

1.0 Reference and Address			
Report Number	101786065LAX-001	Original Issued: 25-Nov-2014	Revised: 16-Aug-2019
Standard(s)	Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels [UL 2703:2015 Ed.1]		
Applicant	Quick Mount PV	Manufacturer 1	Quick Mount PV
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Legal Name	Wencon Development, Inc		

<b>2.0 Product Description</b>	
Product	Photovoltaic Racking System QRail - Installed Using Quick Mount PV's QRail Series Installation Manual, Jul-2019, Rev 4.2
Brand name	Quick Mount PV
Description	<p>The product covered by this report is a photovoltaic roof racking system. This system is designed to be installed on low and steep-slope roofs. QRail Series consists of aluminum support rails and top-down clamping hardware. It allows for both portrait and landscape installation of the modules. This model is intended to be used with four top-down clamps to secure a UL 1703 Listed framed PV module and the required electrical bond between the anodized PV module frame and the QRail is accomplished by the use of QClick Technology PV mid clamps with bonding plates and by the use of QClick Technology End Clamps are available with and without Ground Clip to address bonding when necessary.</p> <p>This system is in compliance with the bonding, grounding, and mechanical load portions of UL 2703. Fire testing was performed on this system and the ratings are shown below.</p> <p>The grounding of the entire system is intended to be in accordance with the latest edition of the National Electrical Code, 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. An entire array, regardless of size, is grounded via one ground lug (WEEB-8.0 or 8.2) placed on the QRail of this roof system.</p> <p>This product investigation was performed only with respect to specific properties, a limited range of hazards, or suitability for use under limited or special conditions. The following risks and other properties of this product have not been evaluated: electric shock, Ultraviolet and light exposure.</p>

<b>2.0 Product Description</b>	
Models	QRail
Model Similarity	NA
Ratings	<p>Fuse rating: 20A</p> <p>Fire Class Resistance Rating without skirt:                      - Class A for Flush Mounted Steep and Low Slope Applications when using Type 1 or Type 2, Listed Photovoltaic Modules.                      - Class A for 5° and above Tilt Mounted Low Slope Applications when using Type 1 or Type 2, Listed Photovoltaic Modules.</p> <p>Fire Class Resistance Rating with skirt:                      - Class A for Flush Mounted Steep and Low Slope Applications when using Type 1 or Type 2, Listed Photovoltaic Modules.                      - Class A for 5° and above Tilt Mounted Low Slope Applications when using Type 1 or Type 2, Listed Photovoltaic Modules.</p> <p>Mechanical Load ratings:                      Downward Pressures – 10 psf                      Upward Pressure – 5 psf                      Down-Slope Load – 5 psf</p> <p>UL 2703 Design Load Rating: Maximum Module Size: 17.55 ft<sup>2</sup>                      **Hyundai HiS-S270RG(BK) (270W) used for Mechanical Load Test"</p> <p>Mechanical Load ratings: To add QRail Light</p> <p>Downward Pressures – 10 psf                      Upward Pressure – 5 psf                      Down-Slope Load – 5 psf</p> <p>UL2703 Design Load Rating: Maximum Module Size: 20.9 ft<sup>2</sup>                      **Solarworld 72 cells** used for Mechanical Load Test"</p> <p>Downward Pressures – 10 psf                      Upward Pressure – 5 psf                      Down-Slope Load – 5 psf</p> <p>UL2703 Design Load Rating: Maximum Module Size: 22.31 ft<sup>2</sup>                      **LG400N2W-A5** used for Mechanical Load Test"</p> <p>Downward Pressures – 10 psf                      Upward Pressure – 5 psf                      Down-Slope Load – 5 psf</p> <p>UL2703 Design Load Rating: Maximum Module Size: 21.59 ft<sup>2</sup>                      **REC330TP2SB 72 XV** used for Mechanical Load Test"</p> <p>Downward Pressures – 10 psf                      Upward Pressure – 5 psf                      Down-Slope Load – 5 psf</p>
Other Ratings	NA

