SunPower Maxeon and Performance

Photovoltaic Panels

Safety and Installation Instructions
for
Europe, Asia, Australia, Latin America and Africa

Available Languages:
English
French
German
Italian
Spanish
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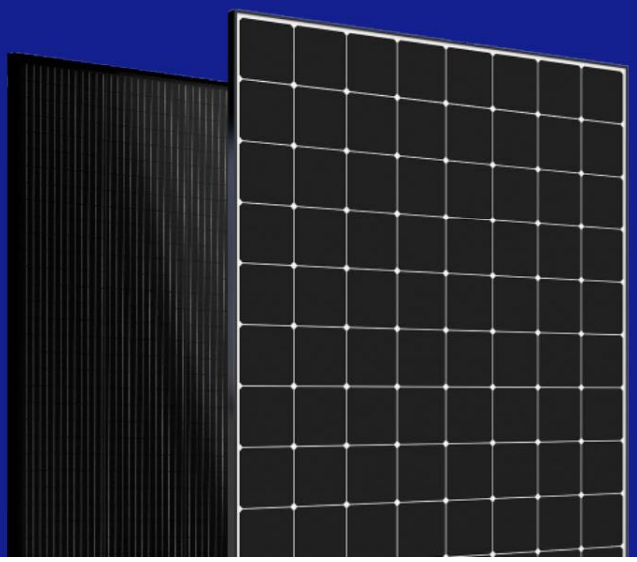
Indonesian

SunPower Maxeon and Performance

Photovoltaic panels



Safety and Installation Instructions (English - IEC Version)

001-15497 Revision AD
PN 100657
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This document includes references to X-Series, Maxeon and Performance modules:

Platform	Model	Power Range
MAX3 104c COM	SPR-MAX3-xxx-COM	xxx=340-400 in steps of 5
MAX3 104c RES	SPR-MAX3-xxx, SPR-MAX3-xxx-BLK	xxx=340-400 in steps of 5
MAX3 112c ACR	SPR-MAX3-xxx-R, SPR-Max3-xxx-BLK-R, SPR-MAX3-xxx-COM-R	xxx=400-430 in steps of 5
MAX3 112c	SPR-MAX3-xxx, SPR-MAX3-xxx-BLK	xxx=415-430 in steps of 5
MAX3 128c	SPR-Xyy-XXX-COM	xxx=420-485 in steps of 1
MAX6 66c	SPR-MAX6-xxx	xxx=410-445 in steps of 5
MAX6 72c	SPR-MAX6-xxx-COM	xxx=435-475 in steps of 5
MAX7 PT	SPR-MAX7-xxx-PT	xxx=420-445 in steps of 5
MAX7 104c	SPR-MAX7-xxx, SPR-MAX7-xxx-BLK	xxx=380-405 in steps of 5
MAX7 120c	SPR-MAX7-xxx, SPR-MAX7-xxx-BLK	xxx=440-475 in steps of 5
MAX7 128c	SPR-MAX7-xxx, SPR-MAX7-xxx-BLK	xxx=480-505 in steps of 5
P6 UPP	SPR-P6-xxx-COM-M-BF	xxx=510-555 in steps of 5
P6 COM-S	SPR-P6-xxx-COM-S-BF	xxx=470-510 in steps of 5
P6 BLK/COM-XS	SPR-P6-xxx-BLK, SPR-P6-xxx-COM-XS	xxx=380-420 in steps of 5
P6 COM-XS (1092)	SPR-P6-xxx-COM-XS	xxx=380-420 in steps of 5
P7 COM-S	SPR-P7-xxx-COM-S	xxx=520-560 in steps of 5
P7 COM-BLK	SPR-P7-xxx-BLK, SPR-P7-xxx-BLK-1500	xxx=428, 430-460 in steps of 5
P7 BLK-P	SPR-P7-xxx-BLK-P	xxx=485-520 in steps of 5

This document describes the limited warranty, mounting configuration, handling, maintenance and cleaning of modules. Save this documentation for future reference and comply with all provided instructions.

In case of inconsistencies or conflicts between the English version and any other versions of this manual (or document), the English version shall prevail and take control in all respects.

For the latest revision, please refer to
www.sunpower.maxeon.com/int/PVInstallGuideIEC
Contents of this manual are subject to change without notice.
Maxeon Solar Technologies, Ltd.
www.sunpower.maxeon.com

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1.0 Introduction

This manual provides safety and installation instructions for IEC certified Maxeon photovoltaic modules carrying the TUV logo on the product label (Figure 1).

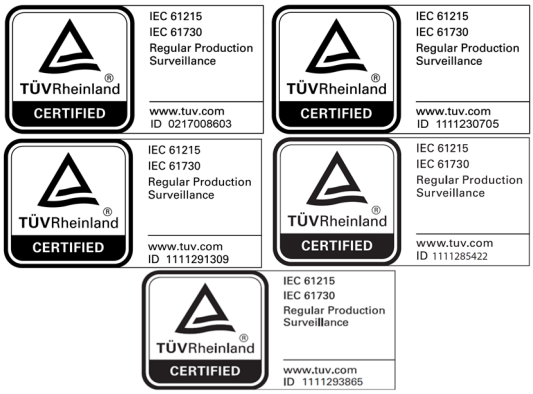


Figure 1

Important! ***Please read this instruction sheet in its entirety before installing, wiring, or using this product in any way. Failure to comply with these instructions will invalidate the Maxeon Limited Warranty for PV Modules.***

1.1 Disclaimer of Liability

The installation techniques, handling and use of this product are beyond company control. Therefore, Maxeon does not assume responsibility for loss, damage or expense resulting from improper installation, handling or use.

1.2 Conformity to International Electrotechnical Commission (IEC) standards

The products specified herein meets or exceeds the requirements set forth by IEC 61215 and IEC 61730. Refer to Table 1 for the detailed certification information pertaining to each product. The IEC Standard covers flat-plate PV modules intended for installation on buildings and those intended to be freestanding. This product is not intended for use where artificially concentrated sunlight is applied to the module.

This manual shall be used in combination with industry recognized best practices. Modules should be installed by certified professionals only.

Table 1: Product Certification

IEC 61215/IEC 61730:2016	IEC 61215:2021 / IEC 61730:2023
SPR-MAX6-xxx-BLK SPR-MAX6-xxx-COM SPR-MAX7-xxx-PT SPR-P6-xxx-COM-M-BF	SPR-XYY-xxx-COM SPR-MAX3-xxx SPR-MAX3-xxx-BLK SPR-MAX3-xxx-BLK-R SPR-MAX3-xxx-R SPR-MAX3-xxx-COM SPR-MAX6-xxx SPR-P6-xxx-COM-S-BF SPR-P6-xxx-BLK SPR-P6-xxx-COM-XS SPR-P7-xxx-COM-S SPR-P7-xxx-BLK SPR-P7-xxx-BLK-1500 SPR-P7-xxx-BLK-P
IEC 61215:2021 / IEC 61730:2016	
SPR-MAX7-xxx SPR-MAX7-xxx-BLK	

1.3 Limited Warranty

Module limited warranties are described in the Maxeon warranty document obtainable at www.sunpower.maxeon.com. Please read this document for more information.

Warranties do not apply to any of the following;

PV Modules subjected to: (i) misuse, abuse, neglect or accident; (ii) alteration or improper installation (improper installation includes, without limitation, installation or array that does not comply with all Maxeon installation instructions and operations and maintenance instructions of any type (as may be amended and updated from time to time at Maxeon's sole discretion), and all national, state, and local laws, codes, ordinances, and regulations); (iii) repair or modification by someone other than an approved service technician of Maxeon; (iv) conditions exceeding the voltage, wind, snow load specifications; and any other operational specification; (v) power failure surges, lightning, flood, or fire; (vi) damage from persons, biological activity, or industrial chemical exposure; (vii) glass breakage from impact or other events outside Maxeon's control.

2.0 Safety Precautions

Before installing this device, read all safety instructions in this manual.

Danger! Module interconnects pass direct current (DC) and are sources of voltage when the module is under load and when it is exposed to light. ***Direct current can arc across gaps and may cause injury or death if improper connection or disconnection is made, or if contact is made with module components that are damaged.*** Do not connect or disconnect modules when current from the modules or an external source is present.

- Cover all modules in the PV array with an opaque cloth or material before making or breaking electrical connections.
- Do not disconnect any modules when its inverter is feeding in to the grid. Switch off the inverter before disconnecting, reinstalling or making any action with the modules.
- For connectors, which are accessible to untrained people, it is imperative to use the locking connectors and safety clips, if applicable, in order to defend against untrained personnel disconnecting the modules once they have been installed.
- All installations must be performed in compliance with all applicable regional and local codes.
- There are no user serviceable parts within the module. Do not attempt to repair any part of the module.
- Installation should be performed only by qualified personnel.
- Remove all metallic jewelry prior to installing this product to reduce the chance of accidental exposure to live circuits.
- Use insulated tools to reduce your risk of electric shock.
- Do not stand on, walk, drop, and scratch or allow objects to fall on the glass surface of the modules.
- Damaged modules (broken glass, torn back sheet, broken j-boxes, broken connectors, etc) can be

electrical hazards as well as laceration hazards. Contact with damaged module surfaces or module frame can cause electric shock. Damaged modules should be immediately disconnected from the electric system. The module should be removed from array as soon as possible and contact the supplier for disposal instructions.

- Unconnected connectors must always be protected from pollution (e.g dust, humidity, foreign particles, etc), prior to installation. Do not leave unconnected (unprotected) connectors exposed to the environment. A clean assembly environment is therefore essential to avoid performance degradation.
- Do not allow the connectors to come in contact with chemicals such as sunscreen, greases, oils and organic solvents which may cause stress cracking.
- Do not install or handle the modules when they are wet or during periods of high wind.
- Do not block drain holes or allow water to pool in or near module frames
- Contact your module supplier if maintenance is necessary.
- Save these instructions!

3.0 Electrical Characteristics

The module electrical ratings are measured under Standard Test Conditions (STC) of 1 kW/m² irradiance with AM 1.5 spectrum and a cell temperature of 25 °C. Maxeon modules have specific electrical characteristics as shown on the datasheets.

A photovoltaic module may produce more current and/or voltage than reported at STC. Sunny, cool weather and reflection from e.g. snow or water can increase current and power output. Therefore, the values of I_{sc} and V_{oc} marked on the module should be multiplied by a factor of 1.25 when determining component voltage ratings, conductor ampacities, fuse sizes, and size of controls connected to PV output. An additional 1.25 multiplier may be required by certain local codes for sizing fuses and conductors. Maxeon recommends the use of open-circuit voltage temperature coefficients listed on the datasheets when determining Maximum System Voltage.

4.0 Electrical Connections

Modules may be connected in series and/or parallel to achieve the desired electrical output as long as certain conditions are met. Please use only the same type of modules in a combined source circuit.

Even if allowed by local regulation, Plug and Socket connectors mated together in a PV system must be of the same type (model, rating) from the same manufacturer i.e. a plug connector from one manufacturer and a socket connector from another manufacturer, or vice versa, shall not be used to make a connection. Currently approved connectors are:

Manufacturer	Model
Stäubli	PV-KST4/6I-UR, PV-KBT4/6I-UR
	PV-KST4-EV02/6I-UR, PV-KBT4-EV02/6I-UR
	PV-KST4-EV02A/6I PV-KBT4-EV02A/6I

The PV modules complies with Safety Class II standards, ensuring double or reinforced insulation to prevent electric shock and enhance overall safety during installation and operation. Maxeon recommends that all wiring be double insulated with a minimum rating of 85° C (185° F). All wiring should use flexible copper (Cu) conductors. The minimum size should be determined by the applicable codes. We recommend a size not less than 4mm². The insulation type should be appropriate for the type of installation method used and must meet SCII (Safety Class II) and IEC 61730 requirements. To minimize the risk from indirect lightning strikes (Voltage surges), the system should be designed to avoid loops in the wiring.

Maxeon recommends a conservative minimum bending radius (R) 5x cable diameter must be maintained and must not be bent on the direct exit of the connector or junction box. Avoid exposure of electrical connections to direct sunlight and do not place the connector in a location where water could easily accumulate. Installers must refer to connector manufacturer's instruction for further installation and connection requirements.

Connectors are factory assembled with intentional gaps between the cable nut and the body of the connector. Do not retighten module connector nuts as this may lead to stress cracking of the connector assembly and will void the warranty.

4.1 System & Equipment Grounding

Please refer to the applicable regional and local codes on grounding PV arrays and mounting frames for specific requirements (e.g. lightning protection).

Attach grounding hardware (stainless steel bolt, washer, nut, and external tooth-star washer in order to pierce the anodizing) to one of the grounding holes on the module frame and establish electrical contact to the aluminum frame.

Module Types
SPR **X , P series** modules and our Maxeon and Performance Product Line are compatible with Transformer Less (TL) inverters, when used as an ungrounded PV source. No frame grounding requirements (including functional frame grounding), but may be subjected to local regulation. Functional system grounding of a polarity (positive or negative) is optional and may be subject to local requirements.
X Series: SPR-Xyy-xxx-COM
P Series/ Performance Product Line: SPR-P6-xxx-COM-M-BF SPR-P6-xxx-COM-S-BF SPR-P6-xxx-BLK SPR-P6-xxx-COM-XS SPR-P7-xxx-COM-S SPR-P7-xxx-BLK SPR-P7-xxx-BLK-1500 SPR-P7-xxx-BLK-P
Maxeon Product Line: SPR-MAX3-xxx SPR-MAX3-xxx-BLK SPR-MAX3-xxx-BLK-R SPR-MAX3-xxx-R SPR-MAX3-xxx-COM SPR-MAX6-xxx SPR-MAX6-xxx-BLK SPR-MAX6-xxx-COM SPR-MAX7-XXX-PT SPR-MAX7-XXX SPR-MAX7-XXX-BLK

Do not mix X, MAX3, MAX6, MAX7, P6 and P7 in one system. All module series does not require functional grounding and are compatible with transformer-less inverters (ref. section 4.1)

Note: If you are installing an older Module Type than above mentioned, please refer to different/previous applicable Safety and Installation Manual.

If you are doing a frame grounding connection, avoid the direct contact between Aluminum and Copper using an intermediate metal like stainless steel or tin.

4.2 Series Connection

The modules may be wired in series to produce the desired voltage output. Do not exceed the maximum system voltage specified in module datasheet.

4.3 Parallel Connection

The modules may be combined in parallel to produce the desired current output. Series string must be fused prior to combining with other strings if the resulting maximum reverse current exceeds the fuse rating as shown in the datasheets. Bypass diodes are factory installed in the modules. Please refer to the applicable regional and local codes for additional fusing requirements and limitations on the maximum number of modules in parallel.

5.0 Module Mounting

The Maxeon ***Limited*** Warranty for PV Modules is contingent upon modules being mounted in accordance with the requirements described in this section.

5.1 Site Considerations

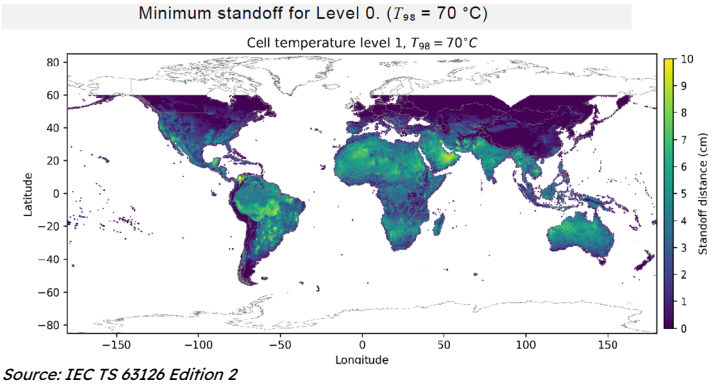
Maxeon modules should be mounted in locations that meet the following requirements:

Operating Temperature: All Maxeon modules must be mounted in environments within the following maximum and minimum operating temperatures:

Maximum Operating Temperature	+70 °C (+158 °F)
Minimum Operating Temperature	-40 °C (-40 °F)

Care should be taken to provide adequate ventilation behind the modules, especially in hot environments.

Adequate ventilation should be provided behind or underneath the modules, especially in hot environments. It is recommended to install modules in environments where the ambient temperature ranges from -40°C to +40°C. The 98th percentile operational temperature of the module should not exceed 70°C under any mounting conditions. Refer to Figure 2 for Level 0 regions and its 98th percentile.



Source: IEC TS 63126 Edition 2

Figure 2

Shading should always be minimized as much as possible through site design and maintenance to maximize lifetime energy production.

Shading is defined as Partial or Permanent. Partial Shade occurs infrequently – at certain times of the year or for a minimal duration during peak production hours. Sources include interrow shading, regular soiling, snow, and site features. Permanent Shade regularly occurs for extended periods during peak production hours - such as installing panels directly behind a chimney or roof vent.

