

Want help with troubleshooting your wind turbine system?  
Whatever the model, start with these basic system checks if you are experiencing low or no power production



Is sufficient wind blowing to charge?	Usually when the blades of a Rutland become a blur the voltage has been reached to start charging the battery.
Check the system components are Voltage compatible	The wind generator and battery voltages should be the same. Do not connect 24V turbines to 12V batteries and vice versa, performance and normal operation are severely affected if components are incompatible.
	Our regulators are usually self setting to the battery voltage, for this reason it is <i>essential</i> that the battery is the first live connection. Never connect a running turbine or exposed solar panel to a controller, damage will occur!
To check the turbine voltage rating	Find the serial number label usually on the generator hub, this is also found on the manual and packing box provided. All turbines start with a single letter followed by 1 or 2. 1 indicates a 12V unit and 2 a 24V unit. Keep a note of the full number handy as you will need it if contacting us.
Is it switched on?	Most Marlec regulators are fitted with a shutdown switch. Check this is set to run. Rutland 1200: note that the buttons have a 3 second hold down delay to avoid nuisance activation.
Is the regulator/controller regulating?	Marlec regulators work intelligently to multi-stage charge the batteries and keep them in good condition. As the batteries become fuller the current produced by the wind generator is limited using PWM technology and this has the effect of gradually slowing down the turbine. You may see this happen in a strong wind. When the battery Volts fall the turbine speed automatically increases.
	Check the status of the LED's against the advice in the manuals. You can find manuals in this Support section.
Is the turbine actively self limiting?	Each turbine has some individual differences: The Rutland 500 series and the 914i models do not have any self limiting features.
	<i>Rutland 913</i> - in persistent high winds the turbine can be seen to speed up and power to the controller will be temporarily disconnected. It will reconnect automatically but you can slow down the turbine and temporarily tie a blade to the pole if preferred until high winds subside.
	<i>Rutland 1200</i> - the turbine will be seen to self limit when a current of 35A is reached at around 15m/s. The turbine will slow to an idle for approximately 5 minutes before returning to normal operation. A secondary feature is Over Temperature Protection that cuts in, typically in prolonged high winds, which disables the turbine to an idle until a lower level temperature is reached before returning to normal operation. No power will be detected during any "idling" period and in prolonged winds both of these features will cycle in and out.
	<i>FM910 series and FM1803 series</i> - in high winds the tail fin will orient the turbine away from the prevailing wind direction to slow down the turbine. In prolonged winds this will cycle in and out.
Wiring Check 1	Check that the cable size specifications in the manual have been followed. The use of thinner cable conductors than specified for the currents transmitted in high winds or solar generation will cause high resistance and overheating will occur. Danger of fire.
	A further effect of insufficient cable thickness is voltage drop which will cause inaccurate voltage sensing and abnormal operation.

Wiring Check 2	If you are experiencing power problems trace and check the integrity of ALL the wires running between the turbine and controller, controller and batteries. At the connections ensure that there is good surface contact between the terminals and wire strands, be sure you have not clamped onto the wire's sheath.
My batteries aren't holding charge	Check the condition of the batteries. A simple test is to shut down any charge sources and appliances running. Take a battery voltage reading, wait 1 hour and re-read. If the resting voltage is below 10.5V the battery is probably at end of life and should be tested by a battery specialist or replaced.
My battery Voltage is getting too high	All Marlec regulators incorporate temperature compensation to ensure that batteries charge to the correct levels wherever used in the world. This means that the readings may appear high in cold conditions and low in hot conditions. Where supplied with the regulator/controller we recommend installation of the remote temperature sensor to improve charging efficiencies.
	Check that the cable size specifications in the manual have been followed. The use of thinner cable conductors than specified for the currents transmitted in high winds or solar generation will cause high resistance and overheating will occur. Danger of fire!
	Check that the battery was the first live connection to the controller. Marlec regulators automatically set themselves to work at the appropriate battery voltage. If you have connected a running turbine or exposed solar panel first the voltage may have risen higher than your system voltage. Damage to the components may have occurred.
	Where supplied with the regulator/controller we recommend installation of the remote temperature sensor to improve charging efficiencies.
Still require assistance?	Download and complete this form on line and send any supporting diagrams and photos to <a href="mailto:sales@marlec.co.uk">sales@marlec.co.uk</a> and one of our technical team will contact you.