<b>7.0 Illustrations</b>	
<b>Illustration 1- Other Ratings</b>	
Evaluated Module List- xxx= Power output	
<b>Manufacturer</b>	<b>Model</b>
AXITEC	AC-xxxA/60B(S), AC-xxxA/72B(S) Which A can be P or M and B can be X, V, XV, or MX
Boviet	BVM6610M-xxx, BVM6610P-xxx, BVM6612P-xxx, BVM6612M-xxx
Canadian Solar	CS6P-xxx, CS3U-P, CS3U-MS, CS3K-P, CS3K-MS, CS6K-xxxMS, All-BLACK CS6K-xxxMS, CS6U-xxxM, 1500V CS6U-xxxM, CS6U-xxxP, 1500V CS6U-xxxP, CS6X-xxxP, ALL-BLACK CS6K-xxxM, CS6K-xxxM, 1500V CS6K-xxxM, CS6K-xxxP, 1500V CS6K-xxxP, CS6P-xxxP
CertainTeed	CTxxxMX-02, CTxxxMX-03
Conergy	PowerPlus xxx
ET Solar	ET-M660xxxBB, ET-M660xxxWW/WB, ET-P660xxxBB, ET-P660xxxWW/WB
Gigawatt Inc.	GW-xxxPB, GW-xxxMB
Hanwha Q Cells	<p>60 cell modules: Q.PEAK DUO-G5 xxx, Q.PEAK DUO BLK-G5 xxx, Q.PEAK G4.1 xxx, Q.PEAK BLK-G4.1 xxx, Q.PEAK-G4.1/MAX xxx, Q.PEAK-G4.1/TAA xxx, Q.PEAK BLK G4.1/TAA xxx, Q.PLUS G4 xxx, Q.PLUS BFR G4.1 xxx, Q.PLUS BFR G4.1/MAX xxx, Q.PLUS BFR G4.1/TAA xxx, Q.PRO G4 xxx, Q.PRO BFR G4 xxx, Q.PRO BFR 4.1 xxx, Q.PRO BFR 4.3 xxx, Q.PRO EC-G4.4 xxx, B.LINE PLUS BFR G4.1 xxx, B.LINE PRO BFR G4.1 xxx.</p> <p>Q.PLUS DUO-G5 xxx, Q.PEAK DUO BLK-G6 xxx, Q.PEAK DUO-G6 xxx, Q.PEAK DUO BLK-G6+ xxx, Q.PEAK DUO-G6+ xxx, Q.PEAK DUO G7.2 xxx, Q.PEAK DUO BLK-G7 xxx, Q.PEAK DUO-G7 xxx, Q.PEAK DUO BLK-G8 xxx, Q.PEAK DUO-G8 xxx, Q.PEAK DUO BLK-G8+ xxx, Q.PEAK DUO-G8+ xxx,</p> <p>72 cell modules: Q.PEAK DUO L-G5.2, Q.PEAK L G4.2 xxx, Q.PLUS L G4.2 xxx, Q.PLUS L G4.1 xxx, Q.PLUS L G4 xxx, Q.PRO L G4 xxx, Q.PRO L G4.1 xxx, Q.PRO L G4.2 xxx, B.LINE PLUS L G4.2 xxx, B.LINE PRO L G4.1 xxx, B.LINE PRO L G4.2 xxx, Q.PLUS L G4.2 xxx.</p> <p>Q.PLUS L-G4.2/TZZ xxx, Q.PEAK L G4.1 xxx, Q.PEAK DUO L-G5.3 xxx, Q.PEAK DUO L-G5.2 xxx, Q.PLUS DUO L-G5.3 xxx, Q.PLUS DUO L-G5.2 xxx, Q.PLUS DUO L-G5.1 xxx, Q.PLUS DUO L-G5 xxx, Q.PEAK DUO L-G6.3 xxx, Q.PEAK DUO L-G6.2 xxx, Q.PEAK DUO L-G6 xxx, Q.PEAK DUO L-G5.3/BF xxx, Q.PEAK DUO L-G7 xxx, Q.PEAK DUO L-G7.1 xxx, Q.PEAK DUO L-G7.2 xxx, Q.PEAK DUO L-G7.3 xxx, Q.PEAK DUO L-G8 xxx, Q.PEAK DUO L-G8.1 xxx, Q.PEAK DUO L-G8.2 xxx, Q.PEAK DUO L-G8.3 xxx</p>
Heliene	60P, 60M(-BLK), 72P, 72M
Hyundai	HiS-AxxxB - Where A can be S or M and B can be RG, TG, or KG. HiS-AxxxB (BK) HiS-AxxxC - Where C can be RI, TI, or KI
Itek	IT-xxx-SE, IT-xxx-SE-72
JA Solar	JAM6(K)-60-xxx/4BB, JAP6(K)-60-xxx/4BB, JAM6(K)-60-xxx/PR, JAM6(L)-60-xxx/PR, JAP6-60-xxx/4BB/RE, JAM6(K)-72-xxx/4BB, JAM6(L)-72-xxx/4BB, JAP6(K)-72-xxx/4BB, JAM6(K)-72-xxx/PR, JAM6(L)-72-xxx/PR, JAP6-72-xxx/4BB/RE.

