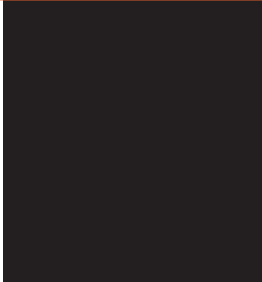




THE STANDARD IN PV MOUNTING STRUCTURES™

**Note:** This PDF contains both the SolarMount® Master Price List supplement (November 2006) and the original document (August 2005). Out-of-date information in the original has been flagged.



U.S. Des. Patent No. D496,248S.  
Other patents pending.

SUPPLEMENT TO  
**SOLAR MOUNT®**  
MASTER PRICE LIST

This list updates the *SolarMount Master Price List with Sizing Charts* (Pub 050819-1pl, August 2005). New items and revised prices are effective November 1, 2006. A revised *Master Price List* will incorporate these revisions. Look for it later this year.

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*Prices and specifications are subject to change without notice. • See [www.unirac.com](http://www.unirac.com) for your nearest UniRac distributor.*

## SolarMount® Light Rail Kits

Each kit mounts one row of modules. For top mount sizing, see the chart on page 4 of the SolarMount Master Price List. Rails, L-feet, and splices are clear anodized.

### Light 2-Rail Kits

Each kit contains 2 rails equal to the row length, L-feet, and hardware to join L-feet to rails.

Row length (inches)	No. of L-feet	Nominal ship data		Item no.	List price
		inches	lbs		
48	4	51 x 5 x 3	9	303201	\$ 83.00
60	4	63 x 4 x 3	10	303202	94.00
72	4	75 x 4 x 3	11	303203	105.00
84	4	87 x 4 x 3	12	303204	116.00
96	6	99 x 4 x 3	13	303205	127.00
106	6	106 x 4 x 3	14	303206	138.00
120*	6	123 x 4 x 3	15	303207	149.00
132*	8	135 x 4 x 3	17	303208	160.00
144*	8	147 x 4 x 3	18	303209	171.00
156*	8	159 x 4 x 3	19	303210	182.00
168*	8	171 x 4 x 3	20	303211	193.00
180*	10	183 x 4 x 3	21	303212	204.00
192*	10	195 x 4 x 3	22	303213	215.00
204*	10	207 x 4 x 3	23	303214	226.00
216†	10	219 x 4 x 3	22	303215	237.00

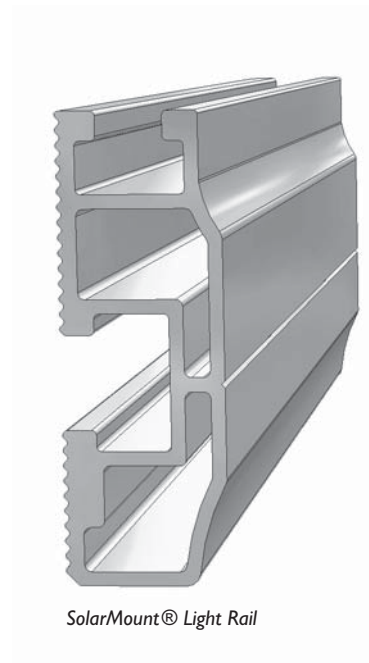
\* Kits for row lengths 120 to 204 inches normally ship truck freight. For UPS shipment, add one light rail cut and splice fee per kit (item no. 990211, \$20.00).

† Ships via truck freight only.

### Light 4-Rail Kits, Spliced

Each kit contains four rail segments, two splices, L-feet, and hardware to join L-feet to rails. Rail segments and splices assemble into two spliced rails equal to the row length. These kits ship via truck freight only.

Row length (inches)	Segment lengths (in)	No. of L-feet	Nominal ship data		Item no.	List price
			inches	lbs		
226	106/120	12	123 x 5 x 3	28	303216	\$273.00
240	120	12	123 x 5 x 3	29	303217	284.00
252	132/120	12	136 x 5 x 3	31	303218	295.00
264	132	14	136 x 5 x 3	32	303219	306.00
276	144/132	14	147 x 5 x 3	33	303220	317.00
288	144	14	147 x 5 x 3	34	303221	328.00
300	156/144	16	159 x 5 x 3	35	303222	339.00
312	156	16	159 x 5 x 3	36	303223	350.00
324	168/156	16	171 x 5 x 3	37	303224	361.00
336	168	16	171 x 5 x 3	38	303225	372.00
348	180/168	18	183 x 5 x 3	39	303226	383.00
360	180	18	183 x 5 x 3	41	303227	394.00
372	192/180	18	195 x 5 x 3	41	303228	405.00
384	192	20	195 x 5 x 3	42	303229	416.00
396	204/192	20	207 x 5 x 3	43	303230	427.00
408	204	20	207 x 5 x 3	45	303231	438.00
420	216/204	20	219 x 5 x 3	46	303232	449.00
432	216	20	219 x 5 x 3	46	303233	460.00



SolarMount® Light Rail

## SolarMount® Pro-Pak Rails, Splices, and Grounding Clips

Use Pro-Pak component pricing when regularly using SolarMount on multiple installations.



### Standard Rail

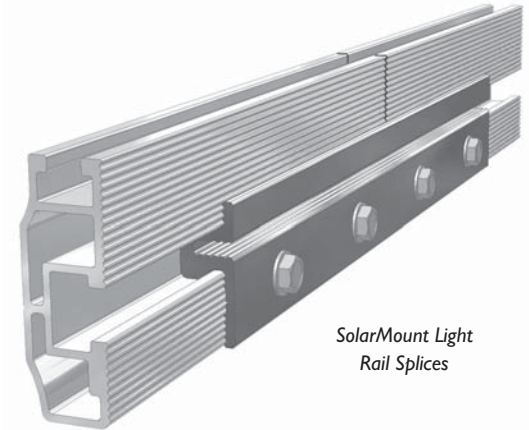
Pro-Pak: Standard rail bundles consist of 8 rails. Bundles listed here do not include L-feet or hardware. See the sizing charts in the *SolarMount Master Price List* (pp. 4–5) to determine rail length appropriate to your installation. If desired rail length exceeds 240 inches, order a splice and two segments. Spliced segments should be as close to equal in length as possible.

Rail length (inches)	Bundle of 8 rails			
	Nominal ship size (inches)	Nominal ship weight (lbs)	Item no.	List price
48	51 x 5 x 3	30	300101	\$230.00
60	63 x 5 x 3	36	300102	272.00
72	75 x 5 x 3	44	300103	314.00
84	87 x 5 x 3	50	300104	356.00
96	99 x 5 x 3	55	300105	398.00
106	109 x 5 x 3	61	300106	440.00
120	123 x 5 x 3	67	300107	482.00
132	135 x 5 x 3	72	300108	533.00
144	147 x 5 x 3	78	300109	584.00
156	159 x 5 x 3	92	300110	635.00
168	171 x 5 x 3	100	300111	686.00
180	183 x 5 x 3	108	300112	737.00
192	195 x 5 x 3	114	300113	788.00
204	207 x 5 x 3	120	300114	839.00
216	219 x 5 x 3	128	300115	890.00

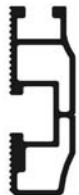
### SolarMount® Light Rail Splices

Pro-Pak: Each splice joins two rail segments.

Quantity	Nominal ship weight (lbs)	Part no.	List price
1		310231	\$ 4.15
20	5	310232	72.00



SolarMount Light Rail Splices



### Light Rail

Pro-Pak: Light rail bundles consist of 10 rails. Bundles listed here do not include L-foot or hardware. See the top mounting sizing chart in the *SolarMount Master Price List* (p. 4) to determine rail length appropriate to your installation. If desired rail length exceeds 240 inches, order a splice and two segments. Spliced segments should be as close to equal in length as possible.

Rail length (inches)	Bundle of 10 rails			
	Nominal ship size (inches)	Nominal ship weight (lbs)	Item no.	List price
48	51 x 5 x 3	25	303101	\$199.00
60	63 x 5 x 3	30	303102	239.00
72	75 x 5 x 3	36	303103	279.00
84	87 x 5 x 3	41	303104	319.00
96	99 x 5 x 3	45	303105	359.00
106	109 x 5 x 3	50	303106	399.00
120	123 x 5 x 3	55	303107	439.00
132	135 x 5 x 3	59	303108	479.00
144	147 x 5 x 3	64	303109	519.00
156	159 x 5 x 3	75	303110	559.00
168	171 x 5 x 3	82	303111	599.00
180	183 x 5 x 3	88	303112	639.00
192	195 x 5 x 3	93	303113	679.00
204	207 x 5 x 3	98	303114	719.00
216	219 x 5 x 3	104	303115	759.00

### UniRac Grounding Clip 1

Pro-Pak: Order one grounding clip for every two top mounting clamps (end clamps + mid clamps) in your installation. Only one of the two rails in each row requires grounding clips.

Quantity	Nominal ship weight (lbs)	Item no.	List price
1		980000	\$ 1.20
20	1	980001	19.00

Note: Available in mid December



UniRac Grounding Clip

## SolarMount® Top Mounting Clamps

**Product upgrade for kits A–F and J–K:** Kits now contain UniRac grounding clips. The upgrade does not affect prices listed on pages 8–10 of the *SolarMount Master Price List*.

For individual installations, order 1 kit for each row of modules you plan to mount. Use Pro-Pak component prices

when regularly using SolarMount on multiple installations. See page 4 of the original *SolarMount Master Price List* for the clamp size for your module type. **End clamps:** Order 4 for each row of modules you plan to mount. **Mid clamps:** For each row, order 2 clamps for each gap between modules.

### **K** for modules 41–44 mm thick Evergreen ES170RL, ES180RL, ES190RL

**KITS:** End clamps, mid clamps, grounding clips T-bolts, and flange nuts for one row of modules

Modules per row	Nominal ship wt.	Clear anodized		Dark bronze anodized	
		Item no.	List price	Item no.	List price
2	1	320209	\$19.00	320222	\$25.00
3	2	320210	22.50	320223	29.75
4	2	320211	26.00	320224	34.50
5	2	320212	29.50	320225	39.25
6	2	320213	33.00	320226	44.00
7	2	320214	36.50	320227	48.75
8	3	320215	40.00	320228	53.50
9	3	320216	43.50	320229	58.25
10	3	320217	47.00	320230	63.00
11	3	320218	50.50	320231	67.75
12	3	320219	54.00	320232	72.50

**PRO-PAK:** Clamps with T-bolts and flange nuts

*Clear anodized*

Clamp	Qty	Nominal		Item no.	List price
		ship wt. (lbs)			
End	1			320220	\$ 2.25
	20	3		320221	39.00
Mid	1			320009	2.25
	20	3		320021	39.00

*Dark bronze anodized*

Clamp	Qty	Nominal		Item no.	List price
		ship wt. (lbs)			
End	1			320233	\$ 3.00
	20	3		320234	54.00
Mid	1			320120	3.00
	20	3		320085	54.00

**Note:** UniRac Grounding clips will work and be included with all sizes of top mounting clamps. They will not be available until mid December.

