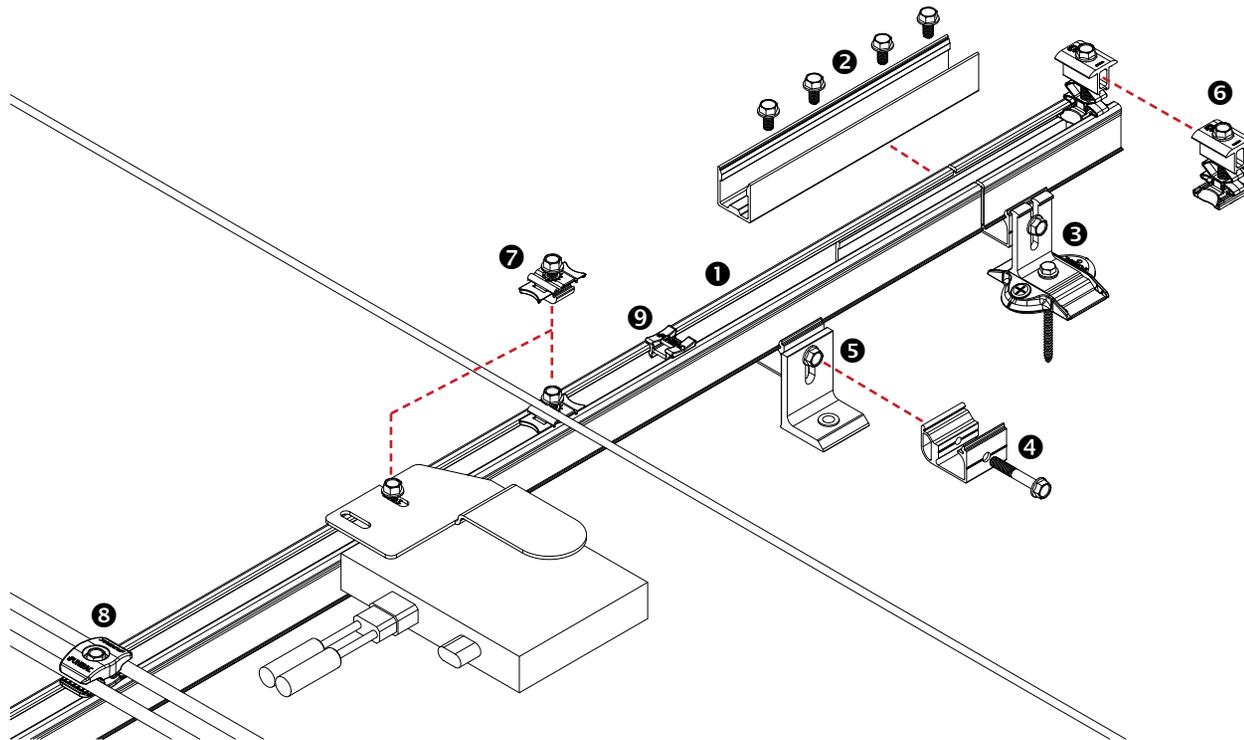


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● **RAIL:** Supports PV modules with built-in wire management. Use at least two rails per row of modules. Aluminum extrusion, available in mill, or dark anodized.

● **RAIL SPLICE:** Internal Structural Splice joins, aligns, and electrically bonds rail sections into single length of rail. 10 inches long aluminum splice, preassembled with stainless-steel hardware.

● **STRONGHOLD ATTACHMENT KIT:** Use to secure rails through roofing material to building structure. Supplied with the following:

● **STRONGHOLD RAIL CLAMP:**

Use to secure rails to L-feet. Pre-assembled Aluminum clamp with stainless-steel bolt.

● **STRONGHOLD ATTACHMENT BASE:**

Pre-assembled aluminum L-Foot with engineered roof seal.

● **4" STAINLESS-STEEL LAG BOLT** with sealing EPDM washer.

● **UNIRAC PROVIDED SEALANT** (if applicable)

● **FLASHKIT PRO:** Use with Stronghold Rail Clamp to secure rail through roofing material to building structure. Aluminum L-foot with EPDM gromet, aluminum flashing, and stainless-steel lag bolt

● **COMBO CLAMP:** Use as a mid clamp or an end clamp to secure and electrically bond modules to rails. Aluminum clamp with stainless-steel bonding pins, stainless-steel hex bolt, and plastic spring clip. Available in clear or dark finish.

● **MLPE AND LUG CLAMP:** Use to secure MLPE devices or ground wires to rails. Pre-assembled clamp with stainless-steel bolt, stainless-steel grounding plate, and plastic retention clip.

● **N/S WIRE MANAGEMENT CLIP:** Pre-assembled clamp to secure wires between rails.

● **WIRE MANAGEMENT CLIP:**

Toolless snap-in rail clip used to retain wires in rail or to secure wires between rails when used with a wire tie.

Wrenches and Torque		
	Wrench or Socket Size	Recommended Torque (ft-lbs)
Combo Mid-End Clamp ⑤	1/2"	15
MLPE and Lug Clamp ⑥	1/2"	12
Stronghold Rail Clamp ③	1/2"	15
Rail Splice ②	1/2"	15
NS Wire Management Clip ⑦	1/2"	3-7

Anti-Seize ⑥ ⑨

Stainless steel hardware can seize up, a process called galling. To significantly reduce its likelihood:

1. Apply minimal lubricant to bolts only where indicated in installation process, preferably Anti-Seize commonly found at auto parts stores (Anti-seize has been factory applied to mid clamp bolts)
2. Shade hardware prior to installation, and
3. Avoid spinning stainless nuts onto bolts at high speed.

PLANNING YOUR NXT HORIZON INSTALLATIONS

The installation can be laid out with rails parallel to the rafters or perpendicular to the rafters. Note that NXT HORIZON rails make excellent straight edges for doing layouts.

Center the installation area over the structural members as much as possible. Leave enough room to safely move around the array during installation. Some building codes and fire codes require minimum clearances around such installations, and the installer should check local building code requirements for compliance.

The length of the installation area is equal to:

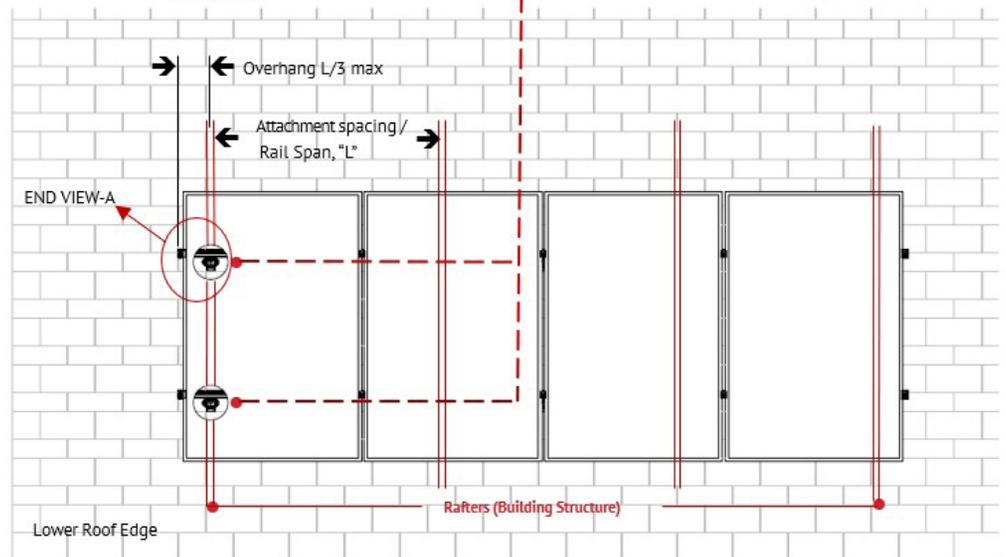
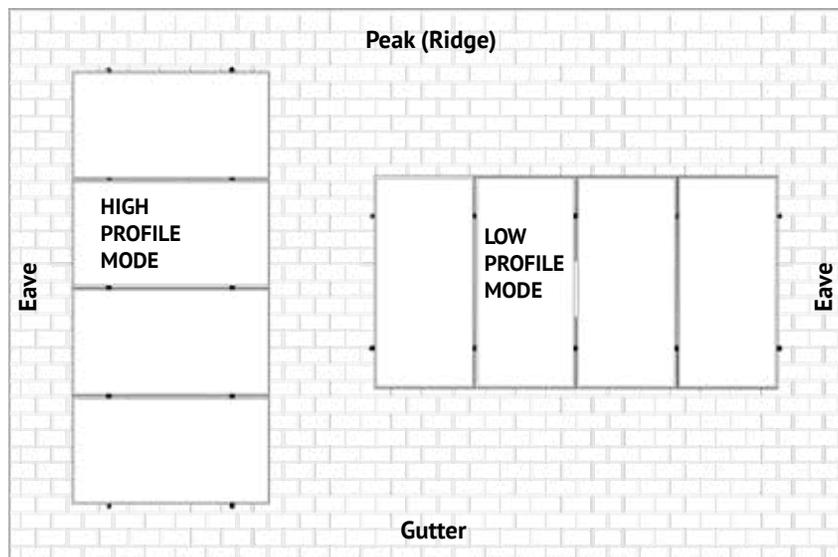
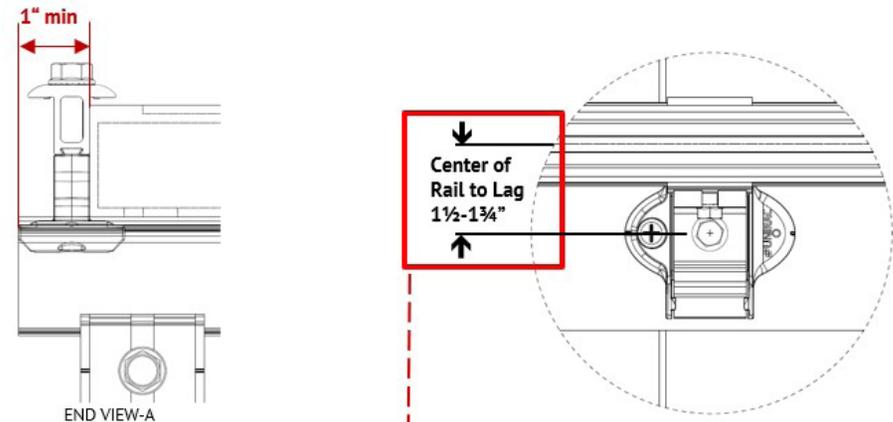
- the total width of the modules,
- plus 1/2" for each space between modules (for mid-clamp),
- plus 2" minimum (1" minimum for each MODULE END)

LAYING OUT ROOF ATTACHMENTS

Locate and mark the position of the roof attachment within the installation area. Refer to Unirac NXT Horizon D&E Guide & U-Builder for rail spans and cantilevers. Follow module manufacturer installation requirements allowable spacing based on appropriate rails mounting locations. Modules should be placed such that they overhang the rails symmetrically.

