Customer Info

Name:
Email:
Phone:

Project Info

Identifier: 4765742_preinstall
Street Address Line 1:
Street Address Line 2:
City:
State:
Zip:
Country:

System Info

Module Manufacturer: Jinko Solar
Module Model: JKM260P-60
Module Quantity: 24
Array Size (DC watts): 6240.0
Mounting System Manufacturer: Ecolibrium Solar
Mounting System Product: EcoX
Inverter Manufacturer: SolarEdge Technologies
Inverter Model: v.SE6000A-US (240V)

Project Design Variables

Module Weight: 41.88778 lbs
Module Length: 64.960665 in
Module Width: 39.0551392 in
Basic Wind Speed: 100.0 mph
Ground Snow Load: 40.0 psf
Seismic: 1.5
Exposure Category: B
Importance Factor: I
Exposure on Roof: Partially Exposed
Topographic Factor: 1.0
Wind Directionality Factor: 0.85
Thermal Factor for Snow Load: 1.2
Lag Bolt Design Load - Upward: 820 lbf
Lag Bolt Design Load - Lateral: 288 lbf
EcoX Design Load - Downward: 918 lbf
EcoX Design Load - Upward: 720 lbf
EcoX Design Load - Downslope: 460 lbf
EcoX Design Load - Lateral: 252 lbf
Module Design Moment – Upward: 3655 in-lb
Module Design Moment – Downward: 3655 in-lb
Effective Wind Area: 20 ft2
Min Nominal Framing Depth: 2.5 in
Min Top Chord Specific Gravity: 0.42

Plane Calculations (ASCE 7-10): South East Roof 3

Roof Shape:
Roof Type: Composition Shingle
Average Roof Height: 30.0 ft
Least Horizontal Dimension: 15.1940228468992 ft
Roof Slope: 33.0 deg
Truss Spacing: 16.0 in

Edge and Corner Dimension: 3.0 ft
Stagger Attachments: Yes
Include Snow Guards: No
Include North Row Extensions: No

Snow Load Calculations

Description	Interior	Edge	Corner	Unit
Flat Roof Snow Load	26.9	26.9	26.9	psf
Slope Factor	0.68	0.68	0.68	
Roof Snow Load	18.3	18.3	18.3	psf

Wind Pressure Calculations

Description	Interior	Edge	Corner	Unit
Net Design Wind Pressure Uplift	-20.7	-24.3	-24.3	psf
Net Design Wind Pressure Downforce	19.4	19.4	19.4	psf
Adjustment Factor for Height and Exposure Category	1.0	1.0	1.0	
Design Wind Pressure Uplift	-20.7	-24.3	-24.3	psf
Design Wind Pressure Downforce	19.4	19.4	19.4	psf

ASD Load Combinations

Description	Interior	Edge	Corner	Unit
Dead Load	2.4	2.4	2.4	psf
Snow Load	18.3	18.3	18.3	psf
Downslope: Load Combination 3	9.6	9.6	9.6	psf
Down: Load Combination 3	14.9	14.9	14.9	psf
Down: Load Combination 5	13.6	13.6	13.6	psf
Down: Load Combination 6a	20.4	20.4	20.4	psf
Up: Load Combination 7	-11.2	-13.4	-13.4	psf
Down Max	20.4	20.4	20.4	psf

