Sollega™

FastRack 510™

Installation Manual 5,6 & 10°

Rev 6/26

www.Sollega.com | (415) 648-1299 | info@sollega.com

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Sollega™
The Simple Solar Racking Solution™

Introduction:

Our mission is to provide innovative Solar PV Racking solutions that are intuitive, durable and cost effective. Our goal is to enable the installation of solar PV on every suitable flat roof/ground mount in the world.

Sollega simplifies and accelerates the adoption of solar energy technologies by reducing the mounting and installation costs associated with solar arrays. Our FR510-6 solar mounting system reduces installation time and overall project costs associated with the installation of solar PV.

As the solar industry expands at a quicker rate, speed of deployment is key to meeting demand. We see installation and labor as the logical steps to reducing costs. Our one-piece injection molded FR510-6 arrives to the job site ready to install requiring no assembly. Our systems are efficient to ship, stage and install.

Product Profile:

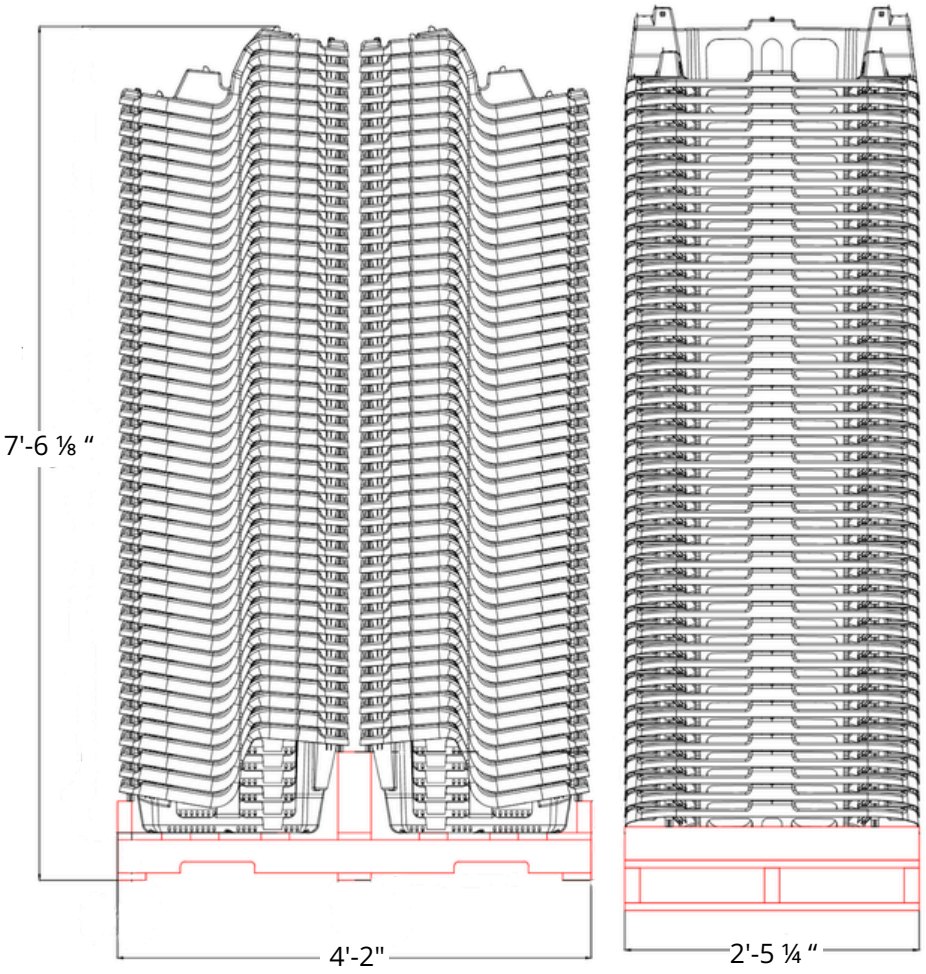
Sollega designs, tests, and manufactures solar mounting solutions. We injection mold our racking in Baldwin Park, California. The FastRack (FR510-6) is a patented, one-piece, injection molded solar racking system designed for both commercial low-pitch (<7dg) roofs and ballasted ground mount installations. It is injection molded utilizing Glass-filled Nylon for strength and durability in a lightweight part (4.6 lbs). We provide a 25 year warranty. It is designed for simple assembly and disassembly at the end of its useful life and is 100% recyclable (#7 Other).
Sollega FR510-6 is compatible with most common solar panels currently on the market. Our universal design enables the installation modules in landscape orientation. All attachments are top down with one size tool (1/2” socket), enabling easy installation. We look forward to providing you the highest quality, most cost effective solar racking solution available.

Sincerely,
Elie Rothschild, CEO

Receiving & Inspection Checklist

Upon delivery:
Our pallets ship on a bespoke pallet and arrive shrink wrapped for protection. FastRacks arrive in stacks of 90 with hardware pre-installed.

Fig. 1 Pallet Dimensions



- *90 FastRacks on a Pallet ≈ 25 kW*
  ***Total Weight** ≈ 470 Lbs (213kg)*

- *40' Container - (550W) Modules ≈ 1 MW*
  ***Total Weight** ≈ 12,690 Lbs (5,756kg)*

- *53' Container - (550W) Modules ≈ 1.4 MW*
  ***Total Weight** ≈ 16,920 lbs (7,675 kg)*

Upon delivery:
Missing or damaged items must be reported within 24 hours of receipt of the order. Products will be considered returnable only within 90 days following receipt of the order; provided, however, special orders (i.e., custom orders as so labeled by Sollega) may not be returned to Sollega. Returned product must be in original packaging, unused, in acceptable condition for resale, and in production at the time of return. Buyer agrees to pay a restocking fee equal to 25% of the total cost of the order plus shipping cost on all accepted returns

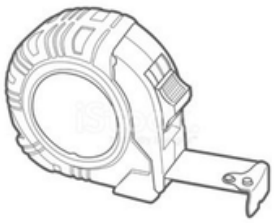
Getting Started (Read First)

Required Tools: 3/8” Socket Wrench & 1/2" Socket, 1/4" Calibrated Torque Wrench (20-240 in-lbs.), 3/8" Calibrated Torque Wrench (5-100 ft/lbs), Tape Measure, Flathead Screwdriver, Chalk. Required Torque 8 ft-lbs (≈ 10.8 N·m, 96 in-lbs)

Note: Visually Confirm teeth on serrated flange nut (FR-N) have bit into the top of the aluminum end clamp (FR-EC) when tightened to 8ft-lbs (≈ 10.8 N·m 96 in-lbs)

3/8” Socket Wrench

1/4", 7/16", & 1/2" Sockets for 3/8" Socket Wrench and 1/4" Inch-Pound Click Torque Wrench

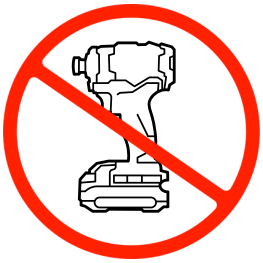


Tape Measure

Chalk Line

3/8" Calibrated Torque Wrench 5-100 ft/lbs.

1/4" Inch-Pound Click Torque Wrench 20-240 in-lbs.



NO Impact Drivers

NO High Speed Drills

Avoid using impact drivers or high speed drills which can result in galling (cross threading) of the stainless fasteners.

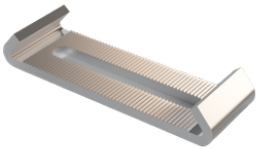
FastRack 510-6™

-100% U.S. Manufactured

FastRack 510-6dg

FR510-6dg PV Mount

Description	Shipping Weight
FR510-10° Stainless 304 Hardware Installed FR510-5° Stainless 304 Hardware Installed FR510-6° Stainless 304 Hardware Installed FR510-10° Stainless 316 Hardware Installed FR510-5° Stainless 316 Hardware Installed FR510-6° Stainless 316 Hardware Installed	90 pcs/pallet (470 Lbs 213kg)



FR-Pull Clamp

FR-PC-A

SKU	Description
FR-PC-A	FASTRACK PULL CLAMP ALUMINUM 6061 131-01366

FR-End Clamp

FR-EC

SKU	Description
FR-EC-118A (30mm)	FASTRACK END CLAMP 1.18" (30mm) ALUMINUM
FR-EC-122A (31mm)	FASTRACK END CLAMP 1.22" (31mm) ALUMINUM
FR-EC-126A (32mm)	FASTRACK END CLAMP 1.26" (32mm) ALUMINUM
FR-EC-130A (33mm)	FASTRACK END CLAMP 1.30" (33mm) ALUMINUM
FR-EC-138A (35mm)	FASTRACK END CLAMP 1.38" (35mm) ALUMINUM
FR-EC-150A (38mm)	FASTRACK END CLAMP 1.50" (38mm) ALUMINUM
FR-EC-157A (40mm)	FASTRACK END CLAMP 1.57" (40mm) ALUMINUM
FR-EC-177A (45mm)	FASTRACK END CLAMP 1.77" (45 mm) ALUMINUM
FR-EC-181A (46mm)	FASTRACK END CLAMP 1.81" (46 mm) ALUMINUM
FR-EC-197A (50mm)	FASTRACK END CLAMP 1.81" (50 mm) ALUMINUM

Eco Standard Aluminum Rail

Eco Standard Aluminum Rail - 9 FT (108")

SKU	Description
Eco Standard Aluminum Rail - 10 FT (120"/3.05m) Eco Standard Aluminum Rail - 9 FT (108"/2.75m) Eco Standard Aluminum Rail - 5 FT (60"/1.52m) Eco Standard Aluminum Rail - 3.5 FT (42"/1.07m) Eco Standard Aluminum Rail - 2.5 FT (30"/.76m)	ECO Standard RAIL Mill Finish Silver Aluminum. -6063-T5 extruded aluminum alloy

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FastRack 510-6™

FR-Ecorail splice kit

Eco Standard Rail Splice Kit

SKU	Description
FR-Ecorail splice kit	SWH 6" (152.4mm) Grounding F splice bar for standard and ecolite rails, with 4 SS self tapping screws, mill finish

FR-Carriage Bolt

FR-CB

SKU	Description
FR-CB-S304 Vista FR-CB-S316 Vista	FR-Carriage bolt Stainless 304 5/16" x 1.25" (8mmx32mm) CARRIAGE BOLT 18-8 Stainless Steel 316

FR-L-Foot

FR-L-Foot

SKU	Description
FR-L-Foot 3" with 3/8" mounting hole	3" (76mm) L FOOT with 3/8" (9.5mm) hole Aluminum

FR-L-Foot

FR-L-Foot

SKU	Description
FR-L-Foot 3" with 5/16" mounting hole	3" (76mm) L FOOT with 5/16" (8mm) hole Aluminum

Serrated Hex Flange Nut

FR-N

SKU	Description
FR-N-S304 Vista	5/16-18 SERRATED HEX FLANGE NUT Stainless 304
FR-N-S316 Vista	5/16-18 HEX FLANGE NUT W/SERRATIONS Stainless 316

Nylon Lock Nut

FR-NLN

SKU	Description
FR-NLN-S304 FR-NLN-S316	3/8-16 NYLON INSERT L/N Stainless 304 NYLON INSERT LOCK NUT 316 Stainless Steel

Slide-On Bonding Jumper

FR-SBJ

SKU	Description
FR-SBJ	SLIDE-ON BONDING JUMPER SRPN 131-01367

Ground Lug

FR-SGB-4

SKU	Description
FR-SGB-4 GROUND LUG	FR - SGB-4 GROUND LUG

T-Bolt/Nut

FR-T-Bolt/Nut (15.5mm 0.61") M8 stainless

SKU	Description
FR-T-Bolt/Nut (15.5mm) M8 stainless	T Bolt: M8x25 (15.5mm/17.4mm diagonal) w/stainless serrated flange nut

T-Bolt/Nut

3/8" T-Bolt/Nut S304 S304 (Ø 9.5 mm M10 approx)

SKU	Description
3/8" (9.5mm) T-Bolt/Nut S304	3/8" (9.5mm) T-Bolt/Nut Stainless 18-8

T-bolt/nut 1/4"

FR-T-bolt/nut 1/4" (for inverter mount)

SKU	Description
FR-T-bolt/nut 1/4"	1/4" (6.35 mm) T-Bolt/Nut Stainless 18-8 (for inverter mount)

Square Washer

FR-SQW Vista

SKU	Description
FR-SQW Vista	SQUARE WASHER 18-8 S/S - SRPN 131-10017

Cable Tie

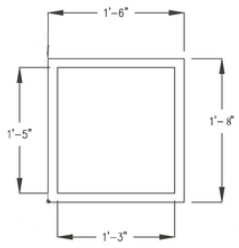
FR-Solar Rated Cable Tie 8" (203mm)

SKU	Description
FR-Solar Rated Cable Tie 8"	8" (203mm) 50LB (22.7kg) Nylon 12 Solar Tie Black UV Resistance - Heat Stabilized"

Edge Clip

FR-W-CLP

SKU	Description
FR-W-CLP	EDGE CLIP UV Rated Nylon



Slip Sheet

FR-SlipSheet (1'6"x1'8") (0.46mx0.51m) TPO

SKU	Description
FR-SlipSheet (1'6"x1'8") (0.46mx0.51m) (TPO, EPDM, KEE, BUR, PVC)	Slip Sheet (1'6"x1'8") (0.46mx0.51m) TPO Slip Sheet (1'6"x1'8") (0.46mx0.51m) EPDM Slip Sheet (1'6"x1'8") (0.46mx0.51m) KEE Slip Sheet (1'6"x1'8") (0.46mx0.51m) BUR Slip Sheet (1'6"x1'8") (0.46mx0.51m) PVC

FastRack 510-6™

Flat Washer

FR-W3-S304, FR-W3-S316

SKU	Description
FR-W3-S304 FR-W3-S316	FLAT WASHER SS 3/8" (9.5mm) FLAT WASHER 316 Stainless Steel 3/8" (9.5mm) I.D.

Rock-It Clip

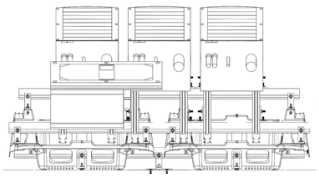
ROCK-IT CLIP 2.0

SKU	Description
ROCK-IT CLIP 2.0	ROCK-IT CLIP 2.0

Sting Inverter Mount

String Inverter Mount Kit

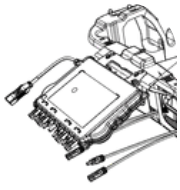
SKU	Description
FR510-SIM + FR510-6	FR510 String Inverter Mount with (4x) 2.5' EcoLite Aluminum Rail, (8x) L Feet and (4x) FR-N, (8x) 1/4" T-bolt w/nut (8x) M8 T-Bolt/Nut S304 FR510-6dg Stainless 304 Hardware Installed



Solaredge Inverter Mount

FR-Solaredge Inverter Mount (50- 120 kW)

SKU	Description
FR-Solaredge Inverter Mount (50- 120 kW)	String Inverter mount for SE50KUS, SE100KUS, SE120KUS (SolarEdge). *(must include 2x FR510-10 buckets and small pallet per). 20x FR-L-Foot 3" with 5/16" mounting hole, 8x FR-N-S304 Vista, 20x FR-T-bolt/nut 1/4", 4x EcoLite Aluminum RAIL -2.5FT, 2x EcoLite RAIL - 3.5FT, 2x EcoLite Aluminum Rail - 5 FT (60")



Inverter mount APsmart/Yotta

FR-inverter mount APsmart/Yotta

SKU	Description
FR-inverter mount APsmart/Yotta	Microinverter mount for APS QT2 and Yotta DPI (208V or 480V), G90 galvanized sheet metal. attaches to FR510-6dg racking, no tools required for installation.

Mechanical Anchor Assembly

Mechanical Anchor Assembly 240425

SKU	Description
FR-MAA	Mechanical Anchor Hardware Assembly - 3" L-Foot 5/16" (2x), 3" L-Foot 3/8" (1x), M8 T-Bolt/Nut (3x), FR-CB (2x), FR-N (2x), FR-NLN (1x), FR-W3 (1x). FR-SQW (2x)

Half Pallet

FR-Pallet 25"x32"

SKU	Description
FR-Pallet 25"x32"	FR510 25"x32" Wood Pallet with stacking supports

Full Pallet

FR-Pallet 50"x32"

SKU	Description
FR-Pallet 50"x32"	FR510 50"x32" Wood Pallet with stacking supports

U2000

FR-MA U2000-KEE, PVC, TPO

SKU	Description
FR-MA U2000-KEE, PVC, TPO	U-Anchor 2000

U2400

FR-MA U2400-EPDM, KEE, PVC, TPO

SKU	Description
FR-MA U2400-EPDM, KEE, PVC, TPO	U Anchor 2400

U2600

FR-MA U2600 BUR, Rolled Comp

SKU	Description
FR-MA U2600 BUR, Rolled Comp	U Anchor 2600

U2800

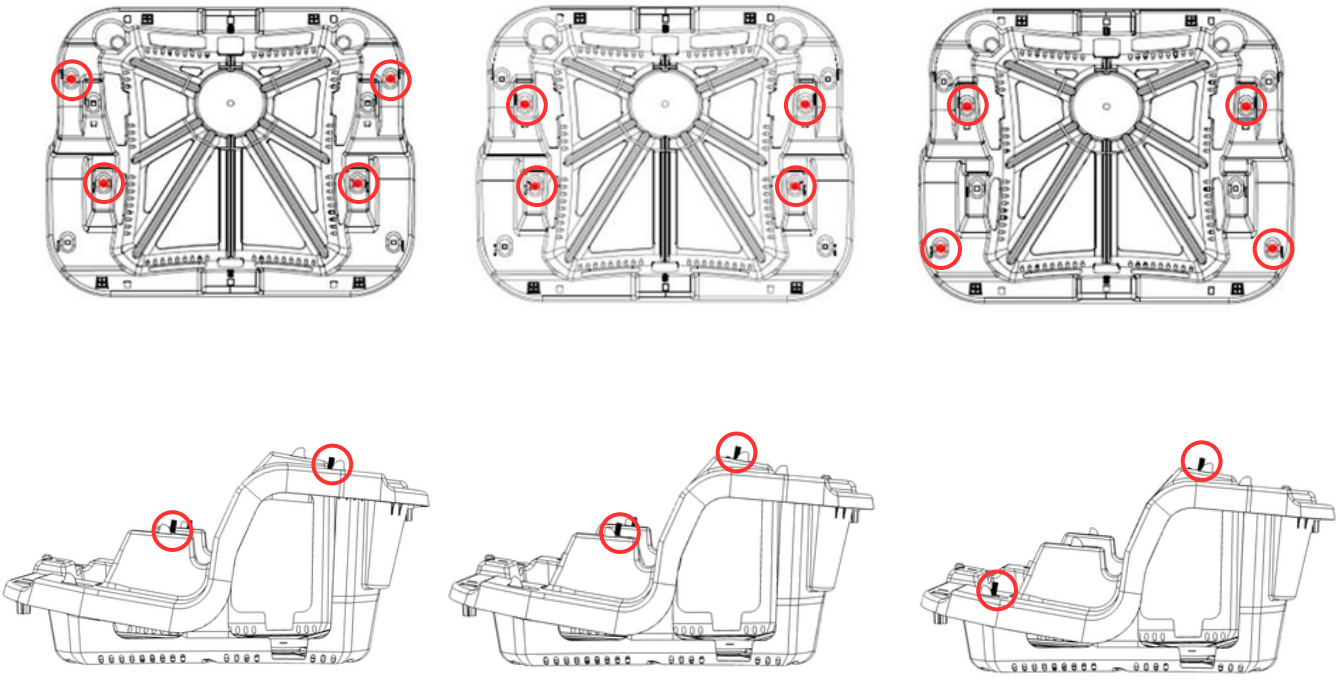
FR- MA U2800-Coatings

SKU	Description
FR-MA U2800-Coatings	U Anchor 2800 (roof coating systems)

Installation Process

The Sollega FastRack 510 (FR510-6) Hybrid (Ballasted and/or Anchored) racking solution is a **"Build As You Go"** system. The FR510-6 ships with four bolts pre-installed in specific locations on the bucket providing a 5dg, 6dg or 10dg tilt (see below). The FR510-6 is engineered to install on flat roof (<7dg) and ballasted ground mounted Photovoltaic (PV) solar arrays. **For ground mounts,** skip to pages 32-33 and then come back to learn how to arrange and wire your FR510-6dg supported array.

Note: Do not remove preinstalled bolts unless you are changing the tilt/IR spacing on-site. Bolt locations below and on spec sheet.



5° (10" Inter-row, 8" Leading Edge)

6° (8" Inter-row, 8" Leading Edge)

10° (13" Inter-row, 6" Leading Edge)

Fig. 2 FR510-6 Pre-Installed Bolt Locations

Lifting and Staging the FR510-6

Start installation on the far end of the roof opposite the roof loading (crane, all grade, forklift) location. Pallet dimensions are 50”x32”x91” (1.27m × 0.81m × 2.31m) H consisting of two stacks of (45) FR510-6's and weights (470lbs). When lifting to the roof ensure the pallets are strapped to the lift. Roof can be staged in single pallet (20-25 kW increments) as per the engineered layout. If a staging plan is required, please contact engineering@sollega.com.

Note: Lay the pallets down on the roof to avoid damage from wind. We recommend not unpacking until ready to install. Do not leave individual FR510-6s on roof without ballast.

Fig 3 Lifting Pallet

Step 1: Build-as-you-go

Measure the distance from the edge of the parapet and mark the required setback as per engineered plans with a chalk line. Position first row of FR510-6s in alignment with setback. The key here is to build out the array (racking, modules, ballast block and mechanical anchors) as you go, keeping the roof open for easy access to the array and minimizing trip obstacles and enabling a quicker installation. If array is facing south the first two rows of FR510-6's will be positioned in E-W direction.

