

Project Details			
Name	Kimberly Josey	Date	03/21/2023
Location	47 Juno Drive, Broadway, NC 27505	Total modules	12
Module	Mission Solar Energy: MSE395SX9R (40mm)	Total watts	4,740
Dimensions	Dimensions: 75.08" x 41.5" x 1.57" (1907.0mm x 1054.0mm x 40.0mm)	Attachments	31
ASCE	7-10	Rails per row	2

System Weight	
Total system weight	678.0 lbs
Weight/attachment	21.9 lbs
Racking weight	96.0 lbs
Distributed weight	2.6 psf

Load Assumptions	
Wind exposure	C
Wind speed	119 mph
Ground snow load	15 psf
Attachment spacing portrait	4.0'
Attachment spacing landscape	4.0'

Roof Information			
Roof Material Family	Comp Shingle	Roof material	Comp Shingle
Building height	25 ft	Roof attachment	Flashfoot2
		Staggered attachments	Yes
Roof slope	33 °	Attachment hardware	Square
Risk category	II		

Span Details XR10 - Portrait		
Zone	Max span	Max cantilever
1	5' 5"	2' 2"
2	5' 5"	2' 2"
3	5' 5"	2' 2"

Reaction Forces XR10 - Portrait			
Zone	Down (lbs)	Uplift (lbs)	Lateral (lbs)
1	236	195	70
2	236	239	70
3	236	239	70

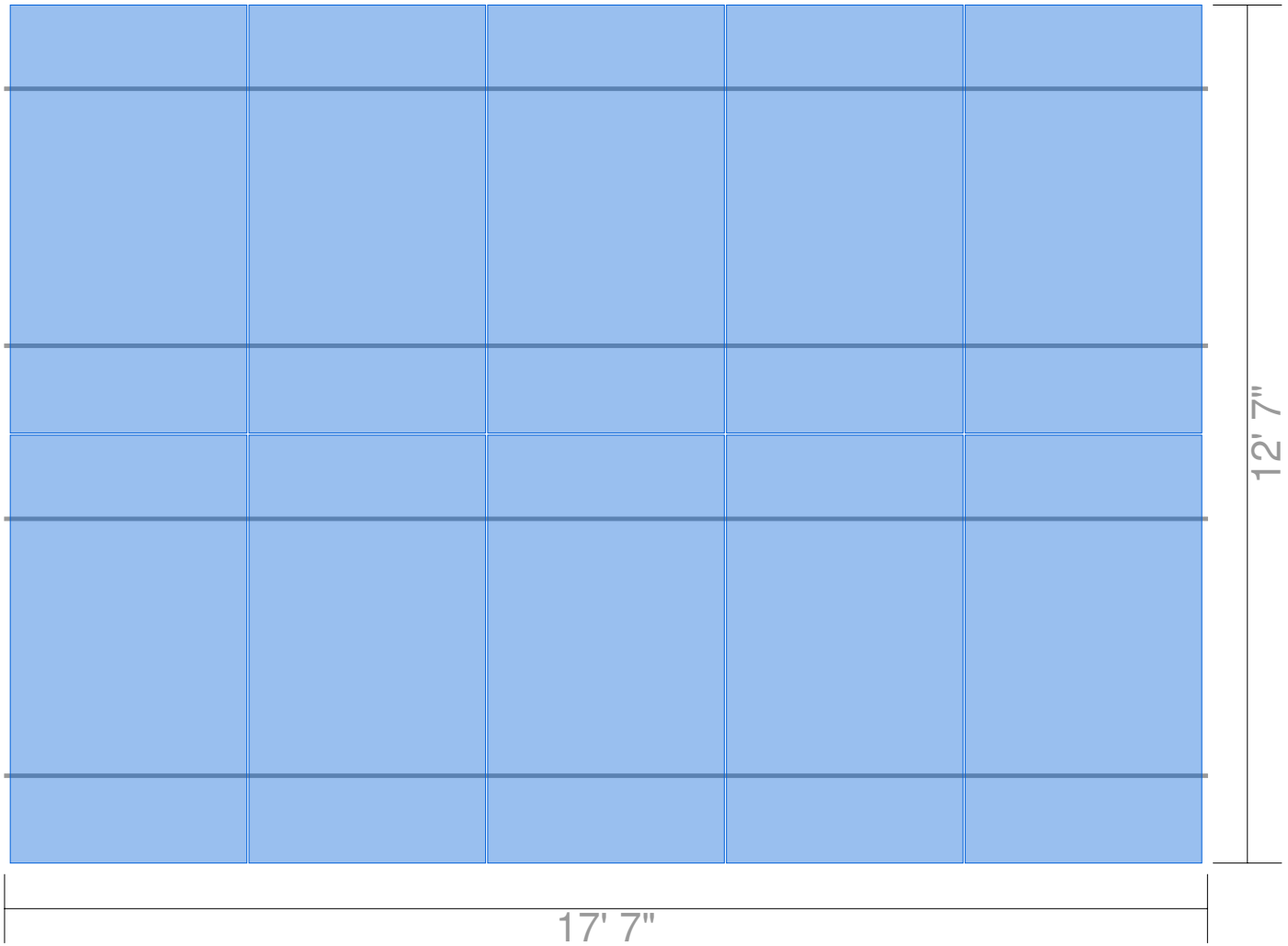
Span Details XR10 - Landscape		
Zone	Max span	Max cantilever
1	7' 1"	2' 10"
2	7' 1"	2' 10"
3	7' 1"	2' 10"

