



Carport Design Guidelines

SunModo Carports

The SunPort™ is a lightweight, cost effective aluminum frame, aesthetically pleasing carport structure. Maintenance costs are minimized and there is no worry of rust breaking through the protective finish which is common with galvanized steel carport structures. All components are made of aluminum and the hardware is stainless steel guaranteeing long serviceability.



SP4000 Carport

Getting started, first you will need to select between the SP2000 and the SP4000 carport options. When viewed in profile the SP2000 has two vertical columns used to support the solar panels. The SP4000 when viewed has four angled columns resembling the letter "W." Structurally the SP2000 and SP4000 will perform similarly. Next is selecting the solar panel mounting orientation. In portrait the carports can support up to three (3) panels. In landscape the carports can support up to seven (7) panels making the landscape orientation the better value.



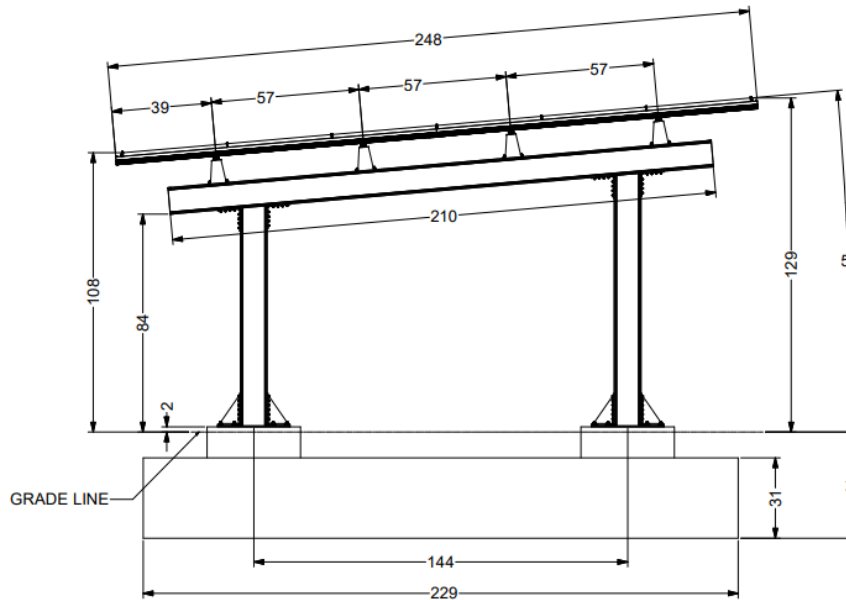
SP2000 Carport

SunModo Carports

Example 1, let's review some of the dimensions of a small single-stall carport. A 6LX2-5DEG-SP2000 is defined as "six rows by two columns of solar panels in landscape with a 5-degree tilt angle using the SunPort 2000 product platform." This particular 6LX2-5DEG-SP2000 has a 108-inch (9-foot) east-west span and a 36-inch (3-foot) cantilever on either side. As a rule of thumb the cantilever distance is 1/3 the distance of the east-west span. 84-inches (7-feet) is the typical clearance height of the carport. Clearance is measured from the ground to the lowest point of the carport which is usually the leading edges of the north-south beams. The tilt angle of the carports are typically limited to 5 or 10-degrees, with 5-degrees being the most common.



