

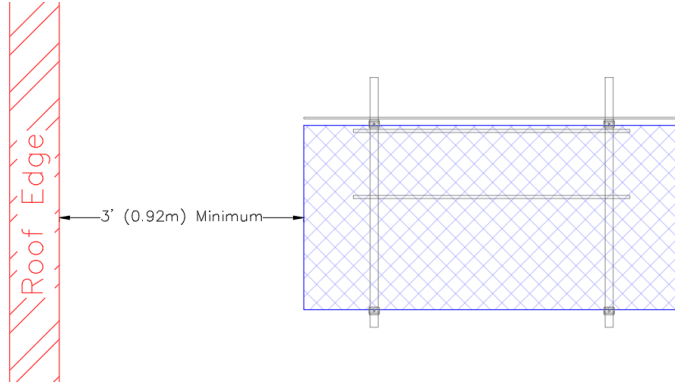


LAYOUT GUIDELINES



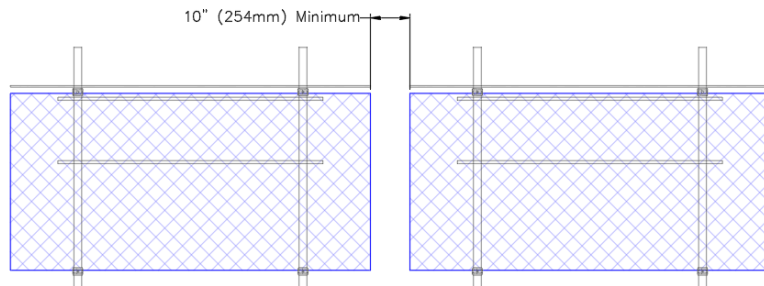
Array Layout Rules

Minimum Setback from Roof Edges: 3' (0.92m)¹

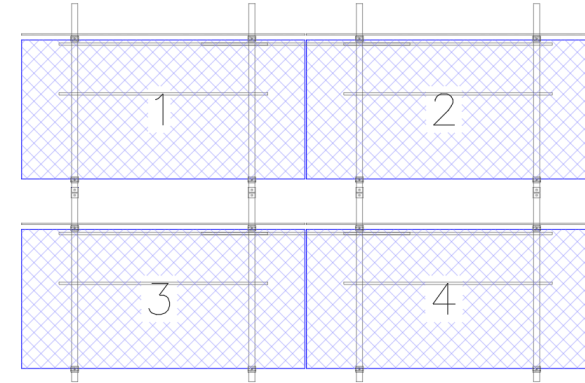


Thermal Breaks:

- AeroGrid: 10" (254mm) every 120' (36.58m) in N/S and E/W Directions.
- AeroRack: 10" (254mm) every 120' (36.58m) in N/S and 80' (24.38m) in E/W Directions.
 - Site specific calculations can be provided.
- EkonoRack: 10" (254mm) every 120' (36.58m) in N/S and 80' (24.38m) in E/W Directions.
 - Site specific calculations can be provided.



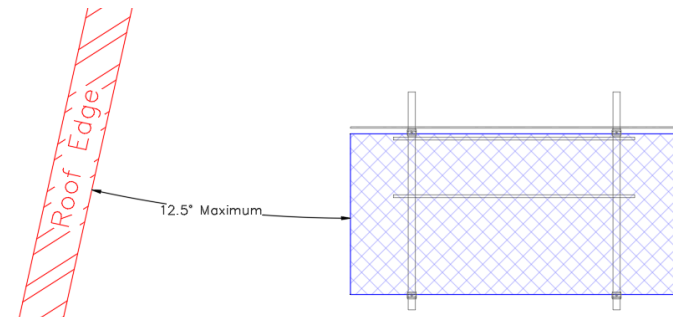
Minimum Array Size: 2x2



Protruding Modules^{2,3} (Examples on Next Slide):

- Rail-Based Systems:
 - E/W: No limit.
 - N/S: Limited to 2 modules.
- Foot-Based Systems:
 - E/W: No limit.
 - N/S: Limited to 1 module.

