

SIMPLEBLOCK^{PV}

RAIL-LESS MOUNTING SYSTEM FOR STANDING SEAM ROOFS

INSTALLATION GUIDE

REVISION DATE: 11/02/20

VERSION: v1.2



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SIMPLEBLOCK-PV

SimpleBlock-PV is an innovative UL 2703 listed rail-less racking system that utilizes EcoFasten end spacers and integrated bonding mid clamps for use on standing seam metal roofs. The block utilizes pre-installed oval-point set screws for a fast installation that does not require penetrating the roof.

FEATURES

- Integrated bonding
- Two pre-installed oval-point set screws for fast installation
- No roof penetrations required
- North-South adjustability



ADDITIONAL INSTALLER INFORMATION

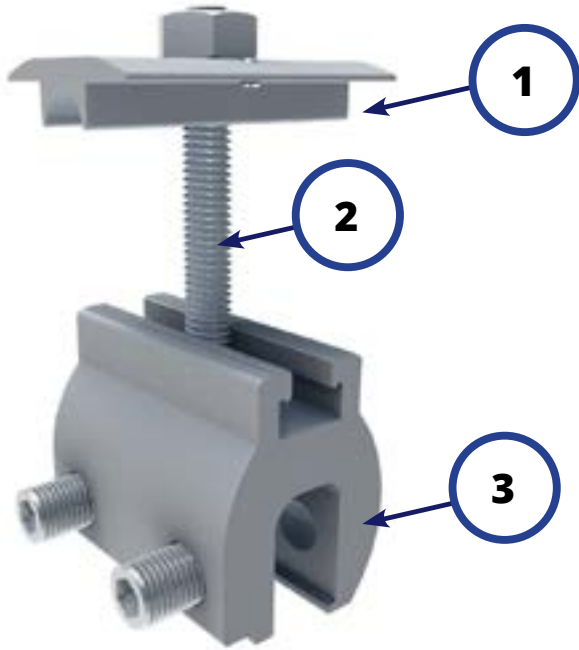
The capacity of the SimpleBlock clamp is dependent on the roofing material and type to which it is fastened. The roofing type and material used in tests is noted in SimpleBlock Ultimate Capacity Laboratory Test. Appropriate factors of safety should be determined and applied by the design professional or qualified personnel to the noted ultimate values based on the specific circumstance and application, but under NO circumstance should the factor of safety be less than 2. The metal roofing must be adequately attached to the supporting roof system/structure to resist loads. The loads applied to the SimpleBlock clamp will be transferred to the roofing material and supporting members. Said roofing material and supporting members and their attachments must be designed or analyzed accordingly. The SimpleBlock is NOT approved for use as a fall restraint device.

For more information refer to SimpleBlock Ultimate Capacity Laboratory Test Results on our web page.

Please Note: Review module and any 3RD party manufacturer's documentation for compatibility and compliance with warranty terms and conditions.



SYSTEM COMPONENTS REQUIRED



SIMPLEBLOCK-PV:

- 1. Mid-Clamp
- 2. Hardware
- 3. Mount

ADDITIONAL REQUIRED COMPONENTS:

- 4. Coupling
- 5. End Spacer



AVAILABLE END SPACER HEIGHTS



32MM



35MM



40MM

ACCESSORIES



ROCKIT CLIP 2.0

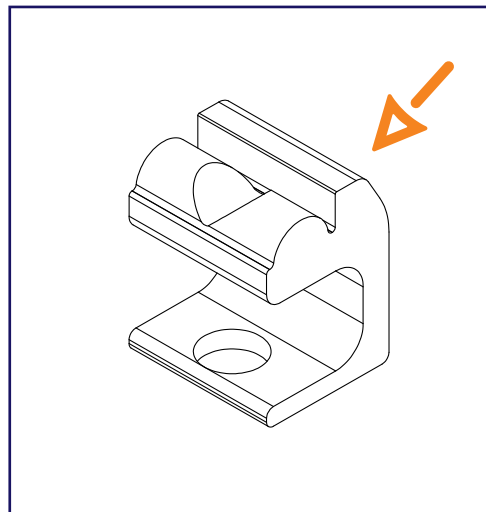


Class A Fire Ratings	Type 1, 2 & 3*
Max System Voltage	1500
Max Fuse Rating	30A
Certification	Conforms to UL STD 2703
Markings	Product listing label is located on SR-X End Spacer
Roof Pitch	1/2:12 - 12:12
UL 2703 Allowable Design Load Rating	30 psf downward, 30 psf upward and 5 psf lateral
Max Module Size	24 sq. ft.
Single use Rated Components	SR-X Mid-Clamp, SR-X Coupling
Module Orientation	Landscape Only

*Class A for Steep Slope & Low Slope Flush-Mount (Symmetrical) Applications when using Type 1, 2 or 3, Listed Photovoltaic Module when installed over non combustible roofs. This product can be installed with any module to roof gap

Certification of Simple Block includes bonding to both painted and galvalume standing seam metal roofs