Reaction Forces XR10 - Landscape			
Zone	Down (lbs)	Uplift (lbs)	Lateral (lbs)
1	131	108	39
2	131	132	39
3	131	132	39

Roof Section 1

Details		Weights
Panels: 10	Provided rail: 112' [8 x 168"]	Total weight: 559.3 lbs
Rail orientation: East-West	Attachments: 22	Weight/attachment: 25.4 lbs
Panel orientation: Portrait	Splices: 4	Total Area: 220.6 sq ft
Entry type: Graphical	Clamps: 24	Distributed weight: 2.5 psf

Diagram

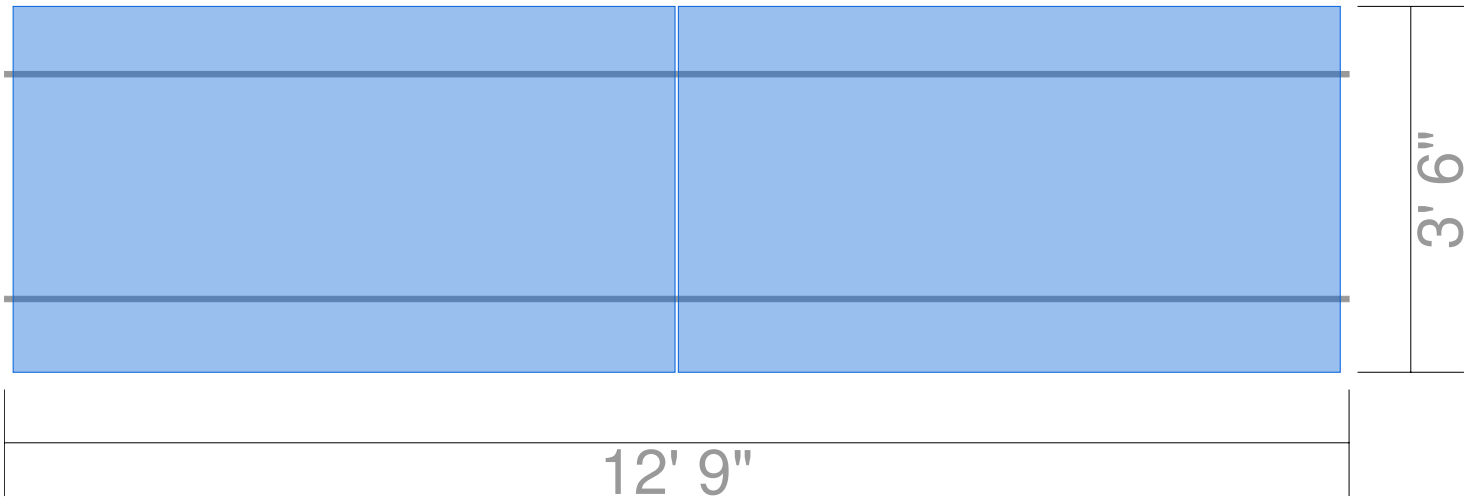


Segments								
Identifier	Columns	Row length	Rail length	Cantilever	Rail	Attachments	Splices	Clamps
A	5	17' 7"	17' 7"	10"	56' [4 x 168"]	11	2	12
Row segment totals (x 2) →					112' [8 x 168"]	22	4	24

