Wind Turbine Controller & Datalogger

With extensive experience in wind turbine control, Voltsys has designed a range of intelligent interfaces. Features include;

- Rectify the wild AC from a turbine for use with inverters
- Store the power curve for the inverter and control the inverter power, over-riding solar MPPT, and enabling solar inverters to work with wind or hydro
- Variable dump load management in PWM to control turbine speed and protect inverters from over-voltage
- Provide data-logging for turbine speed and voltage, inverter power and wind speed.

Dump Load

A DC dump load can be switched either as a variable load using PWM or with on/off set points. Both options are fully configurable and can be used to manage turbine over-voltage or to slow a turbine in gusts.

The controller also provides a load during grid failure (on/off set points only).

Multipurpose Relay

The controller includes a relay which can be switched based on frequency or voltage to manage pitch, or 3 phase dump load etc.

Modbus Connectivity

The controller has modbus and we can provide a list of protocols.

Data Logging

When a fault has occurred, datalogging can indicate the nature of the fault The controller stores logs for 1 year to an on-board micro-SD card. Logged information includes;

- Turbine RPM (as frequency), both average and peak
- Turbine DC Voltage
- Wind Speed (if anemometer present)
- Controller brake, dump load and any fault status
- Turbine phase loss detection
- Inverter Status including;
    - AC Voltage & Current
    - DC Voltage & Current

Rectifier and Capacitors

The controllers come with a range of options for rectifier and capacitor sizes depending on power and working voltage.

LCD Screen

An internal LCD screen provides basic information on turbine status.

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Environment Protection
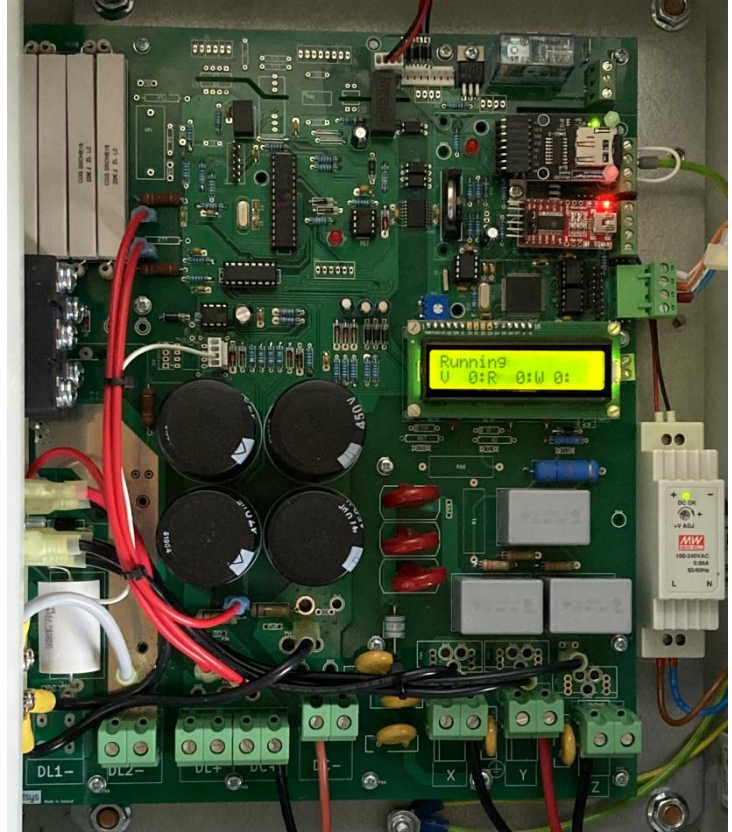The enclosure is IP66 rated as standard.

Connections:
Connections are provided for;
- Turbine Input
- DC Output to inverter
- RS485 Connection for inverter(s)
- Anemometer Connection
- Dump Load DC
- Remote Control to stop inverter when required

RS485 Output
In addition to data-logging the inverter information, this signal is used to control the solar inverter. A power curve is entered into the controller, not the inverter. The controller tells the inverter the amount of power to export to the grid. Voltsys controllers include software with a 20 point power table for the turbine, based on either DC voltage or RPM. This is translated by the controller and communicated to the inverter to ensure that power harvested matches power available from the turbine.

Specifications

Model No	VS20A/800 Standard Unit	Possible Variations as Extras
Rating	6kW	10 – 12kw
Input Voltage Max	600V RMS 200Hz	
Input Current Max AC	16.5A AC	30A AC
Output DC voltage (max)	800VDC	
Output DC current (max)	20A DC	40A DC
Diversion Load current	20A DC	30A DC
Capacitance	470uF	1,000uF
AC Power Supply	100-240VAC (0.88A)	
Temp.	-10C ~ 40C	
Weight	11.1KG	
Dimensions	400x350x150	