SPECIFICATIONS AND LAYOUT GUIDELINES 5°-10° AND EAST-WEST

UL LISTED

PV MOUNTING SYSTEM

GRIPRAC™

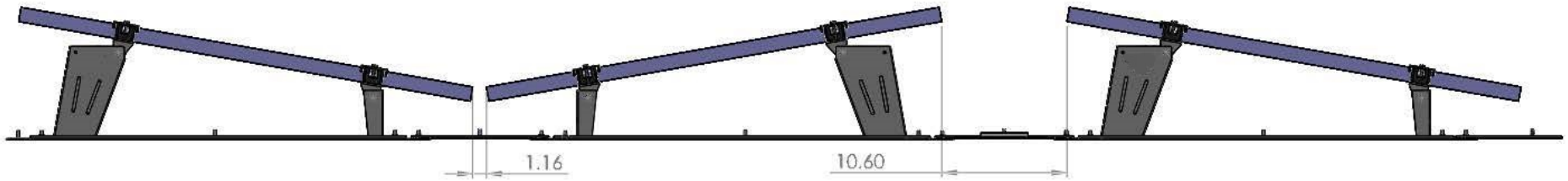
Simple solar installation

GripBelt Design Specifications

Roof Loading	
Roof Slope	5˚ max slope (1/12 pitch) in all directions. Up to 7˚(1.5/12 pitch) possible with engineering review.
Wind Speed	150 mph (193 km/h) – 3 second gust per ASCE 7-05 (190 mph per ASCE 7-10). Higher wind speeds require Orion's Belt engineering review.
Exposures	USA wind exposure categories B, C and D.
Seismic Design Category	USA seismic zones A, B, C, D. Seismic zones beyond D can also be evaluated upon request.
Maximum Building Height	No Limitations
Roof Material	EPDM, TPO, PVC, Mod Bitumen, Asphalt, Coal Tar, Foam, Concrete, and Gravel. Loose gravel and/or river rock must be cleared out from under Orion's Belt.
UL/ANSI 2703-2015 Grounding & Bonding	UL LISTED – Will accommodate max module fuse rating of 30 amps. Typical module fuse rating is ~15 amps
UL/ANSI 2703-2015 Mechanical Load	UL LISTED – Racking components meet electrical and mechanical requirements of standard. System load rating is always module dependent (module allowable loads are typically the limiting factor)
UL/ANSI 2703-Fire Listing	System Fire Rating Class A with Type 1, Type 2 and Type 3 modules. No additional components required for compliance for Type 1 or Type 2 modules
Ballast Block Size	Nominal 2"x 8"x 16"

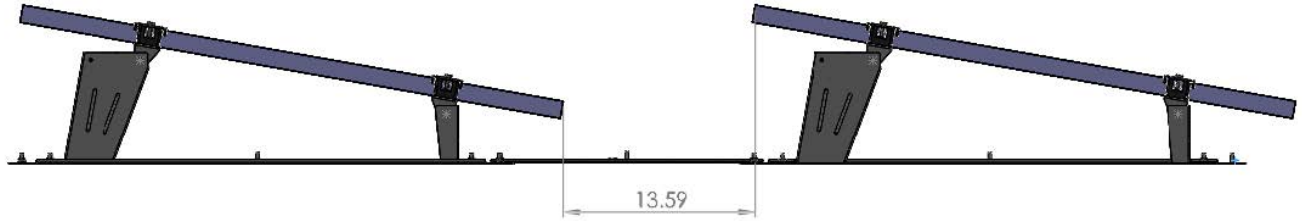
Row Spacing and Roof Coverage Ratios -10˚, 5˚ & East West

- Dimensions shown below vary by module except the Row-Row Gap, which is fixed.
- Example 10 - 5 Degree and East West dimensions shown below are based on a module width of 990 mm (38.98 in).
- Dynamic AutoCAD building blocks are available for any framed module between 990 mm and 1070 mm wide.