NXT Rail Splices are fully structural and do not interfere with roof attachments or Combo Clamps. There is no need to determine splice locations at this stage.

CAUTION: RAIL LENGTHS AND LOCATIONS OF L-FEET FOR EXPANSION JOINTS WILL NEED TO BE DETERMINED AT THIS STAGE IN PLANNING THE ARRAY LAYOUT. FOR EXPANSION JOINT REQUIREMENTS, REFER TO PAGE C.



EXPANSION JOINT USED AS THERMAL BREAK

Expansion joints prevent buckling of rails or system connection failure due to thermal expansion. Determine location of expansion joints prior to installation of roof attachments and rails. To create a thermal expansion joint, provide a sufficient gap between rails for proper installation of end clamps and tooling to achieve required torque. A thermal break is required when a continuous length of spliced rails exceeds the maximum allowable lengths shown in the table to the right. For additional concerns on thermal breaks in your specific project, please consult a licensed structural engineer.

Rails in expansion joint configurations are considered cantilevered and must follow the cantilever rule on both sides of the expansion joint, which states that the maximum amount of rail that can be cantilevered is 1/3 the respective adjacent span. An expansion joint must not be spanned by a PV module. Installing a module over an expansion joint would defeat the goal of a thermal break and could result in damage to the array.

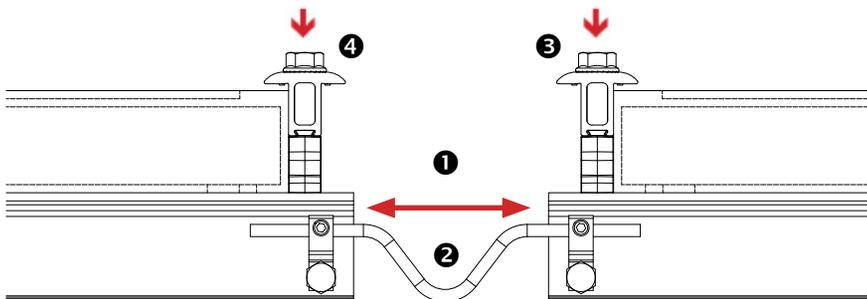
Bonding connection for splice used as a thermal break. Option shown uses two Ilco lugs (Model No. GBL-4DBT P/N GBL-4DBT - see product data sheet for more details) and solid copper wire. Optional grounding may be achieved through NXT Horizon MLPE & Lug Clamp. See Page J.

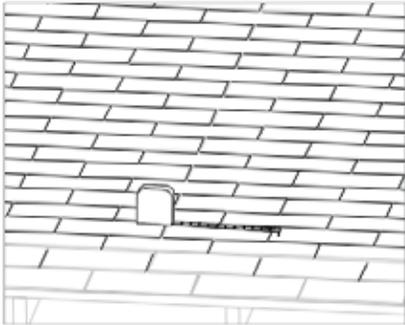
ΔT (°F)	Maximum continuous length (ft.) of spliced rails with Stronghold Attachments			
	Flashkit Attachment Span		Stronghold Attachment Span	
	48"	72"	48"	72"
0-40	102	129	94	117
40-50	94	117	86	105
50-60	86	105	78	93
60-70	78	93	70	81
70-80	70	93	62	80
80-90	70	81	62	69
90-100	62	80	54	64
100-120	62	66	53	53
120-140	54	57	45	45

The values displayed are the maximum allowed rail length, in feet, without a thermal break. If your span is less than 48", refer to the NXT Horizon Design & Engineering Guide for max lengths of continuous rail before a thermal break is required.

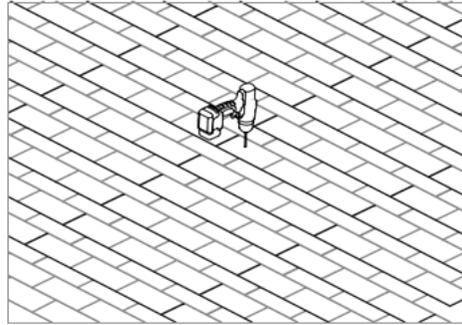
Determine the maximum rail temperature difference (ΔT) between the time of installation and the extreme high or low temperature. The Extreme Annual Design Conditions table at the following url can be used as a reference when determining ΔT . <http://ashrae-meteo.info/>. The installer is responsible for determining the maximum temperature difference (ΔT) used to establish the maximum rail length.

As spans increase, so does the maximum reaction force that the rail exerts on the L-foot. Ensuring that the Maximum Reaction Forces do not exceed the shear capacity of the roof connection. See NXT Horizon Design & Engineering Guide for corresponding reaction forces.





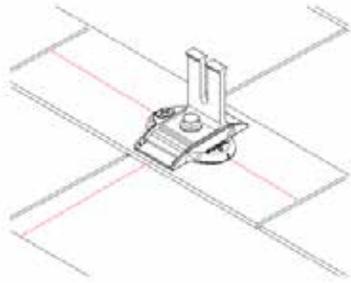
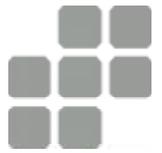
MARK ARRAY LOCATION:
Mark array location and determine roof attachment locations based on array layout. Snap chalk lines to mark each row of roof attachment points. On shingle roofs, snap lines 1-3/4" below upslope edge of shingle course. Locate rafters and mark at intersection of attachment lines. Attachment spacing determined per Design and Engineering Guide or project specific Ubuilder Engineering Report .



DRILL PILOT HOLES: Drill a 7/32" pilot hole at each roof attachment. Clean roof surface of dirt, debris, snow, and ice. Fill each pilot hole with sealant.

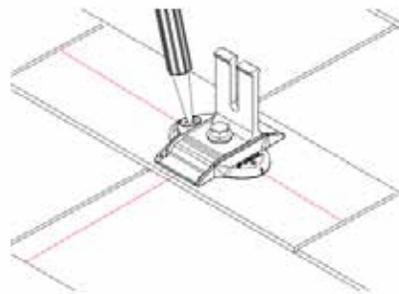
CAUTION: IN CASE OF MISSING A RAFTER, FILL IN THE PILOT HOLE WITH SEALANT.

Pro Tip: Drill pilot holes within 1/4" of chalkline to allow rail to slide freely in Rail Clamps. See Rail Install Page H.

**INSTALL STRONGHOLD ATTACHMENT BASE:**

Place the Stronghold attachment base assembly over the pilot hole. Align indicator marks of mount with chalk line. Drive lag bolt until mount is held firmly in place. The EPDM washer should compress and expand slightly beyond the outside edge of the steel washer when the proper torque is applied.

Note: Rail clamp can be installed in **FOUR** orientations. Refer to PG. G for detailed view.



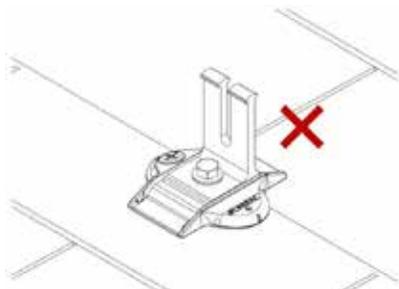
SEAL: Insert tip of UNIRAC provided sealant into port. Inject until sealant exits vent. Follow sealant manufacturer's instructions and cold weather application guidelines, if applicable

CAUTION: USE ONLY UNIRAC APPROVED SEALANTS: Chemlink Duralink 50, Chemlink M-1, Geocel 4500, or Geocel S-4. Follow sealant manufacturer's instructions and cold weather application guidelines.

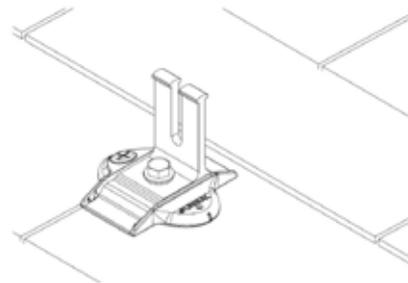
**PLACE RAIL CLAMP ONTO L-FOOT:**

Drop the rail clamp assembly into the open slot of L-Foot.

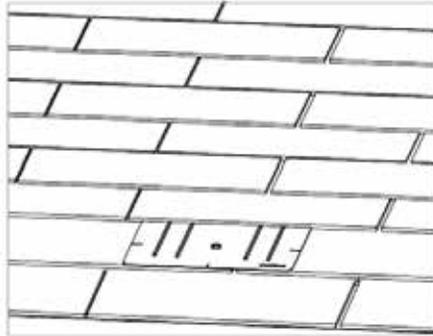
CAUTION: Do not tighten the rail clamp before putting in the rail.



CAUTION: AVOID INSTALLING STRONGHOLD ATTACHMENTS ACROSS THE OVERLAP IN SHINGLE COURSES OR ACROSS OVERLAPS IN ROOFING LARGER THAN 1/8 INCHES.

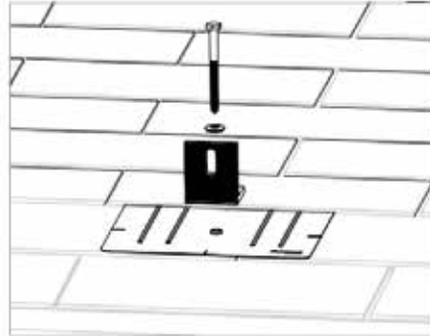


CAUTION: WHEN INSTALLING THE STRONGHOLD ATTACHMENT OVER VERTICAL JOINTS, FILL GAP/Joint WITH SEALANT BETWEEN MOUNT AND UPSLOPE EDGE OF SHINGLE COURSE.



