The Challenge – Keeping Auxiliary Liftgate Batteries Charged
The performance and proper function of a liftgate depends on an adequately charged auxiliary battery pack.

The issue:
On applications where auxiliary liftgate batteries are mounted a long distance from the primary vehicle’s electrical system, voltage drop will occur. In order to charge auxiliary liftgate batteries, the correct voltage must be applied to these batteries. Without the correct voltage (i.e. electrical pressure) to push the available current through the liftgate batteries, inadequate recharging will occur and the batteries will run down.

The heavy-duty commercial vehicle alternator is normally set at 14.0 volts and flat compensated. The typical vehicle’s primary battery pack is maintained at approximately 13.8 volts (the difference occurs because of the voltage drop between the battery and the alternator). With this fact in mind, the starting voltage for the liftgate batteries is 13.8 volts. The circuit to charge the auxiliary liftgate batteries can be well over 60 feet (on trailer applications). All of this length and connections (including fuses) create voltage drop in the system.

Under these circumstances it is impossible to have the correct level of voltage at the liftgate batteries. This reduced voltage results in an auxiliary battery pack that is not maintained at a proper state of charge which in turn results in shortened battery life, less operating time and possible damage to the liftgates electrical components (e.g. starter solenoid, motor, switches, etc.).

The Solution – DC/DC Converter Based Charging Solutions
A DC/DC converter eliminates the above problem by amplifying (boosting) any input voltage (9 to 14) to the correct voltage necessary to charge and maintain the liftgate batteries. Additionally the DC/DC converter mitigates the impact of cold temperatures by increasing the voltage even higher. The complete solution consists of a Direct (one power source) or Select (multiple power sources) module, hardware / connection harness, and the DC/DC converter (already pre-installed and complete with battery box).
Direct™ System Options
Choose a single source to control and extend charge time

| DIRECT-01 | With Dual Pole Connection |
| DIRECT-02 | With Dual Combo Connection 50’ Harness |
| DIRECT-03 | With 7-Way Connection |
| DIRECT-04 | For Reefer Connection or Straight Truck Application |

Select™ System Options
Selects the best available from multiple sources to maximize charge time

| SELECT-21 | With Reefer and Dual Pole Connections |
| SELECT-24 | With Dual Pole and 7-Way Connections |
| SELECT-25 | With Dual Combo and 7-Way Connections |
| SELECT-32 | With Dual Pole Combo, Reefer and 7-Way Connections |

Optional System Bypass Kit*

| SELECT/DIRECT BYPASS KIT | This Bypass Kit allows you to manually bypass the DC/DC converter |

* This kit is optional and can work with above “Direct & Select Trail Charger Kits” with dual pole or combo connectors.
Direct™ and Select™ Built-In Diagnostics

POWER SOURCE
- GOOD INPUT POWER OR BEING UTILIZED
- LOW VOLTAGE OR FAULT

STATE OF CHARGE (BATTERY WITHOUT POWER)
- FLASH EVERY TWO SECONDS IF OVER 12.4 VOLTS
- FLASH EVERY TWO SECONDS IF UNDER 12.4 VOLTS

STATE OF CHARGE (BATTERY WITH POWER)
- SOLID GREEN
- NORMAL CHARGING
- FAST FLASHING CHARGER FAULT

Former TC-Kit to Direct™ / Select™ Conversion Chart

TC-4  TC-8  TC-9

TC-5  TC-6  TC-7  TC-10  TC-23  TC-24
### Type of Vehicle

- Tractor & Trailer
- Straight Truck

#### What is the preferred Charging Source? (note: straight truck selections end here)

- Tractor Only
- Tractor & Reefer Unit

#### How will the tractor be connected to the trailer? (select one)

- Stinger Only (Dual)
- Stinger Only (Dual/Single Combo)
- 7-Way Only
- Stinger (Dual) or 7-Way
- Stinger (Dual/Single Combo) or 7-Way

- Optional - System Bypass Switch

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Submitted by:
Send this page to Maxon Customer Service for part number identification.
Fax to (888) 771-7713 or email at cservice@maxonlift.com