

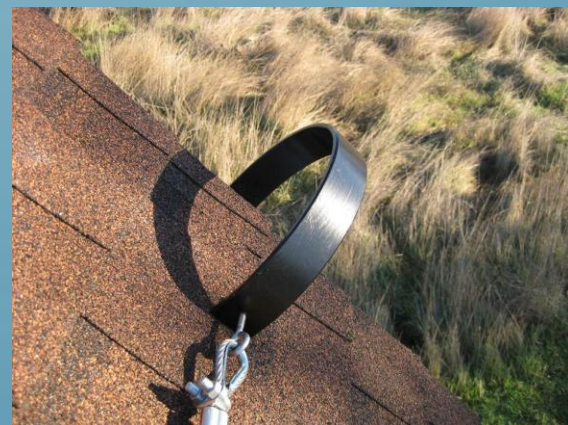
NO Roof Penetrations

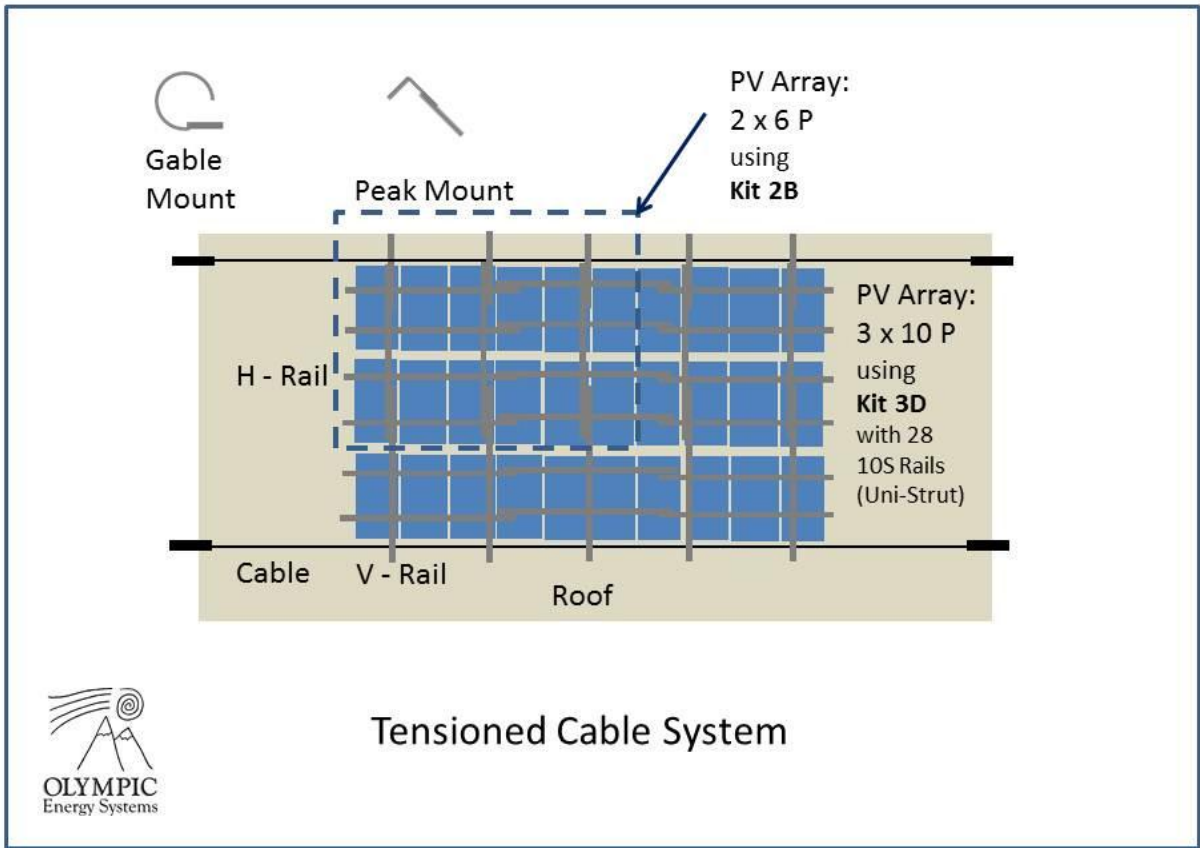


Solar
Panels

TENSIONED CABLE MOUNT

Olympic Energy Systems, Inc.





