



# RBI Solar Tilted Roof Mount Solution Single Rail | RS-TL

*5° & 10° Portrait Orientation Solution for  
All Low-Slope and Flat Roof Applications*



**UL 2703 Listed**  
for Bonding and Grounding

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## UL 2703 LISTING SUMMARY

The entire RBI Solar Tilted Roof Mount Solution is UL 2703 Listed for bonding and grounding. Some components, such as the tilt legs and lower rails, are not in the ground path and therefore were not required under UL 2703 to be evaluated.

The evaluated components have pages marked by:



## RBI SOLAR WARRANTY

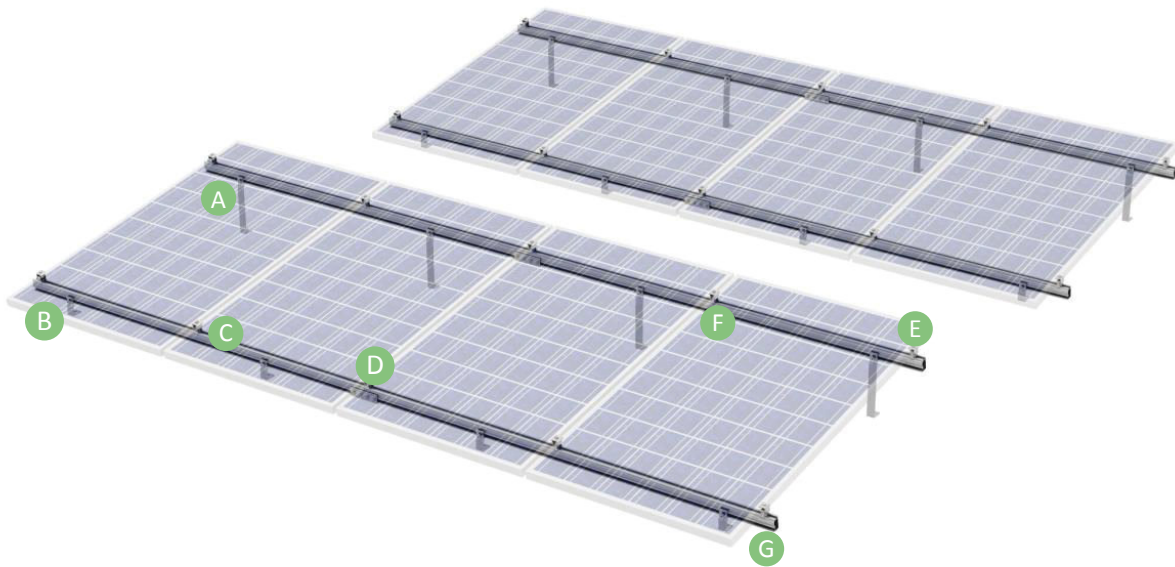
Installation instructions and applicable building code must be followed or product warranty is void. RBI Solar will not be responsible for any loss and/or liable for any claim resulting from installations that are not in accordance with installation guide instructions and/or applicable building code.

## OVERVIEW

The RBI Solar RS-TL system tilts modules to a 5° or 10° angle using tilt leg sets. The RS-TL can be mounted to a variety of low-slope roof applications.

The RS-TL carries a Class A Fire Rating under UL1703 for low-slope roofs when used with Type 1,2, or Type 3 modules. If UL1703 is required for your project, a fire shield will need to be installed. Refer to the Fire Shield Guides for details on the fire shield and installation instructions.

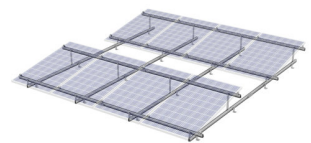
Please read this guide carefully prior to installation. Always follow proper safety precautions and check local building codes to ensure compliance. Please check for the latest versions of the installation guide at [www.renusolamerica.com](http://www.renusolamerica.com).



