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Memo

RE: WEEB Grounding devices including Unirac UGC-1 & UGC-2

Referenced documents:

1. SolarWorld California, Inc. Module Installation Guide
2. Intertek ETL, Authorization to Mark letter to Wiley Electronics regarding their WEEB Bonding Devices [Available from Wiley Electronics, <http://www.we-llc.com/PDF/ETL%20mark.pdf>]
3. Intertek ETL, Authorization to Mark letter to UniRac, Inc. regarding their Grounding Clip (UGC-1) [Available from UniRac, Inc. www.unirac.com]
4. National Electrical Code, Article 690.43.

A. The SolarWorld Module Installation Guide states (in context):

"Any UL approved PV grounding method and components are also acceptable in the US and Canada."

B. Authorization to Mark letters to Wiley Electronics regarding their WEEB products and to UniRac, Inc. regarding the UGC-1 and UGC-2 claim they were tested to:

"Standards for Safety for Grounding and Bonding Equipment, UL 467"

C. The relevant sections of the National Electrical Code state:

Article 690.43 "Exposed non-current-carrying metal parts of module frames, equipment and conductor enclosures shall be grounded in accordance with 250.134 or 250.136(A) regardless of voltage....Devices listed and identified for grounding the metallic frames of PV modules shall be permitted to bond the exposed metallic frames of PV modules to grounded mounting structures."

Article 250.136 (A) "Electrical equipment secured to and in electrical contact with a metal rack or structure provided for its support and connected to an equipment grounding conductor by one of the means indicated in 250.134."

Article 250.134 (B) Exception No. 2: For dc circuits, the equipment grounding conductor shall be permitted to be run separately from the circuit conductors.

SolarWorld California, Inc. considers the metallic frames of PV modules as "equipment". Therefore, since the Wiley Electronics' WEEB clips and Unirac's UGC-1 and UGC-2 are both listed to UL 467 as suitable devices for grounding and bonding equipment, SolarWorld California approves the use of these devices when implemented per the manufacturer's requirements and for the intended purpose. (Note: ETL is a Nationally Recognized Testing Laboratory and is authorized by ANSI to certify and list devices per UL standards.)

Since there may be different sizes and dimensions of the approved grounding clip and alternative rail components available, it is the system installers' responsibility to ensure the chosen components correctly satisfy the bonding between the SolarWorld module and the chosen mounting rail to meet local and national code requirements.

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