Note: you can build the system E->W or W->E depending on roof loading location. You can also build the system in columns which would be N-S. It is critical to properly align this first row or column as subsequent rows or columns are aligned by spacing of the module against the reference tabs on the FR510-6 (See Fig.10)

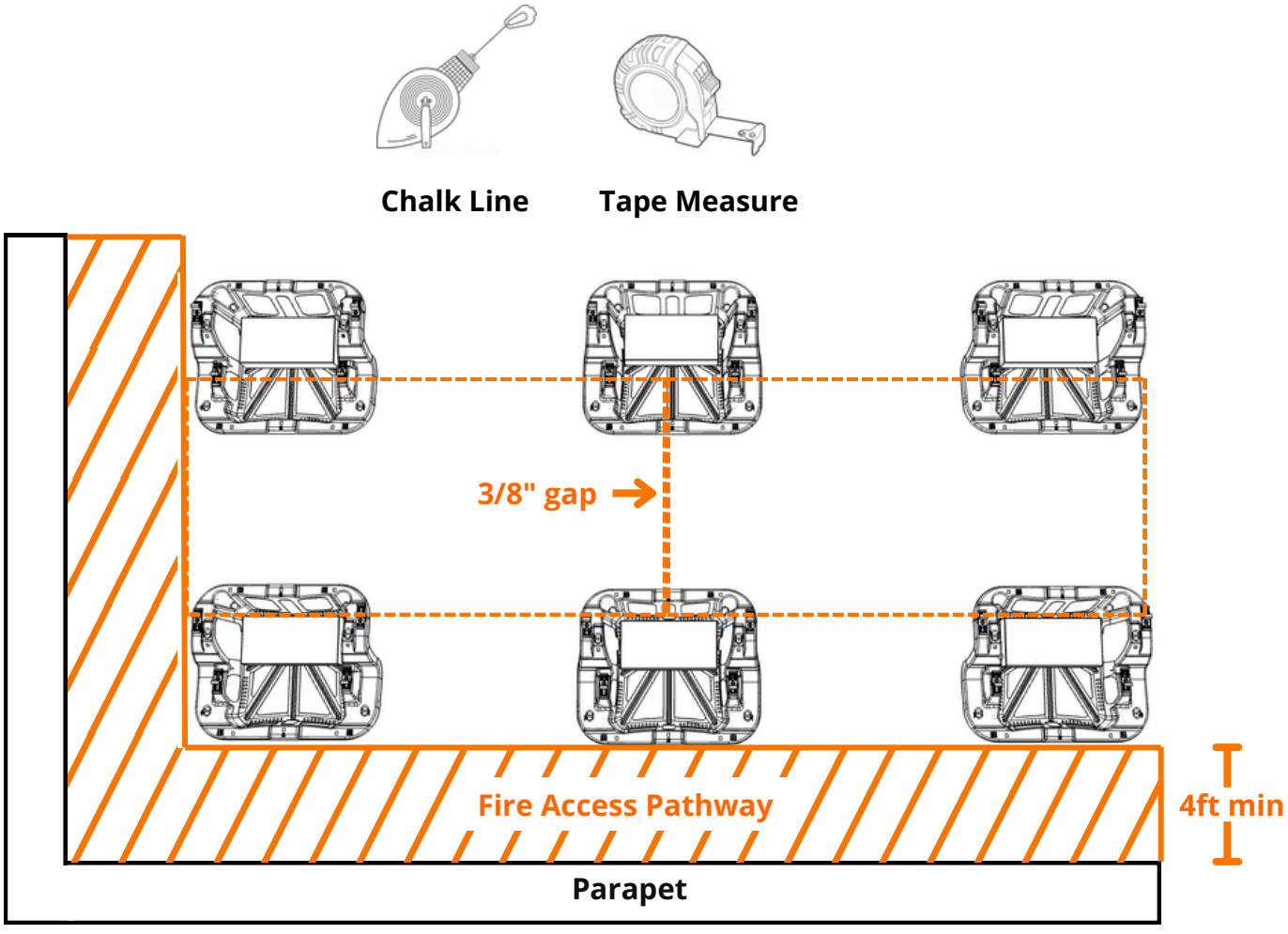


Fig. 4 Build-As-You-Go

When installing the first two rows of buckets and first row of modules, it is helpful to put one ballast block in the FR510-6's to keep the racking from moving around. It may be helpful to use a module and the reference tabs for spacing. See Figs. 10-12.

Once the first row is positioned and all fasteners are tightened install the ballast as per Sollega provided ballast schedule. This locks the first row of modules down and enables proper placement of the second row of modules. Repeat process until the array is complete. **Note: All FR510-6's must have at least one ballast block or mechanical anchor attachment installed (Mechanical Anchor Details see Pg. 16).**

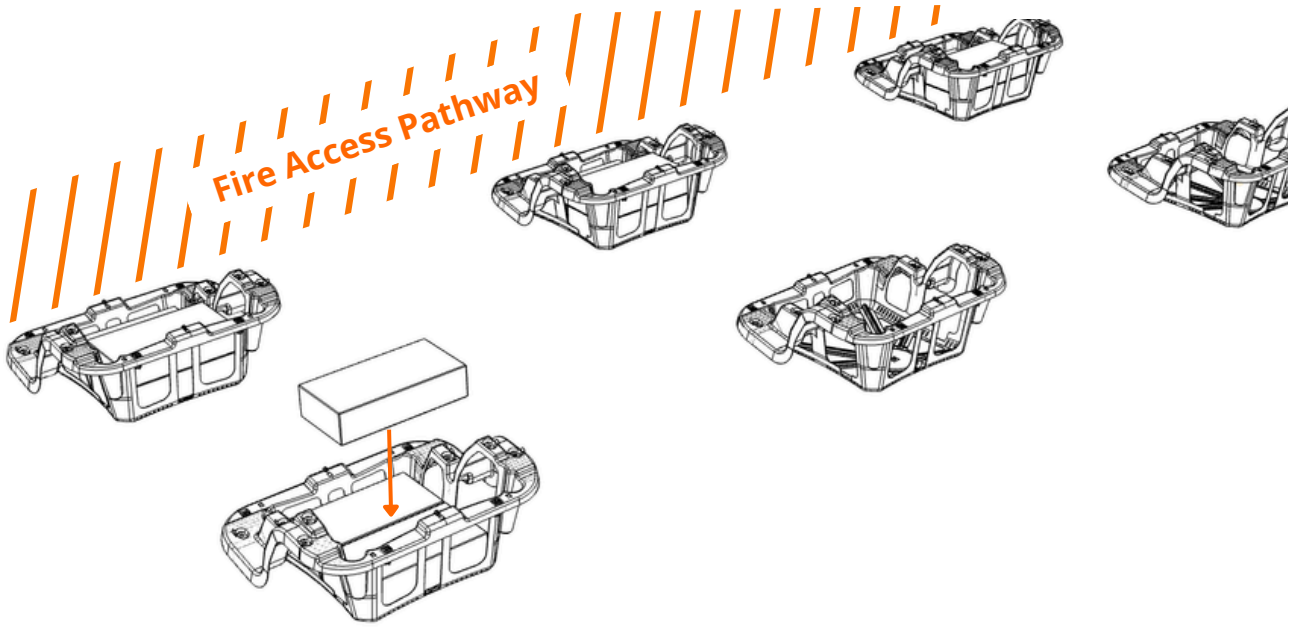
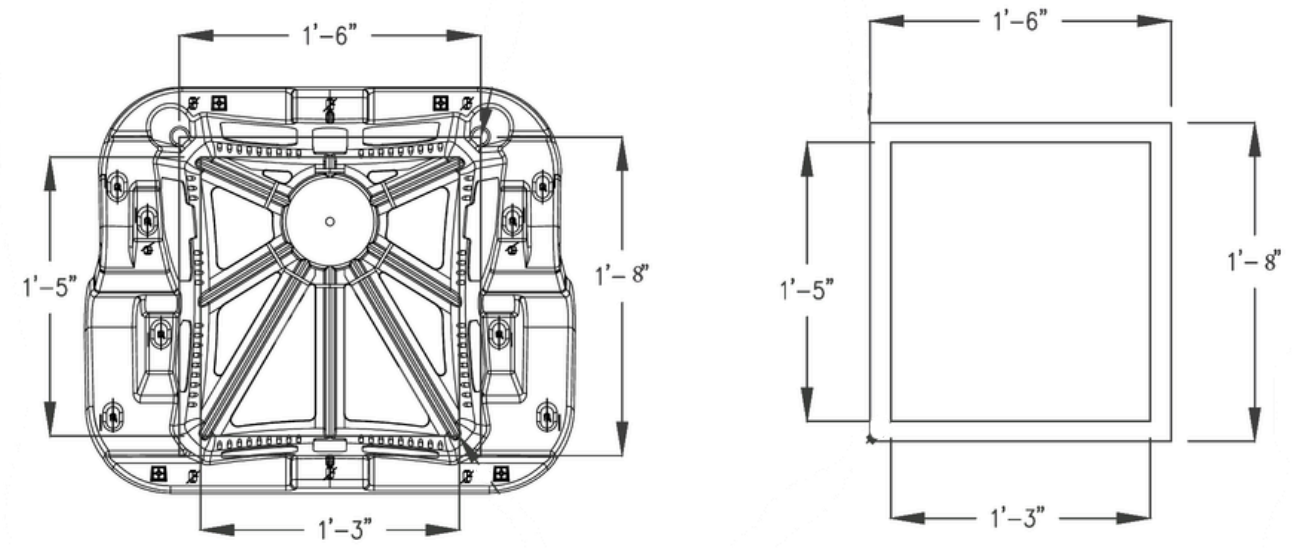


Fig. 5 First two rows aligned

Note: FR510-6's located at the ends of rows are pushed underneath the modules. The module can cantilever past the FR510-6 based on the clamping zone requirements as per the module manufacturer.

Slip Sheet Installation (Rooftop Only)

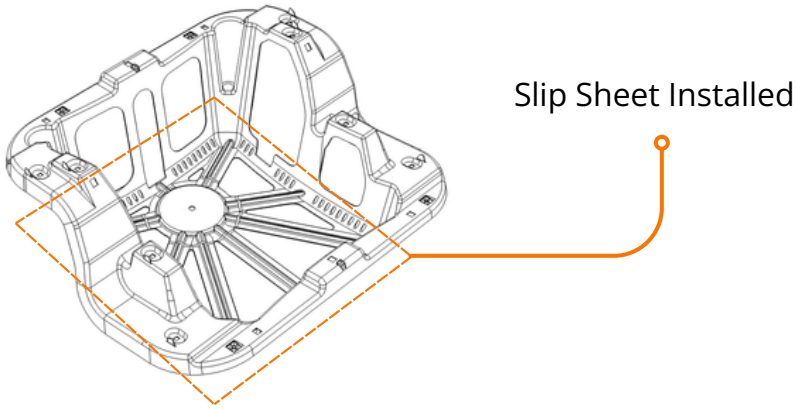


FR510-6-10dg 304/316

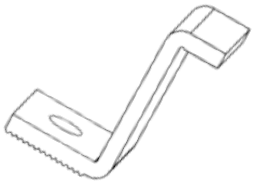
FR-SlipSheet

Fig. 6 Slip Sheet Installation

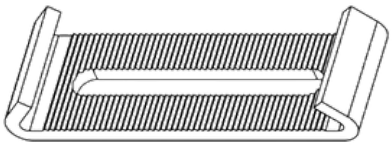
We recommend following the roofing manufacturer's guidelines. Slips sheets slip sheets cut to size of the specific roofing material (BUR, TPO, PVC, KEE, EPDM) and roof manufacturer. Slip sheets are placed directly underneath FR510-6's, and can be fixed or loose depending on the roofing manufacturers guidelines.



Step 2: Attach Clamps



End Clamp FR-EC



Pull Clamp FR-PC

FR-N-S304 Vista

Note: End clamps (FR-EC) vary in size and must match the height of the module frame. They are available in sizes 30, 31, 32, 33, 35, 38, 40, 45, 46, & 50mm

1. Install the pull clamp over the pre-installed bolts in the FR510-6, push the FR-PC out towards the edge of the FR510-6 completely.
2. Install the FR-EC over the bolt on top of the FR-PC.
3. **Loosely** install a serrated flange nut (FR-N) on the bolt.

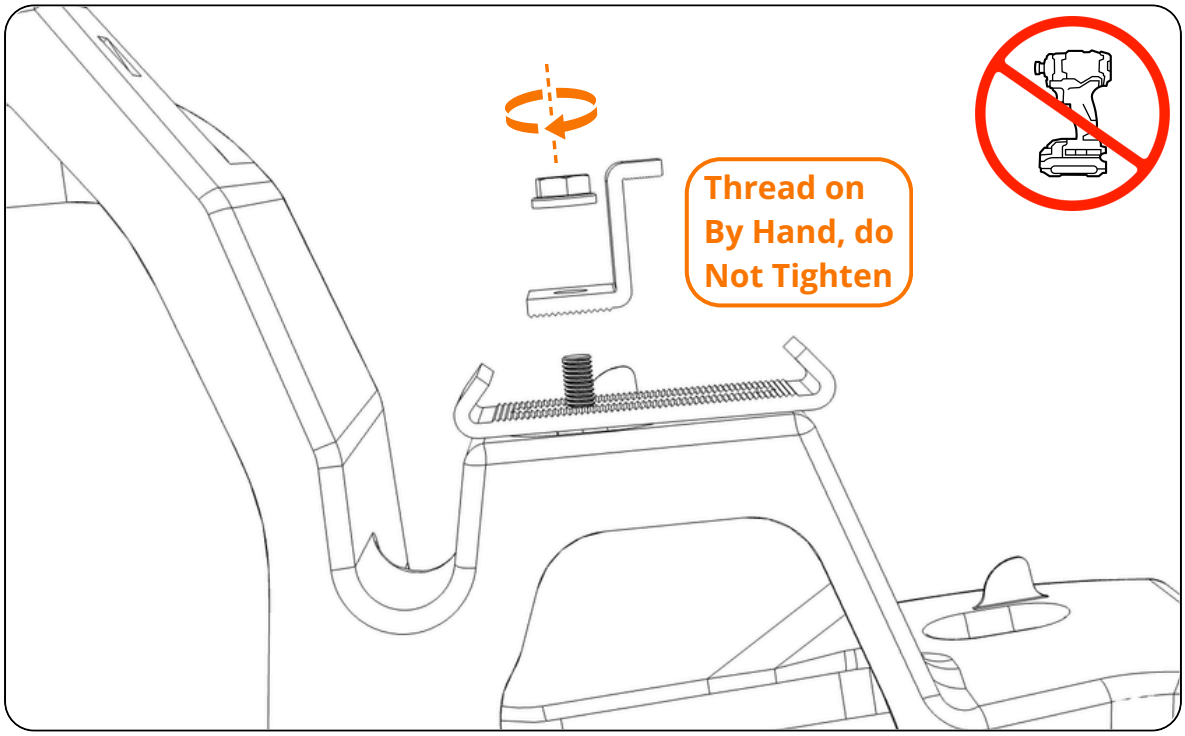
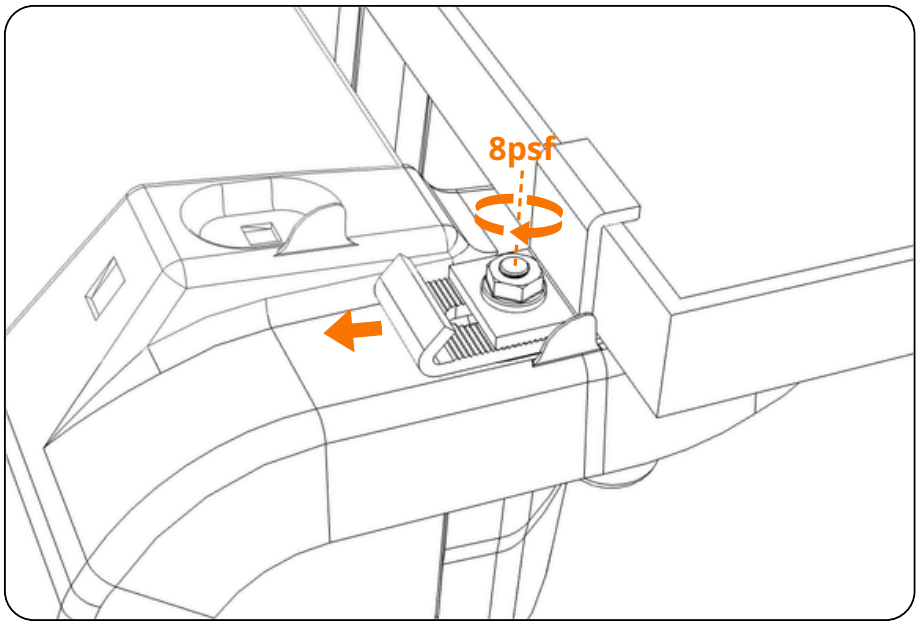


Fig. 7 Clamp Attachment (Pictured on 6dg Clamp Location)

Note: All serrated flange nuts should be threaded on by hand (NO impact drivers or high speed drills) which can cause galling (cross threading) of the stainless fasteners.

Step 3: Affixing Modules to FR510-6



1.Pull FR-PC firmly against bottom flange.

2. Install FR-EC & FR-N Bolt

3. Torque FR-N to **8 ft.lbs (≈ 10.8 N·m, 96 in-lbs) using a 1/4" Inch-Pound Click Torque Wrench**

Fig. 9 Module Attachment

Pull Clamp should sit firmly against the module flange.

We reccomend marking the assembly with a paint marker once torqued.

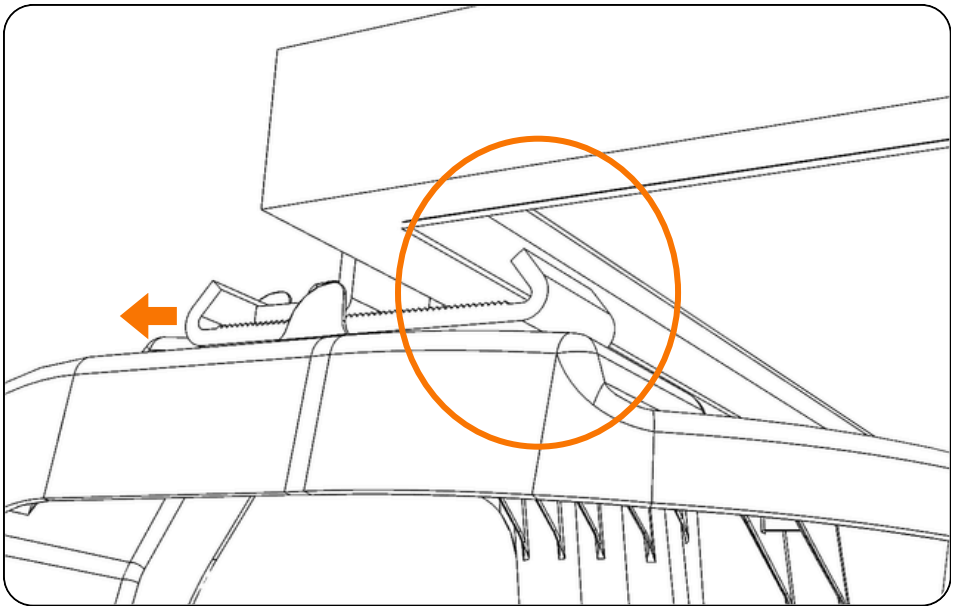
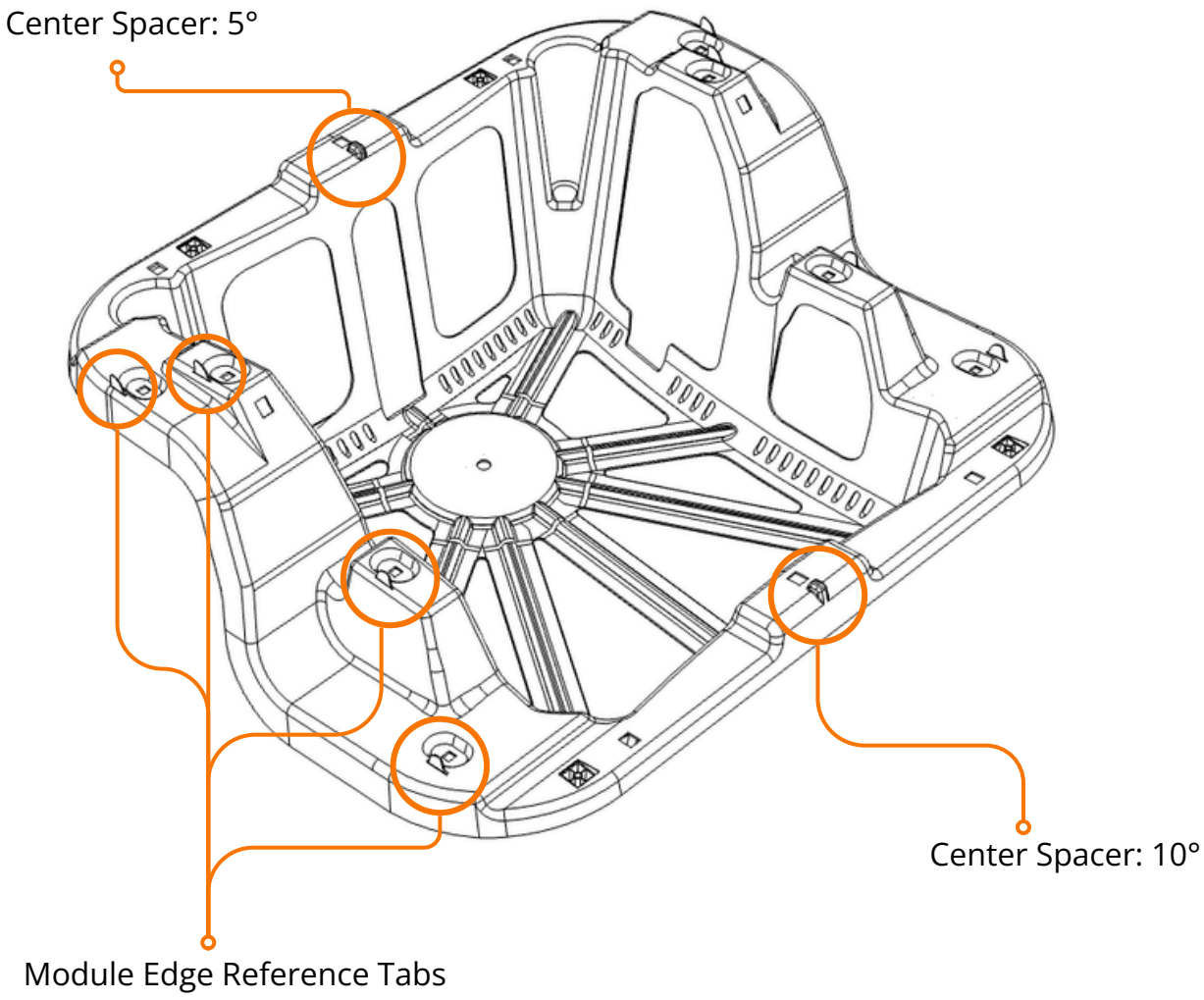


Fig. 8 FR-PC In Use

Step 3: Affixing Modules to FR510-6

Use the integrated 3/8" (9.5mm) spacers and reference tabs on the FR510 to ensure proper placement of modules. Close-up usage examples shown on page 15.