## SolarMount®/S-5!™ PV Clamp Sets

S-5! PV clamps provide non-penetrating attachment points to standing seam metal roofs. Select SolarMount end clamps and mid clamps and attach modules directly to the S-5! clamp

without the need for mounting rails. (If you prefer to use rails, order sets with L-feet.) Use end clamps on the edge of the array and mid clamps between modules within the array.

### SolarMount®/S-5!™ PV Clamp Sets

End clamps, mid clamps, and L-feet are anodized, clear or dark. S-5! clamps are mill finish. Nominal ship weight: Singles, 0.5 lbs; 20 packs, 10 lbs.

Description	Qty	Item no.	List price	Description	Qty	Item no.	List price
S-5! + mid clamp set, size C-D-K, clear	1	321224	\$ 21.00	S-5! + end clamp set, size E, clear	1	321230	\$ 21.00
	20	321236	385.00	S-5! + end clamp set, size E, dark	1	321234	21.50
S-5! + mid clamp set, size C-D-K, dark	1	321226	21.50		20	321246	395.00
	20	321238	395.00	S-5! + end clamp set, size F, clear	1	321231	21.00
S-5! + end clamp set, size C, clear	1	321228	21.00		20	321243	385.00
	20	321240	385.00	S-5! + end clamp set, size F, dark	1	321235	21.50
S-5! + end clamp set, size C, dark	1	321232	21.50		20	321247	395.00
	20	321244	395.00	S-5! + end/mid clamp set, size H, dark	1	321248	21.00
S-5! + end clamp set, size D, clear	1	321229	21.00		20	321249	385.00
	20	321241	385.00	S-5! + mid clamp set, size G, dark	1	321251	21.50
S-5! + end clamp set, size D, dark	1	321233	21.50		20	321250	395.00
	20	321245	395.00	S-5! + end clamp set, size G, dark	1	321253	21.50
S-5! + end clamp set, size K, clear	1	321268	21.00		20	321252	395.00
	20	321269	385.00	<b>For mounting with rails:</b>			
S-5! + end clamp set, size K, dark	1	321270	21.50	S-5!, L-foot, and 3/8" hardware, clear	1	321255	25.50
	20	321271	395.00		20	321256	465.00
S-5! + mid clamp set, size E-F, clear	1	321225	21.00	S-5!, L-foot, and 3/8" hardware, dark	1	321257	25.75
	20	321237	385.00		20	321258	470.00
S-5! + mid clamp set, size E-F, dark	1	321227	21.50				
	20	321239	395.00				

Prices and specifications are subject to change without notice. • See [www.unirac.com](http://www.unirac.com) for your nearest UniRac distributor.



THE STANDARD IN PV MOUNTING STRUCTURES™

Master Price List  
**SOLARMOUNT®**  
 WITH SIZING CHARTS

**SolarMount®/S-5!™**

Attaching PV modules to standing seam metal roofs is now easy and inexpensive. See the back cover for details.

SolarMount® is the most versatile system of components available for mounting PV modules. Its wide variety of options ensure a structurally sound and aesthetically pleasing installation.

U.S. Des. Patent No. D496,248S.  
 Other patents pending.



**Most prices unchanged:** The few price changes from our January Master Price List are noted inside.

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## Components and Configurations

Thanks for using SolarMount®! Use this chart to find sizing and pricing information for the seven basic array configurations. See the back cover for information on our new SolarMount/S-5! clamps for standing seam metal roofs:

**RAILS**—All configurations use standard SolarMount rail.

- Kits include L-feet and, if required, splice bars.
- Pro-Paks ship eight rails to a bundle with no other hardware.

**MODULE ATTACHMENT**—Choose from top mounting clamps, bottom mounting clips, and junction plates. All are described on the facing page.

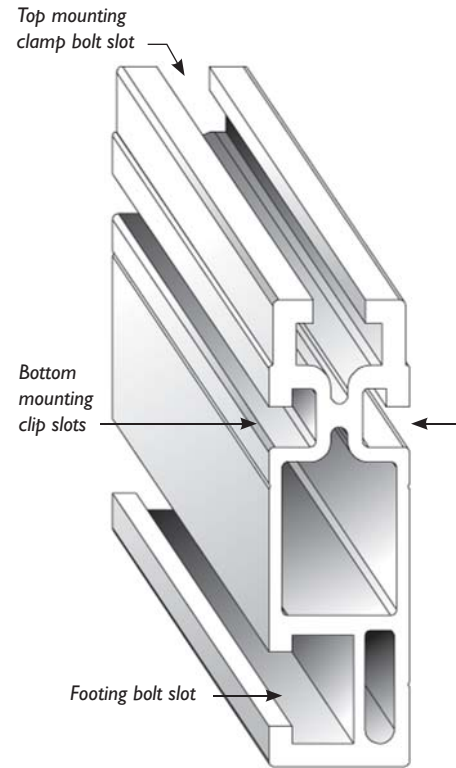
**FOOTING CHOICES**—Choose from several methods of attaching rails to a roof or other surface:

- L-feet figure in all installations except those using raised-flange standoffs.
- Standoffs and flashings facilitate a waterproof seal where one cannot be obtained with L-feet alone.
- Hanger bolts support arrays above corrugated metal roofs.

**ARRAY TILT**—Mount an array flush to a roof or tilt it at any site location. If tilted, select from low profile tilt legs, high profile tilt legs, or our two-tier shared rail configuration. All are described in this two-page spread.

**ACCESSORIES**—Optimize your installation.

- Rail splices align and secure long rows of modules.
- Shims align both footings and rails on uneven surfaces.
- Security hardware minimizes the risk of module theft.
- Cable ties secure module cables to the rails above the mounting surface.



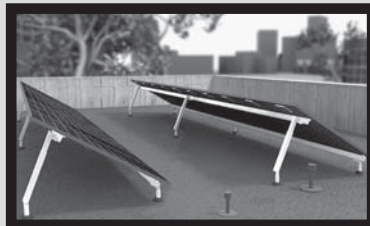
Standard SolarMount® rail

### Flush Mounts



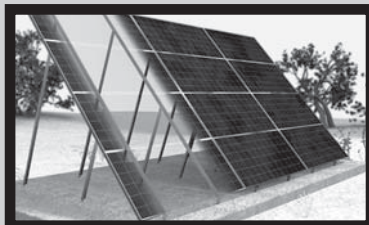
Install an array flush to a roof or other mounting surface. Modules can be mounted high profile (long sides horizontal, rails parallel to rafters), low profile (short ends and rails perpendicular to rafters), or a combination of both. Optional accessories handle special circumstances, such as Spanish tile or an uneven roof.

### Low Profile Tilt Legs



Low profile orientation minimizes the vertical height of your array—to hide an array behind a parapet, for example. You can also optimize tilt angle on a pitched roof to maximize system performance. Tilt angle depends on leg length and the make and model of your PV modules.

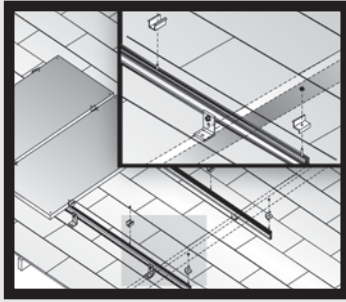
### High Profile Tilt Legs



High profile orientation maximizes module density in a given site area on the ground or on a flat or pitched roof. Tilt angle depends on leg length and rail length.

*High profile legs are not recommended for rails longer than 180 inches, and are never used with spliced rails.*

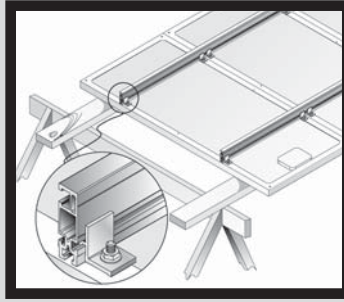
### Top Mounting Clamps



Select top mounting clamps if you prefer to install modules *after* securing the footings and the rails. This sequence is especially well suited for flush mounting.

Top mounting clamps do not use the modules' mounting holes, thus allowing flexibility in rail placement. See the installation manual for details. Top mounting requires 1 inch between modules. Rails must extend 1½ inches beyond the last module on each end.

### Bottom Mounting Clips



Select bottom mounting clips if you plan to attach modules to rails prior to final installation, a sequence well suited for pre-wired rows of modules. No space between modules is required, and rails need not extend past the end modules.

However, flush arrays are significantly more difficult to install when using bottom mounting clips because of access problems when securing footings under pre-assembled module rows. Learn more from "Frequently Asked Questions" in the SolarMount pages at [www.unirac.com](http://www.unirac.com).

### Two-Tier Shared Rail



In this configuration, each interior rail supports modules on both sides. Mount two to ten modules in portrait mode. The two-tier system is a SolarMount upgrade of our former U-DD configuration.

#### Configuration 1: Flush, Clamps

- Rails (sizing, p. 4).
- Top mounting clamps (sizing, p. 4).
- Accessories (optional): Rail splices (p. 7), standoffs and flashings (p. 11), and hanger bolts, cable ties, shims, and security hardware (p. 14).

#### Configuration 4: Flush, Clips

- Rails (sizing, p. 5).
- Bottom mounting clips (p. 10).
- Accessories (optional): Rail splices (p. 7), standoffs and flashings (p. 11), and hanger bolts, cable ties, shims, and security hardware (p. 14).

#### Configuration 2: Low Profile, Clamps

- Rails (sizing, p. 4).
- Top mounting clamps (sizing, p. 4).
- Low profile tile legs (p. 12.)
- Accessories (optional): Rail splices (p. 7), standoffs and flashings (p. 11), cable ties, shims, and security hardware (p. 14).

*Consult UniRac before using aluminum standoffs or hanger bolts in this configuration.*

#### Configuration 5: Low Profile, Clips

- Rails (sizing, p. 5).
- Bottom mounting clips (p. 9).
- Low profile tile legs (p. 12.)
- Accessories (optional): Rail splices (p. 7), standoffs and flashings (p. 11), cable ties, shims, and security hardware (p. 14).