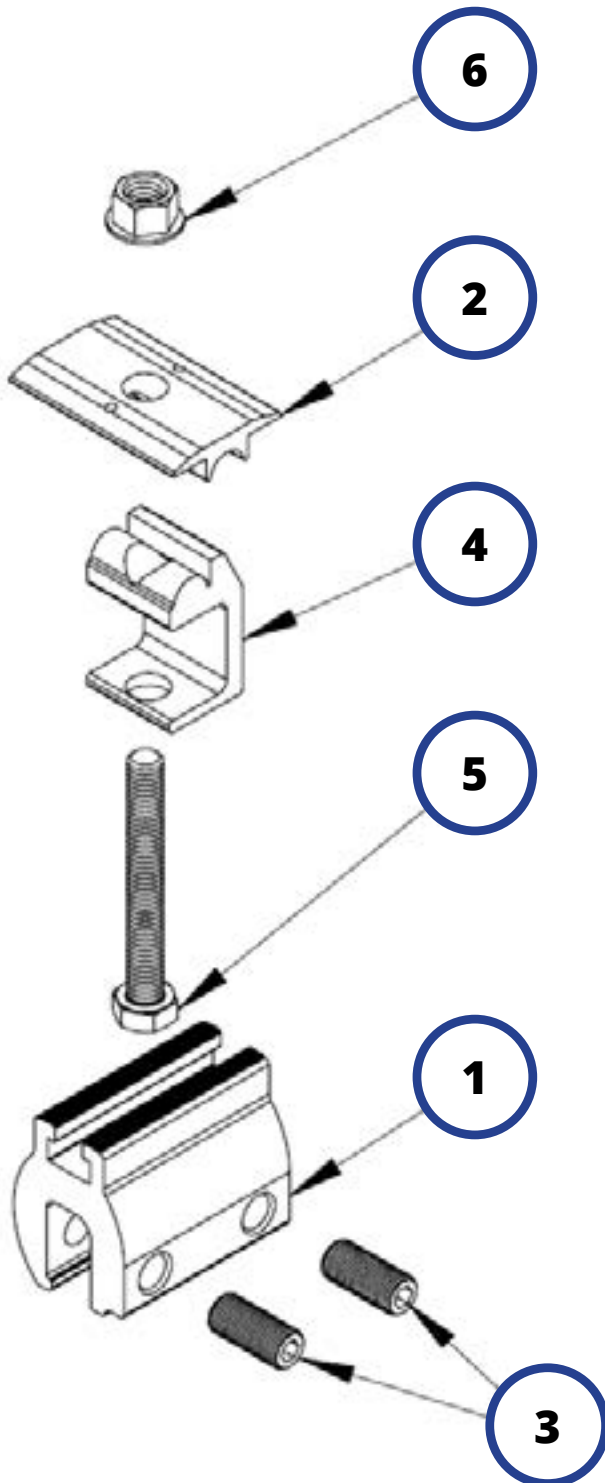
UL 2703 MARKING EXAMPLE:



TORQUE SPECIFICATIONS

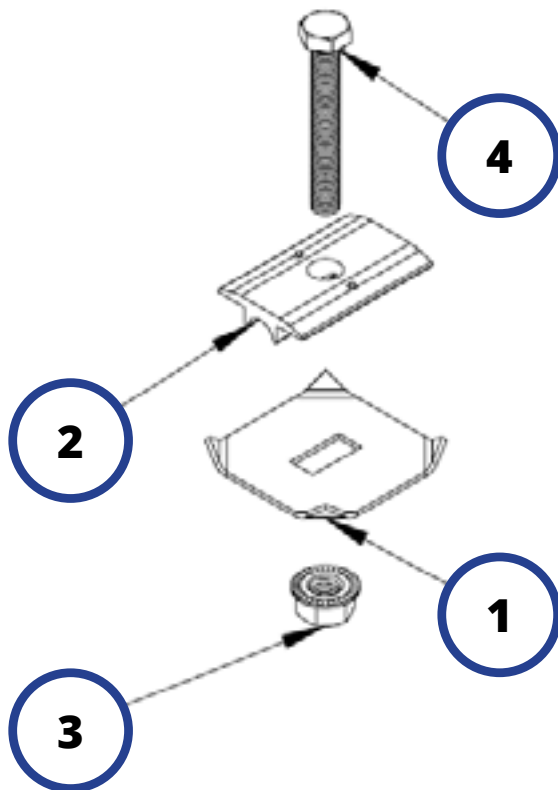
Component	Torque (in-lb)
SR-X Mid-Clamp	150
SimpleBlock-PV Coupling	150
SimpleBlock-PV Set Screws	150
RockIt Clip 2.0	144

Periodic reinspection of components shall be performed to verify that there is no corrosion detrimental to system strength and electrical conductivity, no loose bolts, and/or other variables that could compromise array safety. Any corroded or damaged components shall be immediately replaced.