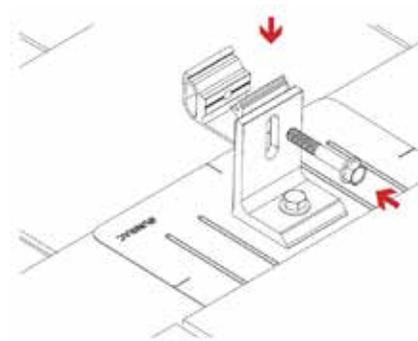
INSTALL FLASHKIT PRO FLASHING:

Add a U-shaped bead of roof sealant to the underside of the flashing with the open side of the U pointing down the roof slope. Slide the aluminum flashing underneath the row of shingles directly up slope from the pilot hole as shown. Align the indicator marks on the lower end of the flashing with the chalk lines on the roof to center the raised hole in the flashing over the pilot hole in the roof. When installed correctly, the flashing will extend under the two courses of shingles above the pilot hole.



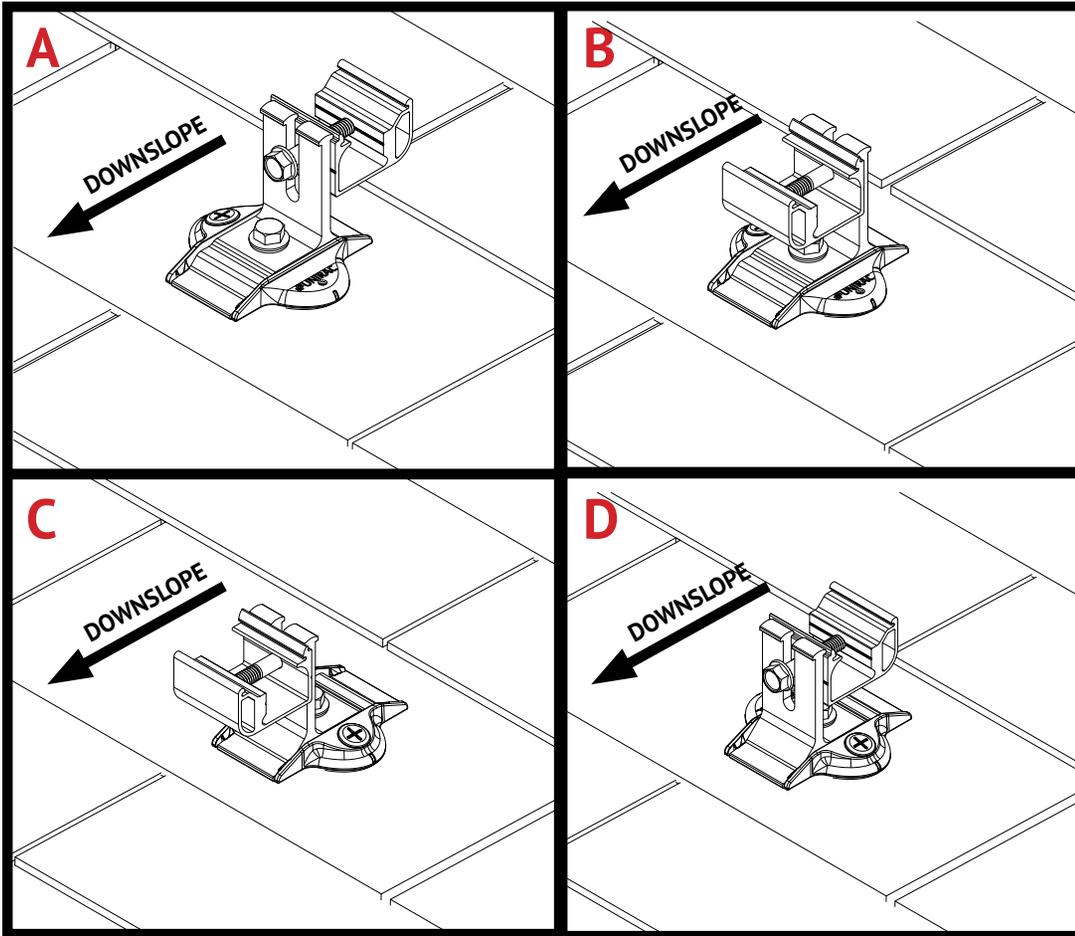
INSTALL L-FOOT: Fasten L-foot and Flashing into place by passing the included lag bolt and pre-installed stainless steel-backed EPDM washer through the L-foot EPDM grommet, and the hole in the flashing, into the pilot hole in the roof rafter. Drive the lag bolt down until the L-foot is held firmly in place. The EPDM washer should compress and expand slightly beyond the outside edge of the steel washer when the proper torque is applied.

Note: FLASHKIT PRO L-FOOT can be installed in TWO orientations. Refer Page G for detailed view.



FIX RAIL CLAMP ONTO L-FOOT: Remove bolt from rail clamp. Place bolt through slot in L-foot and through hole in Rail Clamp. Partially thread bolt into rail clamp, leaving the bolt loose to accept the rail.

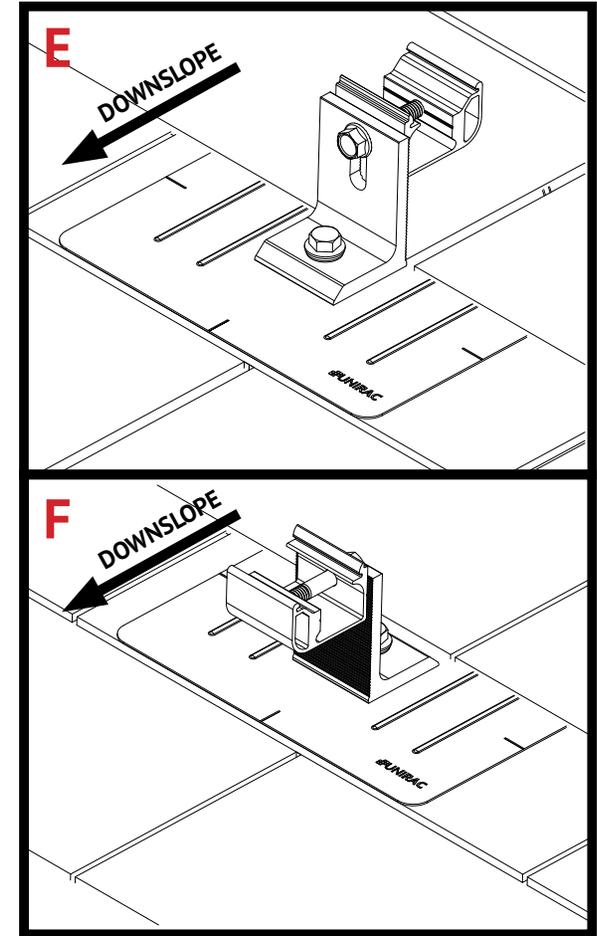
Note: Rail Clamp can be installed on any standard L-foot.



STRONGHOLD ATTACHMENT AND RAIL CLAMP ORIENTATIONS:

The Stronghold Attachment and Rail Clamp can be installed in any of four possible orientation, shown in images (A) through (D) above.

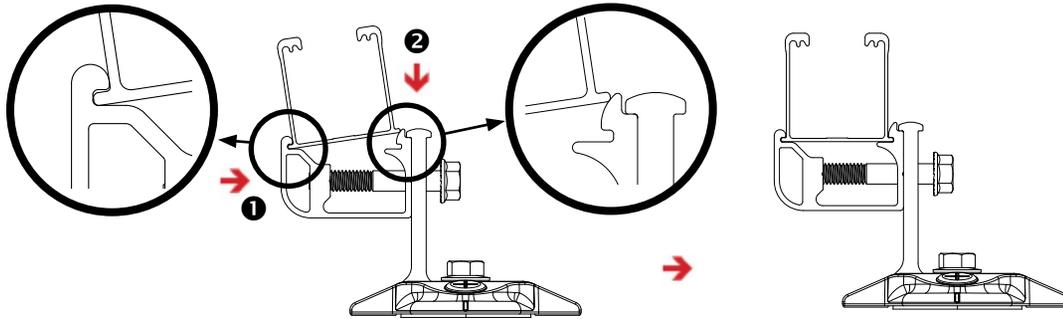
Note: For high snow loads, use orientations (C) or (D). Refer to [NXT Horizon Design and Engineering Guide](#) for specific requirements.



FLASHKIT PRO L-FOOT AND RAIL CLAMP ORIENTATIONS:

Flashkit Pro L-foot and Rail Clamp can be installed in either orientation shown in image (E) and (F) above.

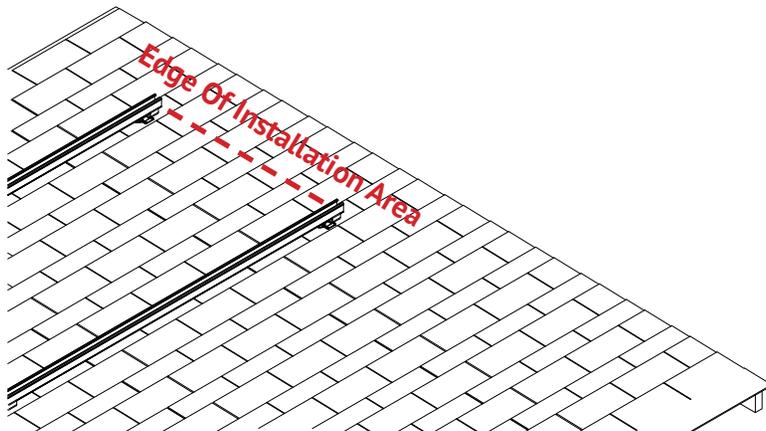
Note: For high snow loads, use orientation (F). Refer to [NXT Horizon Design and Engineering Guide](#) for specific requirements.