Roof Section 2

Details		Weights
Panels: 2	Provided rail: 28' [2 x 168"]	Total weight: 118.8 lbs
Rail orientation: East-West	Attachments: 9	Weight/attachment: 13.2 lbs
Panel orientation: Landscape	Splices: 0	Total Area: 44.0 sq ft
Entry type: Graphical	Clamps: 6	Distributed weight: 2.7 psf

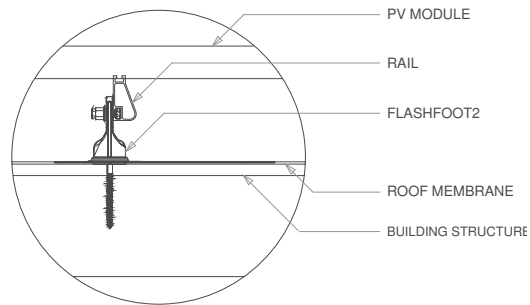
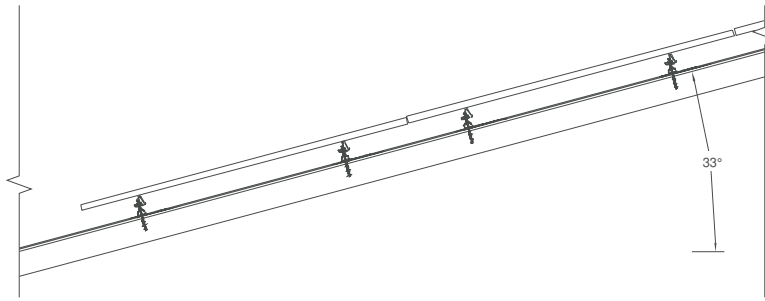
Diagram



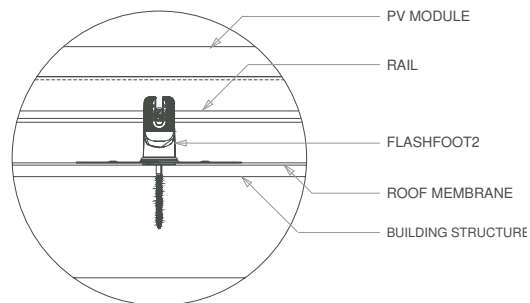
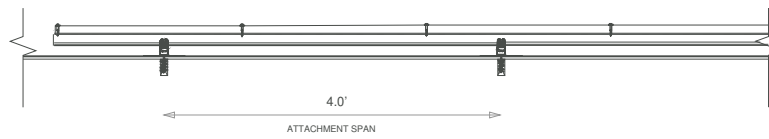
Segments

Identifier	Columns	Row length	Rail length	Cantilever	Rail	Attachments	Splices	Clamps
A	2	12' 9"	12' 9"	4"	28' [2 x 168"]	9	0	6

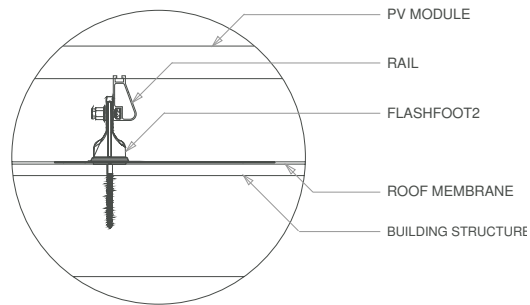
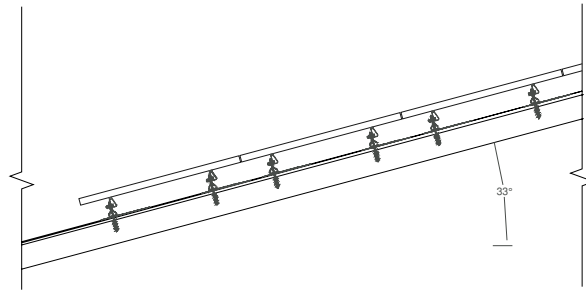
Side View (portrait)