Note: No integrated Center Spacer for 6° mounting.

Fig. 10 Spacer Diagram

Step 3: Affixing Modules to FR510-6

Use the integrated 3/8" (9.5mm) reference tabs on the FR510 to ensure proper placement of modules.

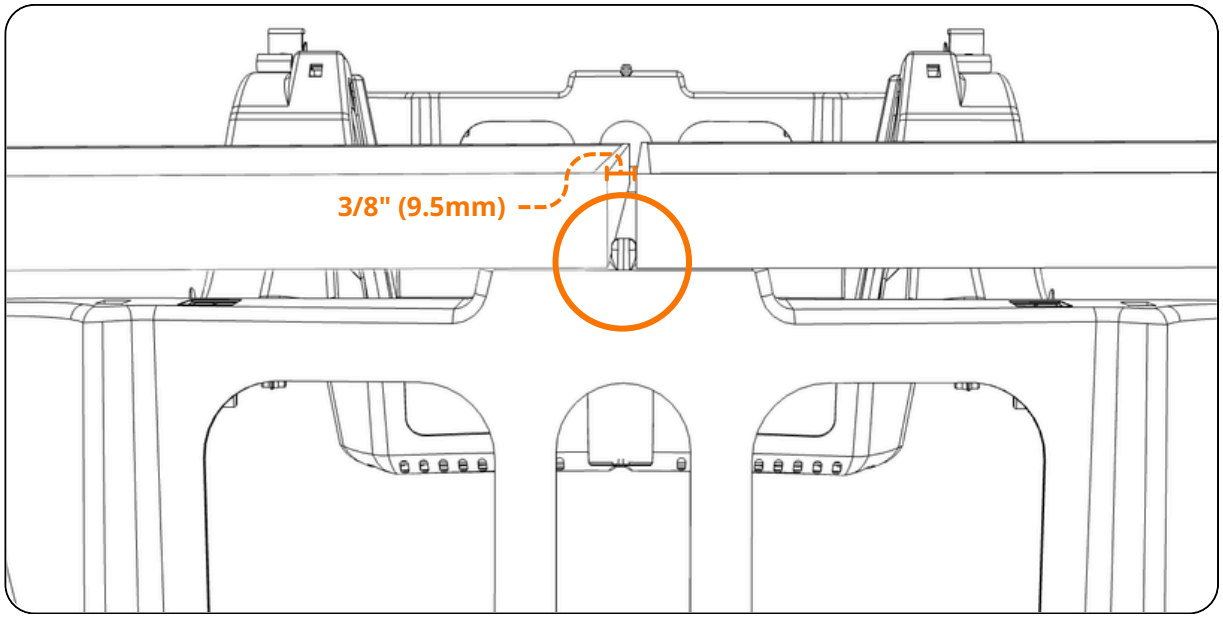


Fig. 11 Center Spacer

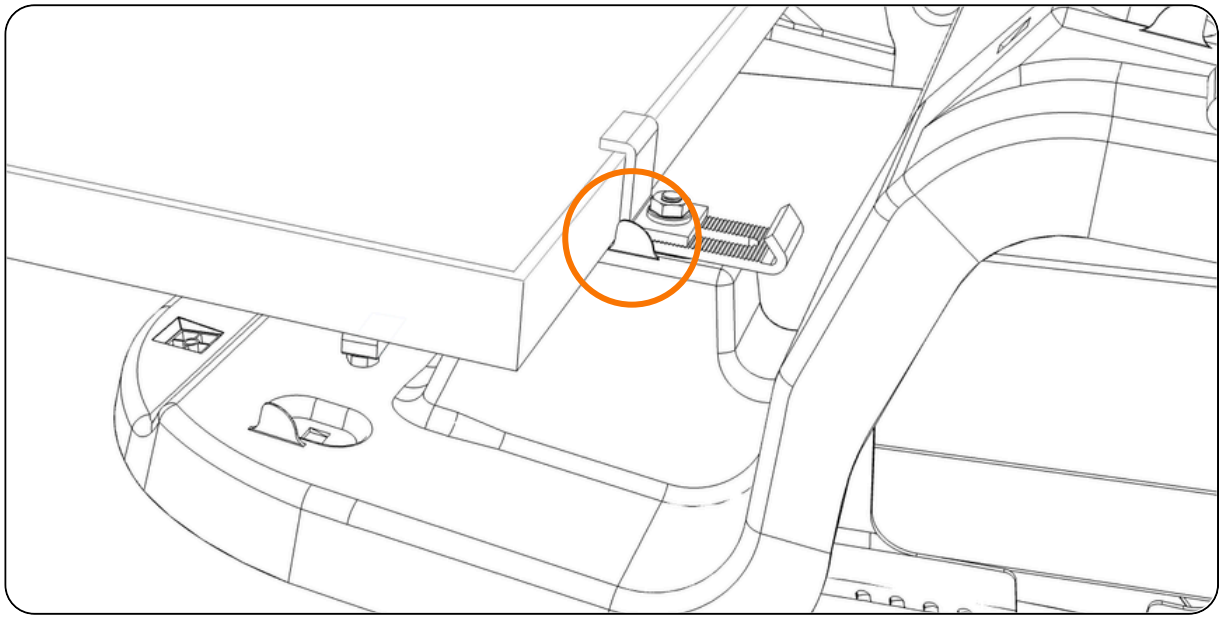


Fig. 12 Reference Tab (shown on 6° lower bolt placement)

Slide On Bonding Jumper (FR-SBJ)

Slide-on bonding Jumpers (FR-SBJs) are a **one-time use** E-W bonding solution**.** For E-W module to module bonding, simply pull the FR-SBJ (**35 amp rated**) onto the underside module flange of adjacent panels. When replacing modules, reattach using an FR-SBJ, or if the module is to be removed, see pg. 26. All bonding/grounding assemblies are UL 2703-compliant and must follow the installation procedures outlined to satisfy NEC 690.43(A).

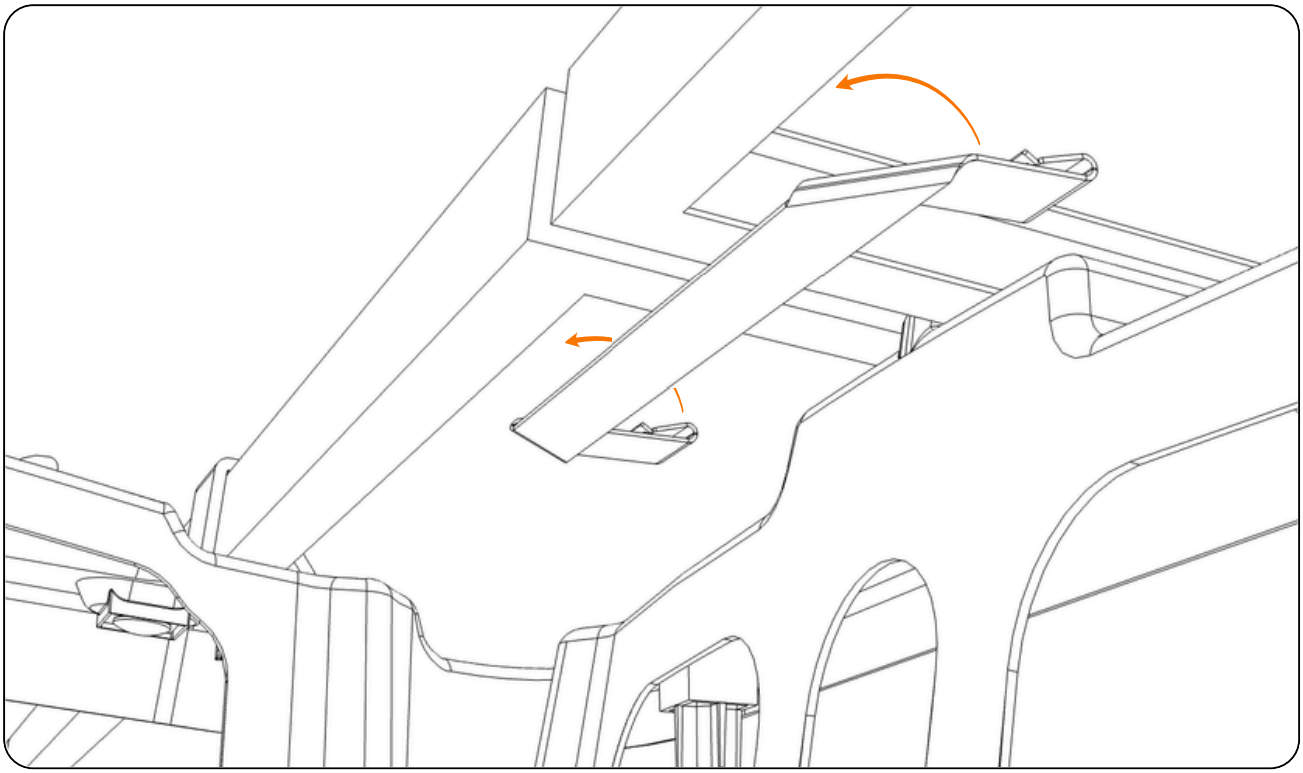
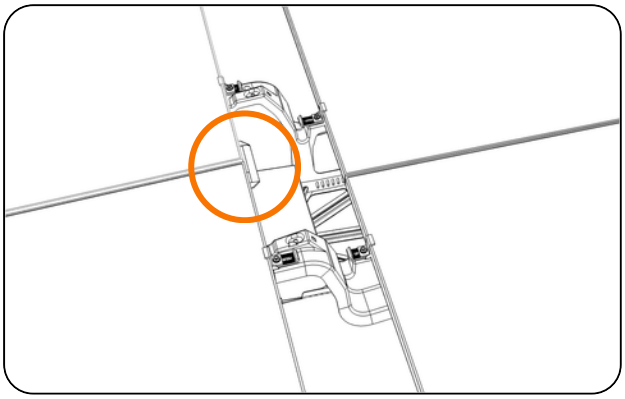


Fig. 17 FR-SBJ Installation



The FR-SBJ is placed between modules on the high side of the module.

Fig. 18 FR-SBJ on High Side of Module

Row to Row Bonding Requirements

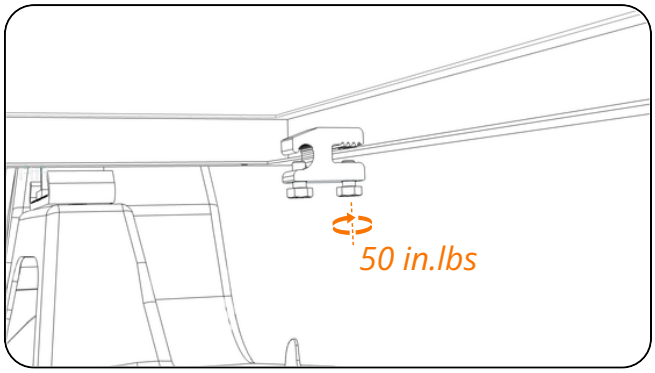


Fig. 19 Row to Row Bonding

Attach FR-SGB-4 Ilsco Grounding lug to underside of module frame. Use a **7/16"** socket torqued to **50 in.lbs**.

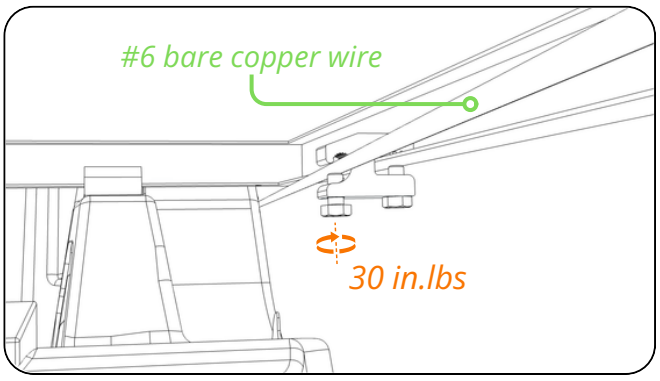


Fig. 20 Row to Row Bonding

Run bare copper wire (N/S) through the other side and use **7/16"** (6.35mm) socket tighten to **30 in.lbs**.

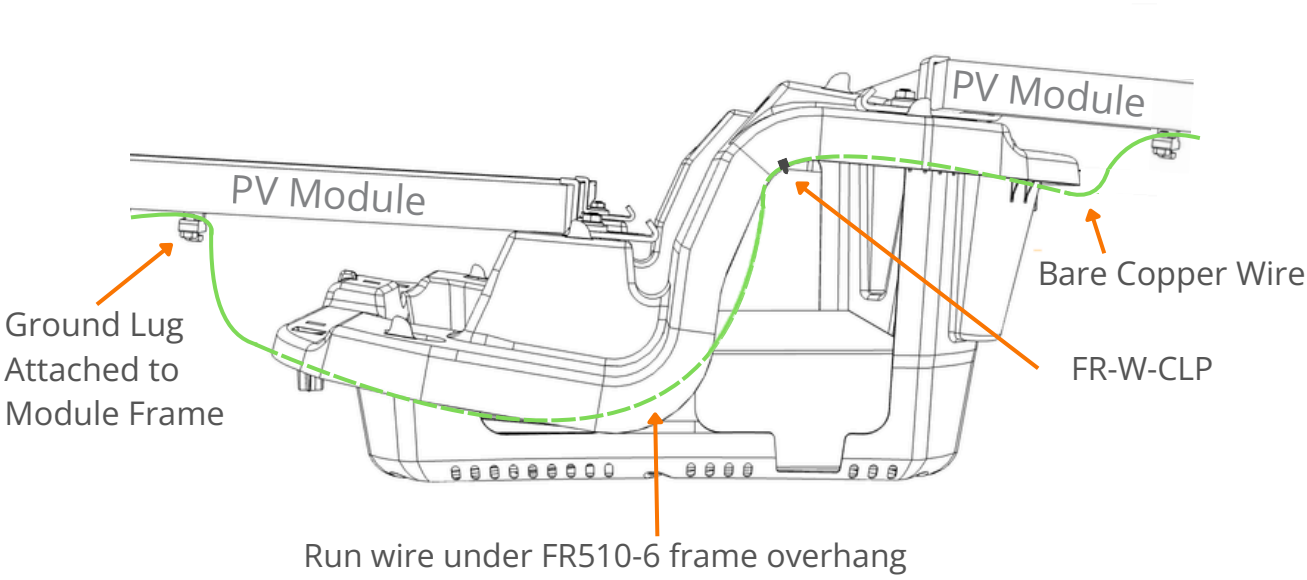


Fig. 21 Row to Row Bonding

Cable and Wire Management

Sollega provides the FR-W-CLP (UV rated Nylon wire clip with zip tie). This is designed to be installed on the module flange and overhang of the FR510-6 for N-S wire management (see Fig. 19) No wires should be exposed to UV.

Note - Leave adequate looping of jumper connections to accommodate expansion/contraction of modules.

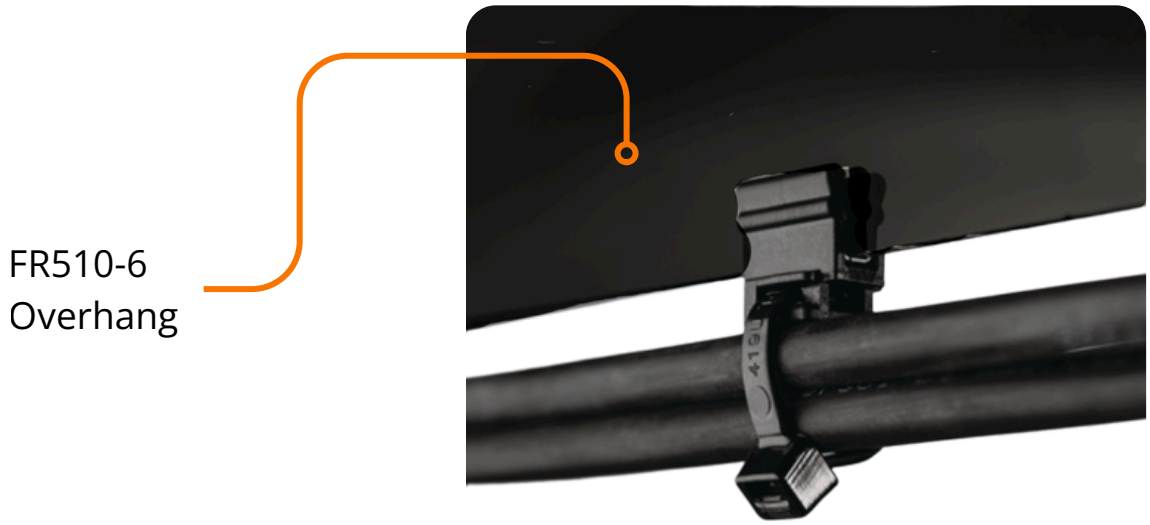


Fig. 22 FR-W-CLP

Fault Current Path to Ground

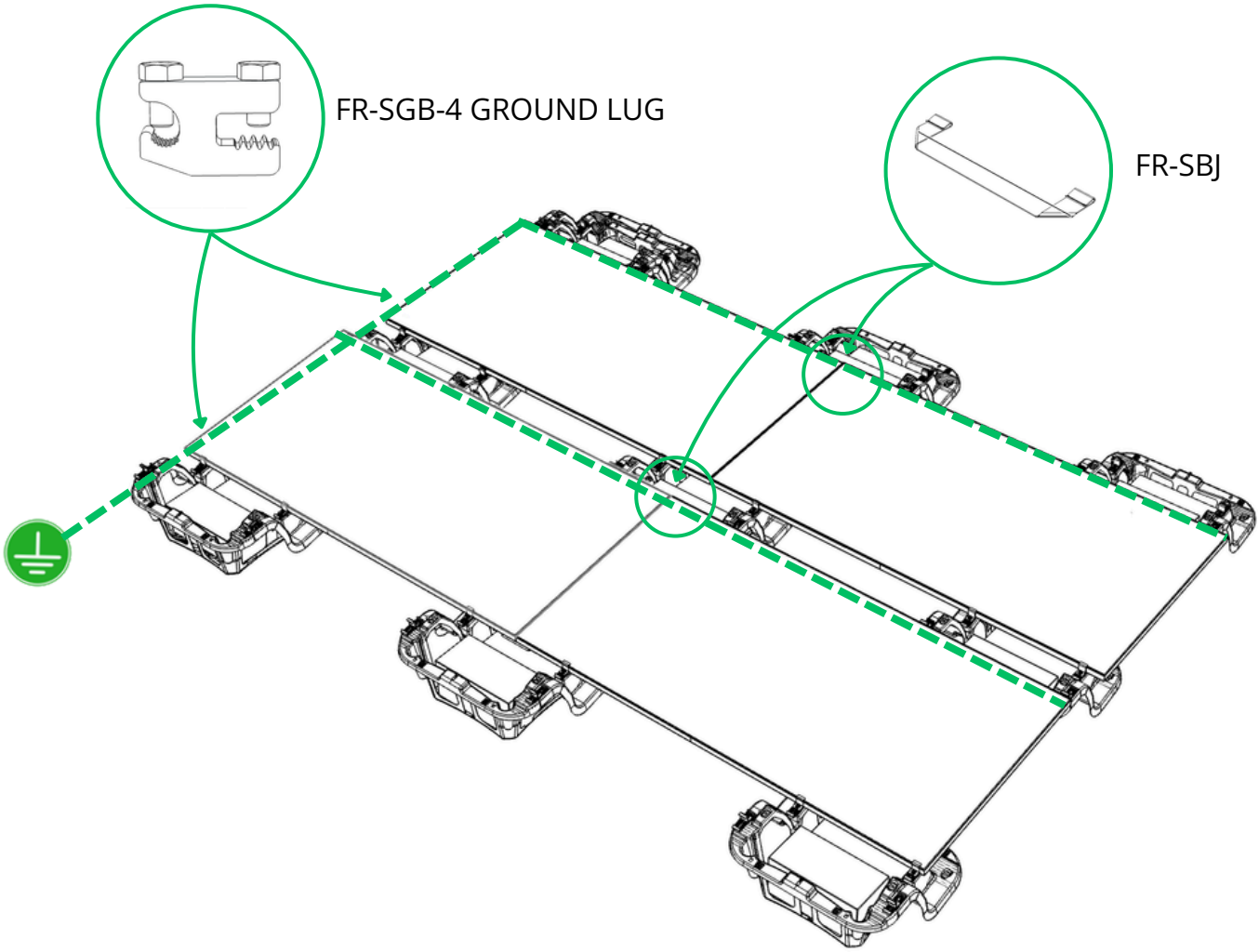


Fig. 23 Fault Current Path to Ground Diagram

Removing a Module

Removing individual modules from arrays is sometimes necessary for roof and array maintenance or modifications. To keep grounding consistent, utilize two FR-SGB-4 Grounding Lugs (See Page 22 for attachment steps) attached to the short rail on either side of the high side gap connected with bare copper wire. Run the copper wire underneath the module flanges

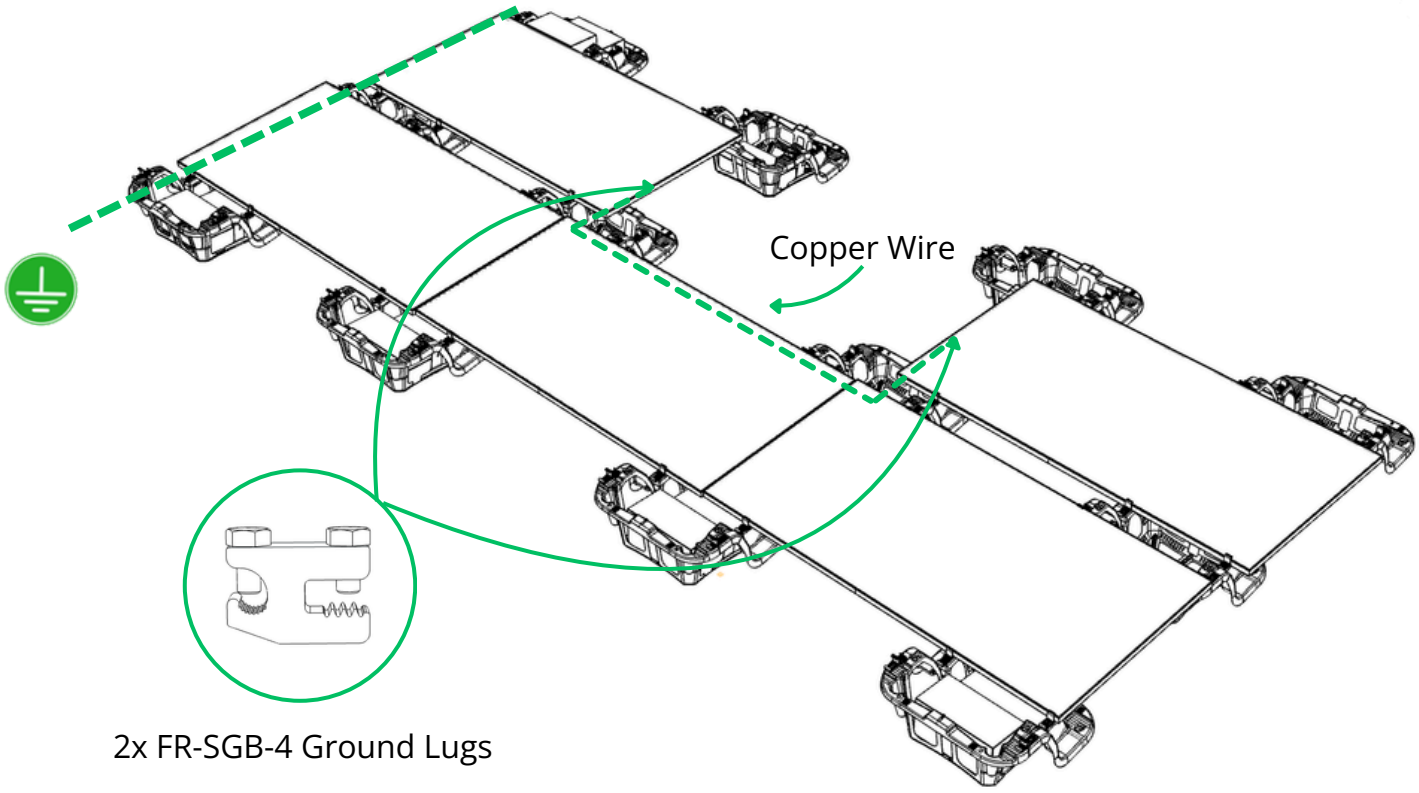


Fig. 24 Fault Current Path to Ground Diagram

Ballast Requirements

Please follow all current and applicable building codes. For assistance with ballast requirements for a specific project, contact info@sollega.com.