POSITION RAIL ONTO RAIL CLAMP:

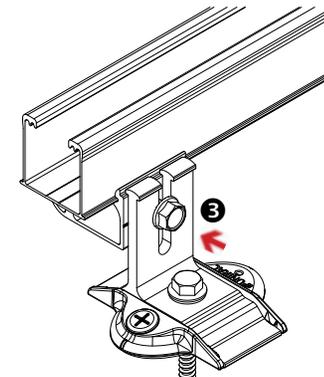
With the bolt in the pre-assembled (loose) position, Insert the rail flange on one side of the clamp groove. Then click-in the other side of the rail into the clamp groove.

CAUTION: DO NOT TIGHTEN THE RAIL CLAMP BEFORE PUTTING IN THE RAIL.



ALIGN RAILS: Align one pair of rail ends to the edge of the installation area. The opposite pair of rail ends will overhang installation area. Do not trim them off until the installation is complete. Install the first module at the aligned end. If the rails are parallel to the rafters, the aligned end of the rails should face the lower edge of the roof. Securely tighten all hardware after alignment is complete.

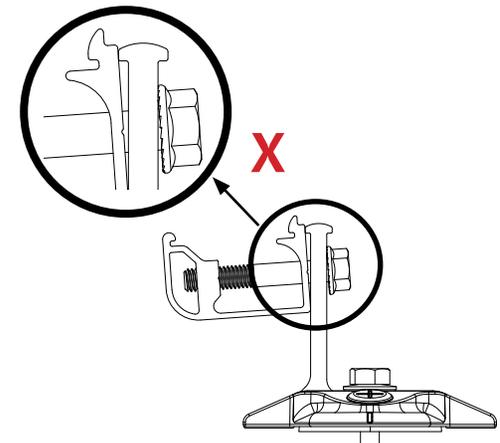
Mount modules to the rails as soon as possible. Large temperature changes may bow the rails within a few hours if module placement is delayed.



TIGHTEN RAIL ONTO RAIL CLAMP :

Adjust the rail height as needed until rail alignment is complete and tighten bolt.

TORQUE VALUE: 20 ft-lbs.



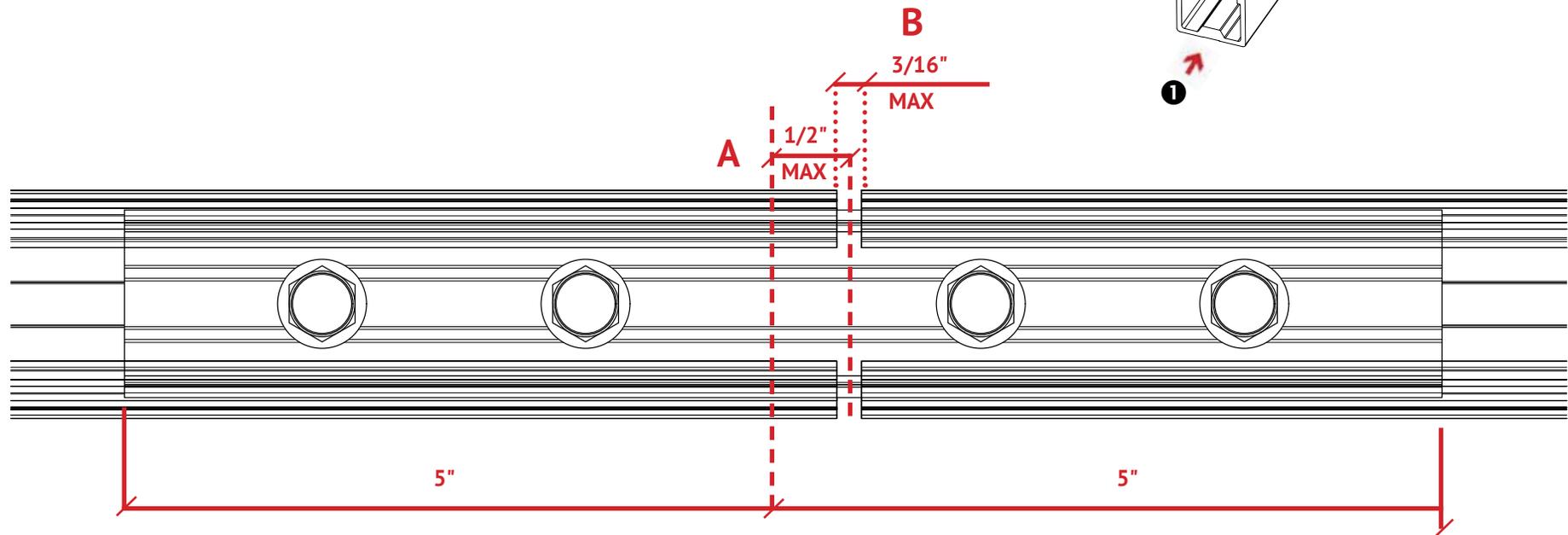
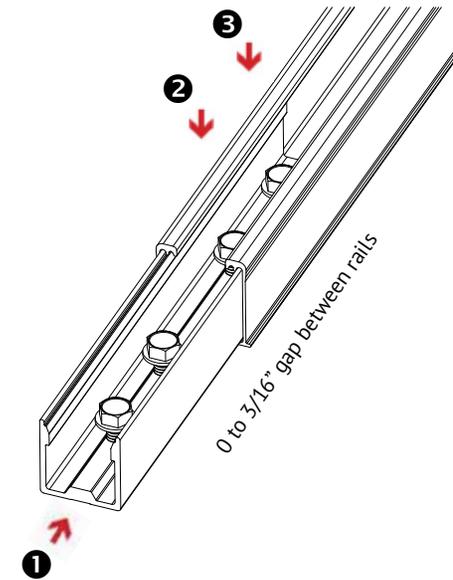
CAUTION: RAIL CLAMP MUST BE FLUSH TO THE L-FOOT AND POSITIONED BELOW THE FLANGE AT THE TOP OF THE L-FOOT

SPLICE INSTALLATION (IF REQUIRED PER SYSTEM DESIGN)

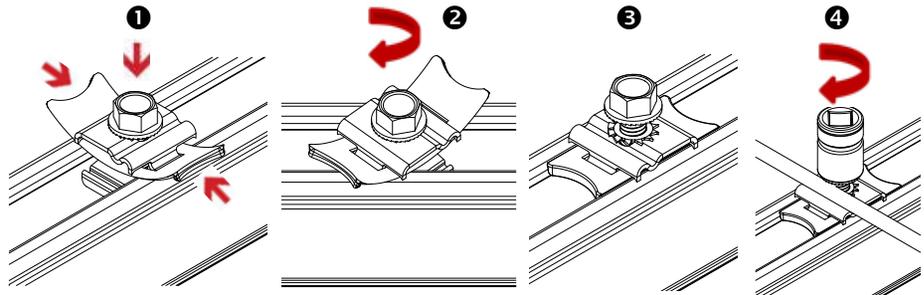
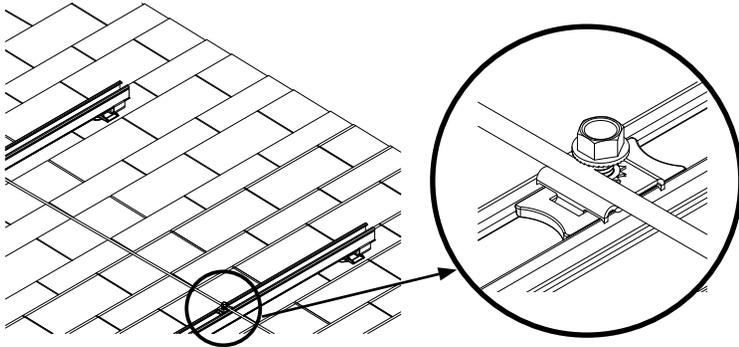
If your installation uses NXT HORIZON Rail Splice, attach the rails together either before installing the rail or after. There can be a gap between rails, up to 3/16" at the splice connections. To install, slide the splice into the rail on each rail, centering the splice between the two rails. Tighten both bolts on each rail with an impact drill, pressing firmly until the bolt-head is flush against the splice and torqued to 15 ft-lbs. Installation is complete when the bonding hardware penetrates the opposite side of the rail, and the assembly torque is achieved.

TORQUE VALUE: 15 ft-lbs. Do not use Anti-Seize.

CAUTION: IF ASSEMBLING SPLICE DIRECTLY ON ROOF, TAKE CARE TO PREVENT BOLTS FROM PENETRATING ROOF COVERING.



- Note:**
1. MAXIMUM OFF-CENTER DISTANCE OF SPLICE SHOULD NOT EXCEED 1/2" ON EITHER RAIL.
 2. MAXIMUM GAP BETWEEN RAILS SHOULD NOT EXCEED 3/16" AT SPLICE CONNECTION
 3. SPLICE CERTIFIED FOR SINGLE-USE ONLY



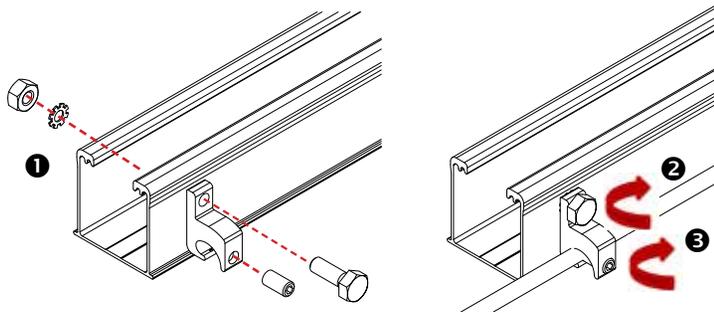
SYSTEM GROUNDING: Rails can be bonded using an NXT Horizon MLPE & Lug Clamp, GROUND WEEBLUG #1 or ILSCO LAY IN LUG (GBL4DBT). At least one rail per row of modules in an array must be bonded to electrical ground. Each additional row of modules must be grounded with at least one rail lug per row or with a row-to-row bonding device listed here.

