

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US



Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

Single Phase Inverter

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SE7600H-US / SE10000H-US / SE11400H-US

SE3000H-US SE3800H-US SE5000H-US SE6000H-US SE7600H-US SE10000H-US SE11400H-US								
OUTPUT								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5 ⁽¹⁾							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
INPUT								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380				400			Vdc
Maximum Input Current @240V ⁽²⁾	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V ⁽²⁾	-	9	-	13.5	-	-	27	Adc
Max. Input Short Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	600k Ω Sensitivity							
Maximum Inverter Efficiency	99	99.2						%
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W
ADDITIONAL FEATURES								
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)							
Revenue Grade Data, ANSI C12.20	Optional ⁽³⁾							
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect							
STANDARD COMPLIANCE								
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCI according to T.I.L. M-07							
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)							
Emissions	FCC Part 15 Class B							
INSTALLATION SPECIFICATIONS								
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG					1" Maximum /14-4 AWG		
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG					1" Maximum / 1-3 strings / 14-6 AWG		
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174					21.3 x 14.6 x 7.3 / 540 x 370 x 185		in / mm
Weight with Safety Switch	22 / 10		25.1 / 11.4		26.2 / 11.9		38.8 / 17.6	lb / kg
Noise	< 25				<50			dBA
Cooling	Natural Convection							
Operating Temperature Range	-13 to +140 / -25 to +60 ⁽⁴⁾ (-40°F / -40°C option) ⁽⁵⁾							°F / °C
Protection Rating	NEMA 4X (Inverter with Safety Switch)							

⁽¹⁾ For other regional settings please contact SolarEdge support

⁽²⁾ A higher current source may be used; the inverter will limit its input current to the values stated

⁽³⁾ Revenue grade inverter P/N: SExxxxH-US000NNC2

⁽⁴⁾ For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

⁽⁵⁾ -40 version P/N: SExxxxH-US000NNU4



SolarEdge Power Optimizer

Module Add-On For North America

P300 / P320 / P370 / P400 / P405



POWER OPTIMIZER

PV power optimization at the module-level

- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Module-level voltage shutdown for installer and firefighter safety



SolarEdge Power Optimizer

Module Add-On for North America

P300 / P320 / P370 / P400 / P405

	P300 (for 60-cell modules)	P320 (for high-power 60-cell modules)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P405 (for thin film modules)	
INPUT						
Rated Input DC Power ⁽¹⁾	300	320	370	400	405	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	48		60	80	125	Vdc
MPPT Operating Range	8 - 48		8 - 60	8 - 80	12.5 - 105	Vdc
Maximum Short Circuit Current (Isc)	10	11		10.1		Adc
Maximum DC Input Current	12.5	13.75		12.63		Adc
Maximum Efficiency	99.5					%
Weighted Efficiency	98.8					%
Overvoltage Category	II					
OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREEDGE INVERTER)						
Maximum Output Current	15					Adc
Maximum Output Voltage	60				85	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREEDGE INVERTER OR SOLAREEDGE INVERTER OFF)						
Safety Output Voltage per Power Optimizer	1					Vdc
STANDARD COMPLIANCE						
EMC	FCC Part15 Class B, IEC61000-6-2, IEC61000-6-3					
Safety	IEC62109-1 (class II safety), UL1741					
RoHS	Yes					
INSTALLATION SPECIFICATIONS						
Maximum Allowed System Voltage	1000					Vdc
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters					
Dimensions (W x L x H)	128 x 152 x 27.5 / 5 x 5.97 x 1.08			128 x 152 x 35 / 5 x 5.97 x 1.37	128 x 152 x 50 / 5 x 5.97 x 1.96	mm / in
Weight (including cables)	630 / 1.4			750 / 1.7	845 / 1.9	gr / lb
Input Connector	MC4 Compatible		MC4 / Amphenol AH4	MC4 Compatible		
Output Wire Type / Connector	Double Insulated; MC4 Compatible		Double Insulated; MC4 / Amphenol AH4	Double Insulated; MC4 Compatible		
Output Wire Length	0.95 / 3.0		1.2 / 3.9			m / ft
Operating Temperature Range				-40 - +85 / -40 - +185		°C / °F
Protection Rating				IP68 / NEMA6P		
Relative Humidity				0 - 100		%

⁽¹⁾ Rated STC power of the module. Module of up to +5% power tolerance allowed.

