



User Guide – Low Voltage Cut-Out Function

Note:

This advice applies specifically to the current model National Luna fridge/freezers (2009 on Models), however the general principal of this guide applies to older models, although specific voltages may vary slightly.

Summary:

This information is intended to assist owners who seek to better understand how the low voltage protection functions. Probably the most important aspect is to know that whilst the fridge compressor will be turned OFF at the prescribed voltage, it will NOT turn back ON until the voltage is approx 1.3volts higher than the cut-out voltage. This is to avoid the compressor “cycling” on and off with a voltage that is just on the threshold.

Technical Information

<u>Setting</u>	<u>Cut-out Voltage</u>	<u>Cut-in Voltage</u>
High	11.3V	12.5V
Med	10.4V	11.7V
Low	9.6V	10.9V

Once the cut-out voltage is reached the compressor and fan will stop running and one flash will be displayed. The fridge will stay in this one flash cycle for a little more than a minute.

During this one flash cycle the electronics continuously tests the voltage level. If the voltage level exceeds the cut-in level, the fan will start running. The compressor will then only start running once the minute cycle is complete. If the voltage level does not exceed the cut-in level, then the compressor and fan will both stay off and the one flash cycle will just restart every minute or so.

It is usually impossible to for the battery’s voltage to change from the cut-out to cut-in value within a one flash cycle. If the fan runs during a one flash cycle it usually points to a wiring or connection problem.

On initial plugging in of the fridge, the electronics will test if the voltage is above the cut-in voltage before it will start. If it is below the cut-in voltage it will show one flash. This means that if the fridge is set to the high cut-out position and plugged in or switched on, it will not run unless the battery voltage is above 12.5V.

If the fridge has cut out on High one can make it restart by setting it to low, as the high cut-out voltage is above the low cut-in voltage. The fan will start running as soon as it is set to the low position and when the minute cycle is up the fridge will start.

On any of the other settings this cannot be done because the cut-out voltage is lower than any other cut-in voltage.