SYSTEM GROUNDING WITH MLPE & LUG CLAMP: Insert the rail nut profile in the opening by lifting the flaps of the plastic clip. Rotate the clamp 90 deg and release the flaps to get flush with rail. Ensure that the rail nut is engaged in the rail profile. Align the ground wire in the depression of the washer. Tighten bolt.

Note: See Page F for additional lugs required for expansion joints.

TORQUE VALUE: 6-8 AWG: 12 ft lbs.

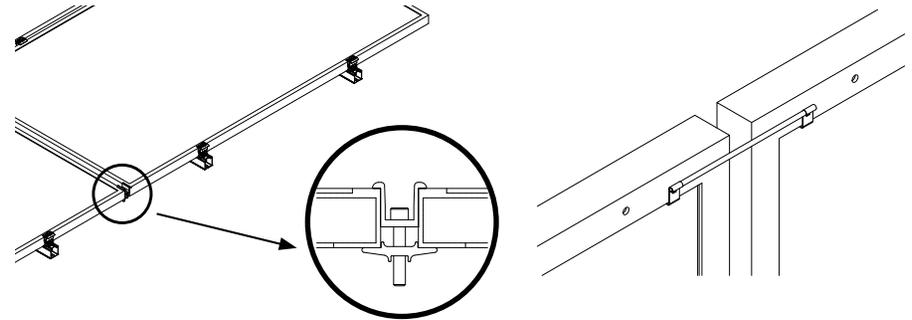
CAUTION: MLPE & Lug Clamp cannot be used to simultaneously mount a MLPE and ground wire.



ALTERNATE SYSTEM GROUNDING WITH ILSCO LAY-IN LUG - UNIRAC P/N 008009P: Alternate Grounding Lug. Drill hole in rail 7/32" in diameter, deburr hole and bolt thru one wall of rail.

BOLT TORQUE VALUE: 5 ft lbs.

TERMINAL TORQUE: 4-6 AWG: 35in-lbs, 8 AWG: 25 in-lbs.

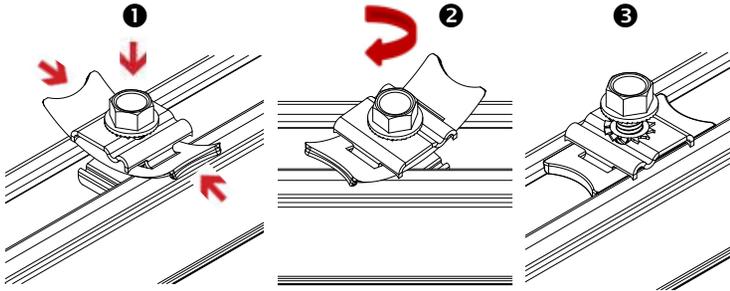


ALTERNATE ROW GROUNDING WITH NXT HORIZON ROW BONDING CLAMP: Insert clamp between module rows and tighten bolt.

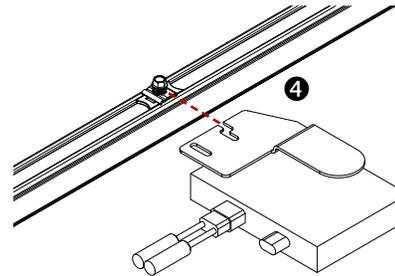
TORQUE VALUE: 20 ft-lbs

ALTERNATE ROW GROUNDING WITH N/S BONDING CLIP: Fully seat bonding clip on each module flange to provide bond across N/S module gap.

WARNING: ISOLATE COPPER FROM ALUMINUM CONTACT TO PREVENT CORROSION

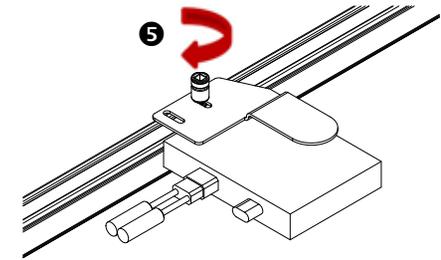


INSTALL MLPE & LUG CLAMP: Insert the rail nut in the rail by pinching the flaps of the plastic clip with thumb and middle finger, while pressing bolt head down with pointer finger. Rotate the clamp 90 deg in clockwise or anticlockwise in the rail and release the flaps when aligned with rail. Ensure that the rail nut is engaged in the rail profile.



INSTALL MICROINVERTER: Install microinverter onto rail. Engage with bolt.

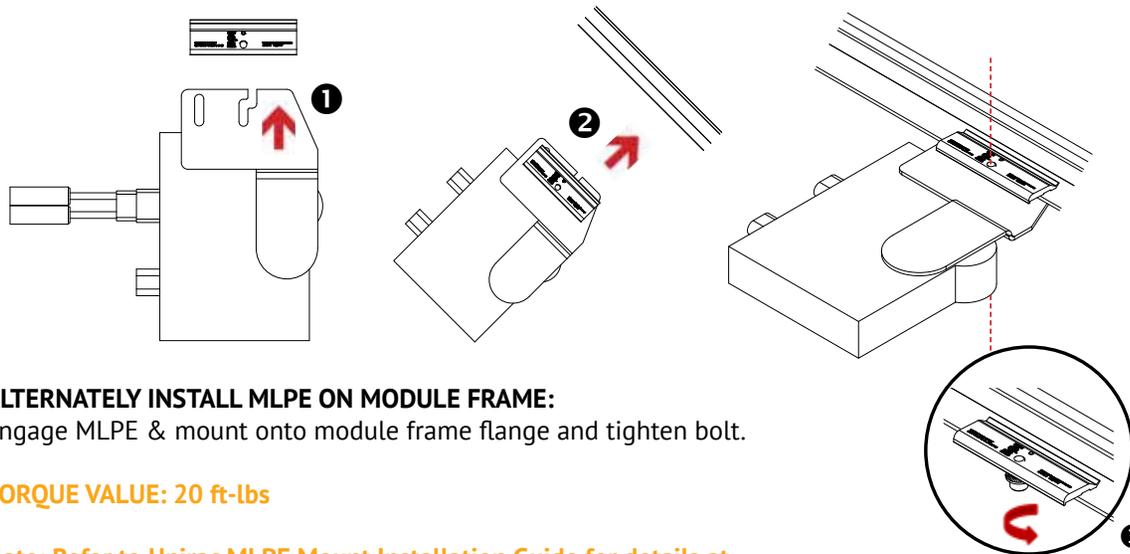
CAUTION: MLPE & Lug Clamp cannot be used to simultaneously mount MLPE devices and ground wires.



TIGHTEN BOLT TO SECURE:

TORQUE VALUE: 12 ft-lbs.

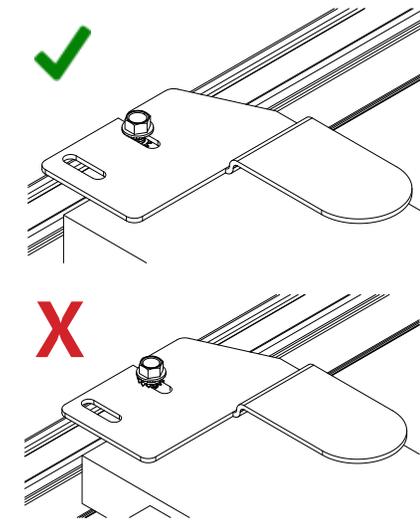
Quick Tip: To remove the MPEL clamp from the rail, use a tool to pry-open the rail to release the clamp.



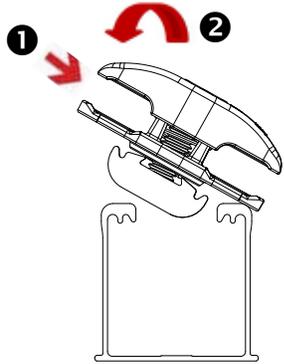
ALTERNATELY INSTALL MLPE ON MODULE FRAME: Engage MLPE & mount onto module frame flange and tighten bolt.

TORQUE VALUE: 20 ft-lbs

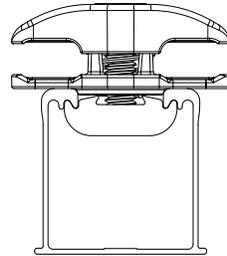
Note: Refer to Unirac MLPE Mount Installation Guide for details at <https://unirac.com/pdf/mlpe-mount-installation-guide/>



CAUTION: Ensure that MLPE is always installed on the top of lock-tooth washer.

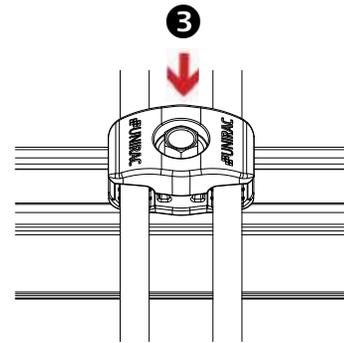


INSTALL NS WIRE MANAGEMENT CLIP:
 Insert the wire clamp assembly into the rail by placing one end of the rail nut into the rail and clip in the other end.



INSTALL NS WIRE MANAGEMENT CLIP:
 Ensure that the rail nut profile is seated in the rail profile.

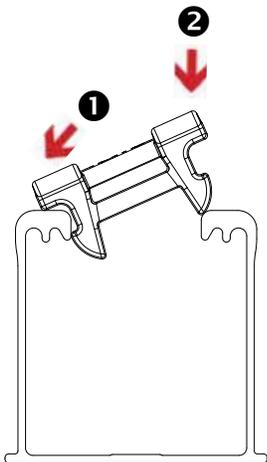
Note: Wire clip can be oriented along the rail or perpendicular to secure wires between rails.



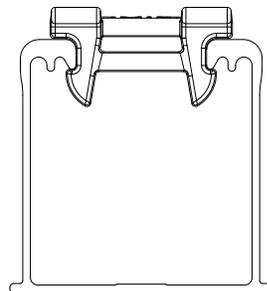
INSTALL NS WIRE MANAGEMENT CLIP:

Insert the wires into the groove of wire clamp and tighten it down to the suggested torque value.