PV SYSTEM DESIGN USING A SOLAREEDGE INVERTER ⁽²⁾⁽³⁾	SINGLE PHASE HD-WAVE	SINGLE PHASE	THREE PHASE 208V	THREE PHASE 480V	
Minimum String Length (Power Optimizers)	8		10	18	
Maximum String Length (Power Optimizers)	25		25	50	
Maximum Power per String	5700 (6000 with SE7600H-US)	5250	6000	12750	W
Parallel Strings of Different Lengths or Orientations	Yes				

⁽²⁾ For detailed string sizing information refer to: http://www.solaredge.com/sites/default/files/string_sizing_na.pdf.

⁽³⁾ It is not allowed to mix P405 with P300/P370/P400/P600/P700 in one string.



powered by

Q.ANTUM

Q.PEAK-G4.1 300-305

Q.ANTUM SOLAR MODULE

The new high-performance module **Q.PEAK-G4.1** is the ideal solution for all applications thanks to its innovative cell technology **Q.ANTUM**. The world-record cell design was developed to achieve the best performance under real conditions – even with low radiation intensity and on clear, hot summer days.



LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 18.6 %.



INNOVATIVE ALL-WEATHER TECHNOLOGY

Optimal yields, whatever the weather with excellent low-light and temperature behavior.



ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID technology, Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.



EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa) regarding IEC.



MAXIMUM COST REDUCTIONS

Up to 10 % lower logistics costs due to higher module capacity per box.



A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance guarantee².



THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings

¹ APT test conditions: Cells at -1500V against grounded, with conductive metal foil covered module surface, 25 °C, 168h

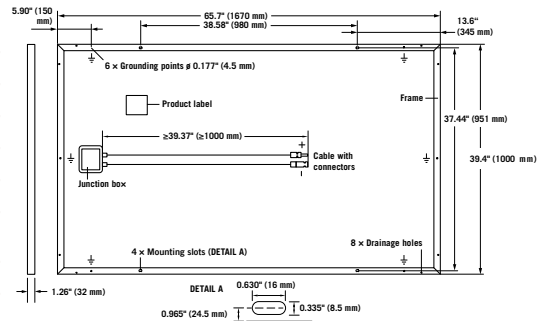
² See data sheet on rear for further information.

Engineered in **Germany**

Q CELLS

MECHANICAL SPECIFICATION

Format	65.7 in × 39.4 in × 1.26 in (including frame) (1670 mm × 1000 mm × 32 mm)
Weight	41.45 lbs (18.8 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminum
Cell	6 × 10 monocrystalline Q.ANTUM solar cells
Junction box	2.60-3.03 in × 3.54-4.53 in × 0.59-0.75 in (66-77 mm × 90-115 mm × 15-19 mm), Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 39.37 in (1000 mm), (-) ≥ 39.37 in (1000 mm)
Connector	Multi-Contact MC4 or MC4 intermateable, IP68



ELECTRICAL CHARACTERISTICS

POWER CLASS				300	305
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W / -0 W)					
Minimum	Power at MPP ²	P _{MPP}	[W]	300	305
	Short Circuit Current*	I _{SC}	[A]	9.77	9.84
	Open Circuit Voltage*	V _{OC}	[V]	39.76	40.05
	Current at MPP*	I _{MPP}	[A]	9.26	9.35
	Voltage at MPP*	V _{MPP}	[V]	32.41	32.62
	Efficiency ²	η	[%]	≥ 18.0	≥ 18.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NOC ³					
Minimum	Power at MPP ²	P _{MPP}	[W]	222.0	225.7
	Short Circuit Current*	I _{SC}	[A]	7.88	7.94
	Open Circuit Voltage*	V _{OC}	[V]	37.19	37.46
	Current at MPP*	I _{MPP}	[A]	7.27	7.35
	Voltage at MPP*	V _{MPP}	[V]	30.52	30.70