### Required Tools

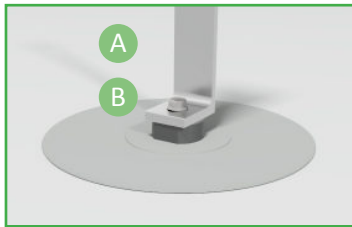
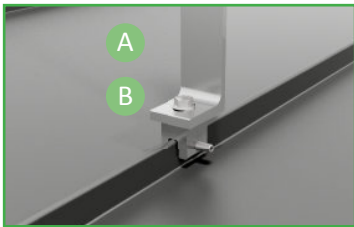
- 1.13mm hex head deep socket
- 2.Torque wrench

\*If more load sharing or a different angle is required, refer to the *RBI Solar RS-VS Tilt Portrait Double Rail Installation Guide* for how to install.



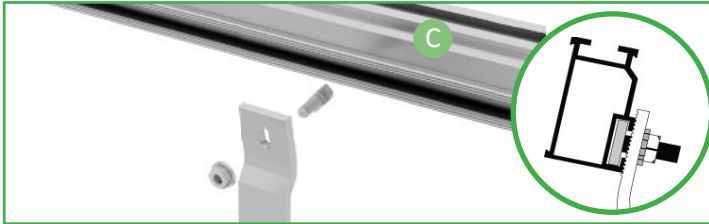
## SYSTEM COMPONENT LIST





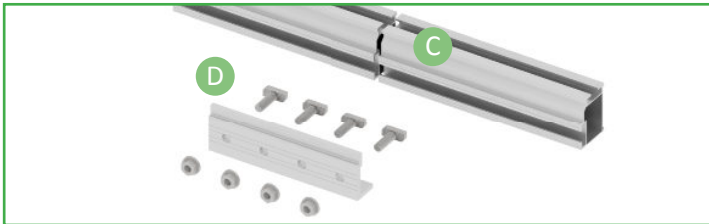
## Step 1. Roof Attachment and Tilt Legs

Install appropriate roof attachment per manufacturer's instructions. Attach the **A** large and **B** small tilt legs to roof attachment. The distance between each large and small tilt leg is 48" to ensure proper fit up. Refer to the Project Layout for the locations of the tilt legs.



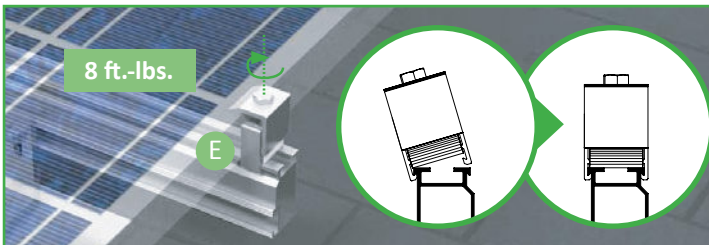
## Step 2. Rails

Attach the **C** rails to the tilt legs using the pre-assembled T-bolts and nuts. Tighten T-bolts to 10 ft-lbs.



## Step 3. IB Splice Connectors

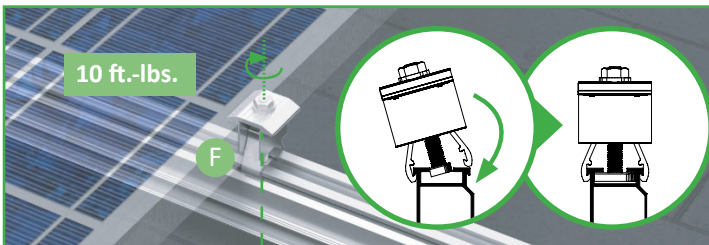
**D** IB splice connectors are required to connect **C** rails together and electrically bond them. Rails can flush against each other or be spaced apart up to 1/8". Attach the splice in the side of the rail with the four T-bolt heads lined-up with the channel opening and center the splice between the two rails. Tighten



## Step 5. End Clamps

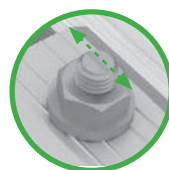
Snap the **E** end clamp onto the rail as shown. Secure the modules by tightening clamp to 8 ft-lbs.

