

1.0 Reference and Address			
Report Number	102066127MPK-003	Original Issued: 30-Jun-2015	Revised: 30-May-2017
Standard(s)	UL 2703 Ed: 1 Mounting Systems, Mounting Devices, Clamping /Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels. Issued: 2015/01/28		
Applicant	<u>Quick Mount PV</u>	Manufacturer 1	Wencon Development, Inc.
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2.0 Product Description	
Product	Accessory Frame Bracket, installed using Installation Manual, Feb-2016, Rev 9 Accessory Frame Bracket, installed using QMAFBU Installation Instructions, April-2017, Rev 1
Brand name	Accessory Frame Bracket
Description	<p>The product covered by this report is the “Accessory Frame Bracket” from Quick Mount PV. The Accessory Frame Bracket is used to mount module level electronics to standard PV module frames. The Accessory Frame Bracket provides a mounting option for the module level electronic to the module frame for Quick Mount PV's Quick Rack rail-free solar mounting system, as well as other rail-less racking systems, ground-mounted and ballasted systems.</p> <p>The Accessory Frame Bracket is used to mount and bond a module level electronic to a PV module that complies with UL 1703 when used with a module level electronic and PV module that has been evaluated for grounding and/ or mounting in compliance with the instructions provided. The Accessory Frame Bracket is intended to be used with the following module level electronics: SolarEdge Power Optimizers; and PV modules from the following manufacturers: BenQ, ET Solar, LG Electronics, Trina Solar, Yingli Solar, Suniva, Hanwha Solar, Canadian Solar, ReneSola, Hyundai Heavy Industries, Phono Solar, Q Cells, SolarWorld and Jinko Solar PV modules with frames of profile as shown in illustration No. 1.</p> <p>Accessory Frame Bracket Assembly bonds the module level electronic with bonding pins that pierce the module frame and module level electronics case when the bracket attachment bolts are torqued to 13 ft-lbs using the provided serrated flange bolt. The Accessory Frame Bracket assembly is made from 5000 series aluminum, including 18-8 stainless steel hardware with 316 stainless steel bonding pins. The module frame must be grounded by a UL2703 racking system, e.g. Quick Rack rail free racking system from Quick Mount PV. The system is to be installed in accordance with the latest National Electrical Code, ANSI/NFPA 70, including NEC 250: Grounding and Bonding, and NEC 690: Solar Photovoltaic Systems. Any local electrical codes must be adhered in addition to the national electrical codes. System maximum series fuse rating shall not exceed 20 Amps.</p> <p>The Accessory Frame Bracket have only been tested for bonding only and no mechanical load was performed.</p>
Models	QMAFB Accessory Frame Bracket and QMAFBU Accessory Frame Bracket.
Model Similarity	QMAFB and QMAFBU are very similar in construction, the only difference is that the QMAFBU uses a Universal Accessory Frame Clamp (part number 3225).

2.0 Product Description	
Ratings	<p>Maximum Series Fuse Rating: 20A Torque for Accessory Frame Bracket: 15 ft-lbs</p> <p><i>See section 7.0 illustration # 1 for a complete list of PV modules evaluated with these racking systems</i></p>
Conditions of Acceptability	<p>The product covered in this report is not a complete UL 2703 listed racking system. The Accessory Frame Brackets is intended for use with a UL 2703 listed racking system. Consideration should be given to the following when the component is used in or with another (Typical Conditions of Acceptability to be considered for recognized component products follow:)</p>
	<ol style="list-style-type: none"> 1. Complete racking system must be grounded and bonded to the required UL 2703. 2. Module frame section meet requirements outlined in illustration No. 1. 3. Installed with evaluated PV module and module level electronic outlined in other ratings above. 4. The module frame must be grounded using a UL 2703 listed racking system, e.g. the Quick Rack rail free racking system from Quick Mount PV. The system is to be installed in accordance with the latest National Electrical Code, ANSI/NFPA 70, including NEC 250: Grounding and Bonding, and NEC 690: Solar Photovoltaic Systems. Any local electrical codes must be adhered in addition to the national electrical codes. 5. System maximum series fuse rating shall not exceed 20 Amps.

7.0 Illustrations

Illustration 1- List of PV modules and Module Level Power Electronics evaluated with these racking systems

Module Level Power Electronics Tested with QMAFB or QMAFBU Accessory Frame Bracket	
Manufacturer	Part No
SolarEdge	P300, P320, P400, P405, P600, P700
PV Modules frames tested for bonding only	
Module manufacturer	Model Tested
Suniva Optimus	OPT 60
PV Modules added based on evaluation for bonding only	
Module manufacturer	Model numbers
Note: Module wattage is represented by XXX in product codes	
BenQ Green Triplex	PM060M02-XXX, PM060P00-XXX,
ET Solar	ET-P660BB, ET-P660WB, ET-P660WW,
LG Solar Mono X	LGXXXS1C-G3, LGXXXS1C-A3,
LG Solar Mono X NeON	LGXXXN1C-G3, LGXXXN1C-A3,
Trina Solar	TSM-XXX-PA05.05, TSM-XXX-PA05.08,
Yingli Solar YGE 60 Cell & YGE 72 Cell	YLXXXP-29b 40mm, YLXXXP-29b 35mm, YLXXXP-35b 40mm
Suniva Optimus & MV Series	Black OPT XXX-60-4-1B0,
Hanwha Solar HSL 60 & HSL 72	HSL60P6-PB-0-XXXT,
Canadian Solar	CS6P-XXXP, CS6P-XXXM, CS6P-XXXM All Black, CS6X-XXXP
Renesola 156 Series	JCXXXS-24/Bb, JCXXXF-24/Bb-b,
Renesola Clarus, Virtus, & Virtus II	JCXXXM-24/Bb, JXXXM-24/Bbv,
Hyundai Solar RG-Series	HiS-MXXXRG, HiS-SXXXRG
Hyundai Solar MF-Series & MG Series	HiS-SXXXMF, HiS-MXXXMG, HiS-SXXXMG
Phono Solar Diamond Series	PSXXXP-20/U, PSXXXM-20/U
Phono Solar Onyx Series	PSXXXP-20/U, PSXXXM-20/U
Q Cells	Q.Peak-G3 XXX, Q.Peak blk-G3 XXX,
SolarWorld Sun Module Pro Poly & Plus	SWXXX POLY, SWXXX-MONO,
Jinko Solar Standard, Eagle, & Smart	JKMXXXP-60, JKMXXXP-72, JKMXXXPP-60, JKMXXXPP-72,
Module Level Electronics	
Manufacturer	Part No
SolarEdge	P300, P320, P400, P405, P600, P700