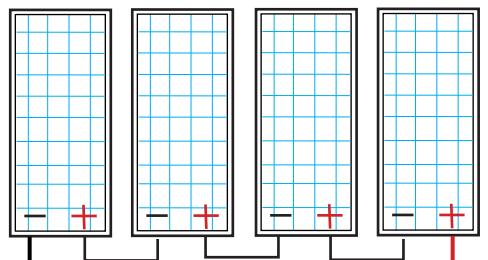
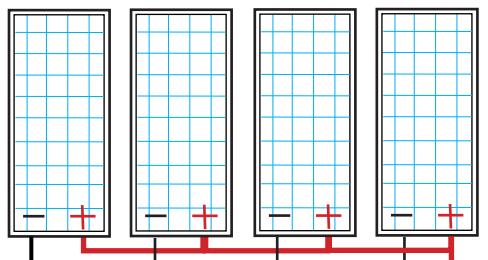


Wiring Solar Panels and Batteries

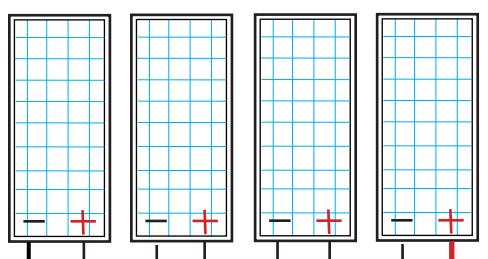
12 Volt 5 Amp Solar Panels



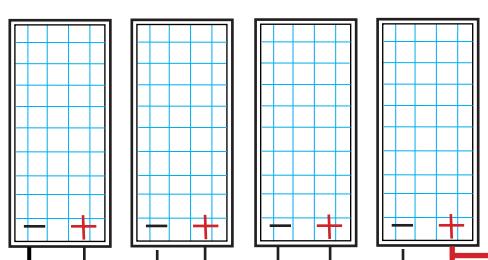
Series Wiring of a Solar Array
Net Result 48 Volt 5Amp



Parallel Wiring of a Solar Array
Net Result 12 Volt 20Amp



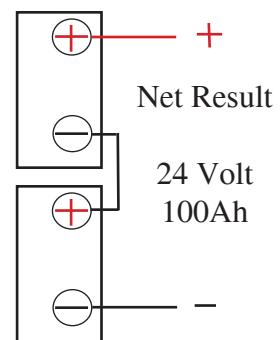
Series Wiring of a Solar Array
Result 48 Volt 5Amp



Series Wiring of a Solar Array
Result 48 Volt 5Amp
Parallel Wiring of a Series Array
Net Result 48 Volt at 10Amp

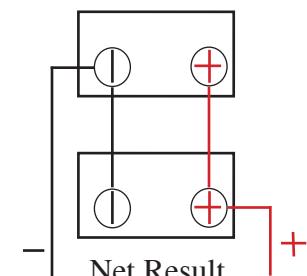
Series Wiring: When Solar Panels are wired in series the current remains constant, however the voltage is aggregate of all panels in the array. For example, if we wire four 12 volt Solar Panels in series, we will end up with a 48 Volt Solar array ie: $12 + 12 + 12 + 12 = 48$ Volts. Amperes will remain the same as single panel in the array.
Net Result: Solar Array of 48 Volts at 5Amps.

12 Volt 100Ah Battery



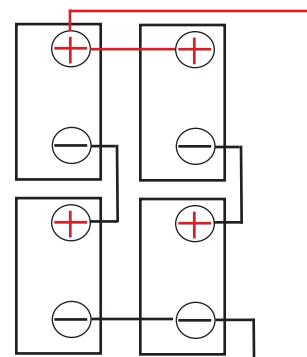
Net Result
24 Volt
100Ah

Parallel Wiring: Parallel wiring is opposite of series wiring. For example, four 12 volt solar panels wired in parallel, will end up with a 12 Amp Solar Array ie; $5 + 5 + 5 + 5 = 20$ Amps. Voltage will remains the same as single panel in array.
Net Result: Solar Array of 12 Volt at 20 Amps.



12 Volt
200Ah

Parallel Series Wiring: Parallel Series wiring is simply a combination of two series circuits connected in parallel. We will end up with the voltage of series circuit, however amperes will be additive.
Net Result: Solar Array of 48 Volt at 10 Amp.



Net Result

Any combination of wiring can be implemented, however to be consistent, individual Panels/Batteries should be of same voltage and Amperes/Amp Hours.

These rules apply and work either for Solar Panel Array or for a Battery Array. Net result will be the same as in these examples. Depending on your requirement, it is not uncommon to achieve several hundred volts or amps through combination of these wiring techniques.

Imagination is the Limit!

24 Volt
200Ah