**7.0 Illustrations**

**Illustration 1aa - Other Ratings Continue**

Jinko	60 cell modules: 60 JKMxxx-P-60, 60 JKMxxx-P-60B, 60 JKMxxxPP-60, 60 JKMxxxPP-60B, PERC 60 JKMxxxM-60, Plus JKMxxxPP-60(Plus), JKMxxxP-60-J4, JKMxxxP60B-J4, Black JKMxxxPP-60-J4, JKMxxxPP60B-J4, 1500V 60 JKMxxxPP-60-V, 1500V 60 JKMxxxM-60-V, Jinko MX60 JKMSxxxP, MX JKMSxxxPP-60, JKMxxxM-60B, JKMxxxM-60-J4, JKMxxxM60B-J4, JKMSxxxP-60, JKMSxxxP-60-J4, JKMSxxxM-60, JKMSxxxM-60-J4, JKMSxxxPP-60-J4, JKMSxxxPP-60, JKMSxxxM-60B-EP 72 cell modules: JKMxxP-72, JKMxxxP-72B, JKMxxxP-72-J4, JKMxxxP-72B-J4, JKMxxPP-72, JKMxxxPP-72B, JKMxxxPP-72-J4, JKMxxxPP-72B-J4, JKMxxxPP-72(Plus), JKMxxxPP-72-V, JKMxxxM-72, JKMxxxM-72B, JKMxxxM-72B-J4, JKMxxxM-72-J4, JKMxxxM-72-V, MX JKMSxxxPP-72.  JKMxxxM - 60BL, JKMxxxM - 60HBL, JKMxxxM - 72L - V, JKMxxxM - 72HL - V WHERE B = null or B; L = null or L; H = null or H; V= null or V
LG	LGxxxF1G-A5, LGxxxQ1G-A5, LGxxxF1G-V5, LGxxxF2G-V5, LGxxxQ1G-V5 Note: F = E, N, S; G = any letter in the alphabet
Mission Solar	MSExxxSO5K, MSExxxSO5T, MSExxxSO6J, MSExxxSO4J, MSExxxMM6J, MSExxxSQ5K, MSExxxSQ5T, MSExxxSQ6S, MSExxxSQ4S.
Panasonic	VBHNxxxSA17, VBHNxxxSA11, VBHNxxxSA16, VBHNxxxSA16B, VBHNxxxSA15, VBHNxxxSA15B, VBHNxxxKA01, VBHNxxxKA03, VBHNxxxSA17.
Seraphim Solar	SPR-xxx-6MA, SRP-xxx-6PA, SRP-xxx-6MB, SRP-xxx-6MB-BB, SRP-xxx-6PB.
Silfab	SLA X, SLA-M-xxx, SLA-P-xxx, SLG-P-xxx, SLG-M-xxx/SLG-X-xxx, SSA-M-xxx/SSA-P-xxx, SSG-M-xxx/SSG-P-xxx; All silver frame, All black frames: SLA-M-xxx, SLG-M-xxx, SLA-X-xxx, SLG-X-xxx, SLA-P-xxx, SLG-P-xxx, SSA-M-xxx, SSG-M-xxx, SSA-P-xxx, SSG-P-xxx