**Important: DO NOT apply additional anti-seize to the clamps.**



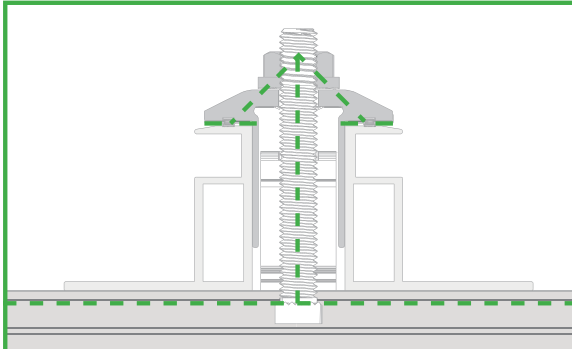
## Step 5. IB Mid Clamps

Snap the **F** IB mid clamp onto the rail with the T-bolt head lined up with the channel opening. Slide the next module against the mid clamp and tighten to 10 ft-lbs.

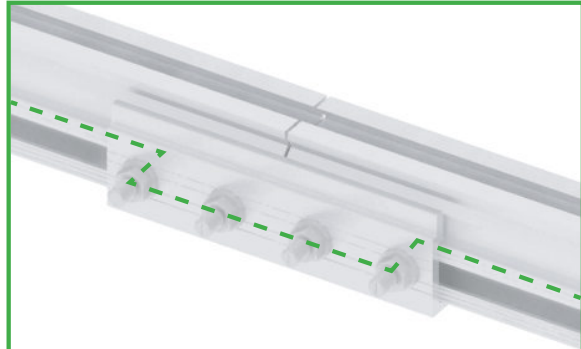


**IMPORTANT:** Be sure that the T-bolt indicator line is parallel to the small ribs on the **F** IB mid clamp. This alignment is required for proper attachment.

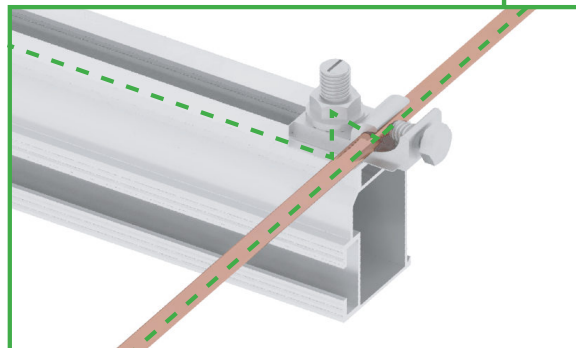
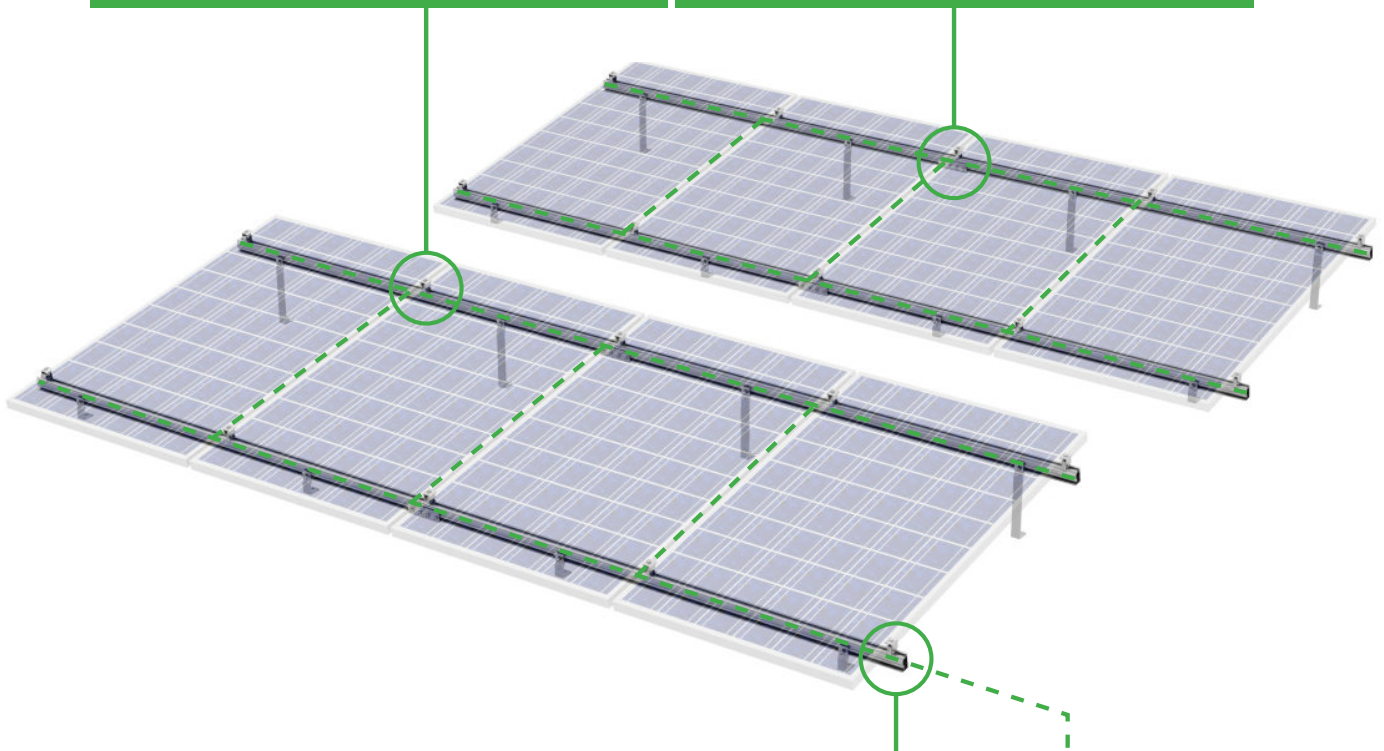
# GROUNDING



