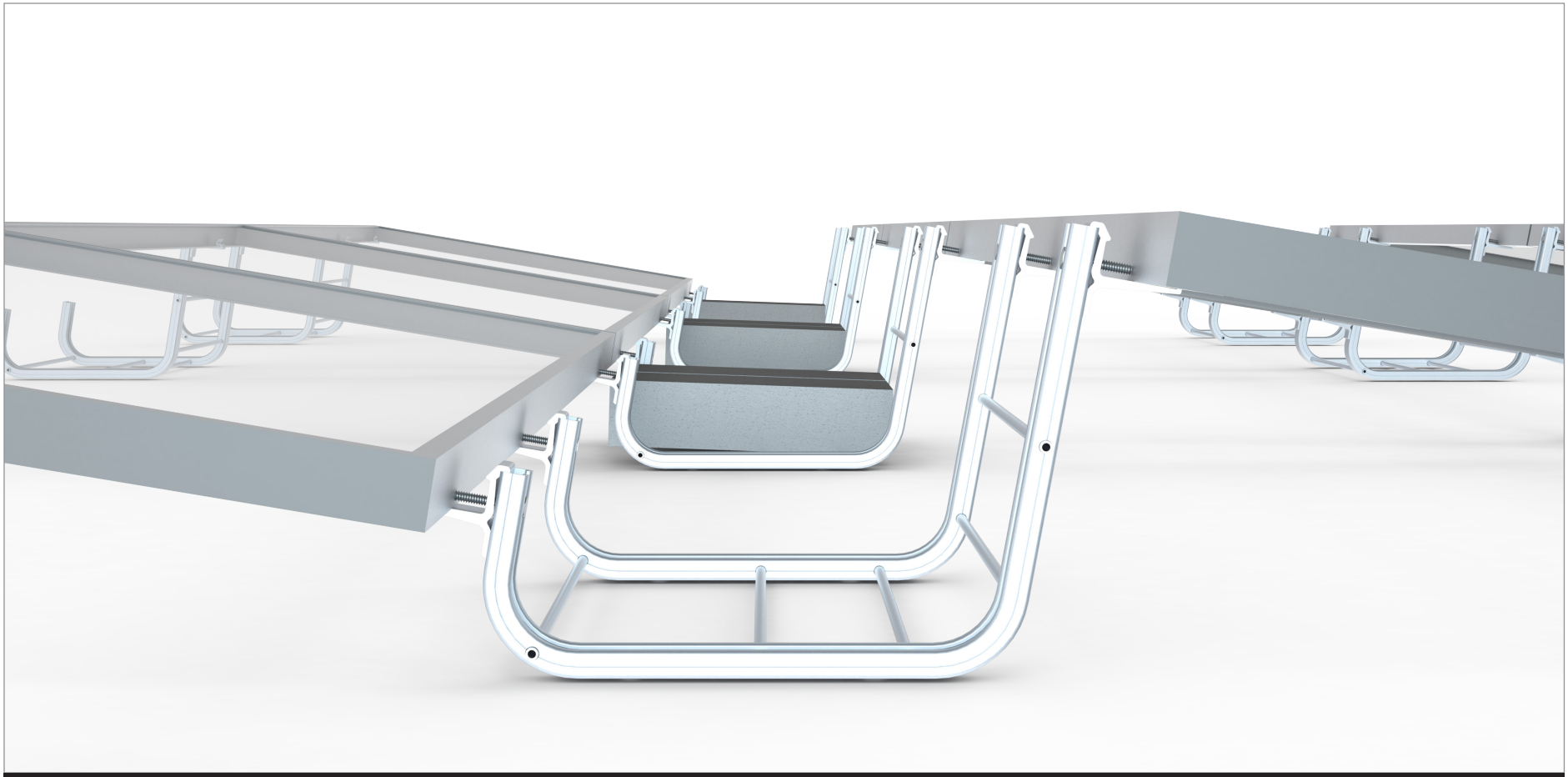
RM10 INSTALLATION GUIDE



UNIRAC Code-Compliant Installation Manual

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PUB2024AUG23

RM10 INSTALLATION GUIDE

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TOOLS & SPECIFICATIONS

TECHNICAL DATA SHEET | PAGE 1

TECHNICAL SPECIFICATIONS:

Material Types: Mill finish aluminum for clamps and ballast bays (6063-T5, 6105-T52, 6063-T5, 6105-T5 or6005A-T61)

Hardware: Stainless Steel with Threadlock compound

Bonding and Grounding: UL2703 Listed Continuous Bonding Path.

TOOLS REQUIRED OR RECOMMENDED FOR LAYOUT, ATTACHMENTS & INSTALLATION:

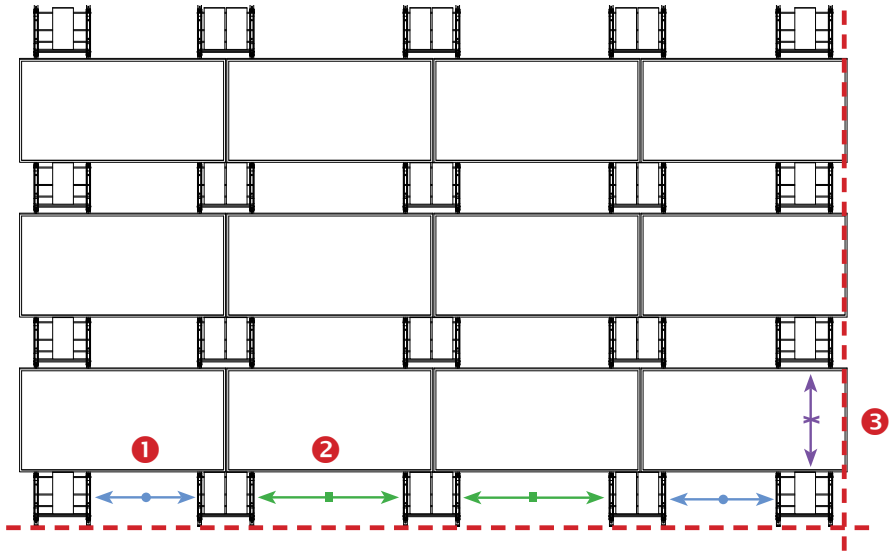
- Drill **(Do Not Use An Impact Driver)**
- 9/16" Socket
- Torque Wrench
- Optional torque limiter (8FT-LBS)
- Tape Measure
- Chalk Reel
- Optional Spacers (See Diagram - Page Right)

SAFETY:

All applicable OSHA safety guidelines should be observed when working on a PV installation job site. The installation and handling of PV solar modules, electrical installation and PV racking systems involves handling components with potentially sharp metal edges. Rules regarding the use of gloves and other personal protective equipment should be observed.

LAYOUT ASSISTANCE TOOL:

Module Dimensions:		RM10	Module location:	Spacing Equations (in Inches):
Module Length **(ML) =**		1	Perimeter Column Spacing =	ML+(G/2)-33.25"
Module Width **(MW) =**		2	Interior Column Spacing =	ML+G-21.17"
Prefered module gap? (1/4" - 1" is permissible)		3	Row Spacing =	Fully install one panel, cut spacer to N/S distance
East/West Module Gap **(G) =**				

