

## FAQ Plasmatronics PL Series Regulator vs MPPT

The MPPT versus series regulated question is not always straight forward as it very much depends on the conditions under which charging is taking place.

(1)

MPPT is good if you need to run cables from an array over a long distance as it allows higher voltage panel strings (therefore lower power loss due to cable resistance, because of lower currents).

(2)

Other than that, MPPT is useful if you don't want to (or can't) match the panel specifications to the battery (eg. on a motorhome you may want to use some uncommon, high output panels since the roof space is limited).

(3)

Be aware that the % gains claimed for MPPT (other than the above couple of examples) are not likely to be 'real world' (eg. How many hours during the day do your panels work at 25 degC or less ?!). The hotter the panels become –the maximum power point voltage decreases and gets close to a typical battery voltage, therefore wiping out most (if not all) the gain an MPPT unit will give.

(4)

The other issues with MPPT (particularly for boats at sea) is that it's not always easy to bypass the regulator should a fault occur (eg. due to lightning) since the panels and battery are not matched (eg. high voltage panels and lower voltage battery). With a series regulated system (like the Plasmatronics regulators), the system can be kept running by connecting the panels directly to the battery and manually regulating.

(5)

Other questions to ask:

- 1) Are the extra \$\$ of an MPPT regulator worthwhile in the particular installation?, and
- 2) Is the extra complexity of MPPT (and therefore higher probability of a component fault occurring) warranted ?, and
- 3) Does the MPPT regulator have all the features required (or is it expandable) ?

For a detailed technical comparison between the PL series regulator and a common MPPT regulator (Solar Boost 2000E), please see the FAQ:

'PL\_Info\_Plasmatronics.PL.Series.Regulator\_vs\_MPPT\_Solar.Boost.2000E\_Ver.31.05.2007-9.31PM'