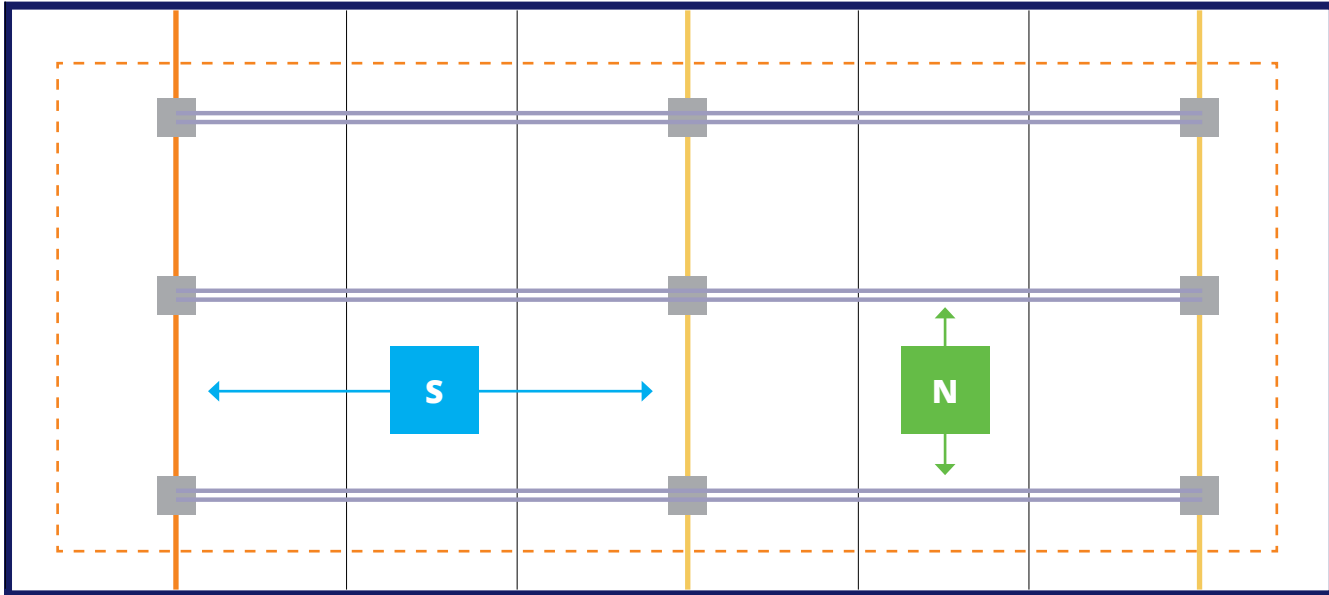
SIMPLEBLOCK-PV COMPONENTS

1. Mount
2. Mid-Clamp
3. Set Screws
4. End Spacer
5. Bolt 0.3125-18x2.5"
6. Flange Nut 0.3125-18"











SIMPLEBLOCK-PV COUPLING COMPONENTS

1. MLPE-Clip
2. Mid-Clamp
3. Flange Nut 0.3125-18"
4. Bolt .3125-18x2.5"



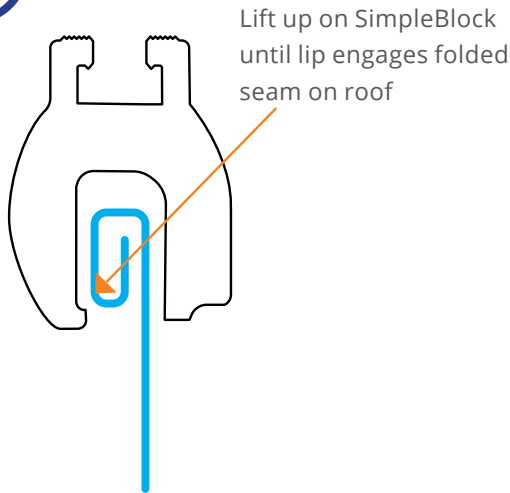
INSTRUCTIONS

-  1. Determine appropriate array location
-  2. Select first row positioning for the mounts
-  3. Mark next row of attachments and repeat for remaining rows
-  3.A Your North-South measurement equals the module width +1/2" to accommodate for the module gap
-  4. Locate first seam closest to array edge (inside array footprint) and mark
-  5. Find next seam for attachment base on appropriate span and continue marking to end of array.
-  6. Span
-  7. Mark each attachment point for array on seams.

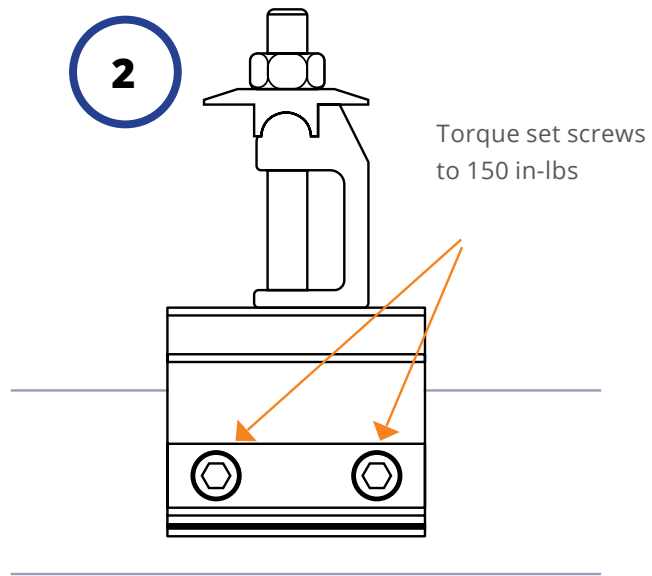
NOTE: Modules must be installed in landscape orientation only.