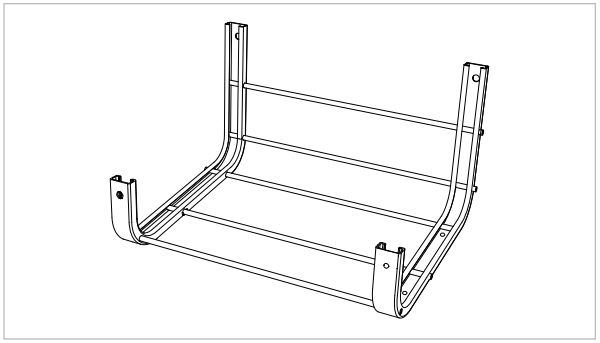


SPACERS - OPTIONAL

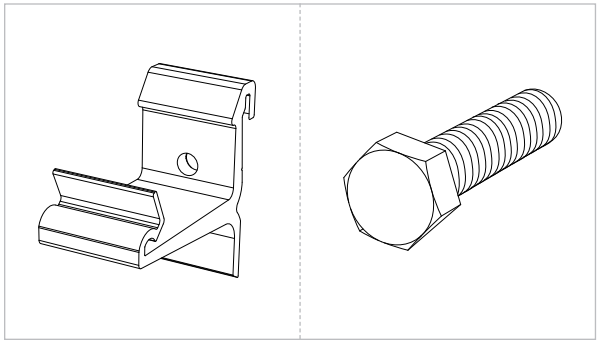
PERIMETER COLUMN SPACER

COLUMN SPACER

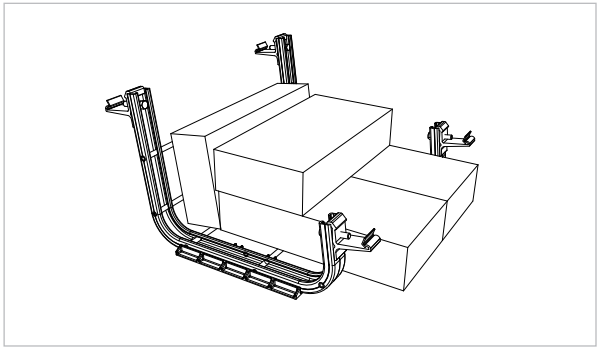
SOUTH ROW SPACER



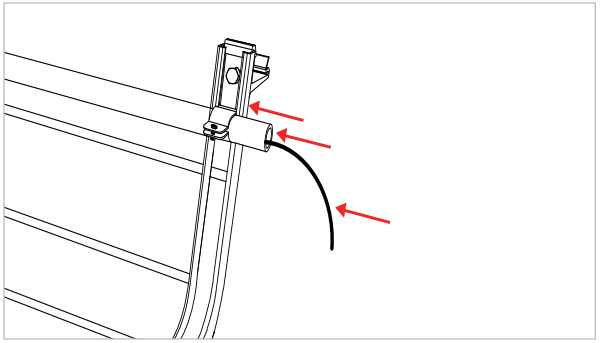
BALLAST BAY (P/N: 310710): The Ballast Bay frame is made of a mill finish Aluminum. This roof mount is a modular design that allows for easily getting around roof obstructions and accommodating roof undulations. The Ballast Bays are created such that they nest within each other to optimize shipping logistics.



CLIP & BOLT (P/N: 310749): The Module Clip is made of a mill finish Aluminum and engages the return flange underneath the panel to secure the module. This unique design takes advantage of the design of the module frame, attaching to the return flange of the frame creating a universal connection.

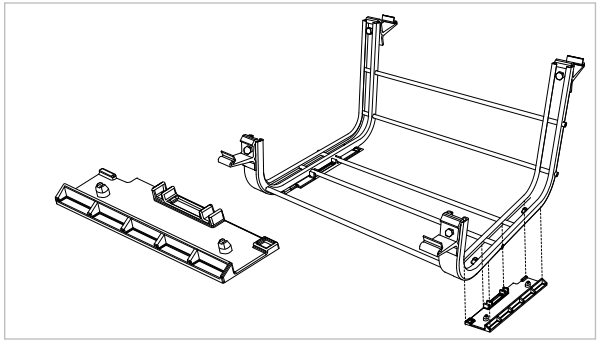


BALLAST BLOCK: The RM ballast bay can fit up to 4 standard 4”x8”x16” solid concrete cap blocks (6 blocks on north row modules). ***See Page 5*** for more information. Block weight can range from 26–38 lbs. The weight of the block will have a major impact on how many will be required for the project so be sure to verify your block weights before using the U-builder online tool.



OPTIONAL WIRE MANAGEMENT: The Ballast Bay frame runners will accept standard strut-strap wire management solutions, or standard strut nuts, available for purchase through your local electrical supply store.

NOTE: All conduit and wire ways should be grounded & bonded per the (NEC) National Electric Code.



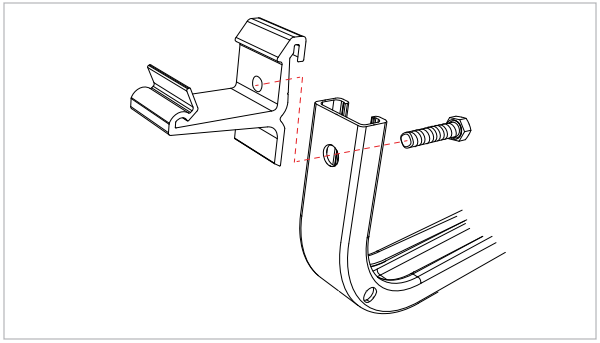
OPTIONAL ROOF PAD (P/N: 310760): The Roof Pad provides a protective interface between the Ballast Bay and roofing material to protect the roof membrane. The Roof Pad snaps into the holes on the bottom side of the Ballast Bay, two Roof Pads per bay. Please consult the roofing manufacturer to see whether it is required and to verify compatibility.

CAUTION: System labels for RM10 and RM10 Evo are identical. Visually inspect the system components to distinguish between RM10 and RM10 Evo.

ROOF PAD NOTE:

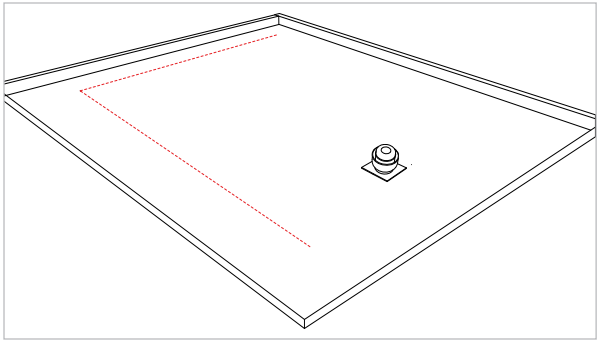
Roof pads are required for unattached system installation in certain seismic areas, or are included upon request. For more information about roof pad application, contact us at info@unirac.com or call 505.242.6411

***See page 9** for application guidance.

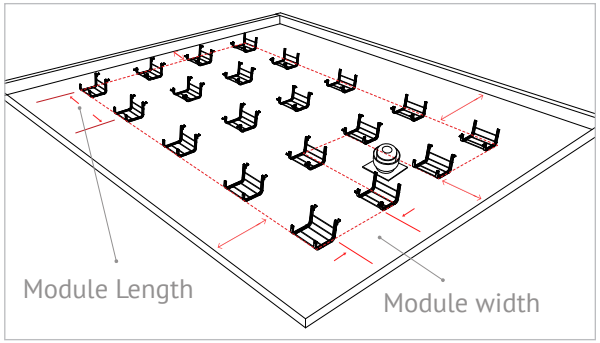


ATTACH CLIPS LOOSELY TO BAY POSTS INTENDED TO HOLD MODULES. For this initial setup, bolts should only be hand threaded a few turns.

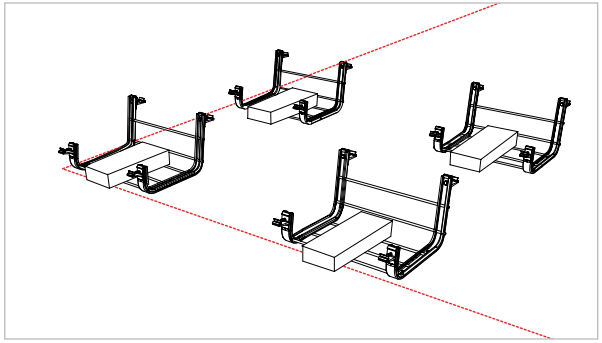
NOTE: CLIP - Single Use Only - For complete electrical bonding path, clips must be tapped in place with hammer.



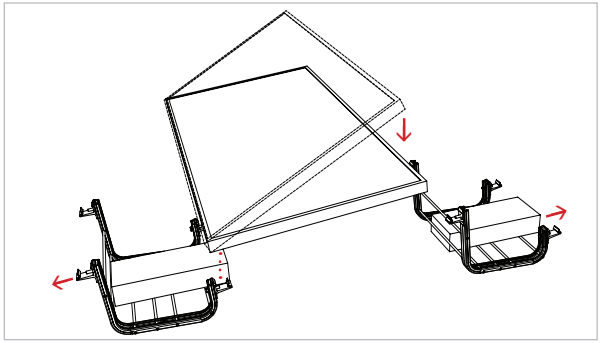
MARK ROOF WHERE ARRAY WILL START: Use chalk line to mark distances from roof edge as called out in construction documents.



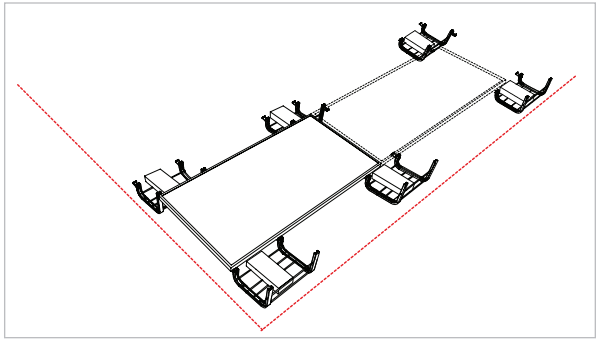
LOCATE ARRAY ON ROOF: Align Ballast Bays with previous chalk lines, using bay spacers as shown on ***Page 1*** if desired.