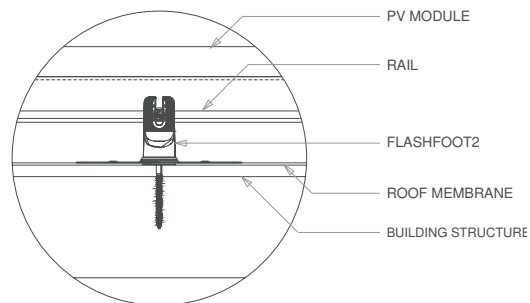
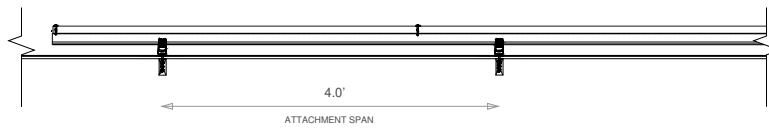
Front View (portrait)



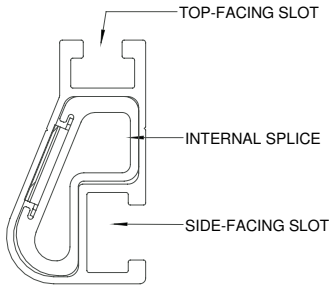
Side View (landscape)



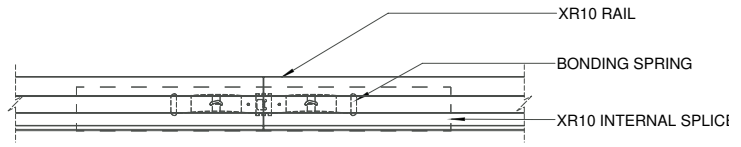
Front View (landscape)