Maximum Roof Skew: 12.5°



¹Exception: 2' (0.61m) setback is permissible when an additional wind load adjustment factor is applied.

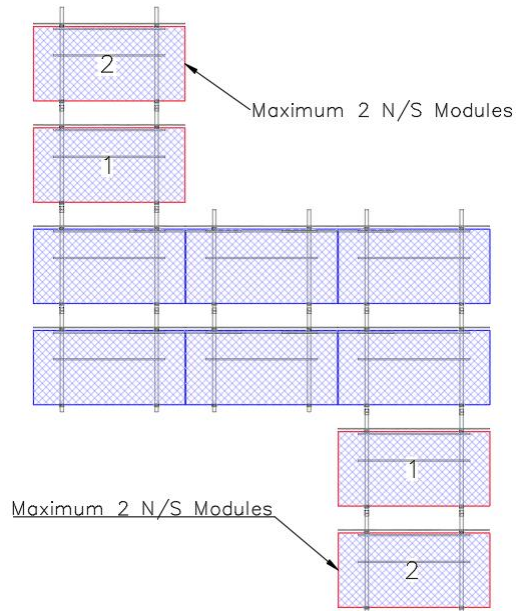
²Protruding modules are defined as panels that are connected to only a single other panel. Protruding modules are not ideal for loading due to their reduced effective averaging area, and therefore they should be limited.

³These are general rules for layout configurations. In some cases, wind load per module will override these general rules if the load on the configuration exceeds what is feasible.

Protruding Modules (Examples)

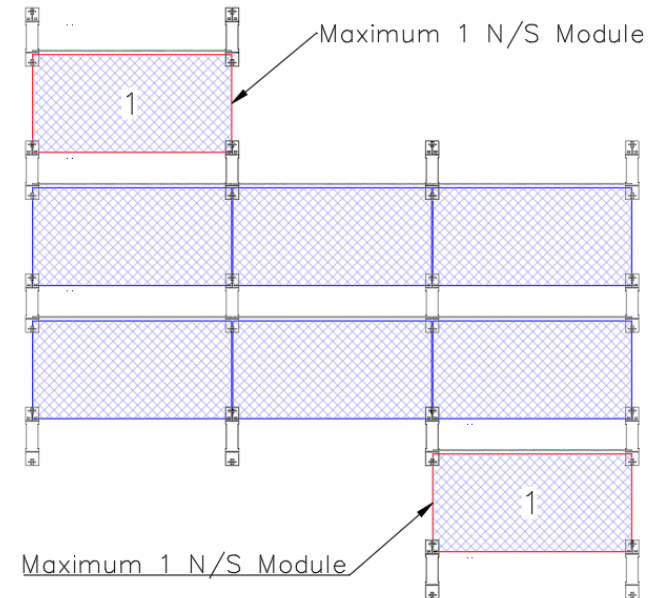
Rail-Based Systems (AeroGrid/AeroRack)

North-South Protrusions (protruding modules in red):

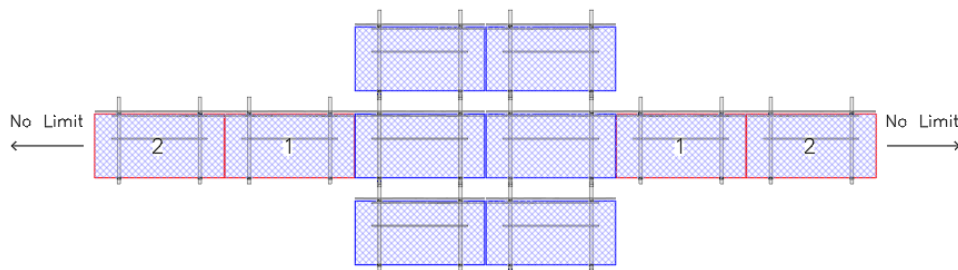


Foot-Based Systems (EkonoRack)