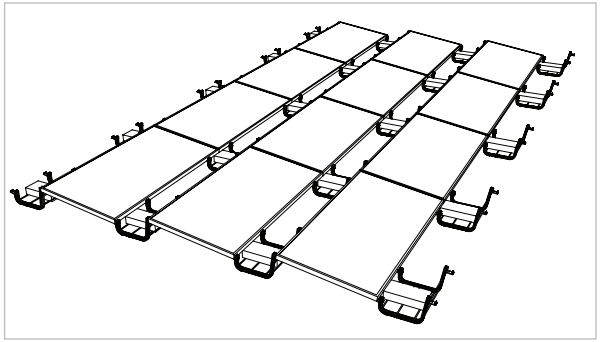
PLACE SOME BALLAST IN 1ST FOUR BAYS FOR FIRST MODULE



PLACE MODULE IN CLIPS

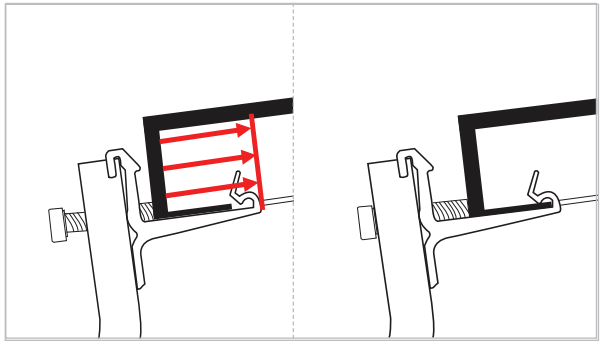


PLACE ANOTHER MODULE IN NEXT BAY CLIP

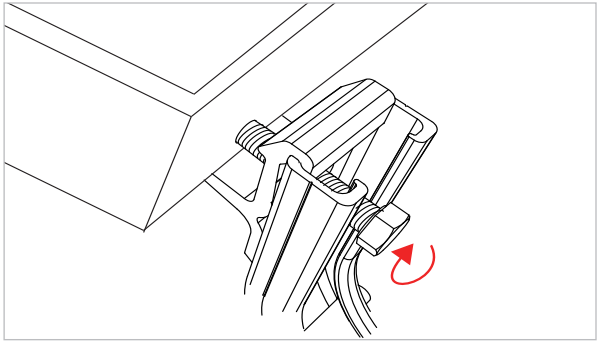


SEAT REMAINING MODULES IN CLAMPS: It is recommended to finish one row before beginning the next.

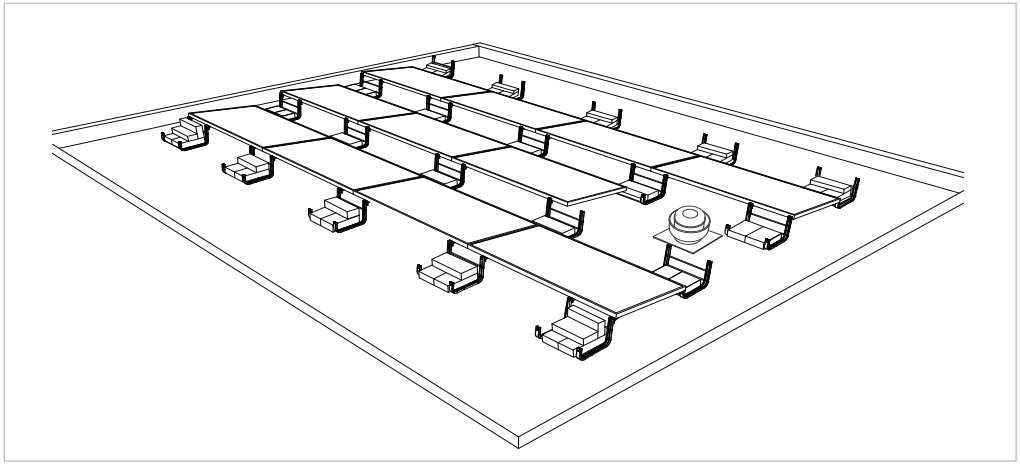
NOTE: 1/4" - 1" gap is required between modules for thermal expansion.



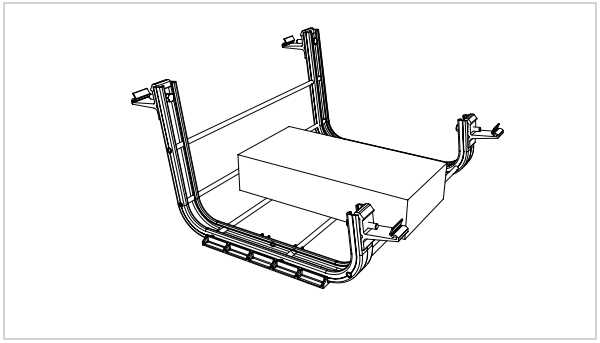
FULLY SEAT MODULE IN CLIPS AND TIGHTEN BOLTS: A gentle tug on the bays will seat the module into the module clip. It is NOT recommended to use the bolt to seat the module. Tighten bolts to **7-9 ft-lbs**. It is recommended to tighten bolts one row at a time, working outward from the north or south edge of the array.



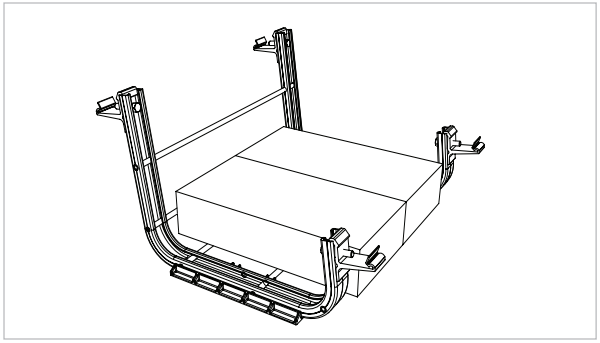
CHECK CLIP BOLT TORQUE IN SEQUENCE:
NOTE: Due to the thread-lock applied to the bolts, torque must be checked within 4 hours of initial tightening. Thread-lock will be fully cured after 72 hours.
TORQUE VALUE:
7 ft-lbs (Minimum) 9 ft-lbs (Maximum)
BOLT - Single Use Only



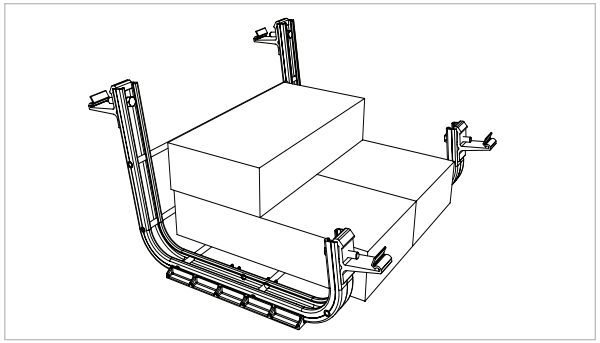
COMPLETE BALLASTED PLACEMENT: Place ballast as required. Deviations from block arrangements shown in this guide may cause shading. Site specific module loading and ballast calculations should be determined for each individual project in accordance with the U-Builder software and the Unirac Design and Engineering guide for ROOFMOUNT. This system has been rated for the mechancial load provisions of UL2703. In addition, it has been designed and tested to comply with the more rigorous requirements of SEAOC PV1, PV2 and ASCE 7.