Integrated WEAB bonds module to module. Serrated T-bolt and serrated flange nut extend that bond to the rail.



Serrated T-bolts and serrated flange nut bond both rails and the IB splice connector.

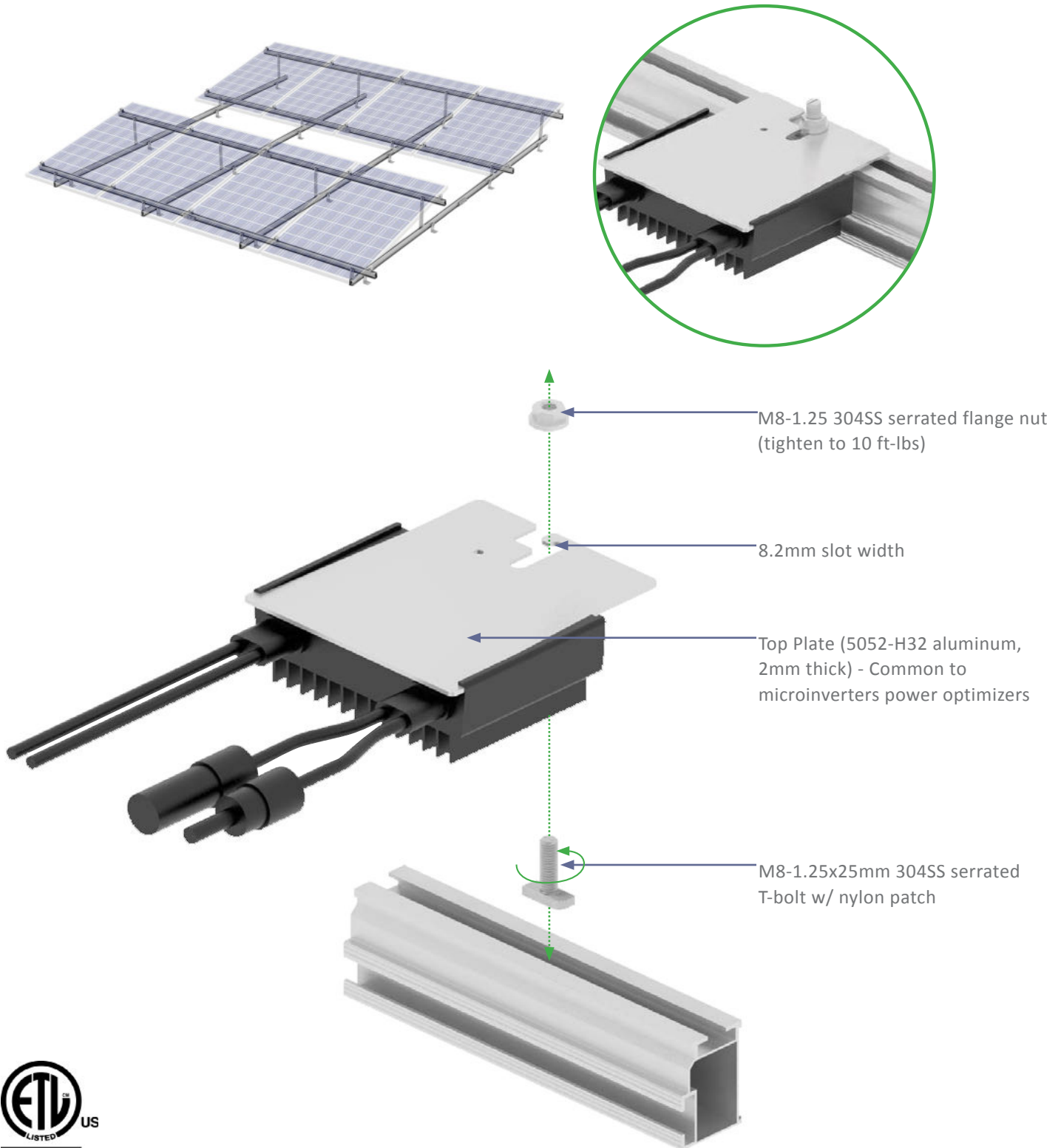


WEAB clip bonds the rail to the lug. The solid copper wire provides the ground connection. Tighten the lug to the rail to 10 ft-lbs. Tighten the copper wire to 7 ft-lbs



## APPENDIX A: ACCESSORY MOUNTING

As part of the UL 2703 Listing, Solar Edge Power Optimizer top plates (used with P600/P700 models) and other microinverters & power optimizers with top plates that meet the requirements listed below can be bonded to the rest of the system. After installing the provided hardware, tighten to 10 ft-lbs.



## APPENDIX B: ADDITIONAL GROUNDING NOTES

The RBI Solar RS-TL mounting system may be used to ground and/or mount a PV module complying with UL 1703 only when the specific module has been evaluated for grounding and/or mounting in compliance with the included instructions.

In order to maintain the Listing for bonding, Listed (ZODZ) or R/C(ZODZ2) wire management device(s) must be assembled according to the manufacturer's instructions.

The RBI Solar RS-TL is a non-separately derived system that is listed under UL 2703 and was evaluated with the modules listed in the table below. The max fuse rating is 30A, which covers most modules. It is important to periodically inspect the installed system for loose components, loose fasteners, and any corrosion. If any corroded parts are discovered, the affected parts must immediately be replaced.