Approved roof pavers (ballast blocks or CMUs) dimensions are 16”L x 8”Wx 4”H (Nominal) - 3 ⅝”x7 ⅝”x15 ⅝” (Actual) (≈ 406 mm L × 203 mm W × 102 mm) with an average weight of 32.5lbs. (13.5 kg) FULL, or HALF: 2"x8"x16" (Nominal) - 1 ⅝”x7 ⅝”x15 ⅝” (Actual) (51 mm × 203 mm × 406 mm) unless otherwise noted. Pavers should have a minimum net area compressive strength of 3000 psi or must comply with ASTM Designation C1491.

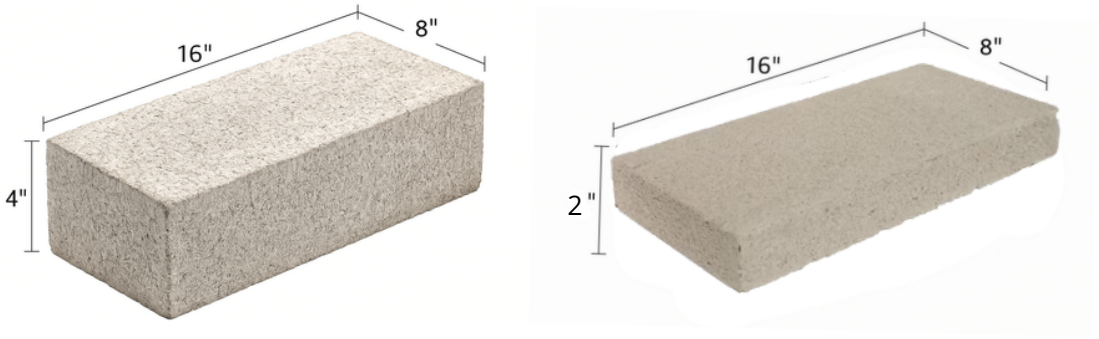


Fig. 26- Concrete Masonry Unit (FR-CMU)

The Installer is Solely Responsible For:

- Utilizing all necessary safety equipment as required by applicable rules and regulations.
- Complying with all applicable local or national building codes, including any that may supersede this manual.
- Ensuring that the FR510-6 and other products provided by Sollega are appropriate for the particular installations and are designed for the installation environment. Roof must be less than 7dg in slope.
- Ensuring that the roof, its rafters, connections, and other structural support members can support the array under live load conditions.
- Ensuring that lag screws used for roof anchoring have adequate pullout strength and shear capacities.
- Maintaining the waterproof integrity of the roof including selection of appropriate flashing.
- Ensuring safe installation of all electrical aspects of the entire system.
- Following the roofing manufacturer’s installation procedure and guidelines before beginning the installation.

Ballast Arrangement

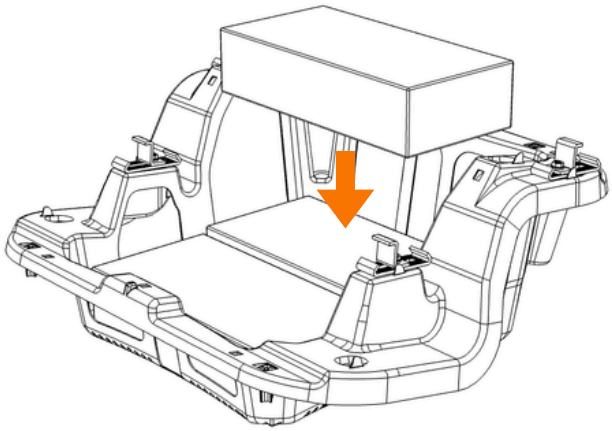


Fig. 27 Ballast Blocks

Ballast blocks are added As shown in Fig. 5. Each FR510-6 can hold a maximum of 5 full size ballast blocks or 10 half-size blocks. Follow the amount of ballast specified per FR510-6 by the project engineering.

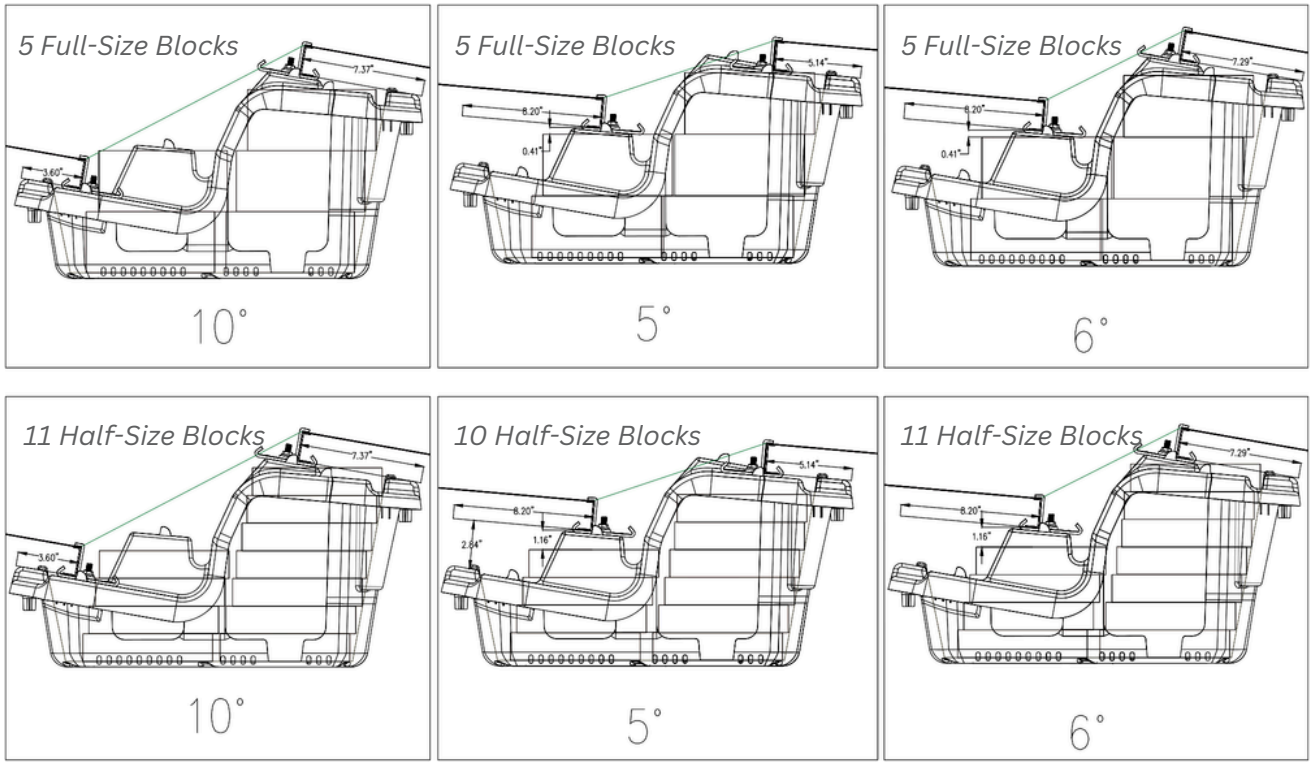


Fig. 28 Full and Half Size Ballast Block Arrangements

Mechanical Anchor Installation

We recommend leaving mechanical anchors placed loosely onto the roof until the array is fully installed. If mechanical anchors are required, install cross rail and anchor identify their placement within the array and use the Sollega-supplied anchor assembly, which includes:

1x Aluminum L-foot (3/8") with T-bolt	
2x Aluminum L-feet (5/16") with T-bolts	
1x Eco Standard Aluminum Rail - 9 FT (108"/2740mm) or 10 FT (120"/3050mm)	
2x Carriage Bolts (FR-CB) 304 5/16" x 1.25" (8mmx32mm)	
2x Square Washers (FR-SQW)	
1x 3/4” (19.05mm) Washers (FR-W3)	
1x 3/8” (9.53 mm) Nylon Lock Nut (FR-NLN)	
2x Serrated Flange Nut FR-N-S304 Vista	
U2000-KEE, PVC, TPO or U2400-EPDM, KEE, PVC, TPO or U2600 BUR, Rolled Comp or U2800-Coatings	

Mechanical Anchor Installation

1. Loosely assemble all connections without fastening the anchor to the roof or flashing.
2. Once the anchor location has been confirmed, secure the anchor to the roof using deck-appropriate screws (not supplied by Sollega) as specified in the project engineering packet.
3. Hot-air weld the flashing to the roof membrane. Install the L-foot and rail
4. Torque the connection nut to **20–25 ft-lbs (≈ 27–33 N·m).** The mechanical anchor is installed between two adjoining FR510-6 units. See Fig.11 below.

In-depth Installation instructions and data sheets for the U2400 series mechanical achors can be found online at https://www.anchorp.com/anchors/2400-tpo

Mechanical Anchor Installation

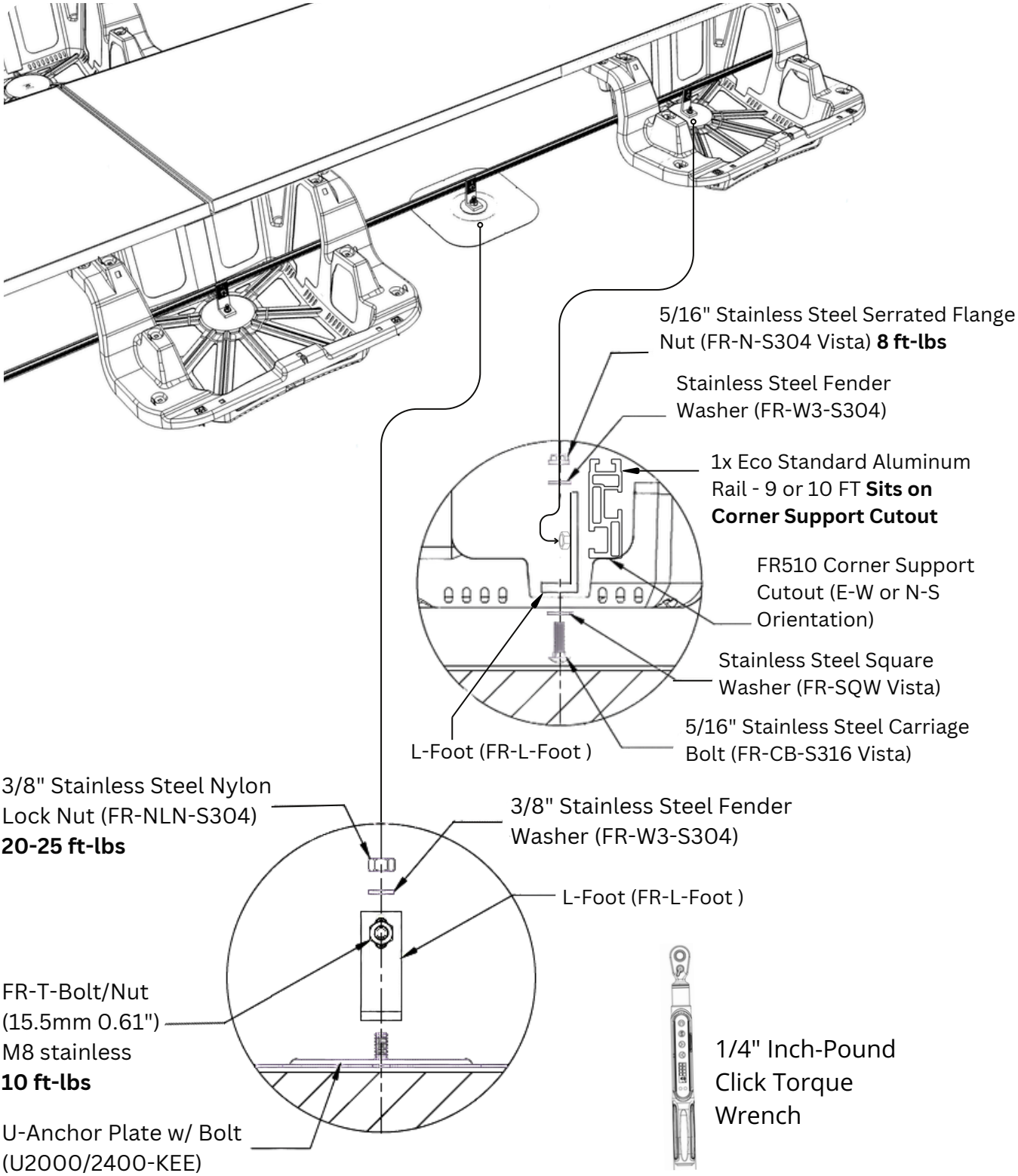


Fig. 13 Mechanical Anchor Installation

Mid-Rack Installation

Depending on project engineering , midbuckets may be required to accomodate additional ballast or snow load. PV arrays using large modules or in high snow and wind areas may require extra support. To provide this, either in place of or alongside mechanical anchors, Sollega may recommend Mid-Racks. These are attached to the modules the same way as the rest of the FR510-6s, except in the center of the modules instead of in the corners. Refer to project engineering for Mid-Rack locations and ballast quantities.

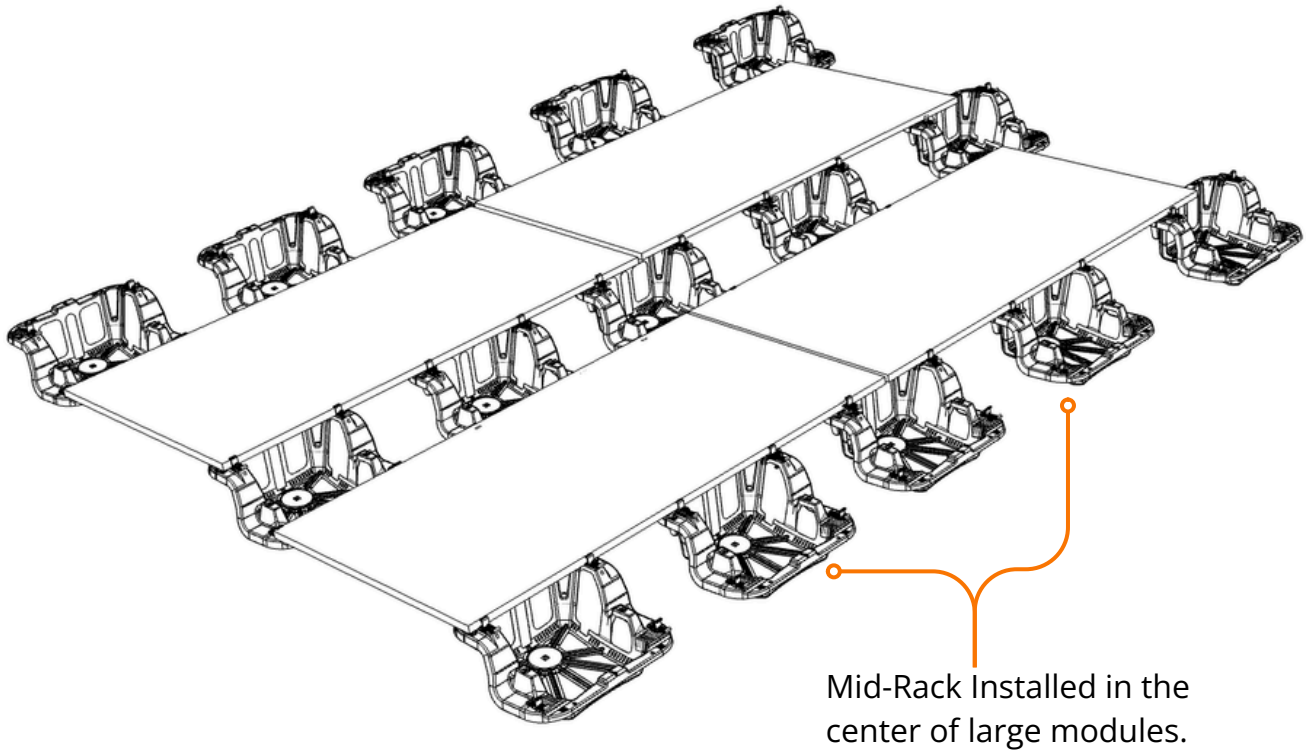
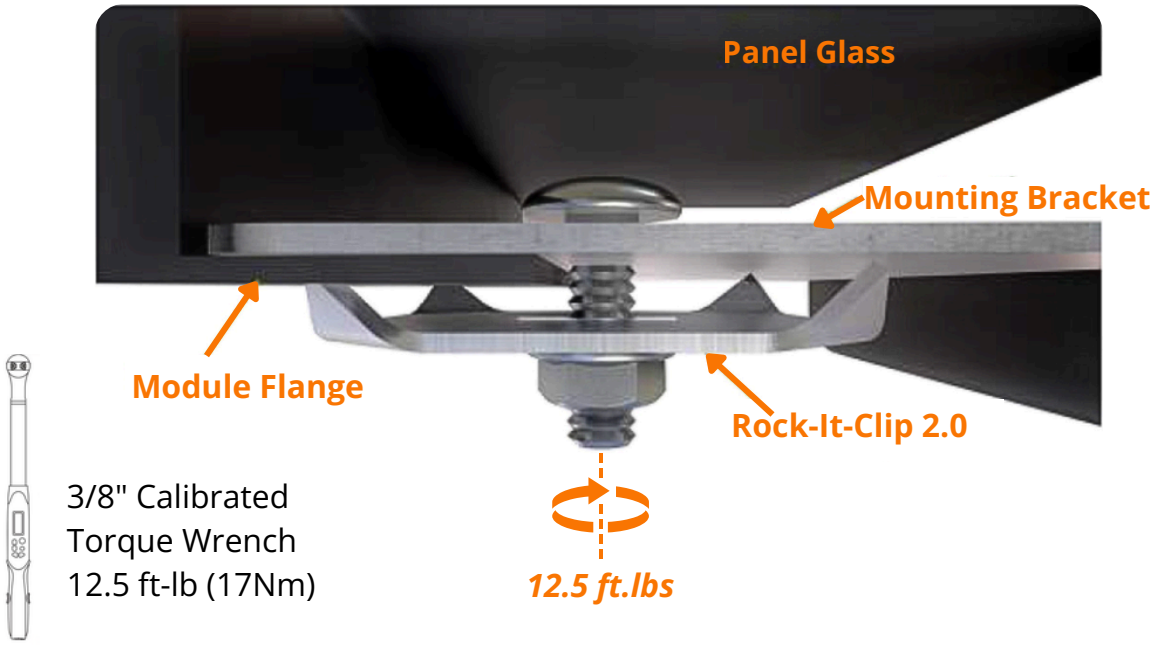


Fig. 14 Midbucket Arrangment

Module Level Power Electronics

While the FR510-6's UL3741 certification means in many cases MLPEs will not be necessary, there are some situations that will require them. Check the provided engineering details to see if they are required for your project.