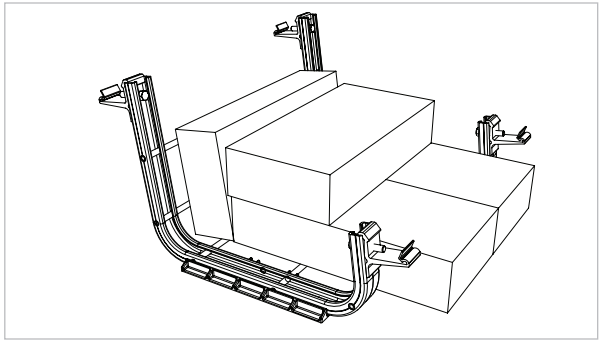
1-Block Configuration



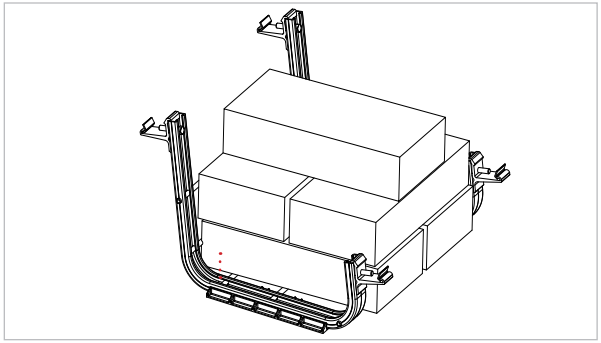
2-Block Configuration



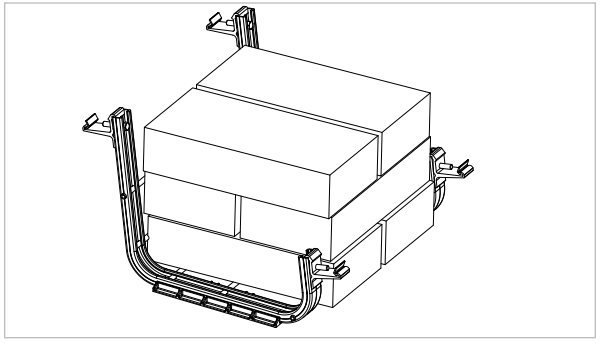
3-Block Configuration



4-Block Configuration

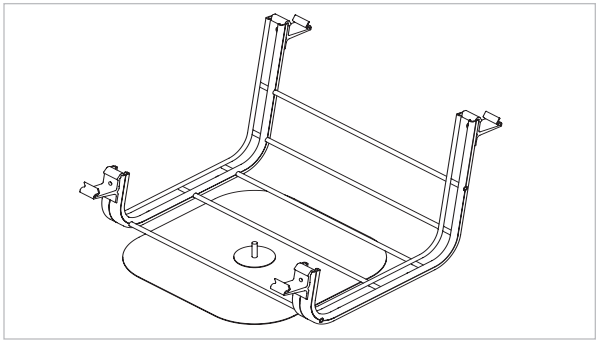


5-Block Configuration



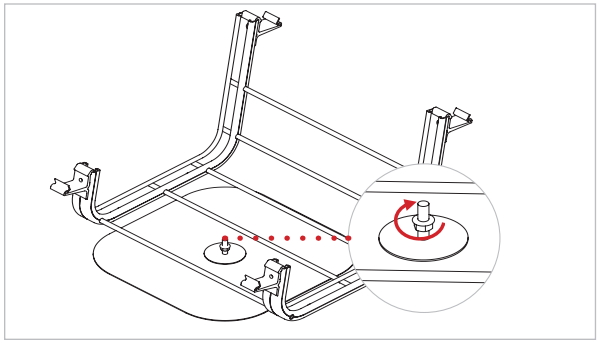
6-Block Configuration

NOTE: Use 5 and 6 block configurations only in unobstructed North Bays

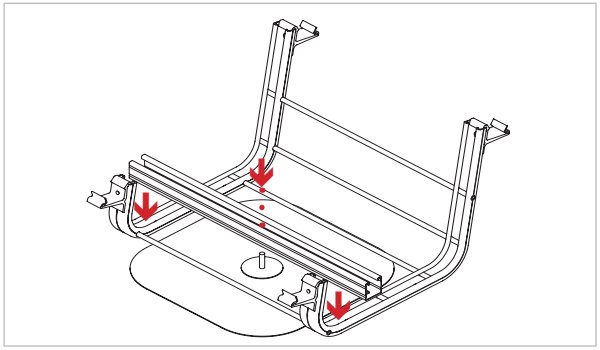


STEP 1: POSITION U-ANCHOR: Position Roof attachment under bay requiring attachment and install according to manufacturer installation instructions.

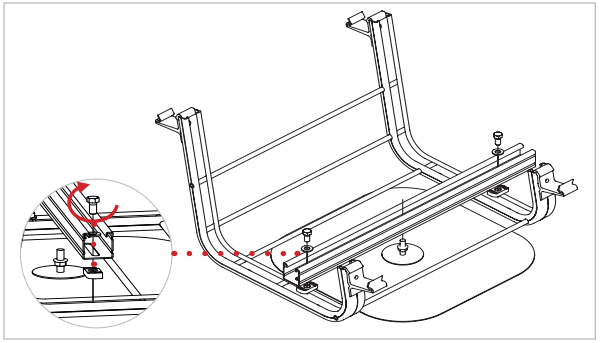
NOTE: Center roof attachment under ballast bay as close as possible.



STEP 2: ENGAGE FLANGE NUT: Place 3/8-16 serrated flange nut and 1" OD washer on the anchor stud approximately halfway down, nut serrations facing up.

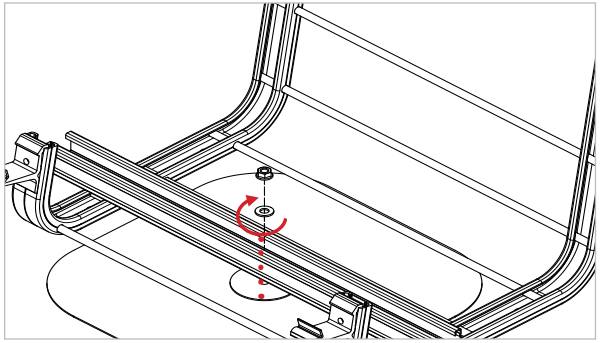


STEP 3: PLACE UNISTRUT: Place 24" Unistrut across RM bay with the anchor stud though a slot.



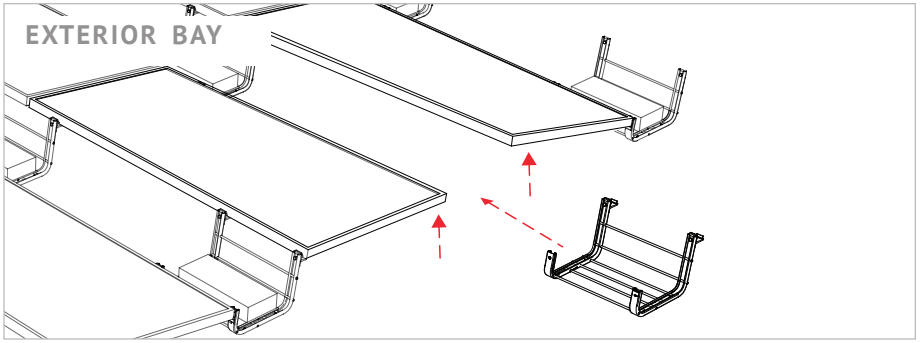
STEP 4: SECURE UNISTRUT TO BAY: Place strut nuts inside RM channels under Unistrut, and secure Unistrut with 3/8-16 x 3/4" bolt and 1" OD washer.

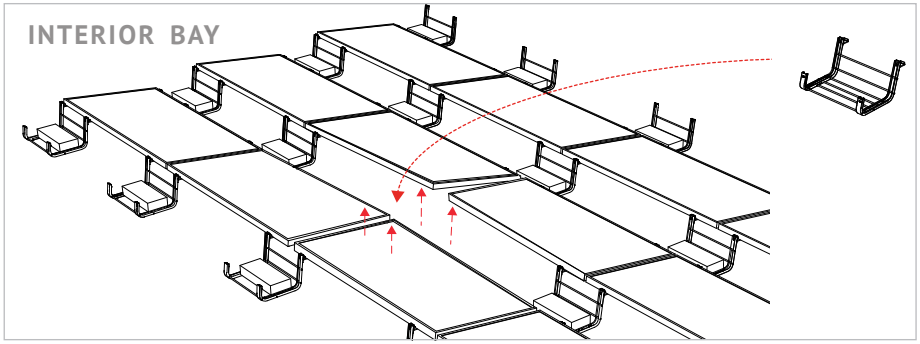
TORQUE VALUE: 30 ft-lbs



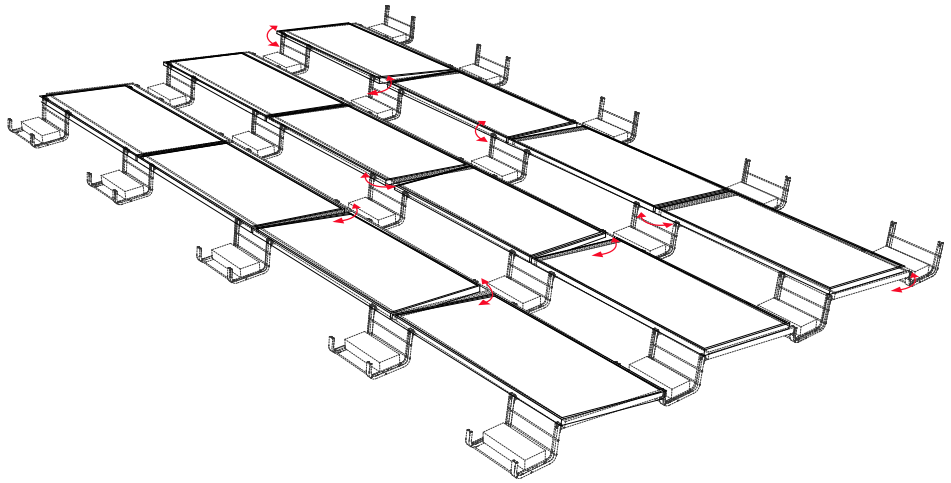
STEP 5 - SECURE UNISTRUT TO U-ANCHOR: Tighten nut that was placed on roof attachment stud in STEP 2 until making contact with the underside of the Unistrut. Then place another 3/8-16 serrated flange nut and 1" OD washer on the stud, serrations facing down and tighten to 30 ft-lbs.

