Rutland Windcharger Charge Controllers

Marlec's range of Charge Controllers lead the micro wind turbine industry in technology and product features to keep batteries optimally charged. The Hybrid Regulators; HRSi for single battery banks and HRDi for dual battery banks conveniently bring together a Rutland turbine voltage regulator with an additional input for up to 160Watts of photovoltaic panels in a single easy to install device.

HRDi

- Dual Battery Controller

Product 193 x 127 x 40 mm 420g
Packaged 230 x 150 x 60 mm 600g

HRSi

- Single Battery Controller

Product 130 x 80 x 42 mm 185g
Packaged 160 x 110 x 60 mm 255 g

Hybrid Wind and Solar Input Capacity

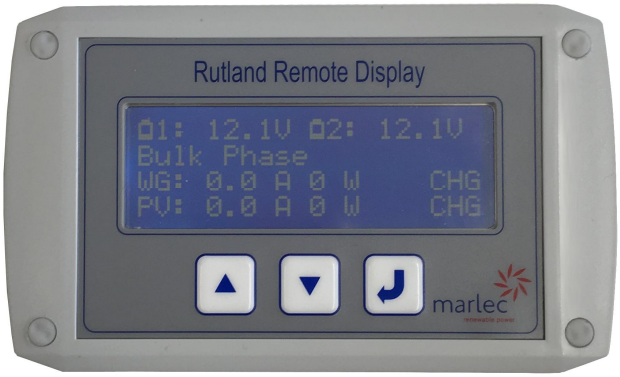
Both models are designed to accept the power input of either the Rutland 500 and 900 series wind turbines (503,504,913,914,FM910 models) plus a separate input of up to 160Watts maximum peak rated solar panels. For use with 12V or 24V battery banks by auto-setting upon connection.

Each unit incorporates a convenient shutdown switch for occasions when the turbine and solar panels can be temporarily taken out of operation, isolating them from the battery bank. Easy to connect terminals interface the turbine, solar panels & battery connection.

Charge Indicators

HRSi—Tri-Colour LED indicators keep the user informed about battery voltage levels and charging status.
HRDi—A digital display with push buttons to select optional screens; wind turbine or solar panels or totals of charge current, power, charging status and battery voltages. View the screen remotely with the optional Rutland Remote Display—HRDi shown below.

Rutland Remote Display HRDi



View the HRDi digital display at a convenient location such as a chart table on board. Using the push buttons select the screens available, change settings and shutdown the charge sources; wind turbine and solar panels.
Supplied with a 3m serial cable and back box for either surface mounting or prepare a cut out and recess for flush fitting.
Surface Mount: 125x75x50mm 203g
Recess Mount: 125x75x9mm 132g Cut out: 100x62mm
Packaged: 155x145x60mm 320g

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Technical Features

Feature	Benefit	HRSi	HRDi
Pulse Width Modulation (PWM) regulation finely controls voltage regulation, monitoring battery voltage to prevent overcharge.	As peak voltages are reached the input charge from the wind & solar chargers is tapered, gradually reducing from bulk charging to float stage level. This feature gradually reduces the speed of the turbine to an eventual "idle" thus extending the working life of the windcharger. As the battery discharges the wind turbine responds by increasing speed to deliver more power. Solar power is also tapered in the same way.	✓	✓
Microcontroller intelligently controls multi-stage charging from bulk through to float phase.	This feature ensures that batteries are optimally charged, especially when unattended. Multi-stage charge control delivers appropriate charge levels required to ensure your batteries get the maximum power they are able to retain and remain float charged ready for use.	✓	✓
Temperature compensation automatically adjusts the Voltage settings of the regulator to take account of varying temperatures.	Hot and cold ambient temperatures affect battery voltages. This feature ensures maximum charging efficiency wherever you are in the world. Voltage settings @ 25°C for nominal 12V and 24V are: Float Voltage: 13.8V / 27.6V Bulk Voltage: 14.4V / 28.8V	Built-in	Built in + optional external sensor included
Manual shutdown switch allows the user to stop the wind & solar chargers if required.	The windcharger slows to an "idle" in this mode and no power is delivered to the battery. This enables the user to safely brake the turbine.	✓	✓
User voltage programme feature	Enables the user to reset voltage cut in levels. Requires a variable DC power supply.	✓	✓
Automatic voltage detection for 12V or 24V systems	Batteries must be connected first for correct auto detection	✓	✓
Built in blocking diode	This avoids conflict with other charging sources to the same battery eg engine charging Solar panels must be fitted with appropriately rated diodes to prevent reverse current when shaded	✓	✓
Part Nos:	HRSi - CA-11/46 HRDi - CA-11/44 Remote Display HRDi - CA-11/74		

For pricing or any further information, please contact Omni Instruments Ltd.

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