Maxeon modules: Minimize permanent and partial sources of shading. Maxeon panels are designed to prevent hotspots and installations with permanent shade will not impact the Limited Warranty.

Performance Series: Avoid permanent sources of shading and minimize partial sources of shading. Installations with permanent shade may reduce the lifetime of the module and may impact the Limited Warranty.

P7 Performance modules are equipped with three bypass diodes; two at the top and one at the bottom (See Figure 3). Due to their unique electrical circuitry, if an object may cast temporary shade on one side of the module, the module design allows for flexible positioning, whereby the module can be flipped to limit shading to one section of the panel

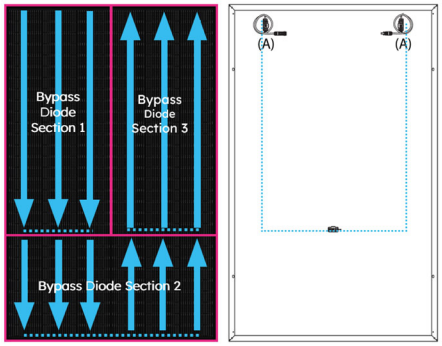


Figure 3

Design Strength: Maxeon modules are designed to meet a positive or negative (upward and downward, e.g. wind) withstanding test pressure load and a negative (or downward, e.g. static load or snow load) withstanding test pressure load, as per IEC 61215, when mounted in the configurations specified in Appendix.

When mounting modules in snow prone or high wind environments, special care should be taken to mount the modules in a manner that provides sufficient design strength while meeting local code requirements.

Additional authorized Operating Environments:

Modules can be mounted in the following aggressive environment according to the test limits mentioned below (available upon request)

Salt mist corrosion testing: IEC 61701 test method 6*

(*Test method 8 for all MAX7, SPR-P6-XXX-COM-M-BF, SPR-P6-XXX-COM-S-BF, SPR-P7-XXX-COM-S, SPR-P7-XXX-BLK)*

Ammonia Corrosion Resistance: IEC 62716 Concentration: 6,667ppm*

Modules are designed for a maximum altitude of 2000 m.a.s.l

**Excluding SPR-P6-XXX-COM-XS, SPR-P6-XXX-BLK*

Excluded Operating Environments:

Certain operating environments are not recommended for specific Maxeon modules and are excluded from the Maxeon ***Limited*** Warranty for these modules.

No Maxeon module should be mounted at a site where it may be subject to direct contact with salt water, or other aggressive environment.
Modules should not be installed near flammable liquids, gases, or locations with hazardous materials; or moving vehicules of any type.

Performance Series Mounting Orientation
Performance Series (P-Series) modules are designed to be installed in landscape orientation. In landscape orientation, P-series modules maintain higher power under row to row shading and edge soiling.

5.2 Mounting Configurations
Mounting system must provide a flat plane for the modules to be mounted on and must not cause any twist or stress to be placed on the Module, even in case of thermal expension.

Modules may be mounted at any angle from horizontal to vertical. Select the appropriate orientation to maximize sunlight exposure. Maxeon recommends for a good performance of the system (reduction of soiling effect/water pooling) a minimum of 5˚ tilt angle. The cleaning frequency must be increased for modules installed with a very low angle. In the Northern Hemisphere, the PV modules is typically facing south, and in the Southern Hemisphere, the PV modules should typically face north.
Commercial modules (128 cells) frames have permanently attached stacking pins located a 20mm zone on the long side frame at 388-408 mm (Appendix). Mounting system hardware used with commercial modules must account for the presence of these stacking pins (Appendix).
Specific information on module dimensions and the location of mounting and grounding holes is provided in Appendix

In order to prevent water from entering the junction box, which could present a safety hazard, modules should not be mounted such that the front/top glass faces downward (e.g., on a tracking structure that positions the module with the junction box facing skyward during sleep mode).

It shoule be noted that the watertightness is not ensured by the modules but by the mounting system and that drainage should be well designed for Modules.

Clearance between the module frames and structure or ground is required to prevent wiring damage and allows air to circulate behind the module. The recommended assembling clearance between modules installed and the roof surface should be minimum of 50 mm distance.
The recommended assembling clearance between modules installed on any mounting system is a minimum of 5 mm distance.
When installed on a roof, the module shall be mounted according to the local and regional building and fire safety regulations. In case the module is installed in a roof integrated PV-System (BIPV), it shall be mounted over a watertight and fire-resistant underlayment rated for such application. For the Australian Market, Building Integrated PV Module installations must comply with the requirements of the National Construction Code and AS/NZS 5033.

Modules mounting systems should only be installed on building that have been formally considered for structural integrity, and confirmed to be capable of handling the additional weighted load of the Modules and mounting systems, by a certified building specialist or engineer.

Mounting system supplier shall manage the galvanic corrosion which can occur between the aluminium frame of the Modules and mounting system or grounding hardware if such devices is comprised of dissimilar metals.
The module is only certified for use when its factory frame is fully intact. Do not remove or alter the module frame. Creating additional mounting holes or removing the stacking pins may damage the module and reduce the strength of the frame, therefore are not allowed. Using mounting Clamps or clips with additional grounding bolts or grounding metal sheets could be in compliance with this Safety and Installation Instructions manual subject to conditions of Section 4.1
Modules may be mounted using the following methods only:

1) **Frame Holes:** Secure the module to the structure using the factory mounting holes. Four M6 or M8 stainless steel bolts, with nuts, washers, and lock washers are recommended per module. Bolts to be fasten according to racking supplier recommendations. Refer to Appendix for the module dimensions and mounting hole locations.

2) **Pressure Clamps or Clips:** Mount the module with the opposite clips on the longer and/or shorter side of the frame of the module. The clips allowed location should be according to Appendix. Installers should ensure the clamps are of sufficient strength to allow for the maximum design pressure of the module. Clips and clamps are not provided by Maxeon. Clamps must apply force collinear with the 'wall' of the module frame and not only to the top flange.
Clamps shall not apply excessive force to the top frame, warp the top flange, or contact the glass- these practices void the module warranty and risk glass breakage. Figure 1a illustrates locations for top frame clamp force. Avoid clamping within 50mm of module corners to reduce risk of frame corner deflection and glass breakage. When clamping to the module frame, torque should never exceed 15 N.m to reduce chances of frame deformation, if the clamp datasheets show a specific torque value which is lower than 15 Nm the installer should follow the torque value which ever is more stringent. A calibrated torque wrench must be used. Mounting systems should be evaluated for compatibility before installing especially when the system is not using Clamps or clips. Please contact Maxeon for the approval of the use of non-standard

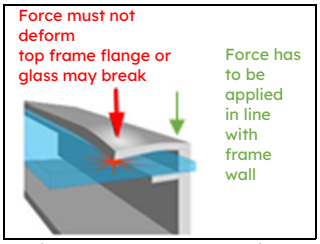


Figure 1a: Clamp Force Locations

pressure clamps or clips where torque values are higher than otherwise stated.

Minimum clamp width allowance is ≥35mm, and for corner clamping the minimum clamp width is: ≥50mm. Clamps should not be in contact with the front glass and clamps should not deform the frame.

Maxeon does not recommend nor endorse the application on the modules of clamps which, as part of their grounding or earthing function, have teeth or claw features (see Figure 4) which may, individually or cumulatively, cause the module breakage due to (and without limitation):

i) the grounding features touching the front glass which is incorporated into the module due to the position of such grounding feature,

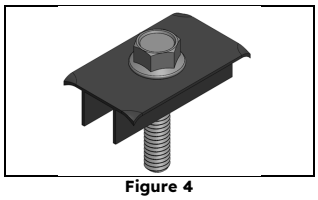


Figure 4

ii) the shape, the position or the number of the grounding features deforming the module top frame, or
iii) the clamp being over-torqued during the installation.

3) **End Mount:** End mounting is the capture mounting of the length of the module's shorter frames with clamps on each shorter sides of the frame. Three different configurations are possible: 1) with two mounting rails under the complete length of each shorter side of the Modules, with two mounting rails parallel to the long side of the Modules without any mounting rail (Appendix). The end-mounting rails and clips or clamps must be of sufficient strength to allow for maximum designed test pressure of the module. Verify this capacity with the mounting system of vendor before installation.

4) **Hybrid Mount:** Combination with clamps or clips located on longer or shorter sides of Modules are also possible, see Table 1.2 for allowed configurations. In any case, four clampings points are needed.

5) **Maxeon specified or Maxeon supplied mounting systems.** Modules mounted with strict adherence to Maxeon documentation, using hardware systems supplied by or specified by Maxeon.

5.3 Ground Mount Applications for Bifacial modules

Various environmental and installation parameters affect bifacial gain. Albedo is a measure of the amount of light reflected from the ground surface. A higher albedo factor will increase irradiance on the backside and result in higher bifacial gain of the module. The surface conditions, month of the year, time of day, GHI and DNI both influence the amount of incident rearside irradiance.
Maxeon recommends to check with solar module mounting hardware supplier in order to determine the Structure Shading factor of your particular installation. The Structure Shading Factor varies with racking system design, irradiance, albedo and height of module installation above ground and has an overall impact on the rear side irradiance mismatch.
The Rearside mismatch losses are proportional to the albedo, height of the modules above ground and structure shading factor. The irradiance non-uniformity on the rearside results in mismatch generally as the albedo increases and installation height of the modules are lower to the ground.

5.4 Rooftop Applications for Bifacial modules

Bifacial modules use direct, reflected or diffuse sunlight at the rearside to generate additional power. Therefore, it is recommended to use bifacial modules installed on flat roof applications.

In order to maximize the bifacial gain at the rooftop applications the following parameters listed below should be considered:
•Surface Albedo
•Roof Integrity
•Module Tilt Angle
•Module Elevation
•Structural Backside Shading

The bifacial modules can be mounted both landscape or portrait orientation as shown in Appendix section.
When installing a bifacial module on a roof, check applicable building codes and ensure that the roof construction and the structural load calculations of the building are suitable.
Bifacial gain tends to be most effective with a higher tilt angle.
As the tilt angle and the module elevation from the underlying surface increases, more reflected light and diffuse light can be captured by the module. The mounting rails shall be designed to limit the rear side shading as much as possible. Obstacles between modules and the ground should be avoided as much as possible in order to increase the bifacial gain.

5.5 Bifacial Electrical Considerations

The overall electrical bifacial gain is determined by the combination of surface albedo, irradiance, module tilt angle, shading losses from the rearside, rearside mismatch and module elevation above ground. Please refer to the Maxeon datasheet for the electrical outputs with respect to the overall bifacial gain. Please utilise a suitable performance software package to simulate the overall bifacial gain.

5.6 Handling of Modules during Installation

Do not place modules face forward in direct contact with abrasive surfaces like roofs, driveways, wooden pallets, railings, stucco walls, etc…
The module front surface glass is sensitive to oils and abrasive surfaces, which may lead to scratches and irregular soiling.
During storage, modules need to be protected from rain or any kinds of liquids. Required storage temperature is between 10°C to 40°C in a dry environment (humidity between 30 to 80%). Do not store modules outdoor to avoid moisture and wet conditions.

Modules that feature antireflective coated glass are prone to visible finger print marks if touched on the front glass surface. Maxeon recommends handing modules with anti-reflective glass with gloves (no leather gloves) or limiting touching of the front surface. Any finger print marks resulting from installation will naturally disappear over time or can be reduced by following the washing guidelines in Section 6.0 below. Any module coverage (colored plastic tarps or similar) during installation can lead to permanent front glass discoloration and is not recommended. The use of vacuum lifting pads can cause permanent marks on the front glass. Never lift or move the module using the cables or the junction box under any-circumstances.
Ties or tapes used to secure cables are designed for transportation. They are not designed to comply with local requirements for securing PV cable to the array, and may cause shading on bifacial panels reducing performance.
Shading incidence need to be avoided during PV system operation. The system is not supposed to be energized until the mounting scaffolding, fences or railing have been removed from the roof.
Systems should be disconnected in any cases of maintenance which can cause shading (e.g. chimney sweeping, any roof maintenance, antenna/dish installations, etc).

When a residential installation (with “RES” in the description) is designed/planned using SunPower/Maxeon modules with different Part Numbers (SKU’s), in order to minimise cosmetic differences between modules, please ensure the anti-reflective supplier of the modules are identical. This can be done by referring to the product description, and looking for AR-XX, where “XX” denotes the supplier and these characters shall be all identical.

6.0 Maintenance

Maxeon recommends visual inspection on a regular basis of all modules for safe electrical connections, sound mechanical connection, and free from corrosion. This visual inspection should be performed by trained personnel. The standard frequency is once a year according to environmental conditions, periodic cleaning of modules is recommended but is not required. Periodic cleaning has resulted in improved performance levels, especially in regions with low levels of annual precipitation (less than 46,3cm (18,25 inches)). Consult your dealer or supplier about recommended cleaning schedules for your area.

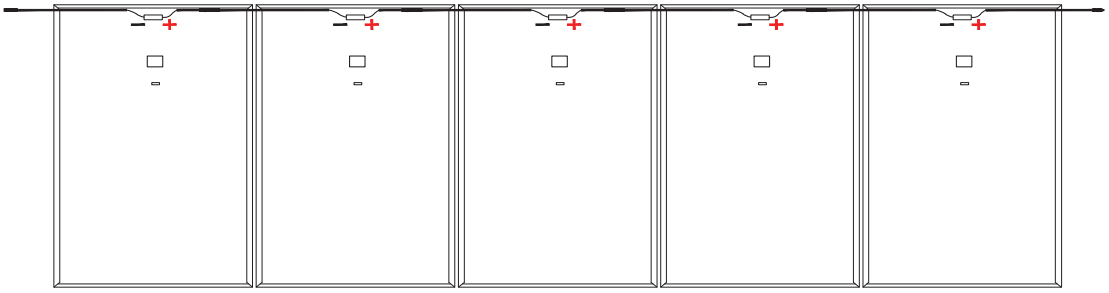
To clean a module, wash with potable, non-heated, water. Normal water pressure is more than adequate, but pressurized water up to 100 bar (min.50 cm distance) may be used. Maxeon recommends using a large hosepipe and not to perform cleaning at high outside temperatures. Fingerprints, stains, or accumulations of dirt on the front surface may be removed as follows: first rinse off area and let soak for a short period of time (5 mins). Re-wet and use a soft sponge or seamless cloth to wipe glass surface in a circular motion.

Fingerprints typically can be removed with a soft cloth or sponge and water after wetting. Do not use harsh cleaning materials such as scouring powder, steel wool, scrapers, blades, or other sharp instruments to clean the glass surface of the module. Use of such materials or cleaning without consultation will invalidate the product warranty. As dry cleaning is also risky for Anti-Reflective (AR) coated module surface, spinning brush is not recommended for module cleaning.