*Consult UniRac before using aluminum standoffs or hanger bolts in this configuration.*

#### Configuration 3: High Profile, Clamps

- Rails (sizing, p. 4)
- Top mounting clamps (sizing, p. 4).
- High profile tile legs (p. 13).
- Accessories (optional): Standoffs and flashings (p. 11), cable ties, shims, and security hardware (p. 14).

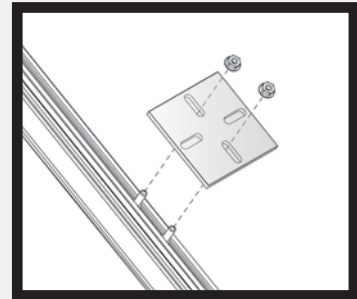
*Do not use splices with this configuration. Consult UniRac before using aluminum standoffs or hanger bolts.*

#### Configuration 6: High Profile, Clips

- Rails (sizing, p. 5).
- Bottom mounting clips (p. 9).
- High profile tile legs (p. 13).
- Accessories (optional): Standoffs and flashings (p. 11), cable ties, shims, and security hardware (p. 14).

*Do not use splices with this configuration. Consult UniRac before using aluminum standoffs or hanger bolts.*

### Junction Plates



Modules attach to rails with a four-slot plate. North-south slots secure the plates to the rails. East-west slots secure a module to the plate on each side of the rail.

#### Configuration 7: Two-Tier, Junction Plates

- Sizing and pricing for rails, tilt legs, back braces, and junction plates (p. 15)
- Accessories (optional): Standoffs and flashings (p. 11), cable ties, shims, and security hardware (p. 14).

*Do not use splices or hanger bolts in this configuration.*

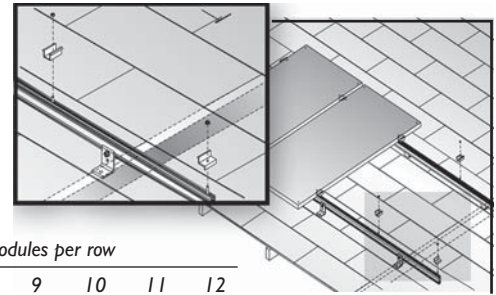
# Top Mounting Sizing

## Clamp sizes and rail set lengths

Use this chart to determine (1) the size of top mounting clamps for your modules and (2) the length of the rails required for your array. **Call UniRac for modules not listed.**

When sizing is complete, rails, clamps, splices, and L-feet may be ordered in two ways:

- **Kits** (pp. 6, 8–10) contain just the right quantities for a given installation.
- **Pro-Pak** pricing (pp. 7–10) offers bulk components, best for installers who regularly use SolarMount.



Module make and model	Clamp size	Rail length (inches) by number of modules per row										
		2	3	4	5	6	7	8	9	10	11	12
<b>BP Solar</b>												
BP365	E	48	72	96	106	132	156	180	192	216	240	252
BP380, BP485	E	48	72	96	120	144	168	180	204	226	252	276
BP3125	E	60	96	120	144	168	204	226	252	288	312	336
BP3160, BP4175	E	72	106	132	168	204	240	264	300	324	360	396
<b>Evergreen</b>												
EC102, EC110, EC115	C	60	84	120	144	168	192	216	252	276	300	324
<b>First Solar</b>												
FS50D	See adjacent note	60	84	120	144	168	192	216	240	276	300	324
<b>GE Energy</b>												
GE65, GE75	C	48	72	96	120	144	156	180	204	226	252	264
GE100, GE110	C	60	84	120	144	168	192	226	252	276	300	336
GE165	C	84	132	168	204	240	288	324	360	396		
<b>Isofoton</b>												
I-100	D	60	84	120	144	168	192	216	252	276	300	324
I-150S	D	96	132	180	216	264	300	348	384	432		
I-165	D	84	120	168	204	240	288	324	360	396		
<b>Kaneka</b>												
GSA 211	D	84	132	168	204	252	288	324	372	408		
<b>Kyocera</b>												
KC80-I, KC120-I, KC125G	C	60	84	120	144	168	192	216	252	276	300	324
KC158G, KC167G, KC187G	C	84	132	168	204	252	288	324	372	408		
<b>Mitsubishi</b>												
MF120EC3	F	60	84	120	144	168	192	216	240	276	300	324
MF165EB3	F	72	106	132	168	204	240	264	300	336	360	396
<b>Photowatt</b>												
PW750	A	48	72	96	120	144	168	192	216	240	264	288
PW1250	D	72	106	144	180	204	240	276	312	336	372	408
PW1650	D	96	144	180	226	264	312	360	396			
<b>RWE Schott</b>												
ASE300, ASE315, ASE330	E	106	168	216	264	312	372	420				
SAPC165	F	72	106	144	180	204	240	276	312	348	372	408
<b>Sanyo</b>												
HIT-190BA3	H	84	120	156	180	216	252	288	324	360	396	432
<b>Sharp</b>												
NE-80EJE	C	48	72	96	120	144	156	180	204	226	252	276
ND-L3EJE (123 watt)	F	60	84	120	144	168	192	226	252	276	300	336
ND-167U3	F	84	132	168	204	252	288	324	372	408		
NE-165UI, NT-175UI	F	72	106	144	180	204	240	276	312	348	372	408
ND-205UI	F	84	132	168	204	252	288	324	372	408		
<b>Shell</b>												
SM100, SM110	D	60	84	120	144	168	192	226	252	276	300	336
SQ70, SQ75, SQ80	C	48	72	96	120	144	156	180	204	226	252	264
SQ140, SQ150, SQ160	D	72	106	144	168	204	240	276	300	336	372	408
<b>SunPower</b>												
SPR90	F	48	72	96	120	144	156	180	204	226	252	264
SPR200, SPR210	F	72	106	132	168	204	240	264	300	336	360	396
<b>SunWize</b>												
SW85, SW90, SW95	C	60	84	106	132	156	180	204	226	240	264	288
SW115, SW120	C	60	84	120	144	168	192	216	240	276	300	324
SW155L, SW165L	J	72	120	144	180	216	252	288	324	360	396	420
<b>UniSolar</b>												
US64	B	72	96	132	156	192	216	252	276	312	336	372

First Solar modules attach to rails using only module bolts and flange nuts. Order part no. 321203 (4 bolt/nut sets, \$1.75) or 321204 (20 bolt/nut sets, \$8.00) to satisfy your requirements:

Modules per row	Required bolt/nut sets per row
2	6
3	8
4	10
5	12
6	14
7	16
8	18
9	20
10	22
11	24
12	26

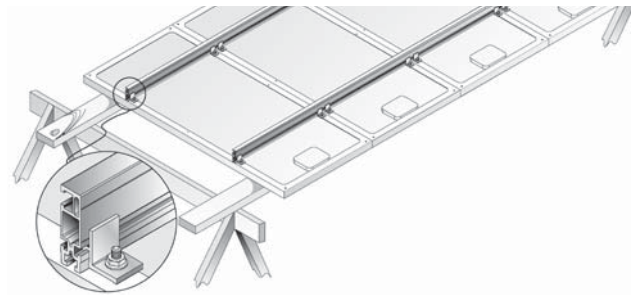
**Bottom Mounting Sizing****Rail set lengths**

This chart lists the length of the rails required for your array. **Call UniRac for any modules not listed.**

When sizing is complete, rails, splices, and L-feet may be ordered in two ways:

- **Kits** (p. 6) contain just the right quantities for a given installation.
- **Pro-Pak** pricing (p. 7) offers bulk components, best for installers who regularly use SolarMount.

Order 4 bottom mounting clips (p. 10) for every module to be mounted.



Module make and model	Rail length (inches) by number of modules per row										
	2	3	4	5	6	7	8	9	10	11	12
<b>BP Solar</b>											
B365	48	60	84	106	120	144	168	180	204	226	240
BP380, BP485	48	72	96	106	132	156	180	192	216	240	264
BP3125	60	84	106	144	168	192	216	240	276	300	324
BP3160, BP4175	72	96	132	156	192	226	252	288	312	348	384
<b>Evergreen</b>											
EC102, EC110, EC115	60	84	106	132	156	180	216	240	264	288	312
<b>First Solar</b>											
FS50D	60	84	106	132	156	180	204	240	264	288	312
<b>GE Energy</b>											
GE65, GE75	48	72	84	106	132	156	168	192	216	240	252
GE100, GE110	60	84	106	132	156	192	216	240	264	288	312
GE165	84	120	156	192	240	276	312	348	384	432	
<b>Isofoton</b>											
I-100	60	84	106	132	156	192	216	240	264	288	312
I-150S	84	132	168	216	252	300	336	372	420		
I-165	84	120	156	192	240	276	312	348	384	420	
<b>Kaneka</b>											
GSA 211	84	120	156	204	240	276	312	360	396	432	
<b>Kyocera</b>											
KC80-I, KC120-I, KC125G	60	84	106	132	156	180	216	240	264	288	312
KC158G, KC167G, KC187G	84	120	156	204	240	276	312	360	396	432	
<b>Mitsubishi</b>											
MF120EC3	60	84	106	132	156	180	204	240	264	288	312
MF165EB3	72	96	132	168	192	226	252	288	324	348	384
<b>Photowatt</b>											
PW750	48	72	96	120	132	156	180	204	226	252	264
PW1250	72	106	132	168	204	240	264	300	324	360	396
PW1650	96	132	180	216	264	300	348	384	432		
<b>RWE Schott</b>											
ASE300, ASE315, ASE330	106	156	204	264	312	360	408				
SAPC165	72	106	132	168	204	240	264	300	336	360	396
<b>Sanyo</b> (Not applicable; bottom mounting requires module mounting holes.)											
<b>Sharp</b>											
NE-80EJE	48	72	84	106	132	156	168	192	216	240	252
ND-L3EJE (123 watt)	60	84	106	132	168	192	216	240	264	288	324
ND-167U3	84	120	168	204	240	276	324	360	396	432	
NE-165UI, NT-175UI	72	106	132	168	204	240	264	300	336	360	396
ND-205UI	84	120	168	204	240	276	324	360	396	432	
<b>Shell</b>											
SM100, SM110	60	84	106	132	156	192	216	240	264	288	312
SQ70, SQ75, SQ80	48	72	84	106	132	156	168	192	216	240	252
SQ140, SQ150, SQ160	72	106	132	168	204	226	264	300	324	360	396
<b>SunPower</b>											
SPR90	48	72	84	106	132	156	168	192	216	240	252
SPR200, SPR210	72	96	132	168	192	226	252	288	324	348	384
<b>SunWize</b>											
SW85, SW90, SW95	48	72	96	120	144	168	192	216	240	252	276
SW115, SW120	60	84	106	132	156	180	204	240	264	288	312
SW155L, SW165L	72	106	144	180	204	240	276	312	348	372	408
<b>UniSolar</b>											
US64	60	96	120	156	180	216	240	264	300	324	360

## Rail Kits

Each kit mounts a single row of modules and consists of rails plus L-feet and hardware to attach feet to rails. Splice bars are also included in four-rail kits. To determine row lengths required from your installation, see the sizing chart on page 4 for arrays with top mounting clamps, or page 5 for arrays with bottom mounting clips.