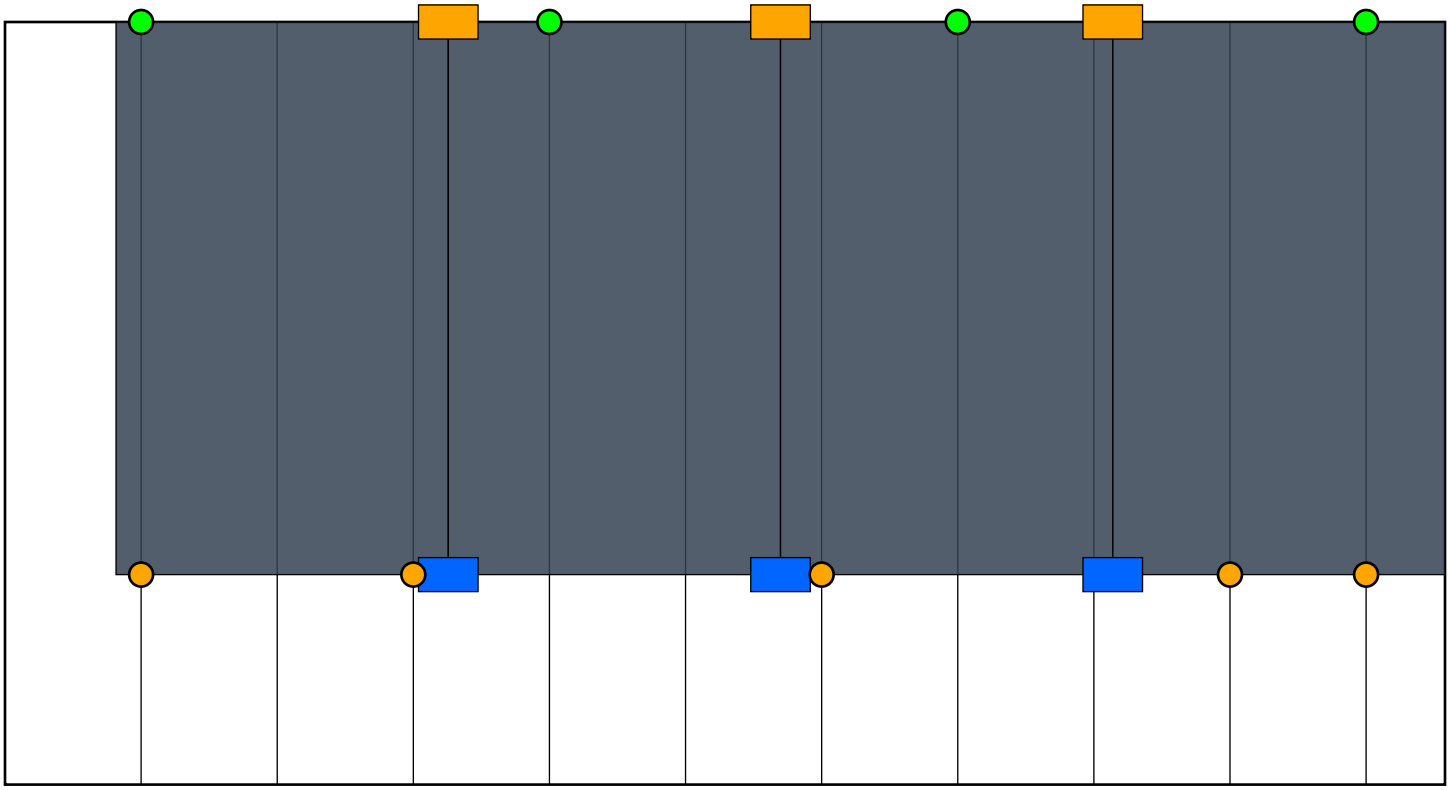
Spacing Results (Landscape)

Description	Interior	Edge	Corner	Unit
Max Allowable Spacing Between Attachments	72.8	72.8	72.8	in
Max Spacing Between Attachments With Rafter/Truss Spacing of 16.0 in	64.0	64.0	64.0	in
Max Cantilever from Attachment to Perimeter of PV Array	24.3	24.3	24.3	in

Spacing Results (Portrait)

Description	Interior	Edge	Corner	Unit
Max Allowable Spacing Between Attachments	56.4	56.4	56.4	in
Max Spacing Between Attachments With Rafter/Truss Spacing of 16.0 in	48.0	48.0	48.0	in
Max Cantilever from Attachment to Perimeter of PV Array	18.8	18.8	18.8	in

Layout



Skirt
Coupling
End Coupling
Clamp
End Clamp
North Row Extension
Bonding Jumper

Note: If the total width of a continuous array exceeds 35 ft, break array to allow for thermal expansion and contraction. See Installation Guide for details.

Warning: PV Modules may need to be shifted with respect to roof trusses to comply with maximum allowable overhang.