Fig 15. Rock-it Clip 2.0:



1. Locate all parts

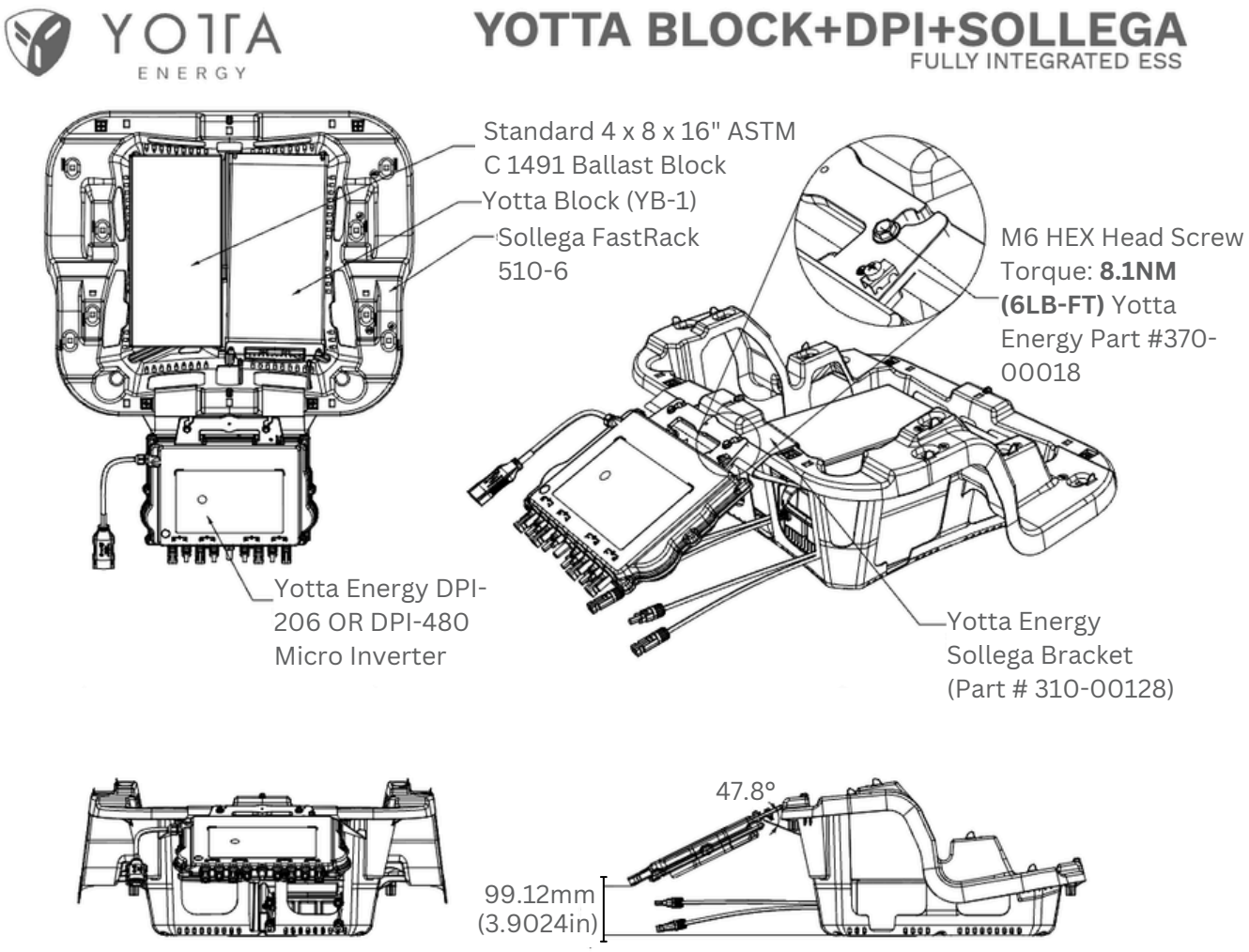
- Find the Rock-It Clip 2.0, the micro-inverter or power optimizer, and the section of the module frame where you will mount the micro-inverter or power optimizer.

2. Install the Rock-It Clip 2.0

- Slide the Rock-It Clip 2.0 onto the lip of the micro-inverter or power optimizer.
- Slide the micro-inverter or power optimizer into the opposite lip of the module frame.
- Tighten the bolt (.3125-18x1x1-S) to 12.5 ft-lb (17Nm) to clamp the Rock-It Clip 2.0 to the module frame and secure the micro-inverter or power optimizer to the clip.
- Ensure that the clip lip is tight against the module frame and that the micro-inverter/power optimizer flange is firmly against the clip flange to prevent rotation during tightening.

YOTTA ESS Installation

Fig 16. Yotta Block:



FastRack 510-6dg™ Ground Mounts

- **No Assembly:** Quick to ship & install.
- **GCR:** 1.7 acres/MW with 500W module (80% GCR) (Fits in 53' shipping container)
- **Easy Install:** Minimal prep, sits directly on most substrates (7° grade or less) , no heavy equipment or ground penetration required.
- **Support:** Engineering & wet stamp in all 50 states.
- **Versatile:** Fully ballasted, 5, 6, & 10° tilt options
- **Built to Last:** Non-corrosive, non-conductive, 25-year warranty.
- **Certified:** UL 2703, UL3741, FEOC, Made in the USA

Ground Preparation for Sollega FR510-6 Racking Units

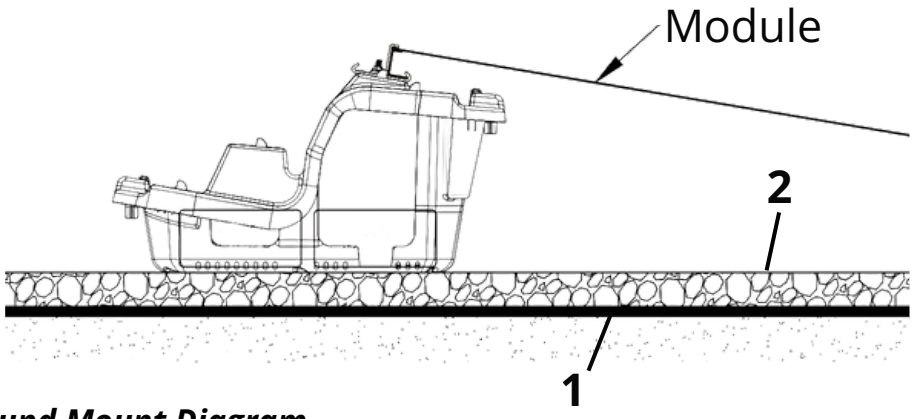


Fig. 25 Ground Mount Diagram

- **All sites** should first be verified by a civil engineer to ensure proper drainage and stability.
- **Clear the site:** Clear site of all vegetation and treat with herbicide.
- **Level the ground:** Grade the site to be within a 0-7° slope.
- **[1] Geotextile layer:** Install a geotextile layer across the site to prevent organic growth (example here).
- **[2] Aggregate Layer:** Put down a layer of aggregate or road base for drainage (1/2" with a smaller 1/4" on top).

Kona, HI 2.1 MW (Lava Rock)

Hotsprings, AK 390 kW (Gravel)

Disclaimer of Liability

SOLLEGA does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of, or in any way connected with installation, operation, use, or maintenance by using this manual.
SOLLEGA assumes no responsibility for any infringement of patents or other rights of third parties, which may result from use of modules. No license is granted by implication or under any patent or patent rights. The information in this manual is believed to be reliable but does not constitute an expressed and/or implied warranty. SOLLEGA reserves the right to make changes to the product, specifications, data sheets and this manual without prior notice. This document is not prescriptive regarding safety and does not purport to address all the safety concerns that may arise with its use. Contractors should become familiar with all applicable safety, health, and regulatory requirements before beginning work.

Important Installation Details

Electrical Safety:
Any work done with PV and electrical equipment presents a shock hazard. The FR510-6 is injection molded from non-conductive polymer and does not require bonding. The FR510-6 is mechanical solar mounting system and containing no “live” parts. All persons working on installation should coordinate in order to ensure that all personnel are aware of electrical hazards.
Assembly Modifications:
Unauthorized field modification of Sollega components or assemblies will void Sollega warranty coverage. Do not cut or drill into the FR510-6.
General Information:
The installation of solar modules requires a great degree of skill and should only be performed by qualified licensed Professionals, including, without limitation, licensed contractors and electricians. The installer should be familiar with construction standards established by the Occupational Safety and Health Administration (OSHA). They should also plan for safe practice during any installation activity with respect to hazards from tripping, falling, lifting, repetitive stress, and any overhead or electrical hazards. When working close to building roof edges, consider protection options that reduce worker exposure to fall hazards. Refer to OSHA Sub Chapter 7, Group 1, Article 2.

Important Installation Details (Cont.)

Project Specific Design Modifications

On-site workers assisting in the installation process may encounter undocumented or unexpected obstacles requiring a modification of the project system design supplied by Sollega. PV arrays are intended to be primarily regular and repeating structures, any modifications to the original design should be noted on working drawings. If the array is disconnected or if the number of rows or length of a row is changed, contact Sollega engineering for a revised ballast layout.

Care for the Roof

Avoid concentrated loads on the roof that exceed the available reserve. Never drag components into place. Instead, elevate the component, and then move it manually or with a cart. Locate it and then place it “on spot.” To ensure roofing system warranty continuation, work with roofing contractors to ensure roofing system and array compatibility. Sollega recommends following roofing manufacturers guidelines when installing. Please consult roofing manufacturer’s specific requirements. If use of slip sheets is required, Sollega can provide a quote for roofing manufacturer specific material slip sheets.

Final inspection

Visually inspect assembled arrays. The suggested process consists of a row-by-row walk-through and then a perimeter walk-around, after mechanical assembly, before electrical completion. Report any distortion in the assembly to Sollega. Array substrate supports should be in full contact with the roof or the ground. Any indication of uneven distribution of weight should be evaluated and corrected before continuing with electrical finishing. Note: Any loose components or fasteners shall be re-tightened in accordance with these instructions. Any components showing signs of damage that compromise safety shall be replaced immediately.

Sollega™

The Simple Solar Racking Solution™

The FastRack 510-6™

The simple solar racking solution for Flat Roof and Ground Mount PV installations.

- 5° , 6°, 10° mounting solution
- Simple, modular, one piece design
- Universal design compatible with all framed modules
- Fully ballasted , heat welded, anchored and hybrid options
- Roof friendly with round edges and low point loads
- One size bolt with all top down connections
- Injection molded UV rated Nylon6
- PE stamp engineering and ballast layout services available
- UL 2703 Class "A" Type 1, 2, 3, 29, 30 Modules
- UL 3741 - PV Hazard Control
- 30 & 35 Amp Fuse Rated
- 100% Recyclable
- Made in the U.S.A.

1 Position FastRacks

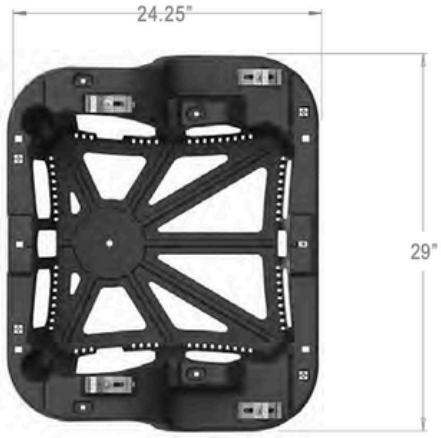
2 Add Ballast and Clamps

3 Attach Modules

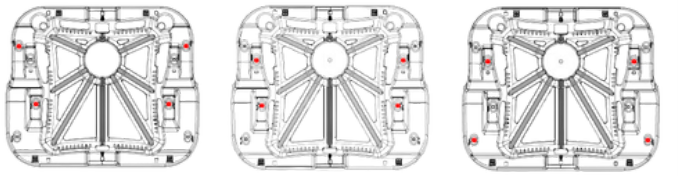
Sollega™

The Simple Solar Racking Solution™

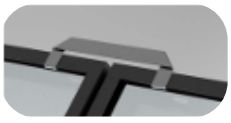
Tilt Angle	5°	6°	10°
Row Spacing	10" (254mm)	8" (203mm)	13" (330mm)
Leading Edge	8" (203mm)	8" (203mm)	5.3" (135mm)
Compatible Modules	Rated up to 46" (1168.4mm) in Width		
Weight		4.5lbs (2kg)	
Ballast Requirements	4" x 8" x 16" Roof Paver (31.5l lbs each) based on ASTM Designation C1491-01a.		
Material	Injection Molded UV rated Nylon 6		
Module Orientation		Landscape	
Wind Load Criteria	Meets ASCE 7-16 up to 165 MPH		
UL Certification	UL 1703: Class 'A' Type 1,2,3,29Modules, UL2703,UL3741		
Warranty	25 Year Limited Warranty		
Dimensions	(LxWxH) 24.25 x 29 x 14" 616 x 737 x 356mm		
Disassembly	Simple disassembly and 100% recyclable content		
Patent	Utility Patent #9,831,817 Design Patent #D800,055		



Bolt Location



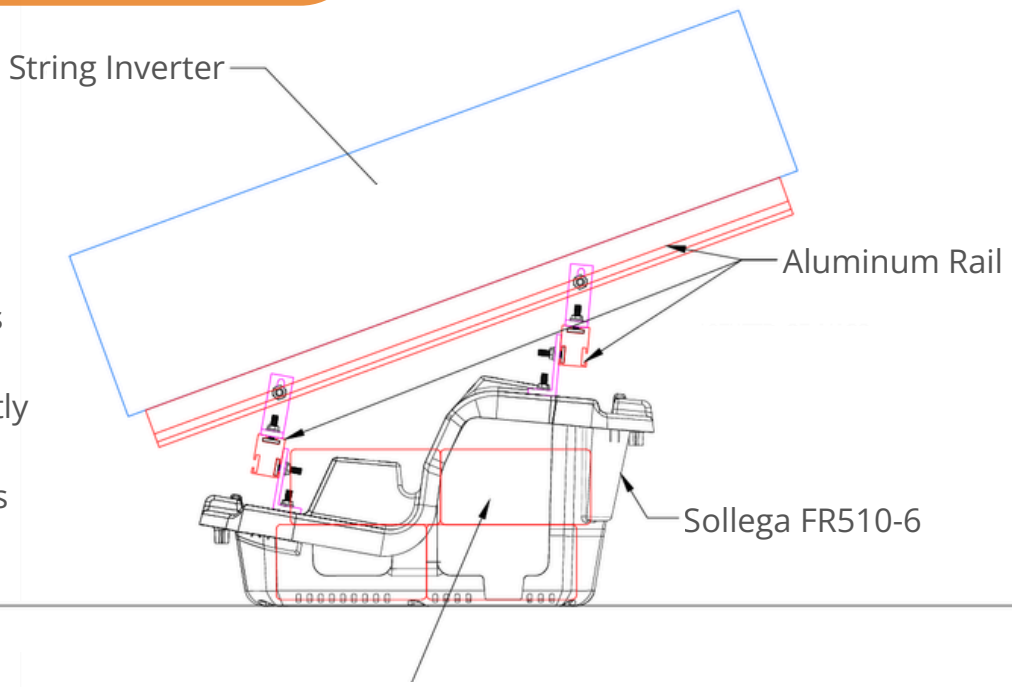
Slide-on Bonding Jumper



Optimizer Mount

4 x 8 x 16" Ballast

Sollega™
The Simple Solar Racking Solution™



*Center of Mass of Inverter Shall Be Placed Directly Over the Center Of Ballast Blocks

(4) 32.5lb Ballast Blocks (4x8x16") in each FR510-6

Sollega™ String Inverter Mount

Based on the FastRack 510-6dg system, the Sollega String Inverter Mount is a quick to install solution that can be ballasted or mechanically attached.

- Invert in the array
- 15° Tilt
- Ballast & mechanical attachment options
- Flexible Strut configuration
- Mounts most string inverters
- Quick to install

Dimensions Without rails:
24.25 x 29 x 14" (L x W x H)
Weight:
13 lbs.
Certifications:
PE Stamp
Reference FR510-6dg installation manual for UL3741 guidance.

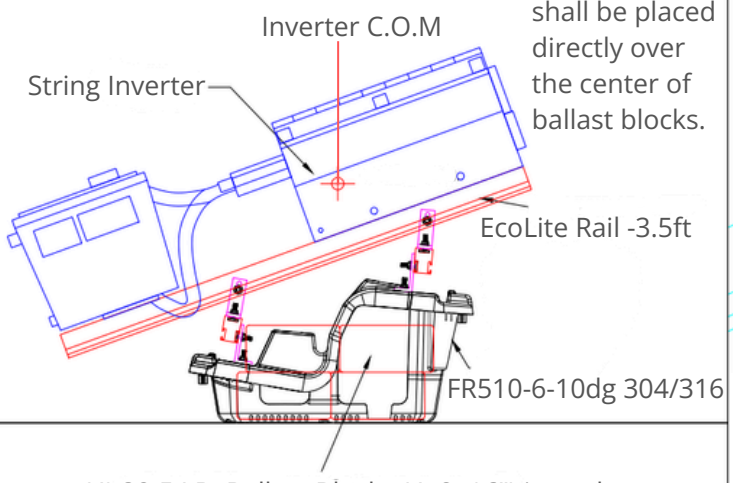
Engineering:
Attached Mount Detail
Unattached Mount Detail

Compatible with most string inverters, check the complete list on page 34

SolarEdge Inverter Mount - Ballasted

For Inverters: SE50KUS (50kW), SE100KUS (100kW), SE120KUS (120kW)

1 S5.0 BALLASTED INVERTER MOUNT – SIDE NTS

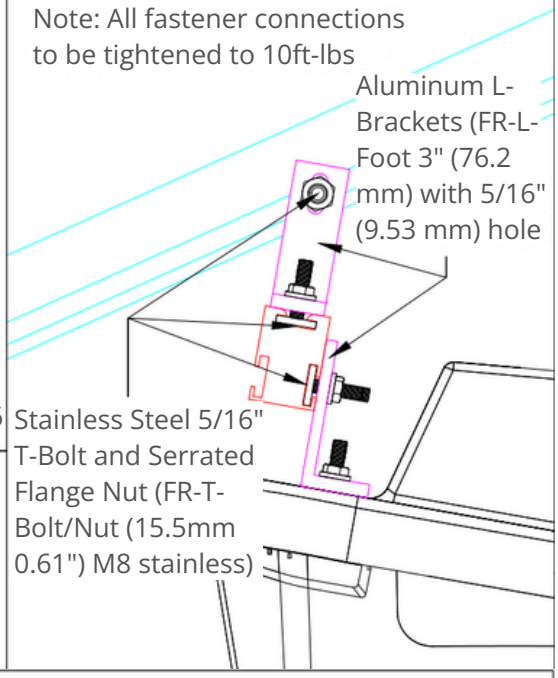


*Center of mass (C.O.M) of inverter shall be placed directly over the center of ballast blocks.

(4) 32.5 LB. Ballast Blocks (4x8x16") in each FastRack510-6-10dg

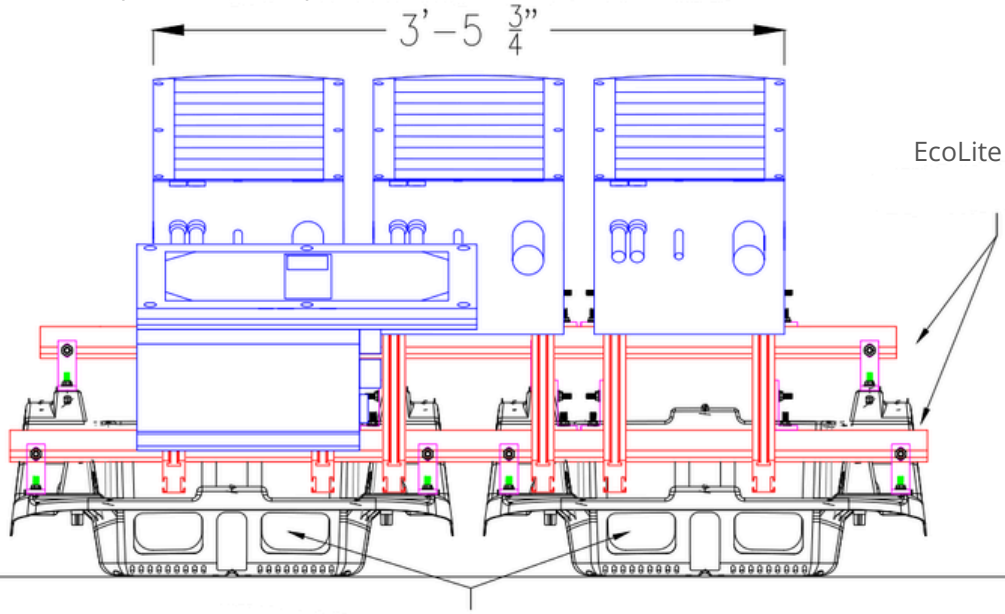
2 S5.0 RAIL / L–BRACKET CONNECTION NTS

Note: All fastener connections to be tightened to 10ft-lbs

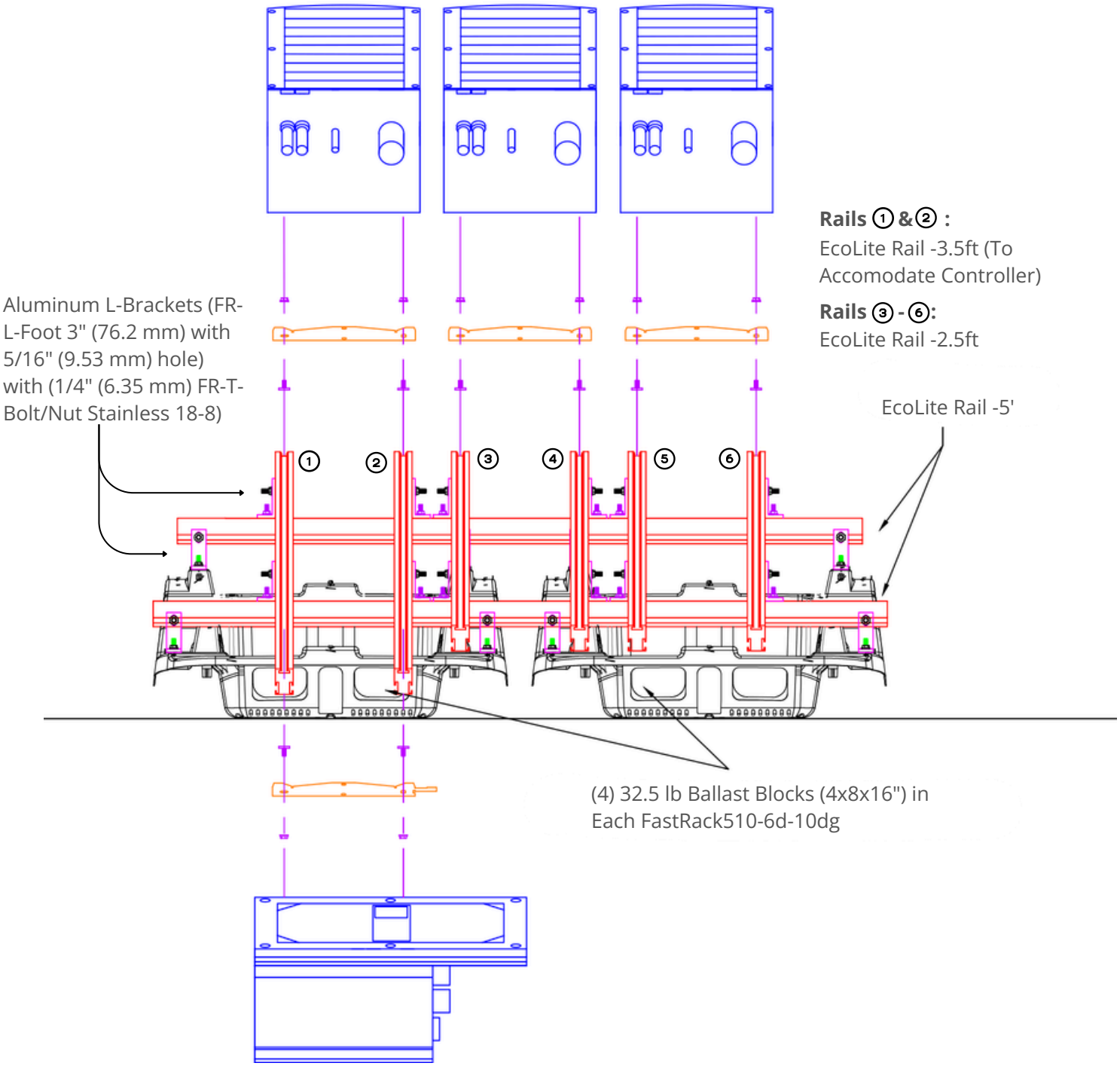


3A S5.0 FULL 3 INVERTER ASSEMBLY – FRONT NTS

Space Inverters per Manufacturer's Reccomended Distance



(4) 32.5 LB. Ballast Blocks (4x8x16") in each FastRack510-6-10dg



BOLT KEY:

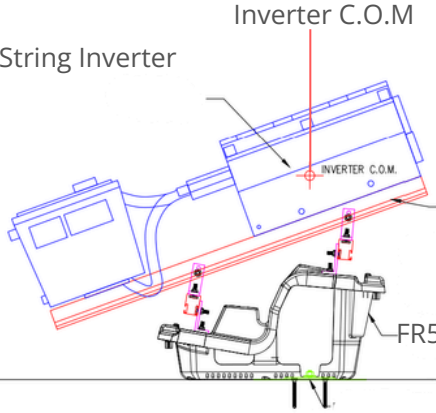
SIDES of Rail: Stainless Steel 5/16" T-Bolt and Serrated Flange Nut (FR-T-Bolt/Nut (15.5mm 0.61") M8 stainless)

TOP of Rail: Stainless Steel 1/4" T-Bolt and Serrated Flange Nut (1/4" (6.35 mm) FR-T-Bolt/Nut Stainless 18-8)

SolarEdge Inverter Mount - Anchored

For Inverters: SE50KUS (50kW), SE100KUS (100kW), SE120KUS (120kW)

1 S5.0 BALLASTED INVERTER MOUNT – SIDE NTS

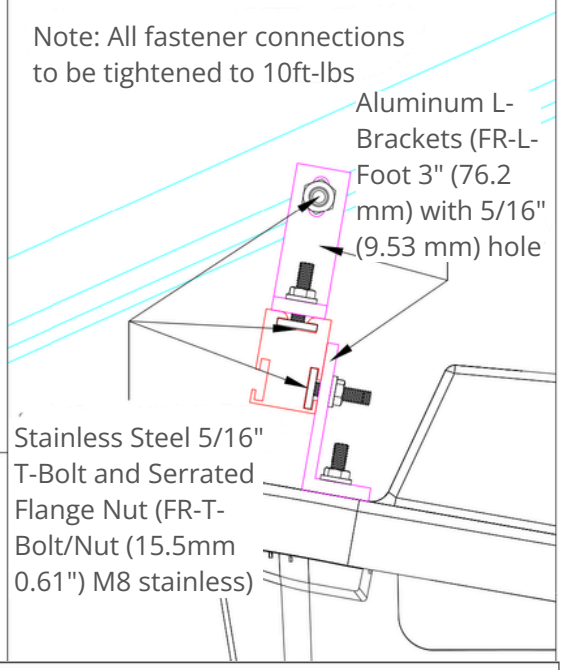


*Center of mass (C.O.M) of inverter shall be placed directly over the center of ballast blocks.