TORQUE VALUE: 30 ft-lbs



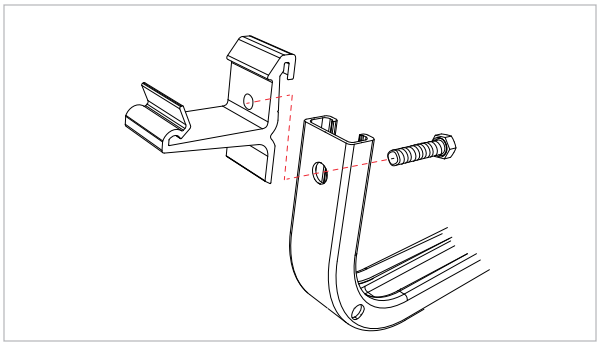


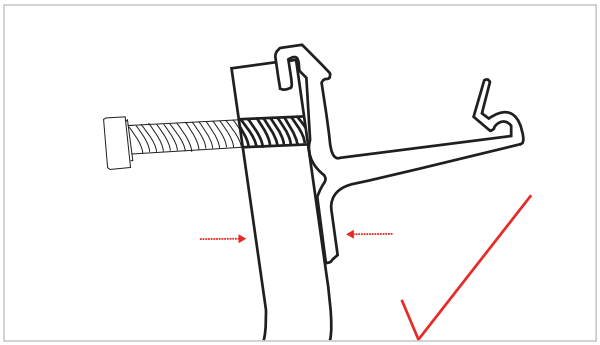
PROBLEM - ADDING BAYS AFTER INSTALLATION COMPLETED: Apply gentle, even uplift on the adjoining module frames, and maneuver bay into place

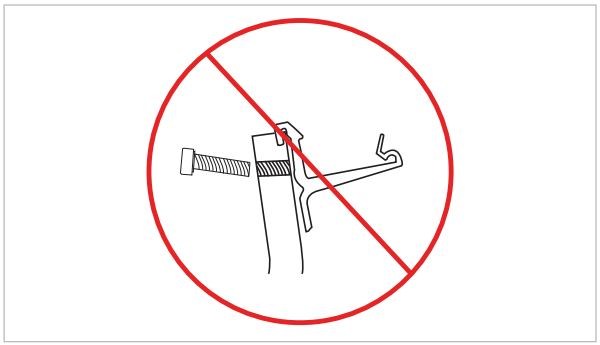


PROBLEM - ARRAY BUCKLES, OR HAS INCONSISTENT OR UN-PARALLEL GAPS BETWEEN MODULES: Loosen neighboring clips and re-adjust

- Sequentially tightening from installation outset can prevent this.

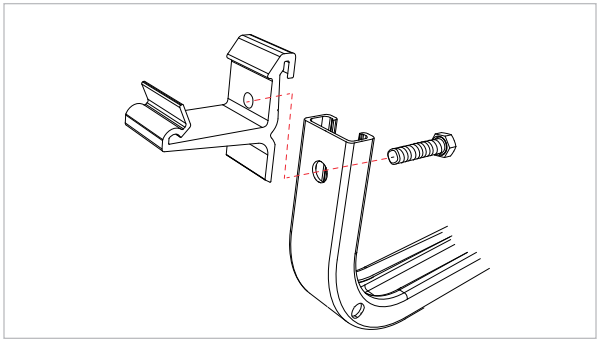


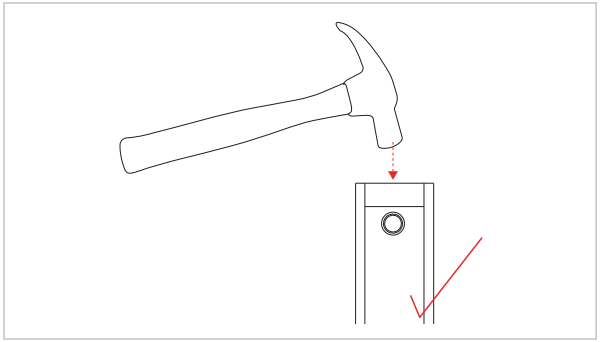


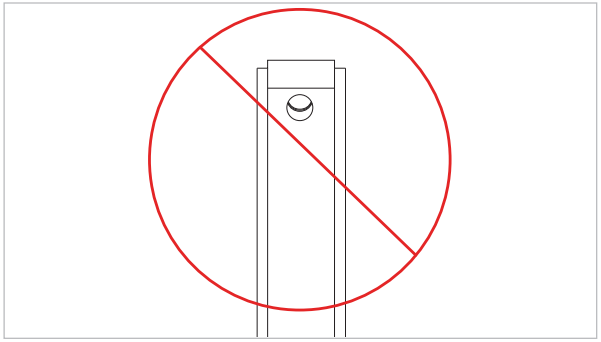


PROBLEM - CLIP BOLT CROSS-THREADS: Back bolt out and replace clip, or use thread cleaning too.

- Starting bolts with fingers instead of a power driver can minimize or eliminate cross-threading.
- When using power driver, hold it perpendicular to clip, and squeeze bottom of clip flat against bay post.







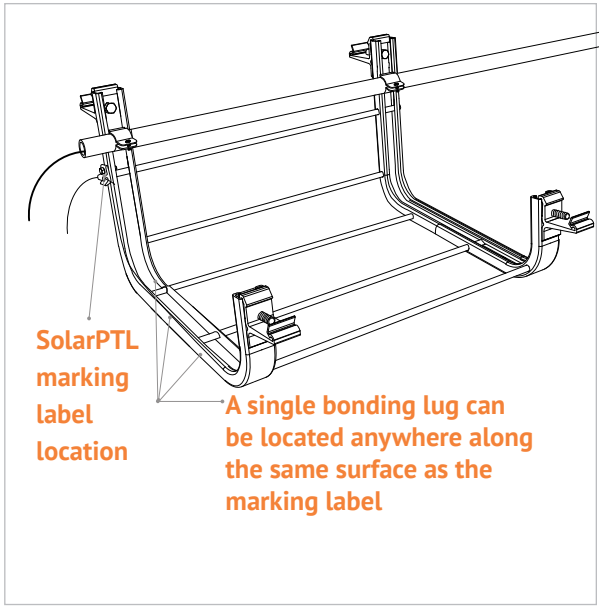
PROBLEM - MODULE CLIP THREADED HOLE AND BAY POST HOLE NOT LINED UP: Tight fit between these parts is critical for electrical bonding.

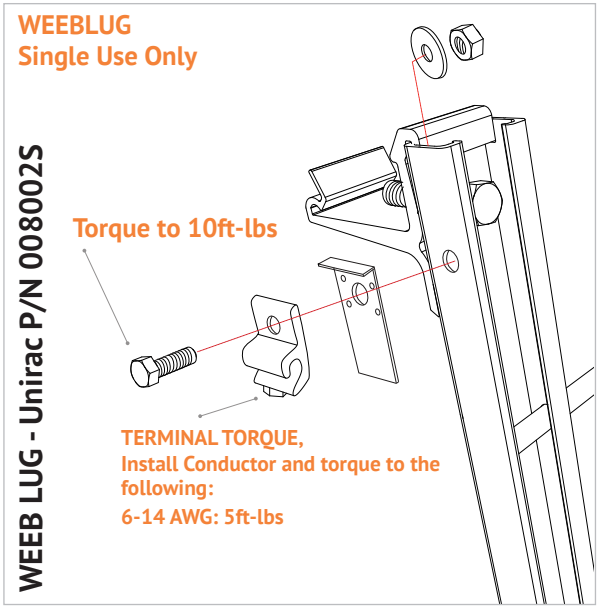
- Lining up holes may require assistance of a hammer or similar device.

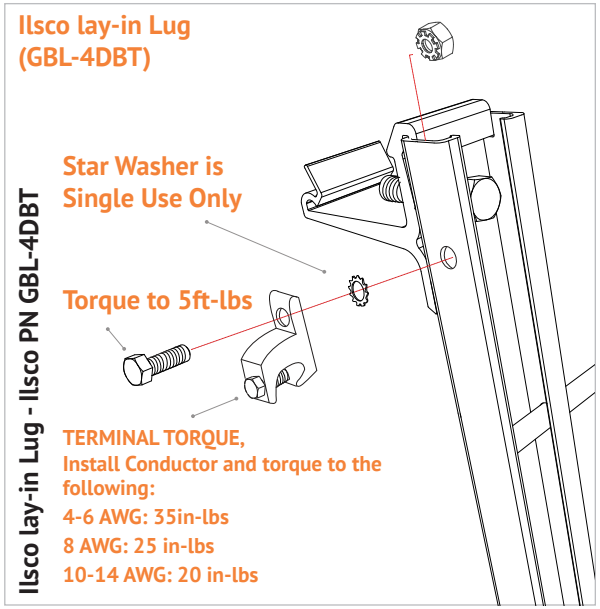
ROOF PAD GUIDANCE

- Roof pads are always applied 2 per bay (one on each ski to avoid unbalancing the chassis).
- When installing minimum roof pads for friction (at a 1:4 ratio), apply 2 roof pads to every 4th bay.
    - Alternatively, install 2 roof pads to every other bay in a row of bays, then skip a row, and do it again.
    - Skip any bays that have mechanical roof attachments (i.e. Flashloc RM, Anchor or OMG Products).