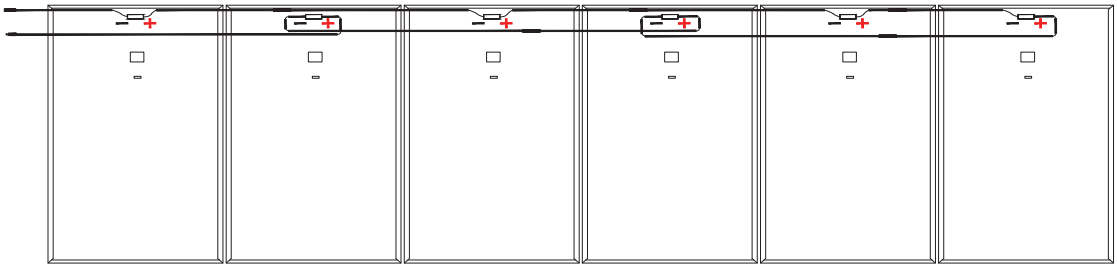
Recommended Cable Management

Maxeon Product Line:

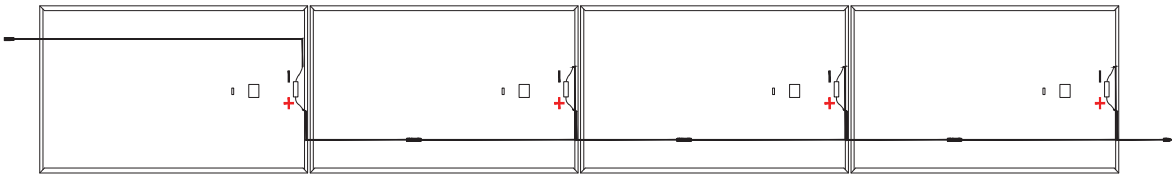
Portrait Stringing



Leapfrog Stringing (Portrait)

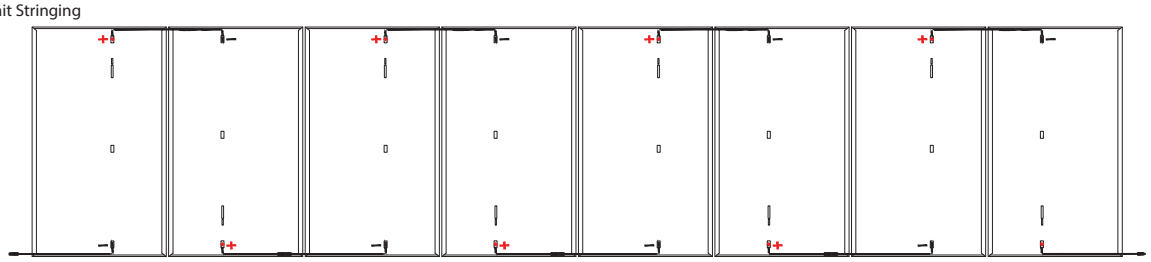


Landscape Stringing

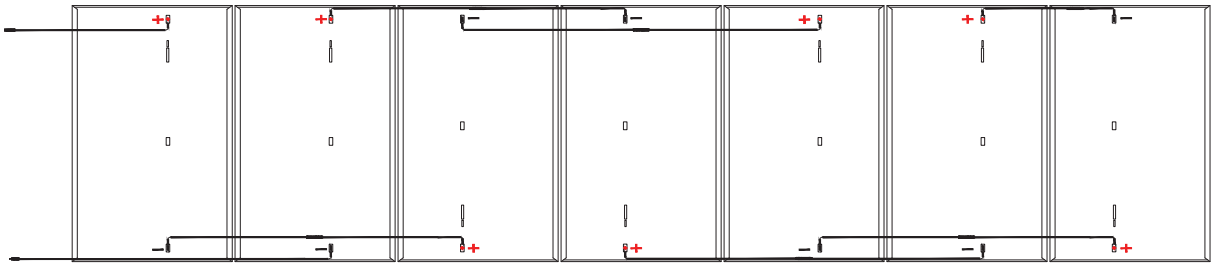


Performance Product Line:

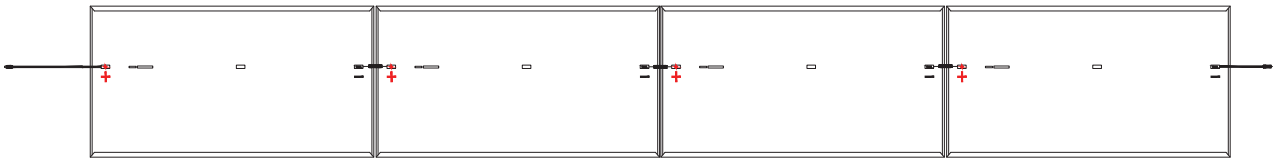
Portrait Stringing



Leapfrog Stringing (Portrait)



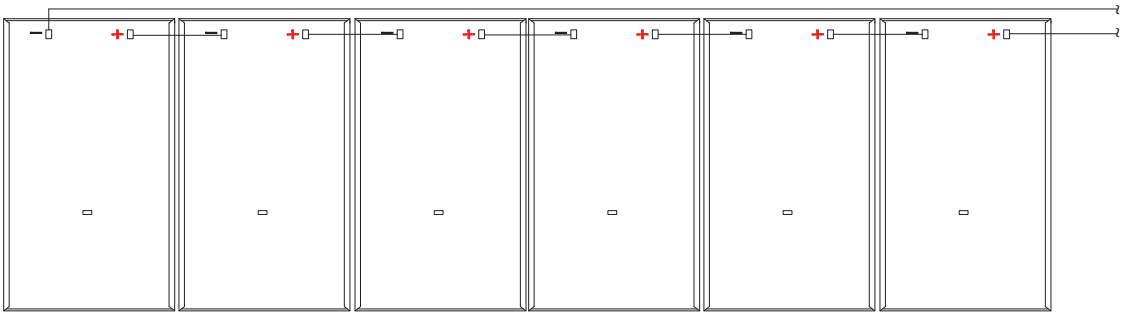
Landscape Stringing



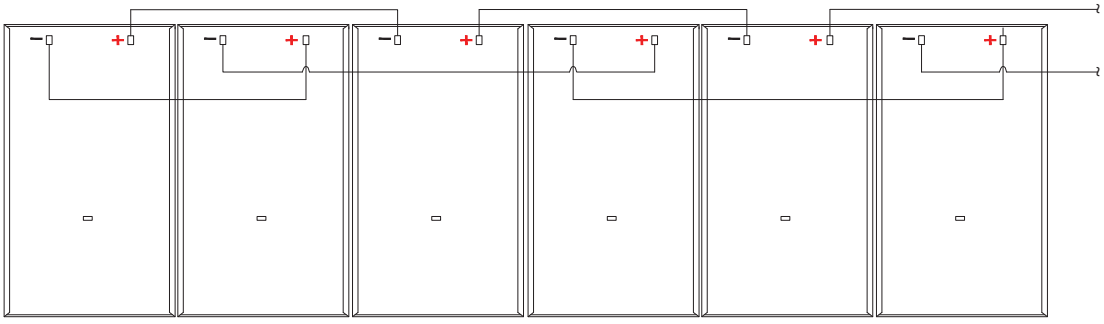
*The image above is for illustration purposes only

Maxeon 7 and Performance 7 Product Line:

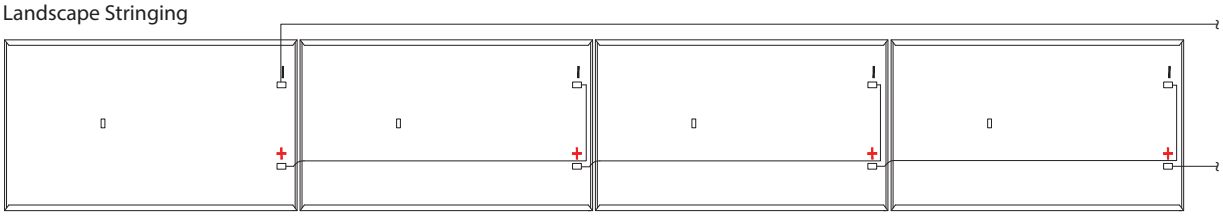
Portrait Stringing



Leapfrog Stringing (Portrait)



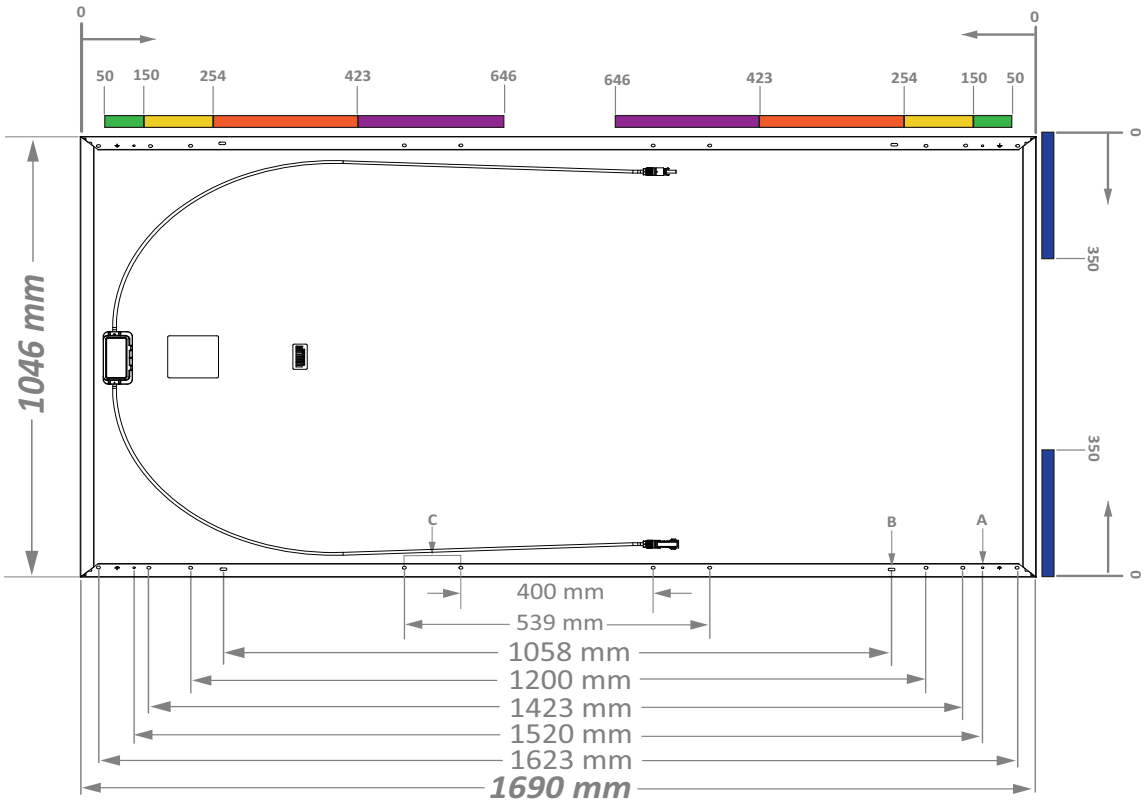
Landscape Stringing



*The image above is for illustration purposes only

Appendix: Mounting Configurations and Load Ratings

SunPower Maxeon 3 104 cells Commercial Solar Panel
SPR-MAX3-XXX-COM
(xxx = 340 - 400 in steps of 5)

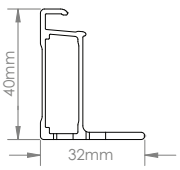


Measurement Tolerances are +/-3mm for the Length and Width of the module.

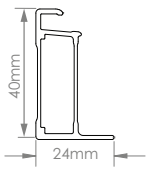
A - Ground Holes (4X Ø4.2mm)
B - Slots (4X 5.0mm(W) x 15mm (L))
C - Mounting Holes (20X Ø6.8mm)

GEN 4.2 FRAME PROFILE

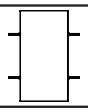
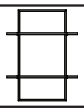
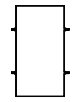
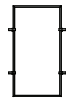
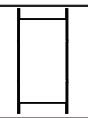
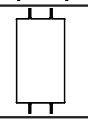
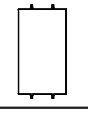
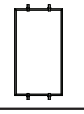
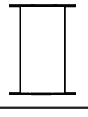
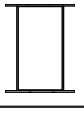
SIDE FRAME PROFILE



END FRAME PROFILE

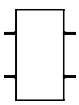
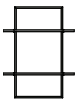
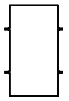
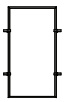


TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2700	+1800/-1800
			150 - 254	+3600/-3600	+2400/-2400
			254 - 423[5]	+8100/-5400	+5400/-3600
			423 - 646[5]	+3600/-3600	+2400/-2400
Long Side Mounting, Point Supported[6]			50 - 150[8]	+2700/-2700	+1800/-1800
			150 - 254[8]	+3600/-3600	+2400/-2400
			254 - 423[8]	+5400/-5400	+3600/-3600
			423 - 646[8]	+3600/-3600	+2400/-2400
Long Side Mounting, Rails Parallel to Mounting Frame[7]			50 - 150[8]	+2700/-2700	+1800/-1800
			150 - 254[8]	+3600/-3600	+2400/-2400
			254 - 423[8]	+5400/-5400	+3600/-3600
			423 - 646[8]	+3600/-3600	+2400/-2400
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350[5]	+2700/-2700	+1800/-1800
Short Side Mounting, Point Supported (End Mount)[6]			0 - 350[8]	+2700/-2700	+1800/-1800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[8]	+2700/-2700	+1800/-1800

1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

BOLTS

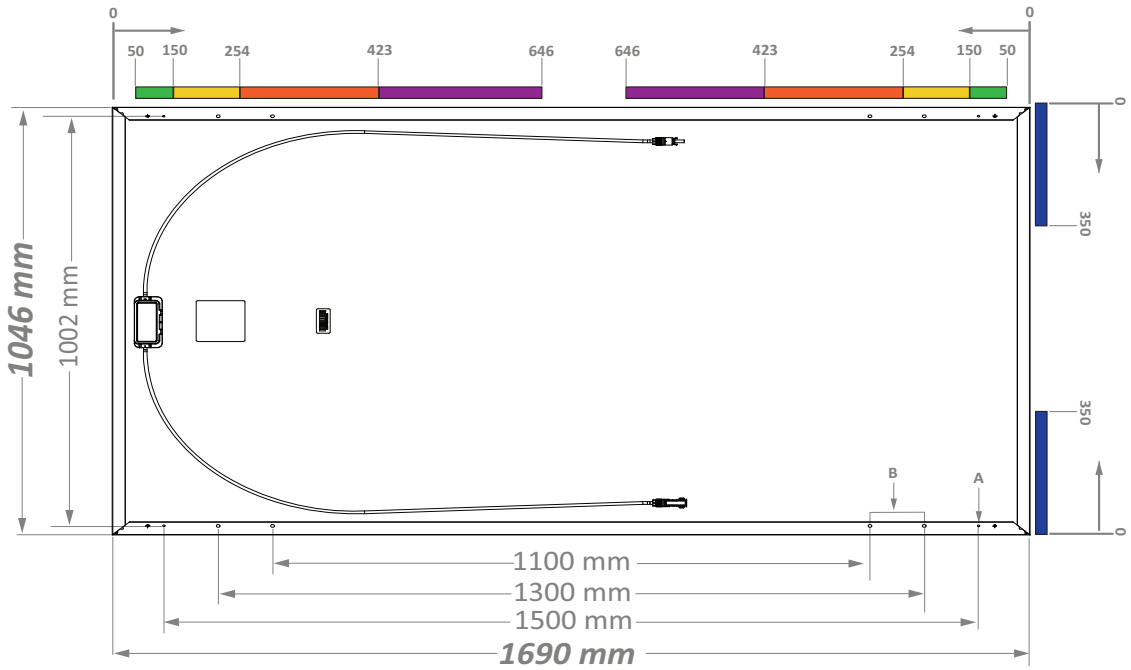
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1423mm Holes	+8100/-3600	+5400/-2400
			1200mm Holes	+8100/-3600	+5400/-2400
			539mm Holes	+5400/-3600	+3600/-2400
			400mm Holes	+5400/-3600	+3600/-2400
Long Side Mounting, Point Supported[8]			1423mm Holes	+5400/-3600	+3600/-2400
			1200mm Holes	+5400/-3600	+3600/-2400
			539mm Holes	+3600/-3600	+2400/-2400
			400mm Holes	+3600/-3600	+2400/-2400

5 IEC 61730 Cert Tested
6 Same design loads are acceptable for bottom flange mounting systems.
7 Range indicates positioning of the clamp and not the rails.
8 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

SunPower Maxeon 3 104 cells Residential Solar Panel

SPR-MAX3-XXX, SPR-MAX3-XXX-BLK

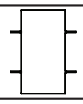
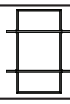
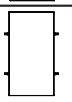
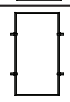
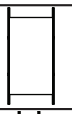
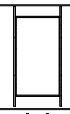
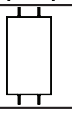
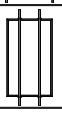
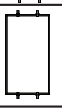
(xxx = 340 - 400 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - Ground Holes (4X Ø4.2mm)
B - Mounting Holes (8X Ø6.8mm)

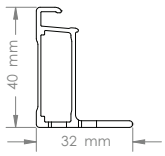
TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2700	+1800/-1800
			150 - 254	+3600/-3600	+2400/-2400
			254 - 423[5]	+8100/-5400	+5400/-3600
			423 - 646[5]	+3600/-3600	+2400/-2400
Long Side Mounting, Point Supported[6]			50 - 150[8]	+2700/-2700	+1800/-1800
			150 - 254[8]	+3600/-3600	+2400/-2400
			254 - 423[8]	+5400/-5400	+3600/-3600
			423 - 646[8]	+3600/-3600	+2400/-2400
Long Side Mounting, Rails Parallel to Mounting Frame[7]			50 - 150[8]	+2700/-2700	+1800/-1800
			150 - 254[8]	+3600/-3600	+2400/-2400
			254 - 423[8]	+5400/-5400	+3600/-3600
			423 - 646[8]	+3600/-3600	+2400/-2400
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350[5]	+2700/-2700	+1800/-1800
Short Side Mounting, Point Supported (End Mount)[6]			0 - 350[8]	+2700/-2700	+1800/-1800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[8]	+2700/-2700	+1800/-1800

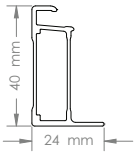
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