Rails, L-feet, and splices are clear anodized.

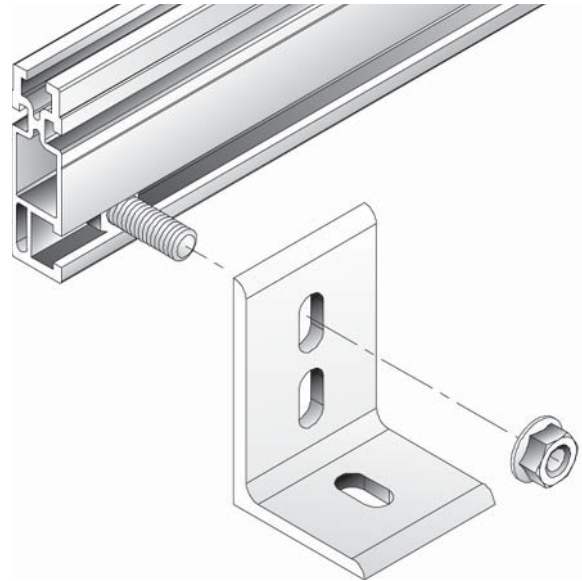
For two-tier configurations, see page 15.

### Two-rail kits

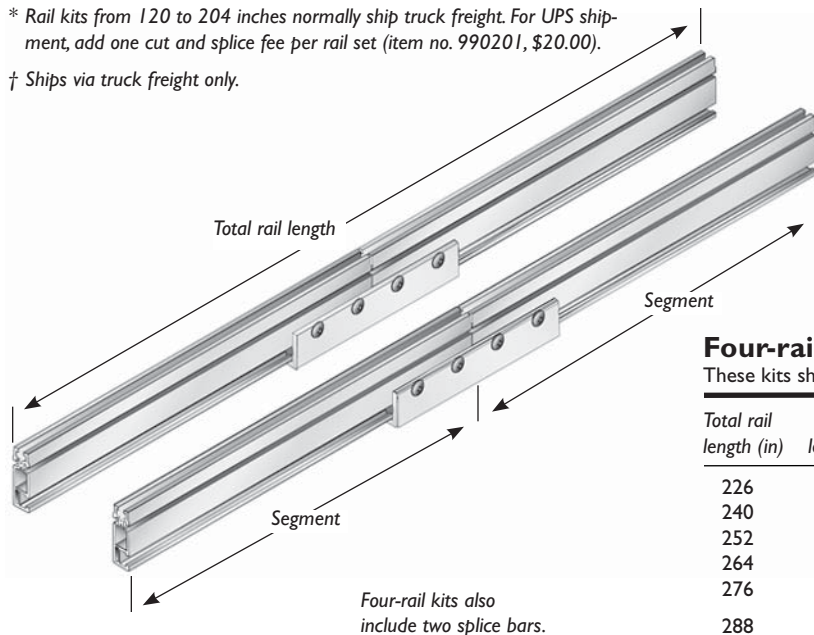
Rail length (inches)	No. of L-feet	Nom. shipping data		Part no.	Old part no.	List price
		inches	lbs			
48	4	51 x 4 x 3	13	300201	SMR48	\$ 99.00
60	4	63 x 4 x 3	14	300202	SMR60	114.00
72	4	75 x 4 x 3	16	300203	SMR72	129.00
84	4	87 x 4 x 3	17	300204	SMR84	144.00
96	4	99 x 4 x 3	19	300205	SMR96	159.00
106	4	109 x 4 x 3	20	300206	SMR106	174.00
120*	6	123 x 4 x 3	22	300207	SMR120	194.00
132*	6	133 x 4 x 3	24	300208	SMR132	209.00
144*	6	147 x 4 x 3	25	300209	SMR144	224.00
156*	6	159 x 4 x 3	27	300210	SMR156	239.00
168*	6	169 x 4 x 3	28	300211	SMR168	254.00
180*	6	183 x 4 x 3	30	300212	SMR180	274.00
192*	8	195 x 4 x 3	31	300213	SMR192	289.00
204*	8	207 x 4 x 3	33	300214	SMR204	304.00
216†	8	219 x 4 x 3	34	300215	SMR216	319.00

\* Rail kits from 120 to 204 inches normally ship truck freight. For UPS shipment, add one cut and splice fee per rail set (item no. 990201, \$20.00).

† Ships via truck freight only.



L-feet and hardware are included in all rail kits.



Four-rail kits also include two splice bars.

### Four-rail kits for long rows

These kits ship via truck freight only.

Total rail length (in)	Segment lengths (in)	No. of L-feet	Nom. shipping data		Part no.	List price
			inches	lbs		
226	106/120	10	123 x 5 x 3	40	300224	\$349.00
240	120/120	10	123 x 5 x 3	42	300225	364.00
252	132/120	10	136 x 5 x 3	44	300226	379.00
264	132/132	10	136 x 5 x 3	46	300227	389.00
276	144/132	10	147 x 5 x 3	47	300228	404.00
288	144/144	10	147 x 5 x 3	48	300229	419.00
300	156/144	12	159 x 5 x 3	50	300230	439.00
312	156/156	12	159 x 5 x 3	52	300231	454.00
324	168/156	12	171 x 5 x 3	53	300232	469.00
336	168/168	12	171 x 5 x 3	54	300233	484.00
348	180/168	14	183 x 5 x 3	56	300234	499.00
360	180/180	14	183 x 5 x 3	58	300235	509.00
372	192/180	14	195 x 5 x 3	59	300236	524.00
384	192/192	14	195 x 5 x 3	60	300237	539.00
396	204/192	14	207 x 5 x 3	62	300238	554.00
408	204/204	14	207 x 5 x 3	64	300239	569.00
420	216/204	16	219 x 5 x 3	65	300240	589.00
432	216/216	16	219 x 5 x 3	66	300241	599.00

## Pro-Pak Rails, L-feet, and Splices

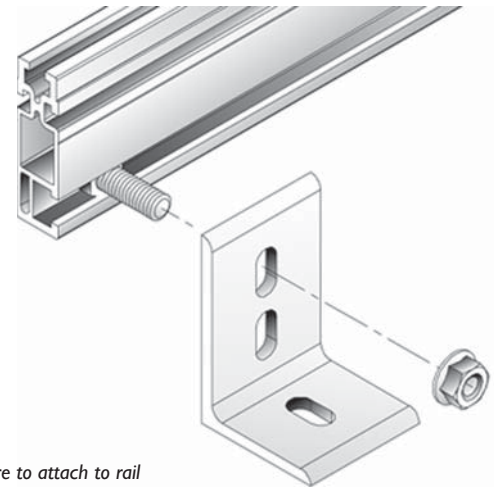
Use Pro-Pak component pricing when regularly using SolarMount on multiple installations.

### Rail bundles

**PRO-PAK:** Standard bundles consist of 8 rails and do not include L-feet or hardware. See the sizing chart on page 4 to determine rail length appropriate for your installation. If desired rail length exceeds 240 inches, order a splice (below) and two segments. Spliced segments should be equal or as close to equal as possible.

Rail length	Nom. shipping data		Part no.	Old part no.	List price	
	inches	lbs				
48	51 x 5 x 3	30	300101	RB48-8	\$230.00	
60	63 x 5 x 3	36	300102	RB60-8	270.00	
72	75 x 5 x 3	44	300103	RB72-8	310.00	
84	87 x 5 x 3	50	300104	RB84-8	350.00	
96	99 x 5 x 3	55	300105	RB96-8	390.00	
106	109 x 5 x 3	61	300106	RB106-8	430.00	
120	123 x 5 x 3	70	300107	RB120-8	500.00	
138	141 x 5 x 3	81	300108	RB138-8	565.00	
156	159 x 5 x 3	90	300109	RB156-8	610.00	
180	183 x 5 x 3	100	300111	RB168-8	655.00	
192	183 x 5 x 3	108	300112	RB180-8	700.00	
192	195 x 5 x 3	114	300113	RB192-8	745.00	
204	207 x 5 x 3	120	300114	RB204-8	790.00	
216	219 x 5 x 3	128	300115	RB216-8	835.00	
228	231 x 5 x 3	136	300116	RB228-8	870.00	
240	243 x 5 x 3	142	300117	RB240-8	915.00	
1 rail, custom length, per foot (add 1 cut fee per rail)					300001	7.50
Rail cut fee					990202	3.00

Please see Supplement to Master Price List for current pricing.



L-foot and hardware to attach to rail

### L-feet

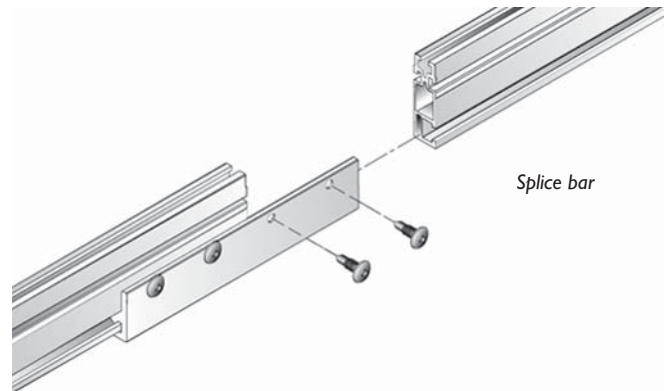
**PRO-PAK:** Each L-foot includes a stainless steel bolt and flange nut to attach the foot to a SolarMount rail. Lag bolts are not included. Rail set pricing (p. 6) lists the appropriate number of L-feet per pair of rails.