Solaria	PowerXT-xxxR-A - Where A can be AC, PD, BD, PX, or BX.
Solar Tech Universal	STU-xxx-PERC, STU-xxx-HJT, PERCB-C-xxx, HJTb-C-xxx (C = W, B)
SolarWorld	Sunmodule Plus SWA xxx poly (black/clear), Plus SWA xxx mono (black/clear), SWA xxx XL mono (black/clear), SWA xxx XL poly (black/clear), Bisun SWA xxx XL duo (black/clear), Protect SWA mono xxx (black), Bisun SWA xxx duo (black/clear).
Suniva	OPTXXX-60-4-1B0.
SunPower	SPR-X21-XXX (BLK), SPR-E20-XXX, SPR-E19-XXX, SPR-P17-XXX-COM.
SunSpark Technology	SMX-xxxw, SST-xxxw
Trina	60 cell module: TSM-PD05.08-XXX, 72 cell modules: TSM-PD14-XXX ALLMAX-PD05.05, ALLMAX M Plus-DD05A.05 (II)- ALLMAX-PD05A.08, TSM-DD14A (II)- and TSM-DE14A (II)-.
Yingli	72 cell module: YL-XXX-35B, 60 cell module: YL-XXX-29B.
REC	60 cell modules: REC TwinPeak 2 Series (BLK), RC TwinPeak 2 BLK2 Series, REC N-Peak. 72 cell modules: REC TwinPeak 2S 72 Series, REC TwinPeak 2S 72XV Series, REC TwinPeak 2S 72 BXV Series. REC N-PEAK
Sonali Solar	SS 230W to 265W- 280W to 320W Series.
Longi	LR6-60A-XXXM, LR6-72A-XXXM, OPTIONAL SUFFIX A = BK, PB, PE, PH, or BP
Peimar	SG XXX A-B, A = P or M , Optional Suffix B = (BF) or (FB)
S-Energy	SN XXX A-B, A = P or M Optional Suffix B = 10, 10(B)

**7.0 Illustrations**

**Illustration 1ba- Ratings when Universal Mid Clamp 870, 871, 875, and 876 are used**

A reduced list of modules is compatible with QRail Universal Mid Clamp 870, 871, 875, 876, the list is as follows:

Boviet	BVM6610M-xxx, BVM6610P-xxx, BVM6612P-xxx, BVM6612M-xxx
CertainTeed	CTxxxMXX-02, CTxxxMXX-03
Canadian Solar	CS6P-xxx, CS3U-P, CS3U-MS, CS3K-P, CS3K-MS, CS6K-xxxMS, All-BLACK CS6K-xxxMS, CS6U-xxxM, 1500V CS6U-xxxM, CS6U-xxxP, 1500V CS6U-xxxP, CS6X-xxxP, ALL-BLACK CS6K-xxxM, CS6K-xxxM, 1500V CS6K-xxxM, CS6K-xxxP, 1500V CS6K-xxxP, CS6P-xxxP
Conergy	PowerPlus xxx
ET Solar	ET-M660xxxBB, ET-M660xxxWW/WB, ET-P660xxxBB, ET-P660xxxWW/WB
Hyundai	HiS-AxxxB - Where A can be S or M and B can be RG, TG, or KG. HiS-AxxxB (BK)
JA Solar	JAM6(K)-60-xxx/4BB, JAP6(K)-60-xxx/4BB, JAM6(K)-60-xxx/PR, JAM6(L)-60-xxx/PR, JAP6-60-xxx/4BB/RE, JAM6(K)-72-xxx/4BB, JAM6(L)-72-xxx/4BB, JAP6(K)-72-xxx/4BB, JAM6(K)-72-xxx/PR, JAM6(L)-72-xxx/PR, JAP6-72-xxx/4BB/RE.
Jinko	60 cell modules: 60 JKMxxx-P-60, 60 JKMxxx-P-60B, 60 JKMxxxPP-60, 60 JKMxxxPP-60B, PERC 60 JKMxxxM-60, Plus JKMxxxPP-60(Plus), JKMxxxP-60-J4, JKMxxxP60B-J4, Black JKMxxxPP-60-J4, JKMxxxPP60B-J4, 1500V 60 JKMxxxPP-60-V, 1500V 60 JKMxxxM-60-V, Jinko MX60 JKMSxxxP, MX JKMSxxxPP-60, JKMxxxM-60B, JKMxxxM-60-J4, JKMxxxM60B-J4, JKMSxxxP-60, JKMSxxxP-60-J4, JKMSxxxM-60, JKMSxxxM-60-J4, JKMSxxxPP-60-J4, JKMSxxxPP-60, JKMSxxxM-60B-EP  72 cell modules: JKMxxP-72, JKMxxxP-72B, JKMxxxP-72-J4, JKMxxxP-72B-J4, JKMxxPP-72, JKMxxxPP-72B, JKMxxxPP-72-J4, JKMxxxPP-72B-J4, JKMxxxPP-72(Plus), JKMxxxPP-72-V, JKMxxxM-72, JKMxxxM-72B, JKMxxxM-72B-J4, JKMxxxM-72-J4, JKMxxxM-72-V, MX JKMSxxxPP-72
Mission Solar	MSExxxSO5K, MSExxxSO5T, MSExxxSO6J, MSExxxSO4J, MSExxxMM6J, MSExxxSQ5K, MSExxxSQ5T, MSExxxSQ6S, MSExxxSQ4S.
Seraphim Solar	SPR-xxx-6MA, SRP-xxx-6PA, SRP-xxx-6MB, SRP-xxx-6MB-BB, SRP-xxx-6PB.
SolarWorld	Sunmodule Plus SWA xxx poly (black/clear), Plus SWA xxx mono (black/clear), SWA xxx XL mono (black/clear), SWA xxx XL poly (black/clear), Bisun SWA xxx XL duo (black/clear), Protect SWA mono xxx (black), Bisun SWA xxx duo (black/clear).

**7.0 Illustrations**

**Illustration 1bb- Ratings when Universal Mid Clamp 870, 871, 875, and 876 are used, Continue**

Suniva	OPTXXX-60-4-1B0.
SunPower	SPR-X21-XXX (BLK), SPR-E20-XXX, SPR-E19-XXX, SPR-P17-XXX-COM.
Trina	60 cell module: TSM-PD05.08-XXX, 72 cell modules: TSM-PD14-XXX ALLMAX-PD05.05, ALLMAX M Plus-DD05A.05 (II)- ALLMAX-PD05A.08, TSM-DD14A (II)- and TSM-DE14A (II)-.
Yingli	72 cell module: YL-XXX-35B, 60 cell module: YL-XXX-29B
Silfab	SLA X, SLA-M XXX, SLA-P XXX, SLG-P, SLG-M/SLG X, SSA-M/SSA-P, SSG-M/SSG-P All silver frame, All black frames: SLA-M-xxx, SLG-M-xxx, SLA-X-xxx, SLG-X-xxx, SLA-P- xxx, SLG-P-xxx, SSA-M-xxx, SSG-M-xxx, SSA-P-xxx, SSG-P-xxx.
Sonali Solar	SS 230W to 265W- 280W to 320W Series