GEN 4.2 FRAME PROFILE

SIDE FRAME PROFILE



END FRAME PROFILE



BOLTS

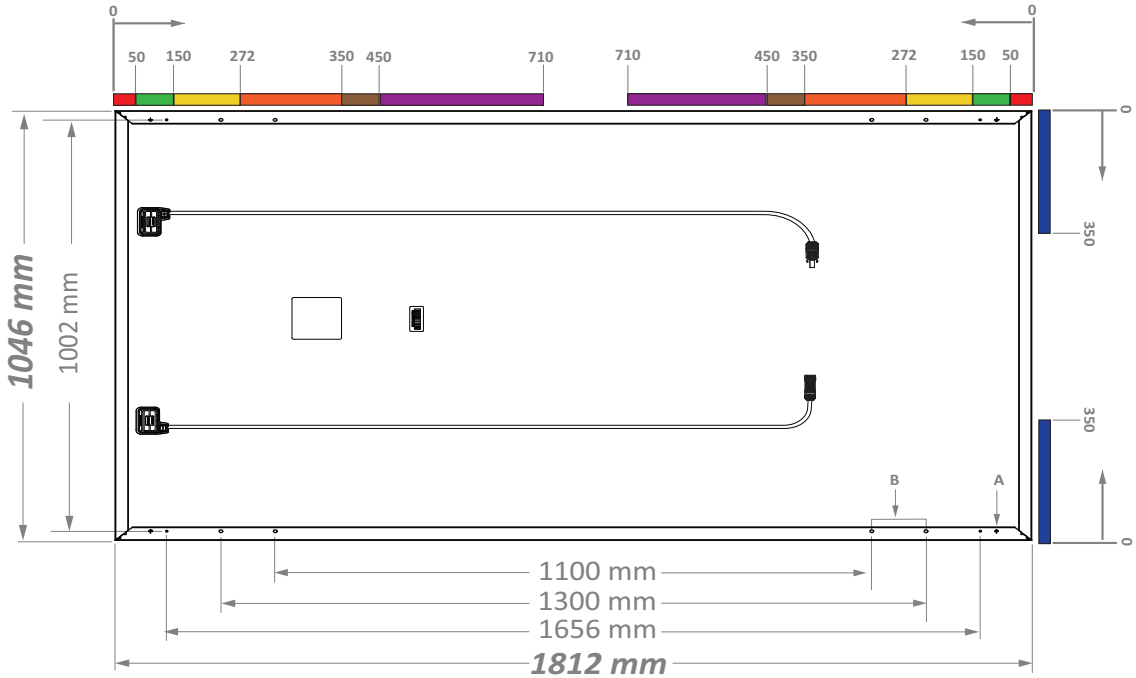
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1300mm Holes	+8100/-3600	+5400/-2400
			1100mm Holes	+8100/-3600	+5400/-2400
Long Side Mounting, Point Supported[6]			1300mm Holes	+5400/-3600	+3600/-2400
			1100mm Holes	+5400/-3600	+3600/-2400

5 IEC 61730 Cert Tested
6 Same design loads are acceptable for bottom flange mounting systems.
7 Range indicates positioning of the clamp and not the rails.
8 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

SunPower Maxeon 3 112 cells AC Ready Solar Panel

SPR-MAX3-XXX-R, SPR-MAX3-XXX-BLK-R, SPR-MAX3-XXX-COM-R

(xxx = 400 - 430 in steps of 5)

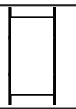
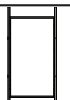
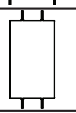
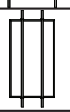
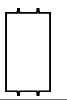


Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - Ground Holes (4X Ø4.2mm)

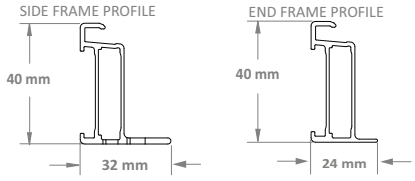
B - Mounting Holes (8X Ø6.8mm)

TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2700	+1800/-1800
			150 - 272	+3600/-3600	+2400/-2400
			272 - 450	+5400/-5400	+3600/-3600
			350 - 450[6]	+5400/-5400	+3600/-3600
			450 - 710[5]	+3600/-2400	+2400/-1600
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			Outer Clamps: 272 - 453[6] Middle Clamps: 856 - 956[6]	+7400/-7400	+4933/-4933
Long Side Mounting, Point Supported[7]			50 - 150[9]	+2700/-2700	+1800/-1800
			150 - 272[9]	+3600/-3600	+2400/-2400
			272 - 450[9]	+5400/-4200	+3600/-2800
			450 - 710[9]	+3600/-2400	+2400/-1600
Long Side Mounting, Rails Parallel to Mounting Frame[8]			50 - 150[9]	+2700/-2700	+1800/-1800
			150 - 272[9]	+3600/-3600	+2400/-2400
			272 - 450[9]	+5400/-4200	+3600/-2800
			450 - 710[9]	+3600/-2400	+2400/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350[5]	+2700/-2700	+1800/-1800
Short Side Mounting, Point Supported[7] (End Mount)			0 - 350[9]	+2700/-2700	+1800/-1800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[9]	+2700/-2700	+1800/-1800

1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

GEN 5.2 FRAME PROFILE

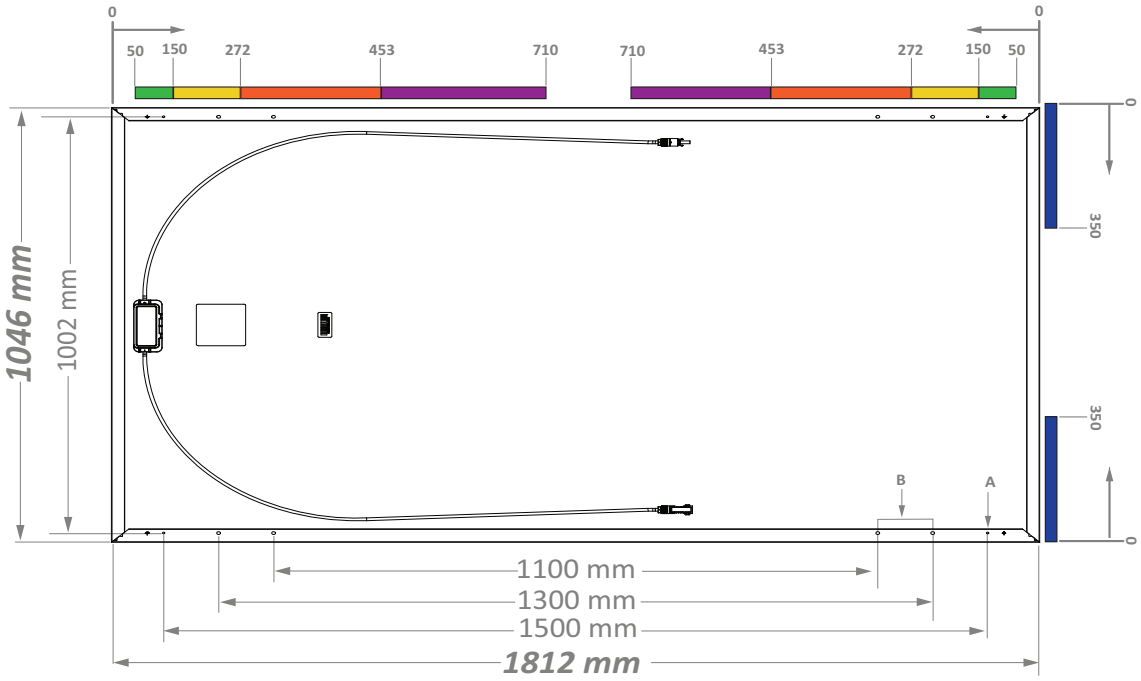


BOLTS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1300mm Holes	+5400/-5400	+3600/-3600
			1100mm Holes	+5400/-5400	+3600/-3600
Long Side Mounting, Point Supported[9]			1300mm Holes	+5400/-5400	+3600/-3600
			1100mm Holes	+5400/-5400	+3600/-3600

5 Covered under IEC 61730 Cert Test for 104 cell
6 For High Velocity Hurricane Zone (HVHZ), the modules achieved the required test loads. For hurricane zone building code requirements, please check with your installer.
7 Same design loads are acceptable for bottom flange mounting systems.
8 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

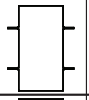
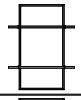
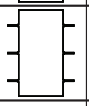
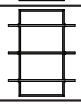
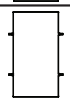
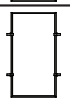
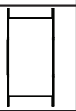
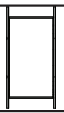
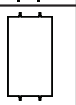
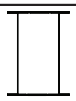
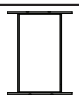
SunPower Maxeon 3 112 cells Residential Solar Panel
SPR-MAX3-XXX, SPR-MAX3-XXX-BLK
(xxx = 415 - 430 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - Ground Holes (4X Ø4.2mm)
B - Mounting Holes (8X Ø6.8mm)

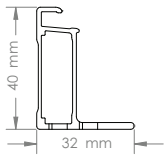
TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2700	+1800/-1800
			150 - 272	+3600/-3600	+2400/-2400
			272 - 453[5]	+5400/-4200	+3600/-2800
			453 - 710[5]	+3600/-2400	+2400/-1600
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			Outer Clamps: 243 - 453 Mittlere Klemmen: 856 - 956	+7400/-7400	+4933/-4933
Long Side Mounting, Point Supported[6]			50 - 150[8]	+2700/-2700	+1800/-1800
			150 - 272[8]	+3600/-3600	+2400/-2400
			272 - 453[8]	+5400/-4200	+3600/-2800
			453 - 710[8]	+3600/-2400	+2400/-1600
Long Side Mounting, Rails Parallel to Mounting Frame[7]			50 - 150[8]	+2700/-2700	+1800/-1800
			150 - 272[8]	+3600/-3600	+2400/-2400
			272 - 453[8]	+5400/-4200	+3600/-2800
			453 - 710[8]	+3600/-2400	+2400/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350[5]	+2700/-2700	+1800/-1800
Short Side Mounting, Point Supported (End Mount)[6]			0 - 350[8]	+2700/-2700	+1800/-1800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[8]	+2700/-2700	+1800/-1800

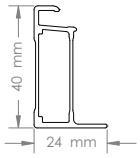
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.

GEN 4.2 FRAME PROFILE

SIDE FRAME PROFILE



END FRAME PROFILE

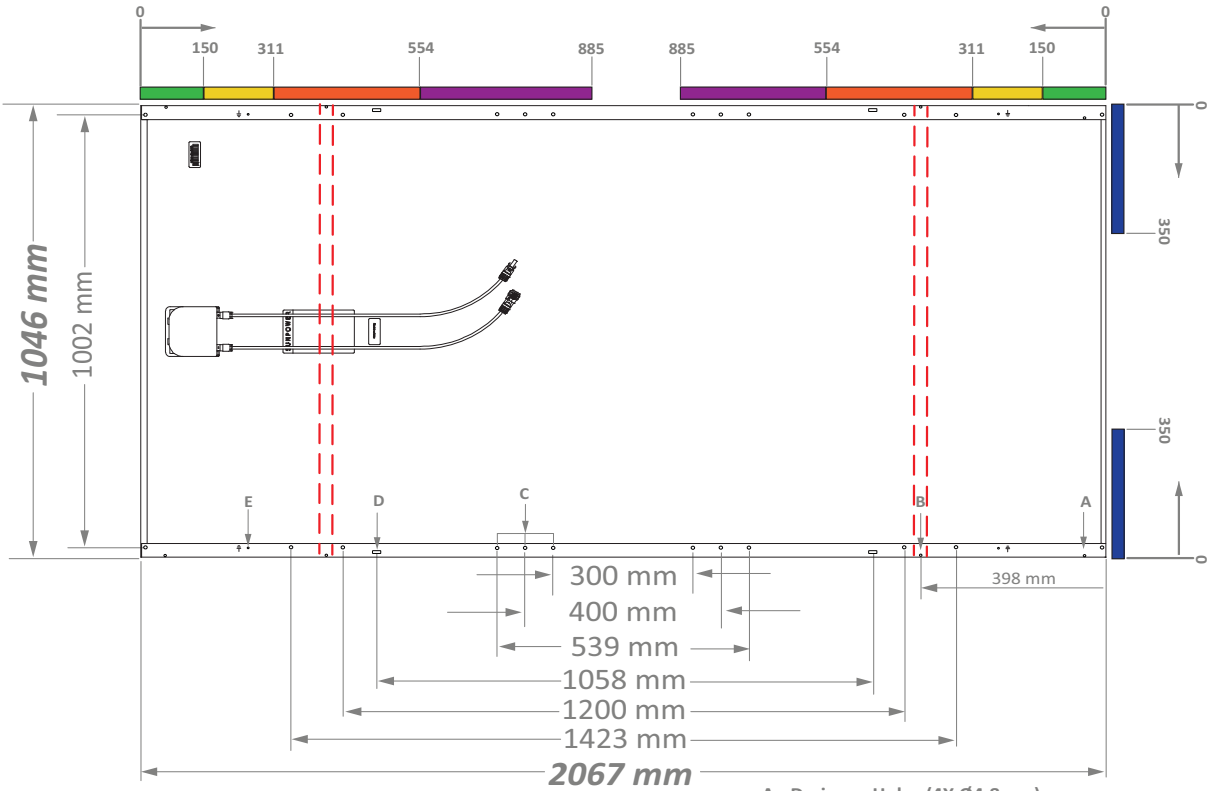


BOLTS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1300mm Holes	+5400/-5400	+3600/-3600
			1100mm Holes	+5400/-5400	+3600/-3600
Long Side Mounting, Point Supported[8]			1300mm Holes	+5400/-5400	+3600/-3600
			1100mm Holes	+5400/-5400	+3600/-3600

4 Rails must not be under the junction box.
5 Covered under IEC 61730 Cert Test for 104 cell
6 Same design loads are acceptable for bottom flange mounting systems.
7 Range indicates positioning of the clamp and not the rails.
8 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

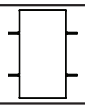
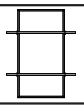
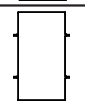
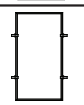
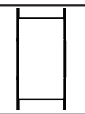
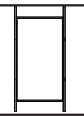
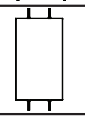
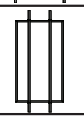
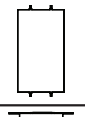
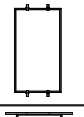
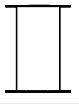
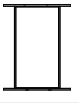
SunPower Maxeon 3 128 cells Solar Panel
SPR-Xyy-XXX-COM
(xxx = 420 - 485 in steps of 1)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - Drainage Holes (4X Ø4.8mm)
B - Stacking Pins (4X Ø6.10mm)
C - Mounting Holes (24X Ø6.8mm)
D - Slots (4X 5.0mm(W) x 15.0mm(L))
E - Ground Holes (4X Ø4.2mm)

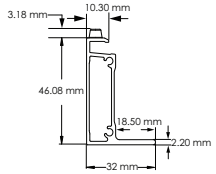
TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			0 - 150	+2000/-2000	+1333/-1333
			150 - 311	+5400/-3600	+3600/-2400
			311 - 554[5]	+5400/-3600	+3600/-2400
			554 - 885	+5400/-3600	+3600/-2400
Long Side Mounting, Point Supported[6]			0 - 150[8]	+2000/-2000	+1333/-1333
			150 - 311[8]	+3600/-3600	+2400/-2400
			311 - 554[5,8]	+5400/-3600	+3600/-2400
			554 - 885[8]	+3600/-3600	+2400/-2400
Long Side Mounting, Rails Parallel to Mounting Frame[7]			0 - 150[8]	+2000/-2000	+1333/-1333
			150 - 311[8]	+3600/-3600	+2400/-2400
			311 - 554[5,8]	+5400/-3600	+3600/-2400
			554 - 885[8]	+3600/-3600	+2400/-2400
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350	+2400/-2400	+1600/-1600
Short Side Mounting, Point Supported (End Mount)[6]			0 - 350[8]	+2000/-2000	+1333/-1333
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[8]	+2400/-2400	+1600/-1600

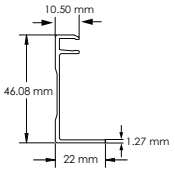
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

GEN 4.0 FRAME PROFILE

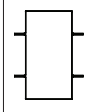
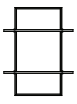
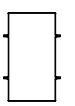
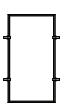
SIDE FRAME PROFILE