Mounting KIT: OES Item No. TCS-R1-P1A through 3E

SIZING CHART

KIT TCS-R1- K##	URA Usable Rail AREA H x W (Feet) "PV Footprint"	URL Usable Rail LENGTH Feet (inches) Usable PV Width	Quantity	Quantity	Solar Panels: [Make & Model]
			10 foot (Shallow) Uni-Strut Rails (PORTRAIT) n = 6'5" = 6 foot	10 foot (Shallow) Uni-Strut Rails (LANDSCAPE) n = 6'5" = 6 foot	
1A	7 x 9-1/2	9-1/2 (114 in.)	4 (2 + 2[6'S])	2 + 2[6'S]	R1 Kits Chart
1B	7 x 15-1/2	15-1/2 (186 in.)	7 (4 + 3[6'S])	4 + 3[6'S]	R1 Kits Chart
1C	7 x 21-1/2	21-1/2 (258 in.)	10 (6 + 4[6'S])	6 + 4[6'S]	R1 Kits Chart
1D	7 x 27-1/2	27-1/2 (330 in.)	13 (8 + 5[6'S])	8 + 5[6'S]	R1 Kits Chart
1E	7 x 33-1/2	33-1/2 (402 in.)	16 (10 + 6[6'S])	10 + 6[6'S]	R1 Kits Chart
2A	11 x 9-1/2	19	8 (6 + 2[6'S])	6	R1 Kits Chart
2B	11 x 15-1/2	31	14 (11 + 3[6'S])	11	R1 Kits Chart
2C	11 x 21-1/2	43	20 (16 + 4[6'S])	16	R1 Kits Chart
2D	11 x 27-1/2	55	26 (21 + 5[6'S])	21	R1 Kits Chart
2E	11 x 33-1/2	67	32 (26 + 6[6'S])	26	R1 Kits Chart
3A	16-1/2 x 9-1/2	28-1/2	10	8 + 2[6'S]	R1 Kits Chart
3B	16-1/2 x 15-1/2	46-1/2	18	15 + 3[6'S]	R1 Kits Chart
3C	16-1/2 x 21-1/2	64-1/2	26	22 + 4[6'S]	R1 Kits Chart
3D	16-1/2 x 27-1/2	82-1/2	34	29 + 5[6'S]	R1 Kits Chart
3E	16-1/2 x 33-1/2	100-1/2	42	36 + 6[6'S]	R1 Kits Chart

Table - R1 Kit DEFINITION

R1 Kits

R1 kits mount solar PV panels in portrait or landscape on a roof with a grid of shallow Uni-Strut rails, hung from peak mounts and held down with tensioned cables running gable to gable. Peak mounts are placed at 6 foot intervals. PV panels mount on horizontal rails, which in turn mount on vertical rails in contact with the roof surface. All hardware, except rails, is included in kits. Part Number *Example:* TCS-R1-P2D = Roof Mount, Portrait, 2 Row, Size D (5 Peak Mounts)