Roof Weights

In Conformance with Solar ABC's Expedited Permit Process

Module Quantity: 4
Weight of Modules: 168 lbs
Weight of Mounting System: 18 lbs
Total Plane Weight: 186 lbs
Total Plane Array Area: 70 ft2
Distributed Weight: 2.63 psf
Number of Attachments: 9
Weight per Attachment Point: 21 lbs

Plane Calculations (ASCE 7-10): South East Roof 2

Roof Shape:
Roof Type: Composition Shingle
Average Roof Height: 30.0 ft
Least Horizontal Dimension: 14.3064353750378 ft
Roof Slope: 33.0 deg
Truss Spacing: 16.0 in

Edge and Corner Dimension: 3.0 ft
Stagger Attachments: Yes
Include Snow Guards: No
Include North Row Extensions: No

Snow Load Calculations

Description	Interior	Edge	Corner	Unit
Flat Roof Snow Load	26.9	26.9	26.9	psf
Slope Factor	0.68	0.68	0.68	
Roof Snow Load	18.3	18.3	18.3	psf

Wind Pressure Calculations

Description	Interior	Edge	Corner	Unit
Net Design Wind Pressure Uplift	-20.7	-24.3	-24.3	psf
Net Design Wind Pressure Downforce	19.4	19.4	19.4	psf
Adjustment Factor for Height and Exposure Category	1.0	1.0	1.0	
Design Wind Pressure Uplift	-20.7	-24.3	-24.3	psf
Design Wind Pressure Downforce	19.4	19.4	19.4	psf

ASD Load Combinations

Description	Interior	Edge	Corner	Unit
Dead Load	2.4	2.4	2.4	psf
Snow Load	18.3	18.3	18.3	psf
Downslope: Load Combination 3	9.6	9.6	9.6	psf
Down: Load Combination 3	14.9	14.9	14.9	psf
Down: Load Combination 5	13.6	13.6	13.6	psf
Down: Load Combination 6a	20.4	20.4	20.4	psf
Up: Load Combination 7	-11.2	-13.4	-13.4	psf
Down Max	20.4	20.4	20.4	psf

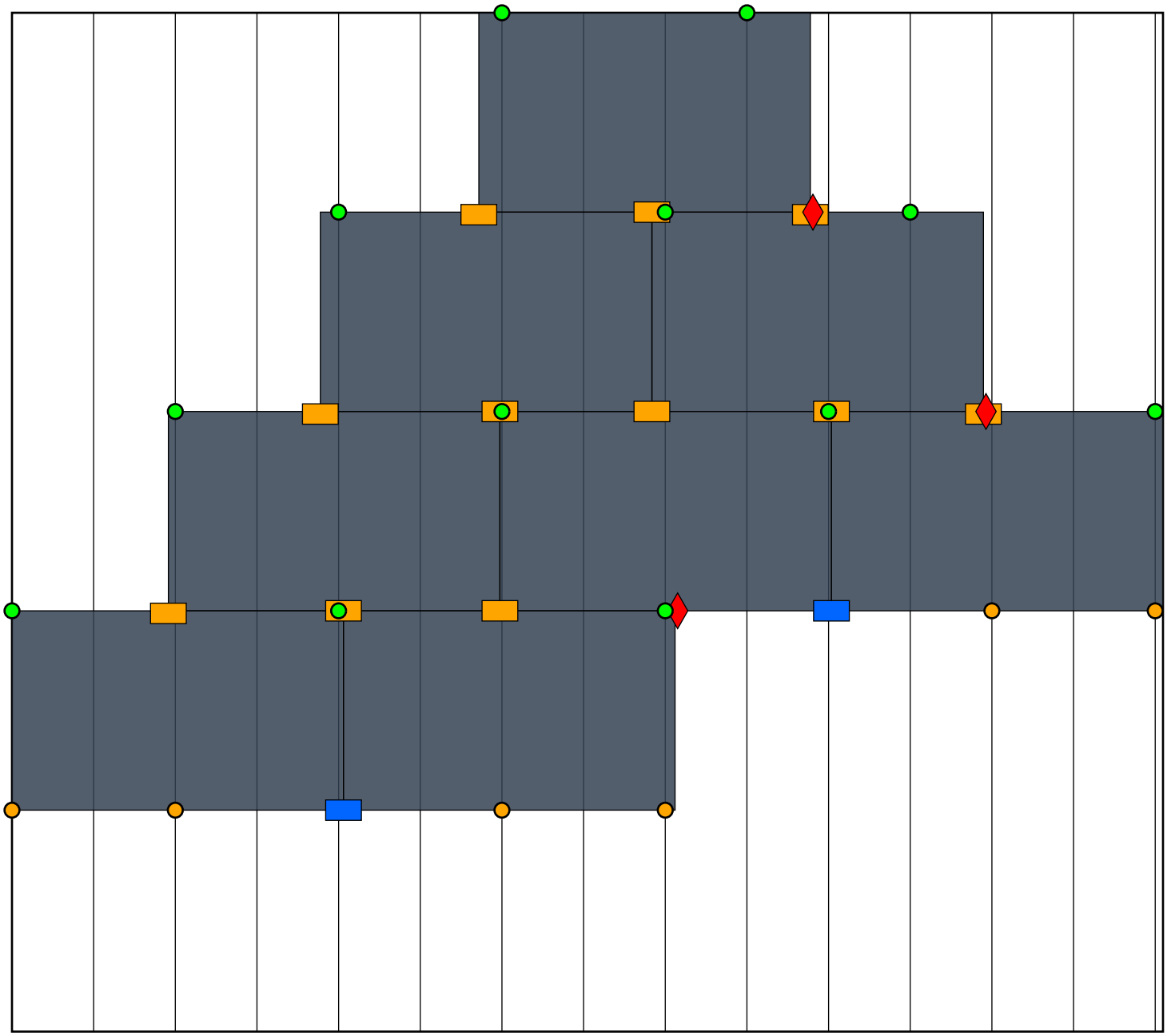
Spacing Results (Landscape)