END FRAME PROFILE



BOLTS

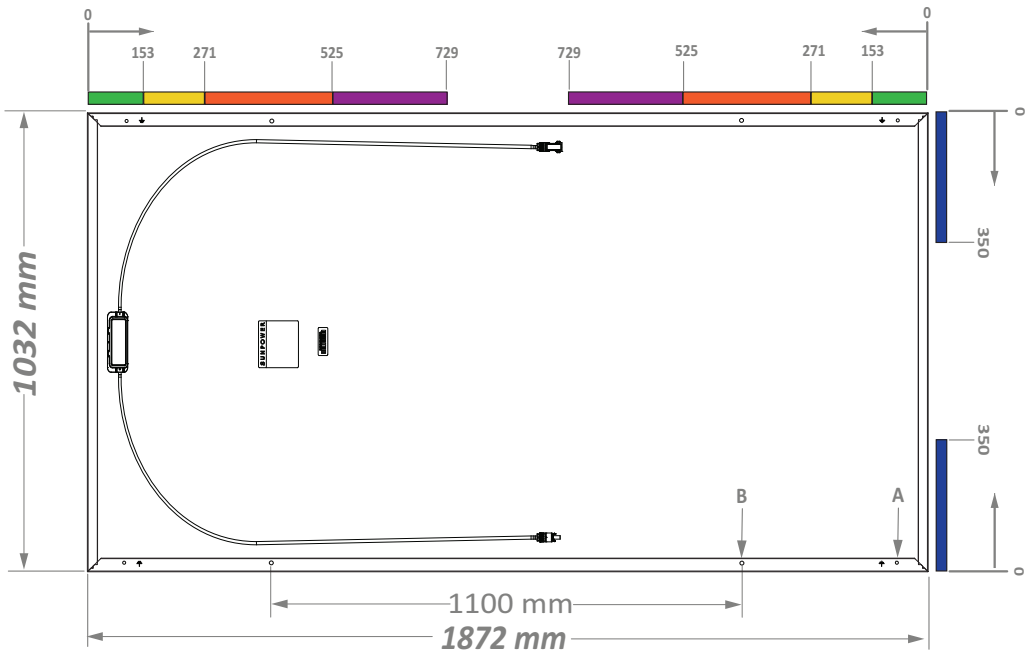
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1423mm Holes	+5400/-3600	+3600/-2400
			1200mm Holes	+5400/-3600	+3600/-2400
			539mm Holes	+3600/-3600	+2400/-2400
			400mm Holes	+3600/-3600	+2400/-2400
			300mm Holes	+3600/-3600	+2400/-2400
Long Side Mounting, Point Supported[8]			1423mm Holes	+5400/-3600	+3600/-2400
			1200mm Holes	+5400/-3600	+3600/-2400
			539mm Holes	+3600/-3600	+2400/-2400
			400mm Holes	+3600/-3600	+2400/-2400
			300mm Holes	+3600/-3600	+2400/-2400

5 There is a 20mm zone at 388-408mm from the corner where mounting is not allowed due to the stacking pin.
6 Same design loads are acceptable for bottom flange mounting systems.
7 Range indicates positioning of the clamp and not the rails.
8 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

SunPower Maxeon 6 66 cells Residential Solar Panel

SPR-MAX6-XXX

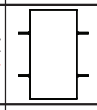
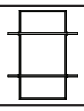
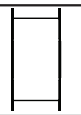
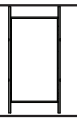
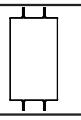
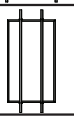
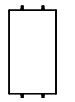
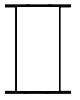
(xxx = 410 - 445 in steps of 5)



A - Ground Holes (4X Ø4.2mm)
B- Mounting Holes (4X Ø6.8mm)

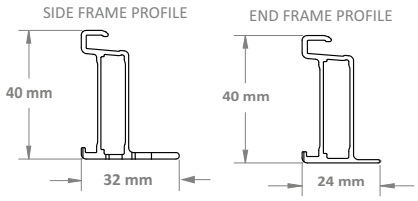
Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

TOP CLAMPS

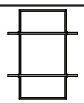
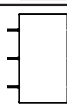
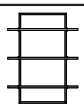
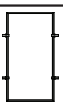
Mounting Configuration Description [1]	Mounting Configuration Diagram: Front View	Mounting Configuration Diagram: Back View	Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
Long Side Mounting, Rails Perpendicular to Mounting Frame [4]			0 - 153	+2400/-2400	+1600/-1600
			153 - 271	+2400/-2550	+1600/-1700
			271 - 525	+5400/-5400	+3600/-2700
			525 - 729	+2400/-2550	+1600/-1700
Long Side Mounting, Point Supported [5]			0 - 153 [7]	+2400/-2400	+1600/-1600
			153- 271 [7]	+2400/-2400	+1600/-1600
			271 - 525 [7]	+5400/-3600	+3600/-2400
			525 - 729 [7]	+2400/-2400	+1600/-1600
Long Side Mounting, Rails Parallel to Mounting Frame (End Mount) [6]			0 - 153 [7]	+2400/-2400	+1600/-1600
			153- 271 [7]	+2400/-2400	+1600/-1600
			271 - 525 [7]	+5400/-3600	+3600/-2400
			525 - 729 [7]	+2400/-2400	+1600/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount) [4]			0 - 350	+3600/-2400	+2400/-1600
Short Side Mounting, Point Supported (End Mount) [5]			0 - 350 [7]	+2400/-2400	+1600/-1600
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350 [7]	+2400/-2400	+1600/-1600

1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.
5 Same design loads are acceptable for bottom flange mounting systems.

GEN 5.2 FRAME PROFILE



BOLTS

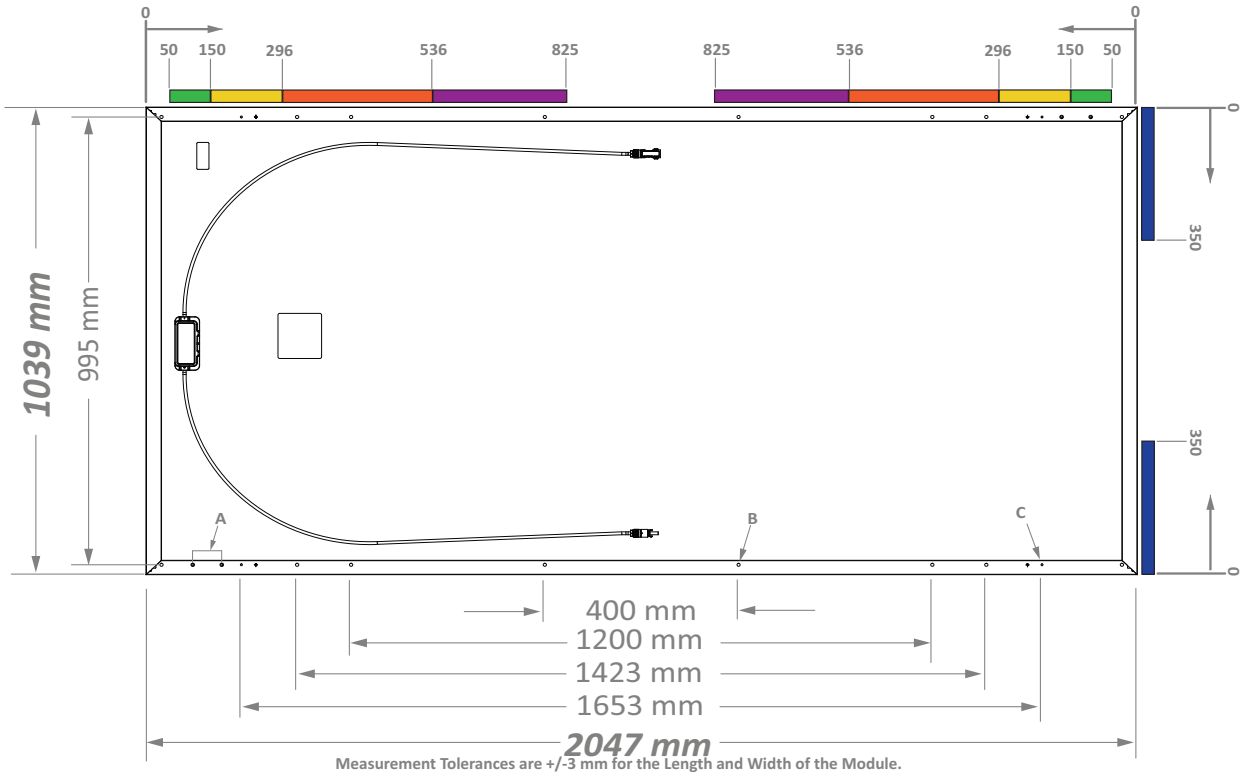
Mounting Configuration Description [1]	Mounting Configuration Diagram: Front View	Mounting Configuration Diagram: Back View	Mounting Holes Location	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
Long Side Mounting, Rails Perpendincular to Mounting Frame			**1100mm Holes**	+5400/-6000	+3600/-4000
Long Side Mounting, Rails Perpendincular to Mounting Frame [8]			**Outer: Bolts 1100mm Holes + Middle: Clamps 886 - 986**	+9000/-6000	+6000/-4000
Long Side Mounting, Point Supported [7]			**1100mm Holes**	+5400/-5400	+3600/-3600

6 Range indicates the positioning of the the clamps not the rails.
7 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.
8 For High Velocity Hurricane Zone (HVHZ), the modules achieved the required test loads. For hurricane zone building code requirements, please check with your installer.

SunPower Maxeon 6 72 cells Commercial Solar Panel

SPR-MAX6-xxx-COM

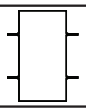
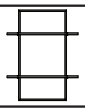
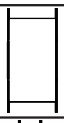
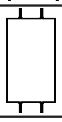
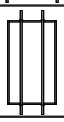
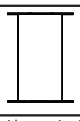
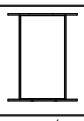
(xxx = 435 - 475 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - MLSD Holes
B - Mounting Holes (16X Ø6.8mm)
C - Ground Holes (4X Ø4.2mm)

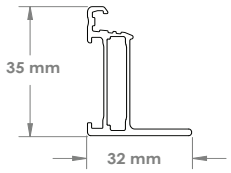
TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+1800/-1800	+1200/-1200
			150 - 296	+2400/-2400	+1600/-1600
			296 - 536	+5400/-3600	+3600/-2400
			536 - 825	+2400/-2400	+1600/-1600
Long Side Mounting, Point Supported[5]			50 - 150[7]	+1800/-1800	+1200/-1200
			150 - 296[7]	+2400/-2400	+1600/-1600
			296 - 536[7]	+5400/-2400	+3600/-1600
			536 - 825[7]	+2400/-2400	+1600/-1600
Long Side Mounting, Rails Parallel to Mounting Frame[6]			50 - 150[7]	+1800/-1800	+1200/-1200
			150 - 296[7]	+2400/-2400	+1600/-1600
			296 - 536[7]	+5400/-2400	+3600/-1600
			536 - 825[7]	+2400/-2400	+1600/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350	+2400/-1600	+1600/-1067
Short Side Mounting, Point Supported (End Mount)[5]			0 - 350[7]	+1800/-1600	+1200/-1067
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[7]	+1800/-1600	+1200/-1067

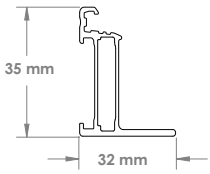
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.

GEN 5.6 FRAME PROFILE

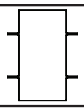
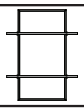
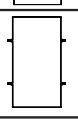
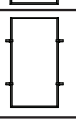
SIDE FRAME PROFILE



END FRAME PROFILE



BOLTS

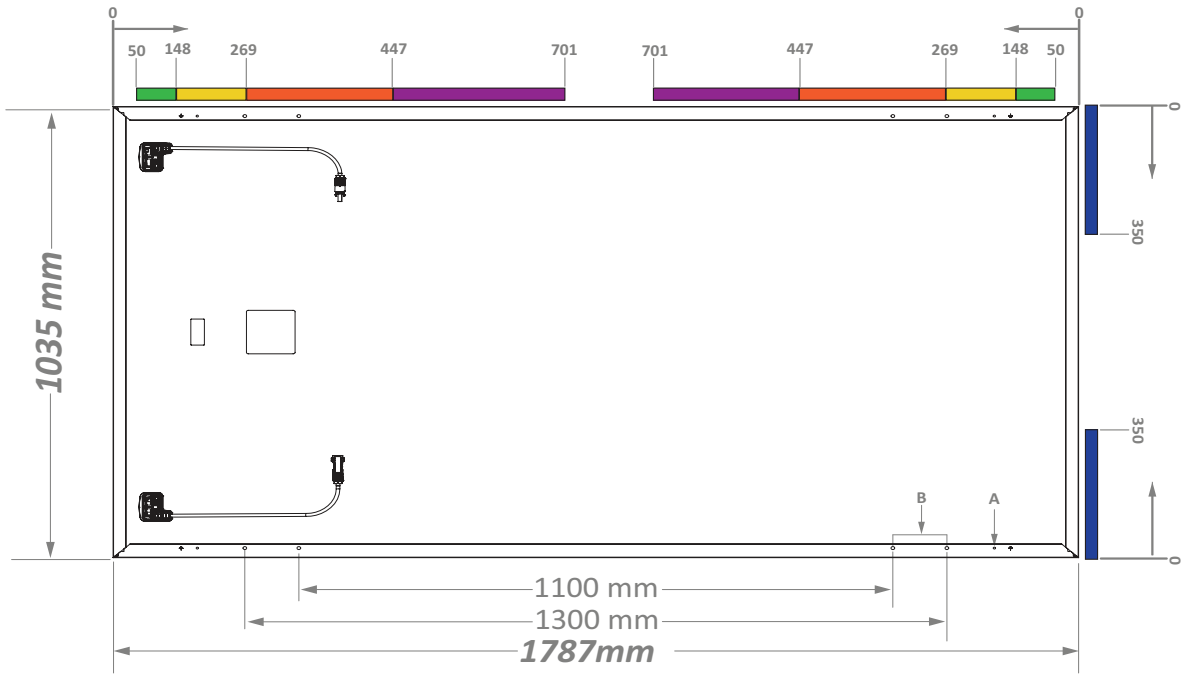
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1423mm Holes	+5400/-4500	+3600/-3000
			1200mm Holes	+5400/-4500	+3600/-3000
			400mm Holes	+2400/-2400	+1600/-1600
Long Side Mounting, Point Supported[7]			1423mm Holes	+2400/-4500	+1600/-3000
			1200mm Holes	+2400/-4500	+1600/-3000
			400mm Holes	+2400/-2400	+1600/-1600

4 Rails must not be under the junction box.
5 Same design loads are acceptable for bottom flange mounting systems.
6 Range indicates positioning of the clamps and not the rails.
7 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

SunPower Maxeon 7 112 cells Residential Solar Panel

SPR-MAX7-XXX-PT

(xxx = 420 - 445 in steps of 5)

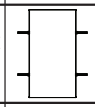
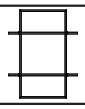
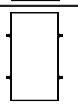
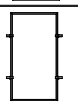


Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - Ground Holes (4X Ø4.2mm)
B - Mounting Holes (8X Ø6.8mm)

TOP CLAMPS

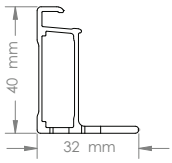
This module is designed for Portrait Mounting due to shorter cable length.

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 148	+2700/-2700	+1800/-1800
			148 - 269	+3600/-3600	+2400/-2400
			269 - 447[5]	+5400/-4200	+3600/-2800
			447 - 701[5]	+3600/-2400	+2400/-1600
Long Side Mounting, Point Supported[6]			50 - 148[7]	+2700/-2700	+1800/-1800
			148 - 269[7]	+3600/-3600	+2400/-2400
			269 - 447[7]	+5400/-4200	+3600/-2800
			447 - 701[7]	+3600/-2400	+2400/-1600
Short Side Mounting, Point Supported (End Mount)[6]			0 - 350[7]	+2700/-2700	+1800/-1800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[7]	+2700/-2700	+1800/-1800

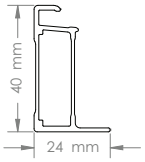
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.