R2 Kits

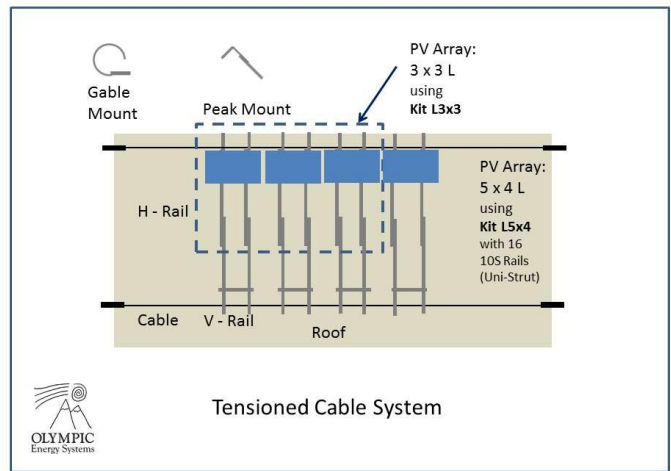
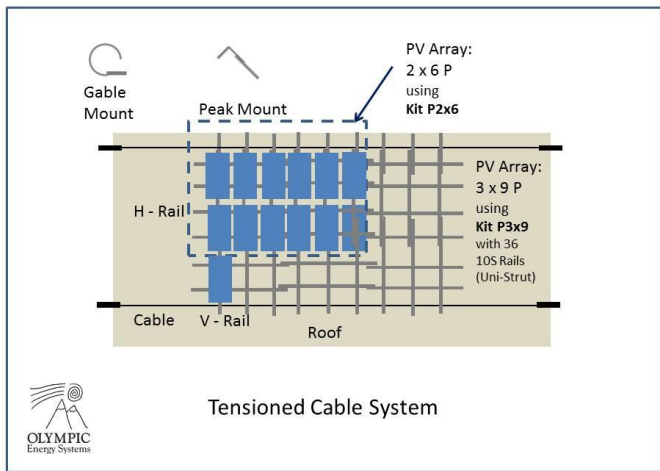
R2 kits mount solar PV panels in portrait or landscape on a roof with a grid of shallow Uni-Strut rails, organized by columns, hung from peak mounts and held down with tensioned cables running gable to gable. Peak mounts are placed at every column, i.e., at each PV panel (centered). In landscape, PV panels mount on vertical rails set directly on the roof, thus, the panels are closer to the roof surface than those mounted in portrait. All hardware, except rails, is included in kits. Part Number *Example:* TCS-R2-P3x8 = Roof Mount, Portrait, 3 Row, 8 Column (8 Peak Mounts)

R1 KIT: OES Item No. TCS-R1-P1A through K3E

NUMBER OF PV PANELS per KIT [Portrait]

Model No.	1A	1B	1C	1D	1E	2A	2B	2C	2D	2E	3A	3B	3C	3D	3E	Power Kit 3E
BP Solar BP3200B	3	5	7	9	12	6	10	14	18	24	9	15	21	27	36	7.2 KW
Canadian C56A-150	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	4.5 KW
Day4 48MC-190	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	5.7 KW
ET Solar P654200	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	6.0 KW
Evergreen ES180	3	4	6	8	10	6	8	12	16	20	9	12	18	24	30	5.4 KW
Evergreen ES-A-200	3	4	6	8	10	6	8	12	16	20	9	12	18	24	30	6.0 KW
GE Vp200MSA	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	6.0 KW
Kaneka G-SA060	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	1.8 KW
Kyocera KD130SX	4	6	9	12	15	8	12	18	24	30	12	18	27	36	45	5.85 KW
Mitsubishi PV-UE-120	4	6	9	12	15	8	12	18	24	30	12	18	27	36	45	5.4 KW
REC Solar SCM210	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	6.3 KW
Sanyo HIT Power 200	3	5	7	9	11	6	10	14	18	22	9	15	21	27	33	6.6 KW
Schott ASE250	2	3	5	6	7	4	6	10	12	14	6	9	15	18	21	5.25 KW
Schuco S320-PM	2	3	5	6	8	4	6	10	12	16	6	9	15	18	24	7.68 KW
Sharp ND-130	4	7	9	12	15	8	14	18	24	30	12	21	27	36	45	5.85 KW
SolarWorld SW175	3	5	8	10	12	6	10	16	20	24	9	15	24	30	36	6.3 KW
Sun Power SPR210BLK	3	5	8	10	12	6	10	16	20	24	9	15	24	30	36	7.56 KW
Suntech STP-200-18	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	6.0 KW
Trina 180-DC01	3	5	7	10	12	6	10	14	20	24	9	15	21	30	36	6.48 KW
XC3 Int'l XCI300-130	4	7	9	12	15	8	14	18	24	30	12	21	27	36	45	5.85 KW
Yingli YL175	2	4	6	8	10	4	8	12	16	20	6	12	18	24	30	5.25 KW

