

Project Details			
Name	cedric norman	Date	04/03/2023
Location	84 Tripoli Drive, Cameron, NC 28326	Total modules	30
Module	Mission Solar Energy: MSE395SX9R (40mm)	Total watts	11,850
Dimensions	Dimensions: 75.08" x 41.5" x 1.57" (1907.0mm x 1054.0mm x 40.0mm)	Attachments	74
ASCE	7-10	Rails per row	2

System Weight	
Total system weight	1,685.1 lbs
Weight/attachment	22.8 lbs
Racking weight	230.1 lbs
Distributed weight	2.6 psf

Load Assumptions	
Wind exposure	C
Wind speed	119 mph
Ground snow load	10 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	40 °	Attachment hardware	Square
Risk category	II		

Span Details XR10 - Portrait		
Zone	Max span	Max cantilever
1	6'	2' 5"
2	6'	2' 5"
3	6'	2' 5"

Reaction Forces XR10 - Portrait			
Zone	Down (lbs)	Uplift (lbs)	Lateral (lbs)
1	226	197	54
2	226	241	54
3	226	241	54

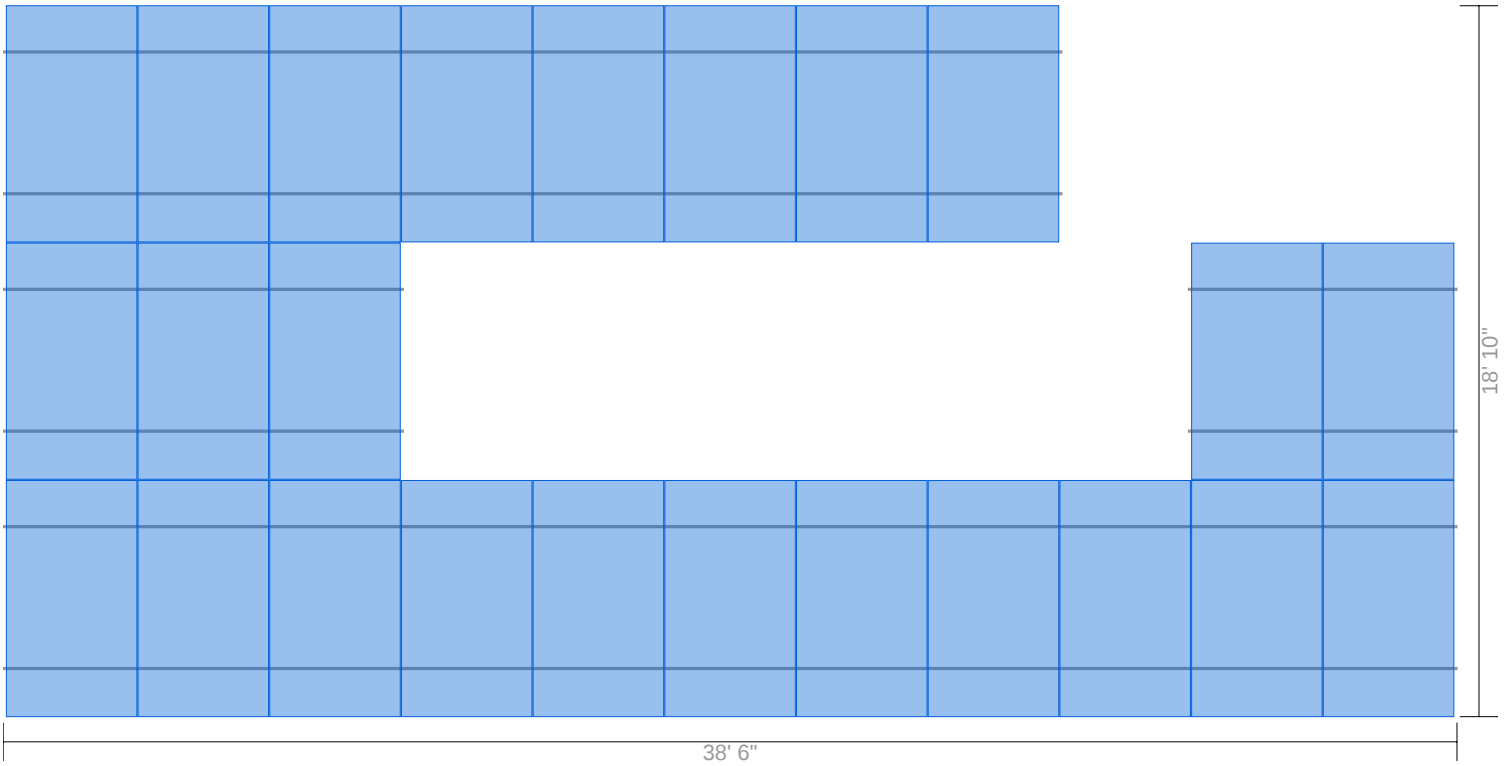
Span Details XR10 - Landscape		
Zone	Max span	Max cantilever
1	7' 8"	3'
2	7' 7"	3'
3	7' 7"	3'