SIMPLEBLOCK INSTALLATION

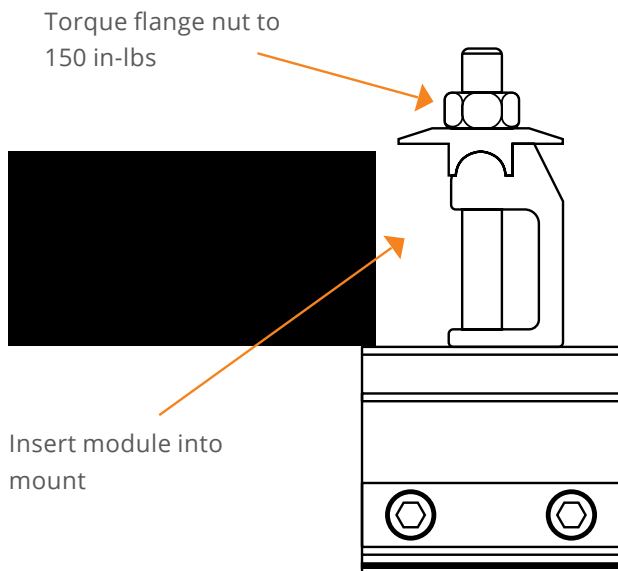
1



2



3



INSTALL SIMPLEBLOCK TO STANDING SEAM METAL ROOF

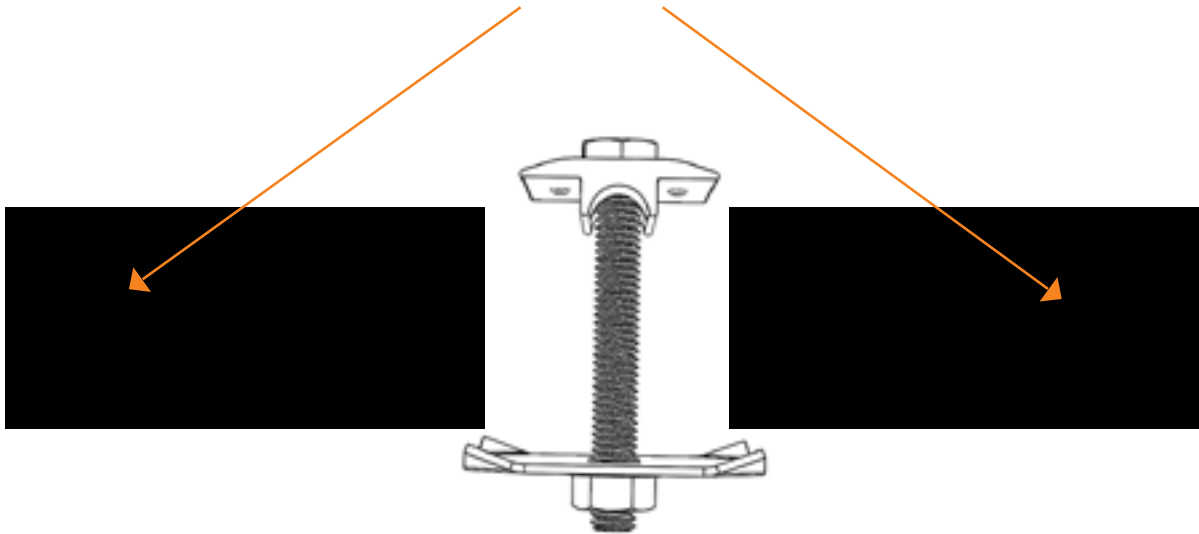
- Tighten set screws to 150 in-lbs using a 3/8" Allen head bit.
- Determine the location of the next row of clamps. Clamp spacing can be calculated by adding 1/2" to the width of the module being installed
- Verify that each SimpleBlock mid-clamp has the proper engagement with the standing seam (see step 1)

