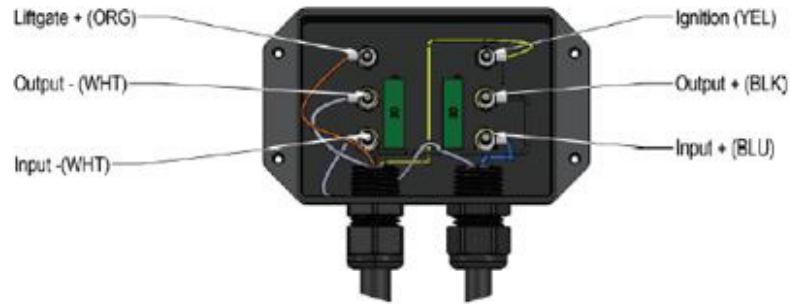
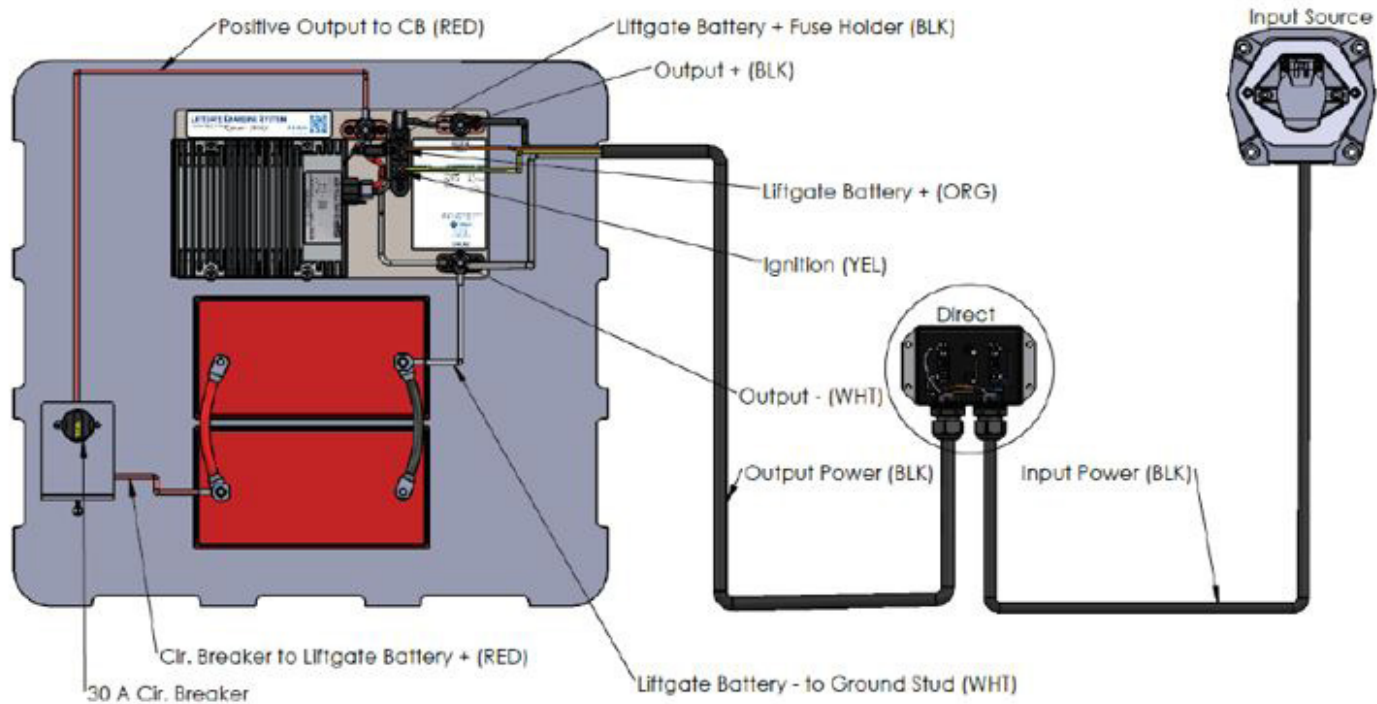
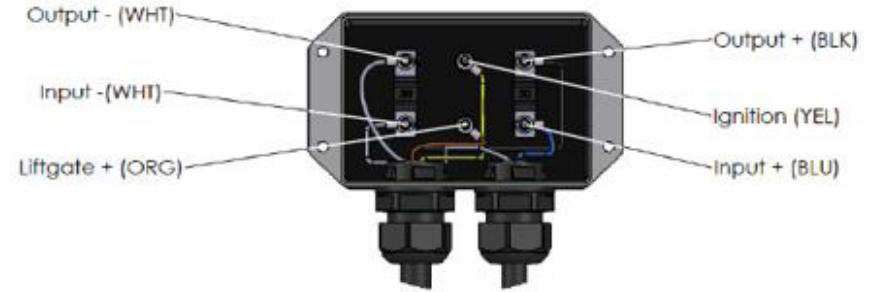


## Legacy Direct (MAXI Fuse)



## Current Direct (MIDI Fuse)



LED LOGIC		STATUS
	<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>

TIP 1: With your multimeter, check voltage at the liftgate batteries. Charge batteries if below 12.8 volts. Do a load test on the batteries to make sure they are good, as one bad battery can affect the others by draining them to compensate for its weakness.