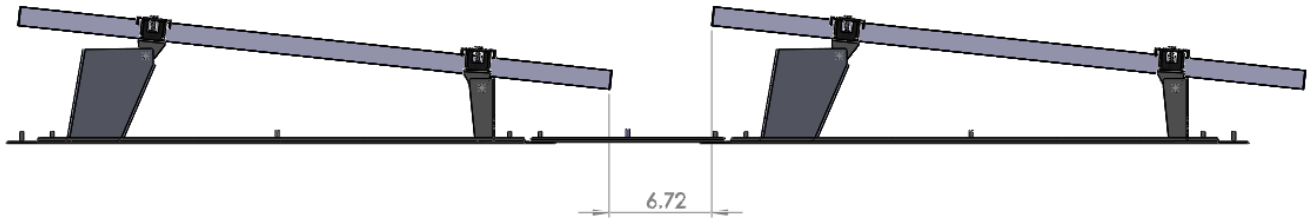
East-West

Roof Coverage 96%



Roof Coverage 79%

10˚



Roof Coverage 87%

5˚

Row Spacing and Roof Coverage Ratios -10°, 5° & East West

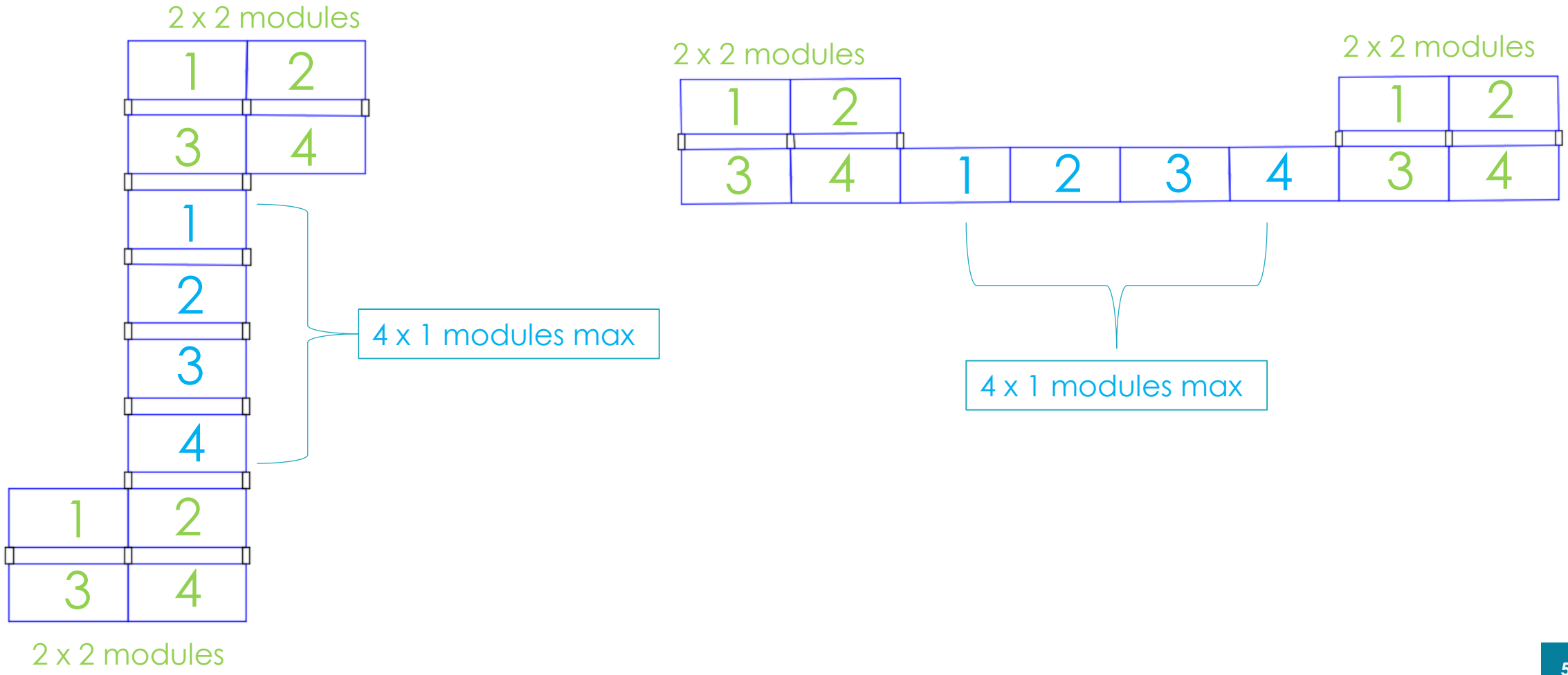
These array layout guidelines were developed to maximize the performance of GripBelt over its 25+ year lifespan. Nonconforming arrays may require layout modifications, may not be ballast-able, or may require mechanical attachments.

Minimum setback from roof edges - 4 ft (1.2 m)
Maximum array row length1: 150 ft (30.48 m)
Maximum array column length1: 150 ft (30.48 m)
Minimum clearance from obstructions2: 3 ft (153 mm)
Minimum module-to-module clearance between sub arrays2:
Avoid going over existing pipes, lighting rods/cables or vents on the roof

Layout Recommendations for Reducing Weight and/or Mechanical Attachment Counts

-Minimize the Use of Long "Bridges"

Keep the single module wide "bridges" to no more than 1 x 4 modules or 4 x 1 modules. "Bridges" more than 4 single modules long will require additional ballast and/or mechanical attachments. If "bridge ends" that are at least 2 x 2 modules on both ends are not present it may result in additional ballast and/or mechanical attachments.

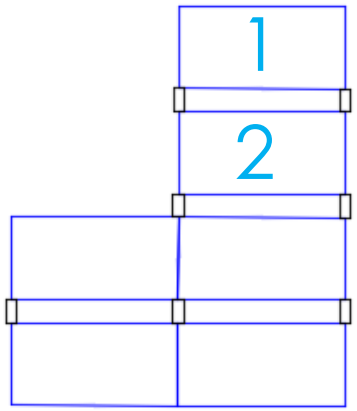


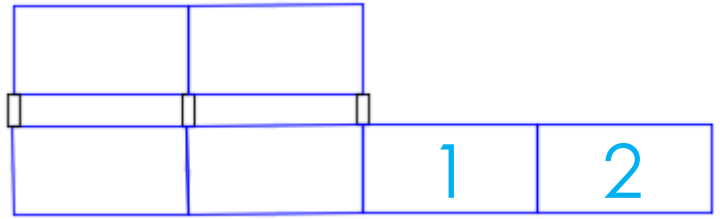
Layout Recommendations for Reducing Weight and/or Mechanical Attachment Counts

-Limit "Peninsulas" to No More Than Two Modules Long

Keep "peninsulas" to no more than 1 x 2 modules or 2 x 1 modules. "Peninsulas" that are more than 2 module long will require additional ballast and/or mechanical attachments

1 x 2 modules





2 x 1 modules