Mechanical Anchor for Connection see Detail 4 S5.0

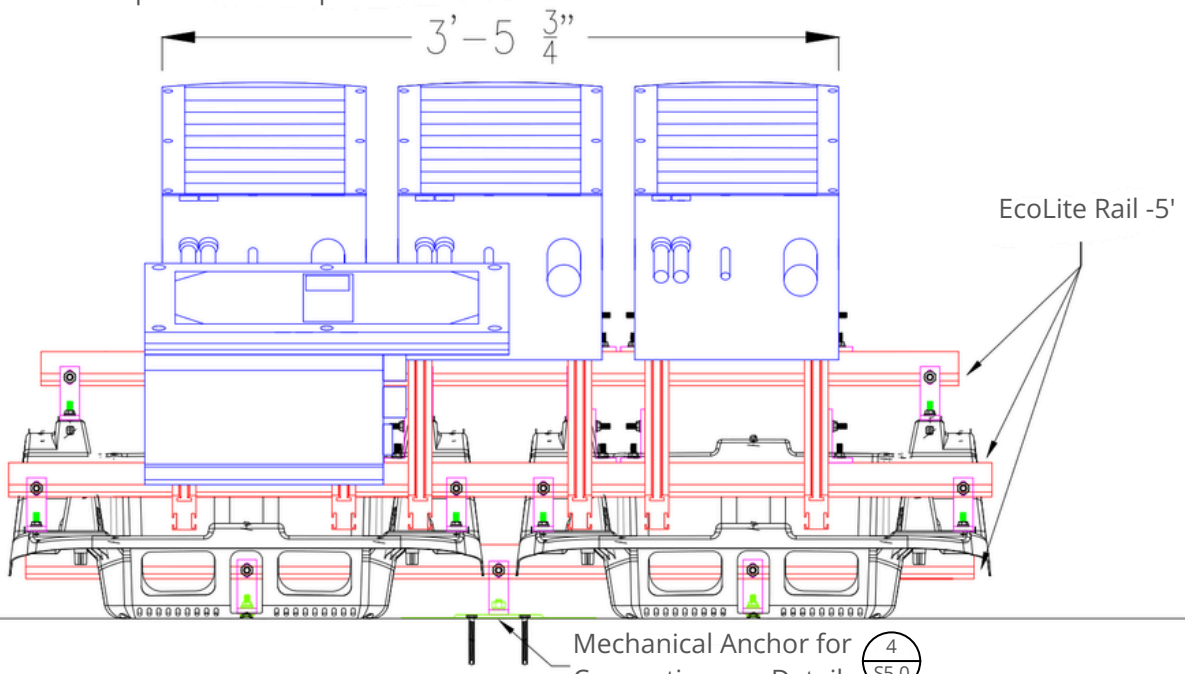
2 S5.0 RAIL / L–BRACKET CONNECTION NTS

Note: All fastener connections to be tightened to 10ft-lbs

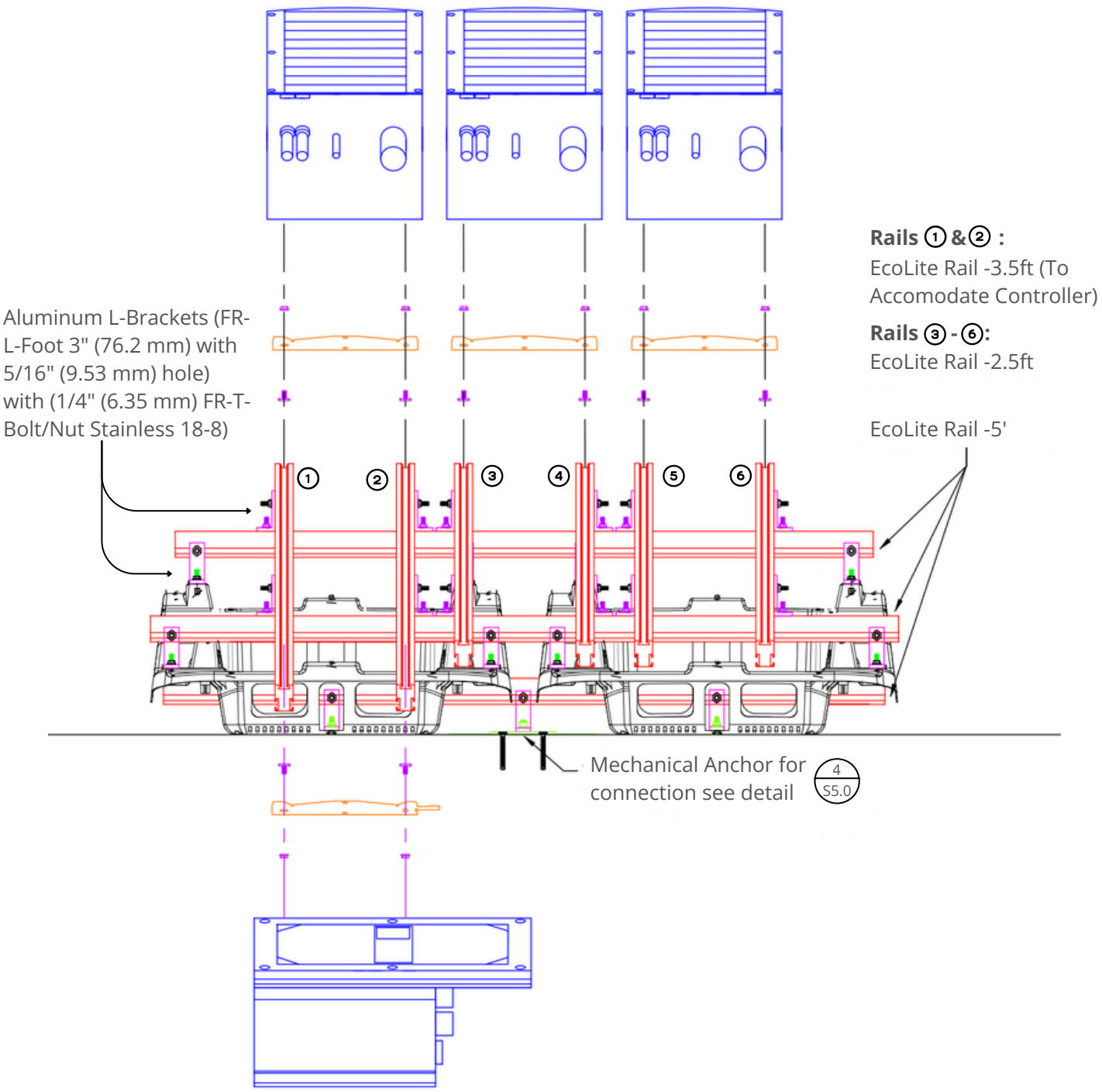


3A S5.0 FULL 3 INVERTER ASSEMBLY – FRONT NTS

Space Inverters per Manufacturer's Reccomended Distance



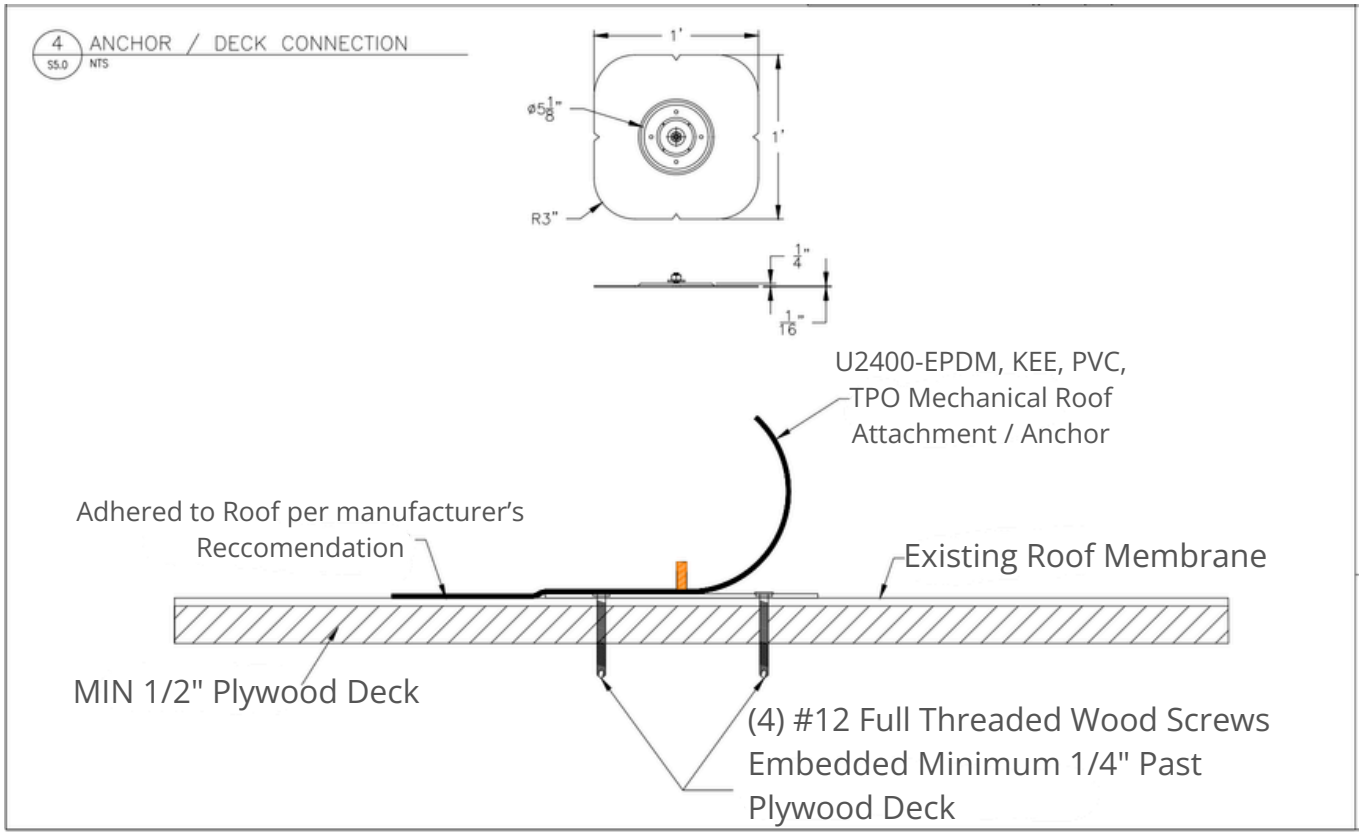
Mechanical Anchor for Connection see Detail 4 S5.0



BOLT KEY:

SIDES of Rail: Stainless Steel 5/16" T-Bolt and Serrated Flange Nut (FR-T-Bolt/Nut (15.5mm 0.61") M8 stainless)

TOP of Rail: Stainless Steel 1/4" T-Bolt and Serrated Flange Nut (1/4" (6.35 mm) FR-T-Bolt/Nut Stainless 18-8)


4
S5.0
ANCHOR / DECK CONNECTION
NTS
1'
1'
ø5 1/8"
R3"
1/4"
1/16"
U2400-EPDM, KEE, PVC,
TPO Mechanical Roof
Attachment / Anchor
Adhered to Roof per manufacturer's
Reccomendation
Existing Roof Membrane
MIN 1/2" Plywood Deck
(4) #12 Full Threaded Wood Screws
Embedded Minimum 1/4" Past
Plywood Deck

Approved Modules- UL2703

Adani	Adani modules with 30, 35, and 40 mm frames:ASX-Y-ZZ-xxxwhere "X" can be B, M or P; "Y" can be 6, 7, or M10; "ZZ" can be blank, 144, PERC, B-PERC, or AB-PERC
AIONRISE	AIONRISE modules with 35 and 40 mm frames: AIONyyG1-xxx. Where "yy" can be 60 or 72
Amerisolar	Amerisolar modules with 35 and 40 mm frames: AS-bY-xxxZ where "b" can be 5 or 6; "Y" can be M, P, M27, P27, M30, or P30; and "Z" can be blank, W or WB
Aptos Solar	Aptos modules with 35 and 40 mm frames: DNA-yy-zzaa-xxxbb where "yy" can be 108, 120, or 144; "zz" can be MF or BF; "aa" can be 10, 23, or 26; "bb" can be blank or W-DG
Astronergy	Astronergy modules with 30, 35, and 40 mm frames: aaSMbbyyC/zz-xxx where "aa" can be CH or A; "bb" can be 60, 66, or 72; "yy" can be blank, 10 or 12; "C" can be M, P, M(BL), M-HC, M(BL)-HC, P-HC, M(DG), M(DGT) or N(DG); and "zz" can be blank, HV, F-B, or F-BH
ASUN	ASUN modules with 35 and 40 mm frames: ASUN-xxx-YYZZ-aa. Where "YY" can be 60 or 72; "ZZ" can be M, Or MH5; and "aa" can be blank or BB
Auxin	Auxin modules with 35 and 40 mm frames: AXNCyzAxxxB where "C" can be 6, 10, or G1; "y" can be M or P; "z" can be blank, 08, 09, 610, 11, or 612; "A" can be blank, F, M, or T; and "B" can be blank, A, B, C, or W
Axitec	Axitec modules with 30, 35, and 40 mm frames: AC-xxxY/yaaZZb where "Y" can be M, P, MB, MBT or MH; "aa" can be blank, 125- or 156-; "ZZ" can be 54, 60, 72, 108, 120, 144; "b" can be S, X, V, VB, XV, or MX
Bluesun Solar	Bluesun modules with 30 and 35 mm frames: BSMxxxY-AAA Where "Y" can be M or M10; and "AAA" can be 54HPH, 60HPH or 72HBD
Boviet	Boviet modules with 35 and 40 mm frames: BVMZZaaYY-xxxBcc Where "ZZ" can be 66 or 76; "aa" can be 9, 10 or 12; "YY" is M or P; and "B" can be blank, L or S; and "cc"can be H, H-BF, H-BF-DG, H-HC, H-HCBF, H-HC-BF-DG, HC-BF or HC-BF-DG

BYD	BYD Solar modules with 30 and 35mm frames BYDxxxAY-ZZ Where "A" can be M, N, M6, P6, MH, MLT or PH; "Y" can be LBK, C or K; and "ZZ" can be blank, 30 or 36
Canadian Solar	Canadian Solar modules with 30, 32, 35 and 40 mm frames CSbY-xxxZ Where "b" can be 1, 3, 6, 6.1, or 7; "Y" can be H, K, L, N, R, U, W, Y, -48TM, -54TM, -66TB, -66TM or -72TB; and "Z" can be blank, H, P, PB-AG, M, MS, PX, PX, MSD, P-AG, P-SD, MS-HL, MS-AG, MS-SD, MB-AG, T or TB-AG
CertainTeed	CertainTeed modules with 30, 35 and 40 mm frames: CTBBxxxYZZ-AA where "BB" can be blank or M10; "Y" can be M, P, or HC; "ZZ" can be 00, 01, 10, or 11; and "AA" can be 01, 02, 03, 04, 06, 08, or 09
Crossroads Solar	Crossroads Solar modules with 40 mm frames: Crossroads Solar xxx
CSUN	CSUN modules with 35 and 40 mm frames YYxxx-zzAbb Where "YY" is CSUN or SST; "zz" is blank, 60, or 72; and "A" is blank, P, PH, M, MM; "bb" is blank, BB, 5BB,BW, or ROOF
Dehui	Dehui modules with 30, 35 and 40 mm frames: DH-MYYYZ-xxx Where “YYY” can be 760, 772, 860, 872; and “Z” can be B, F or W
Ecosolargy	Ecosolargy modules with 35 and 40 mm frames: ECOxxxYzzA-bbD Where “Y” can be A, H, S, or T; “zz” can be 125 or 156; “A” can be M or P; “bb” can be 60 or 72; and “D” canbe blank or B
Emmvee	Emmvee modules with 35 mm frames: Exxx-YYZZZ-A Where "YY" can be M, P, HCM, HCMW, HCBG, HCBT; "ZZZ" can be 72, 120 or 144; and "A" can be blank or B
ET Solar (Elite Solar)	ET Solar modules with 30, 35, and 40 mm frames: ET-YZZZxxxAA where "Y" can be P, L, M, or N; "ZZZ" can be 660, 660BH, 672, 672BH, 754BH, 760BH, 766BH, 772BH, 760TBH, 766TBH, or 772TBH; and "AA" can be GL, TB, TW, WB, WW, BB, WBG, WWG, WBAC, WBCO, WWCO, WWBCO, or BBAC

Flex	Flex modules with 35 and 40 mm frames: FXS-xxxYY-ZZ; Where “YY” can be BB or BC; and “ZZ” can be MAA1B, MAA1W, MAB1W, SAA1B, SAA1W, SAC1B,SAC1W, SAD1W, SBA1B, SBA1W, SBC1B, or SBC1W
Freedom Forever	Freedom Forever modules with 35 mm frames: FF-MPa-BBB-xxx Where "a" can be blank or 1
Freevolt	Freevolt modules with 35 mm frames: ECP-PVGRAF-144HC-xxx
GCL	GCL modules with 35 mm and 40 mm frames: GCL-ab/YY xxx Where “a” can be M or P; “b” can be 3 or 6; and “YY” can be 60, 72, 72H, or 72DH
GigaWatt Solar	Gigawatt modules with 40 mm frames: GWxxxYYWhere “YY” can be either PB or MB
Goldi	Goldi modules with 35 mm frames: GS10-Byyy-zz-xxx Where "yyy" can be 108 or 144; and "zz" can be GF or TF
Grape Solar	Grape modules with 35 mm frames: GS-M120-xxx-FAB1
GreenWatts Solar	GreenWatts modules with 30 and 35mm frames: HSYY-A-xxx-ZZ Where "YY" can be 54, 60, 66, 72 or 78; "A" can be blank or F; and "ZZ" can be MN or BOB
Hansol	Hansol modules with 30, 35 and 40 mm frames: HSxxxYY-zz where "S" can be A or S; "YY" can be AA, AD, PB, PD, PE, TB, TD, UB, UD, UE, or XD; and "zz" can be AH2, AN1, AN3, AN4, HH2, HV1, JH2, GNEA0, or NNEA0
Hanwha Solar	Hanwha Solar modules with 40 mm frames: HSLaaP6-YY-1-xxxZ Where “aa” can be either 60 or 72; “YY” can be PA or PB; and “Z” can be blank or B