Reaction Forces XR10 - Landscape			
Zone	Down (lbs)	Uplift (lbs)	Lateral (lbs)
1	125	109	30
2	125	133	30
3	125	133	30

Roof Section 1

Details		Weights
Panels: 24	Provided rail: 224' [16 x 168"]	Total weight: 1,319.1 lbs
Rail orientation: East-West	Attachments: 50	Weight/attachment: 26.4 lbs
Panel orientation: Portrait	Splices: 8	Total Area: 527.4 sq ft
Entry type: Graphical	Clamps: 56	Distributed weight: 2.5 psf

Diagram



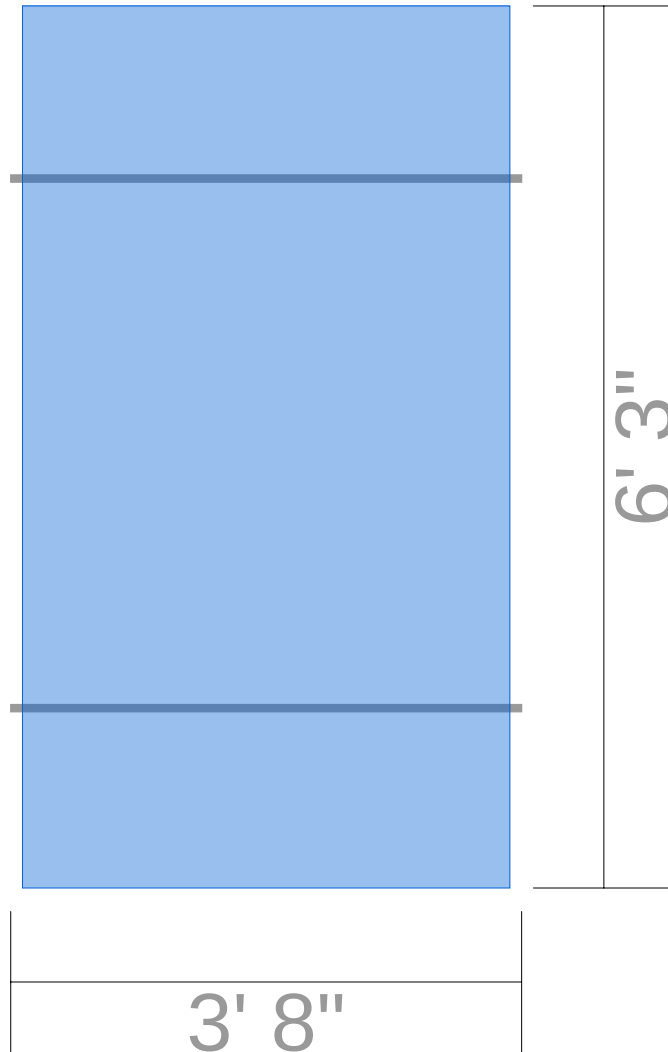
Segments

Identifier	Columns	Row length	Rail length	Cantilever	Rail	Attachments	Splices	Clamps
A	8	28' 1"	28' 1"	0"	84' [6 x 168"]	17	4	18
B	3	10' 7"	10' 7"	1' 4"	28' [2 x 168"]	7	0	8
C	2	7' 1"	7' 1"	1' 7"	28' [2 x 168"]	5	0	6
D	11	38' 6"	38' 6"	1' 3"	84' [6 x 168"]	21	4	24

