

All user settable parameters as well as additional information are accessible via the included remote menu module which consists of a LCD screen and three buttons located on flush mountable panel.

Pressing any key during the normal operation of the unit will cause the main menu to be displayed. Using the right/left buttons will scroll through the menu options. Pressing the “Enter” button will cause that menu option or value to be selected. Use of the up/down menu increases and decreases the current menu value. Pressing the up button exits the menu (unless you are currently modifying a value, in which case it will increase the value. First press “Enter” to select the current value, and then press the up button to exit the menu).

The Red LED on the front panel indicates an error. The exact cause of the error will be shown on the LCD screen (unless you have activated one of the menu options).

The Green LED on the front panel is illuminated when the unit is first turned on and also any time the charge performance is considered high enough to complete the current charge cycle. If the solar/turbine power is not adequate to complete the charge cycle, the cycle will be extended and the mode timer will not count down. When this green LED is lighted, the charger is able to pass enough current to the batteries to complete a full charge of the batteries.

The red LED on the small daughter board inside the controller is lighted when there has been an over-voltage detected. **To clear an over-voltage condition, all power to the unit must be disconnected for at least 10 seconds.** Once power is re-applied, the unit should clear the fault. **Over-voltage conditions should be addressed by ensuring your wind turbine and/or solar inputs never exceed 100 volts** and both wind/hydro and solar are never enabled without first ensuring the controller is powered up and running from the batteries.

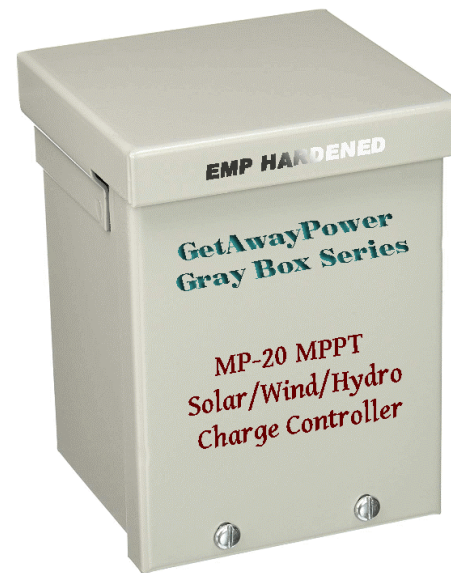
The MP-20 has been designed to handle 20 amps of continuous current. Short-term charge currents in excess of 25 amps are allowed providing the internal temperature does not rise beyond the automatic throttle back protection region. If this occurs, the charging current will be automatically reduced until the temperature stabilizes.

The main controller is housed in a NEMA 3R rain tight enclosure. It may be mounted outdoors providing it is not subjected to rising water, salt mist or condensating humidity. **The enclosure will not protect the contents from wind driven salt mist.** The remote menu module must be mounted indoors or fully protected from the elements.

The controller is fully wrapped in metal enclosure, providing full EMP protection as long as the case is properly grounded via a 6-gauge or heavier copper ground wire direct to a copper ground rod(s) buried at least 6 feet into the soil. Metal (flex or rigid) conduit must be used or the EMP protection will be defeated.