Description	Interior	Edge	Corner	Unit
Max Allowable Spacing Between Attachments	72.8	72.8	72.8	in
Max Spacing Between Attachments With Rafter/Truss Spacing of 16.0 in	64.0	64.0	64.0	in
Max Cantilever from Attachment to Perimeter of PV Array	24.3	24.3	24.3	in

Spacing Results (Portrait)

Description	Interior	Edge	Corner	Unit
Max Allowable Spacing Between Attachments	56.4	56.4	56.4	in
Max Spacing Between Attachments With Rafter/Truss Spacing of 16.0 in	48.0	48.0	48.0	in
Max Cantilever from Attachment to Perimeter of PV Array	18.8	18.8	18.8	in

Layout



- Skirt
- Coupling
- End Coupling
- Clamp
- End Clamp
- North Row Extension
- Bonding Jumper

Note: If the total width of a continuous array exceeds 35 ft, break array to allow for thermal expansion and contraction. See Installation Guide for details.

Warning: PV Modules may need to be shifted with respect to roof trusses to comply with maximum allowable overhang.

Roof Weights

In Conformance with Solar ABC's Expedited Permit Process

Module Quantity: 8
Weight of Modules: 335 lbs
Weight of Mounting System: 36 lbs
Total Plane Weight: 371 lbs
Total Plane Array Area: 141 ft2
Distributed Weight: 2.63 psf
Number of Attachments: 18
Weight per Attachment Point: 21 lbs

Plane Calculations (ASCE 7-10): South West Roof 3

Roof Shape:
Roof Type: Composition Shingle
Average Roof Height: 30.0 ft
Least Horizontal Dimension: 60.487926980053 ft
Roof Slope: 33.0 deg
Truss Spacing: 16.0 in

Edge and Corner Dimension: 6.048792698005296 ft
Stagger Attachments: Yes
Include Snow Guards: No
Include North Row Extensions: No

Snow Load Calculations

Description	Interior	Edge	Corner	Unit
Flat Roof Snow Load	26.9	26.9	26.9	psf
Slope Factor	0.68	0.68	0.68	
Roof Snow Load	18.3	18.3	18.3	psf

Wind Pressure Calculations

Description	Interior	Edge	Corner	Unit
Net Design Wind Pressure Uplift	-20.7	-24.3	-24.3	psf
Net Design Wind Pressure Downforce	19.4	19.4	19.4	psf
Adjustment Factor for Height and Exposure Category	1.0	1.0	1.0	
Design Wind Pressure Uplift	-20.7	-24.3	-24.3	psf
Design Wind Pressure Downforce	19.4	19.4	19.4	psf