Roof Section 2

Details		Weights
Panels: 1	Provided rail: 28' [2 x 168"]	Total weight: 66.2 lbs
Rail orientation: East-West	Attachments: 5	Weight/attachment: 13.2 lbs
Panel orientation: Portrait	Splices: 0	Total Area: 22.7 sq ft
Entry type: Graphical	Clamps: 4	Distributed weight: 2.9 psf

Diagram



Segments

Identifier	Columns	Row length	Rail length	Cantilever	Rail	Attachments	Splices	Clamps
A	1	3' 8"	3' 8"	0"	28' [2 x 168"]	5	0	4

Roof Section 3

Details		Weights
Panels: 1	Provided rail: 28' [2 x 168"]	Total weight: 66.2 lbs
Rail orientation: East-West	Attachments: 5	Weight/attachment: 13.2 lbs
Panel orientation: Landscape	Splices: 0	Total Area: 22.2 sq ft
Entry type: Graphical	Clamps: 4	Distributed weight: 3.0 psf

Diagram



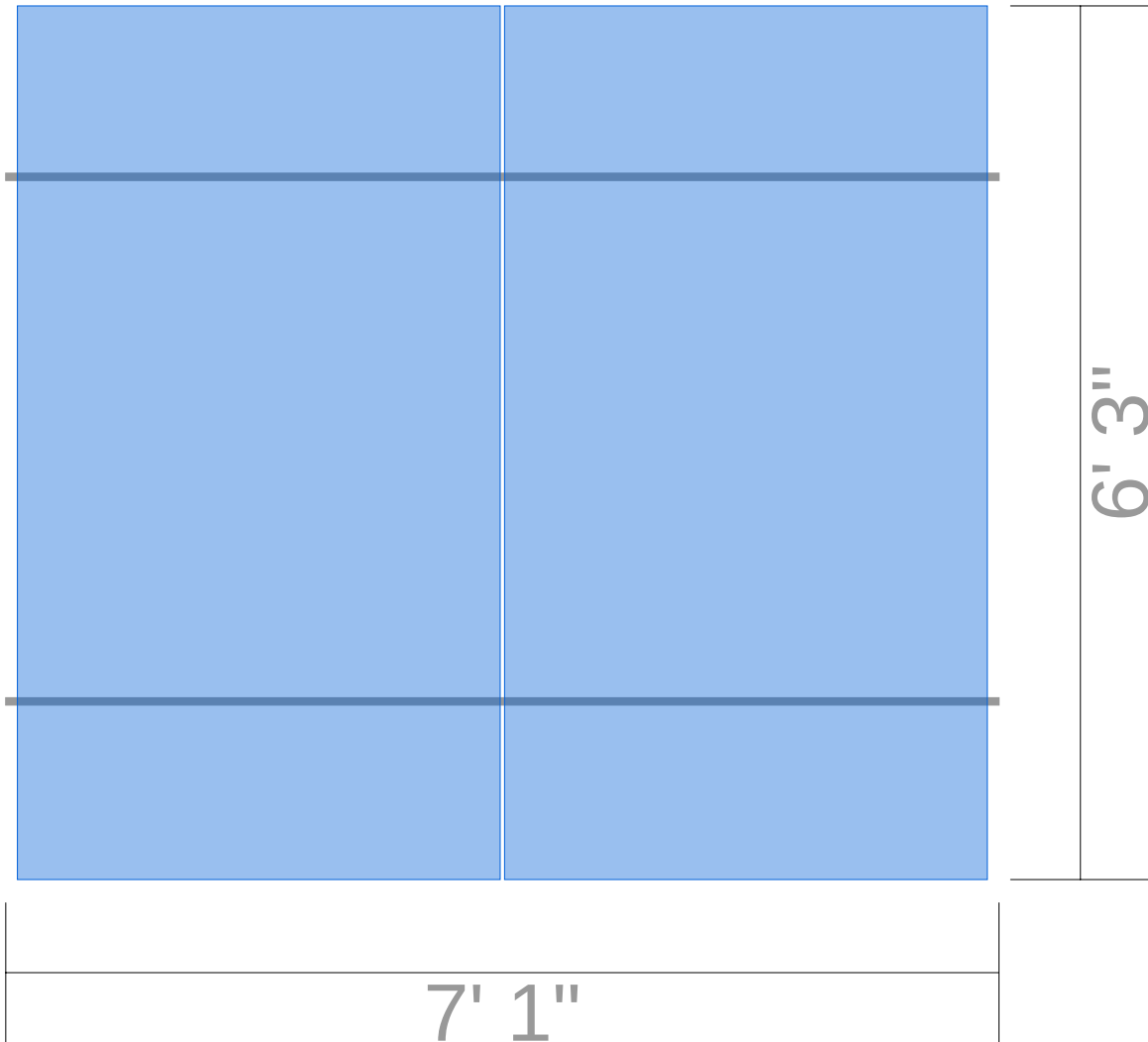
Segments

Identifier	Columns	Row length	Rail length	Cantilever	Rail	Attachments	Splices	Clamps
A	1	6' 5"	6' 5"	1' 3"	28' [2 x 168"]	5	0	4

Roof Section 4

Details		Weights
Panels: 2	Provided rail: 28' [2 x 168"]	Total weight: 114.8 lbs
Rail orientation: East-West	Attachments: 5	Weight/attachment: 23.0 lbs
Panel orientation: Portrait	Splices: 0	Total Area: 44.5 sq ft
Entry type: Graphical	Clamps: 6	Distributed weight: 2.6 psf

Diagram



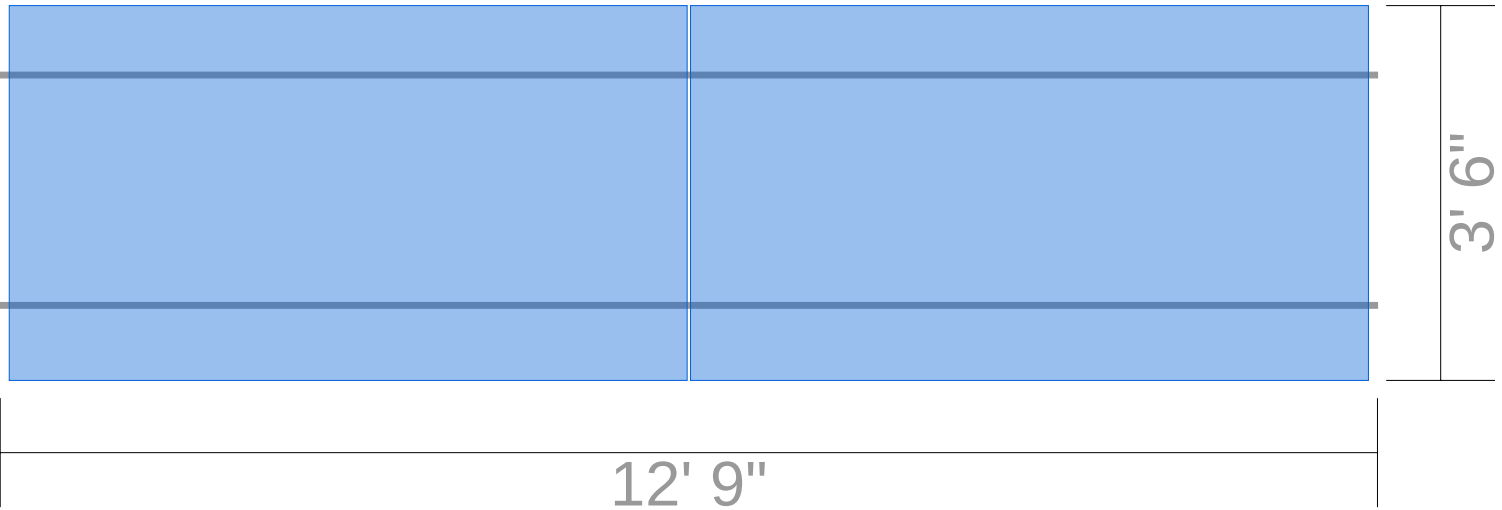
Segments

Identifier	Columns	Row length	Rail length	Cantilever	Rail	Attachments	Splices	Clamps
A	2	7' 1"	7' 1"	1' 7"	28' [2 x 168"]	5	0	6