INSTALLATION



COUPLING INSTALLATION

Panels looking up slope

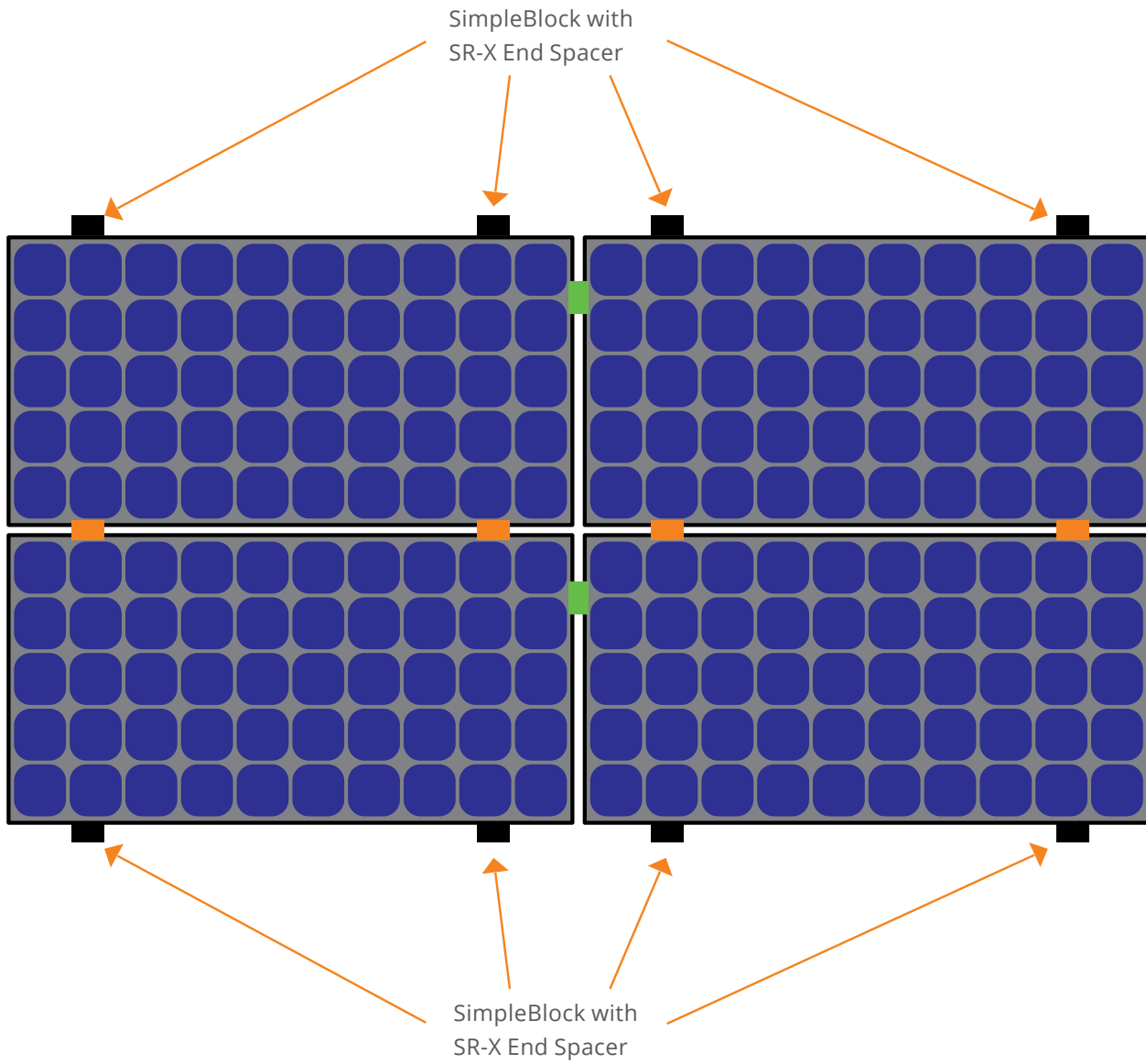


INSTALL COUPLING TO CONNECT AND BOND MODULES EAST TO WEST

- Attach coupling to panels by sliding coupling between the two panels and tighten to 150 in-lbs
- Couplings should be placed between each panel East to West.
- Clamp must engage panels for proper bonding path



TYPICAL ARRAY LAYOUT



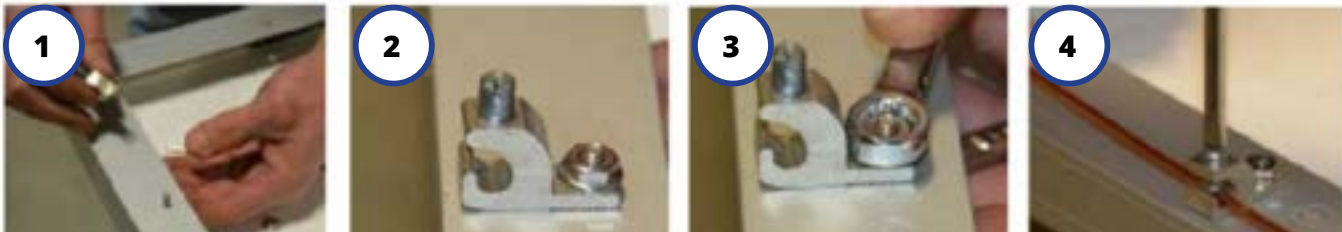
SimpleBlock without SR-X End Spacers

SimpleBlock Couplings

LAYOUT



GROUNDING LUG INSTALLATION



Install ground lug on the module per ground lug and module manufacturer's instructions

NECESSARY COMPONENTS:

One of the following ground lugs (or any UL 2703 compliant ground lug):

- Burndy CL50-1TN Ground Lug (UL 2703 - E3514343 / UL 467-E9999)
- ILSCO SGB-4 Ground Lug (UL 2703 - E354420 / UL 467 - E34440)
- ILSCO GBL-4DBT(UL2703 - E354420 / UL467 - E344401)
- ILSCO GBL-4DBTH (UL 2703 - E354420 / UL 467 - E34440)
- ILSCO GBL-4SS (UL 2703 - E354420 | UL 467 - E34440)

This system needs to be grounded in accordance with the National Electrical Code, ANSI/NFPA 70.

Copper wire should not come in direct contact with aluminum at any point on the array



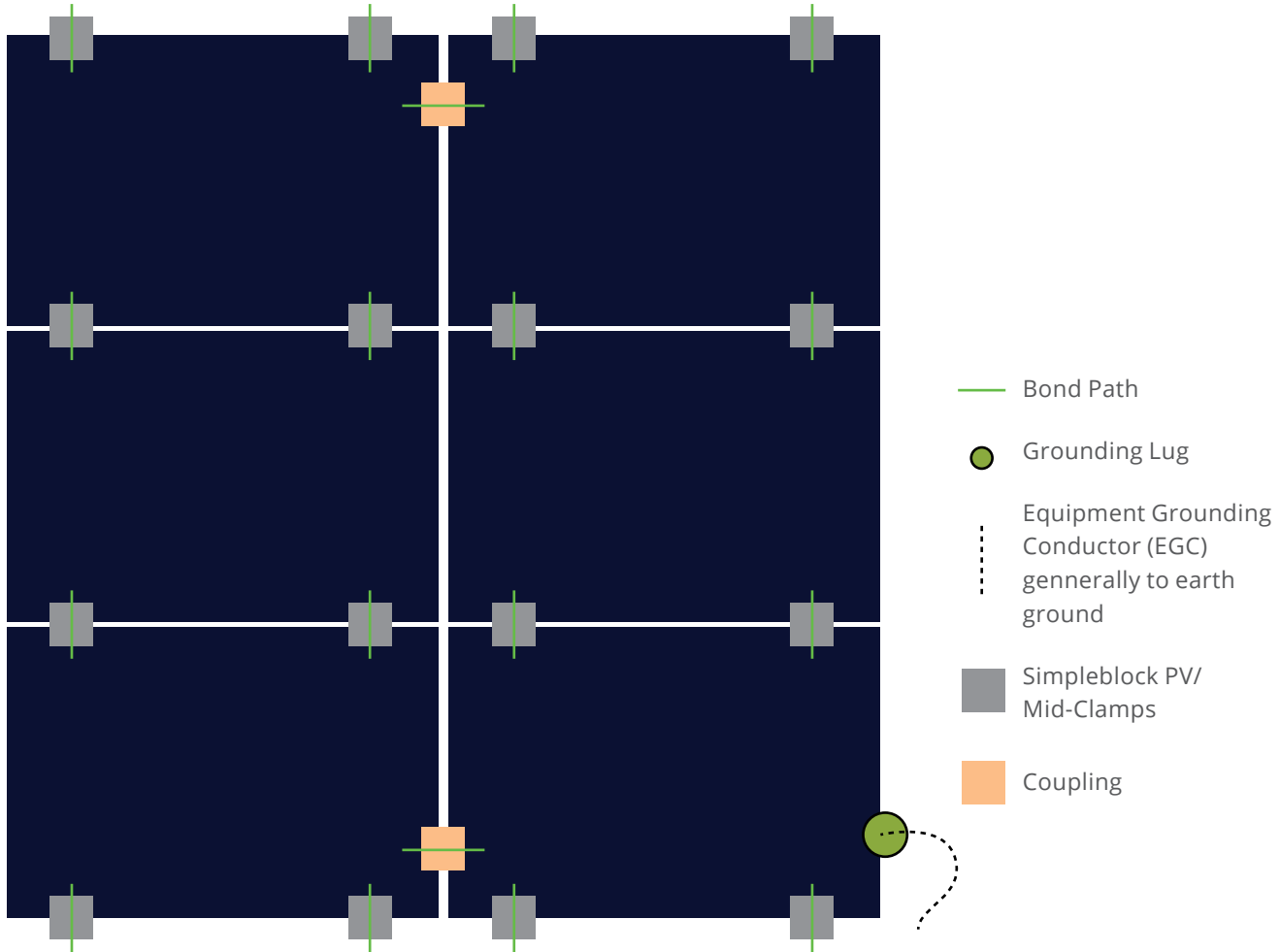
INSTALL MLPE CLIP ACCESSORY:

