

## Maximum power point tracker (MPPT)- Data sheet

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### Maximum power point tracker (MPPT)-



Microcare controllers increase charge current by operating the PV module in a manner that **allows the module to produce all the power it is capable of**. A conventional charge controller simply connects the module to the battery when the battery is discharged. When the 75W module is connected directly to a battery charging at 12 volts its power production is artificially limited to about 53 watts. This wastes 22 watts or nearly 30% of the available power! MPPT technology used in Microcare controllers operates in a very different fashion. The Microcare controller continually calculates the module's maximum power voltage, in this case 17 volts. It then operates the module at its maximum power voltage to extract maximum power. The higher power extracted from the module is then provided to the battery in the form of increased charge current.

The actual charge current increase you will see varies primarily with module temperature and battery voltage. In comfortable temperatures, current increase typically varies between 10 to 25%, with 30% or more easily achieved with a discharged battery and cooler temperatures. What you can be sure of is that Microcare charge controllers will deliver the highest charge current possible for a given set of operating conditions. The ability to step down a high voltage solar array to a low voltage battery, can save you money by reducing the size of the wire required and making the installation simpler and faster.

#### Features:

- Automatically measures the battery voltage and then sets up the charge parameters (12v-48v)
- Operates the Solar Panels at the maximum efficiency
- Charges batteries by setting up the best power point of the solar panels

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- Can improve power extracted from the solar panels by 30% over normal shunt/series pass regulators
- LCD Display
- Full input and output protection
- Energy Meter measures the power into a battery

<b>Specifications</b>	
Output Current Rating	20, 40 or 60amp available
Nominal Battery Voltage	Multi-Voltage 12-48vdc (Automatic selection of voltage)
PV Input Voltage	Absolute Maximum 90VDC
Charge Algorithm	3-stage Equalize/Boost/Float
Equalize Voltage	>12v charges to 15v per battery + 1hr (12v system)
Boost Voltage	Charges to 14.5v When charge current is < 10amps then 1hour (12v system)
Float Voltage	13.8v per battery (12v system)
Temperature Compensation	Optional temperature sensor adjusts charge voltage set points based on measured battery temperature
Power Conversion	DC/DC Switch Mode
Output Efficiency	97% Typical @ 28 Volt 40 Amps Output
Voltage Step down Capability	Can charge a lower voltage battery from a higher voltage PV array.
Status display	4 Line LCD Screen with Backlight <ul style="list-style-type: none"> <li>• Input Panel Voltage</li> <li>• Input Panel Current</li> <li>• Battery Voltage</li> <li>• Charge Current</li> <li>• Condition of Charge (Equalize/Boost/Float)</li> <li>• Charging Power</li> <li>• Battery State of Charge</li> </ul>
Power Consumption	Less than 1watt
Environmental Rating	0 – 40°C
Input	63amp DP Input Isolator
Output Connection	20, 40 or 60amp DP Circuit Breaker
Protection System	<ul style="list-style-type: none"> <li>• Lightning Protection</li> <li>• Reverse polarity Panel/Battery</li> </ul>
Cable Entry	4 * 20mm cable glands
Warranty	12 months
Cabinet Dimension	240mm (L) x 220mm (W) x 110mm (H)
Weight	3kgs