Roof Section 5

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

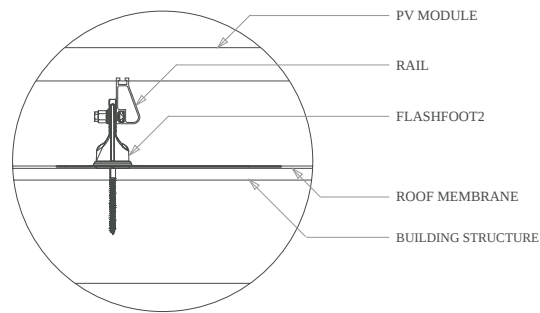
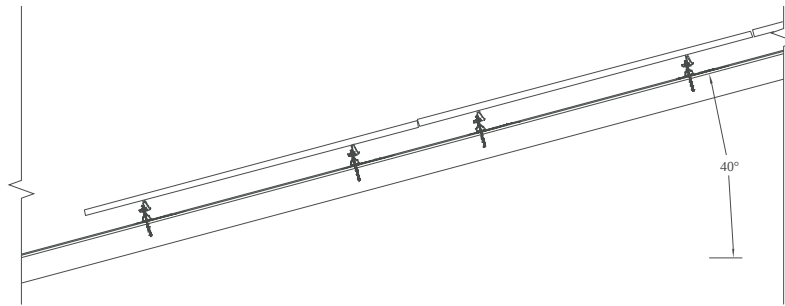
Diagram



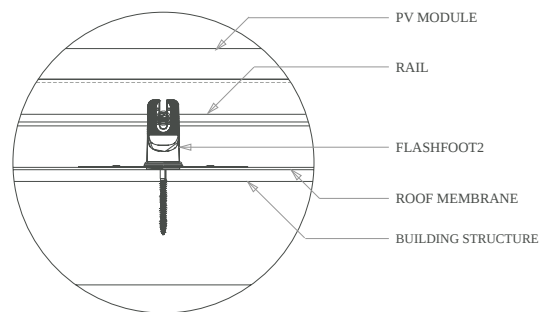
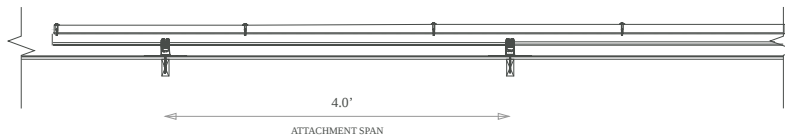
Segments

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

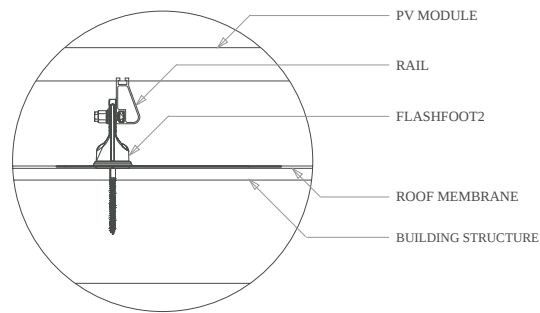
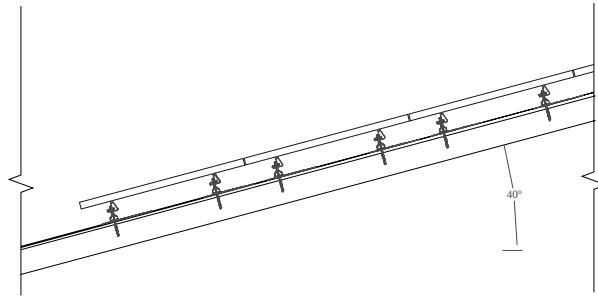
Side View (portrait)