- Determine mounting location of the MLPE and RockIt Clip 2.0 on the module frame.
- Push the nut/bolt of the RockIt Clip 2.0 so the carriage bolt head is furthest away from the stainless plate.
- Slide the bolt shaft into the slot on the RockIt Clip 2.0 flange.
- Hold the carriage bolt into the RockIt Clip 2.0 flange slot with your finger, this will keep the carriage bolt from spinning in the slot. Tighten the nut to 144 in-lbs using a 1/2" hex socket.

ROCKIT CLIP 2.0 IS COMPATIBLE WITH:

- Enphase Products: M250-72, 250-60, M215-60, C250-72, S230, S280, IQ 6, IQ 6+, IQ, IQ7, IQ 7A, IQ 7+, IQ 7X, Q Aggregator
- SolarEdge Products: P300, P320, P340, P370, P400, P405, P485, P505, P600, P700, P730, P800p, P800s, P850, P860
- See page 15 for compatible module list with RockIt Clip 2.0

BONDING ASSEMBLY AND BONDING PATH



GROUNDING INFORMATION

The SimpleBlock System may be used to mount and ground PV modules that comply with UL 1703 or UL 61730, only when that specific module has been evaluated for mounting and grounding, in compliance with the included installation instructions.

NOTE: Grounding lug must be visible to inspectors from the entire perimeter of the PV array.

GROUNDING METHOD

Each row of modules bonds E-W through the Mid-Clamps and End-Clamps. One approved ground lug is required per row of modules, on short side of module frame.

GROUNDING



MAINTENANCE JUMPER BONDING PATH

Routine maintenance of a PV module or mounting system, e. g. inspection or cleaning, shall not involve breaking or disturbing the bonding path of the system. Please see diagram below for ensuring the bond path has not been broken or disturbed prior to conducting any maintenance.





MODULE COMPATIBILITY LIST

The SimpleBlock System may be used to ground and/or mount a PV module complying with UL 1703 or UL 61730 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions.

Unless otherwise noted, "xxx" refers to the module power rating and both black and silver frames are included in the certification.

MANUFACTURER	LIST OF UL2703 APPROVED MODULES
Adani	Adani modules with 35 and 40mm frames ASX-Y-ZZ-xxx Where "X" can be M or P, "Y" can be 6 or 7, and "ZZ" can be blank, PERC, B-PERC, or AB-PERC
Amerisolar	Amerisolar modules with 35, 40 and 50 mm frames AS-bYxxxZ 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-zz23-xxx Where "yy" can be 120 or 144; and "zz" can be MF or BF
Astronergy Solar	Astronergy modules with 30, 35, 40, and 45 mm frames aaSMbbyC/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 M, P, M(BL), M-HC, M(BL)-HC, P-HC, M(DG), or M(DGT); 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 40 mm frames AXN6y6zAxxx Where "y" can be M or P; "z" can be 08, 09, 10, 11, or 12; and "A" can be F or T
Axitec	Axitec Modules with 35 and 40 mm frames AC-xxxY/aaZZb Where "Y" can be M, P or MH; "aa" can be blank, 125- or 156-; "ZZ" can be 54, 60, 72, 120, or 144; "b" can be S, X, V, XV, or MX



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
Boviet	Boviet modules with 35 and 40mm frames BVM66aaYY-xxxBB Where "aa" can be 9, 10 or 12; "YY" is M or P; and "BB" can be blank or L
BYD	BYD modules with 35 mm frames BYDxxxAY-ZZ Where "A" can be M6, P6, MH or PH; "Y" can be C or K; and "ZZ" can be 30 or 36
Canadian Solar	Canadian Solar modules with 30, 35 and 40 mm frames CSbY-xxxZ Where "b" can be 1, 3 or 6; "Y" can be H, K, P, U, V, W, or X; and "Z" can be M, P, MS, PX, M-SD, P-AG, P-SD, MB-AG, PB-AG, MS-AG, or MS-SD
CertainTeed	CertainTeed modules with 35 and 40 frames CTxxxYZZ-AA Where "Y" can be M, P, or HC; "ZZ" can be 00,01, 10, or 11; and "AA" can be 01, 02, 03, or 04
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 or M; "bb" is blank, BB, BW, or ROOF
Dehui	Dehui modules with 35 and 40mm frames DH-MYYYZ-xxx Where "YYY" can be 760, 772, 860, 872; and "Z" can be B or W
Ecosolargy	Ecosolargy modules with 35, 40, and 50 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" can be blank or B
ET Solar	ET Solar modules with 35, 40, and 50 mm frames ET-Y6ZZxxxAA Where "Y" can be P, L, or M; "ZZ" can be 60 or 72; and "AA" can be WB, WW, BB, WBG, WWG, WBAC, WBCO, WWCO, WWBCO or BBAC
Flex	Flex modules with 35, 40, and 50 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