If batteries are at a good voltage, use your multimeter to check the voltage on the ground and orange wires in the battery box on the charging plate. Then remove controller from the base at the front of the trailer and test voltage with your multimeter on the ground and orange wires. Both voltage readings should be the same. This is your voltage from the lift batteries. If the readings are different, the orange wire needs to be inspected from front to back to see if it has a pinch or break. Repair and check liftgate charging system for proper operation.

If issue persists, call Purkeys' technical support.

LED LOGIC		STATUS
	<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>

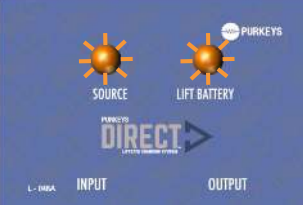
TIP 2: With your multimeter, check voltage at the liftgate batteries. If batteries are below 12.4 volts, charge batteries to above 12.4 volts.

If batteries are above 12.4 volts, check the connection of the orange wire on the charging plate as well as the connection in the controller on the front of the trailer. To test the orange wire, use test procedures from Tip 1.

LED LOGIC		STATUS
	<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>

TIP 3: With your multimeter, check voltage at the liftgate batteries. If they are below the required 12.4 volts, proceed to charge the batteries until correct voltage is met.

To check the source voltage, ensure a tractor is being used and use a multimeter to check voltage through the 7-way or stinger cord. If voltage readings meet the requirements, take the controller off the base at the front of the trailer and check voltage with your multimeter between the input white terminal and the input blue terminal and make sure source voltage is above or at the required 13.8 volts. (Refer to diagram on page 1.)

LED LOGIC		STATUS
	<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>

TIP 4: Open the controller on the front of the trailer and check the fuses inside with your multimeter. Remember that fuses can appear to be good, but will actually read bad with a continuity test. Replace fuses as needed.

LED LOGIC		STATUS
	<p>No LED</p>	<p>Off State (Fair) - Open circuit in lift battery or source circuit. This could also be caused by the liftgate battery voltage being below 6 volts.</p>


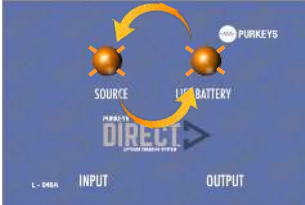
TIP 5: With your multimeter, check battery voltage at the liftgate batteries. If below 6 volts, charge batteries and recheck system.

If above 6 volts, one of the protection devices could be blown in the battery box. There is a 2 amp fuse and a 30 amp circuit breaker. Check these with your multimeter. First, put your meter on DC volts. Put your negative lead on the ground post of the battery and your positive lead on the red post closest to the converter (refer to diagram on page 1). If the 30 amp circuit breaker is functioning, the voltage reading will be the same as the battery voltage. If this is true, take your negative lead to the negative post on the battery and your positive lead to the terminal block post where the black wire and orange wire are terminated together. If there is no voltage reading, the 2 amp fuse is blown. Replace fuse and recheck system.

If there are readings of good voltage from each checkpoint, remove controller from the front of the trailer and check output voltage with your multimeter. Put the negative lead on output white and the positive lead on output blue. Make sure there is a tractor supplying a source for power. Read voltage on the outputs. If there is no output voltage, check input voltage to be sure the power cord is functioning properly. If there is proper input voltage, but no output voltage, contact Purkeys' technical support.

If there are proper voltage readings on both the input source and output, there could be another possibility. Sometimes when road assistance is required, an on-call mechanic will install a jumper to bypass the charging system to run straight from the tractor battery so it can finish the route. In this scenario, where a 7-way is used, the ABS system can drain the batteries in the liftgate battery box when the tractor is not running. Refer to wiring diagram on page 1 and make sure there are no other wires or cables connected to any of the posts on the charging plate other than what is shown on the wiring diagram. If one is found, remove the cable and recheck liftgate charging system.


If the issue persists, call Purkeys' technical support.

LED LOGIC		STATUS
		<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>Note: Low voltage shut off in the first 5 minutes is 9.5 volts.</p>

TIP 6: Check all ground connections and make sure they are clean and tight. Make sure the source voltage is supplied with a 30 amp fuse for proper function of the charging system.

With a multimeter, check voltage from source (tractor) and the power cord coming from tractor for proper voltage.

If there is still an issue and a 7-way is being utilized for source power, find which circuit is having the voltage drop problem by following a process of elimination. Take all the grounds off the 7-way itself, then start putting them back on one by one. When you put a ground on and see the light issue on the controller, this is the circuit the voltage drop issue is in. Inspect the circuit and repair where needed. Recheck liftgate charging system for proper functionality.

LED LOGIC		STATUS
	<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>

TIP 7: With your multimeter, check battery voltage at the liftgate batteries. As needed, charge batteries and/or do a load test to see if one might be bad and pulling power from the good batteries to make the voltage drop below 6 volts. Once the batteries are verified as fully charged, reconnect and check liftgate charging system for proper operation. If issues remain, call Purkeys' technical support.

TIP 8: If at any time you find the converter in the battery box has a blinking red LED, unplug the 4-pin connector, inspect for cleanliness, and plug back in. Be sure it is seated tightly. Check operation of charging system. If there are any other issues call Purkeys' technical support.

TIP 9: Make sure a tractor is used to supply power to trailer and our liftgate charging system. Other sources could possibly not put out enough voltage for the liftgate charging system to work properly.