Quantity	Nominal ship wt. (lbs)	Part no.	Old part no.	List price
1		310002	FT1	\$ 4.00
20	5	310006	FTC20	69.00

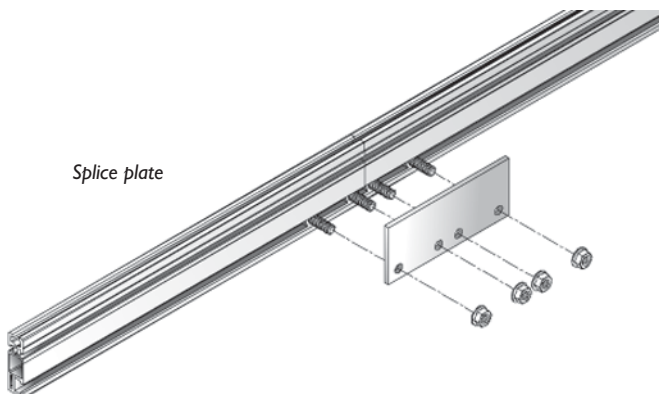
### Splices

**PRO-PAK:** Order one splice wherever two segments are to be joined into a single rail.

Type	Qty.	Nom. ship wt. (lbs)	Part no.	Old part no.	List price
Plate w/ bolts, flange nuts	20	14	310216	SP20	\$170.00
Plate w/ bolts, flange nuts	1	1	310214		10.00
Bar w/ self-tapping screws	20	10	310204	SBC20	98.00
Bar w/ self-tapping screws	1	1	310202	SBC1	5.65



Splice bar



Splice plate

## Top Mounting Clamps

For individual installations, order 1 kit for each row of modules you plan to mount.

Use Pro-Pak component prices when regularly using SolarMount on multiple installations. See page 4 for the clamp size for your module type. **End clamps:** Order 4 for each row of modules you plan to mount. **Mid clamps:** For each row, take one less than the number of modules in the row and multiply that figure by 2. For example, a row of 4 modules requires 6 mid clamps:  $(4 - 1) \times 2 = 6$ .

### A for modules 24–26 mm thick

Photowatt 750

**KITS:** End clamps, mid clamps, T-bolts, and flange nuts for one row of modules

Modules per row	Clear anodized			Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	
2	320024	CT2A	\$19.00	1
3	320032	CT3A	22.50	2
4	320040	CT4A	26.00	2
5	320048	CT5A	29.50	2
6	320056	CT6A	33.00	2
7	320062	CT7A	36.50	2
8	320068	CT8A	40.00	2
9	320125		43.50	
10	320126		47.00	3
11	320127		50.50	3
12	320128		54.00	3

**PRO-PAK:** Clamps with T-bolts and flange nuts

Clamp	Qty	Clear anodized			Nominal ship wt. (lbs)
		Part no.	Old part no.	List price	
End	1	320001		\$ 2.25	2
	20	320012	EC20A	39.00	
Mid	1	320008		2.25	2
	20	320020	MC20C	39.00	

### B for modules 30–32 mm thick

UniSolar US64

**KITS:** End clamps, mid clamps, T-bolts, and flange nuts for one row of modules

Modules per row	Clear anodized			Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	
2	320025	CT2B	\$19.00	1
3	320033	CT3B	22.50	2
4	320041	CT4B	26.00	2
5	320049	CT5B	29.50	2
6	320057	CT6B	33.00	2
7	320063	CT7B	36.50	2
8	320069	CT8B	40.00	3
9	320129		43.50	3
10	320130		47.00	3
11	320131		50.50	3
12	320132		54.00	3

**PRO-PAK:** Clamps with T-bolts and flange nuts

Clamp	Qty	Clear anodized			Nominal ship wt. (lbs)
		Part no.	Old part no.	List price	
End	1	320002		\$ 2.25	2
	20	320013	EC20B	39.00	
Mid	1	320008		2.25	2
	20	320020	MC20C	39.00	

### C for modules 34–36 mm thick

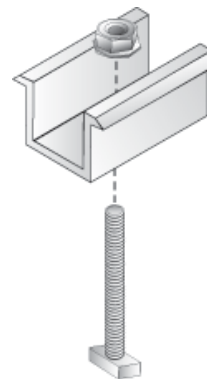
Evergreen, GE Energy, Kyocera, Sharp NE-80EJE, Shell (<100 watts), SunWize (<150 watts)

**KITS:** End clamps, mid clamps, T-bolts, and flange nuts for one row of modules

Modules per row	Clear anodized			Dark bronze anodized		Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	Part no.	List price	
2	320026	CT2C	\$19.00	320088	\$25.00	1
3	320034	CT3C	22.50	320089	29.75	2
4	320042	CT4C	26.00	320090	34.50	2
5	320050	CT5C	29.50	320091	39.25	2
6	320058	CT6C	33.00	320092	44.00	2
7	320064	CT7C	36.50	320093	48.75	2
8	320070	CT8C	40.00	320094	53.50	3
9	320133		43.50	320149	58.25	3
10	320134		47.00	320150	63.00	3
11	320135		50.50	320151	67.75	3
12	320136		54.00	320152	72.50	3

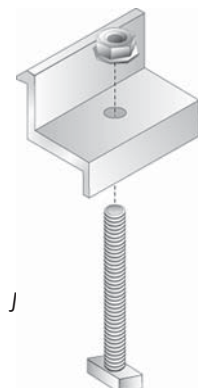
**PRO-PAK:** Clamps with T-bolts and flange nuts

Clamp	Qty	Clear anodized			Dark bronze anodized			Nominal ship wt. (lbs)
		Part no.	Old part no.	List price	Part no.	Old part no.	List price	
End	1	320003		\$ 2.25	320117		\$ 3.00	2
	20	320014	EC20C	39.00	320081	EC20C-B	54.00	
Mid	1	320008		2.25	320119		3.00	2
	20	320020	MC20C	39.00	320084	MC20C-B	54.00	



Mid clamp, sizes A–F and J

Clamps are sized to the thickness of the PV modules you are mounting.



End clamp, sizes A–F and J

### Top Mounting Clamps (continued)

**D** for modules 38–40 mm thick  
 Isofoton, Kaneka, Photowatt PW1250, PW1650, Shell (100 watts and up)

<b>KITS:</b> End clamps, mid clamps, T-bolts, and flange nuts for one row of modules							<b>PRO-PAK:</b> Clamps with T-bolts and flange nuts					
Modules per row	Clear anodized			Dark bronze anodized		Nominal ship wt. (lbs)	Clamp	Qty	Clear anodized			Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	Part no.	List price				Part no.	Old part no.	List price	
2	320027	CT2D	\$19.00	320174	\$25.00	1	End	1	320004		\$ 2.25	
3	320035	CT3D	22.50	320175	29.75	2		20	320015	EC20D	39.00	2
4	320043	CT4D	26.00	320176	34.50	2	Mid	1	320009		2.25	
5	320051	CT5D	29.50	320177	39.25	2		20	320021	MC20E	39.00	2
6	320059	CT6D	33.00	320178	44.00	2	<b>Dark bronze anodized</b>					
7	320065	CT7D	36.50	320179	48.75	2	Clamp	Qty	Part no.	Old part no.	List price	Nominal ship wt. (lbs)
8	320071	CT8D	40.00	320180	53.50	3	End	1	320173		\$ 3.00	
9	320137		43.50	320181	58.25	3		20	320185		54.00	2
10	320138		47.00	320182	63.00	3	Mid	1	320120		3.00	
11	320139		50.50	320183	67.75	3		20	320085	MC20E-B	54.00	2
12	320140		54.00	320184	72.50	3						

**E** for modules 50–52 mm thick  
 BP Solar, RWE Schott ASE300, ASE315, ASE330

<b>KITS:</b> End clamps, mid clamps, T-bolts, and flange nuts for one row of modules							<b>PRO-PAK:</b> Clamps with T-bolts and flange nuts					
Modules per row	Clear anodized			Dark bronze anodized		Nominal ship wt. (lbs)	Clamp	Qty	Clear anodized			Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	Part no.	List price				Part no.	Old part no.	List price	
2	320028	CT2E	\$19.00	320095	\$25.00	1	End	1	320005		\$ 2.25	
3	320036	CT3E	22.50	320096	29.75	2		20	320016	EC20E	39.00	3
4	320044	CT4E	26.00	320097	34.50	2	Mid	1	320009		2.25	
5	320052	CT5E	29.50	320098	39.25	2		20	320021	MC20E	39.00	2
6	320060	CT6E	33.00	320099	44.00	2	<b>Dark bronze anodized</b>					
7	320066	CT7E	36.50	320100	48.75	2	Clamp	Qty	Part no.	Old part no.	List price	Nominal ship wt. (lbs)
8	320072	CT8E	40.00	320101	53.50	3	End	1	320118		\$ 3.00	
9	320141		43.50	320153	58.25	3		20	320082	EC20E-B	54.00	3
10	320142		47.00	320154	63.00	3	Mid	1	320120		3.00	
11	320143		50.50	320155	67.75	3		20	320085	MC20E-B	54.00	2
12	320144		54.00	320156	72.50	3						

**F** for modules 45–47 mm thick  
 Mitsubishi, RWE Schott SAPC165, Sharp (>100 watts), SunPower

<b>KITS:</b> End clamps, mid clamps, T-bolts, and flange nuts for one row of modules							<b>PRO-PAK:</b> Clamps with T-bolts and flange nuts					
Modules per row	Clear anodized			Dark bronze anodized		Nominal ship wt. (lbs)	Clamp	Qty	Clear anodized			Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	Part no.	List price				Part no.	Old part no.	List price	
2	320029	CT2F	\$19.00	320102	\$25.00	1	End	1	320006		\$ 2.25	
3	320037	CT3F	22.50	320103	29.75	2		20	320017	EC20F	39.00	3
4	320045	CT4F	26.00	320104	34.50	2	Mid	1	320009		2.25	
5	320053	CT5F	29.50	320105	39.25	2		20	320021	MC20E	39.00	2
6	320061	CT6F	33.00	320106	44.00	2	<b>Dark bronze anodized</b>					
7	320067	CT7F	36.50	320107	48.75	2	Clamp	Qty	Part no.	Old part no.	List price	Nominal ship wt. (lbs)
8	320073	CT8F	40.00	320108	53.50	3	End	1	320124		\$ 3.00	
9	320145		43.50	320157	58.25	3		20	320123		54.00	3
10	320146		47.00	320158	63.00	3	Mid	1	320120		3.00	
11	320147		50.50	320159	67.75	3		20	320085	MC20E-B	54.00	2
12	320148		54.00	320160	72.50	3						

**G–J** see page 10

**Top Mounting Clamps (continued)**

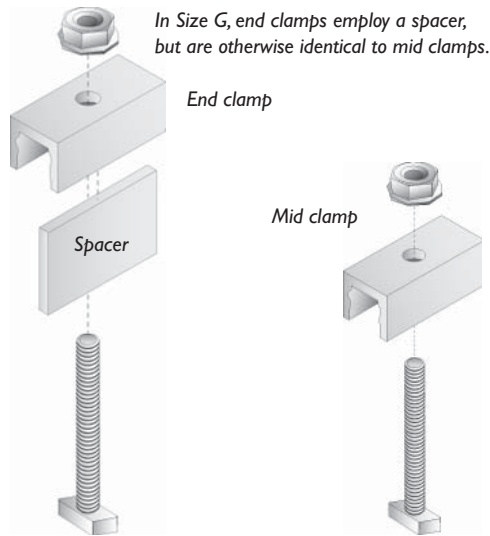
**G for Sharp lipped modules**  
ND-NOECU (140W)