## MP-20 Quick Start Guide



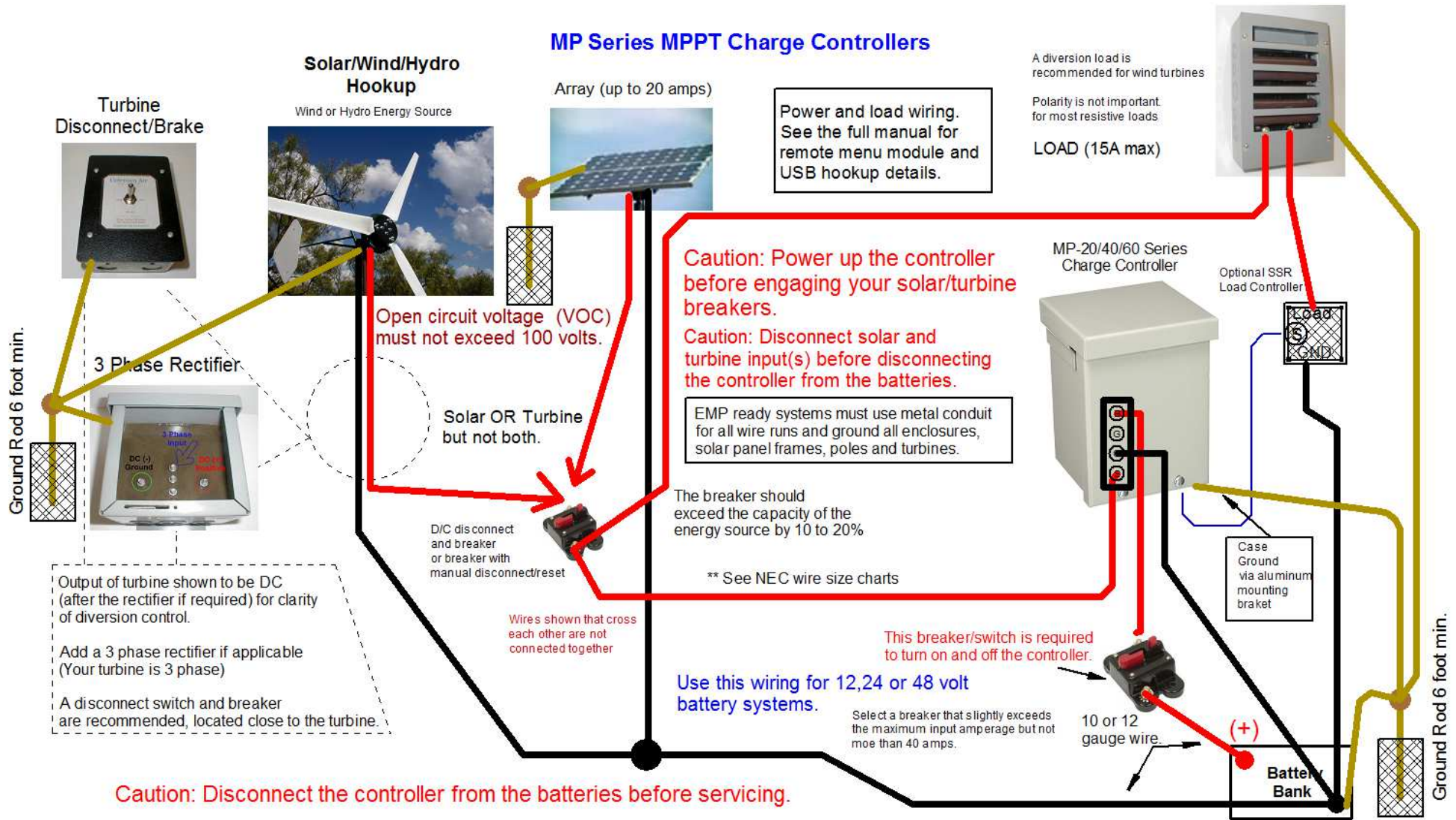
### Buck/Boost MPPT Charge Controller.

A truly unique EMP hardened MPPT charge controller featuring both buck (voltage downshifting) and boost (up shifting) of input signals to squeeze out the highest potential your alternate energy source has to offer.

**This is the quick start guide only.**  
See [GetAwayPower.com](http://GetAwayPower.com) to download the full instruction and installation manual.

- High efficiency buck/boost MPPT charge controller.
- Capable of boosting small input voltages up to 60 volts.
- Works seamlessly with Solar, Wind and Hydro inputs up to 100 volts.
- Fully digital remote user interface can be located in another room.
- Continuously streams CSV data via USB port, which can be viewed or stored.
- EMP Hardened. NEMA 3R, outdoor enclosure.
- No jumpers or potentiometers need to be set..
- Included Remote Menu Module, with 2 x 16 back-lit LCD display.
- Both manual and automatic equalize modes are available..
- Automatic nominal battery voltage detection, no setup required.
- Nearly all charge parameters can be managed through the user interface.
- Supports voltage and amperage calibration to fine tune performance.
- Optional high battery SSR module can be used to engage diversion loads.
- Automatic LCD back light dimming to save energy.
- One year standard warranty against manufacturer defects.
- 12, 24 or 48-volt battery systems.
- Lockable cover, with standard conduit openings on bottom of box.
- Modular PCB Layout.

## MP Series MPPT Charge Controllers



The MP series controllers are EMP hardened, MPPT controllers capable of boosting or bucking input voltages as low as 10 volts and as high as 100 volts, to charge a battery based system of 12, 24 or 48 volts. High speed MPPT processing supports solar, wind and hydro inputs. **Multiple solar panels and or wind turbines may be hooked up as long as you do not exceed the total capacity of the unit.** It is not recommended to mix and match input types, as each of these energy sources require different processing for best MPPT performance.

**Ensure you have selected adequate sized wire for the amperage you will be controlling. Undersized wire can result in very high heat in the wire and connections possibly leading to a fire. Always use a fuse or DC disconnect! Hooking up an energy source or diversion load without a fuse or disconnect can result in serious injury or death!**

**EMP Ready systems, MUST be fully grounded or the EMP Hardening of the controller will be defeated.** All solar panel frames must be grounded, use aluminum straps between panels. Each vertical row should be grounded with a 6 or 8 gauge wire direct to a ground rod. All turbine masts/poles must be grounded. There can be no exposed system wiring. Only metal conduit (rigid or flexible) should be used. The negative side of the battery bank must also be grounded. Use 6 or 8' copper ground rods with copper wire only. Keep ground runs short and use large radius bends if at all possible. **DO NOT** put ground wires inside the conduit.

Use extreme caution when installing or servicing this controller. High amperages and voltages can KILL you. – Always disconnect the controller before servicing