Splice Details

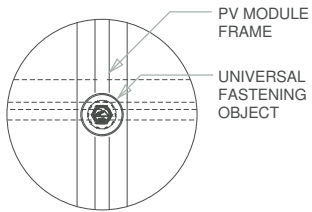


XR10

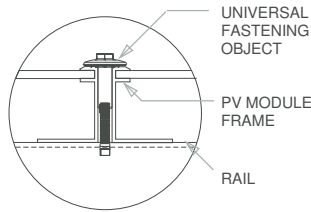


Splice Connection

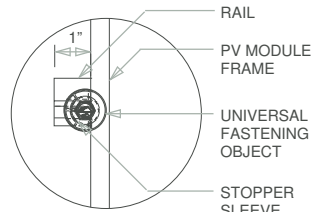
Clamp Detail



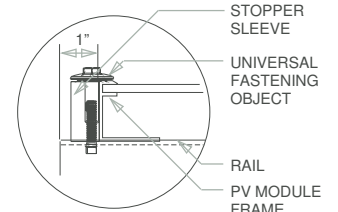
Mid Clamp, Plan



Mid Clamp, Front

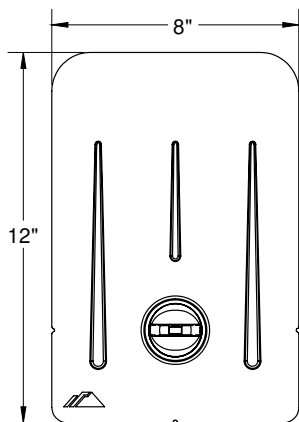


End Clamp, Plan

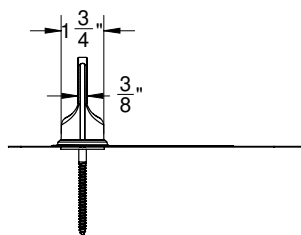


End Clamp, Front

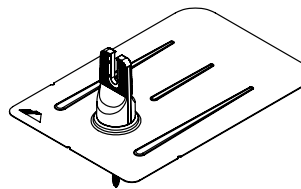
FlashFoot2 Detail



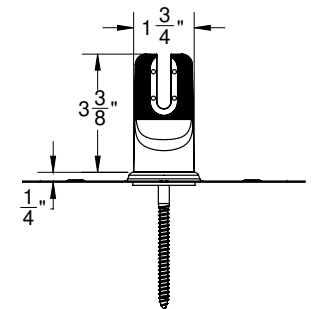
Plan View



Side View

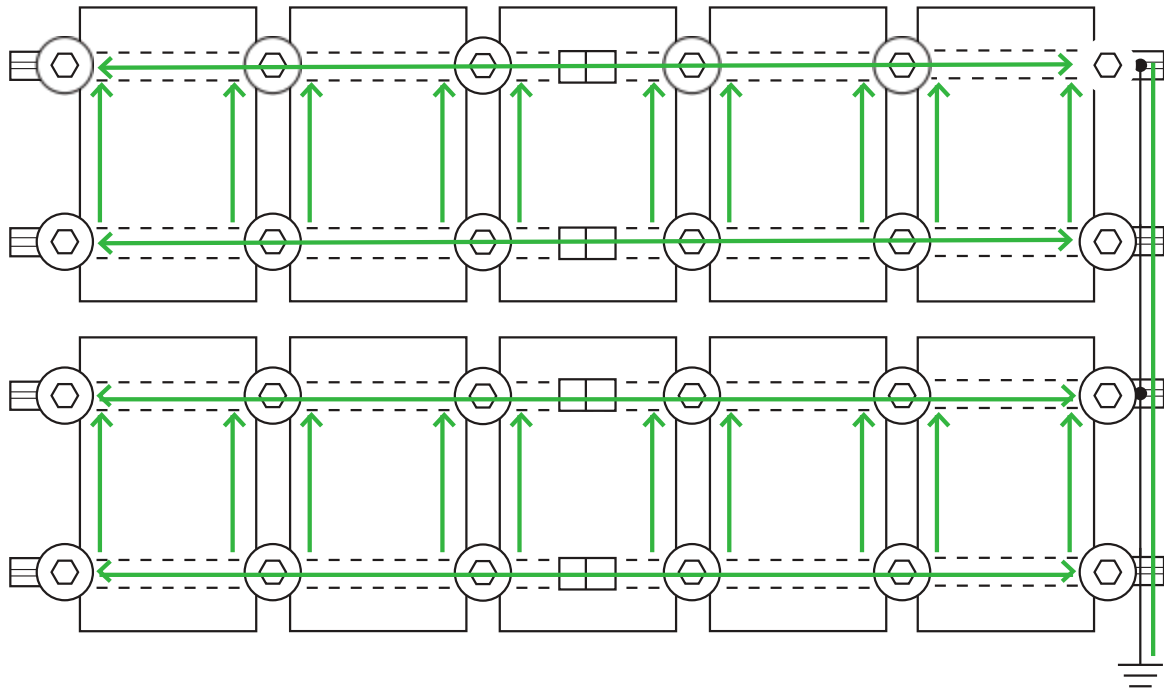


Perspective View



Front View

Grounding Diagram



UFO Clamp

Fault Current Ground Path

Grounding Lug *

Min 10 AWG Copper Wire *

Bonded Splice (Rail Connection)

* Grounding Lugs and Wire are not required in systems using Enphase microinverters.

Bill of Materials

Part	Spares	Total Qty
Rails & Splices		
XR-10-168B XR10, Rail 168" (14 Feet) Black	0	10
XR10-BOSS-01-M1 Bonded Splice, XR10	0	4
Clamps & Grounding		
UFO-CL-01-B1 Universal Module Clamp, Black	0	30
UFO-STP-40MM-B1 Stopper Sleeve, 40MM, Black	0	12
XR-LUG-03-A1 Grounding Lug, Low Profile	0	3
Attachments		
FF2-02-B2 FlashFoot2, Black	0	31
BHW-SQ-02-A1 Square-Bolt Bonding Hardware	0	31