**KITS:** End clamps, mid clamps, T-bolts, and flange nuts for one row of modules

Modules per row	Dark bronze anodized only			Nominal ship wt.
	Part no.	Old part no.	List price	
2	320031	CT2H	\$25.00	1
3	320039	CT3H	29.00	1
4	320047	CT4H	33.00	1
5	320055	CT5H	37.00	2
6	320112		41.00	2
7	320113		45.00	2
8	320114		49.00	2
9	320169		53.00	3
10	320170		57.00	3
11	320171		61.00	3
12	320172		65.00	3

**PRO-PAK:** Clamps with T-bolts and flange nuts

Clamp	Qty	Dark bronze anodized only			Nominal ship wt. (lbs)
		Part no.	Old part no.	List price	
End	1	320007		\$ 3.00	2
	20	320083	EC20H-B	54.00	
Mid	1	320122		\$ 2.50	2
	20	320087	MC20H-B	44.00	



**H for Sanyo lipped modules**  
HIT 190

**KITS:** End clamps, mid clamps, hexhead bolts, and flange nuts for one row of modules

Modules per row	Dark bronze anodized only			Nominal ship wt. (lbs)
	Part no.	Old part no.	List price	
2	320030	CT2G	\$18.50	1
3	320038	CT3G	21.00	1
4	320046	CT4G	23.50	1
5	320054	CT5G	26.00	1
6	320109		28.50	2
7	320110		31.00	2
8	320111		33.50	2
9	320165		36.00	3
10	320166		38.50	3
11	320167		41.00	3
12	320168		43.50	3

**PRO-PAK:** Clamps with hexhead bolts and flange nuts

Clamp	Qty	Dark bronze anodized only			Nominal ship wt. (lbs)
		Part no.	Old part no.	List price	
All*	1	320121		\$ 2.00†	2
	20	320086	MC20G-B	36.00†	



\* In size H, end clamps and mid clamps are identical. Hexhead bolts replace T-bolts.  
† Price change.

See Size J illustrations on page 8.

**for modules 41 – 43 mm**

SunWize SW155, SW165

**KITS:** End clamps, mid clamps, T-bolts, and flange nuts for one row of modules

Modules per row	Clear anodized			Nominal ship wt.
	Part no.	List price	ship wt.	
2	320074	\$19.00	1	
3	320075	22.50	2	
4	320076	26.00	2	
5	320077	29.50	2	
6	320078	33.00	2	
7	320115	36.50	2	
8	320116	40.00	3	
9	320161	43.50	3	
10	320162	47.00	3	
11	320163	50.50	3	
12	320164	54.00	3	

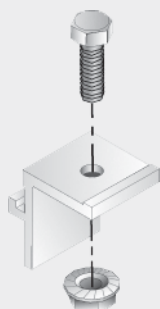
**PRO-PAK:** Clamps with T-bolts and flange nuts

Clamp	Qty	Clear anodized only			Nominal ship wt. (lbs)
		Part no.	List price	ship wt. (lbs)	
End	1	320080	\$ 2.25	3	
	20	320079	39.00		
Mid	1	320009	\$ 2.25	2	
	20	320021	39.00		

**Bottom Mounting Clips**

**Clips for all modules with mounting holes**

Order 4 clips for each module in your array. Clips are packed with stainless steel bolts and flange nuts. See the sizing chart on page 5 for modules that can be used with bottom mounting clips.



Quantity	PV modules to be mounted	Nominal ship wt. (lbs)	Part no.	Old part no.	List price
1			321001	BC1	\$1.40
4	1	1	321218		5.20
20	5	1	321002	BC20	24.00

## Standoffs and Flashings

### Standoffs

For applications information, consult our Installation Manual 907: *Standoffs and Flashings*. Every standoff is packed with two zinc plated lag bolts. Each flat top standoff also has a stainless steel bolt and lock washer.

#### Two-piece aluminum flat top standoffs

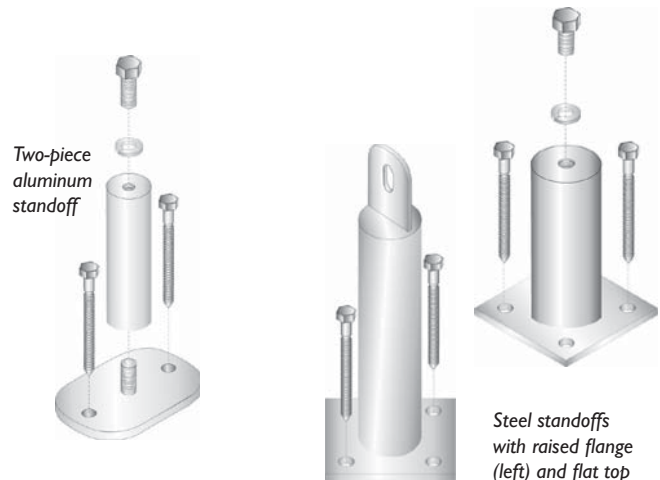
Use in conjunction with L-feet. See also "Flashings for aluminum standoffs" (below). Consult the SunFrame Price List for dark bronze standoffs. Consult UniRac before using aluminum standoffs in tilt-leg installations.

Height (inches)	Quantity	Nominal ship wt. (lbs)	Part no.	List price
3	1		310027	\$ 11.00
3	12	9	310055	114.00
4	1		310028	11.75
4	12	10	310056	123.00
6	1		310029	13.25
6	12	12	310057	141.00
7	1		310030	14.00
7	12	13	310058	150.00

#### One-piece, zinc plated steel flat top standoffs

Use in conjunction with L-feet. See also "Flashings for steel standoffs" (below).

Height (inches)	Quantity	Nominal ship wt. (lbs)	Part no.	Old part no.	List price
3	1	1.5	310009	STF3	\$ 17.00
3	12	16	310051		180.00
4	1	1.5	310010	STF4	17.50
4	12	18	310052		186.00
6	1	2	310011	STF6	18.00
6	12	22	310053		192.00
7	1	2	310012	STF7	18.50
7	12	24	310054		198.00



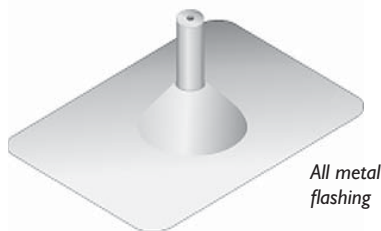
#### Raised flange, zinc plated steel standoffs

Use in place of L-feet. See also "Flashings for steel standoffs" (below).

Height (inches)	Quantity	Nominal ship wt. (lbs)	Part no.	Old part no.	List price
3	1	1.5	310017	STR3	\$ 18.00
3	12	16	310047		192.00
4	1	1.5	310018	STR4	18.50
4	12	18	310048		198.00
6	1	2	310019	STR6	19.00
6	12	22	310049		204.00
7	1	2	310020	STR7	19.50
7	12	25	310050		210.00

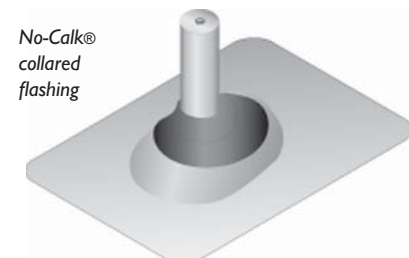
#### Custom steel standoffs and lag bolt credit

Description	List price
310043 Surcharge for added height, per standoffs, per inch (12 in. max height—steel standoffs only)	\$ 0.50
990341 Lag bolt removal credit, per standoff	(0.75)



### Flashings

These flashings work with our steel and aluminum standoffs. Soft aluminum standoffs can be molded to fit curved roofing material, such as Spanish tile.



#### Flashings for aluminum standoffs

Packages each include 12 flashings.

Description	Nom. ship wt. (lbs)	Part no.	List price
Galvanized 12 <sup>1</sup> / <sub>2</sub> " x 8 <sup>3</sup> / <sub>4</sub> " base, No-Calk collar (Oatey # O-11830)	11	990109	\$ 81.00
Aluminum 12" x 9" base, all metal	12	310044	125.50*
Soft aluminum, 18" x 18" base, all metal	14	310045	209.00*

#### Flashings for steel standoffs

Packages each include 12 flashings.

Description	Nom. ship wt. (lbs)	Part no.	List price
Galvanized, 12 <sup>1</sup> / <sub>2</sub> " x 8 <sup>3</sup> / <sub>4</sub> " base, No-Calk collar (Oatey # O-11840)	11	990101	\$ 75.50
Aluminum, 12 <sup>1</sup> / <sub>2</sub> " x 8 <sup>3</sup> / <sub>4</sub> " base, No-Calk collar (Oatey # O-12920)	6	990102	111.00
Soft aluminum, 18" x 18" base, No-Calk collar (Oatey # O-12836)	12	990103	158.50

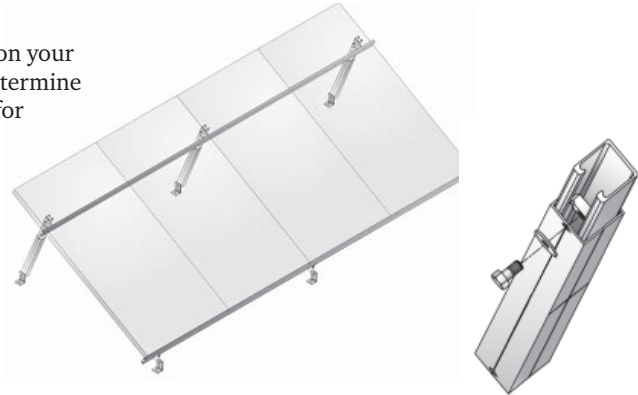
\*Price change.

## Tilt Leg Kits

Choose between low profile and high profile tilt legs depending on your application. See “Components and Configurations” (p. 2). To determine the length of your rails, consult the the sizing charts on page 4 (for top mounting arrays) or page 5 (for bottom mounting arrays).

### Low Profile Adjustable Tilt Legs

If ordering kits for use with SolarMount rail kits (p. 6), no other items are required. If ordering for use with Pro-Pak rails, then L-feet must also be ordered, as described on page 7.



### Tilt angles for low profile leg kits

In low profile arrays, tilt angles depend on leg length and module length.