GEN 4.2 FRAME PROFILE

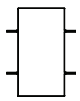
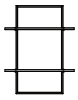
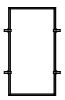
SIDE FRAME PROFILE



END FRAME PROFILE

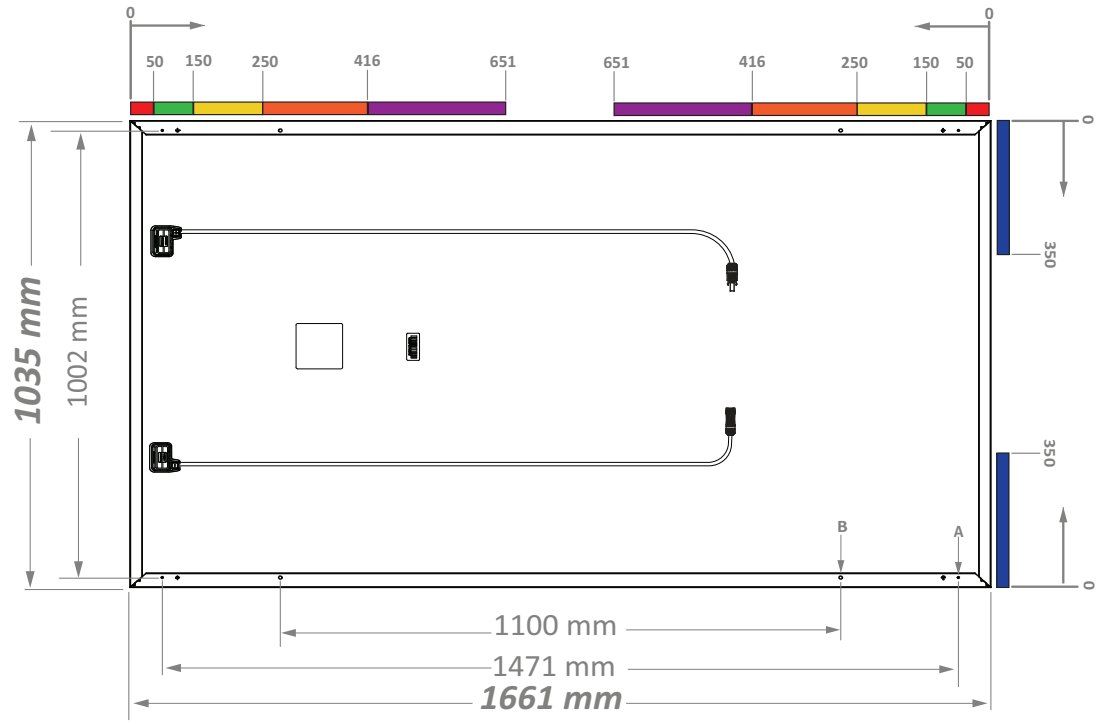


BOLTS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Holes Locations	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1300mm Holes	+5400/-5400	+3600/-3600
			1100mm Holes	+5400/-5400	+3600/-3600
Long Side Mounting, Point Supported[7]			1300mm Holes	+5400/-5400	+3600/-3600
			1100mm Holes	+5400/-5400	+3600/-3600

4 Rails must not be under the junction box.
5 Covered under IEC 61730 Cert Test for 104 cell
6 Same design loads are acceptable for bottom flange mounting systems.
7 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

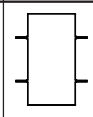
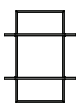
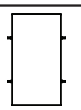
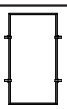
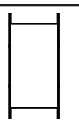
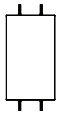
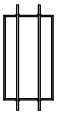
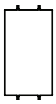
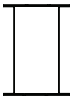
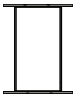
SunPower Maxeon 7 104 cells Solar Panel
SPR-MAX7-xxx, SPR-MAX7-xxx-BLK
(xxx = 340 - 400 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

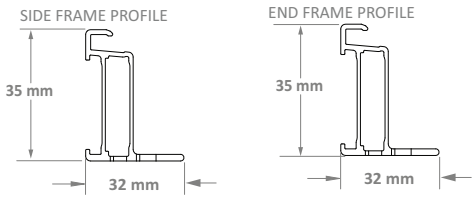
A - Ground Holes (4X Ø4.2mm)
B - Mounting Holes (4X Ø6.8mm)

TOP CLAMPS[9]

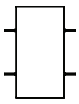
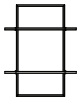
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2700	+1800/-1800
			150 - 250	+3600/-3600	+2400/-2400
			250 - 416	+6500/-4200	+4333/-2800
			416 - 651	+4200/-2400	+2800/-1600
Long Side Mounting, Point Supported[5]			50 - 150[7]	+2700/-2700	+1800/-1800
			150 - 250[7]	+3600/-3600	+2400/-2400
			250- 416[7]	+4200/-4200	+2800/-2800
			416 - 651[7]	+3600/-2400	+2400/-1600
Long Side Mounting, Rails Parallel to Mounting Frame[6]			50 - 150[7]	+2700/-2700	+1800/-1800
			150 - 250[7]	+3600/-3600	+2400/-2400
			250 - 416[7]	+4200/-4200	+2800/-2800
			416 - 651[7]	+3600/-2400	+2400/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350	+2700/-2700	+1800/-1800
Short Side Mounting, Point Supported[5] (End Mount)			0 - 350[7]	+2700/-2700	+1800/-1800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[7]	+2700/-2700	+1800/-1800

1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

GEN 5.8 FRAME PROFILE

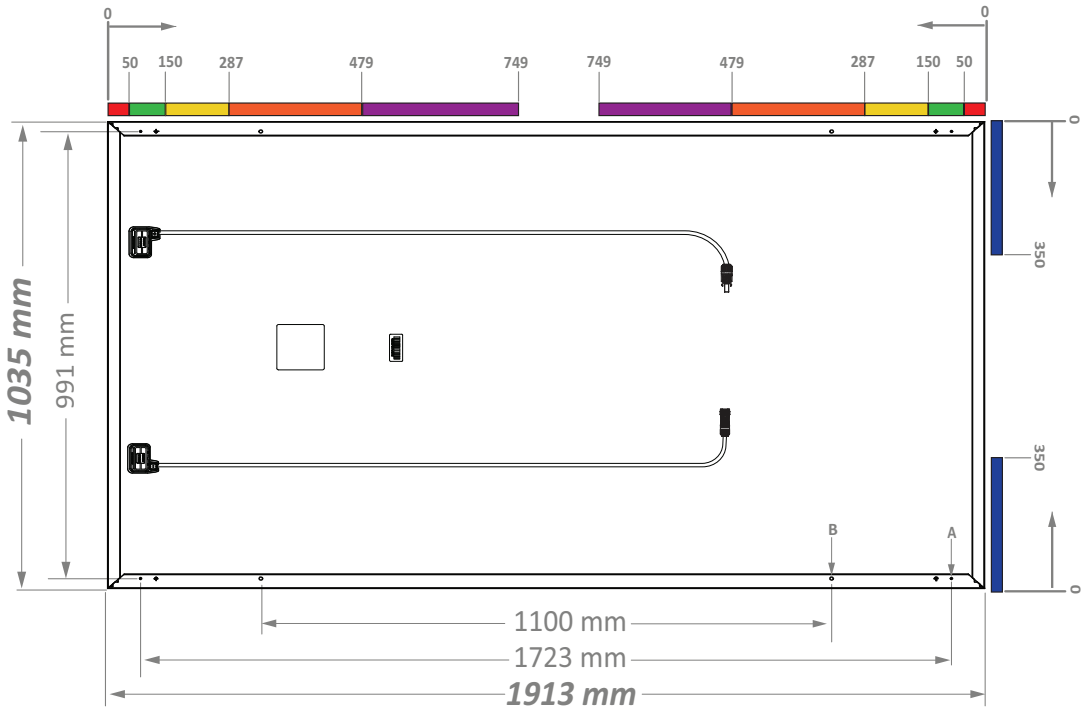


BOLTS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1100mm Holes[8]	+6500/-5400	+4333/-3600

5 Same design loads are acceptable for bottom flange mounting systems.
6 Range indicates the positioning of the clamps and not the rail
7 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.
8 IEC 61730 Cert tested to +5400/-3600 Pa test load with M8 bolts and nuts.
9 It is recommended to use a corrugated surface top clamp for high wind load regions.

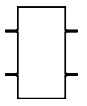
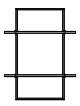
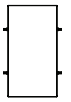
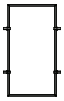
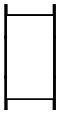
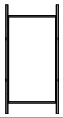
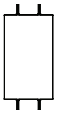
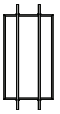
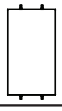
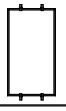
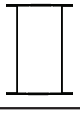
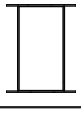
SunPower Maxeon 7 120 cells Solar Panel
SPR-MAX7-xxx, SPR-MAX7-xxx-BLK
(xxx = 440 - 475 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

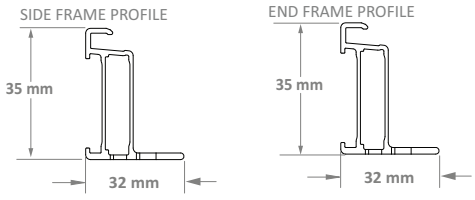
A - Ground Holes (4X Ø4.2mm)
B - Mounting Holes (4X Ø6.8mm)

TOP CLAMPS[9]

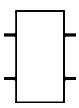
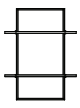
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2700	+1800/-1800
			150 - 287	+3600/-3600	+2400/-2400
			287 - 479	+5400/-4050	+3600/-2700
			479 - 749	+1600/-1600	+1067/-1067
Long Side Mounting, Point Supported[5]			50 - 150[7]	+2700/-2700	+1800/-1800
			150 - 287[7]	+3600/-3600	+2400/-2400
			287- 479[7]	+3000/-3000	+2000/-2000
			479 - 749[7]	+1600/-1600	+1067-1067
Long Side Mounting, Rails Parallel to Mounting Frame[6]			50 - 150[7]	+2700/-2700	+1800/-1800
			150 - 287[7]	+3600/-3600	+2400/-2400
			287 - 479[7]	+3000/-3000	+2000/-2000
			479 - 749[7]	+1600/-1600	+1067/-1067
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350	+2400/-2000	+1600/-1333
Short Side Mounting, Point Supported[5] (End Mount)			0 - 350[7]	+2400/-2000	+1600/-1333
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[7]	+2400/-2000	+1600/-1333

1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

GEN 5.8 FRAME PROFILE

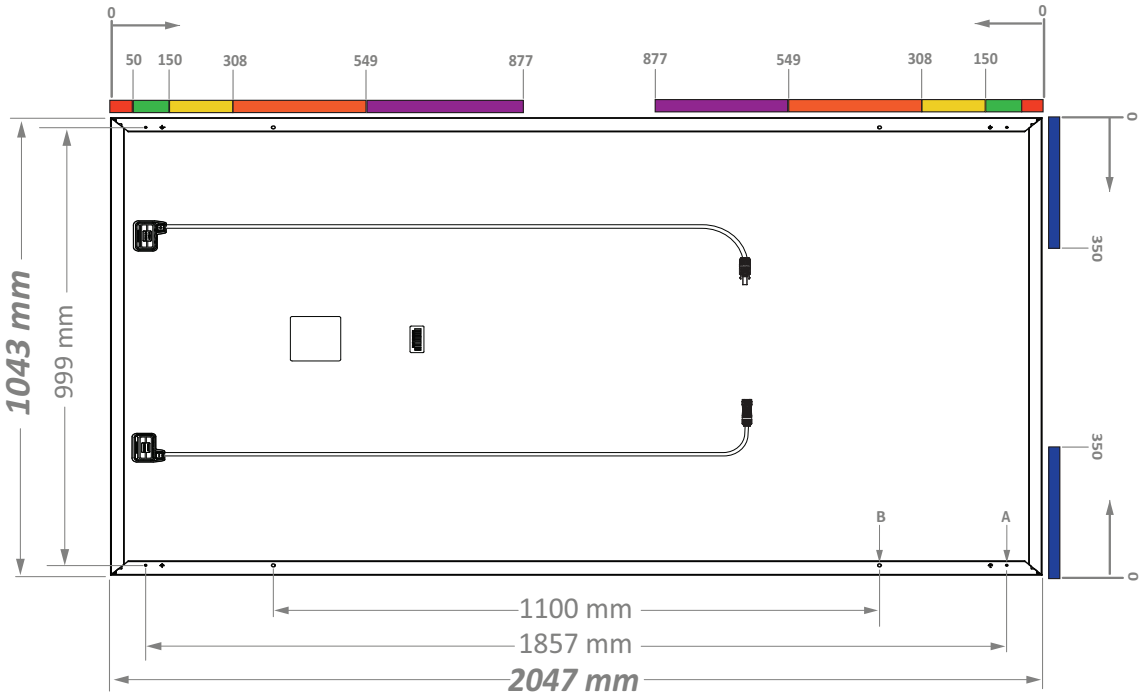


BOLTS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1100mm Holes[8]	+6500/-5400	+4333/-3600

5 Same design loads are acceptable for bottom flange mounting systems.
6 Range indicates the positioning of the clamps and not the rail
7 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.
8 IEC 61730 Cert tested to +5400/-3600 Pa test load with M8 bolts and nuts
9 It is recommended to use a corrugated surface top clamp for high wind load regions.

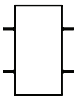
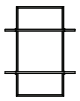
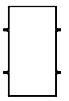
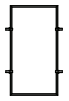
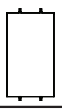
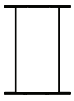
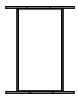
SunPower Maxeon 7 128 cells Solar Panel
SPR-MAX7-XXX, SPR-MAX7-XXX-BLK
(xxx = 480 - 505 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - Ground Holes (4X Ø4.2mm)
B - Mounting Holes (4X Ø6.8mm)

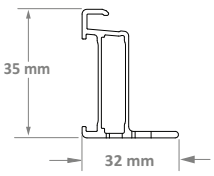
TOP CLAMPS[9]

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame[4]			50 - 150	+2700/-2000	+1800/-1333
			150 - 308	+3600/-2700	+2400/-1800
			308 - 549	+5400/-3000	+3600/-2000
			549 - 877	+1600/-1600	+1067/-1067
Long Side Mounting, Point Supported[5]			50 - 150[7]	+2700/-2000	+1800/-1333
			150 - 308[7]	+3600/-2700	+2400/-1800
			308 - 549[7]	+2400/-2400	+1600/-1600
			549 - 877[7]	+1600/-1600	+1067/-1067
Long Side Mounting, Rails Parallel to Mounting Frame[6]			50 - 150[7]	+2700/-2000	+1800/-1333
			150 - 308[7]	+3600/-2700	+2400/-1800
			308 - 549[7]	+2400/-2400	+1600/-1600
			549 - 877[7]	+1600/-1600	+1067/-1067
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)[4]			0 - 350	+1800/-1600	+1200/-1067
Short Side Mounting, Point Supported[5] (End Mount)			0 - 350[7]	+1800/-1600	+1200/-1067
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 350[7]	+1800/-1600	+1200/-1067

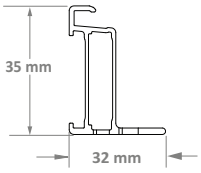
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Rails must not be under the junction box.

GEN 5.8 FRAME PROFILE

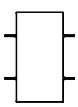
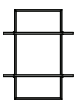
SIDE FRAME PROFILE



END FRAME PROFILE



BOLTS

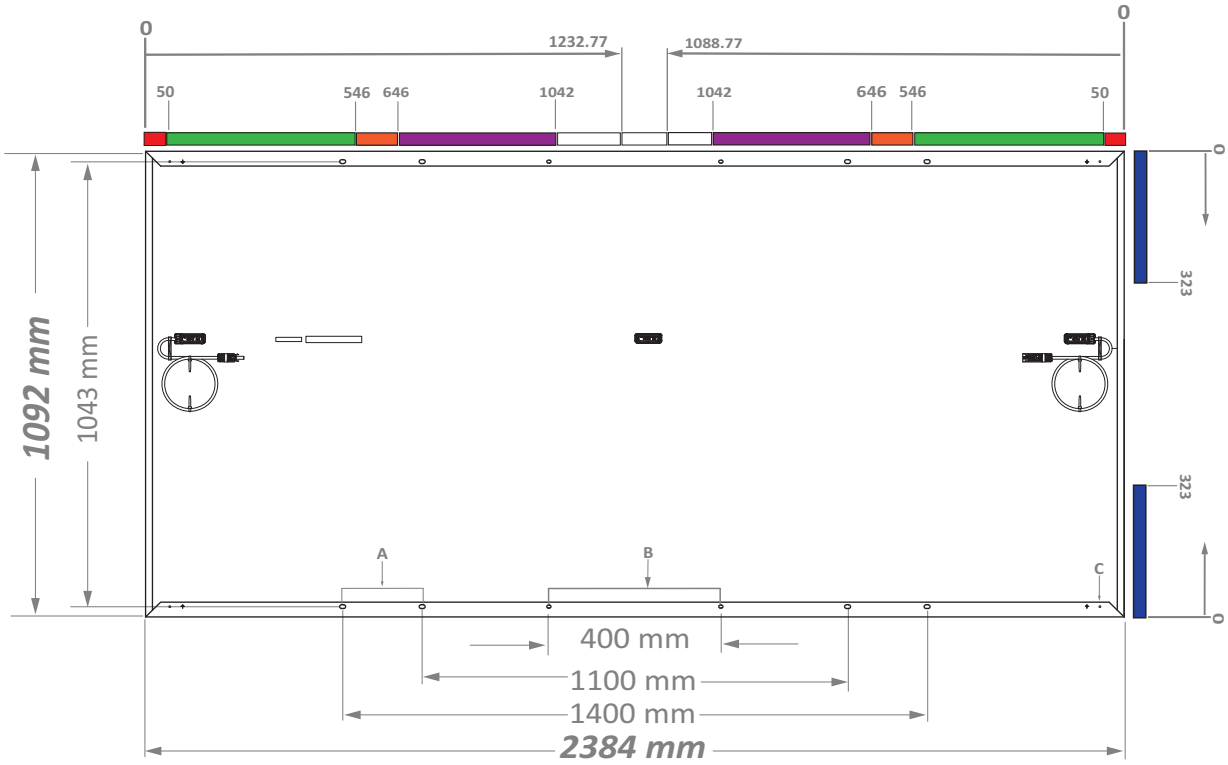
Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1100mm Holes[8]	+5400/-4500	+3600/-3000

5 Same design loads are acceptable for bottom flange mounting systems.
6 Range indicates the positioning of the clamps and not the rail
7 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.
8 IEC 61730 Cert tested to +5400/-3600 Pa test load with M8 bolts and nuts
9 It is recommended to use a corrugated surface top clamp for high wind load regions.