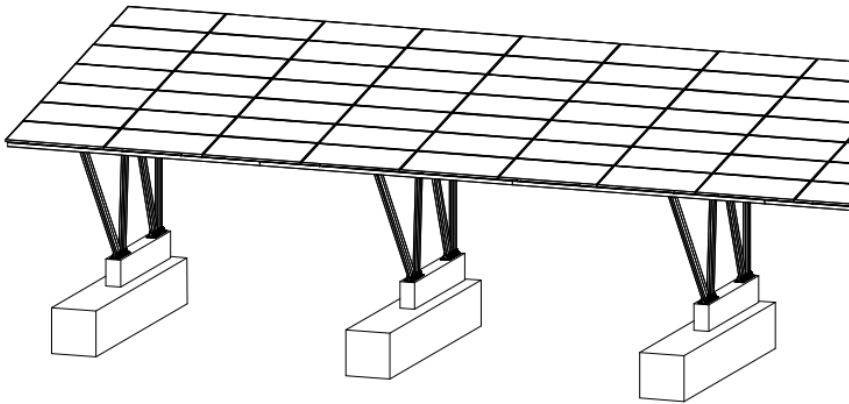
SP2000 Single-stall Carport



SP2000 side view typical detail

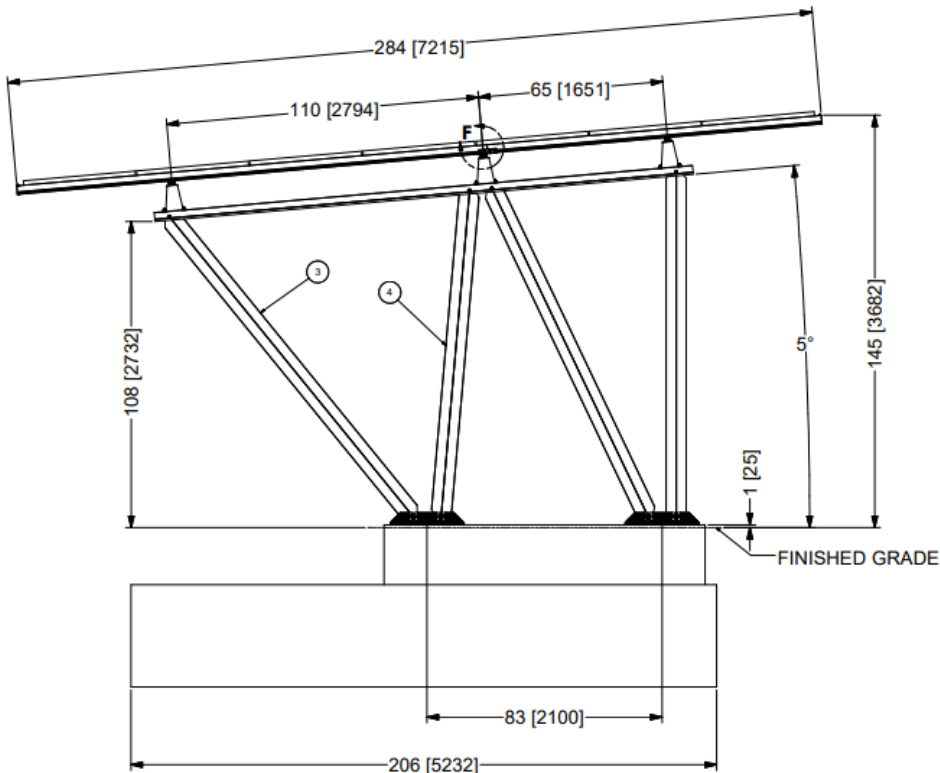
SunModo Carports

Example 2, let's review some of the dimensions of a larger multi-stall carport. A 7LX61-5DEG-SP4000 is defined as "seven rows by sixty one columns of solar panels in landscape with a 5-degree tilt angle using the SunPort 4000 product platform." This particular 7LX61-5DEG-SP4000 has a 240-inch (20-feet) east-west spans and 80-inch cantilever on either side. Depending on environmental conditions, wind speeds and snow loads, the east-west spans may be reduced down to 216-inches (18-feet).



Three (3) panels in portrait orientation is the maximum the carport structure can support in the N-S direction.

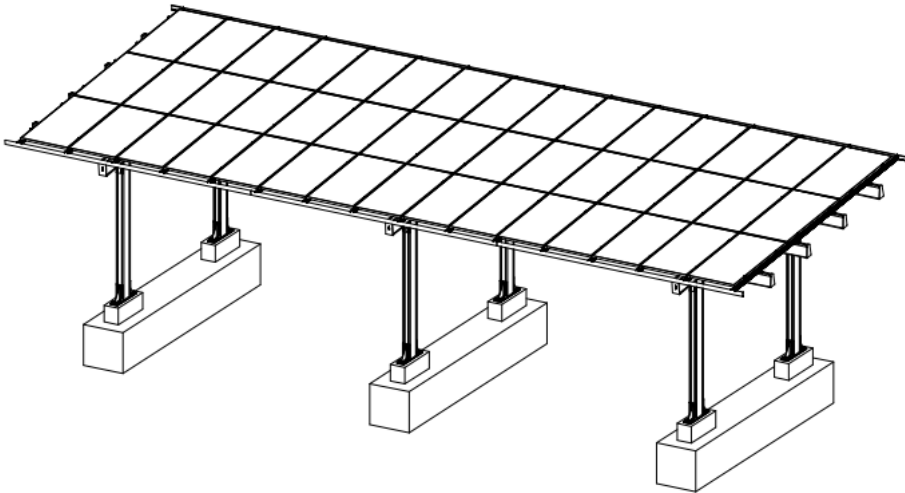
Seven (7) panels in landscape orientation is the maximum number of panels the carport structure can support in the N-S direction.



