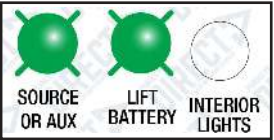
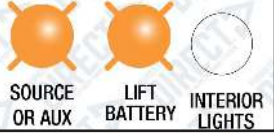
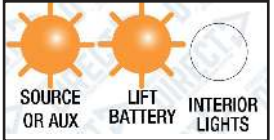
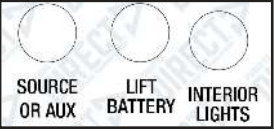

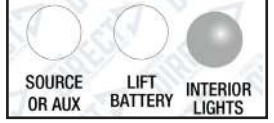
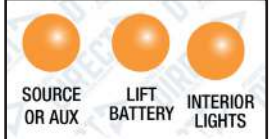


LED Status		Logic
	Solid Green on Lift Battery and Source	Charging State – DC/DC converter is on and system is charging. Note: For aux source, the turn-on voltage is 13.2 V. For dual pole source, the turn-on voltage is 13.2 V after 5 minutes or 13.8 V immediately. This is because, in dual pole in parallel state, the Direct input is now connected to liftgate batteries via the dual pole cables. If the liftgate batteries had been charging using the DC/DC converter, that voltage would be above 13.2 volts, so the Direct would turn on and continue to charge even if the tractor was shut off.
	Solid Green on Source Slow Flashing Orange on Lift Battery	Charging State – Tractor connected and running. DC/DC converter is operating, but the liftgate batteries are defective or below 12.8 volts. Applies to all charging sources.
	Solid Green on Lift Battery and Source	Extend State – Source voltage drops below 12.8 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 voltage drops below 12.4 volts. The Direct will then look for next available source.
	No Source LED Lift Battery LED Slow Flashing Green	Static State – No tractor connected to the trailer and the liftgate batteries are more than 12.4 volts.
	No Source LED Lift Battery LED Slow Flashing Orange	Static State – No tractor connected to the trailer and the liftgate batteries are less than 12.4 volts.

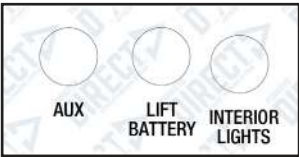
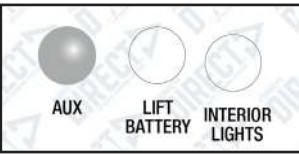
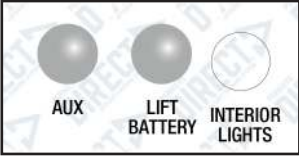
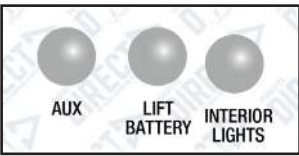
LED Status	Logic
	<p>Off State – Source voltage below 12.8 volts and extend period is over. Voltage at the lift batteries and the source is above 12.4 volts.</p> <p>Applies to all charging sources.</p>
	<p>Off State (Low Voltage) – Lift battery and source voltage below 12.4 volts. DC/DC converter is off.</p> <p>Applies to all charging sources.</p>
	<p>Off State (Fault) – Voltage between 2 and 8 volts. Check fuses and wiring.</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 9 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. Both LEDs will toggle orange for a few seconds. The cycle then repeats.</p> <p>NOTE: Low voltage shut off in the first 5 minutes is 9.5 volts.</p>
	<p>The interior lights in the trailer will turn off either via a timer (which can be set to 15, 30, 60, or 90 minutes) or if the liftgate batteries are below 12.2 volts.</p>
	<p>Off State (Fault) – Board temperature has reached 100°C and turned off charging from all sources. Charging will begin again after board temperature is below 65°C.</p>

Interior Light Control

The interior light timer defaults to 60 minutes. However, it can be changed to 15, 30, 60, or 90 minutes. To change the timer length:

- Press the “ON/OFF” button 10 times within 10 seconds
- All LEDs will flash white once, then display current timer setting (see table below)
- Press the “ON/OFF” button to toggle to the desired timeout period (see table below)
- Timer set mode will exit 10 seconds after the last button press (setting will be saved as the most recent setting entered by user)

Note: if there is a Source LED (depending on product) it will be illuminated in all cases.

	LED Status	Logic
	No LED	15 minute timer is enabled/active
	Solid White on Aux	30 minute timer is enabled/active
	Solid White on Aux and Lift Battery	60 minute timer is enabled/active
	Solid White on Aux, Lift Battery, and Interior Lights	90 minute timer is enabled/active

Interior Light Control Timer

When there are 3 minutes remaining on the timer, the interior lights (inside the trailer, as well as the LED indicator on the front of the nosebox) will blink 3 times. At 2 minutes, the lights will blink 2 times; at 1 minute, they will blink once.

If the interior trailer lights are on, and the system detects power on the 7-way aux pin, the timer will automatically set to 3 minutes to ensure the interior trailer lights are turned off while the vehicle is in motion.

If the battery voltage is below 12.2 volts, the timer will automatically set to 3 minutes to preserve the battery.