Table - R1 Kit Selection Chart



SIZE n x m	# Peak Mounts	# Lift Tensioners	Quantity 10S Rail	Quantity 6S Rail
1x3	3	6	2	3
1x4	4	8	4	4
1x5	5	10	4	5
1x6	6	12	4	6
1x7	7	14	6	7
1x8	8	16	6	8
1x9*	9	18	6	9
1x10	10	20	8	10
1x11	11	22	8	11
1x12*	12	24	8	12
1x13	13	26	10	13
1x14	14	28	10	14
1x15*	15	30	10	15
2x3	3	6	7(10)	3(0)
2x4	4	8	12(16)	4(0)
2x5	5	10	13(18)	5(0)
2x6	6	12	14(20)	6(0)
2x7	7	14	19(26)	7(0)
2x8	8	16	20(28)	8(0)
2x9*	9	18	21(30)	9(0)
2x10	10	20	26(36)	10(0)
2x11	11	22	27(38)	11(0)
2x12*	12	24	28(40)	12(0)
2x13	13	26	33(46)	13(0)
2x14	14	28	34(48)	14(0)
2x15*	15	30	35(50)	15(0)
3x3	3	6	12	0
3x4	4	8	20	0
3x5	5	10	22	0
3x6	6	12	24	0
3x7	7	14	32	0
3x8	8	16	34	0
3x9*	9	18	36	0
3x10	10	20	44	0
3x11	11	22	46	0
3x12*	12	24	48	0
3x13	13	26	56	0
3x14	14	28	58	0
3x15*	15	30	60	0

Table – R2 Kit DEFINITION [PORTRAIT]

SIZE n x m	# Peak Mounts	# Lift Tensioners	# 10S Rail	# 6S Rail	# 4S Rail
1x1	2	4	0	2	1
1x2	4	8	0	4	2
1x3	6	12	0	6	3
1x4	8	16	0	8	4
1x5	10	20	0	10	5
1x6	12	24	0	12	6
1x7	14	28	0	14	7
1x8	16	32	0	16	8
1x9	18	36	0	18	9
1x10	20	40	0	20	10
2x1	2	4	0	2	2
2x2	4	8	0	4	4
2x3	6	12	0	6	6
2x4	8	16	0	8	8
2x5	10	20	0	10	10
2x6	12	24	0	12	12
2x7	14	28	0	14	14
2x8	16	32	0	16	16
2x9	18	36	0	18	18
2x10	20	40	0	20	20
3x1	2	4	2	0	2
3x2	4	8	4	0	4
3x3	6	12	6	0	6
3x4	8	16	8	0	8
3x5	10	20	10	0	10
3x6	12	24	12	0	12
3x7	14	28	14	0	14
3x8	16	32	16	0	16
3x9	18	36	18	0	18
3x10	20	40	20	0	20
4x1	2	4	2	2	2
4x2	4	8	4	4	4
4x3	6	12	6	6	6
4x4	8	16	8	8	8
4x5	10	20	10	10	10
4x6	12	24	12	12	12
4x7	14	28	14	14	14
4x8	16	32	16	16	16
4x9	18	36	18	18	18
4x10	20	40	20	20	20
5x	Above	Above	4 per Column	0	Above
6x	Above	Above	4 per Column	0	Above

Table – R2 Kit DEFINITION [LANDSCAPE]

The R2 Landscape Kits have fewer rails overall than R2 Portrait Kits and are simpler to lay out and install. The final approach may come down to aesthetics and personal preference.

R1 Landscape Kits have not been described in this manual. R1 Landscape Kits are essentially R1 Portrait Kits with additional horizontal rails. R1 Landscape Kits tend to provide a stronger installation and provide more space between panels and the roof surface due to the extra vertical rails beneath the horizontal rails, perhaps making the installation and wiring easier. The R1 Landscape selection data is forthcoming. Custom mounting kits are always an option, as well. Call for details.

System Attributes

Lower Cost than conventional solar panel mounts

Low Impact to the Environment

NO Roof Penetrations (no holes in shingles)

Re-Deployable (Pack Up and Move or add panels)

Simple Installation with any framed PV panel

Roof Kits Available

One or Two PV Panel OFF-GRID

One String ON-GRID [500 to 2,000 Watts]



PRE-FAB Parts Kit:

Stainless Steel Cables

“C” Gable Mounts

Peak Mounts

Pivot Joints

Pull Tensioners

Lift Tensioners

PV Rails

PV Clamps

Ground Mount Kits Available

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Patent Pending

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