EPDM	1:1	Pads on each bay
TPO	1:4	Pads on 1 of every 4 bays
PVC	1:4	Pads on 1 of every 4 bays
Mineral Cap	N/A	No pads required







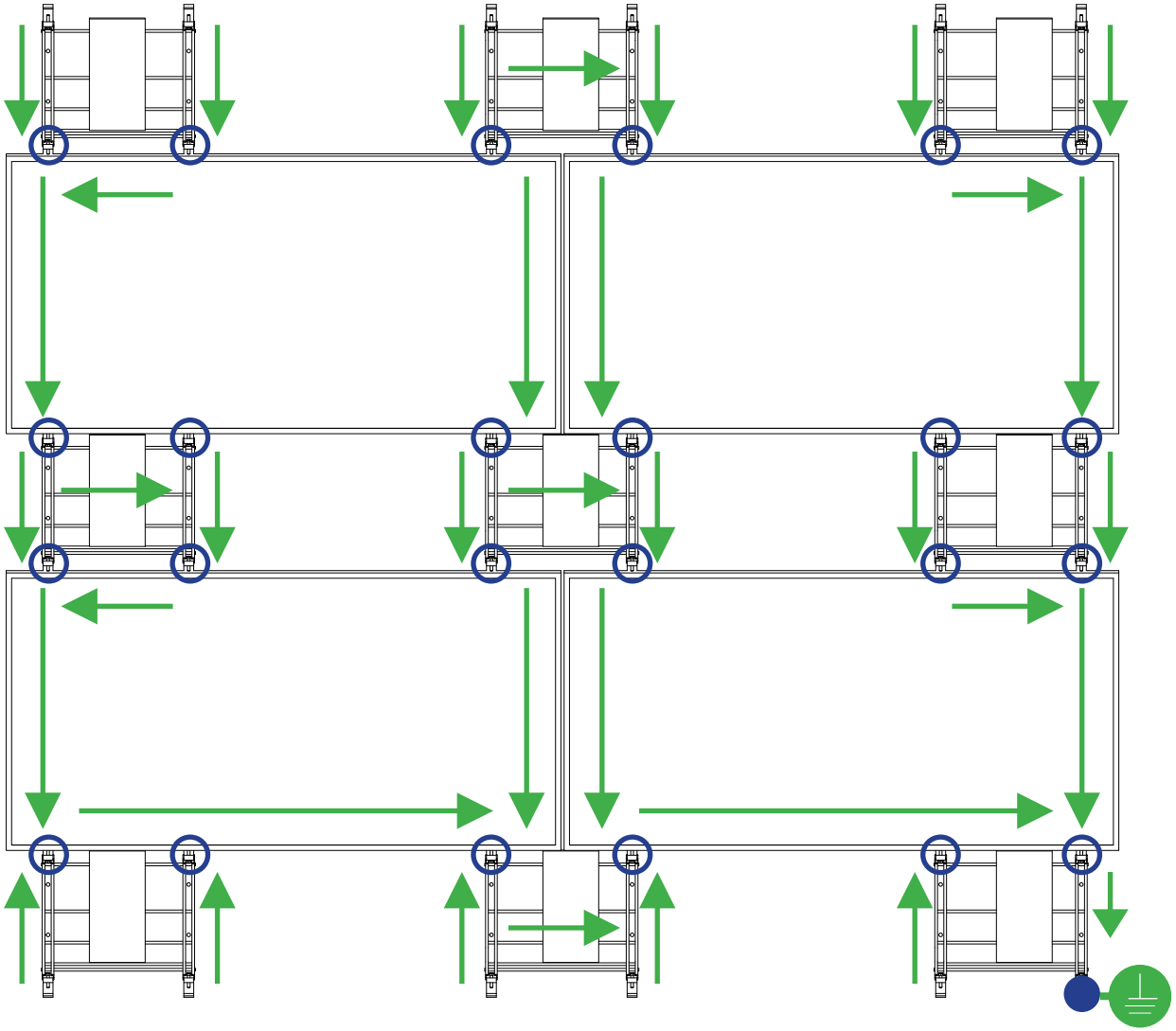
Although conformance with UL2703 was demonstrated without the use of oxide inhibitor material, it is recommended by Ilsco to provide an optimized bonding solution for their lay-in lug.

GROUNDING LUG MOUNTING DETAILS AS REQUIRED BY CODE & ENGINEER OF RECORD: Details are provided for both the WEEB and Ilsco products. The WEEBLug has a grounding symbol located on the lug assembly. The Ilsco lug has a green colored set screw for grounding indication purposes. One lug is recommended per continuous array, not to exceed 150ft X 150ft.

Unirac Roof Mount is intended to be used with PV arrays that have a system voltage less than or equal to 1500VDC. A min. 10 AWG, 105 degrees Celsius copper grounding conductor should be used to ground a 1500 VDC system, according to the (NEC) National Electric Code and the authority having jurisdicition. It is the installers responsibility to check codes, which may vary.

NOTE: The installation must be conducted in accordance with the National Electric Code ANSI / NFPA 70.

Ground Lug	Bolt Size	Drill Size	Torque Value
WEEB Lug	1/4"-20	17/64"	10 ft-lbs
Ilsco Lug	#10-32	7/32"	5 ft-lbs



Fault Current Ground Path

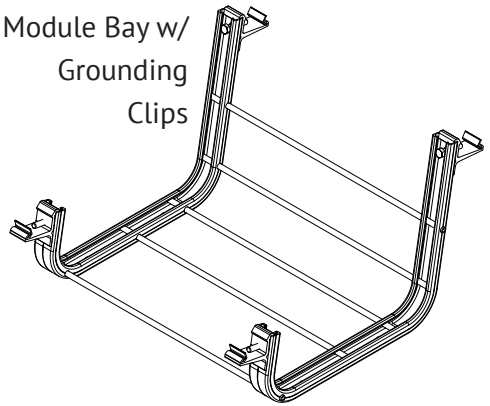
Ground Lug

Grounding Clip & Bolt

Min. 10 AWG Cooper Wire

Module Frame

Module Bay w/ Grounding Clips

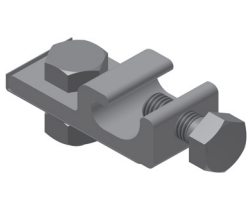


TEMPORARY GROUNDING & BONDING PROCEDURE: Periodic inspections should be conducted on the PV array to ensure there are not loose components, loose fasteners or corrosion. If any of the above items are found, the affected components are to be immediately replaced. **If a module must be removed or replaced, a temporary bonding jumper must be used to ensure safety of the personnel and PV system.**

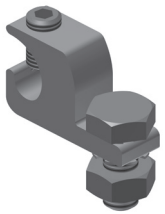
NOTE: Removing a PV module from a system is not considered to be routine maintenance. This type of activity should only be performed by trained and qualified installers.

NOTE: In order to prevent corrosion induced by dissimilar metals, it is important to verify that the bare copper wire does not come into contact with aluminum. These materials must be kept separate.

CAUTION: Module removal may disrupt the bonding path and could introduce the risk of electirc shock. Additional steps may be required to maintain the bonding path. Modules should only be removed by qualified persons in compliance with the instructions in this manual.



WEEBLug

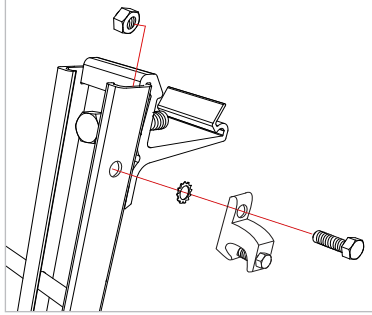


Ilsco lay-in Lug

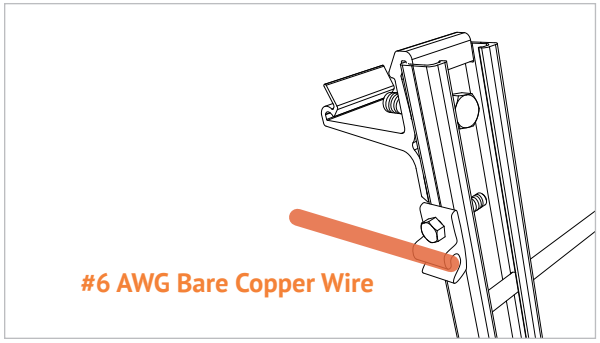
APPROVED LUGS

WEEBLug UNIRAC PN 008002S
See product data sheet

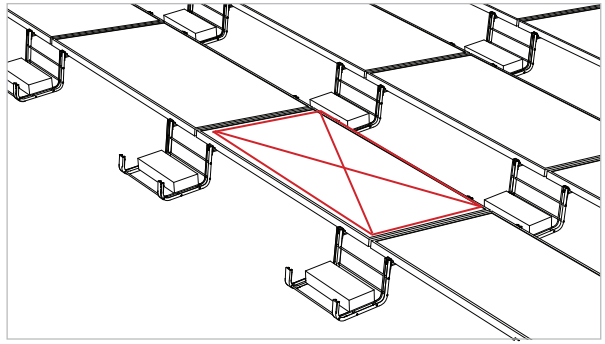
Ilsco lay-in Lug Ilsco PN GBL-4DBT
See product data sheet



ATTACH LUGS: Use approved lug(s) to install on adjacent bays where the module is being removed.



INSERT COPPER WIRE: Insert bare copper (#6 AWG) wire into each lug, providing a bonding jumper across the missing module location.