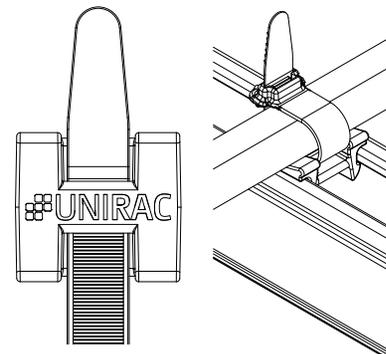
TORQUE VALUE: 3-7 ft-lbs.



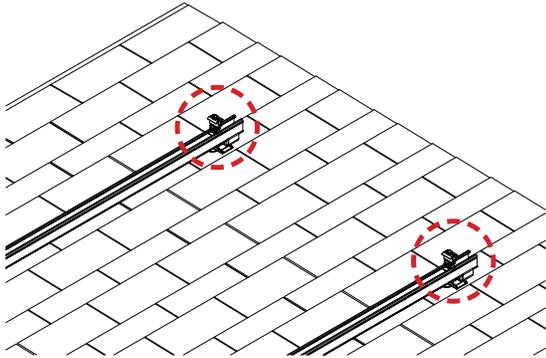
INSTALL WIRE MANAGEMENT CLIP:
 Wire clip retains the wire in the rail channel. Press fit the clip onto the rail flanges to install.



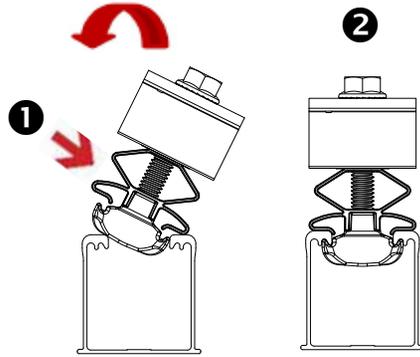
INSTALL WIRE MANAGEMENT CLIP:
 Ensure that the clip base is seated on the rail flange



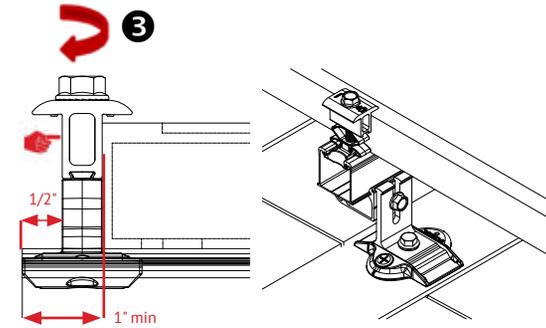
INSTALL WIRE MANAGEMENT CLIP:
 Use the wire tie to strap the wires down on the seater provided in the wire clip.



INSTALL COMBO (END) CLAMPS:
Install Combo Clamps starting at the aligned end of rails.



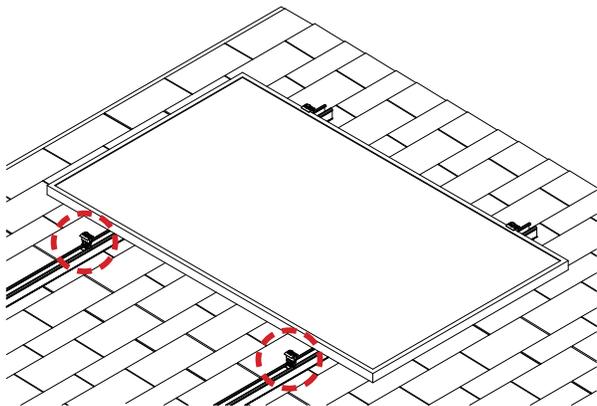
INSERT COMBO CLAMP:
Insert Combo Clamp from one side of the rail nut into the rail and click in the other side. Ensure that the rail nut profile is seated in the rail profile.



INSTALL END MODULE: Position first module onto rails and engage module frame with end clamps. Hold clamp in place against module while tightening bolt.

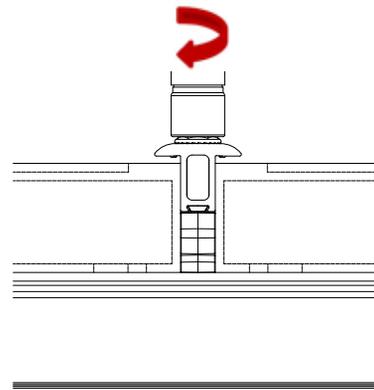
TORQUE VALUE: 15 ft-lbs.

Note: Ensure a minimum distance of 1" from the end of the module to end of rail.



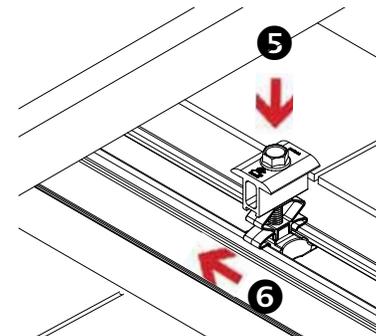
INSTALL COMBO (MID) CLAMPS:
Clamp assemblies may be positioned in rail near point of use prior to module placement.

Note: The clamps may be installed above splice locations.

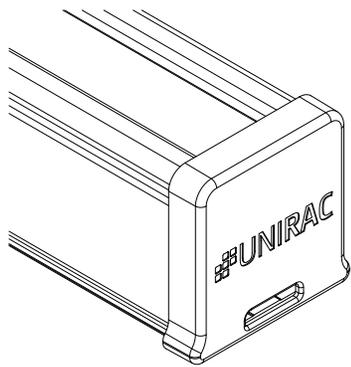


PLACE ADJACENT MODULE AGAINST CLAMPS: Modules must be tight against clamps with no gaps. Tighten bolt to required torque.

TORQUE VALUE: 15 ft-lbs.

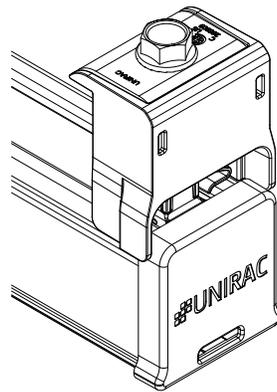


INSTALL REMAINING MODULES:
Proceed with module installation. Engage each clamp with previously positioned module.



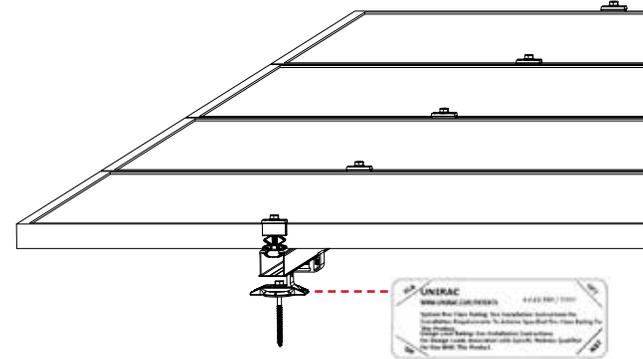
OPTIONAL END CAP:

End caps install as supplied in NH. Place the cap on the edge of the rail and press fit the cap onto the rail.



OPTIONAL COMBO CLAMP CAP:

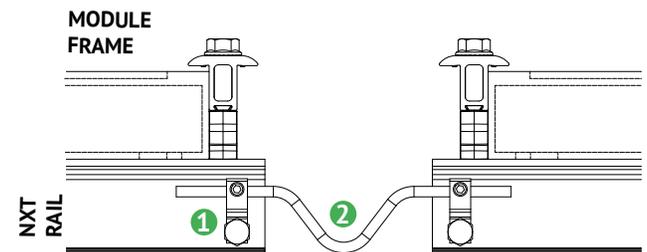
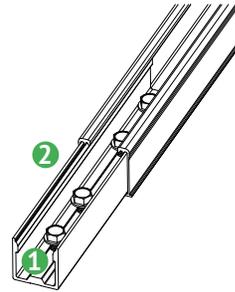
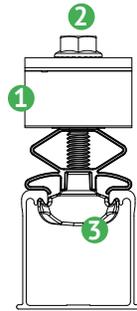
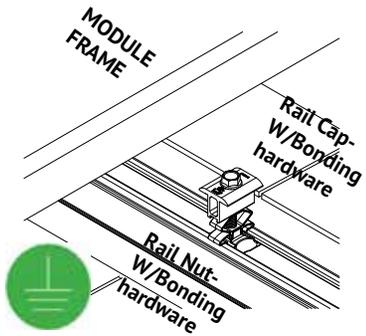
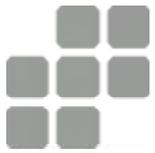
End caps install as supplied in NH. Place the cap on the edge of the clamp and press fit the cap onto the clamp.



INSTALL UL2703 CERTIFICATION MARKING LABEL:

After the racking system is fully assembled, a single label should be applied to the rail at the edge of the array. One certification label is supplied in every box of 20 clamps.

Note: The sticker label should be placed such that it is visible



BONDING COMBO MID-END CLAMP ASSEMBLY

- 1 Aluminum combo mid-end clamp cap with stainless steel bonding pins that pierce module frame anodization to bond module to module through clamp
- 2 Stainless steel bolt bonds aluminum clamp to stainless steel Hex bolt
- 3 Aluminum combo mid-end clamp rail nut with stainless steel bonding pins that pierce rail anodization to bond module to module through clamp

NOTE: See page M for installation details

BONDING RAIL SPLICE

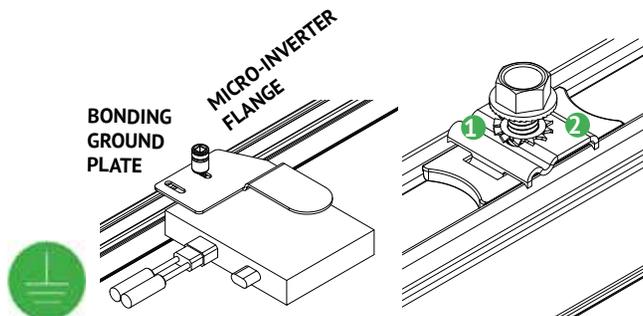
- 1 Bonding Hardware creates bond between Splice bar and each rail section
- 2 Aluminum splice bar spans across rail gap to create rail to rail bond. Rail on at least one side of splice will be grounded.