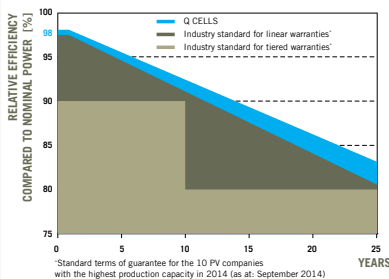
¹ 1000 W/m², 25 °C, spectrum AM 1.5 G

² Measurement tolerances STC ± 3 %; NOC ± 5 %

³ 800 W/m², NOCT, spectrum AM 1.5 G

* typical values, actual values may differ

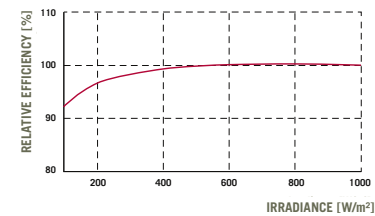
Q CELLS PERFORMANCE WARRANTY



At least 98 % of nominal power during first year.
Thereafter max. 0.6 % degradation per year.
At least 92.6 % of nominal power up to 10 years.
At least 83.6 % of nominal power up to 25 years.

All data within measurement tolerances.
Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I _{SC}	α	[%/K]	+0.04	Temperature Coefficient of V _{OC}	β	[%/K]	-0.28
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.39	Normal Operating Cell Temperature	NOCT	[°F]	113 ± 5.4 (45 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V _{sys}	[V]	1000 (IEC) / 1000 (UL)	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC) / TYPE 1 (UL)
Design load, push (UL) ²	[lbs/ft ²]	75 (3600 Pa)	Permitted module temperature on continuous duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Design load, pull (UL) ²	[lbs/ft ²]	55.6 (2666 Pa)	² see installation manual	

QUALIFICATIONS AND CERTIFICATES

UL 1703; VDE Quality Tested; CE-compliant;
IEC 61215 (Ed.2); IEC 61730 (Ed.1) application class A



PACKAGING INFORMATION

Number of Modules per Pallet	32
Number of Pallets per 53' Container	30
Number of Pallets per 40' Container	26
Pallet Dimensions (L × W × H)	68.7 in × 45.3 in × 46.1 in (1745 mm × 1150 mm × 1170 mm)
Pallet Weight	1435 lbs (651 kg)

