

# 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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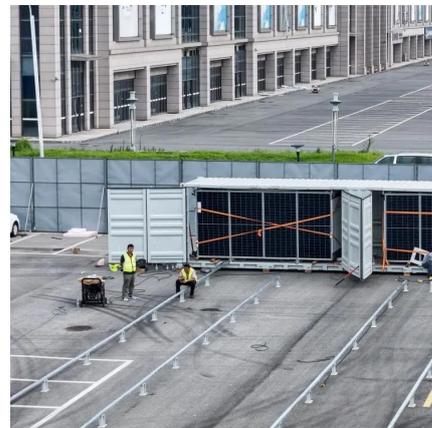
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