NOTE: See page I for installation details
Splice certified for single-use only

BONDING BETWEEN THERMAL BREAKS

- 1 Lug is connected at the end of each thermal break to the rail
- 2 Solid copper wire is connected across the gap to bond the two ends

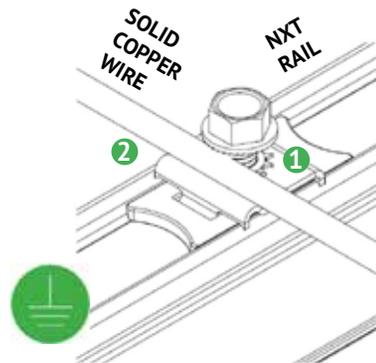
NOTE: See page D for installation details



BONDING MICROINVERTER MOUNT

- 1 Stainless steel Tooth lock washer beneath the MLPE flange remove anodization on the mlpe and bonds.
- 2 Tabs on the stainless-steel washer remove anodization on the rail and bonds.

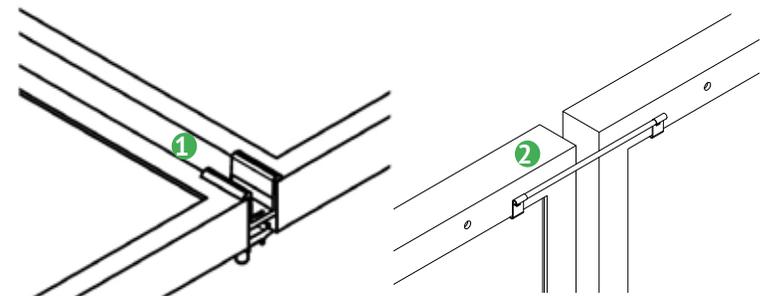
NOTE: See page K for installation details



RACK SYSTEM GROUND

- 1 Tabs on the stainless-steel washer pierce anodization on the rail to bond rail to ground wire.
- 2 Solid copper wire connected to lug is routed to provide final system ground connection.

NOTE: See page J for installation details and alternate racking system grounding methods.



ALTERNATE ROW-TO-ROW BONDING PATHS

- 1 Row-to-row module bonding is accomplished with bonding clamp with 2 integral bonding pins.
- 2 Alternate method by connecting clips on either module to complete the bonding path.

NOTE: See page J for installation details
Row-to-row module bonding certified for single-use only



RACKING SYSTEM GROUND

Note: Only one lug per module row required

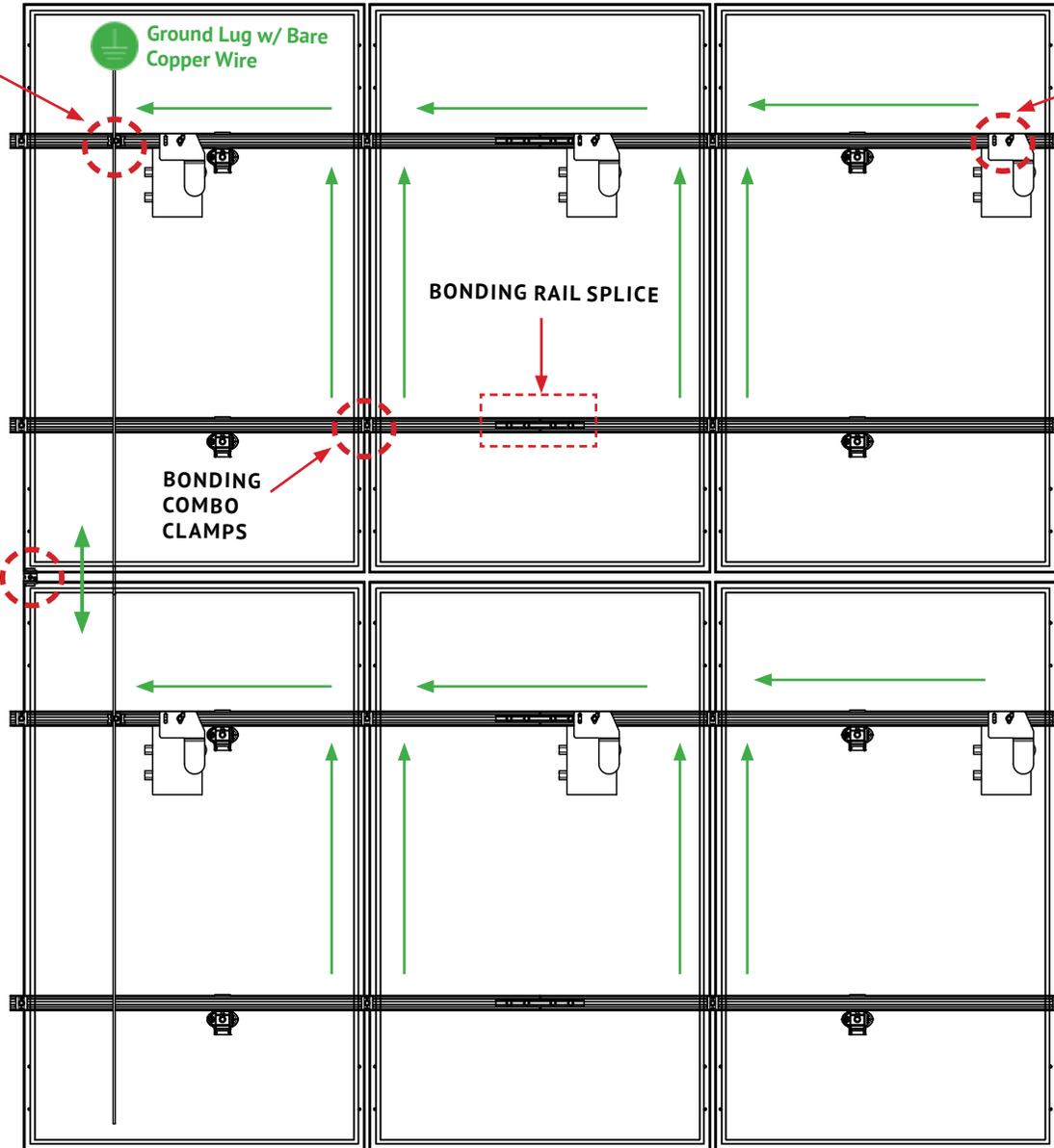
Ground Lug w/ Bare Copper Wire

BONDING MICROINVERTER MOUNTS

BONDING RAIL SPLICE

BONDING COMBO CLAMPS

ALTERNATE ROW-TO-ROW BONDING METHOD



The NXT Horizon system has been certified and listed to the UL 2703 standard (Rack Mounting Systems and Clamping Devices for Flat-Plate Photovoltaic Modules and Panels). This standard included electrical grounding, electrical bonding, mechanical load and fire resistance testing.

SYSTEM LEVEL FIRE CLASSIFICATION

The system fire class rating requires installation in the manner specified in the NXT HORIZON Installation Guide. NXT HORIZON has been classified to the system level fire portion of UL 2703. NXT HORIZON has achieved system level performance for steep sloped roofs. System level fire performance is inherent in the NXT HORIZON design, and no additional mitigation measures are required. The fire classification rating is only valid on roof pitches greater than 2:12 (slopes \geq 2 inches per foot, or 9.5 degrees). The system is to be mounted over fire resistant roof covering rated for the application. There is no required minimum or maximum height limitation above the roof deck to maintain the system fire rating for NXT HORIZON. Approved Module Types & System Level Fire Ratings are listed below:

Module Type	System Level Fire Rating	Rail Direction	Module Orientation
Type 1, 2, 3 w metal frame, 10 w metal frame, 19, 22, 25, 29, & 30	Class A, Class B & Class C	Parallel OR Perpendicular to Ridge	Landscape OR Portrait

MECHANICAL LOAD TEST MODULES

The modules selected for UL 2703 mechanical load testing were selected to represent the broadest range possible for modules on the market. The tests performed covers module frame thicknesses greater than or equal to 1.0 mm, single and double wall frame profiles (some complex frame profiles could require further analysis to determine applicability), and clear and dark anodized aluminum frames. PV modules may have a reduced load rating, independent of the NXT Horizon rating. Please consult the PV module manufacturer’s installation guide for more information.

Tested Module	UL2703 Certification Load Ratings	Tested Loads	Tested Module Area
SunPower SPR-A440 -COM	Down: 113 psf, Up: 50 psf , Slope: 15 psf	Down: 170 psf, Up: 75 psf , Slope: 23 psf	21.86 sq ft

UL2703 CERTIFICATION MARKING LABEL:

Unirac NXT HORIZON is listed to UL 2703. Certification marking is embossed on all Combo Clamps as shown. Labels with additional certification information are provided with clamps and must be applied to the NXT Horizon Rail at the edge of the array.

Note: This racking system may be used to ground and/or mount a PV module complying with UL1703/UL61730 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions.



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 NXT Horizon system.