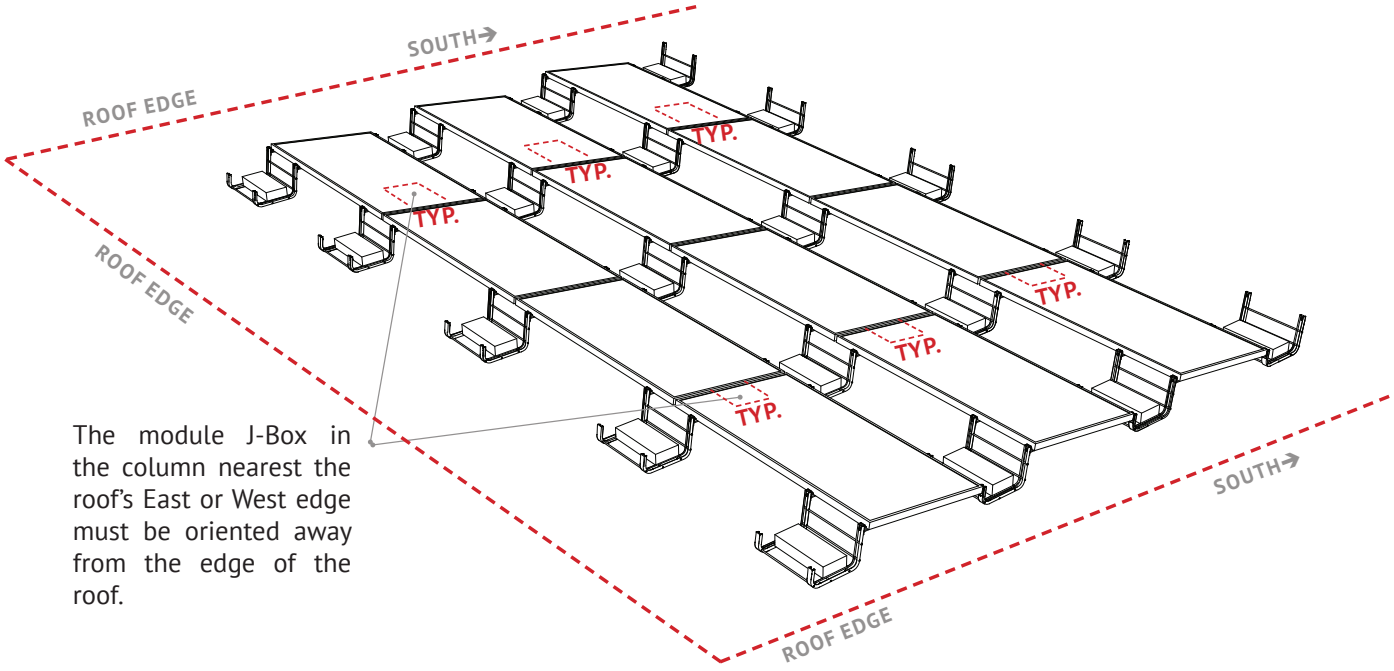
REMOVE MODULE & REVERSE THE OPERATION AFTER MAINTENANCE IS COMPLETE

NOTE: Removing a PV module from a system is not considered to be routine maintenance. This type of activity should only be performed by trained and qualified installers.

SYSTEM LEVEL FIRE CODE COMPLIANCE

SYSTEM LEVEL FIRE CLASSIFICATION: The system fire class rating is only valid when the installation is conducted in accordance with the assembly instructions contained in this manual. RM Roof Mount has been classified to the system level fire portion of UL2703. It has achieved Class A performance for low sloped roofs when used in conjunction with the modules types listed below. System fire class ratings require that the J-Box be oriented away from the roof edge as in the illustration below. Minimum and maximum roof slopes are restricted through the system design and layout rules. The fire classification rating is only valid on roof pitches less than 2:12 (slopes < 2 inches per foot, or 9.5 degrees. Rack mounting system is to be installed over a fire resistant roof covering rated for the application.

Module Type
Type 1
Type 2
Type 3 with aluminum frame
Type 19
Type 22
Type 25
Type 29
Type 30



The module J-Box in the column nearest the roof's East or West edge must be oriented away from the edge of the roof.

MECHANICAL LOAD TEST QUALIFICATION

The Unirac RM system has been tested to the mechanical load provisions of UL2703 and covers the following basic parameters:

- PV module may have reduced load rating, independent of the RM10 rating. Please consult the PV module manufacturer's installation guide for more information.
- Load rating may vary based on PV module area. Please Contact Unirac for more information.
- Frame thickness greater than or equal to 1.0 mm.
- Basic single and double wall frame profiles.

Module Manufacturer	Model / Series	Area [sqft]	Without Mid Support Design Load [PSF]	With Mid Support Design Load [PSF]
BenQ	PMxxxP01	17.34	20.3 up / 41.9 down	N/A
Canadian Solar	CS3W-PB-AG	24.05	17 up / 20 down	N/A
Jinko Solar	JKM M-72HL4-V	27.76	13.3 up / 30 down	50
NE Solar	NESE xxx-72MHB-M10	21.01	27.5 up / 17.1 down	30.6
SunPower	SPR-E20-327 / E-Series	17.54	15 up / 50 down	N/A
Trina	TSMxxx - DE19	28.12	16.9 up / 17 down	N/A

Electrical Bonding and Grounding Test Modules

The list below is not exhaustive of compliant modules but shows those that have been evaluated and found to be electrically compatible with the RM10 system.

Manufacturer	Module Model / Series
Aptos	DNA-120-MF26 DNA-120-BF26 DNA-120-MF10
Astronergy / Chint	AstroSemi CHSM72M-HC CHSM6610M (BF)+HV ,
AU Optronics (BenQ Solar)	PM Series
Auxin	AXN6M610T, AXN6P610T, AXN6M612T & AXN6P612T
Axitec	AC-XXXP/156-60, AC-XXXP/72S, AC-XXXM/72S
BenQ Solar	PMxxxP01
Boviet	(40mm) BVM6610(P/M) & BVM6612(P/M) (35mm x 35mm) BVM6610(P/M) & BVM6612(P/M)
Canadian Solar	BiHiKu7 CS1H-MS, CS1K-MS, CS1U-MS, CS1Y-MS CS3K-MB-AG, CS3K-MS (Black), CS3K-P (HE), CS3K-PB-AG, CS3L-P CS3N MS, CS3U-MB-AG, CS3U-MS, CS3U-P (HE), CS3U-PB-AG, CS3W-MB-AG CS3W-PB-AG, CS3W-P/MS, CS3W-P-PB-AG, CS3Y-MB-AG CS5A-M, CS6K-M, CS6K-MS (AllBlack),CS6K-P (HE), CS6K, CS6P-M, CS6P-P, CS6R-MS-HL, CS6U-M, CS6U-P (HE), CS6W-MB-AG, CS6X-P CS7L-MB-AG, CS7L-MB-AG, CS7L-TB-AG
Canadian Solar (Cont.)	CS7N-xxxMB-AG (640-665 W) CS7N-xxxTB-AG, ELPS CS6A-MM, ELPS CS6P-MM,
Centrosolar America	C-Series & E-Series
CertainTeed	CT M/P-01, CT M-02 & CT M-03 CTM10xxxHC11-09
CSUN	CSUN-72M, CSUN-72P

Manufacturer	Module Model / Series
ET Solar	ET AC Module (40mm framed) ET Module (40mm framed)
Flex	FXS 60
Freedom Forever	FF-MP-BBB 370
Freevolt	PVGraf
GCL	GCL-P6 & GCL-M6
Goldi Solar	GS10-B144-GF
Hansol	UB-AN1, UD-AN1, TD-AN4, TD-AN3
Hanwha SolarOne	SolarOne HSL 60, SolarOne HSL 72
Heliene	108HC M10 SL All Black Module 144 HC M10 SL Bifacial 144HC M10 SL Monofacial 156HC M10 SL BF 72M, 72P, 60M & 60P, 72M-360
HT-SAAE	HSPE-132HC-M10-SL-Monofacial HT72-156M, HT72-156M(V), HT72-156M-C, HT72-156M(V)-C, HT72-156P-C, HT72-156P(V)-C
Hyundai Heavy Industries	TI, RI, KI, HI, MI & MG Series
Imperial Star	ISM7-SHDD120-xxx/M
JA Solar	JAP6 60, JAM6-60 /SI, JAM6(K)-60, JAP6(k)-72 /4BB, JAP72SYY /ZZ, JAP6(k)-60 /4BB, JAP60SYY /ZZ, JAM6(k)-72 /ZZ, JAM72SYY /ZZ, Note: YY: 01, 02, 03, 09, 10 ZZ: SC, PR, BP, HiT, IB, MW JAM78D10 MB JAM72D30 MB