Module make and model	Leg kit model number			Module make and model	Leg kit model number		
	310121	310122	310123		310121	310122	310123
<b>BP Solar</b>				<b>Photowatt</b>			
BP365	10–22°	23–58°	34–60°	PW750, PW1250, PW1650	9–20°	21–52°	30–60°
BP380, BP485	9–20°	21–53°	31–60°	<b>RWE Schott</b>			
BP3125	7–16°	17–42°	25–60°	ASE300, ASE315, ASE330	6–13°	13–34°	20–50°
BP3160, BP4175	7–15°	16–40°	23–60°	SAPC165	7–16°	16–40°	24–60°
<b>Evergreen</b>				<b>Sanyo</b>			
EC102, EC110, EC115	7–16°	16–40°	24–60°	HIT-190BA3	8–19°	19–49°	29–60°
<b>First Solar</b>				<b>Sharp</b>			
FS50D	9–20°	21–54°	31–60°	NE-80EJE	9–20°	21–54°	31–60°
<b>GE Energy</b>				ND-L3EJE (123 watt)	7–16°	17–43°	25–60°
GE65, GE75	9–20°	21–54°	31–60°	ND-167U3	8–19°	19–49°	29–60°
GE100, GE110	7–17°	17–43°	25–60°	NE-165UI, NT-175UI	7–16°	16–40°	24–60°
GE165	7–17°	17–43°	25–60°	ND-205UI	7–15°	16–39°	23–59°
<b>Isofoton</b>				<b>Shell</b>			
I-100	8–19°	20–49°	29–60°	SM100, SMI10	8–19°	20–49°	29–60°
I-150S	9–20°	21–52°	31–60°	SQ70, SQ75, SQ80	9–20°	21–54°	31–60°
I-165	8–19°	20–49°	29–60°	SQ140, SQ150, SQ160	7–15°	16–39°	23–59°
<b>Kaneka</b>				<b>SunPower</b>			
GSA 211	12–25°	27–60°	40–60°	SPR90	11–24°	25–60°	37–60°
<b>Kyocera</b>				SPR200, SPR210	7–16°	16–41°	24–60°
KC80-I, KC120-I, KC125G	8–17°	18–45°	26–60°	<b>SunWize</b>			
KC158G, KC167G, KC187G	9–19°	20–50°	29–60°	SW85, SW90, SW95	8–17°	18–44°	26–60°
<b>Mitsubishi</b>				SW115, SW120	8–17°	18–44°	26–60°
MF120EC3	8–17°	18–45°	26–60°	SW155L, SW165L	6–15°	15–38°	22–57°
MF165EB3	7–16°	16–40°	24–60°	<b>UniSolar</b>			
				US64	8–18°	19–47°	27–60°

### Quantity of tilt legs required

The number of tilt legs required in a low profile array depends on the length of the mounting rails.

Rail length per row	Tilt legs required per row
48" to 106"	2
120" to 180"	3
192" to 216"	4
226" to 288"	5
300" to 336"	6
348" to 408"	7
420" to 432"	8

### Low profile tilt legs (1 leg per kit)

Each low profile tilt leg kit contains one square tube and one strut insert, two L-feet, and stainless steel hardware for use with SolarMount rail kit.

Part no.	Maximum leg extension (inches)	Nom. shipping data		List price
		inches	lbs	
310121	12	10 x 3 x 3	2	\$30.00
310122	30	19 x 3 x 3	3	37.00
310123	44	26 x 3 x 3	4	43.00

## Tilt Leg Kits (continued)

### High Profile Adjustable Tilt Legs

Order one high profile tilt leg kit for each rail kit. If ordering rails from the Pro-Pak price list (p. 7), order one high profile tilt leg kit for each pair of rails required in your installation.

**Do not use high profile legs with rails longer than 180 inches. Never use spliced rails with this configuration.**

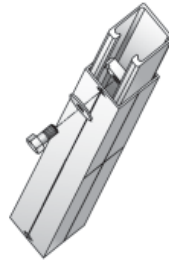
#### Tilt angles for high profile legs

In high profile arrays, tilt angles depend on leg and rail lengths.

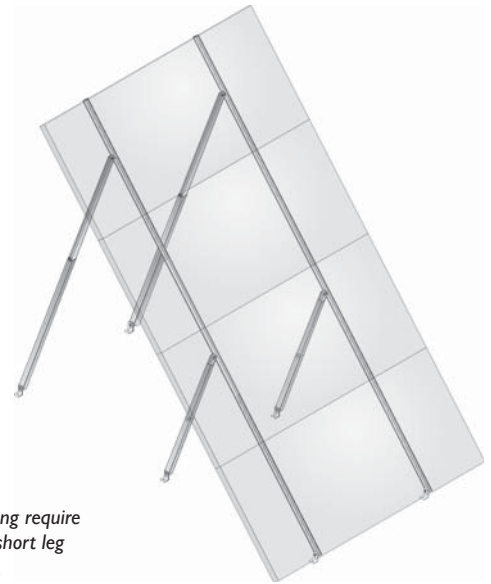
Rail length (inches)	Leg kit model number			Rail length (inches)	Leg kit model number		
	310107	310108	310109		310110	310111	310112
48	9–21°	30–60°		120	26–60°	5–12°	16–47°
60	7–17°	24–60°	37–60°	132	24–60°	5–11°	15–42°
72	6–14°	19–54°	31–60°	144	22–60°	4–10°	13–38°
84	5–12°	17–46°	26–60°	156	20–60°	4–9°	12–35°
96	4–10°	14–40°	23–60°	168	18–55°	4–9°	11–33°
106	4–9°	13–36°	21–60°	180	17–51°	3–8°	11–30°



For rails 48 to 106 inches long, use leg kits with a single leg per rail, 2 legs per kit.



Rails 120 to 180 inches long require leg kits with a long and a short leg for each rail, 4 legs per kit.



### High profile tilt legs (2 legs per kit)

Each kit contains two square tubes, two strut inserts, and fasteners for use with SolarMount rail kits (p. 6).

Part no.	Old part no.	Maximum leg extension (inches)	Nom. shipping data		List price
			inches	lbs	
310107	TLH2-12	12	10 x 2 x 4	3	\$43.00
310108	TLH2-44	44	26 x 2 x 4	7	66.00
310109	TLH2-72	72	40 x 2 x 4	10	86.00

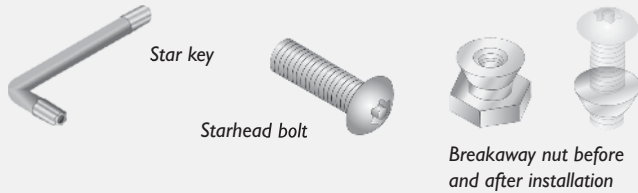
### High profile tilt legs (4 legs per kit)

Each kit contains four square tubes, four strut inserts, and fasteners for use with SolarMount rail kits (p. 6).

Part no.	Old part no.	Maximum leg extension (inches)	Nom. shipping data		List price
			inches	lbs	
310110	TLH4-104	104	56 x 4 x 4	20	\$176.00
310111	TLH4-18	18	13 x 4 x 4	7	79.00
310112	TLH4-64	64	36 x 4 x 4	16	132.00

## Accessories

Solve problems specific to your site and ensure a secure, aesthetically pleasing installation .



### Security Hardware

Security hardware dramatically increases the difficulty and time required for a thief to dismantle a PV array and steal its components. Breakaway nuts work well in conjunction with top mounting clamps and footing bolts.

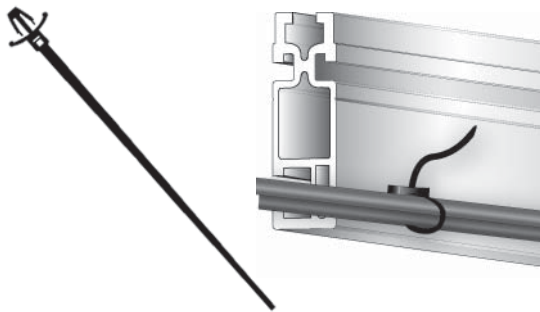
Note that starhead bolt heads do not fit into SolarMount rail slots (where standard bolt heads are inaccessible). Use them where heads are exposed—with bottom mounting module clips, for example.

### Security hardware

Description	Quantity	Part no.	List price
Starhead bolt, s/s, 1/4" x 3/4"	1	321205	\$ 1.30
	20	321220	22.00
Starhead bolt, s/s, 3/8" x 1 1/4"	1	321206	3.45
	20	321221	60.00
Breakaway nut, aluminum, 1/4"	1	321207	1.25
	20	321222	21.00
Breakaway nut, aluminum, 3/8"	1	321208	1.65
	20	321223	28.00
Star key, 1/4"	1	321209	16.50
Star key, 3/8"	1	321210	20.00

### Cable Ties

Cable ties fit into 1/4 -inch holes drilled along SolarMount rails.



### Shims

Shims level or raise standoffs and L-feet and precisely align rails. Horseshoe shims come in three color-coded thicknesses. Our tapered shim is particularly useful in leveling.



### Cable ties and shims

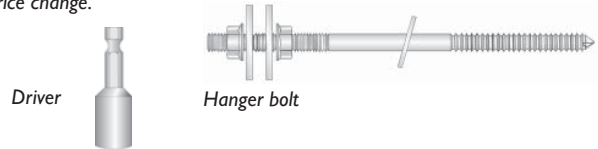
Description	Qty	Nom. ship wt. (lbs)	Part no.	List price
Push mount cable tie, black	100	1	990104	\$12.00
Shim, 1 1/2" x 2" x 1/16", blue plastic	20	0.5	990105	1.50
Shim, 1 1/2" x 2" x 1/8", red plastic	20	0.5	990106	3.00
Shim, 1 1/2" x 2" x 1/4", black plastic	20	1	990107	4.50
Tapered shim, 1 1/2" x 3 3/8", black plastic	20	1	990108	11.00

### Hanger bolts and driver

Used in conjunction with L-feet, 8-inch hanger bolts support SolarMount rails above tile or corrugated metal roofs. A driver allows easy insertion into 3/16-inch pilot holes in the rafters.

Description	Quantity	Nominal ship wt. (lbs)	Part no.	List price
8" x 3/8" s/s hanger bolt with s/s nut and washers	1	0.5	310025	\$ 9.00
	20	5	310046	153.00
3/8" hanger bolt driver	1	0.5	310026	15.00*

\*Price change.



### Standard fasteners

Avoid chasing fasteners after job-site drop. Frequent SolarMount users can keep spares handy in their toolboxes.

