

# PWR-60 wind charge controller



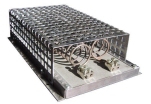
- PWM regulated charging
- 60A charging current
- Selectable 12 – 24 – 48V battery charging options
- LCD indication for system voltage and current
- 3 × 120VAC typical generator voltage (other voltages upon request)
- Convection cooled heat sinks

## Description

The PWR-60 wind charge controller is suitable for wind turbines with brushless permanent magnet generators or hydro systems with brushless permanent magnet generators, which has a 3-phase AC output within the corresponding voltage range. It rectifies and regulates the generator's 3-phase alternating current in order to be able to charge 12 – 24 – 48 V battery banks in a smooth and safe way. The PWR-60 also protects the batteries from over-charging through its dumpload techniques. The main switch short-circuits the 3 phase of the generator when in OFF position (break switch).

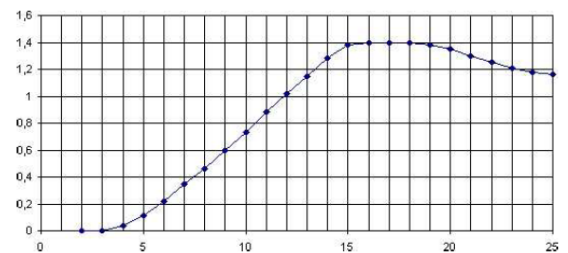
## Dumpload

When the battery has reached a fully charged state, the excess current from the generator is transferred to a dumpload heat element via solid state MOSFETs. The filament of dumpload is made of NiCr material, which prevents the humming noise during operation, which is a typical characteristic of ferrite-based heating elements.



## Protections

A blocking diode protects the batteries from alternating DC currents, which has a lifetime decreasing effect on the batteries. A capacitor permits the disconnection of the battery terminals in all circumstances.



Typical turbine (1400W) output: kW per m/s

## Specifications

Nominal battery charging voltage:	12 / 24 / 48V - switch-selectable, switch located beneath cover
Minimum battery charging voltage:	9 / 18 / 36V
Typical generator voltage:	3 × 120VAC unloaded (other rating upon request)
Maximum charging current:	60A @ all voltages (higher rating upon request)
Max. generator current:	max. 50A / phase
Regulator's cut-off voltage at 25°C:	14,1 / 28,2 / 56,4V
Max. open circuit voltage:	60-80V
Max. short circuit current:	200A
Max. current consumption:	3mA
Operating temperature:	-20 ... +50 °C
Enclosure:	Metal housing with paint finish
Screw terminals:	16 mm <sup>2</sup> - reachable from outside
Dimensions (H×W×L):	120 × 450 × 325 mm
Weight:	6 kg

### Voltage and Current meters

- Measuring voltage:	10 ... 60V
- Voltage resolution range:	0,1 V
- Measuring current:	0 ... 60A
- Current resolution range:	100mA

Suggested dumpload:	DL-24 (NiCr 80 in aluminium touch-free cage)
Switching frequency:	ca. 1 kHz