Manufacturer	Module Model / Series
Jinko Solar	JKM M-60(B/BL/V/HB/H/L/HL)JKM PP- 72(Plus) JKM M-72(V/Plus), JKM M-72HL4-(V/TV) JKM PP-72-(L-V/V/HL-V), JKMxxxM-72-HBL-V JKMxxxM-72HL4-V JKMxxxM-72-HL-V JKMxxxN-54HL4-B JKMxxxN-72HL4-BDV JKMxxxN-72HL4-TV Standard, JKM P-60B
Kyocera	KD-F Series
LA Solar	LSxxxBF (530-550 watt range), LSxxxBL (410 watt) LSxxxBL (430-450 watt range), LSxxxBL (530-550 watt range), LSxxxHC (430-450 watt range),
LG Electronics	LGxxx(A1C/M1C/M1K/N1C/N1K/Q1C/ Q1K/QAC/QAK)-A6 LGxxx(E1C/E1K/N1C/N1K/N2T/N2W/Q1C/ Q1K/S1C/S2W)-A5, LGxxx(N1C/N1K/N2W/Q1C/Q1K)-V5, LGxxx(N1K/N2T/N2W)-E6, LGxxxN1K-B6 LGxxxN2T-J5, LGxxxN3K-V6
LONGi	(40mm) LR5-72HBD LR6-60 & LR6-72 Series (35mm) LR4-72HPH, LR4-72HIH, LR6-72, LR6- 72BK, LR6-72HV, LR6-72PE, LR6-72PB, LR6-72PH, LR6-72HPH, LR6-72HIH LR4-60HPH LR4-60HPB
Meyer Burger	Meyer Burger Glass Meyer Burger White

- The frame profile must not have any feature that might interfere with bonding devices that are integrated into the racking system
- Unless otherwise noted, all modules listed above include all wattages and specific models within that series. Variable wattages are represented as "xxx"
- Items in parenthesis are those that may or may not be present in a compatible module's model ID
- Slashes "/" between one or more items indicates that either of those items may be the one that is present in a module's model ID
- Please see the RM5 UL2703 Test Report at Unirac.com to ensure the exact solar module selected is approved for use with RM10

Electrical Bonding and Grounding Test Modules

The list below is not exhaustive of compliant modules but shows those that have been evaluated and found to be electrically compatible with the RM10 system.

Manufacturer	Module Model / Series
Mission Solar	MSE Series MSExxxSX9R
mSolar	TXI10-xxx108BB
NE Solar	NESE xxx 66MHB-G12 NESE xxx 72MHB-M10 NESE xxx 72MHT-M10 NESE xxx 72THB-M10
Panasonic	EVPVXXX(H/K/PK) VBHN SA15/16/17(G/E)/18(E) VBHN KA01/03/04
Philadelphia Solar	PS-M144(HCBF)-xxxW
Phono Solar Technology	Standard Modules PSxxxM-24/TH, PSxxxMH-24/TH
Q-Cells	B.LINE PEAK DUO G7/G7.2/ L-G7/L-G7.1/L-G7.2/L-G7.3 B.LINE PLUS/PRO L-G4.2 B.LINE PRO L-G4.1 Q.PEAK DUO (BLK) (ML) G10(+) Q.PEAK DUO (BLK) ML-G9(+) Q.PEAK DUO BLK-G10 Q.PEAK DUO BLK-G10+ Q.PEAK DUO BLK ML-G10 Q.PEAK DUO-G10+ Q.PEAK DUO G10 Q.PEAK DUO G5/G6/G7.x/G8 Q.PEAK DUO L-G4.2 Q.PEAK DUO L-G5(.1/.2/.3) Q.PEAK DUO L-G6.2 Q.PEAK DUO L-G6.3 Q.PEAK DUO L- G6/L-G6.2/L-G6.3 Q.PEAK DUO L-G7(.1/.2/.3/.4/.7) Q.PEAK DUO L-G8(.1/.2/.3) Q.PEAK DUO ML-G10 Q.PEAK DUO ML-G9 Q.PEAK DUO ML-G9+ Q.PEAK DUO XL-(G10.2/G10.3/G10.c/G10.d)

Manufacturer	Module Model / Series
Q Cells (Cont.)	Q.PEAK DUO XL-G10.3/BFG Q.PEAK DUO XL-G10.d / BFG Q.PEAK DUO XL - G11.3 BFG Q.PEAK DUO XL-G11S.3/BFG Q.PEAK DUO XL G9/G9.2/G9.3 Q.PEAK L G4.5 Q.PLUS DUO L-G5 Q.PLUS DUO L-G5.2 Q.PLUS DUO L-G5.3 Q.PLUS L G4.2 Q.PEAK DUO BLK ML-G9 Q.PLUS L-G4.2/TAA Q.PLUS/PEAK/PRO L-G4.2 Q.PLUS/PEAK/PRO L-G4/L-G4.1 Q.TRON BLK M-G2+ SERIES Q.TRON M-G2+ SERIES, Q.TRON XL-G2.3/BFG
REC	Peak & Eco RECxxxAA (72/BLK/Pure) RECxxxAA Pro M RECxxxAA Pure 2 RECxxxAA Pure R RECxxxAA Pure-RX RECxxxNP (N-PEAK) (BLK) RECxxxNP2 (Black) RECxxxNP3 Black RECxxxPE (BLK), TP2M RECxxxTP2(BLK2) RECxxxTP3M (Black) RECxxxTP4 (Black) TP2SM72, TP2S72,TP2S72 XV
Renesola	All 60-cell modules
Risen	RSM72-6 (P/M), RSM144-6 RSM110-8-XXXBMDG
Runergy Solar (Hyperion)	HY-DH108N8B HY-DH108P8B HY-DH144P8 (30mm) HY-DH156N8 HY-DH156P8

Manufacturer	Module Model / Series
SEG Solar	SEG-xxx-BMA-HV, SEG-xxx-BMA-TB, SEG-xxx-BMB-HV, SEG-xxx-BMB-TB, SEG-xxx-BMD-BG, SEG-xxx-BMD-HV
S-Energy	SN P-10, M-10 & SN P-15
Seraphime	SEG-6, SEG-E & SRP-6 Series
Sharp	ND-24CQCJ, ND-25CQCS, ND-Q235F4, ND-F4Q300
Silfab	SIL - xxx BG SIL-xxx BK SIL-xxx HC+ SIL-xxx HM SIL-xxx HN SIL-xxx-ML/NL/BL/HL/NT/HC SIL-xxx QD, SIL-xxx QM, SLA & SLG Series, SLA-X
Solaria	Power XT-XXXC-BD, Power XT-XXXC-PD, Power XT-XXXR-AC Power XT-XXXR-BD, Power XT-XXXR-PD, PowerXT-xxxR-PM
Solar 4 America	S4A550-144MH10STT
SolarWorld	Sunmodule Plus Sunmodule Protect
Sonali	SS-M-360 to 390 Series SS-M-440 to 460 Series SS-M-430 to 460 BiFacial Series
Sun Edison	F-Series & R-Series
Suniva	OPTIMUS & MV Series
SunPower (not compatible with Invisimount frame)	A-Series, X-Series, E-Series, M-Series, AC & Sig Black
Suntech	STP Series

- The frame profile must not have any feature that might interfere with bonding devices that are integrated into the racking system
- Unless otherwise noted, all modules listed above include all wattages and specific models within that series. Variable wattages are represented as "xxx"
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Electrical Bonding and Grounding Test Modules

The list below is not exhaustive of compliant modules but shows those that have been evaluated and found to be electrically compatible with the RM10 system.

Manufacturer	Module Model / Series
Talesun Solar	TD6I72M, TD7G72M, TP572, TP596, TP654, TP660, TP672, HIPRO TP660, SMART TP660P
Tesla	TxxxH, TxxxS
Thornova	TS-BG54 (30 & 35 mm)
Trina	DD05, DD06 PD14, DD14A(II), DE06, DE14A(II), DE15, DE15H(II), DE15M(II), DE15V(II), DE15V, DE19, DEG15MC.20(II), DEG15VC, DEG15VC.20(II), DEG18MC, DEG19, DEG19C.20, PA05, PD05, PD14, PE14, TSM-DE15V(II), TSM-DE19 TSM-DEG15VC.20(II) TSM-DEG19C.20, TSM-DEG21C.20 TSM-NEG19RC.20 TSMxxx-DE19
URE	D7 (M/K) H7A, D7 (M/K) H8A
Vikram	Eldora, Solivo, Somera PREXOS Paradea VSMDH.66.AAA.05 Paradea VSMDH.72.AAA.05 VSMDHT.60.AAA.05 VSMDHT.72.AAA.05
VSUN	VSUNxxx-144BMH VSUNxxx-144BMH-DG VSUNxxx-108BMH VSUNxxx-108MH VSUNxxx-108M VSUNxxxN-108BMH VSUNxxxN-108MH VSUNxxx-120BMH
Waaree	Bi-55
Yingli	YGE60/72, YLM60/72, YLM-VG
Yotta	YSM-Bxxx-06-72-1 YSM-Bxxx-10-72-1

Manufacturer	Module Model / Series
ZN Shine	ZXM6-NHLDD144 ZXM7-SH108 ZXM7-SHDB144 ZXM7-SHLDD144 ZXM7-UHLDD144

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