Manufacture	Module Model / Series
Aionrise	AION60G1, AION72G1
Aleo	P-Series & S-Series
Aptos Solar	DNA-120-MF10 DNA-120-(MF/BF)23 DNA-144-(MF/BF)23 DNA-120-(MF/BF)26 DNA-144-(MF/BF)26
Astronergy	CHSM6612 M, M/HV CHSM6612P Series CHSM6612P/HV Series CHSM72M-HC CHSM72M(DG)/F-BH
Auxin	AXN6M610T AXN6P610T AXN6M612T AXN6P612T
Axitec	AC-xxx(M/P)/60S, AC-xxx(M/P)/72S AC-xxxP/156-60S AC-xxxMH/120(S/V/SB/VB) AC-xxxMH/144(S/V/SB/VB)
Boviet	BVM6610, BVM6612
BYD	P6K & MHK-36 Series
Canadian Solar	CS1(H/K/U/Y)-MS CS3K-(MB/MB-AG/MS/P/P HE/PB-AG) CS3L-(MS/P) CS3N-MS CS3U-(MB/MB-AG/MS/P/P HE/PB/PB-AG) CS3W-(MS/P/P-PB-AG) CSSA-M CS6K-(M/MS/MS AllBlack/P/P HE)

Manufacture	Module Model / Series
Canadian Solar (cont.)	CS6P-(M/P) CS6U-(M/P/P HE) CS6X-P, CSX-P ELPS CS6(A/P)-MM
Centrosolar America	C-Series & E-Series
CertainTeed	CT2xxMxx-01, CT2xxPxx-01, CTxxxMxx-01 CTxxxPxx-01, CTxxxMxx-02, CTxxxMxx-03 CTxxxMxx-04, CTxxxHC11-04
Eco Solargy	Orion 1000 & Apollo 1000
ET Solar	ET AC Module, ET Module
First Solar	FS-6XXX(A) FS-6XXX(A)-P, FS-6XXX(A)-P-I
Flextronics	FXS-xxxBB
FreeVolt	PVGraf
GCL	GCL-P6 & GCL-M6 Series
Hanwha SolarOne	HSL 60
Hansol	TD-AN3, TD-AN4 UB-AN1, UD-AN1
Heliene	36M, 36P 60M, 60P, 72M & 72P Series 144HC M6
HT Solar	HT72-156(M/P) HT72-156P-C, HT72-156P(V)-C HT72-156M(PDV)-BF, HT72-156M(PD)-BF HT60-156M-C HT60-156M(V)-C
Hyundai	KG, MG, RW, TG, RI, RG, TI, KI, HI Series HiA-SxxxHG, HiD-SxxxRG(BK), HiS-S400PI
ITEK	iT-SE Series

Manufacture	Module Model / Series
Japan Solar	JPS-60 & JPS-72 Series
JA Solar	JAM72D30MB, JAM78D10MB JAP6 60-xxx JAM6(K)-60/xxx, JAP6(k)-72-xxx/4BB JAP72S##-xxx/** JAP6(k)-60-xxx/4BB, JAP60S##-xxx/** JAM6(k)-72-xxx/**, JAM72S##-xxx/** JAM6(k)-60-xxx/**, JAM60S##-xxx/** i. ##: 01, 02, 03, 09, 10 ii. **: SC, PR, BP, HiT, IB, MW, MR ** = Backsheet, ## Cell technology
Jinko	JKM & JKMS Series JKMxxxM-72HL-V JKMxxxM-72HL4-(TV) JKMxxxM-7RL3-V
Kyocera	KD-F & KU Series
LA Solar	LSxxxHC(166)
LG Electronics	LGxxx(E1C/E1K/N1C/N1K/N2T/N2W/S1C/ S2W/Q1C/Q1K)-A5 LGxxx(A1C/M1C/M1K/N1C/N1K/Q1C/Q1K/ QAC/QAK)-A6 LGxxxN2W-B3 LGxxxN2T-B5 LGxxxN1K-B6 LGxxx(N1C/N1K/N2T/N2W)-E6 LGxxx(N1C/N1K/N2W/S1C/S2W)-G4 LGxxxN2T-J5 LGxxx(N1K/N1W/N2T/N2W)-L5 LGxxx(M1C/N1C/Q1C/Q1K)-N5 LGxxx(N1C/N1K/N2W/Q1C/Q1K)-V5 LGxxxN3K-V6

- The frame profile must not have any feature that might interfere with the bonding devices that are integrated into the racking system
- Use with a maximum over current protection device OCPD of 30A
- **Listed models can be used to achieve a Class A fire system rating, for steep slope applications, only when modules fire typed 1, 2, 3 w metal frame, 10 w metal frame, 19, 22, 25, 29, or 30. See Appendix page 3**

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 NXT Horizon system.

Manufacture	Module Model / Series	Manufacture	Module Model / Series	Manufacture	Module Model / Series		
LONGi	LR4-60(HPB/HPH)	Q.Cells	Plus, Pro, Peak, G3, G4,	Renesola	All 60-cell modules		
	LR4-72(HPH)		Peak G5(SC) , G6(+)(SC)(AC), G7, G8(+),	Risen	RSM Series		
	LR6-60		Plus, Pro, Peak L-G2, L-G4, L-G5	S-Energy	SN72 & SN60 Series		
	LR6-60(BK/HPB/HPH/HV/PB/PE/PH)		Peak L-G5, L-G6, L-G7, L-G8(BFF)	SEG Solar	SEG-xxx-BMD-HV		
	LR6-72		Q.PEAK DUO(BLK)-G6+	Seraphim	SEG-(6PA/6PB/6MA/6MA-HV/6MB/E01/E11)		
LR6-72(BK/HV/PB/PE/PH)	Q.PEAK DUO BLK-G6+/TS		SRP-(6QA/6QB)				
RealBlack LR4-60HPB	Q.PEAK DUO (BLK)-G7		SRP-xxx-6MB-HV, SRP-320-375-BMB-HV,				
RealBlack LR6-60HPB	Q.PEAK DUO L-(G7/G7.1/G7.2/G7.3/G7.7)		SRP-xxx-BMC-HV, SRP-390-450-BMA-HV,				
Mission Solar Energy	MSE Mono, MSE Perc		SRP-xxx-BMZ-HV, SRP-390-405-BMD-HV				
Mitsubishi	MJE & MLE Series		Sharp		NU-SA & NU-SC Series		
Neo Solar Power Co.	D6M Series		Silfab		SLA-M, SLA-P, SLG-M, SLG-P & BC Series		
Panasonic	VBHNxxxSA06/SA06B/SA11/SA11B				Q.PEAK DUO L-(G8/G8.1/G8.2/G8.3)	SILxxx(BL/NL/NT/HL/ML/BK/NX/NU/HC)	
	VBHNxxxSA15/SA15B/SA16/SA16B,				Q.PEAK DUO L-G8.3 (BFF/BFG/BGT)	Solaria	PowerXT-xxxR -(AC/PD/BD)
	VBHNxxxKA, VBHNxxxKA03/04,				Q.PEAK DUO (BLK) ML-G9(+)		PowerXT-xxxC-PD
	VBHNxxxSA17/SA17G/SA17E/SA18/SA18E,			Q.PEAK DUO XL-(G9/G9.2/G9.3)	PowerXT-xxxR-PM (AC)		
	VBHNxxxZA01/ZA02/ZA03/VBHNxxxZA04	Q.PEAK DUO XL-G9.3/BFG		Solartech	STU HIT, STU PERC & Quantum PERC		
EVPVxxx	Q.PEAK DUO G10+	SolarWorld		Sunmodule Protect, Sunmodule Plus/Pro			
Peimar	SGxxxM (FB/BF)	Q.PEAK DUO BLK G10(+)		Suniva	MV Series & Optimus Series (35mm)		
	SMxxxM	Q.PEAK DUO BLK G10+ /AC		SunPower	AC, X-Series, E-Series & P-Series		
Phono Solar	PSxxxM1-20/U	Q.PEAK DUO (BLK) ML-G10(a)(+)			SPR E20 435 COM (G4 Frame)		
	PSxxxM1H-20/U	Q.PEAK DUO XL-(G10/G10.2/G10.3/G10.c/	Axxx-BLK-G-AC, SPR-Mxxx-H-AC				
	PSxxxM1H-20UH	G10.d)	SunTech		STP, STPXXXS - B60/Wnhb		
	PSxxxM1-20/UH	Q.PEAK DUO XL-G10.3/BFG	Sun Edison		F-Series, R-Series		
	PSxxxM1H-20/UH	Q.PEAK DUO XL-G10.d/BFG	Talesun	TP572, TP596, TP654, TP660			
	PSxxxM-24/T	Q.PEAK DUO XL-(G11.2/G11.3)		TP672, Hipor M, Smart			
	PSxxxMH-24/T	Q.PEAK DUO XL-G11.3/BFG		Tesla	SC, SC B, SC B1, SC B2, TxxxS, TxxxH		
PSxxxM-24/TH	REC	RECxxxAA (BLK/Pure)					
PSxxxMH-24/TH		RECxxxNP (N-PEAK)					
Prism Solar	P72 Series	RECxxxNP2 (Black)					
		RECxxxPE, RECxxxPE72					
		RECxxxTP, RECxxxTP72					
		RECxxxTP2(M/BLK2)					
		RECxxxTP2S(M)72					
		RECxxxTP3M (Black)					
		RECxxxTP4 (Black)					

- The frame profile must not have any feature that might interfere with the bonding devices that are integrated into the racking system
- Use with a maximum over current protection device OCPD of 30A
- **Listed models can be used to achieve a Class A fire system rating, for steep slope applications, only when modules fire typed 1, 2, 3 w metal frame, 10 w metal frame, 19, 22, 25, 29, or 30. See Appendix page 3**

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 NXT Horizon system.

Manufacture	Module Model / Series
Trina	PA05, PD05, DD05, DD06, DE06, DE09.05 PD14, PE14, DD14, DE14, DE15, DE15V(II) DEG15HC.20(II), DEG15MC.20(II) DEG15VC.20(II), DE18M(II), DEG18MC.20(II) DE19, DEG19C.20
TSMC	TS-150C2 CIGSw
Upsolar	UP-MxxxP, UP-MxxxM(-B)
URECO	D7Kxxx(H7A/H8A), D7Mxxx(H7A/H8A) FAKxxx(C8G/E8G), FAMxxxE7G-BB FAMxxxE8G(-BB), FBKxxxM8G
Vikram	Eldora, Somera, Ultima PREXOS VSMDHT.60.AAA.05 PREXOS VSMDHT.72.AAA.05
VSUN	VSUNxxx-60M-BB, VSUNxxx-72MH VSUN4xx-144BMH
Vina	VNS-72M1-5-xxxW-1.5, VNS-72M3-5-xxxW-1.5, VNS-144M1-5-xxxW-1.5, VNS-144M3-5-xxxW-1.5, VNS-120M3-5-xxxW-1.0
Winaico	WST & WSP Series
Yingli	YGE & YLM Series
ZNShine Solar	ZXM6-72 Series, ZXM6-NH144 ZXM6-NHLDD144

- The frame profile must not have any feature that might interfere with the bonding devices that are integrated into the racking system
- Use with a maximum over current protection device OCPD of 30A
- **Listed models can be used to achieve a Class A fire system rating, for steep slope applications, only when modules fire typed 1, 2, 3 w metal frame, 10 w metal frame, 19, 22, 25, 29, or 30. See Appendix page 3**