NOTE: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

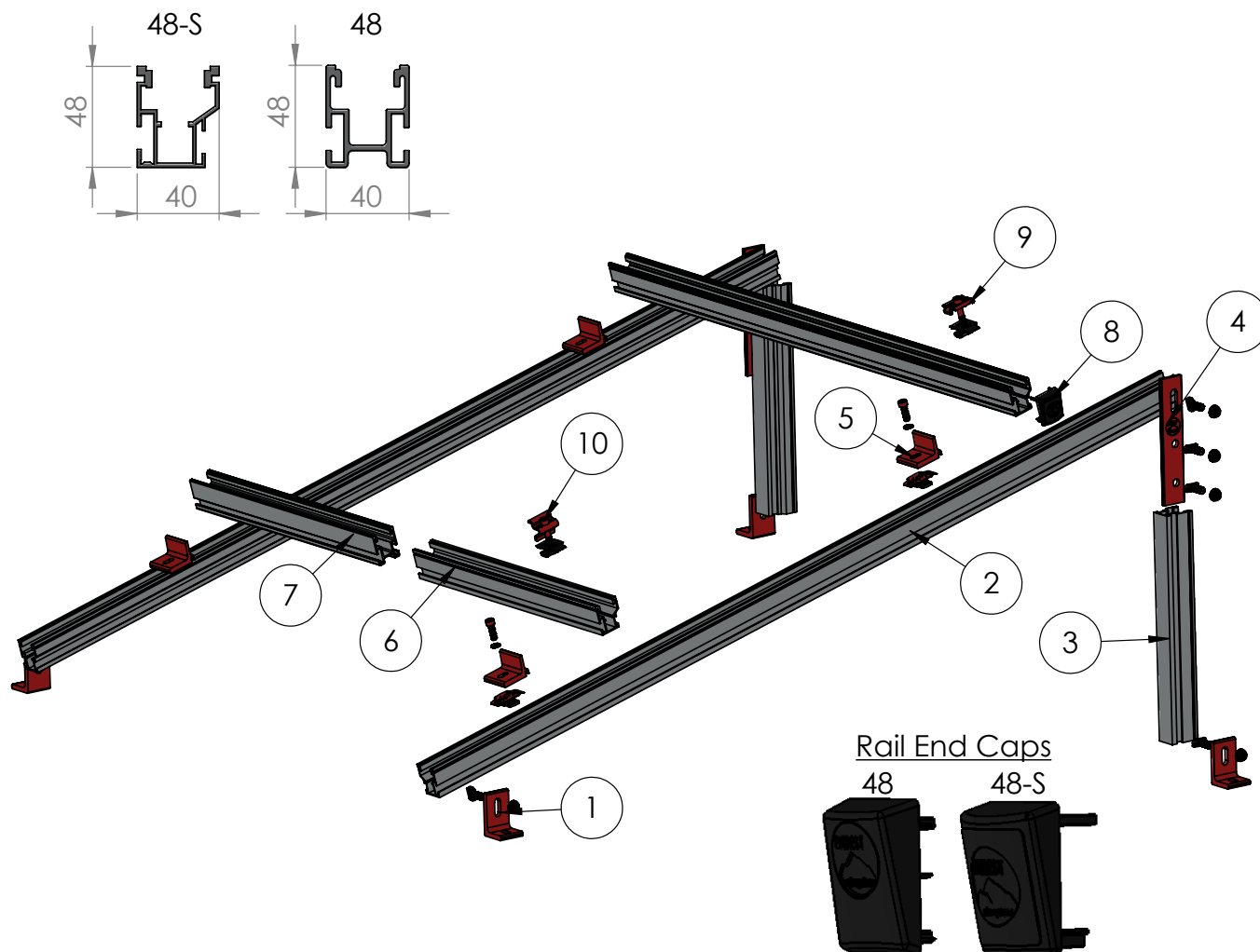
Hanwha Q CELLS America Inc.

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CrossRail Tilt Up

Technical Sheet

Mounting systems for
solar technology



**All dimensions in mm unless otherwise specified

ITEM NO.	DESCRIPTION
1	L-Foot w/T-Bolt & Nut, CR48-S/48/80 Mill
2	CrossRail 48-S, Front Tilt Leg
3	CrossRail 48-S, Rear Tilt Leg
4	Tilt Up Connector Set, Mill
5	Climber Set CR 48-S/48/80, Hole
6	CrossRail 48-S, Mill, Dark Anodized
7	CrossRail 48, Mill, Dark Anodized
8	CrossRail 48-S End Cap
9	Mid Clamp UL 2703, SS, Set 30-50mm CR
10	End Clamp UL 2703, SS, Set 30-50mm CR

CrossRail Tilt Up

Technical Sheet

Mounting systems for
solar technology



CrossRail Tilt Up Installation Dimensions

The CrossRail Tilt Up is a fully customizable solution. The table below provides recommended installation dimensions based upon a standard 60 cell PV module with 1/6 –point clamping locations. Always ensure that the dimensions are suitable for the project site.