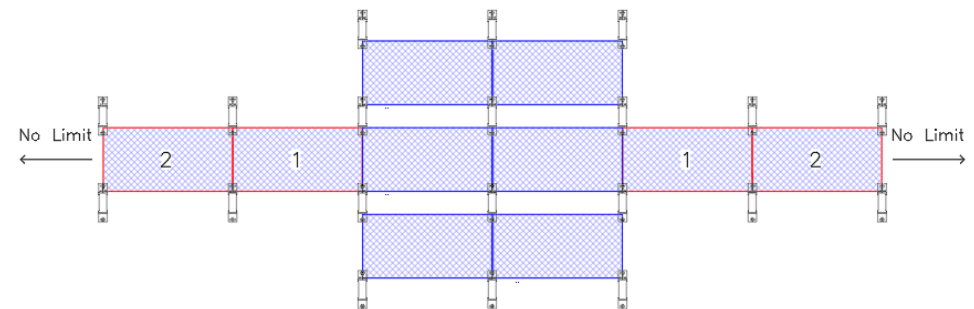
North-South Protrusions (protruding modules in red):



East-West Protrusions (protruding modules in red):



East-West Protrusions (protruding modules in red):



Spacing and Dimension Guide *(Adobe Required)*

Inputs

Enter the inputs below into the cells outlined in **green**. Then, click RUN.

Module	
Module Length (mm)	
Module Width (mm)	
Module Thickness (mm)	
Racking	
System	
Orientation	
Module Tilt (degrees)	
Project Data	
Project Latitude	

Reference

Symbol	Dimension
A	Racking Overhang (North)
B	Total Row Spacing
C	Module Width (Projected)
D	Racking Overhang (South)
E	E/W Racking Spacing (O.C.)
F	Column Spacing
G	Racking Width
H	Inter-Row Spacing
I	

Appendix: International Fire Code (IFC) Rules

INTRODUCTION

The following rules are from Chapter 12 of the International Fire Code (IFC). As of the date of this document, the majority of states in the United States have adopted IFC 2021. Some states are still referencing earlier versions of the IFC, (i.e. IFC 2018).

These rules apply to all structures, except detached, “nonhabitable” Group U structures including, but not limited to, detached garages serving Group R-3 buildings, parking shade structures, carports, solar trellises and similar structures.

Per IBC 2021, Group U structures include agricultural buildings, aircraft hangars (accessory to a one- or two-family residence), barns, carports, communication equipment structures with a gross floor area of <1500 ft², fences more than 7’ in height, grain silos (accessory to a residential occupancy), livestock shelters, private garages, retaining walls, sheds, stables, tanks, or towers.

Group R-3 structures have their own access requirements. Per the International Building Code (IBC) 2021, Group R-3 structures include buildings that do not contain more than two dwelling units, care facilities that provide accommodations for five or fewer persons receiving care, congregate living facilities (nontransient) with 116 or fewer occupants, boarding houses (nontransient), convents, dormitories, fraternities and sororities, monasteries, congregate living facilities (transient) with 10 or fewer occupants, boarding houses (transient), or lodging houses (transient) with five or fewer guest rooms and 10 or fewer occupants.

These rules are applicable only to the United States. In Canada, there are no national level rules for fire access on rooftop solar. However, it is still recommended to use the following rules as a guide for access pathways on projects within Canada.

1205.3.1 PERIMETER PATHWAYS

If one axis of the roof is 250’ or less, there shall be a minimum 4’ clear setback around the roof perimeter. Otherwise, there shall be a minimum 6’ setback around the roof perimeter.

1205.3.2 INTERIOR PATHWAYS

Interior pathways shall be provided between array sections to meet the following requirements:

- Pathways shall be provided at least every 150’ throughout the length/width of the roof.
- A pathway at least 4’ wide is required to roof standpipes/ventilation hatches.
- A pathway at least 4’ wide is required around roof access hatches, with at least one pathway to a parapet or roof edge.

1202.3.3 SMOKE VENTILATION

- For non gravity-operated smoke/heat vents, a pathway at least 4’ wide shall be provided bordering all sides.
- For gravity-operated smoke/heat vents, a pathway at least 4’ wide shall be provided to at least one side.
- Smoke ventilation options between array sections must be one of the following:
 - A pathway at least 8’ wide.
 - A pathway at least 4’ wide bordering 4’x8’ venting cutouts every 20’ on alternating sides of the pathway.