Hanwha Q CELLS	Hanwha Q CELLS Modules with 30, 32, 35 and 40 mm frames aaYY-ZZ-xxx where "aa" can be Q. or B.; "YY" can be PLUS, PRO, PEAK, LINE PRO, LINE PLUS, PLUS DUO, PEAK DUO or TRON; and "ZZ" can be G3, G3.1, G4, G4.1, G4/SC, G4.1/SC, G4.1/MAX, G4.1/TAA, G4.2, G5, G5/SC, G5/TS, G6, G6/SC, G6/TS, G6+/TS, G6+, G7, G7.2, G8, G8+L-G2, L-G2.3, L-G3, L-G3.1, L-G3y, BFR-G3, BLK-G3, BFR-G3.1, BLK-G3.1, BFR G4, BFR G4.1, BFR G4.3, BFR G4.1/TAA, BFR G4.1/MAX, EC-G4.4, BLK G4.1, BLK G4.1/TAA, BLK G4.1/SC, EC-G4.4, BLK-G5, BLKG5/SC, BLK-G5/TS, BLK-G6, BLK-G6+/HL, BLK-G6+, BLK-G6+/AC, BLK-G6+/HL, BLK-G6+/SC, BLKG6/TS, BLK-G6+/TS, BLK-G7, BLK-G8, BLK-G8+ L-G4, L-G4y, L-G4.1, L-G4.2, LG4.2/TAA, L-G5, L-G5.1, L-G5.2, L-G5.2/H, L-G5.3, L-G6, L-G6.1, L-G6.2, L-G6.3, L-G6.3/BFG, L-G4.2, L-G4.2/TAA, L-G7, L-G7.1, L-G7.2, L-G7.3, L-G8, L-G8.1, L-G8.2, L-G8.3, L-G8.3/BFG, L-G8.3/BFF, L-G8.3/BGT, BLK-G10, BLK-G10+, BLK-G10+/AC, M-G2+, BLK M-G2+, BLK M-G2.H+, BLK M-G2+/AC, BLK M-G2.H1+/AC, MLG9, BLK ML-G9, ML-G9+, BLK ML-G9+, ML-G10, ML-G10.a, ML-G10.a+, BLK ML-G10.a, BLK-M10.a+, BLK ML-G10+, BLK ML-G10.B+, BLK ML-G10.C+, BLK ML-G10+/T, BLK-G10+/HL, BLK ML-G10+/TS, ML-G12S.3/BFG, ML-G12S.7/BFG, XL-G2.3/BFG, XL-G9, XLG9.2, XL-G9.3, XL-G9.3/BFG, XL-G10.c, XL-G10.d, XL-G10.d/BFG, XL-G10.2, XL-G10.3, XL-G10.3/BFG, XL-G11.2, XL-G11.3, XL-G11.3/BFG or XL-G11S.3/BFG
Heliene	Heliene modules with 35 and 40 mm frames YYZZ-xxxA Where "YY" can be 36, 60, 72, 96, 108, 120, 132, 144 or 156; "ZZ" can be HC, M, MBLK; and "A" can be blank, Home-PV, M10 Bifacial, M10-SL, M10-SL-BLK, M10 TPC SL, M10 SL-Bifacial, M10 TPC SL Bifacial, Bifacial, M10 NTYP SL or M10 NTYP SL Bifacial
HT-SAAE	HT-SAAE modules with 35 and 40 mm frames HTyy-aaaZ-xxx Where"yy" can be 60, 66, 72, or 78; "aaa" can be 18, 156, 166 "Z" can be M, M-C, M(S), M(V), M(VS), M(V)-C, P, P-C, P(V), P(V)-C, X, X(ND)-F
Hyperion Solar (Runergy)	Hyperion or Runergy modules with 30 and 35 mm frames: HY-DHzzzAP8-xxxB Where "zzz" can be 108 or 144; "A" can be N or P; and "B" can be blank or B
Hyundai	Hyundai modules with 32, 33, 35 and 40 mm frames: HiY-SxxxZZ Where "Y" can be A, D or S; "S" can be M or S; and "ZZ" can be GI, HG, HI, KI, MI, MF, MG, OJ, PI, RI, RG,RG(BF), RG(BK), SG, TI, TG, YH(BK) or XG(BK)
INDEPWR Solar	INDEPWR modules with 35mm framesiPWR-M10-aaBX2S-xxxW Where "aa" can be 54, or 60; and "xxx" can be 430, 435, 440, 490, 495, or 500)

Illuminate USA	Illuminate USA Modules with 30 and 35 mm frames: IL5-72HBD-xxxM
Itek	Itek Modules with 40 mm frames: IT-xxx-YY Where “YY” can be blank, HE, or SE, or SE72
JA Solar	JA Solar modules with 30, 35 and 40 mm frames JAyyzz-bbww-xxx/aa Where “yy” can be M, P, M6, or P6; “zz” can be blank, (K), (L), (R), (V), (BK), (FA), (TG), (FA)(R), (L)(BK), (L)(TG), (R)(BK), (R)(TG), (V)(BK), (BK)(TG), or (L)(BK)(TG); “bb” can be 48, 54, 60, 66, 72 or 78; "ww" can be D09, D10, D20, D30, S01, S02, S03, S06, S09, S10, S12, S17, S20, S30 or S31; and “aa” can be BP, LB, MB, MR, SC, PR, 3BB, 4BB, 4BB/RE, or 5BB
Jakson Solar	Jakson Solar modules with 35mm frames: JH-xxxYY Where "YY" can be BB or BT
Jinko	Jinko modules with 30, 35 and 40 mm frames JKMYxxxZZ-aa Where Y" can either be blank or S; "ZZ" can be M, N, P or PP; and "aa" can be 54HL4-B, 60, 60B, 60H, 60L, 60BL, 60HL, 60HB, 60HBL, 6HBL-EP, 60-J4, 60B-J4, 60B-EP, 60(Plus), 60-V, 60-MX,6RL3, 6RL3-B, 6TL3-B, 66HL4M-BDV, 72 72B, 72-J4, 72BJ4, 72(Plus), 72-V, 72L-V, 72HL-V, 72H-V, 72HL-TV, 7RL3-V, 7RL3-TV, 72HBL-V, 72HL4-V, 72HL4-TV, 72HL4-V-TV, 72HL4-BDV, 72-MX, 72HL-V-MX3, 72H-BDVP, or 72HL4-BDX
KB Solar	KB Solar modules with 35 mm frames: KBS-xxxMono-YY Where "YY" can be blank or BF
Kyocera	Kyocera Modules KYxxxZZ-AA Where “Y” can be D or U; “ZZ” can be blank, GX, or SX; and “AA” can be LPU, LFU, UPU, LPS, LPB, LFB,LFBS, LFB2, LPB2, 3AC, 3BC, 3FC, 4AC, 4BC, 4FC, 4UC, 5AC, 5BC, 5FC, 5UC, 6BC, 6FC, 8BC, 6MCA, or6MPA
LA Solar	LA Solar modules with 35 mm frames: LSxxxYY Where "YY" can be BF, BL, BLA, HC or ST
LG	LG modules with 35 and 40 mm frames: LGxxxYaZ-bb Where "Y" can be A, E, M, N, Q, S; "a" can be A, 1, 2 or 3 "Z" can be C, K, T, or W; and "bb" can be A3, A5,A6, B3, B6, E6, E6.AW5, G3, G4, J5, K4, L5, N5, V5, V6

Longi	Longi modules with 30, 35 and 40 mm frames LRa-YY-xxxM Where "a" can be 4, 5, 6, 7 or 8; "YY" can be 54, 66 or 72
Maxeon	Maxeon modules with 35, 40 and 46 mm frames: SPR-AAAY-xxx-zzz Where "AAA" can be MAX, P or X; "Y" can be 3, 5, 6, 7, 21 or 22; and "zzz" can be blank, R, BLK, BLK-R, COM or UPP
Meyer Burger	Meyer Burger Modules with 35 mm frames: Meyer Burger Black or White or Glass
Mission Solar (mSolar)	Mission Solar modules with 30, 33, 35 and 40 mm frames YYYbb-xxxZZaa Where "YYY" can be MSI, MSE, MSN, MSX, TXI or TXS; "bb" can be blank, 6, 10, or 60A; "ZZ" can be blank, HN, HT, MM, SE, SO, SQ, SR, SX, TS, 108, 120 or 144; and "aa" can be blank, 0B, 2B, BB, BW, 1J, 4G, 4J, 4S, 4T, 5K, 5R, 5T, 60, 6J, 6S, 6W, 6Z, 9R, 8K, 8T, 9S or 9Z
Mitrex	Mitrex modules with 30 and 40 mm frames: Mxxx-XYZ Where "X" can be A, B, I or L; "Y" can be 1 or 3; and "Z" can be F or H
Mitsubishi	Mitsubishi modules PV-MYYxxxZZ Where “YY” can be LE or JE; and “ZZ” can be either HD, HD2, or FB
Moltech	IM and XS series modules with 40 mm frames
Navitas	Navitas Modules with 35 mm frames: NSMxxx-yyy Where "yyy" can be 120, 132 or 144
Next Energy Alliance	Next Energy Alliance modules with 35 and 40 mm frames yyNEA-xxxZZ Where "yy" can be blank or US; "ZZ" can be M, MB or M-60
NE Solar	NE Solar modules with 30, 35 and 40 mm frames: NESExxx-zzAAX-yy Where "zz" can be 54, 60 or 72; "AA" can be MH or TH; "X" can be blank or B; and "yy" can be M6 or M10
Neo Solar Power	Neo Solar Power modules with 35 mm frames: D6YxxxZZaa Where “Y” can be M or P; “ZZ” can be B3A, B4A, E3A, E4A, H3A, H4A; and “aa” can be blank, (TF), ME or ME (TF)
Panasonic (HIT)	Panasonic modules with 35 and 40 mm frames: VBHNxxxYYzzA Where “YY” can be either KA, RA, SA or ZA; “zz” can be either 01, 02, 03, 04, 06, 06B, 11, 11B, 15, 15B, 16,16B, 17, or 18; and “A” can be blank, E, G, or N

Panasonic (EverVolt)	Panasonic modules with 30 mm frames: EVPVxxxA Where "A" can be blank or H, K, HK, HK2 or PK
Peimar	Peimar modules with 40 mm frames: SbxxxYzz Where "b" can be G, M or P; "Y" can be M or P; and "zz" can be blank, (BF) or (FB)
Philadelphia Solar	Philadelphia modules with 30, 35 and 40 mm frames PS-YzzAA-xxxW Where "Y" can be M, MNB, MNG or P; "zz" can be 60, 72, 108, 132, 144 or 156; "AA" can be blank, (BF), (HC), (HCBF) or (HCBF)-GG; and "W" can be blank or W
Phono Solar	Phono Solar modules with 30, 35 and 40 mm frames: PSxxxY-ZZ/A Where "Y" can be M, M1, MH, M1H, M4, M4H, M5GF, M5GFH, M6, M6H, M8, M8H, M8GF, M8GFH or P; "ZZ" can be 18, 20 or 24; and "A" can be F, T, TH, THB, TNH, U, UH, UHB, VH, VHB or VNHB
Prism Solar	Prism Solar modules with 35 mm frames: PST-xxxW-M72Y Where "Y" can be H, HB or HBI
Rayzon Solar	Rayzon Solar modules with 35 and 40 mm frames: RSYxxxWC Where "Y" can be blank or B
Recom	Recom modules with 35 and 40 mm frames: RCM-xxx-6yy Where "yy" can be MA, MB, ME or MF
REC Solar	REC modules with 30 and 38 mm frames: RECxxxYYZZ Where "YY" can be AA, M, NP, NP2, NP3, PE, PE72, TP, TP2, TP2M, TP2SM, TP2S, TP3M or TP4; and "ZZ" can be blank, Black, BLK, BLK2, SLV, 72, Pro M, Pure, Pure-R, Pure-RX or Pure 2
Renesola	ReneSola modules with 35 and 40 mm frames: AAxxxY-ZZ Where "AA" can be SPM(SLP) or JC; "Y" can be blank, F, M or S; and "ZZ" can be blank, Ab, Ab-b, Abh,Abh-b, Abv, Abv-b, Bb, Bb-b, Bbh, Bbh-b, Bbv, Bbvb, Db, Db-b, or 24/Bb
Renogy	Renogy Modules with 35 and 40 mm frames: ZZ-xxxY-AAA Where "ZZ" can be NG or SP; "Y" can be D or P; and "AAA" can be blank, 144, BB-108, BB-120 or BK-120

Risen	Risen Modules with 30, 35 and 40 mm frames: RSMyy-a-xxxZZ Where "yy" can be 60, 72, 110, 120, 132 or 144; "a" can be 6, 7 or 8; and "ZZ" can be M, P or BMDG
Saatvik	Saatvik Modules with 35 mm frames: SGExxx-YYYZZZ Where "YYY" can be 108 or 144; and "ZZZ" can be MHC, MBHC or MHCB
S-Energy	S-Energy modules with 35 and 40 mm frames: SABB-CCYYY-xxxZ Where "A" can be C, D, L or N; "BB" can be blank, 20, 25, 40 or 45; "CC" can be blank, 60 or 72; "YYY" can be blank, BDE, MAE, MAI, MBE, MBI, MCE or MCI; and "Z" can be V, M-10, P-10 or P-15
SEG Solar	SEG Solar modules with 30, 35 and 40 mm frames S-aYY-xxx-ZZ Where "a" can be blank, 6 or B; "YY" can be blank, MA, MB, PA or PB; and "ZZ" can be blank, BB, BG, BW, HV, WB, WW, BMB, BMA-HV, BMA-BG, BMA-TB, BMB-TB, BMB-BG, BMD-BG, BMB-HV, BMD-HV, BMD-TB, BTA-BG, BTB-BG, BTC-BG
Seraphim USA	Seraphim modules with 30, 35 and 40 mm frames: SRP-xxx-YYY-ZZ Where "xxx" is the module power rating; and "YYY" can be BMA, BMD, 6MA, 6MB, 6PA, 6PB, 6GA-XX-XX, and 6GB-XX-XX; ZZ is blank, BB, BG or HV
Sharp	Sharp modules with 35 and 40 mm frames: NUYYxxx Where “YY” can be SA or SC
Shinsung E&G	Shinsung Modules with 35 mm frames: SSVxxx-144MH
Silfab	Silfab Modules with 35 and 38 mm frames SYY-Z-xxxAb Where "YY" can be IL, SA, LA, SG or LG; "Z" can be blank, M, P or X; "A" can be blank, B, H, M, N, Q, or X; and "b" can be A, C, C+, D, G, K, L, M, M+, N, T, U or X
Sinotec	Sinotec Modules with 30 mm frames: STS-xxxP-54DD
Sirius PV	Sirius PV Modules with 35 mm frames ELNSMzzM-HC-yy-xxx Where "zz" can be 54 or 72
Solar4America	Solar4America modules with 30, 35 and 40 mm frames S4Axxx-MH5
Solarever	Solarever modules with 30, 35 mm frames: SE-zzz*yy-xxxM-aaa Where "zzz" can be 166 or 182; "yy" can be 83, 91 or 105; and "aaa" can be 108, 96-BD, 144 or 144N
Solaria	Solaria modules with 35 and 40 mm frames: PowerA-xxxY-ZZ Where "A" can be AC or XT, "Y" can be R or C; and "ZZ" can be blank, AC, BD, BX, BY, PD, PL, PM, PM-AC, PX, PZ, WX, WZ or 4T

Solarcity (Tesla)	Solarcity modules with 40 mm frames: SCxxxYY Where “YY” can be blank, B1 or B2
SolarTech	SolarTech modules with 40 mm frames: AAA-xxxYY Where "AAA" can be PERCB-B, PERCB-W, HJTB-B, HJTBW or STU; "YY" can be blank, PERC or HJT
SolarWorld AG	SolarWorld Sunmodule Plus, Protect, Bisun, XL, Bisun XL, may be followed by mono, poly, duo, black, bk, or clear; modules with 31 and 33 mm frames SW-xxx
SolarWorld Americas	SolarWorld Sunmodule Plus, Protect, Bisun, XL, Bisun XL, may be followed by mono, poly, duo, black, bk, or clear; modules with 33 mm frames SWA-xxx
Sonali	Sonali Modules with 35 and 40 mm frames: SS-M-xxx-yyy Where "M" can be blank or M ,and "yyy" can be blank, 108M-B or W-M60H M10
Star Solar	Star Solar modules with 35 mm frames: Star-xxxW-YYY-ZZZ Where "YYY" can be M60H or M60HB; and "ZZZ" can be blank or M10
Stion	Stion Thin film modules with 35 mm frames: STO-xxx or STO-xxxA
SunEdison	SunEdison Modules with 35 and 40 mm frames: SE-YxxxZABCDE Where "Y" can be B, F, H, P, R, or Z; "Z" can be 0 or 4; "A" can be B,C,D,E,H,I,J,K,L,M, or N; "B" can be B or W; "C" can be A or C; "D" can be 3, 7, 8, or 9; and "E" can be 0, 1 or 2
Suniva	Suniva modules with 35, 38 and 40 mm frames: OPTxxx-AA-B-YYY-Z MVXxxx-AA-B-YYY-Z Where "AA" is either 60 or 72; "B" is either 4 or 5; "YYY" is either 100, 101, 700, 1BO, or 1B1; and "Z" is blank or B
Sunmac Solar	Sunmac modules with 30 and 35 mm frames: SMxxxMaaaZZ-YY Where "aaa" can be 660, 754 or 772; "ZZ" can be NH or SH; and "YY" can be BB or TB
Sunpower	Sunpower standard (G3 or G4) or InvisiMount (G5) 35 and 40 mm frames: SPR-Zb-xxx-YY Where "Z" can be A, E, M, P or X; "b" can be blank, 17, 18, 19, 20, 21 or 22; and "YY" can be blank, BLK, COM, C-AC, D-AC, E-AC, BLK-E-AC, G-AC, BLK-G- AC, H-AC, BLK-H-AC, BLK-C-AC, or BLK-D-AC
Sunspark	Sunspark modules with 40 mm frames: SYY-xxxZ-A Where "YY" can be MX or ST; and "Z" can be M, MB, M3, M3B, P or W; and "A" can be 60 or 72
Suntech	Suntech Modules with 35 and 40 mm frames: STPxxxy-zz/aa Where "y" is blank or S; and "zz" can be 20, 24, A60, A72U, B60 or B72; and "aa" can be Vd, Vem, Vfw, Vfh, Vnh, Wdb, Wde, Wd, Wfhb or Wnhb
Talesun	Talesun modules with 30, 35 and 40 mm frames: TAByZZaa-xxx-b Where "A" can be D, M or P; "B" can be 3, 6, 7 or 9; "y" can be blank, F, G, H, I or L; "ZZ" can be 54, 60, 66, 72 or 78; "aa" can be M, (M)H, or P; and "b" can be blank, B, T or (H)

Tesla	Tesla modules with 40 mm frames: TxxxY Where "Y" can be H or S
Thornova	Thornova Modules with 30 and 35 mm frames: TS-YYZZ(xxx)-X Where "YY" can be BB, BG or BGT; "ZZ" can be 54, 60 or 72; and "X" can be blank or X
Topco	Topco Solar modules with 30mm frames: TPM7-SH108-xxx/M
Trina	Trina Modules with 30, 35, and 40mm frames TSM-xxxYYZZ Where "YY" can be DD05, DD06, DD14, DE14, DE15, DE15V, DEG15, DEG15VC, DE18M, DEG18MC,DE09, DE19, DEG19C.20, DE06X, PA05, PC05, PD05, PD06, PA14, PC14, PD14, PE14, PE15, NEG19RC, NE09RC; and "ZZ" can be blank, .05, 05A, 05.08, .05(II), .08, .08(II), .10, .18, .08D, .18D, 0.82, .002, .00S, 05S, 08S, .20, .20(II), A, A.05, A.08, A.10, A.18, (II), A(II), A.05(II), A.08(II), A.082(II), A.10(II), A.18(II), C.05, C.07,C.05(II), C.07(II), H, H(II), H.05(II), H.08(II), HC.20(II), HC.20(II), M, M(II), M.05(II), MC.20(II),
Universal	Universal Solar Modules with 35 mm frames: UNI-xxx-yyyZZZ-aa Where "yyy" can be 108, 120 or 144; "ZZZ" can be M, MH, BMH; and "aa" can be blank, BB or DG
URE	URE modules with 30 and 35 mm frames: DyZxxxaa Where "D" can be D or F, "y" can be A, B, 6 or 7; "Z" can be F, K, L or M; and "aa" can be B7G, B8G, BFG, BFG, BFG-BB, C8G, DFG-BB, H3A, H4A, H8A, L4A, E7G-BB, E8G, E8G-BB, MFG, MFG-BB or M7G-BB
Vikram	Vikram solar modules with 30, 35, and 40 mm frames XVSyy.ZZ.AAA.bb Where "X" can be blank, Hypersol, Paradea, Prexos or Somera; "yy" can be P, PBB, M, MBB, MH, MHBB, MS, MDH, or MDHT; "ZZ" can be 54, 60, 72 or 78; "AAA" is the module power rating; and "bb" can be 03, 04 or 05
VSUN	VSUN modules with 30, 35, and 40mm frames VSUNxxxA-YYz-aa Where "A" can be blank or N; "YY" can be 60, 72, 108, 120, 132, or 144; and "z" can be M, P, MH, PH, or BMH; and "aa" can be blank, BB, BW, or DG
Waaree	Waaree modules with 35 and 40 mm frames: AAyy-xxx Where "AA" can be WS or Bi; and "yy" can be blank, M, MB, MD, MDI, MDIB, 33, 55, 57 or 66
Winaico	Winaico modules with 35 and 40 mm frames: Wsy-xxxZa Where "y" can be either P or T; "Z" can be either M, P or MX; and "a" can be blank or 6
Yingli	Yingli modules with 30, 35 and 40 mm frames: YLxxxZ-yy Where "Z" can be D or P; "yy" can be blank, 29b, 30b, 34d, 35b, 36b, 37e 1/2, 37e 1500V 1/2, 40d, 49e 1/2 or 49e 1500V 1/2
Yotta	Yotta modules with 30 and 35 mm frames: YSM-Bxxx-ZZ-72-1 Where "ZZ" can be 06 or 10
Zeus	Zeus Solar Modules with 40 mm frames: ZxxxM-HB
ZN Shine	ZN Shine modules with 30, 35mm frames ZXMY-AAA-xxx Where "M" can be M or P; "Y" can be 6, 7 or 8; "AAA" can be 72, NH120, NH144, NHDB144, NHLDD144, SH108, SH144, SHDB144, SHLDD144, TP120, or UHLDD144.

Photovoltaic Hazard Control Required Components as per UL3741 18.5:

UL3741 enables the construction of PV systems without module level power electronics (MLPEs). Sollega UL 2703 Conforms to STD ANSI/UL Standard for Safety Photovoltaic Hazard Control System, Max PVHCS System Voltage: 1000V

• List of approved PV hazard Control Equipment or Components evaluated at 1000V Max System Voltage: All Modules listed in the Module Compatibility Sections with max module size: 30.5 sq/ft

• FR510-6 Components, FR510-6-5dg Chassis, FR510-6-10dg Chassis, FR510-6dg Chassis, Pull Clam (FR-PC-A), End Clamp (FR-EC) (30-50mm)

• For conductors Outside Array Boundaries: Requirements for PV arrays addressed in UL 3741 are intended for compliance with the National Electrical Code (NEC), NFPA 70, 2017 and later editions and their requirements for controlling electrical shock hazards inside the array boundary as addressed in NEC section 690.12(B)(2), Rapid Shutdown of PV Systems on Buildings and with the Canadian Electrical Code (CE Code) C22.1.