ASD Load Combinations

Description	Interior	Edge	Corner	Unit
Dead Load	2.4	2.4	2.4	psf
Snow Load	18.3	18.3	18.3	psf
Downslope: Load Combination 3	9.6	9.6	9.6	psf
Down: Load Combination 3	14.9	14.9	14.9	psf
Down: Load Combination 5	13.6	13.6	13.6	psf
Down: Load Combination 6a	20.4	20.4	20.4	psf
Up: Load Combination 7	-11.2	-13.4	-13.4	psf
Down Max	20.4	20.4	20.4	psf

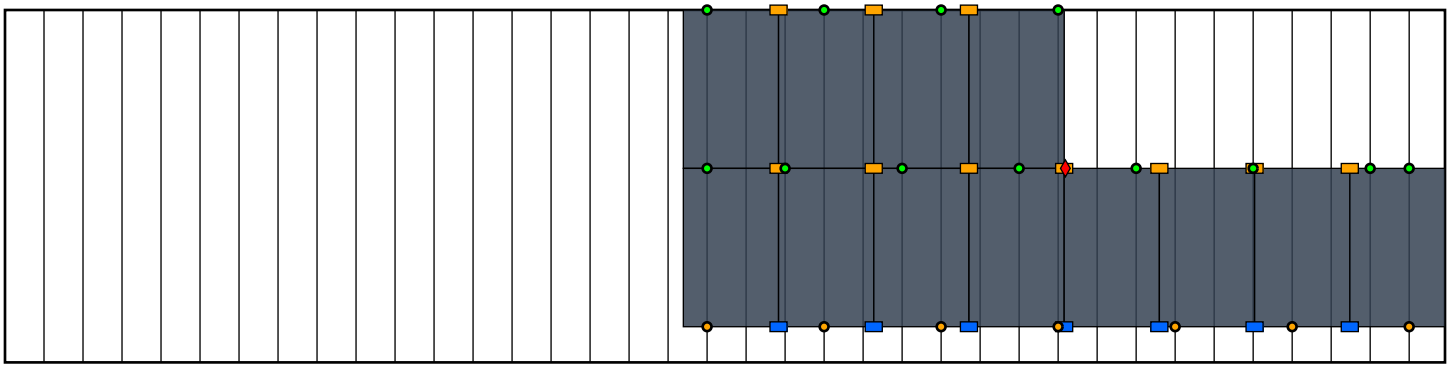
Spacing Results (Landscape)

Description	Interior	Edge	Corner	Unit
Max Allowable Spacing Between Attachments	72.8	72.8	72.8	in
Max Spacing Between Attachments With Rafter/Truss Spacing of 16.0 in	64.0	64.0	64.0	in
Max Cantilever from Attachment to Perimeter of PV Array	24.3	24.3	24.3	in

Spacing Results (Portrait)

Description	Interior	Edge	Corner	Unit
Max Allowable Spacing Between Attachments	56.4	56.4	56.4	in
Max Spacing Between Attachments With Rafter/Truss Spacing of 16.0 in	48.0	48.0	48.0	in
Max Cantilever from Attachment to Perimeter of PV Array	18.8	18.8	18.8	in

Layout



Skirt
Coupling
End Coupling
Clamp
End Clamp
North Row Extension
Bonding Jumper

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Roof Weights

In Conformance with Solar ABC's Expedited Permit Process

Module Quantity: 12
Weight of Modules: 503 lbs
Weight of Mounting System: 38 lbs
Total Plane Weight: 541 lbs
Total Plane Array Area: 211 ft2
Distributed Weight: 2.56 psf
Number of Attachments: 19
Weight per Attachment Point: 28 lbs

Bill Of Materials

Part	Name	Quantity
ES10195	EcoX Base, Comp Shingle	46
ES10197	EcoX Flashing, Comp Shingle	46
ES10144	EcoX Junction Box Bracket	3 (Optional)
ES10132	EcoX Power Accessory Bracket	24
ES10184	PV Cable Clip	120
ES10103	EcoX Clamp Assembly	28
ES10136	EcoX End Clamp Assembly	18
ES10201	EcoX Bonding Jumper	4
ES10121	EcoX Coupling Assembly	24
ES10146	EcoX End Coupling	12