

PURKEYS

A MISSION CRITICAL ELECTRONICS BRAND

SteadyCharge™

INSTALLATION GUIDE





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GENERAL INFORMATION

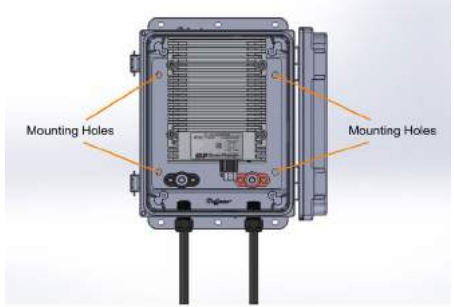
The SteadyCharge™ provides charging power to any accessory battery when connected to the tractor. Purkeys charging system logic ensures the batteries are charged to protect tractor batteries via low voltage disconnect.

The SteadyCharge maintains accessory batteries (such as heater batteries that need to be maintained in the summer) during months of non-use without overcharging them. It eliminates the need for extra charging cables and automatically charges using the existing 7-way cable. It will not interfere with other devices on the aux circuit, such as the ABS system.

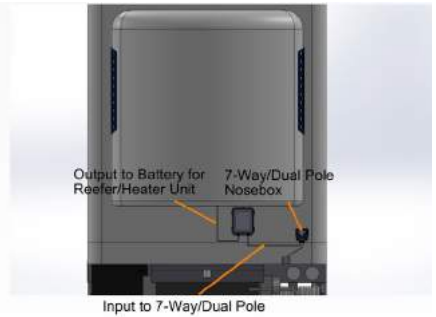
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STEADYCHARGE ENCLOSURE INSTALLATION

Step 1: Find a suitable location where both the 7-way/dual pole nosebox and reefer/heater battery can be reached. Open the SteadyCharge lid and use the 4 mounting holes on the plate to mount the enclosure to the trailer.



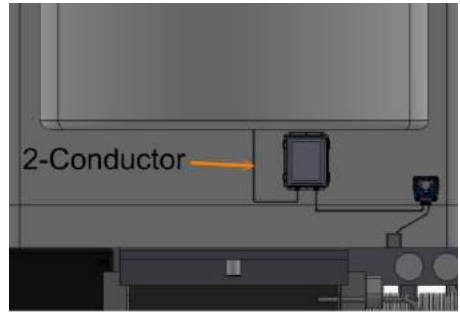
Step 2: Route the jacketed 2 conductors toward both the power source (7-way/dual pole) and the reefer/heater battery.



IMPORTANT: Place the cable clamps along the reefer harness every 6 inches to ensure proper support for the cable. Avoid sharp edges and possible chaffing points.

REEFER/HEATER HARNESS INSTALLATION

Step 1: Route the jacketed 2-conductor up toward the reefer compartment/heater battery.



Note: Place the cable clamps along the reefer harness every 6 inches to ensure proper support for the cable. Avoid sharp edges and possible chaffing points.

Step 2: Connect the reefer harness white ground wire to the reefer engine block ground and tighten.



Note: When adding a ground to the engine block, the terminals need to be mounted 30 degrees from each other with the biggest terminal closest to the engine block to ensure a good ground terminal connection. The terminals should be clean and paint-free before tightening, then use paint to protect.

Step 3: Connect the reefer harness blue positive wire with the 30 amp in-line fuse to the reefer starter positive post.



Note: Make sure no wire is hanging and all clamps and cable ties are no further than 6 inches apart.

Reefer Harness Installation Complete.

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AUX HARNESS INSTALLATION

Step 1: Route the jacketed aux and ground 2-conductor from the nosebox controller over to the 7-way nosebox.



Note: Place the cable clamps along the 7-way aux harness every 6 inches to ensure proper support for the cable. Avoid sharp edges and possible chaffing points.

Step 2: Position the 2-conductor harness so that it reaches the ground pin on the top of the 7-way receptacle and the aux pin in the center of the 7-way receptacle. Mark the cable, then cut to length.

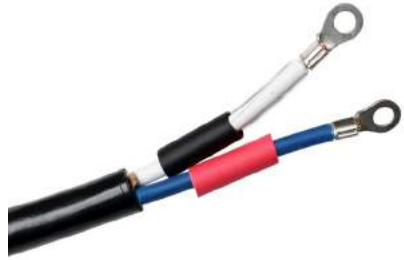


Step 3: Slide the supplied red 1/4 inch heat shrink over the blue wire.

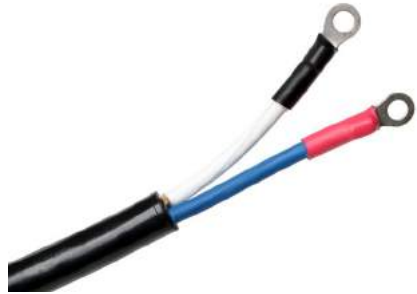
Slide the supplied black 1/4 inch heat shrink over the white wire.



Step 4: Crimp the supplied 10 gauge #10 eyelets onto both the blue and white wires.



