

1. Please refer to the Engine Start Module (ESM) INSTALLATION GUIDE and USER MANUAL for complete installation, use, diagnostics and customer support information.

2. **SAFETY**

The Ultracapacitor Engine Start Module is not a battery and must be treated differently than a battery. Please review these important safety warnings.

**WARNING**



**DANGER – HIGH CURRENT HAZARD!**

Power terminals pose an extreme arcing hazard when the ESM is charged.  
Always discharge the ESM prior to removal or handling.  
For information about the discharge procedure, refer to Section 7  
of the INSTALLATION GUIDE and USER MANUAL.

**WARNING**



**DANGER**

DO NOT CONNECT CABLES FROM THE BATTERY TO THE STARTER+ POST OF THE ESM.  
This will short the battery and cause arcing.

**WARNING**



**DO NOT CONNECT IN REVERSE POLARITY!**

Do not connect the terminals in reverse (+ to – and/or – to +).  
Sparks and arcing will occur on a charged ESM creating a shock and/or burn hazard.  
Permanent damage to the ESM will also occur.

**WARNING**



**WARNING – THIS IS NOT A BATTERY!  
DO NOT JUMP START**

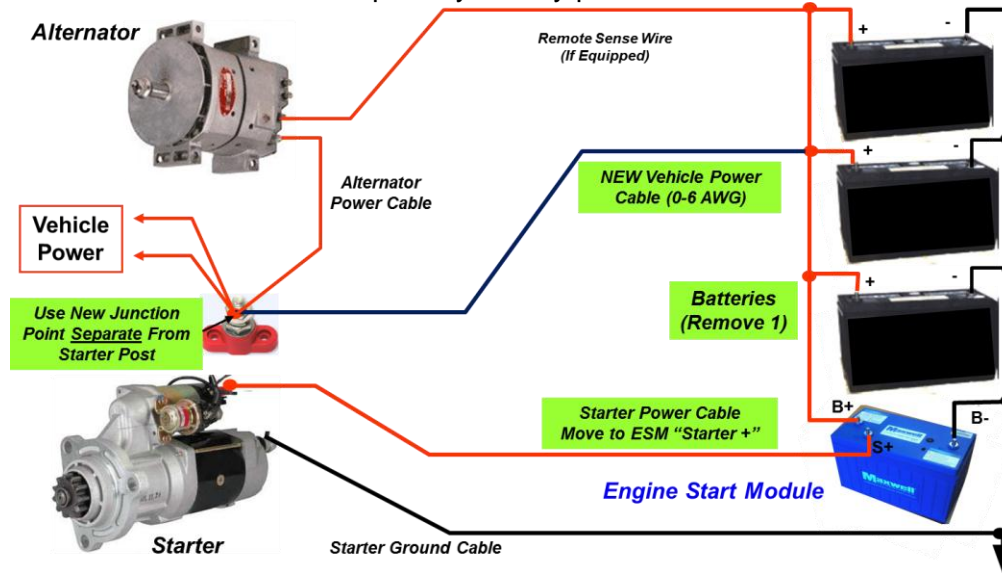
Do not connect any battery across the STARTER + and BATTERY – terminals.  
This will short the battery and cause arcing.

3. **MOUNTING LOCATION**

The ESM is designed to mount in the same space as a Group 31 battery. The typical location is in the battery box of a Class 6-8 truck. If there is adequate space, the ESM may be installed in addition to batteries. If batteries fill the battery box, at least one battery will need to be removed and replaced with the ESM.

**4. ELECTRICAL CONNECTIONS**

- a. Disconnect cables connecting the batteries to the starter.
- b. Place the ESM in the desired location; remove a battery if required.
- c. Inspect connection of battery cable at the starter. If the starter is used as a junction point for other vehicle electronic loads, isolate all other connections onto a separate terminal block and run a new cable to a primary battery positive terminal.



- d. Connect the negative battery cable to the BATTERY- terminal of the ESM.
- e. Connect the existing cable from the Starter Solenoid to the STARTER+ Terminal of the ESM.

***The Vehicle Starter must be the only electrical connection to the ESM STARTER + Terminal.***

- f. Connect Cable from the primary +12V Battery Positive Terminal to the BATTERY+ Terminal of the ESM.

5. **INITIAL CHARGE** – The ESM will take up to 30 minutes for an initial charge. Press the Push-to-Test Button, the Flashing Green Light means ESM is charging.
6. **AFTER 30 MINUTES** – Press the Push-to-Test Button, the Solid Green light means ESM is fully charged. **START YOUR ENGINE – You are ready to go!**
7. **DIAGNOSTICS & STATUS INDICATORS** – Refer to the label on the unit or the ESM INSTALLATION GUIDE and USER MANUAL for additional diagnostics information.