SunPower Performance 6 Bifacial Solar Panel

SPR-P6-XXX-COM-M-BF

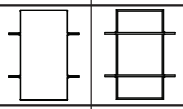
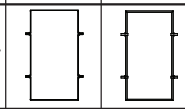
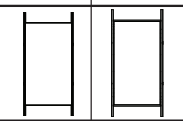
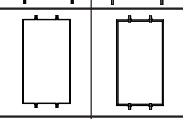
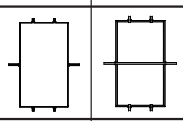
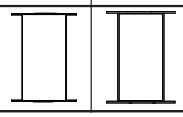
(xxx = 510 - 555 in steps of 5)



Measurement Tolerances are +/-3 mm for the Length and Width of the Module.

A - SLOT Holes (8X 14mm (L) x 9mm (W), R3.5mm)
B - Mounting Holes (4X 10mm (L) x 7mm (W), R6.8mm)
C - Ground Holes (4X Ø 4.2mm)

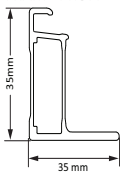
TOP CLAMPS

Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			50 - 546	+2400/-1200	+1600/-800
			546 - 646 [4]	+5400/-2400	+3600/-1600
			646 - 1042	+2400/-2000	+1600/-1333
Long Side Mounting, Point Supported [5]			50 - 150 [8]	+1800/-1800	+1200/-1200
			546 - 646 [8]	+3000/-2400	+2000/-1600
Long Side Mounting, Rails Parallel to Mounting Frame [6]			50 - 546 [8]	+5400/-1200	+3600/-800
			546 - 646 [8]	+5400/-2400	+3600/-1600
Short Side Mounting, Point Supported (End Mount) [5]			0 - 323 [8]	+1400/-1400	+933/-933
Short Side Mounting, Point Supported with Rail (End Mount)			0 - 323	+3600/-2400	+2400/-1600
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 223 [8]	+1400/-1400	+933/-933
			223 - 323 [8]	+2400/-1200	+1600/-800

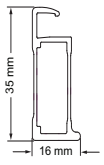
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.

GEN 4.3 FRAME PROFILE

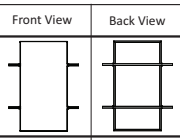
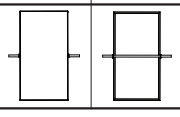
SIDE FRAME PROFILE



END FRAME PROFILE



BOLTS [7]

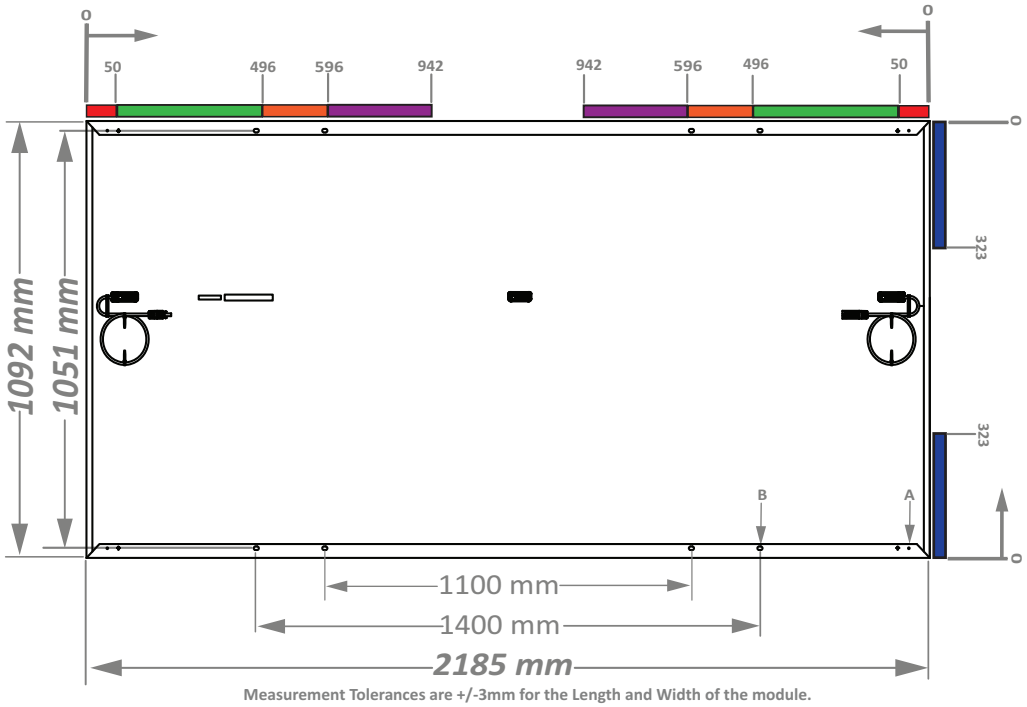
Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			1400mm Holes	+5400/-2400	+3600/-1600
			1100mm Holes	+5400/-2400	+3600/-1600
			400mm Holes	+2400/-2000	+1600/-1333
Center Mounting (1x Portrait Tracker)			400mm Holes	+1800/-1800	+1200/-1200

4 IEC validated.
5 Same design loads are acceptable for bottom flange mounting systems.
6 Range indicates positioning of the clamp and not the rails.
7 Minimum of 24mm in diameter washer size is required.
8 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

SunPower Performance 6 Bifacial Solar Panel

SPR-P6-XXX-COM-S-BF

(xxx = 470 - 510 in steps of 5)

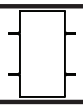
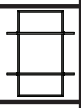
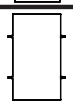
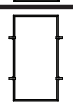
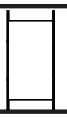
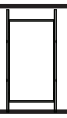
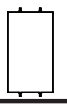
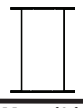


Measurement Tolerances are +/-3mm for the Length and Width of the module.

A - Grounding Holes (4X Ø 4.2mm)

B - Mounting Holes (8X 9mm (L) x 14mm (W), R4.5mm)

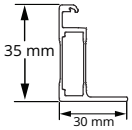
TOP CLAMPS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendicular to Mounting Frame			50 - 496	+1800/-1600	+1200/-1066
			496 - 596	+5400/-2400	+3600/-1600
			596 - 942	+2400/-1600	+1600/-1066
Long Side Mounting, Point Supported[4]			50 - 496[6]	+2400/-1600	+1600/-1066
			496 - 596[6]	+3000/-2400	+2000/-1600
			596 - 942[6]	+2000/-1600	+1333/-1066
Long Side Mounting, Rails Parallel to Mounting Frame[5]			50 - 496[6]	+2800/-1800	+1867/-1200
			496 - 596[6]	+2800/-1800	+1867/-1200
			596 - 942[6]	+2800/-1800	+1867/-1200
Short Side Mounting, Point Supported (End Mount)[4]			0 - 100[6]	+1200/-1000	+800/-666
			100 - 323[6]	+1600/-1600	+1066/-1066
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			223 - 323[6]	+2400/-1400	+1600/-933

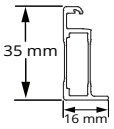
1 Design Load considers 1.5 Factor of Safety, Test Load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
2 Test loads are for information purposes only, design loads should be considered in the project design.
3 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design values should be considered as allowable design load.

GEN 4.3 FRAME PROFILE

SIDE FRAME PROFILE



END FRAME PROFILE

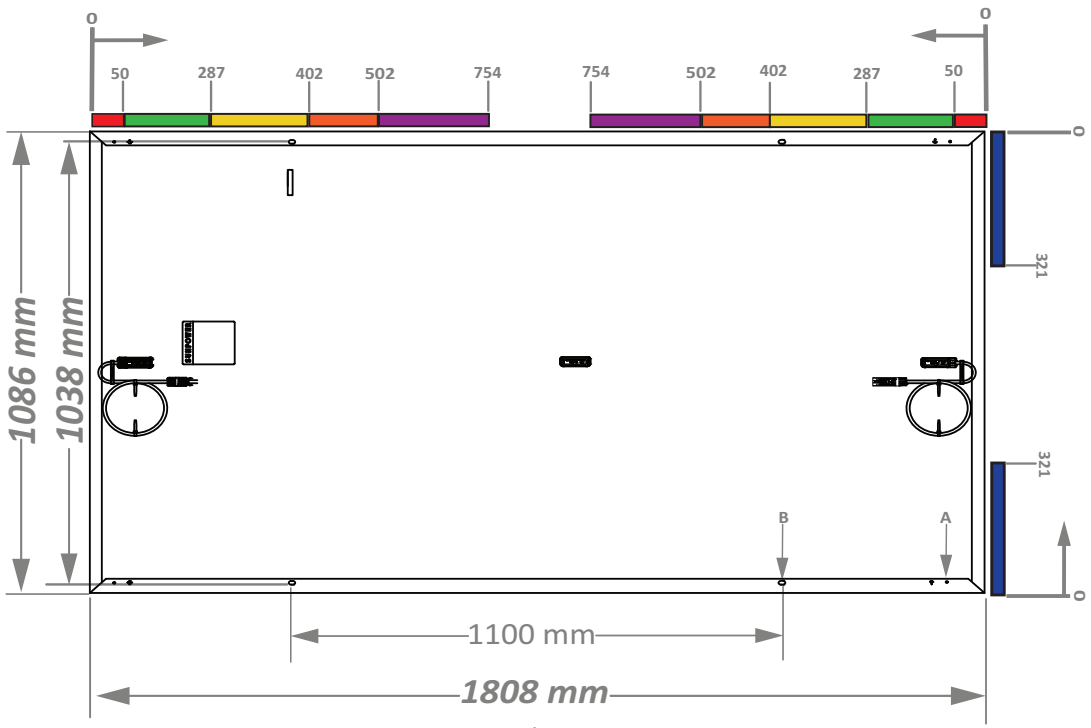


BOLTS

Mounting Configuration Description[1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendicular to Mounting Frame			1100mm Holes	+5400/-2400	+3600/-1600
			1400mm Holes	+5400/-2400	+3600/-1600

4 Same design loads are acceptable for bottom flange mounting systems.
5 Range indicates positioning of the clamp and not the rails.
6 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

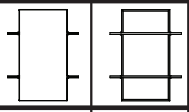
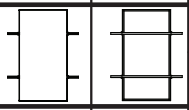
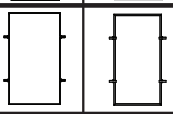
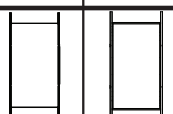
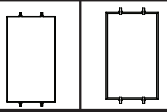
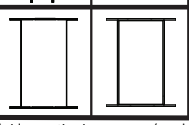
SunPower Performance 6 Residential and Commercial Solar Panel
(SPR-P6-XXX-BLK, SPR-P6-XXX-COM-XS)
(xxx = 380 - 420 in steps of 5)



A - Ground Holes (4X Ø 4.2mm)
B - Mounting Holes (4X 9mm (W) x 14mm (L), R4.5mm)

Measurement Tolerances are +/-3mm for the Length and Width of the module.

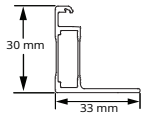
TOP CLAMPS

Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			217 - 617	+2700/-2000	+1800/-1333
Long Side Mounting, Rails Perpedincular to Mounting Frame			50 - 287	+2000/-2000	+1333/-1333
			287 - 402	+2700/-2000	+1800/-1333
			402 - 502	+5400/-2400	+3600/-1600
			502 - 754	+2000/-1800	+1333/-1200
Long Side Mounting, Point Supported [4]			50 - 402 [6]	+2000/-2000	+1333/-1333
			402 - 502 [6]	+2000/-2400	+1333/-1600
			502 - 754 [6]	+1400/-1800	+933/-1200
Long Side Mounting, Rails Parallel to Mounting Frame [5]			50 - 402 [6]	+2800/-1800	+1867/-1200
			402 - 502 [6]	+2800/-1800	+1867/-1200
			502 - 754 [6]	+2800/-1800	+1867/-1200
Short Side Mounting, Point Supported (End Mount) [4]			0 - 221 [6]	+1600/-1400	+1067/-933
			221 - 321 [6]	+1800/-1200	+1200/-800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 221 [6]	+1400/-1400	+933/-933
			221 - 321 [6]	+1600/-1600	+1067/-1067

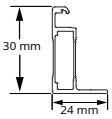
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Same design loads are acceptable for bottom flange mounting systems.
5 Range indicates positioning of the clamp and not the rails
6 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

GEN 4.4 FRAME PROFILE

SIDE FRAME PROFILE



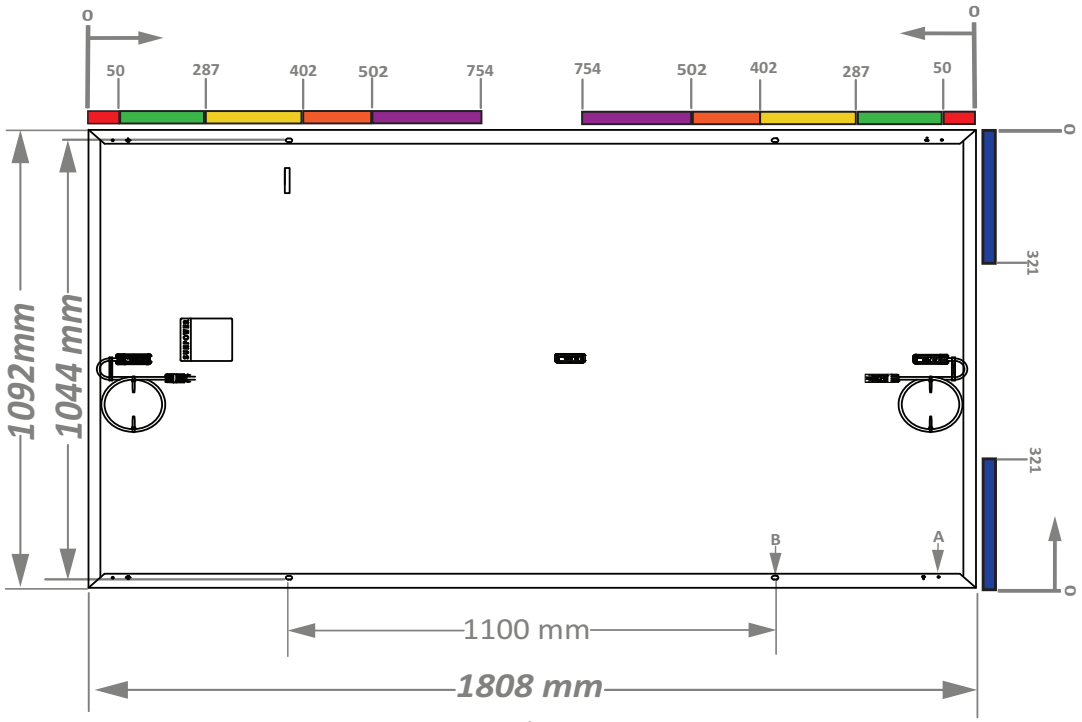
END FRAME PROFILE



SunPower Performance 6 Commercial Solar Panel

SPR-P6-XXX-COM-XS (1092mm)

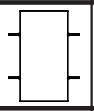
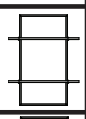
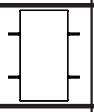
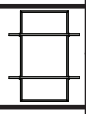
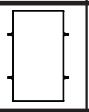
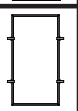
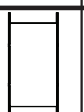
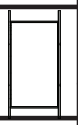
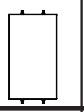
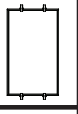
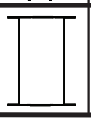
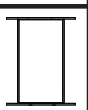
(xxx = 380 - 420 in steps of 5)



A - Ground Holes (4X Ø 4.2mm)
B - Mounting Holes (4X 9mm (W) x 14mm (L), R4.5mm)

Measurement Tolerances are +/-3mm for the Length and Width of the module.