SP4000 side view typical detail

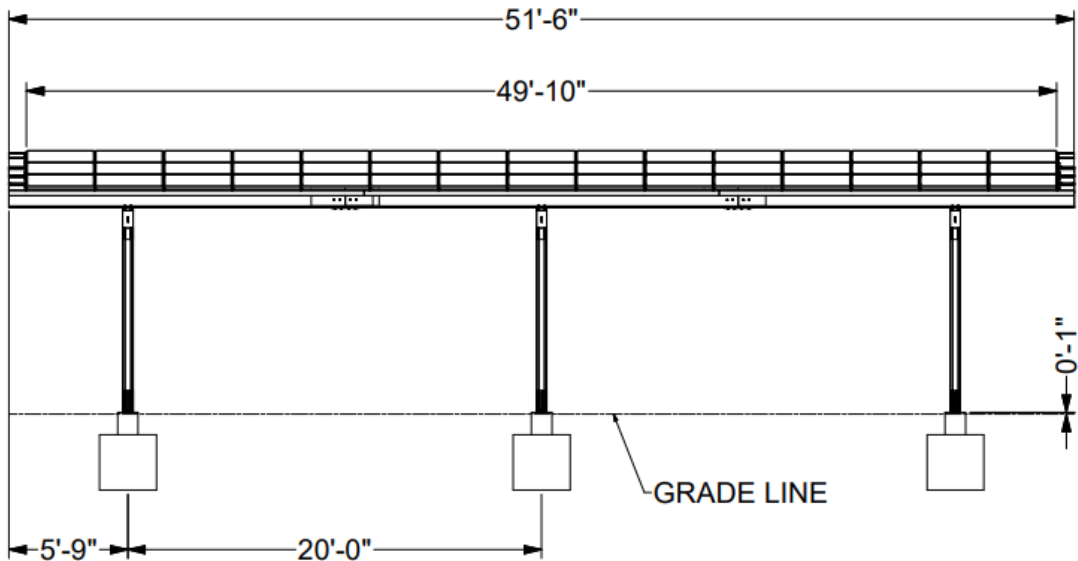
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Example 3, we have a medium sized multi-stall carport defined as a 3PX15-5DEG-SP2000. In this carport design the customer has chosen to install three rows of solar panels in the portrait orientation. The same typical design constraint would apply to this carport as in the first two examples: 216-inches (18-feet) to 240-inch (20-feet) east-west spans. The cantilever distance is 1/3 the distance of the east-west span. 84-inches (7-feet) is the typical clearance height and the tilt angle is 5-degrees.



Three (3) panels in portrait orientation is the maximum the carport structure can support in the N-S direction.

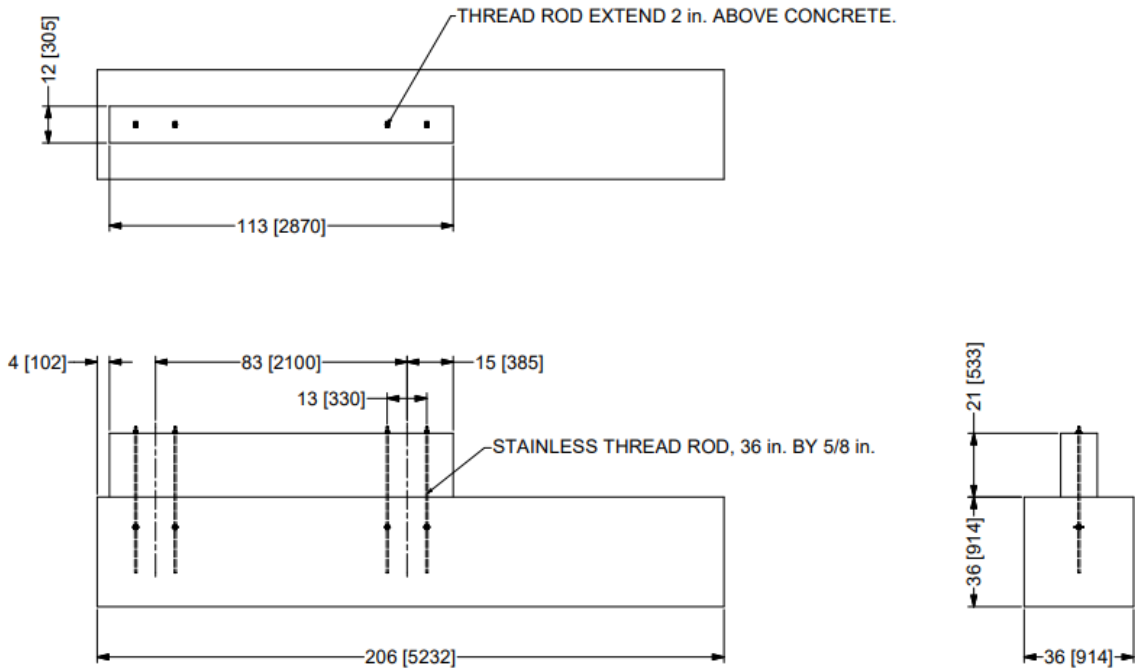
Seven (7) panels in landscape orientation is the maximum number of panels the carport structure can support in the N-S direction.