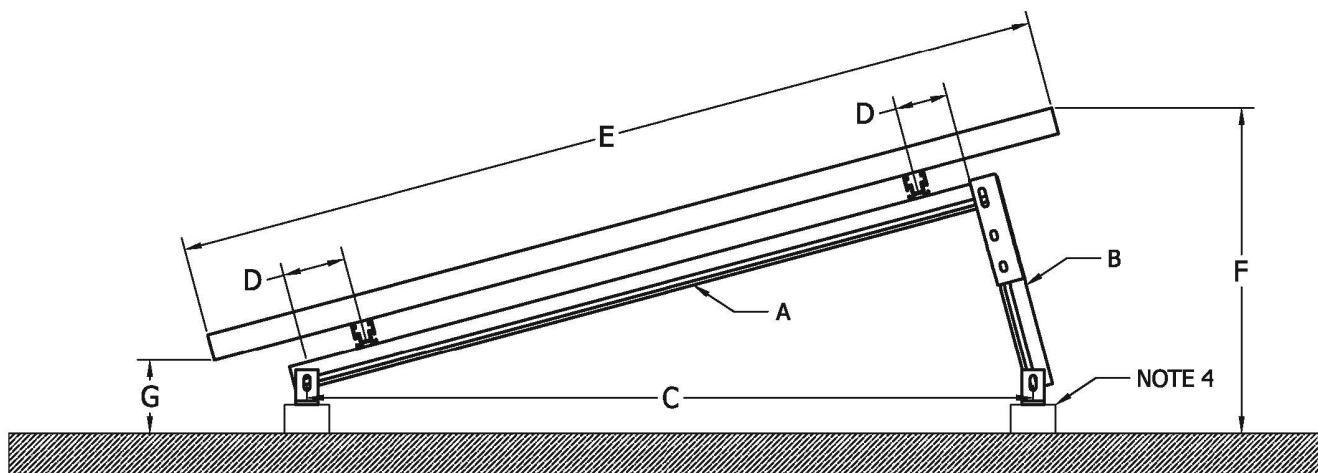


Figure 2.1: CrossRail Tilt Up Dimensions

Dimension	Description	Tilt Angle		
		15	10	7
A	Front Leg	54.5	54.5	54.5
B	Rear Leg	15	9.5	6.5
C	L-Foot Spacing	54	53	52.5
D	Rail Offset ¹	5	5	5
E	Module Length	65	65	65
F	Rear Module Height ²	22	17	14
G	Front Module Height ³	3 1/3	3 7/8	4 1/8