**Table 1. UL 2703 Approved Modules**

Module Manufacturer	Module Series	
Astronergy [40mm Frame]	(Nova) CHSM6612M-315-345 (Nova) CHSM6612M/HV-320-345, (Nova II) CHSM6612M-325-365, (Nova II) CHSM6612M/HV-330-365, (Nova) CHSM6610M-265-290, (Nova) CHSM6610M/HV-265-290, (Nova II) CHSM6610M-275-295, (Nova II) CHSM6610M/HV-275-295, CHSM6612P300-330, CHSM6612P/HV-310-330, (Violin) CHSM6610P-255-275,	(Violin) CHSM6610P/HV-255-275, (Violin) CHSM6612P-305-330, (Violin) CHSM6612P/HV-305-330, (Violin II) CHSM6612P-315-335, (Violin II) CHSM6612P/HV-315-335, (Violin II) CHSM6610P-260-290, (Violin II) CHSM6610P/HV-260-290, (Diamond) CHSM6612P-305-325, (Diamond) CHSM6612P/HV-305-325, (Star II) CHSM6612M-350-365, (Star II) CHSM6612M/HV-350-365
BYD [40mm Frame]	BYD XXXP6C-30 BYD XXXP6C-36	
CSUN [40mm Frame]	CSUN235-250-60M CSUN240-260P CSUN265-280-60M QSAR	
ET [60 Cell Silver 35mm Frame]	ET-M660270-290WWAC, ET-P660260-270WWAC, ET-M660270-290WWCO, ET-P660260-270WWCO,	Elite Mono ET-M660280-295WW, Elite Poly Anti-Glare ET-P660255-265WWG, Elite Poly ET-P648205-215WW, Elite Poly ET-P660250-270WW



## APPENDIX B: ADDITIONAL GROUNDING NOTES

Module Manufacturer	Module Series
Flex Energy	FXS-310-335BB-SAZ1W4
Hanwha Q Cells	Hanwha Q Cells Q.Pro L-G2
Hyundai	HiS-MxxxRG where xxx is 250 to 260 HiS-SxxxRG where xxx is 260 to 270 HiS-SxxxRW where xxx is 255 to 265 HiS-MxxxMG where xxx is 230 to 250
Kyocera	KD235-245GX-LPB, KD235-250GX-LFB, KD135-140GX-LFBS , KD135-140GXLPU, KD185GX-LPU, KD135-140SX-UPU, KD215-220GX-LFU, KD215-220GX-LPU
LG	LG325-335N1C-A5, LG315-320N1K-A5, LG290-300S1C-A5
REC [30mm Silver Frame]	REC275-290TP2S, REC335-350TP2S 72
REC [38mm Black Frame]	REC265-285TP BLK, REC275-295TP2 BLK, REC240-270PE BLK, REC285-300TP2M BLK2
REC [38mm Silver Frame]	REC265-285TP, REC275-295TP2, REC240-270PE
REC [45mm Silver Frame]	Twin Peak REC330-340TP72, Peak Energy REC300-325PE72
Recom [40mm Frame]	Amur Leopard RCM-300-340-6PA, Black Panther RCM-310-330-6MA, Black Panther RCM-335-355-6MA
Seraphim [50mm Frame]	SRP-340-360-6MA, SRP-315-330-6PA
SolarWorld [33mm Frame]	Sunmodule Plus, SW xxx Mono where xxx is 275- 300 Sunmodule SW xxx XL Mono where xxx is 320- 350 Sunmodule Pro-Series, SW xxx Poly where xxx is 250- 260 Sunmodule Protect, SW xxx Mono where xxx is 275- 280





## APPENDIX B: ADDITIONAL GROUNDING NOTES

Module Manufacturer	Module Series
<b>SolarWorld</b> [31mm Frame]	Sunmodule SW 220 mono & poly, SW 225-235 poly, SW 240-245 mono & poly, SW 245-255 poly Pro, SW 250-270 mono, Plus SW 250- 285 mono, Protect SW 265-275 mono
<b>Suniva</b> [46mm Silver Frame]	OPT 250-260-4-100
<b>Sunpower</b> [46mm Frame]	SPR-305-WHT-I, SPR-E20-440-COM, SPR-E20-435-COM, SPR-E19-410-COM, SPR-E20-327-COM, SPR-E19-310-COM, SPR-E18-295-COM, SPRP17-335-355-COM, SPR-435NE-WHT-D
<b>Trina</b> [60 Cell 40mm Frame]	TSM-225-245 PC05 TSM-225-245 PA05

