MPPT FAQ

75/15 and 100/15 cannot be controlled by a BMS, what now?

The reason is that the RX pin is already used to the battery life on/off selection with the jumper. So therefore it is unfortunately not possible to control these two models with the VE.Direct .. remote on/off cable [link]. The solutions is buy the next model in line: the MPPT 100/30.

Can the output of the MPPT be used as a power supply, thus without batteries?

The answer is; it depends on the type of load.

During low current situations the MPPT control bandwidth is too small to be able to maintain a stable voltage. The result is that loads that need to see a stable voltage before they can activate or loads that require a certain “under voltage” to active will not be able to run.

Loads where under voltage does not apply, like light globes, can be operated without any problems.

I want to over dimension the PV array, how can I calculate the maximum?

Over-dimensioning a PV array is installing more Watt peak than the maximum charge power of the chosen MPPT charge controller. A common reason to over dimension is winter time.

How to determine how far you can over dimension the PV array?

There are only two limits, when determining the maximum array size that can be connected to an MPPT:

1. The Maximum PV open circuit voltage
2. The Maximum PV short circuit current

Both values are specified in the datasheets of all our MPPT Solar Chargers. The ratings of the array must not exceed these two maximum limits of the MPPT.

The maximum PV power listed in the datasheet is **not** the maximum installable PV power. Instead it is the maximum charge current.

Long explanation: Note that you cannot multiply these values to determine the install-able maximum Wp. Instead, look on the datasheets of the solar panels, to see what their max PV short circuit current is.

And same for the Maximum PV open circuit voltage, and then do not forget to take the coldest expected temperature into account. Because the colder it is, the higher the max voltage.

As an example, the maximum charge current of a 75/10 is 10 Ampere. When connected to a 24 Volt battery, it charges at 28.8 Volt. So the max charge power is 288 Watt. When installing a 300 Watt

panel, it will reach its maximum charge current and power in summer. But not in winter.

To get less difference between summer and winter, you can install two panels, i.e. 600 Watt peak of PV. In summer the charge controller will limit its charge power to 288 Watt. But in winter it can now also do more. Same for the curve during a (summer or winter-) day: it will earlier on the day reach its max charge current. Note that the exact differences between winter and summer obviously depend on the geographic location of the installation.

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