Table 2.1: Tilt Up Installation Dimensions

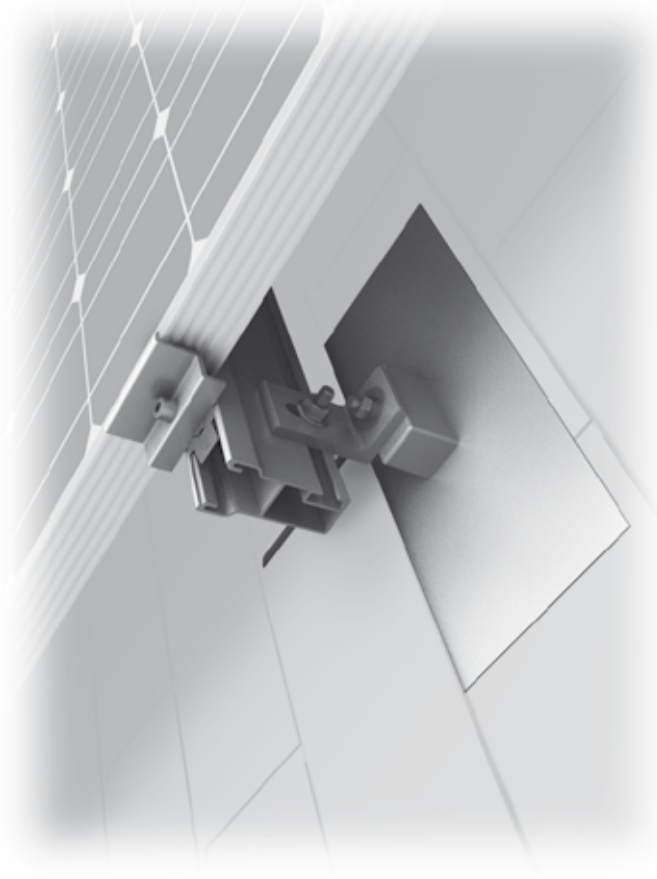
Note: All dimensions in inches

NOTES:

1. Rail offset not to exceed 8 inches.
2. Rear module height not to exceed 24". Note that dimension provided in Table 2.1 does not include roof attachment height.
3. Front module height dimension does not include roof attachment height.
4. Roof attachment to be provided by installer. Installer responsible for ensuring compatibility with CrossRail Tilt Up. Refer to CrossRail Tilt Up Engineering Letter(s) for reaction loads at L-Feet.
5. Always refer to chosen PV module manufacturer's installation instructions for approved clamping locations. Dimensions in Table 2.1 assume a standard 60-cell module with clamping locations at the 1/6-points on the module's long edge; ~11 inches from the short edge.
6. Installer responsible for cutting rail to lengths specified "A" and "B" in Table 2.1.
7. Dimensions provided in Table 2.1 are suggested values. Installer shall verify dimensions are appropriate for the individual site conditions, selected PV module, and roof surface.
8. Adjust based on your installation needs.



Mounting systems for solar technology



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Service-Hotline +1.760.301.5300
info@everest-solarsystems.com
www.everest-solarsystems.com

Produktblatt QuickMount-CrossRail | US3 | 1113
Product images are for illustrative purposes only. Specifications are subject to change without notice. All sales of our products shall be subject to Everest Solar Systems terms and conditions, including the exclusive limited warranty set forth therein.