SP2000 front view typical detail

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SunModo's carports are designed with reinforced concrete foundations with anchor bolts designed to attached the aluminum columns. These foundations are below grade which helps to minimum obstructions causing door dings. A typical foundation detail requires #5 rebar (5/8 diameter) and 5/8 X 36-inch anchor bolts.

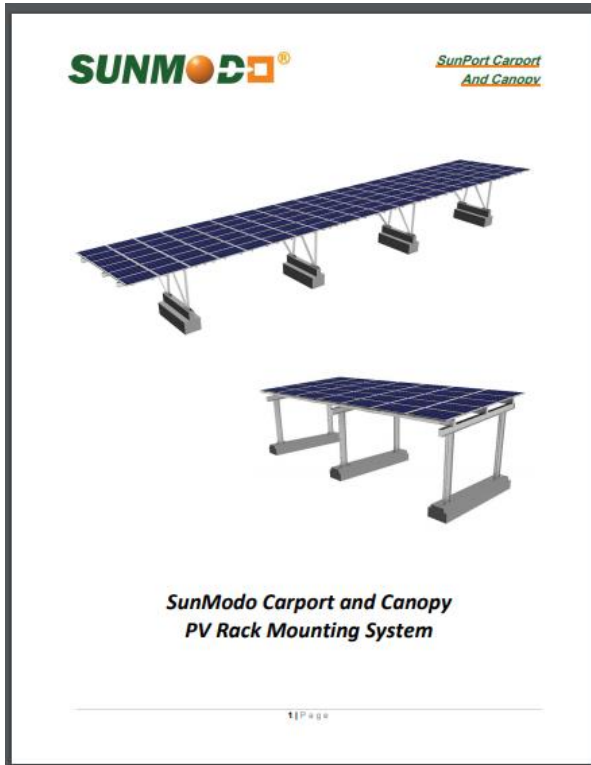


SP4000 concrete foundation typical detail

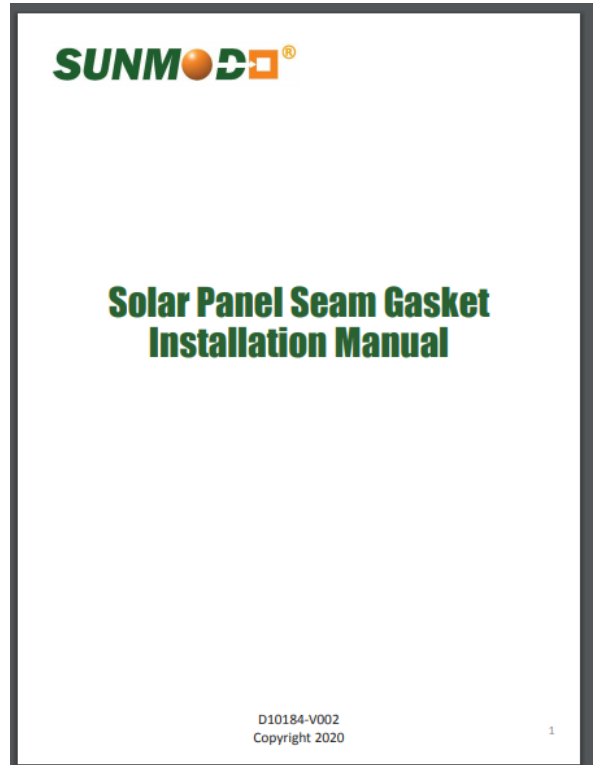
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Visit the SunModo website for additional carport related information.

<https://knowledgebase.sunmodo.com/>



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