Step 5: Solder, then position the heat shrink over the crimps and apply heat to the 2 terminals.



Note: Place the cable clamps along the 7-way aux harness every 6 inches to ensure proper support for the cable. Avoid sharp edges and possible chaffing points.

Aux Harness Installation Complete.

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7-WAY NOSEBOX TIPS

- Inspect circuits inside the 7-way box for excessive electrical resistance caused by overheating, corrosion, loose/poor connections, or undersized wiring.
- Check to see if the 7-way nosebox is equipped with circuit breakers (see Figure 1), as the problem may be a failing circuit breaker. Either replace circuit breaker with a new part or connect the blue wire from the nosebox controller to the unprotected side of the circuit breaker. Circuit protection is provided by the 30 amp fuse inside the nosebox controller.
- Ensure the 7-way or stinger cord has a tight fit and has good electrical contact at the tractor and trailer receptacles.



Figure 1: 7-Way Nosebox



SERVICE TIP - Purkeys offers the Liftgate Double Check tool, which can simplify the diagnosis of liftgate charging system problems caused by excessive voltage drop. For more information on the tool, please call 1-800-219-1269 or visit our website at www.purkeys.net.

LED LOGIC

LED Status	Logic
Solid Green on Battery and Source	Charging State – Source voltage is 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.
Solid Green on Source Slow Flashing Orange on Battery	Charging State - Tractor connected and running. DC/DC converter is operating but the liftgate batteries are defective or below 12.8 volts.
No Source LED Battery LED Slow Flashing Green	Static State - No tractor connected to the trailer and the liftgate batteries are more than 12.4 volts.
Slow Flashing Green on Battery and Source	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.
Slow Flashing Orange on Battery and Source	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.
Rapid Flashing Orange on Battery and/or Source	Off State (Fault) – Blown ground fuse if flashing on lift battery and blown source fuse if flashing on source.
No LED	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.

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LED Status	Logic
Source and Battery go Solid Green, then both LEDs toggle Orange	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 Battery go Solid Green. Then both LEDs will toggle orange for a few seconds. The cycle then repeats.
Blue LEDs	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.

NOTES

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NOTES

LIMITED COMMERCIAL WARRANTY POLICY

MCE Purkeys FE, LLC (hereafter “Purkeys”), warrants each product to be free of defects in material or workmanship under normal use and service. This warranty is for the benefit of Original Equipment Manufacturers, Dealers, Warehouse Distributors, Fleets, or other End Users (hereafter “Customers”) and covers products manufactured by Purkeys and sold new to Customers either directly by Purkeys or by its authorized dealers, distributors, or agents. The length of the Warranty Period is 36 months.

The warranty period commences on the in-service or install date and is not transferable. Failure to provide the in-service or install date on the warranty claim form will cause the warranty period to begin on the date the part was manufactured, or date of sale recorded on the original sales invoice, whichever is earlier.

A completed warranty claim form should accompany all parts submitted to Purkeys for consideration for repair or replacement under warranty. The submitted claim form should contain all of the information required. Lack of a properly or fully completed claim form will result in delay or denial of warranty claim. Claims must be submitted no later than 30 days after part is removed.

This warranty does not apply if, in sole judgement of Purkeys, the product has been damaged or subjected to accident, faulty repair, improper adjustment, improper installation or wiring, neglect, misuse, or alteration or if the product failure is caused by defects in peripheral vehicle components or components attached to the Product or failure of a part not manufactured by Purkeys.

This warranty shall not apply if any Purkeys product is used for a purpose for which it is not designed or is in any way altered without the specific prior written consent of Purkeys. ANY product alleged by a Customer to be defective must be inspected by Purkeys as a part of the warranty claims process in order to confirm that the part has failed as a result of a defect in material or workmanship.

Transportation for products and parts submitted to Purkeys for warranty consideration must be prepaid by Customer. Repaired or replaced products and or components will be returned to Customer pre-paid by Customer or “freight collect” to the address provided by Customer in the warranty claim form. No charge will be made for labor or material in effecting such repairs.

The Warranty provided by Purkeys hereunder is specifically limited to repair or replacement of the Product as Purkeys deems most appropriate in its sole discretion. Purkeys neither assumes nor authorizes any other person to assume on its behalf any other warranty or liabilities in connection with Purkeys products. The Warranty does not apply to fuses or other “consumable” or maintenance items which are or may be a part of any Purkeys product.

THIS WARRANTY DOES NOT APPLY TO LOSS OF VEHICLE OR EQUIPMENT, LOSS OF TIME, INCONVENIENCE, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. PURKEYS SPECIFICALLY DISCLAIMS AND SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES arising out of or from the use of Purkeys products by the Customer.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, INCLUDING COMMON LAW WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, AND ANY OTHER EXPRESS OR IMPLIED WARRANTIES. ALL OTHER SUCH WARRANTIES ARE SPECIFICALLY DISCLAIMED.

This Limited Commercial Warranty supersedes all previous Warranty Policies issued by Purkeys and any of its suppliers.

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WATT Keeps You Trucking