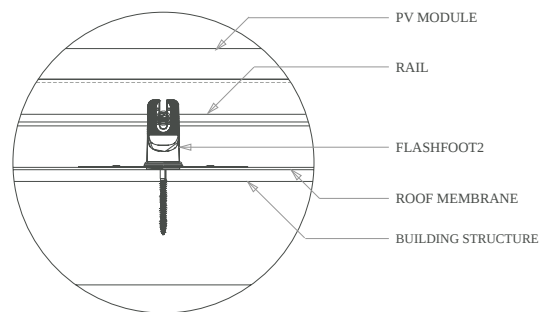
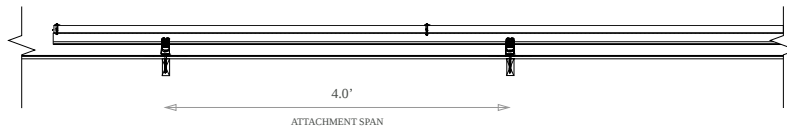
Front View (portrait)



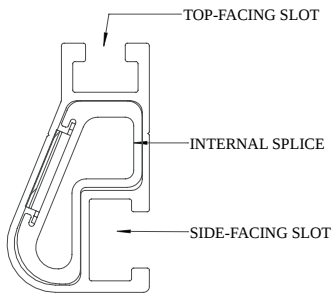
Side View (landscape)



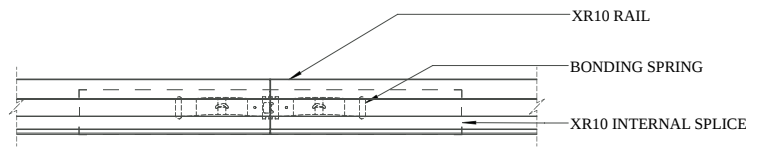
Front View (landscape)



