

# Green Rectifier™

An ecologically friendly cathodic protection rectifier

ENERGY & MINING

## Description

The Green Rectifier™ is Corrpro's answer to an ecological friendly method of cathodic protection in remote areas where a thermoelectric generator (TEG) would normally be utilized. Unlike a TEG which uses a gas to generate a DC voltage, the Green Rectifier™ utilizes solar panels and a wind generator that are properly sized for the cathodic protection system. The solar panels and wind generator run the cathodic protection system as well as having enough power to charge the onboard battery bank. The Green Rectifier's innovative wind generator allows charging of the system during the day as well as at night (when there is wind). The Green Rectifier™ system is designed on a bolt together frame structure that can be easily driven or flown by helicopter to a remote site and erected by two people, with no need to dig holes or cement anything. The frame system is anchored to the ground with a minimum of four stakes (user supplied). This allows the entire CP system to be easily relocated if necessary.

The CP system is controlled by a CPC-100 Cathodic Protection Controller, which is a small, low cost 100 watt DC/DC converter. The CPC-100 is a fully automatic controller that provides user adjustable control for the output based on maximum on-potential, voltage and current set-points. The controller's mode of operation is displayed via four super-bright LEDs, with the user adjustable set-point potentiometer adjacent to the corresponding LED. The controller also provides a microprocessor controlled user definable high and low shutdown voltage control so that the unit will shutdown automatically to protect the input supply battery from draining down too low. Incoming DC power is filtered, isolated, rectified and filtered again to a controlled DC output. The input and output surge protection is provided by internal disk-style Metal Oxide Varistors (M.O.V.'s). The CPC-100 has a single 8 channel 3.5 digit LCD display to read set-points and actual values of voltage, current, on-potential, shut down set-point and input battery voltage.



## Rectifier Features

- Easy two person setup
- Easily re-locatable bolt together frame
- Small footprint
- Tilttable mast for easy wind turbine maintenance
- Fully automatic operation
- Controls up to 100% of rated output
- Automatic on-potential, voltage and current limiting
- Four high intensity LED mode indicators (potential control, voltage control, current control, and low battery)
- 8 channel 0.5" (12.7mm) 3.5 digit LCD display for reading volts, volts set-point, amps, amps set-point, on-potential, on-potential set-point, battery (input) voltage and low battery shutdown voltage
- Microprocessor controlled user definable high and low shutdown/turn on points to protect the input battery/supply
- Input/output surge protection (M.O.V.'s)
- One-year warranty from date of purchase, effective against defective components and/or faulty workmanship

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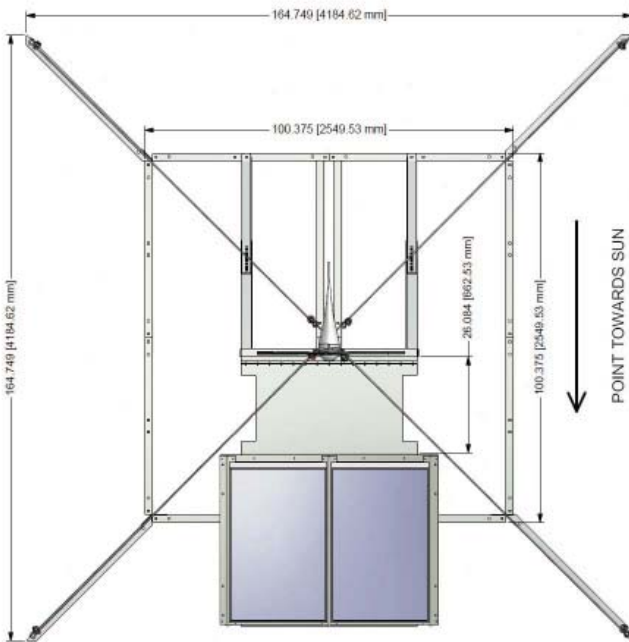
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## Specifications

- DC output: 12 or 24VDC solar panels/wind generator
- AGM (Absorbed Glass Mat) battery bank
- Potentiometer adjustment
- Output voltage range: 0 to 12/24VDC
- Output current range: 0 to 4ADC
- Metering: 2% tolerance, temperature compensated
- Cooling by natural air convection
- Operating ambient: -40° to +40°C (-40° to 104°F)
- Limited options available on request

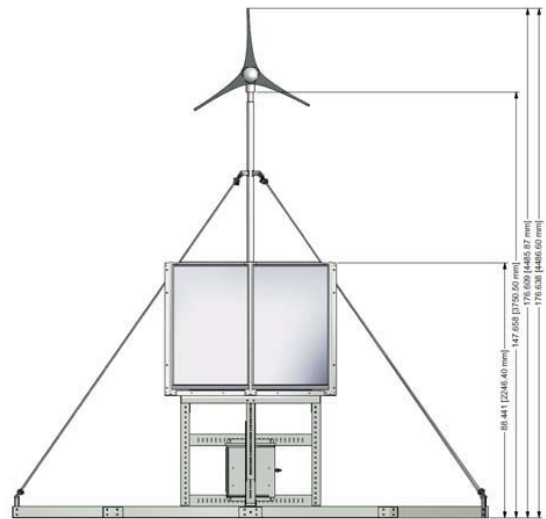
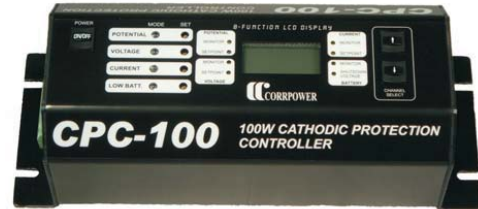
## Green Rectifier™ Views



## Advantages

- No fossil fuels being utilized
- No piping required (as compared to a TEG)

## CPC-100



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