



## BZ MPPT-500: 12-48 Volt, 500 Watt MPPT Charge Controller

### Features:

- Maximum power point tracking technology provides up to 30% more power from the solar array
- Built-in digital display shows battery voltage and charge current
- Temperature compensation
- Lightning protection
- Maximum solar open circuit voltage is 100 volts
- Use with a 12, 24, or 48 volt system
- Voltage setpoint is adjustable to accommodate different battery types
- Charge a low voltage battery from a high voltage solar array, reducing wire losses
- Internal Schottky diode prevents night time battery discharge
- Includes five year manufacturer's warranty
- Made in USA

### CURRENT BOOSTING MAXIMUM POWER POINT SOLAR CHARGE CONTROL

#### Description:

The model MPPT 500 is a high performance current boosting solar control. Through the use of advanced microprocessor control and a high efficiency power converter, power wasted in older PWM style solar controls is converted into higher charge current. The MPPT 500 allows for input voltage conversion. This increases the Maximum Power Point voltage and allows for higher boost current over wider operating conditions. A high accuracy digital volt and amp meter displays battery voltage, photovoltaic current and battery charge current. Proper battery charging is maintained over a wide temperature range with the battery temperature sensor. Battery float voltage is accurately regulated. Night time battery discharge is eliminated through the use of a high efficiency Schottky diode. Maximum input power to the MPPT 500 is 500 watts. Maximum photovoltaic input voltage is 100 VDC open circuit.

#### Operation:

When power is available from the solar panel, the MPPT 500 microprocessor measures and determines the optimum operating point of the solar panel to produce the highest charge current possible to the battery. There is no interaction between the MPPT 500 and other battery charging systems. The float voltage of the MPPT 500 is calibrated to 14.1 volts. When the battery voltage reaches 14.1 volts the red Float LED turns on. At this point, charge current to the battery will gradually diminish to maintain the 14.1 float voltage. As soon as a load is turned on, maximum charge current is applied to the battery. Temperature compensation adjusts the float voltage to properly charge the battery over a wide temperature range. When the battery is warm the float voltage will drop and when the battery is cold the float voltage will rise. MPPT 500 is well suited for flooded, deep cycle and gel type batteries.

Specifications:	At 12V Output	At 24V Output	At 48V Output
<b>PV Charge Current:</b>	45 amps continuous	22 amps continuous	11 amps continuous
<b>Surge Current:</b>	54 amps for 10 min.	26.4 amps for 10 min.	13.2 amps for 10 min.
<b>Min. Battery Voltage:</b>	10 volts	10 volts	10 volts
<b>Float Voltage Range:</b>	12.5 to 15.5 volts	25 to 31 volts	50 to 60 volts
<b>Float Preset, Flooded Battery:</b>	14.1 volts	28.2 volts	56.4 volts
<b>Float Preset, Sealed Battery:</b>	13.8 volts	27 volts	55.2 volts

#### Specifications that are not dependent on battery voltage:

<b>Array Voltage Open Circuit:</b>	100 volts max.	<b>Digital Meter:</b>	½" LCD display
<b>PV Input Voltage:</b>	Auto-ranging	<b>DC Volts Range:</b>	0-99.9 volts ±0.5%
<b>Input Power Max.:</b>	500 watts	<b>DC Amps Range:</b>	0-99.9 amps ±0.75%
<b>Input Power Min.:</b>	100 watts	<b>Temp. Comp.:</b>	-18mV/°C nominal
<b>Reverse Current:</b>	0.01 amps nominal	<b>Min. Battery Capacity:</b>	100 amp-hours
<b>Operating Temp.:</b>	-20 to +60°C	<b>Storage Temp.:</b>	-30 to +70°C
<b>Operating Current:</b>	0.15 amps nominal	<b>Float Regulation:</b>	±0.05 volts nominal
<b>Wire Size:</b>	#2 AWG max.	<b>Mounting:</b>	#6 screws
<b>Efficiency:</b>	> 95% at 35 amps	<b>Finish:</b>	Beige powder coat
<b>Weight:</b>	3 pounds	<b>Conduit Size:</b>	1 inch
<b>Lightning Protection:</b>	1000 watt MOV	<b>Dimensions:</b>	6" x 8.5" x 2.4"