

BZ Products Charge Controllers

MPPT250 and MPPT250HV 12 Volt, 250 Watt MPPT Charge Controller CURRENT BOOSTING - MAXIMUM POWER POINT TRACKING



Description:

The model MPPT250 is a 25 amp 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 MPPT250 allows for input voltage conversion. This increases the Maximum Power Point voltage and allows for higher boost current over wider operating conditions. You can charge a 12 volt battery from a high voltage solar panel. A high accuracy digital volt and amp meter displays battery voltage and charge current. An auxiliary 100 ma 13.8 volt trickle charger is provided to keep the engine/generator start battery fully charged. A 15 amp capacity low voltage disconnect protects the battery from over discharge conditions. 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 normalized input power to the MPPT250 is 250 watts.

Operation:

When power is available from the solar panel, the MPPT250 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 MPPT250 and other battery charging systems. The float voltage of the MPPT250 is factory set to 14.1 volts. The float voltage is adjustable. When the battery voltage reaches the float voltage the red Float LED turns on. At this point, charge current to the battery will gradually diminish to maintain the float voltage. As soon 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. The MPPT250 is well suited for flooded, deep cycle and gel type batteries.

A low voltage disconnect is included to protect the battery from excessive discharge by automatically turning off a load, such as lights that may have been left on. Load is disconnected when the battery voltage is 12.0 volts or lower. When the batteries are recharged to 12.6 volts the low voltage disconnect reconnects the load. The yellow LED on the face of the MPPT250 is lit when the load is active. Operation of the low voltage disconnect is fully automatic. Maximum low voltage disconnect load current is 15 amps. Do not connect the low voltage disconnect to inverters.

SPECIFICATIONS:

PV Charge Current: 25 amps continuous	Digital Meter: ½" LCD display
Surge Current: 35 amps for 10 min.	DC Volts Range: 0-99.9 volts ±0.5%
Array Voltage Open Circuit: 250/50 volts 250HV/100 volts	DC Amps Range: 0-99.9 amps ±0.75%
Input Power Max.: 250 watts	Temp. Comp.: -18mV/°C nominal
Input Power Min.: 68 watts	PV Input: 100 volts nominal
PV Input Voltage: Auto-ranging	Reverse Current: 0.01 amps nominal
Min. Battery Voltage: 10 volts	Min. Battery Capacity: 100 amp-hours
Operating Temp.: -20 to +60°C	Storage Temp.: -30 to +70°C
Float Voltage Range: 12.5 to 15.5 volts	Float Voltage Preset: 14.1 volts
Operating Current: 0.15 amps nominal	Float Regulation: ±0.05 volts nominal
Wire Size: #12 AWG max.	Mounting: #6 screws 4 each
Efficiency: > 95% at 20 amps	Finish: Black powder coat
Weight: 2 pounds	Auxiliary Charger: 13.8 volts at 0.1 amps
Lightning Protection: 1000 watt MOV	Dimensions: 7.8" x 5.1" x 2.5"
LVD Current: 15 amps max.	LVD Current: 20 amps surge
LVD Disconnect: 12.0 volts	LVD Reconnect: 12.6 volts