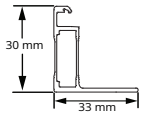
TOP CLAMPS

Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			217 - 617	+2700/-2000	+1800/-1333
Long Side Mounting, Rails Perpedincular to Mounting Frame			50 - 287	+2000/-2000	+1333/-1333
			287 - 402	+2700/-2000	+1800/-1333
			402 - 502	+5400/-2400	+3600/-1600
			502 - 754	+2000/-1800	+1333/-1200
Long Side Mounting, Point Supported [4]			50 - 402 [6]	+2000/-2000	+1333/-1333
			402 - 502 [6]	+2000/-2400	+1333/-1600
			502 - 754 [6]	+1400/-1800	+933/-1200
Long Side Mounting, Rails Parallel to Mounting Frame [5]			50 - 402 [6]	+2800/-1800	+1867/-1200
			402 - 502 [6]	+2800/-1800	+1867/-1200
			502 - 754 [6]	+2800/-1800	+1867/-1200
Short Side Mounting, Point Supported (End Mount) [4]			0 - 221 [6]	+1600/-1400	+1067/-933
			221 - 321 [6]	+1800/-1200	+1200/-800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			0 - 221 [6]	+1400/-1400	+933/-933
			221 - 321 [6]	+1600/-1600	+1067/-1067

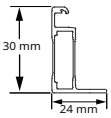
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
4 Same design loads are acceptable for bottom flange mounting systems.
5 Range indicates positioning of the clamp and not the rails
6 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

GEN 4.4 FRAME PROFILE

SIDE FRAME PROFILE



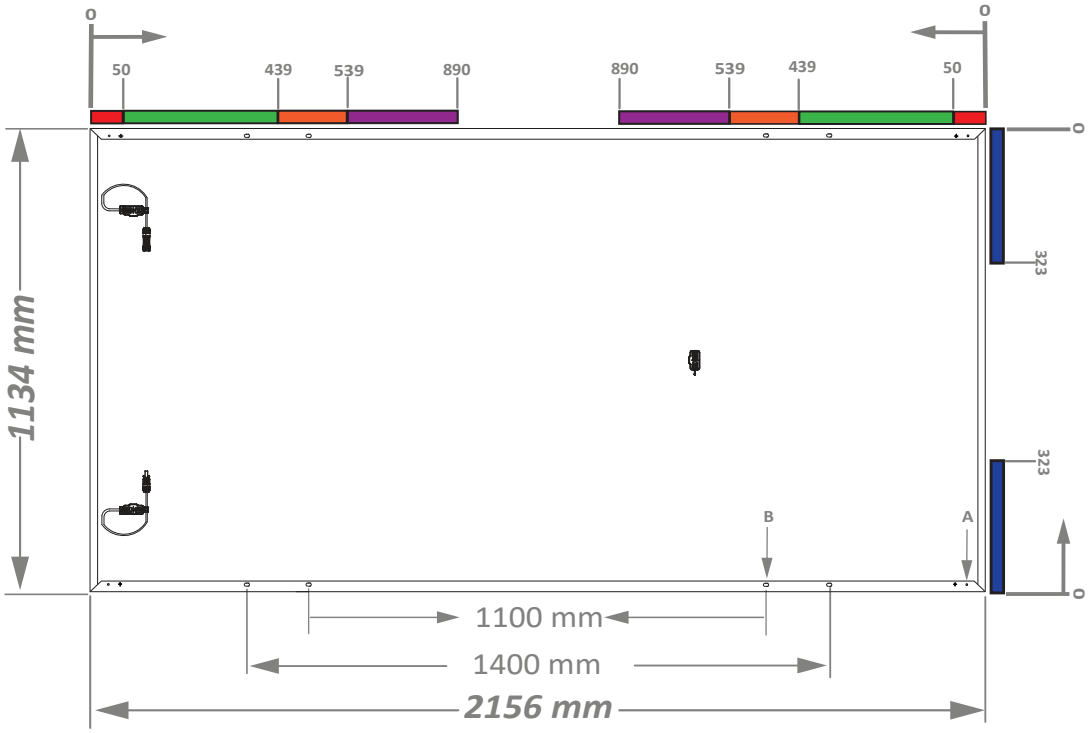
END FRAME PROFILE



SunPower Performance P7 COM-S Bifacial Solar Panel

SPR-P7-XXX-COM-S

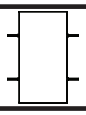
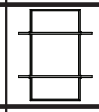
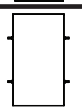
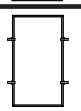
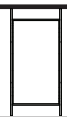
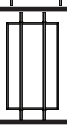
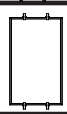
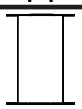
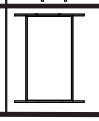
(xxx = 520 - 560 in steps of 5)



A - Grounding Holes (4X Ø 4.2mm)
B - Mounting Holes (8X 9mm (W) x 14mm (L), R4.5mm)

Measurement Tolerances are +/- 3mm for the Length and Width of the module.

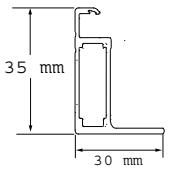
TOP CLAMPS

Mounting Configuration Description[3]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load[2] Downward/Upward (Pa)	Design Load[1] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			50 - 439	+2000/-1800	+1333/-1200
			439 - 539	+5400/-2400	+3600/-1600
			539 - 890	+3000/-2000	+2000/-1333
Long Side Mounting, Point Supported[4]			50 - 439[6]	+2000/-1800	+1333/-1200
			439 - 539[6]	+3000/-2400	+2000/-1600
			539 - 890[6]	+2000/-1600	+1333/-1200
Long Side Mounting, Point Supported[4]			Outer Clamps: 439 - 539[6] Middle Clamps: 1028 - 1128[6]	+3000/-2400	+2000/-1600
Long Side Mounting, Rails Parallel to Mounting Frame[5]			50 - 439[6]	+3000/-2400	+2000/-1600
			439 - 539[6]	+3000/-2400	+2000/-1600
			539 - 890[6]	+3000/-2400	+2000/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)			0 - 323	+2000/-1400	+1333/-933
Short Side Mounting, Point Supported (End Mount)[4]			0 - 100[6]	+1500/-1200	+1000/-800
			100 - 323[6]	+1500/-1400	+1000/-933
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			223 - 323[6]	+2000/-1500	+1333/-1000

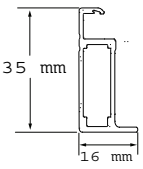
1 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.

GEN 4.3 FRAME PROFILE

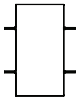
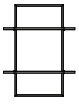
SIDE FRAME PROFILE



END FRAME PROFILE



BOLTS

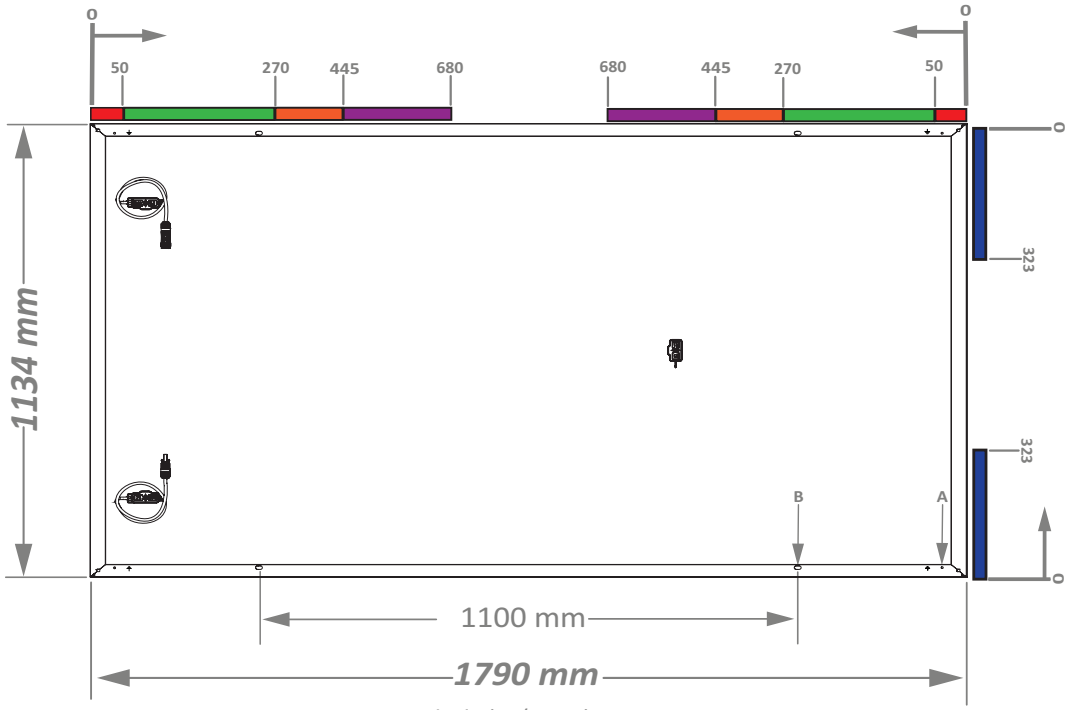
Mounting Configuration Description[3]	Mounting Configuration Diagram		Mounting Hole Locations	Test Load[2] Downward/Upward (Pa)	Design Load[1] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpendincular to Mounting Frame			1100mm Holes	+5400/-3600	+3600/-2400
			1400mm Holes	+5400/-3600	+3600/-2400

4 Same design loads are acceptable for bottom flange mounting systems.
5 Range indicates positioning of the clamp and not the rails.
6 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.

SunPower Performance 7 Residential Solar Panel

SPR-P7-XXX-BLK, SPR-P7-XXX-BLK-1500

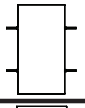
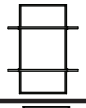
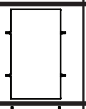
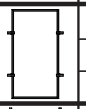
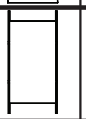
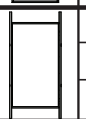
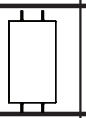
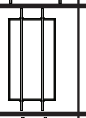
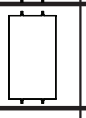
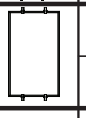
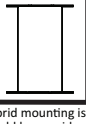
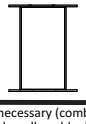
(xxx = 427, 430 - 460 in steps of 5)



A - Ground Holes (4X Ø 4.2mm)
B - Mounting Holes (4X 9mm (W) x 14mm (L), R4.5mm)

Measurement Tolerances are +/-3mm for the Length and Width of the module.

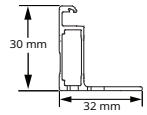
TOP CLAMPS

Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			50 - 270	+3000/-2400	+2000/-1600
			270 - 445	+5400/-2400	+3600/-1600
			445 - 680	+4000/-2400	+3000/-1600
Long Side Mounting, Point Supported [4]			50 - 270 [6]	+3000/-2400	+2000/-1600
			270 - 445 [6]	+3600/-2400	+2400/-1600
			445 - 680 [6]	+2700/-2400	+1800/-1600
Long Side Mounting, Rails Parallel to Mounting Frame [5]			50 - 270 [6]	+3000/-2400	+2000/-1600
			270 - 445 [6]	+3600/-2400	+2400/-1600
			445 - 680 [6]	+3000/-2400	+2000/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)			0 - 323	+3000/-1700	+2000/-1133
Short Side Mounting, Point Supported (End Mount) [4]			0 - 100 [6]	+2400/-1700	+1600/-1133
			100 - 323 [6]	+1200/-1200	+800/-800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			223 - 323 [6]	+2700/-1700	+1800/-1133

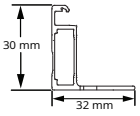
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.

GEN 4.4 FRAME PROFILE

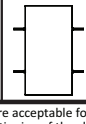
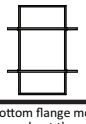
SIDE FRAME PROFILE



END FRAME PROFILE



BOLT

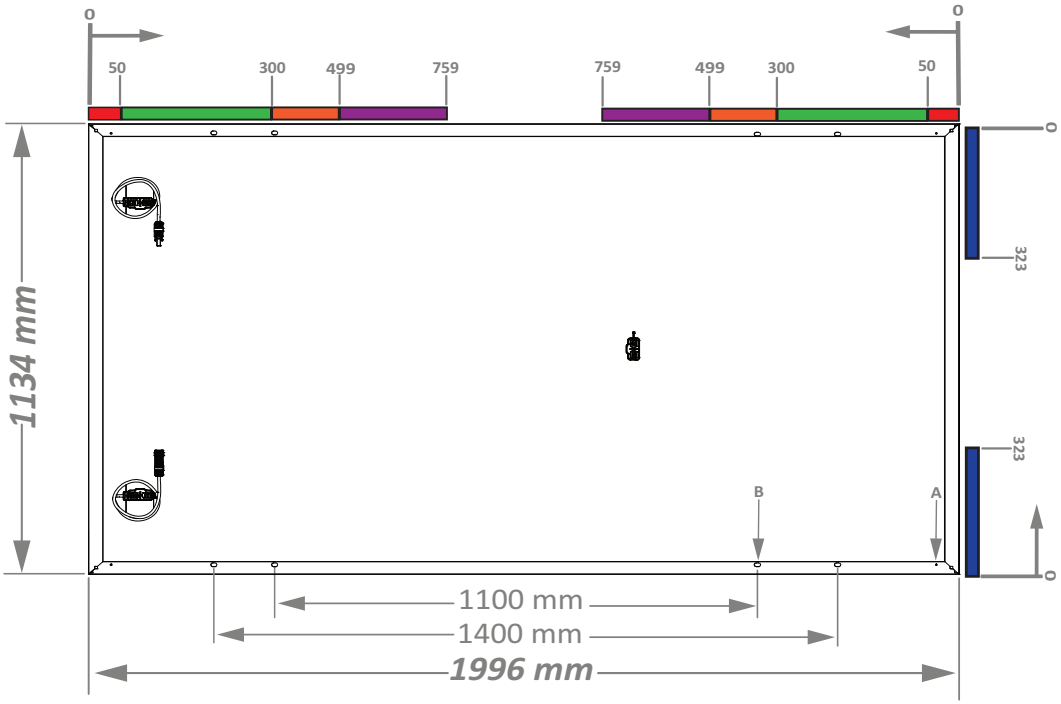
Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Hole Location (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			1100mm Holes	+6000/-4000 [7]	+4000/-2667

4 Same design loads are acceptable for bottom flange mounting systems.
5 Range indicates positioning of the clamp and not the rails
6 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.
7 Test load passed for 2.0mm glass thickness only

SunPower Performance 7 Residential Solar Panel

SPR-P7-XXX-BLK-P

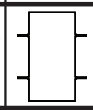
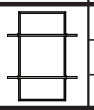
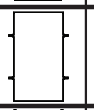
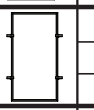
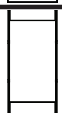
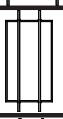
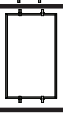
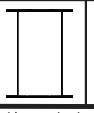
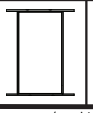
(xxx = 485 - 520 in steps of 5)



A - Ground Holes (4X Ø 4.2mm)
B - Mounting Holes (8X 4mm (W) x 14mm (L), R4.5mm)

Measurement Tolerances are +/-3mm for the Length and Width of the module.

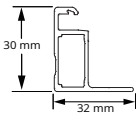
TOP CLAMPS

Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Zone Locations (distance from corner in mm)	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			50 - 300	+3000/-2400	+2000/-1600
			300 - 499	+5400/-2400	+3600/-1600
			499 - 759	+4000/-2400	+3000/-1600
Long Side Mounting, Point Supported [4]			50 - 300 [6]	+3000/-2400	+2000/-1600
			300 - 499 [6]	+3600/-2400	+2400/-1600
			499 - 759 [6]	+2700/-2400	+1800/-1600
Long Side Mounting, Rails Parallel to Mounting Frame [5]			50 - 300 [6]	+3000/-2400	+2000/-1600
			300 - 499 [6]	+3600/-2400	+2400/-1600
			499 - 759 [6]	+3000/-2400	+2000/-1600
Short Side Mounting, Rails Perpendicular to Mounting Frame (End Mount)			0 - 323	+3000/-1700	+2000/-1133
Short Side Mounting, Point Supported (End Mount) [4]			0 - 100 [6]	+2400/-1700	+1600/-1133
			100 - 323 [6]	+1200/-1200	+800/-800
Short Side Mounting, Rails Parallel to Mounting Frame (End Mount)			223 - 323 [6]	+2700/-1700	+1800/-1133

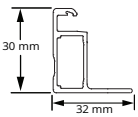
1 In the cases where hybrid mounting is necessary (combination of long and short side mounting), the lowest design load values should be considered as allowable design load.
2 Test loads are for information purposes only, design loads should be considered for the project design.
3 Design Load considers 1.5 Factor of Safety, Test load = Design load x 1.5. Product Warranty covers only design load values. The design loads listed in this table supersede all other loads that may be defined by other parties, unless there is a formal authorization by Maxeon.

GEN 4.4 FRAME PROFILE

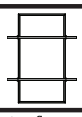
SIDE FRAME PROFILE



END FRAME PROFILE



BOLT

Mounting Configuration Description [1]	Mounting Configuration Diagram		Mounting Hole Location	Test Load [2] Downward/Upward (Pa)	Design Load [3] Downward/Upward (Pa)
	Front View	Back View			
Long Side Mounting, Rails Perpedincular to Mounting Frame			1100mm Holes	+5400/-2400	+3600/-1600

4 Same design loads are acceptable for bottom flange mounting systems.
5 Range indicates positioning of the clamp and not the rails
6 PV modules may experience slight deflection in certain end-mount applications due to weight distribution. Such deflection does not impact reliability or performance; however if the panels must appear flat for aesthetic purposes, alternate mounting is suggested.