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Maximum DC Inputs for NextGen Crystal Inverters

(SG2K-S/SG2K5-S/SG3K-S/SG3K-D/SG5K-D)

Maximum DC voltage limits and calculation in the standards:

AS/NZS 5033:2014.3.1 States that the maximum DC voltage on an array in a residential situation to be no greater than **600 Volts DC**.

The maximum voltage is that calculated for the array V*oc* at the lowest expected operating temperature (AS/NZS 5033:2014.4.2).

The formula is given as:

PV array maximum voltage = *Voc* module + γ_V *(T min – T stc) M*

Where:

*V*oc module	= Open circuit voltage of the module at STC in Volts
γ_V	= *Voltage temperature coefficient, V / °C / module supplied by the manufacturer*
T min	= Expected minimum daily cell temperature in degrees Celsius
T stc	= Cell temperature at standard test conditions, in degrees Celsius
M	= The number of series-connected PV modules in a string

Crystal G2 Series Inverters – Max input limits:

Maximum Voltage: The maximum DC input voltage for the Sungrow Crystal G2 series inverters is **560 volts DC (V*mp*)** per tracker input (regardless of whether the inverter is installed in a residential or non-residential situation). The same formula should apply to calculate this

Maximum Current: The maximum input current for each array input is **10 Amps** per input. ***In parallel mode it is 20 Amps total See below.***

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Parallel Strings:

The maximum current per input is 10 Amps per tracker input. Therefore, panels with a current rating above 5 Amps should not be connected in parallel into one tracker input.

If the inverter is a dual tracking inverter, the strings may be connected in parallel, as long as:

- It complies with AS/NZS 5033:2014
- The array is split across the two tracker inputs at the inverter
- The total array current does not exceed 20 Amps (10 + 10)

Please refer to the technical data sheet and installation manual for all other specifications and requirements.

Inverters which have been exposed to voltages and currents beyond that stated on the data sheet may result in the warranty being voided.

Further information:

Please refer to AS/NZS 5033:2014 and the CEC Design guidelines 2013.9.4 for further information on inverter sizing.