Splice Details

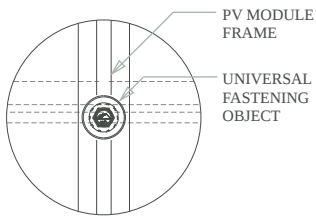


XR10

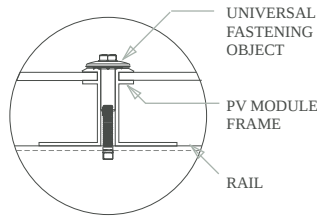


Splice Connection

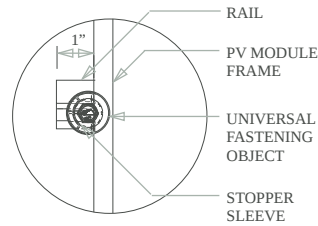
Clamp Detail



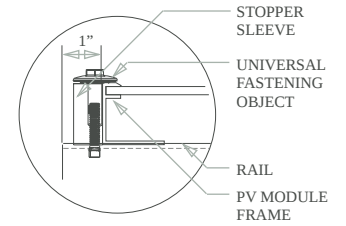
Mid Clamp, Plan



Mid Clamp, Front

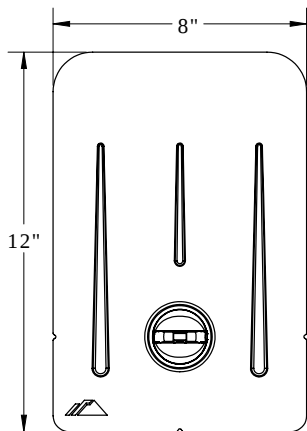


End Clamp, Plan

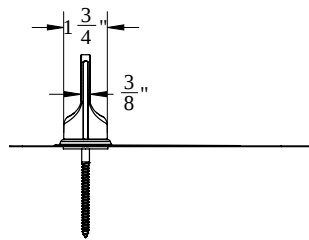


End Clamp, Front

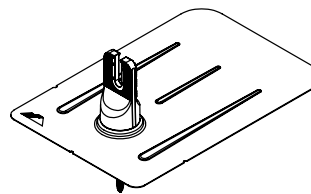
FlashFoot2 Detail



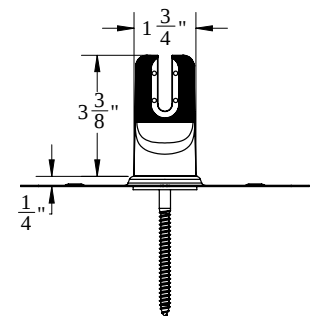
Plan View



Side View

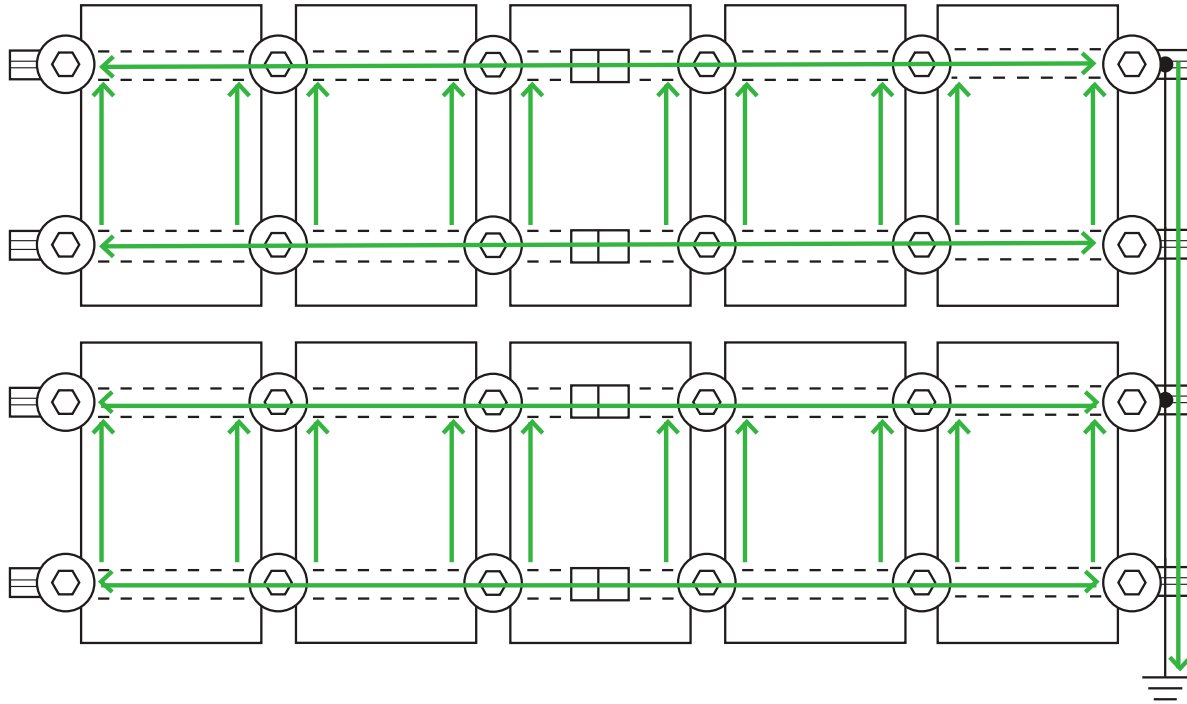


Perspective View





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
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Rails & Splices

XR-10-168B XR10, Rail 168" (14 Feet) Black	0	24
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XR10-BOSS-01-M1 Bonded Splice, XR10	0	8
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Clamps & Grounding

UFO-CL-01-B1 Universal Module Clamp, Black	0	76
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UFO-STP-40MM-B1 Stopper Sleeve, 40MM, Black	0	32
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XR-LUG-03-A1 Grounding Lug, Low Profile	0	8
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Attachments

FF2-02-B2 FlashFoot2, Black	0	74
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BHW-SQ-02-A1 Square-Bolt Bonding Hardware	0	74
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