### Standard stainless steel fasteners

Description	Qty	Nom. ship wt. (lbs)	Part no.	Old part no.	List Price
Bolt, 1/4" x 5/8", flange nut	1		321202	MH1	\$ 0.50
	4		321203	MH4	1.75
	20	1	321204	MH20	8.00
Bolt, 3/8" x 3/4", flange nut	1		990335		1.15
	20	3	990336		19.00
Bolt, 3/8" x 1 1/4", flange nut	1		990337		1.20
	20	3	990338		20.50
T-bolt, 1/4" x 2", flange nut	1		321212		0.80
	20	1	321213		13.50
T-bolt, 1/4" x 2 1/2", flange nut	1		321214		0.85
	20	1	321215		14.00

## Two-Tier Shared Rail Mounts

In this high-profile variation, mount two to ten modules in two-tier portrait mode using shared rails. The system is a SolarMount upgrade of our former U-DD configuration. Use only modules with mounting holes.

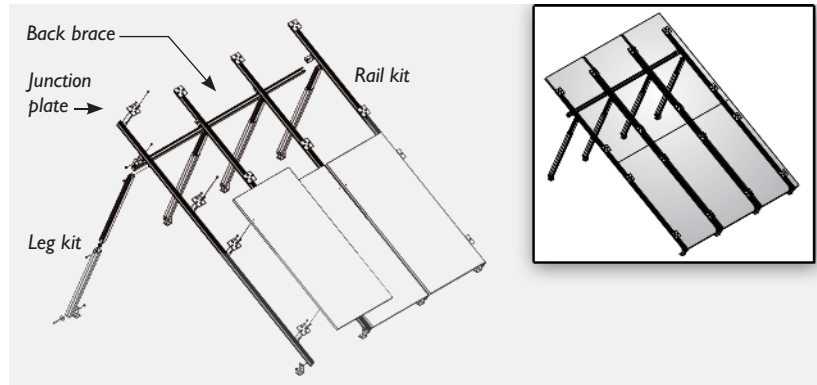
### Required components

	Modules to be mounted				
	2	4	6	8	10
Rail kits	2	3	4	5	6
Leg kits	2	3	4	5	6
Junction plates	8	12	16	20	24
Back brace	0	1	1	1	1

### Sizing for two-tier rails

Use this chart to select the rail kit appropriate for your modules.

Module make and model	Rail kit
<b>BP Solar</b>	
BP365, BP380, BP485	300217
BP3125	300219
BP3160, BP4175	300219
<b>Evergreen</b>	
EC102, EC110, EC115	300219
<b>First Solar</b>	
FS50D	300217
<b>GE Energy</b>	
GE65, GE75	300217
GE100, GE110, GE165	300218
<b>Isoton</b>	
I-100, I-150S, I-165	300217
<b>Kyocera</b>	
KC120-I, KC125G, KC187G	300218
KC158G, KC167G	300217
<b>Mitsubishi</b>	
MF125EC3	300218
MF165EB3	300219
<b>Photowatt</b>	
PW750, PW1250, PW1650	300217
<b>RWE Schott</b>	
ASE300, ASE315, ASE330	300221
SAPC165	300219
<b>Sharp</b>	
NE-80UI, ND167U3	300217
ND-L3EJE (140 watt), NE-165UI, NT-185UI, ND-205UI	300219
<b>Shell</b>	
SM100, SM110, SQ70, SQ75, SQ80	300217
SQ140, SQ150, SQ160	300220
<b>SunPower</b>	
SPR90	300217
SPR200, SPR210	300218
<b>SunWize</b>	
SW85, SW90, SW95, SW115, SW120	300218
SW155L, SW165L	300219
<b>UniSolar</b>	
US64	300218



### Tilt angle ranges for leg kits

Once you have selected a rail kit, use this chart to determine which leg kit provides the tilt angle that you want. If the chart calls for a 2-leg kit, never substitute a 1-leg kit.

Rail set no.	Rail length (inches)	Kits with 1 leg			Kits with 2 legs		
		310115	310116	310117	310118	310119	310120
300217	96	5-11°	16-43°	26-60°	Not applicable		
300218	106	4-10°	15-39°	24-60°	Not applicable		
300219	120	Not applicable			5-10°	17-38°	27-60°
300220	132	Not applicable			6-10°	16-33°	19-43°
300221	144	Not applicable			6-9°	16-33°	19-43°

### Two-tier rail kits

Each kit includes one rail, two L-feet, and hardware. Order leg kits separately at right.

Rail set no.	Rail length (inches)	Nominal shipping data*			
		length (in)	lbs	List price	
300217	96	99	10	\$ 79.50	
300218	106	109	10	87.00	
300219	120	123	11	97.00	
300220	132	135	12	104.50	
300221	144	147	13	112.00	

\*Shipping box width and height varies with kit quantity. "Lbs" lists weight per kit.

### Back braces

Your order must specify the make and model of your modules so that braces can be cut to the correct length. Braces include connecting hardware.

Part no.	Modules to be mounted	Nom. ship wt. (lbs)	List price
	2*		
310219	4	4	\$36.00
310220	6	6	54.00
310221	8	8	72.00
310222	10	10	90.00

\*No back brace required.

### Tilt leg kits

For kits with 2 legs (1 long, 1 short), maximum extension refers to the longer leg.

Part no.	No. of legs	Max leg extension (inches)	Nominal shipping data*	List price
310115	1	12	10" 2	\$21.50
310116	1	44	26" 4	33.00
310117	1	72	40" 5	43.00
310118	2	18	13" 4	39.50
310119	2	64	36" 8	66.00
310120	2	104	56" 10	88.00

\*Shipping box width and height varies with kit quantity. "Lbs" lists weight per kit.

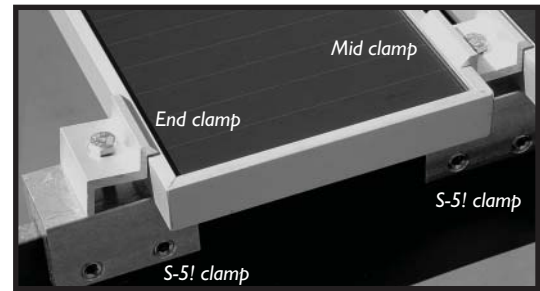
### Junction plates

See "Required Components" for the correct number of plates for your array.

Part no.	Quantity	Nominal ship wt. (lbs)	List price
321201	1	0.5	\$ 6.00
321219	20	7	104.00

## SolarMount® / S-5!™ PV Clamp Sets

S-5! PV clamps provide non-penetrating attachment points to standing seam metal roofs. Select SolarMount end clamps and mid clamps and attach modules directly to the S-5! clamp without mounting rails. Use end clamps on the edge of the array and mid clamps between rows within the array. End clamps and mid clamps are anodized. S-5! clamps are mill finish.



### C for modules 34–36 mm thick

Evergreen, GE Energy, Kyocera, Sharp NE-80EJE, Shell (<100 watts), SunWize (<150 watts)

	Clear Anodized			Dark Bronze Anodized			Nominal ship wt. (lbs)
	Quantity	Part no.	List price	Quantity	Part no.	List price	
S-5! + Mid Clamp Set	1	321224	\$ 18.00	1	321226	\$ 18.75	0.5
	20	321236	320.00	20	321238	335.00	10
S-5! + End Clamp Set	1	321228	18.00	1	321232	18.75	0.5
	20	321240	320.00	20	321242	335.00	10

### D for modules 38 mm thick

Isofotor

	Clear Anodized			Dark Bronze Anodized			Nominal ship wt. (lbs)
	Quantity	Part no.	List price	Quantity	Part no.	List price	
S-5! + Mid Clamp Set	1	321224	\$ 18.00	1	321226	\$ 18.75	0.5
	20	321236	320.00	20	321238	335.00	10
S-5! + End Clamp Set	1	321229	18.00	1	321233	18.75	0.5
	20	321241	320.00	20	321245	335.00	10

### E for modules 50–52 mm thick

BP Solar, RWV Schott ASE300, ASE315, ASE330

	Clear Anodized			Dark Bronze Anodized			Nominal ship wt. (lbs)
	Quantity	Part no.	List price	Quantity	Part no.	List price	
S-5! + Mid Clamp Set	1	321225	\$ 18.00	1	321227	\$ 18.75	0.5
	20	321237	320.00	20	321239	335.00	10
S-5! + End Clamp Set	1	321230	18.00	1	321234	18.75	0.5
	20	321242	320.00	20	321244	335.00	10

### F for modules 45–47 mm thick

Mitsubishi, RWV Schott ASE300, ASE315, ASE330

	Clear Anodized			Dark Bronze Anodized			Nominal ship wt. (lbs)
	Quantity	Part no.	List price	Quantity	Part no.	List price	
S-5! + Mid Clamp Set	1	321225	\$ 18.00	1	321227	\$ 18.75	0.5
	20	321237	320.00	20	321239	335.00	10
S-5! + End Clamp Set	1	321231	18.00	1	321235	18.75	0.5
	20	321243	320.00	20	321247	335.00	10

### G for Sharp lipped modules

ND-NOECU (140 watt)

	Dark Bronze Anodized			Nominal ship wt. (lbs)
	Quantity	Part no.	List price	
S-5! + Mid Clamp Set	1	321251	\$ 18.50	0.5
	20	321250	320.00	10
S-5! + End Clamp Set	1	321231	18.00	0.5
	20	321243	320.00	10

### H for Sanyo lipped modules

HIT800

	Dark Bronze Anodized			Nominal ship wt. (lbs)
	Quantity	Part no.	List price	
S-5! + Mid Clamp Set (sets for mid & end positions are identical.)	1	321248	\$ 18.00	0.5
	20	321249	320.00	10

## SolarMount® Resources

Visit the SolarMount page at [www.unirac.com](http://www.unirac.com) for updated SolarMount publications.

**SolarMount® Estimator** — Use this Excel spreadsheet to generate quick price estimates as you consider potential configurations.

**SolarMount® Code-Compliant Planning and Assembly** — Follow these procedures for a code-compliant installation. Included is a PE stamp for your building department.

**Installation manuals** for high profile and low profile tilt legs.

**Installation sheets** for two-tier installations, splices, shims, security hardware, hanger bolts, galling and its prevention, and recommended rail handling.

## Component Specs

SolarMount rails, top mounting clamps, bottom mounting clips, tilt legs, L-feet, and two-piece standoffs: 6105-T5 anodized aluminum extrusion.

One-piece standoffs: Service Condition 4 (very severe) zinc-plated, welded steel.

Fasteners: 304 stainless steel.

Prices and specifications are subject to change without notice. • See [www.unirac.com](http://www.unirac.com) for your nearest UniRac distributor.