The following pages list approved inverters that are within this PVHCS & additionally comply with the 30V in 30 seconds requirements outside the PV array as required in 690.12 (B)(1)

Other Components:
• Edge Clip (FR-W-CLP) and Cable Ties (FR-W-CBT) (UL 62275 Listed)
• RayTray v2 Solar Wire Management System (UL870 Listed)
• Listed Conduit (all sizes apply), Electrical Metallic Tubing (EMT) (UL797 Listed), Rigid Metal Conduit (RMC) (UL 6 Listed), Intermediate Metal Conduit (IMC) (UL 1242 Listed), Listed Tubing, Fittings and Grounding Components.
• PV Connectors (UL 4703 Listed), PV Wire (UL 4703 Listed)

Photovoltaic Hazard Control Required Components as per UL3741 18.5:

The simplest installation method to comply with NEC690.12(B) is to utilize the FR510-6 UL3741 system with a contiguous array (no separate sub-arrays) with one or more collocated inverters, as all inverter DC input circuits are within the 1 ft array boundary (Case 1). Installations where subarrays are required and cannot be included within the 1 ft array boundary can comply by using a single or combing one or more of the three options below (Cases 2-4).

The following case studies have been provided by Sollega to show examples of installation options that comply with NEC690.12(B), compliance is not limited to these examples. The following examples are Sollega recommendations.

Approved UL3741 Inverters

Manufacturer	Models
SMA	STP (33, 50, 62)-US-41; Sunny Tripower X: STP (20, 25, 30)-US-50
Chint Power Systems	CPS SCA (36kW, 50kW, 60kW) TL-DO/US-480; CPS SCA25KTL-DO/US-208; CPS SCA25KTL-DO-R/US-480
Solectria Renewables	PVI (50, 60)TL-480; PVI 25TL-208; PVI 25TL-480(R); PVI 36TL-480-V2
Ginlong Technologies (Solis)	S5-GC (75kW, 80kW, 90kW, 100kW)-US; S6-GC (25kW, 33kW, 36kW, 40kW, 50kW, 60kW)-US
Solis Inverters	Solis-(25kW, 30kW, 36kW, 40kW, 50kW, 60kW, 66kW)-(SW, F-SW, LSW)
Fronius	Symo Advanced (10.0-3, 12.0-3) 208–240/Lite; Symo Advanced (15.0-3, 20.0-3, 22.7-3, 24.0-3) 480/Lite
Canadian Solar	CSI-(25kW, 30kW, 36kW, 40kW, 50kW, 60kW, 66kW)-T480GL01-UB; CSI-(75kW, 80kW, 90kW, 100kW)-T480GL02-U; CSI-(75kW, 80kW, 90kW, 100kW)-T480GL03-U
GoodWe	SMT Series/GW (50kW, 60kW)-SMT-US
Sungrow	SG(36, 60)CX-US

PV Hazard Control Boundary

Sollega FR510-6 meets Rapid Shutdown when installed in conjunction with an approved string inverter within 1' of the PV array boundary. Sub-arrays outside the PV array boundary will require either
A) separate inverter or
B) Module Level Power Electronics (MLPEs) installed.

Ensure safe installation of all electrical aspects of the array. All electrical installation and procedures should be conducted by a licensed and bonded electrician or solar contractor. Routine maintenance of a module or panel shall not involve breaking or disturbing the bonding path of the system. All work must comply with national, state, and local installation procedures, product, and safety standards. Comply with all applicable local or national building and fire codes, including any that may supersede this manual. Ensure all products are appropriate for the installation, environment, and array under the site's loading conditions. Use only Sollega parts or parts recommended by Sollega; substituting parts may void any applicable warranty. Ensure provided information is accurate. Issues resulting from inaccurate information are the installer's responsibility. Ensure bare copper grounding wire does not contact aluminum and zinc-plated steel components, to prevent risk of galvanic corrosion. If loose components or loose fasteners are found during periodic inspection, re-tighten immediately. Any components showing signs of corrosion or damage that compromise safety shall be replaced immediately. Provide an appropriate method of direct-to-earth grounding according to the latest edition of the National Electrical Code, including NEC 250: Grounding and Bonding, and NEC 690: Solar Photovoltaic Systems. Disconnect AC power before servicing or removing modules, AC modules, microinverters, and power optimizers. Review module manufacturer's documentation for compatibility and compliance with warranty terms and conditions.
CAUTION: Module removal may disrupt the bonding path and could introduce the risk of electric shock. If during servicing a module is required to be removed, a bonding jumper shall be installed between the adjacent modules from where the module was removed to maintain the bond path.
WARNING: To reduce the risk of injury, read all instructions.

All PV wire must be attached to the module frame and FR510-6 racking using our FR-W-CLP (UV-rated Nylon Zip Tie Wire Clip) with an approved "Air Gap" providing proper insulation from the frame. PV wire must be isolated from the module frame. All installation, including metal conduit and assembly of grounding, shall be done in accordance with the National Electrical Code (NEC, NFPA 70). All installation, operation, and maintenance must comply with the guidelines in our installation manual.

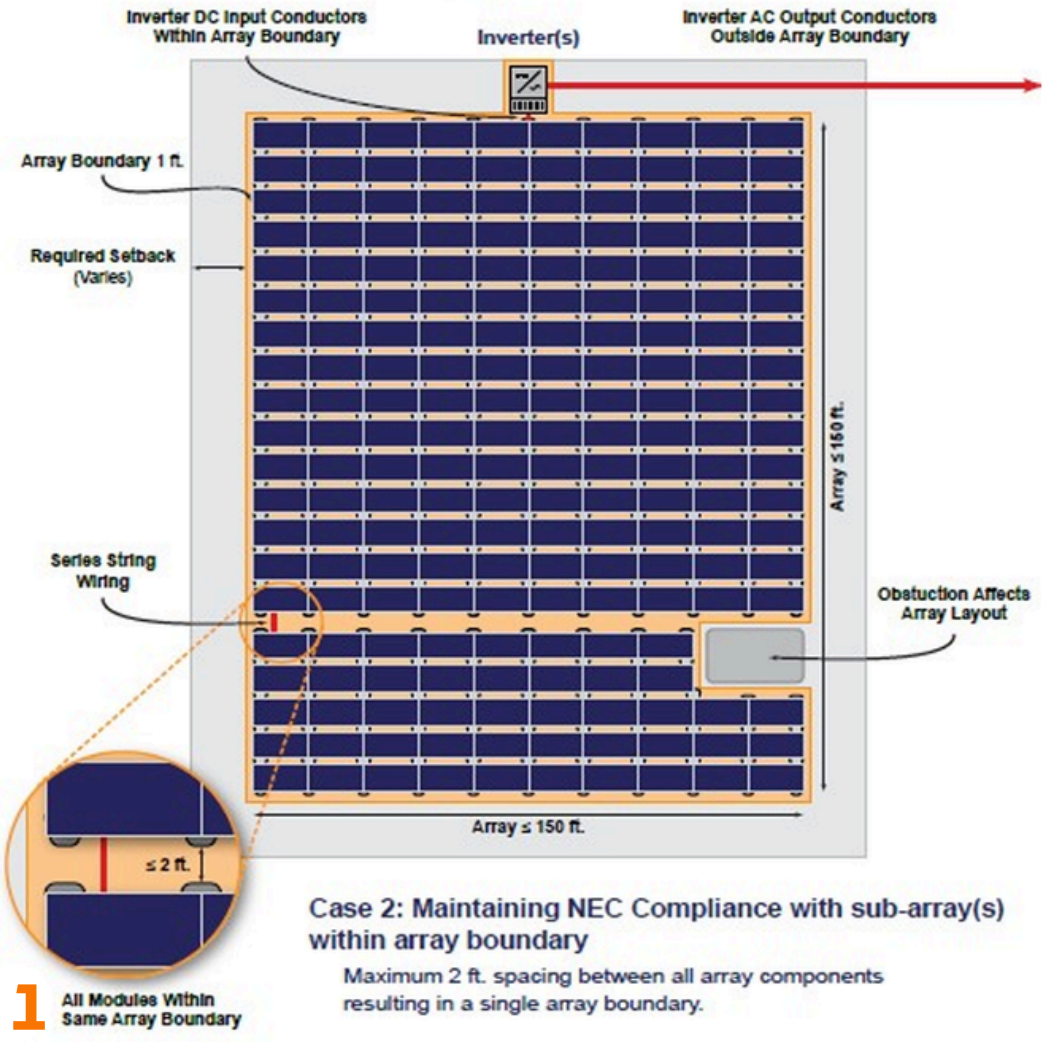
Please refer to the third-party installation manual for PVHCS compliance and installation.

Note: UL 3741 listing only applies to component and conductors inside the array boundary and that additional precautions are required for conductors outside the array boundary to meet NEC requirements.

PV Hazard Control Boundary

Case 2: Sub-Array(s) are within the same Array Boundary and Array(s) comply with NEC 690.12(B)(2)(1)

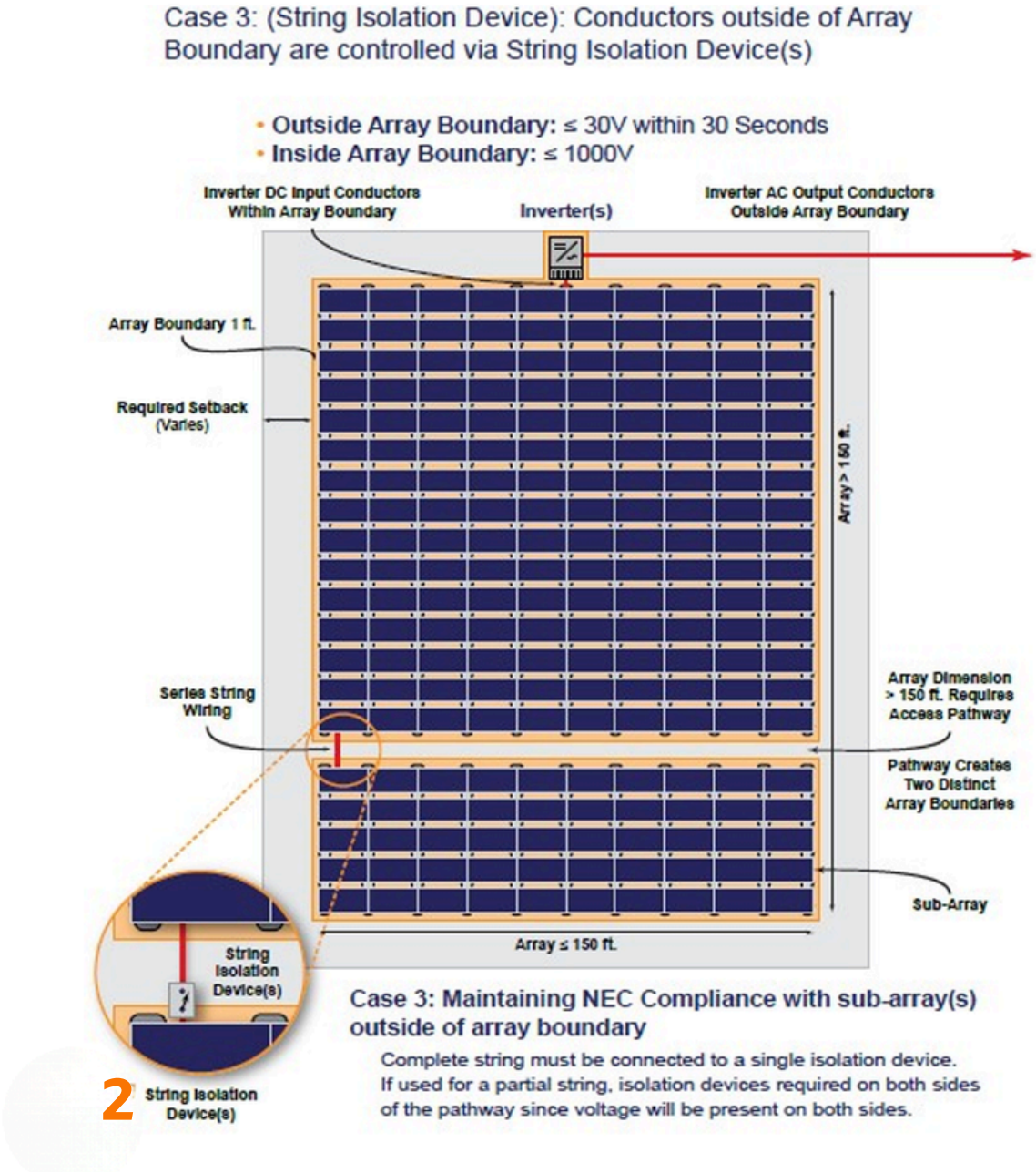
- **Outside Array Boundary:** ≤ 30V within 30 Seconds
- **Inside Array Boundary:** ≤ 1000V



Case 2: Maintaining NEC Compliance with sub-array(s) within array boundary

Maximum 2 ft. spacing between all array components resulting in a single array boundary.

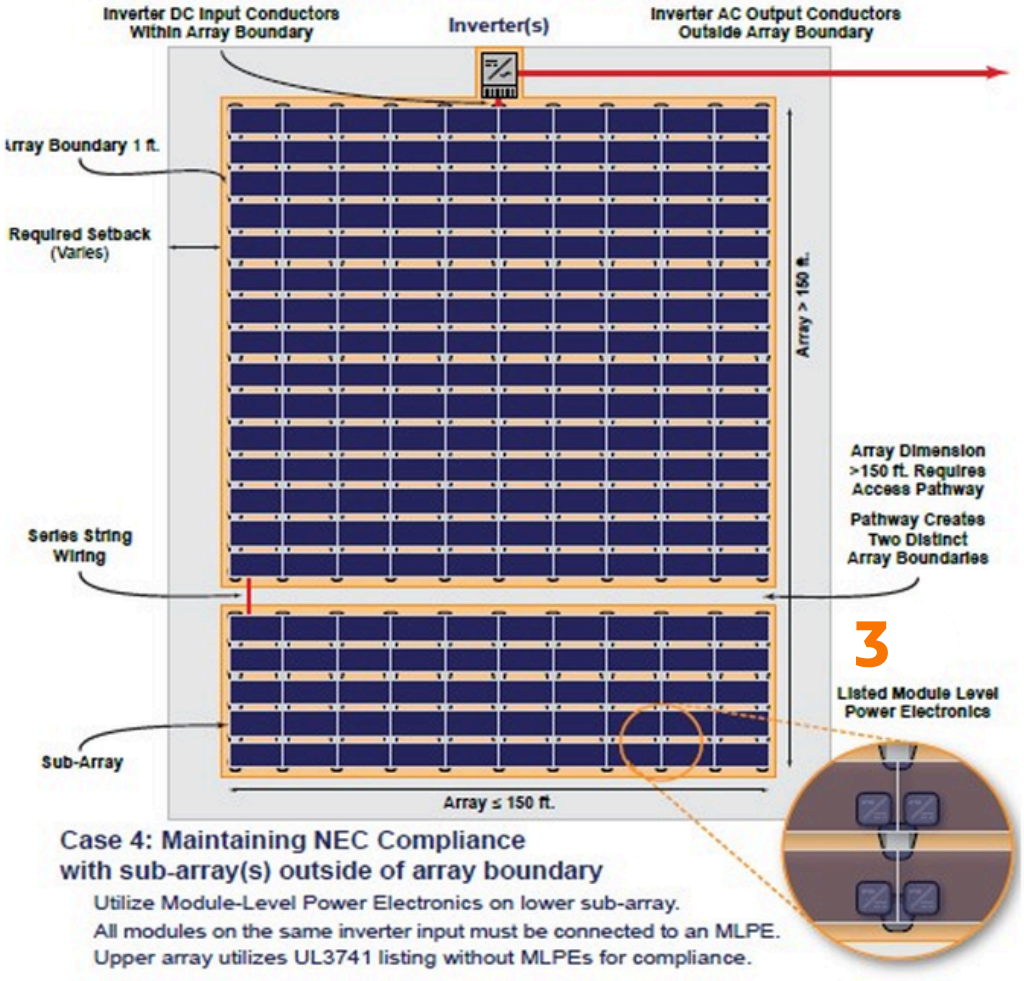
PV Hazard Control Boundary



PV Hazard Control Boundary

Case 4: (using MLPE): sub-array circuits are controlled to meet 690.12(B)(2)(2)

- **Outside Array Boundary:** ≤ 30V within 30 Seconds
- **Inside Array Boundary:** ≤ 1000V
- **Inside Sub-Array Boundary:** ≤ 80V within 30 Seconds



Case 4: Maintaining NEC Compliance with sub-array(s) outside of array boundary

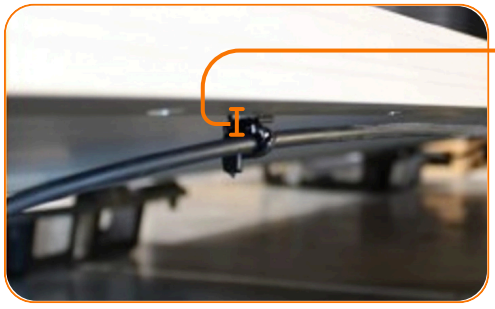
Utilize Module-Level Power Electronics on lower sub-array.
All modules on the same inverter input must be connected to an MLPE.
Upper array utilizes UL3741 listing without MLPEs for compliance.

PV Hazard Control Boundary

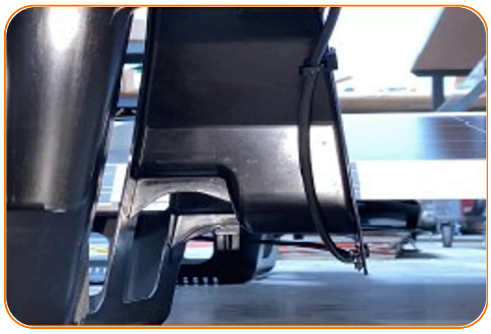
The FR510-6 Wire Management components noted in the list of approved PVCHS equipment on page 3 were evaluated and approved for providing enhanced wire protection. To achieve enhanced wire protection as required per UL3741, all wires shall be routed such that they are not exposed to potential FF interactions. Routing wires under the FR510-6 Chassis and under modules, or through approved listed raceway for wires crossing over a pathway, will ensure avoiding exposure to FF interactions.

When using the HellermannTyton Edge Clip Cable Tie, wrap the cable tie around the conductor(s) and tighten until wiring is secured in place. Do not over-tighten or pinch the conductors. See photos for examples of under module and under chassis wire management.

All wiring managed under module, FR510-6 chasis or in listed raceway



Examples of wire installation under module frame



Examples of wire installation under FR510-6 Chassis

Manage larger bundles of cables using RayTray or other listed raceway. When entering and existing the raceway, installers should also ensure PV wires are routed away from exposure to Fire Fighter interactions.

Examples of wire installation in approved wireways.

Sollega FastRack 25-Year Warranty

SOLLEGA Inc.™ is dedicated to providing excellent customer support and service and will continually evolve our warranty to enhance our dealers' and customers' experiences with SOLLEGA. The following policies and procedures are subject to change as our process evolves. SOLLEGA Inc. warrants that its FastRack™ Photo-voltaic (PV) Module Mounting System, when sold and delivered pursuant to a SOLLEGA Sales Order, will be new, will conform to the specifications in the applicable SOLLEGA Sales Order, and will be free from defects in material and/or workmanship for a period of Twenty Five (25) years from the date of shipment. Except for the foregoing limited warranties, SOLLEGA makes no other warranties express or implied for its SOLLEGA FastRack. This Warranty does not apply to damage incurred during shipment and does not apply to damage that is the result of improper handling. This Warranty will be void if during the warranty period, the SOLLEGA FastRack has been improperly or incorrectly installed, used, or maintained, or has been operated under abnormal conditions or contrary to applicable specifications. This Warranty is granted to the original SOLLEGA FastRack owner only and is only applicable to the original installation of the SOLLEGA FastRack. This Warranty does not apply to damage to the SOLLEGA FastRack that is the result of weather conditions that exceed local building code limits that were applicable at the time that the SOLLEGA FastRack was originally installed. It is recognized and agreed that the foregoing limited warranties are in lieu of all other warranties, whether express or implied, and that SOLLEGA Inc. does not make any warranty of merchantability or any warranty of fitness for a particular purpose. In the event the SOLLEGA Inc. FastRack fails to satisfy the foregoing limited warranties, then SOLLEGA will repair or replace, at its option and cost, the defective product. The foregoing remedy shall be in lieu of all others that the SOLLEGA Purchaser may have, and the Purchaser waives all other remedies.

SOLLEGA Inc. will not assume expense or liability for correction of a defective SOLLEGA. FastRack by the Purchaser or by third parties without SOLLEGA's prior written authorization. In the event of the authorized correction of a defective SOLLEGA FastRack, the warranty period will be extended by the length of time during which the defective equipment was in the process of being repaired or replaced. Unauthorized field modification to SOLLEGA's final layout will affect warranty coverage. If any changes are made that significantly affect the structural integrity of the system, customer must provide written drawings for SOLLEGA's review, comment and approval prior to attempting any field modifications. Modifications may include but are not limited to changes in location of FastRacks, modules, windscreens, roof anchors, roof pavers or any other racking system components. SOLLEGA Inc.'s total liability hereunder for the repair or replacement of a SOLLEGA FastRack, or any defective components thereof, shall not exceed the original purchase price of the system. In no event will SOLLEGA Inc. be liable for or responsible to the Purchaser, or to any other party, for any consequential, incidental, or special, loss, cost, damage, or expense arising from the curtailment or interruption of photo-voltaic (PV) system operation or from the curtailment or interruption of any operations, processes, or equipment connected to the PV system. This warranty grants the purchaser specific legal rights that may vary according to the state in which the Sollega FastRack is installed. In some states, sellers cannot limit the rights of the purchaser, so you may have access to legal remedies in addition to or greater than those specified here. This warranty does not cover failures resulting from freeze damage, fire, flood, lightning, hurricane, tornado, hailstorm, windstorm, earthquake, or other acts of God, vandalism, explosions, exposure to harmful materials or fluids, or unauthorized alterations or repairs or any other cause beyond the control of SOLLEGA Inc.

More information on our products, including specs for individual parts, data sheets, and authorization letters, are available at **sollega.com/downloads**.

For any questions, or if you have feedback on this installation manual, please reach out to **info@sollega.com**.

Thank you for trusting Sollega with your PV racking needs. Please feel free to connect with us on our socials listed below to stay up-to-date on our latest developments and trade show appearances. We hope to work with you again soon!

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The *Simple* Solar Racking Solution™