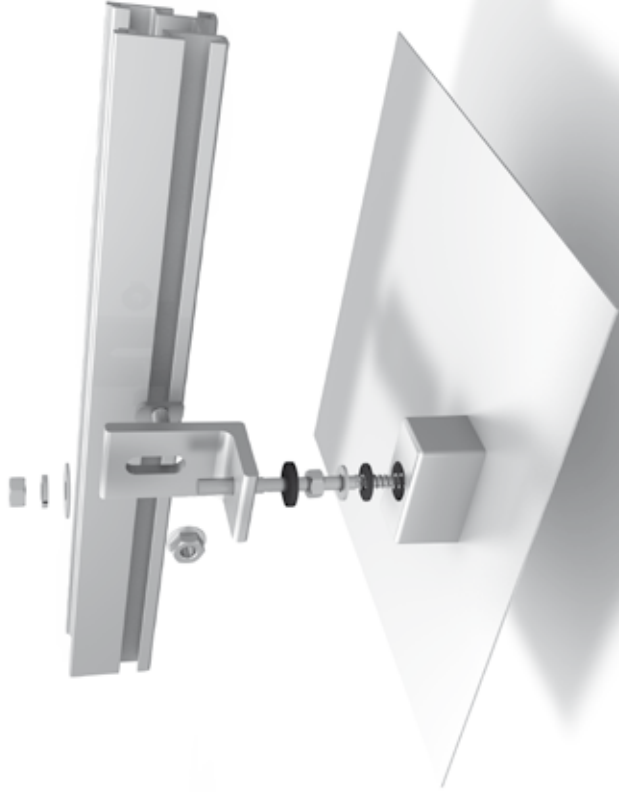
EVEREST SOLAR SYSTEMS
RESIDENTIAL ROOF SOLUTIONS
CROSSRAIL SYSTEM

CROSSRAIL SYSTEM

- High quality, German engineered system optimized for residential installation
- Everest M K2 mounting hardware simplifies module installation – fast, easy, and secure
- Easily integrates with third party roof attachment products, such as QuickMountPV
- L-foot provides adjustability and compatibility with common roof interfaces (Comp, Tile & Metal)
- No shingle cutting, won't void roof manufacturer's warranty
- 100% code-compliant, structural validation for all solar states
- Two rail sizes available to suit all structural conditions
- Fast installation, minimal component count result in low total installed cost
- Simple to design and permit using code compliant "Everest Base" software



Technical data	
Applicable Roof Types	composition shingle, tile, flat tile
Flexibility	modular construction, suitable for any system size, height adjustable
PV-Modules	for all common module types
Module orientation	portrait and landscape
Material	high corrosion resistance, stainless steel and high grade aluminum
Roof attachment	screw connection into rafter
Structural Validity	IBC compliant, stamped engineering letters available for all solar states
Warranty	10 years
System components	CrossRail 36, 48 or 80, L-Foot, mid and end clamp sets, M K2, third-party roof attachment products such as QuickMountPV



Flashing System with CrossRail 48 for asphalt shingle roofs

2-Piece Standoff Technical Datasheet

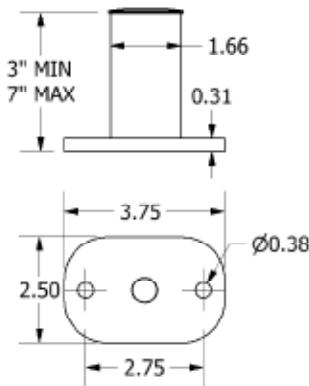
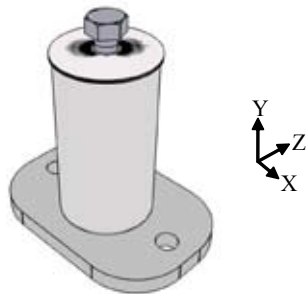
Pub 101026-1td V1.0 October 2010

2-Piece Aluminum Standoffs	1
2-Piece Aluminum Standoff with SolarMount-I 1-flange connection	2
2-Piece Aluminum Standoff with L-foot connection	2

Standoffs

2-Piece Aluminum Standoffs

Part No. 310503, 310504, 310506, 310507, 310553, 310554, 310556, 310557, 310603, 310604, 310606, 310607, 310653, 310654, 310656, 310657



Dimensions specified in inches unless noted

Standoff and Base Material:

- One of the following extruded aluminum alloys: 6005-T5, 6105-T5, 6061-T6
- Ultimate tensile: 38 ksi; Yeild: 35 ksi
- Clear or Dark anodized

Weight:

- 3" Standoff (as shown): 0.522 pounds (237 g)
- Add 0.086 pounds per inch (39 g/ inch)

Allowable and design loads are valid for a Unirac 2-piece aluminum standoff

Attach with zinc plated carbon steel or stainless steel fasteners

Resistance and safety factors are determined according to Part 1A section 9 of the 2005 Aluminum Design Manual

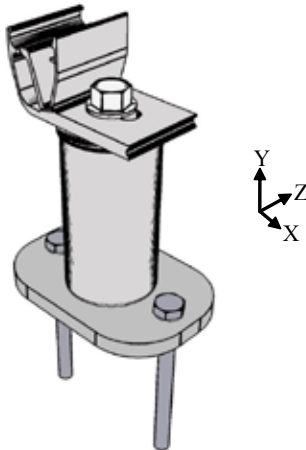
NOTE: Loads are given for the standoff only. Check load limits for lag screw or other attachment method.

