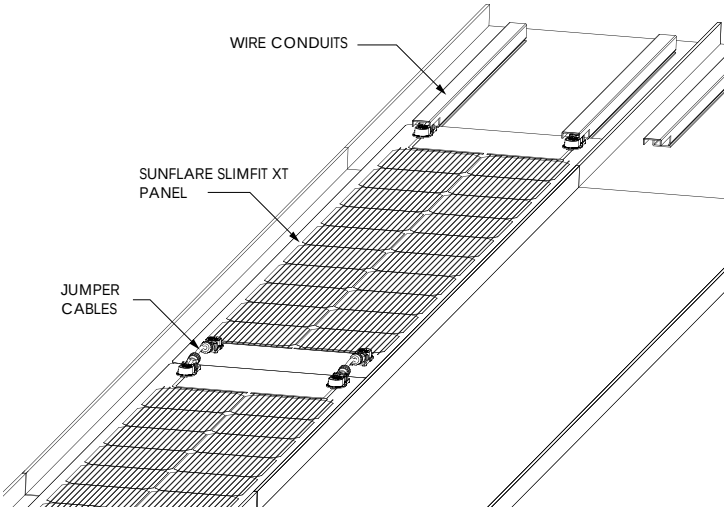
SlimFit custom conduit is black, square, UV-resistant ASA material. It comes with Heliobond pre-applied on the back to adhere to the metal roof, in areas where modules cannot reach the ridge or setbacks from the ridge are required.

The conduit comes in 5 ft. lengths and can be cut on site if needed.

A cut-out on one end fits over the top junction in lieu of a j-box cover as shown below.







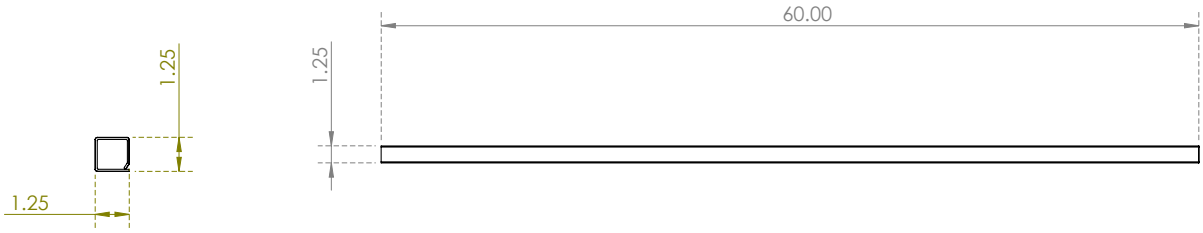
Custom Conduit without Junction Notch (optional)

UV-resistant black ASA material. Heliobond on the back.

Can be used in conjunction with the Sunflare conduit with junction notch if the module is installed more than 5 feet from the ridge. May be used for other rooftop conduit needs that do not involve a module junction box.

Specs: 60” L x 1.25” W

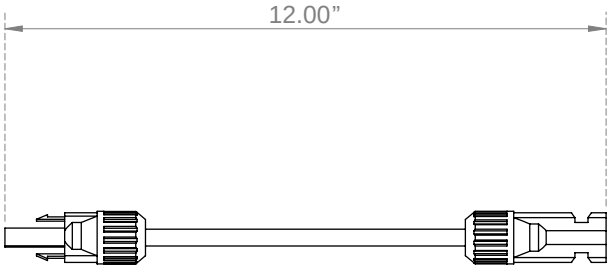
SlimFit custom conduit is black, square, UV-resistant ASA material. It comes pre-applied with Heliobond on the back to adhere to the metal roof. The conduit comes in 5 ft. lengths and can be cut on site if needed.



12” Jumper Cable

Specs: 12” long. 10AWG PV wire with MC4 heads

Pre-cut MC4 PV cabling for daisy chain connections between two adjacent modules and from the top module junction boxes into the MPLE. This cable will be housed underneath the junction box cover on the roof, or under the roof ridge cap along with the MLPEs and homerun cables.



OTHER REQUIRED COMPONENTS NOT PROVIDED BY SUNFLARE

Inverters
The Sunflare SlimFit system is compatible with all major brands of inverters. Solar installers are encouraged to use the ancillary components of their choice. Always consult component and Sunflare spec sheets for voltage limitations and other technical information.

Multi-Level Power Electronics (MLPEs)
Most SlimFit installations will utilize the void space under the ridge cap to house cables and MLPEs such as optimizers, microinverters or rapid shutdown devices The smallest and simplest rapid shutdown device for this is the AP Smart RSD.

AP Smart System Component RSD-S-PLC (1 unit per 4-6 SlimFit modules)
Specs: 129 x 30 x 16 mm

Allows for the rapid shutdown of the PV system while meeting the NEC 2017 and 2020 requirements. This device will be attached underneath the ridge cap of the building and connected to each row of modules per seam.

Wiring for homeruns
Extra PV wiring will be needed to complete the SlimFit array. This wiring will be needed for the final homeruns going to the inverter. Ensure that the appropriate gauge cable is used depending on the array size.

The following materials are also required for a SlimFit installation.

- Isopropyl Alcohol under 70% and microfiber rags for roof cleaning
- Pressure roller for applying pressure to the module
- Combiner boxes
- Interior conduit to run from ridge cap to inverter and electric meter
- Rapid Shutdown wall switch
- Proper PV system labels as required by NEC
- If modules with the Heliobond on the back have been stored for over 12 months, a primer must be used on the install surface to activate the adhesive.
    - Recommended: Millennium Single-Ply Primer

Contact Information

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