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
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 GWxxxYY Where "YY" can be either PB or MB
Hansol	Hansol modules with 35 and 40 frames HSxxxYY-zz Where "YY" can be PB, PD, PE, TB, TD, UB, UD, or UE; and "zz" can be AH2, AN1, AN3, AN4, HV1, or JH2
Hanwha Solar	Hanwha Solar modules with 40, 45, and 50 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 32, 35, 40, and 42mm frames aaYY-ZZ-xxx where "aa" can be Q. or B.; "YY" can be PLUS, PRO, PEAK, LINE PRO, LINE PLUS, PLUS DUO or PEAK DUO; and "ZZ" can be G3, G3.1, G4, G4.1, L-G2, L-G2.3, L-G3, L-G3.1, L-G3y, L-G4, L-G4.2, L-G4y, LG4.2/TAA, BFR-G3, BLK-G3, BFR-G3.1, BLK-G3.1, BFR-G4, BFR-G4.1, BFR G4.3, BLK-G4.1, G4/SC, G4.1/SC, G4.1/TAA, G4.1/MAX, BFR G4.1/TAA, BFR G4.1/MAX, BLK G4.1/TAA, BLK G4.1/SC, EC-G4.4, G5, G5/SC, G5/TS, BLK-G5, BLK-G5/SC, BLK-G5/TS, L-G5, L-G5.1, L-G5.2, L-G5.2/H, L-G5.3, G6, G6/SC, G6/TS, G6+, BLK-G6, L-G6, L-G6.1, L-G6.2, L-G6.3, G7, BLK-G6+, BLK-G6+/AC, BLK-G6+/SC, BLK-G6/TS, G6+/TS, BLK-G6+/TS, BLK-G7, G7.2, G8, BLK-G8, G8+, BLK-G8+ 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/BFF, ML-G9, BLK ML-G9, ML-G9+, BLK ML-G9+, XL-G9.2 or XL-G9.3
Heliene	Heliene modules with 40 mm frames YYZZxxxA Where "YY" can be 36, 60, 72, or 96; "ZZ" can be M, P, or MBLK; and "A" can be blank, HomePV, or Bifacial
HT-SAAE	HT-SAAE modules with 35 and 40 mm frames HTyy-156Z-xxx Where "yy" can be 60 or 72, "Z" can be M, P, M-C, P-C, M(S), M(VS), M(V), P(V), M(V)-C, P(V)-C



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
Hyundai	Hyundai modules with 33, 35, 40 and 50 mm frames HiY-SxxxZZ Where "Y" can be A, D, M or S; and "ZZ" can be HG, HI, KI, MI, MF, MG, RI, RG, RG(BF), RG(BK), SG, TI, or TG
Itek	Itek Modules with 40 and 50 mm frames IT-xxx-YY Where "YY" can be blank, HE, or SE, or SE72
JA Solar	JA Solar modules with 30, 35, 40 and 45 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, 60, or 72; "ww" can be D09, S01, S02, S03, S06, S09, S10, or S12; and "aa" can be BP, MP, SI, SC, PR, 3BB, 4BB, 4BB/RE, 5BB
Jinko	Jinko modules with 35 and 40 mm frames JKMYxxxZZ-aa Where "Y" can either be blank or S; "ZZ" can be M, P, or PP; and "aa" can be blank, 60, 60B, 60H, 60L, 60BL, 60HL, 60HB, 60HBL, 6HBL-EP, 60-J4, 60B-J4, 60B-EP, 60(Plus), 60-V, 60-MX, 72, 72B, 72-J4, 72B-J4, 72(Plus), 72-V, 72H-V, 72L-V, 72HL-V, 72-MX, 72H-BDVP, 72HL-TV, or 72HL-V-MX3
Kyocera	Kyocera Modules with 46mm frames 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, or 6MPA
LG	LG modules with 35, 40, and 46 mm frames LGxxxYaZ-bb Where "Y" can be A, E, N, Q, S; "a" can be 1 or 2; "Z" can be C, K, T, or W; and "bb" can be A3, A5, B3, G3, G4, J5, K4, L5, N5, or V5
Longi	Longi modules with 30, 35 and 40 mm frames LRa-YYZZ-xxxM Where "a" can be 4 or 6; "YY" can be blank, 60 or 72; and "ZZ" can be blank, BK, BP, HV, PB, PE, PH, HBD, HIB, HIH, HPB, HPH, or HIBD
Mission Solar	Mission Solar modules with 33 and 40 mm frames MSEbbxxxZZaa Where "bb" can be blank or 60A; "ZZ" can be blank, MM, SE, SO, SQ, SR, or TS; and "aa" can be blank, 1J, 4J, 4S, 5K, 5T, 60, 6J, 6S, 6W, 8K, 8T, or 9S