Applied Load Direction	Average Ultimate Load lbs (N)	Allowable Load lbs (N)	Safety Factor, W	Design Load lbs (N)	Resistance Factor, F
Tension/Compression, Y±	3266 (14528)	1089 (4844)	3.00	1633 (7264)	0.500
⌢Z Bending, Applied Moment*	559 ft lbs (758 Nm)	250 ft lbs (339 Nm)	2.24	378 ft lbs (512 Nm)	0.676

*Example: If the module is mounted 6" (0.5 ft) from the base of the standoff, the allowable side load is 250 ft*lbs/ 0.5 ft = 500 lbs

2-Piece Aluminum Standoff with SolarMount-I 1-flange connection

Part No. 05013C, 05014C, 05016C, 05017C



Reference the SolarMount-I series datasheet for 1-flange connection specifications.

For the 1-flange connection to standoff:

- Use included 1 3/4" EPDM washer between the 1-flange connection and standoff
- Assemble with included 300 series stainless steel 3/8"-16 flanged hex head screw
- Use anti-seize and tighten to 30 ft-lbs of torque

Allowable and design loads are valid when components are assembled according to authorized Unirac documents.

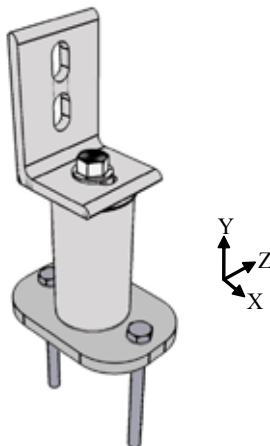
1-Flange connections are compatible with SolarMount-I series beams.

Resistance factors and allowable loads are determined according to part 1A section 9 of the 2005 Aluminum Design Manual.

NOTE: Loads are for the connection and standoff only. Check load limits for the lag screw or other attachment method.

Applied Load Direction	Average Ultimate lbs (N)	Allowable Load lbs (N)	Safety Factor, FS	Design Loads lbs (N)	Resistance Factor, ϕ
Tension, Y+	1415 (6294)	635 (2825)	2.23	960 (4270)	0.679
Compression, Y-	1949 (8670)	873 (3883)	2.23	1320 (5872)	0.677
Transverse, X-, downhill	635 (2825)	313 (1392)	2.03	473 (2104)	0.745
Transverse, X+, uphill	42 (187)	20 (89)	2.15	30 (133)	0.705
$\cup$ Z Bending, Applied Moment	559 ft lbs (758 Nm)	250 ft lbs (339 Nm)	2.24	378 ft lbs (512 Nm)	0.676

2-Piece Aluminum Standoff with L-foot connection



Reference the SolarMount datasheet for L-foot specifications.

For the L- foot to standoff connection:

- Use included 1 3/4" EPDM washer between the L-foot and standoff
- Assemble with included 300 series stainless steel 3/8"-16 flanged hex head screw
- Use anti-seize and tighten to 30 ft-lbs of torque

Allowable and design loads are valid when components are assembled according to authorized Unirac documents.

L-feet are compatible with SolarMount, SolarMount Heavy Duty, and SunFrame rails.

Resistance factors and allowable loads are determined according to part 1A section 9 of the 2005 Aluminum Design Manual.

NOTE: Loads are for the connection and standoff only. Check load limits for the lag screw or other attachment method.

Applied Load Direction	Average Ultimate lbs (N)	Allowable Load lbs (N)	Safety Factor, FS	Design Loads lbs (N)	Resistance Factor, ϕ
Tension, Y+	1859 (8269)	707 (3144)	2.63	1069 (4755)	0.575
Compression, Y-	3258 (14492)	1325 (5893)	2.46	2004 (8913)	0.615
Sliding, Z $\pm$	1766 (7856)	755 (3356)	2.34	1141 (5077)	0.646
Transverse, X $\pm$	486 (2162)	213 (949)	2.28	323 (1436)	0.664
$\cup$ Z Bending, Applied Moment	559 ft lbs (758 Nm)	250 ft lbs (339 Nm)	2.24	378 ft lbs (512 Nm)	0.676