














LED Status		Logic
	<p>Solid Green on Lift Battery and Source</p>	<p>Charging State – Source voltage was greater than 13.8 volts. DC/DC converter is on. Tractor must be running and alternator good to achieve 13.8 volts. A batteries surface charge cannot reach this value.</p> <p>Note: The turn on voltage is 13.2 volts after 5 min. or 13.8 volts immediately. Reason is that if in Dual Pole in Parallel state, the Select input is now connected to liftgate batteries via the dual pole cables. If the liftgate batteries had been charging using the DC/DC converter, then that voltage could be above 13.2 volts.</p>
	<p>Solid Green on Source Slow Flashing Orange on Lift Battery</p>	<p>Charging State - Tractor connected and running. DC/DC converter is operating but the liftgate batteries are defective or below 12.8 volts.</p>
	<p>Solid Green on Lift Battery and Source</p>	<p>Extend State – Source voltage drops below 13.8 volts. DC/DC converter is on for 1 hour. Every two minutes the controller turns off the DC/DC converter so there is no current flow (no voltage drop) and measures the battery voltage on the tractor batteries. If over 12.4 volts, the controller turns on for another two minutes. This will repeat until 60 minutes has expired or the battery voltage drops below 12.4 volts.</p>
	<p>Dual Pole in Parallel Mode Solid Green on Lift Battery and Source</p>	<p>Extend State –Tractor turns off or voltage drops below 12.6 volts (dual pole coupled, but engine off). Then it will extend for approx. 2 minutes and turn off. If voltage at dual pole does not drop below 12.6 volts, then the Direct will extend until 60 minutes has expired.</p>
	<p>No Source LED Lift Battery LED Slow Flashing Green</p>	<p>Static State - No tractor connected to the trailer and the liftgate batteries are more than 12.4 volts.</p>
	<p>No Source LED Lift Battery LED Slow Flashing Orange</p>	<p>Static State - No tractor connected to the trailer and the liftgate batteries are less than 12.4 volts.</p>

LED Status		Logic
	<p>Slow Flashing Green on Lift Battery and Source</p>	<p>Off State – Source voltage below 13.8 volts and extend period is over. Voltage at the lift batteries and the source is above 12.4 volts. Voltage at source must achieve 13.8 volts to go into Charging State.</p>
	<p>Slow Flashing Orange on Lift Battery and Source</p>	<p>Off State (Low Voltage) – Lift battery and source voltage below 12.4 volts. DC/DC converter is off. Voltage at source must achieve 13.8 volts to go into Charging State.</p>
	<p>Rapid Flashing Orange on Lift Battery and/or Source</p>	<p>Off State (Fault) – Blown ground fuse if flashing on lift battery and blown source fuse if flashing on source.</p>
	<p>No LED</p>	<p>Off State (Fault) – Open circuit in lift battery or source circuit. This could also be caused by the liftgate battery voltage being below 6 volts.</p>
		<p>Excessive Voltage Drop – Tractor is running and the voltage is above 13.8 volts. The controller turns on the DC/DC converter and current starts to flow. If the voltage drops below 10.5 volts, the controller will tell the DC/DC converter to turn off. What the operator will see is the Source and Lift Battery go Solid Green. Then both LEDs will toggle orange for a few seconds. The cycle then repeats.</p> <p style="text-align: center;">Note: Low voltage shut off in the 1st 5 min. is 9.5 volts.</p>
	<p>Blue LEDs</p>	<p>When the module receives power the lights will turn blue, indicating the start-up sequence. This occurs when voltage over 6 volts is applied to the controller. If the controller drops below 6 volts, the controller will turn off and will not power back on until the voltage rises above 7 volts. If the blue LEDs stay lit, charge and test the liftgate batteries.</p>