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
Mitsubishi	Mitsubishi modules with 46 mm frames PV-MYYxxxZZ Where "YY" can be LE or JE; and "ZZ" can be either HD, HD2, or FB
Motech	IM and XS series modules with 40, 45, and 50 mm frames
Next Energy Alliance	Next Energy Alliance modules with 35 and 40mm frames yyNEA-xxxZZ where "yy" can be blank or US; "ZZ" can be M, MB or M-60
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	Panasonic modules with 35 and 40 mm frames VBHNxxxYzzA 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
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 35 and 40 mm frames PS-YzzAA-xxx Where "Y" can be M or P; "zz" can be 60 or 72; and "AA" can be blank or (BF)
Phono Solar	Phono Solar modules with 35, 40, and 45 mm frames PSxxxY-ZZ/A Where "Y" can be M, M1, MH, or M1H or P; "ZZ" can be 20 or 24; and "A" can be F, T, U, or TH
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, 38 and 45 mm frames RECxxxYYZZ Where "YY" can be AA, M, NP, PE, PE72, TP, TP2, TP2M, TP2SM, or TP2S, TP3M; and "ZZ" can be blank, Black, BLK, BLK2, SLV, or 72



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
Renesola	ReneSola modules with 35, 40 and 50 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, Bbv-b, Db, Db-b, or 24/Bb
Renogy	Renogy Modules with 40 and 50 mm frames RNG-xxxY Where "xxx" is the module power rating; and "Y" can be D or P
Risen	Risen Modules with 35 and 40 mm frames RSMyy-6-xxxZZ Where "yy" can be 60, 72, 120, 132 or 144; and "ZZ" can be M or P
S-Energy	S-Energy modules with 40 frames SNxxxY-ZZ Where "Y" can be M or P; and "ZZ" can be 10, or 15
Seraphim Energy Group	Seraphim modules with 35 and 40 mm frames SEG-aYY-xxxZZ 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, BMB-HV
Seraphim USA	Seraphim modules with 40 and 50 mm frames SRP-xxx-6YY-ZZ Where "xxx" is the module power rating; and "YY" can be MA, MB, PA, PB, QA-XX-XX, and QB-XX-XX; ZZ is blank, BB or HV
Sharp	Sharp modules with 35 and 40 mm frames NUYYxxx Where "YY" can be SA or SC
Silfab	Silfab Modules with 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; and "b" can be A, L, G, or T
Solaria	Solaria modules with 40 mm frames PowerXT xxxY-ZZ Where "Y" can be R or C; and "ZZ" can be AC, BD, BX, BY, PD, PM, PM-AC, PX, PZ, WX or WZ
Solarcity (Tesla)	Solarcity modules with 40 mm frames SCxxxYY Where "YY" can be blank, B1 or B2



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
SolarTech	SolarTech modules with 42 mm frames STU-xxxYY Where "YY" can be 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, 33 or 46 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 40 mm frames SSxxx
Stion	Stion Thin film modules with 35 mm frames STO-xxx or STO-xxxA
SunEdison	SunEdison Modules with 35, 40 & 50 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, 40, 46, and 50 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 100,101,700,1B0, or 1B1; and "Z" is blank or B
Sunpower	Sunpower standard (G3 or G4) or InvisiMount (G5) 40 and 46 mm frames SPR-Zb-xxx-YY Where "Z" is either A, E, 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, G-AC, BLK-C-AC, or BLK-D-AC
Sunspark	Sunspark modules with 40 mm frames SYY-xxxZ Where "YY" can be MX or ST; and "Z" can be M, MB, P or W
Suntech	Suntech Modules with 35, 40 and 50mm frames STPxxxy-zz/aa Where "y" is blank or S; and "zz" can be 20, 24; and "aa" can be Vd, Vem, Vfw, Wdb, Wde or Wd



MANUFACTURER	LIST OF UL2703 APPROVED MODULES
Talesun	Talesun modules with 35 and 40 frames TP6yZZaaxxx-b Where “yy” can be blank, F or H; “ZZ” can be 60 or 72; “aa” can be M or P; and “b” can be blank, B, T, or (H)
Trina	Trina Modules with 30, 35, 40 and 46mm frames TSM-xxxYYZZ Where “YY” can be DD05, DD06, DD14, DE14, DE15, DEG15, PA05, PC05, PD05, PD06, PA14, PC14, PD14, PE14, or PE15 ; and “ZZ” can be blank, .05, .08, .10, .18, .08D, .18D, 0.82, .002, .005, 05S, 08S, A, A.05, A.08, A.10, A.18, A(II), A.05(II), A.08(II), A.082(II), A.10(II), A.18(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)
URE	URE modules with 35 mm frames DyZxxxHaa Where “y” can be 6 or 7; “Z” can be K or M; and “aa” can be H3A, H4A, or H8A
Vikram	Vikram solar modules with 40 mm frames VSyy.ZZ.AAA.bb Where “yy” can be M, P, MBB, MH, MS, MHBB, or PBB; “ZZ” can be 60 or 72; “AAA” is the module power rating; and “bb” can be 03.04 or 05
VSUN	VSUN modules with 35 and 40 mm frames VSUNxxx-YYz-aa Where “YY” can be 60, 72, 120, or 144; “z” can be M, P, MH, PH, or BMH; and “aa” can be blank, BB, or DG
Waaree	Waaree modules with 40mm frames WSyy-xxx where “yy” can be blank, or M
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	Panda, YGE, YGE-U, and YLM series modules with 35, 40, and 50 mm frames
ZNShine	ZNShine Modules with 30, 35, and 40mm frames ZXy6-ZZaa-xxx/b Where “y” can be M or P; “ZZ” can be blank, H, HLD, HLDD, LD, LDD, NH, NHLDD or NHLDD; “aa” can be 60, 72, 120 or 144; and “b” can be M or P