MPPT FAQ

See also mppt-solarchargers.

Q1: 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.

Q2: My MPPT is only showing voltage readings, not currents and also no Watts?

Make sure to *not* connect PV minus to the battery. See the manual.

Q3: 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.

Q4: 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 to cater for winter time.

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

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

1. The Maximum PV open circuit voltage (Voc at STC)
2. The Maximum PV short circuit current (Isc at STC)

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

Note that these two maximum ratings must **not** be multiplied to determine the maximum installable Watt-peak. Instead, each of them needs to checked by itself:

Determining the maximum PV open circuit voltage

First look on the datasheets of the solar panels to see what their maximum open circuit voltage is. Then multiply that by the number of panels that are in series in the array. The result of the multiplication must not be higher than the Maximum PV open circuit voltage as listed on the MPPT Datasheet. Make sure to not forget taking the coldest expected temperature into account. Because the colder it is, the higher the open circuit voltage on a PV array will be.

Determining the maximum PV short circuit current

Get the maximum PV short circuit current from the PV Panel datasheet. Multiply by the number of panels in parallel in the array. Having more panels in series does not change the number.

The result of the calculation may not exceed the Max PV short circuit current as specified on the MPPT Datasheet.

What about grounding one of the PV array poles?

The MPPT is non isolated, meaning that the minus of the PV input is at the same potential as the minus of the battery output.

Grounding is always done at one point only, to avoid ground currents. For a battery system, grounding must be done at the battery.

Q5: Solar Charger is not charging

1. Check that the PV voltage is high enough compared to the battery voltage. Either read it with a remote panel or VictronConnect. Or measure, on the terminals on the charger!, not elsewhere and mind fuses, with a Volt meter.

2. For models with a Remote on/off switch (a green two pole connector, labelled Remote L H), check that the jumper is in. L and H need to be shorted for the unit to switch on. Only the large models have this connector, see datasheet for details.

3. Check that the battery voltage is set properly in the settings (12/24/48).

4. Check for error codes.

If all above is fine, and still the unit does not operate, contact a dealer to have the unit tested.

Q6: Can I use the MPPT Solar Charger as DC-DC charger?

For example to charge a 12 Volt battery from a 24V battery bank?

Yes.

Q7: Can I connect different panels to the same charge controller?

No. Under no circumstances.

DISQUS Comments

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