

# Maximum voltage of string inverter





## Overview

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What is the minimum string size of a PV inverter?

The minimum string size, then, is 15 modules. The maximum string size is the maximum number of PV modules that can be connected in series and maintain a voltage below the maximum allowed input voltage of the inverter. The Module Voc\_max is calculated using the coldest temperature when the modules produce the highest expected voltage.

What is the maximum voltage a string inverter can run?

Maximum String Voltage: Ensure the total Voc does not exceed the inverter's maximum DC input voltage, typically 600V or 1000V for residential and commercial applications. MPPT Voltage Range: The inverter operates efficiently when the Vmp of the string falls within its MPPT range (e.g., 250-850V for utility-scale inverters).

How do you calculate a minimum string length for an inverter?

Once you find this voltage, find the minimum start-up or MPPT voltage for the inverter and calculate the minimum string length.  $(\text{Inverter Min Voltage}) / (V_{\text{low}}) = \text{Minimum String Length}$  Ensure that the highest voltage during the lowest temperature is within the inverter's max and near the upper MPPT range.

How many strings can be connected to a solar inverter?

Here are the results we calculated: This inverter has 2 MPPT trackers, so a total of 2 strings can be connected to the inverter. We know that there can only be 13 modules maximum installed. We can have one MPPT with 6 modules in a string and the other at 7 modules in a string. Check out UpTop Solar String Sizing Tool that does this for you!



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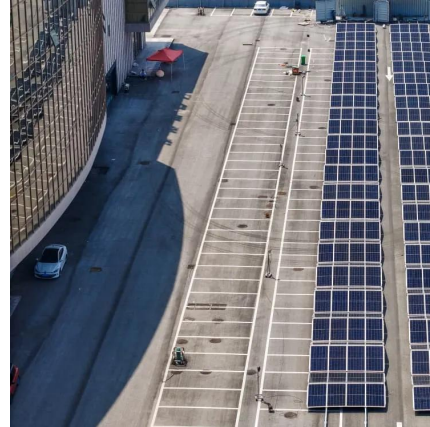
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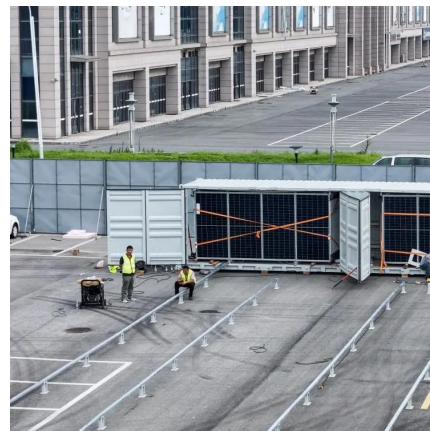
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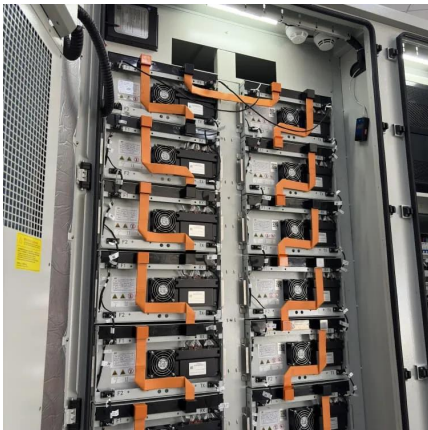
As PV designers, and when stringing the PV inverter with the PV string, we should make sure that the MPP voltage doesn't fall below the lowest voltage at the average high temperature and ...





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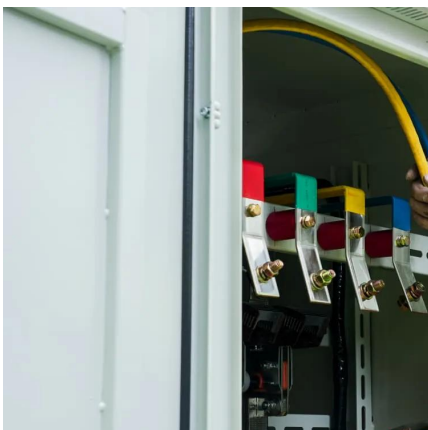
## **How to String Sizing**

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