



BUILT TO STRIKE.  
ENGINEERED TO LAST.

# ICON EV LITHIUM CONVERSION KIT

INSTALLATION GUIDE  
*BUILT TO STRIKE. ENGINEERED TO LAST.*



COMPATIBLE  
ICON  
YEARS  
✓  
2019-2024

**51.2V 105Ah**  
LiFePO4 BATTERY

**5.3 kWh**  
ENERGY CAPACITY

BATTERY SPECIFICATIONS	
Battery Chemistry	LiFePO4
Nominal Voltage	51.2V
Capacity	105Ah
Energy Capacity	5.3 kWh
Battery Management System	Integrated Smart BMS
Bluetooth Monitoring	Included
Over-the-Air Updates	Included
Charger Type	Smart Automatic Charger
Maintenance	Maintenance-Free

COMPATIBLE ICON MODELS	
ICON i20	
ICON i20U	
ICON i20L	
ICON i40	
ICON i40F	
ICON i40L	
ICON i60	
ICON i60F	
ICON i60L	
ICON i80	

KIT CONTENTS	
	Hornet 51.2V 105Ah LiFePO4 Battery
	Hornet Smart Charger
	Charge Receptacle
	AC Charging Cord
	External Power Switch
	Hornet / ICON LCD Display
	Display Wiring Harness

**BEFORE YOU BEGIN**

Please read this installation guide completely before beginning installation.

Inspect all components for shipping damage and verify all kit contents are present prior to installation.

Installation should be performed by qualified personnel familiar with electric vehicle electrical systems and safe battery handling practices.

**SAFETY INFORMATION**

Disconnect all power sources before beginning installation.

Verify proper polarity before connecting battery cables.

Do not short battery terminals.

Use insulated tools when working around electrical connections.

Failure to follow installation procedures may result in equipment damage or personal injury.

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 (866) 204-3774



LONGER RUNTIME	FASTER CHARGING	REDUCED MAINTENANCE	SMART MONITORING



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# STEP 1

# BATTERY INSTALLATION



- 1 Remove all lead-acid batteries and cables.
- 2 Clean battery compartment.
- 3 Retain OEM voltage reducer.
- 4 Position Hornet battery in center of tray.
- 5 Connect positive and negative vehicle cables.
- 6 Connect Com1 and Com2 cables route to dashboard.
- 7 Secure all wiring and ensure battery is firmly seated.



## IMPORTANT:

Do not reverse polarity.



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# STEP 2

## EXTERNAL POWER SWITCH INSTALLATION

This step covers the installation of the External Power Switch used to activate or isolate the ICON EV lithium battery system.

### EXTERNAL POWER SWITCH



Hornet External Power Switch

### INSTALLATION INSTRUCTIONS

1



Install the external power switch in an available dash location.

2



Connect the provided switch harness.

3



Secure wiring behind the dash.

4



Turn switch ON – green light indicates system is active.

(Light ON = Battery ON)

(Light OFF = Battery OFF)

### VERIFY INSTALLATION

- Switch installed securely
- Switch harness connected
- Wiring secured behind dash
- Green indicator illuminates when ON
- Battery system activates correctly



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# STEP 3

## CHARGER & RECEPTACLE INSTALLATION

This step covers the installation of the Charger and Charge Receptacle used to connect the smart charger to the Hornet Energy USA lithium battery.

### CHARGER INSTALLATION



- 1 Mount charger securely in the battery compartment.
- 2 Connect charger output to the battery.
- 3 Route wiring safely and away from moving parts.

### RECEPTACLE INSTALLATION



- 1 Remove factory charge receptacle.
- 2 Install supplied charge receptacle.
- 3 Tighten mounting hardware.
- 4 Verify cover opens and closes properly.

### VERIFY INSTALLATION

- Charger mounted securely
- Charger output connected to battery
- Wiring routed safely and secured
- Receptacle installed securely
- Receptacle cover opens and closes properly
- System ready for charger connection



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# STEP 4

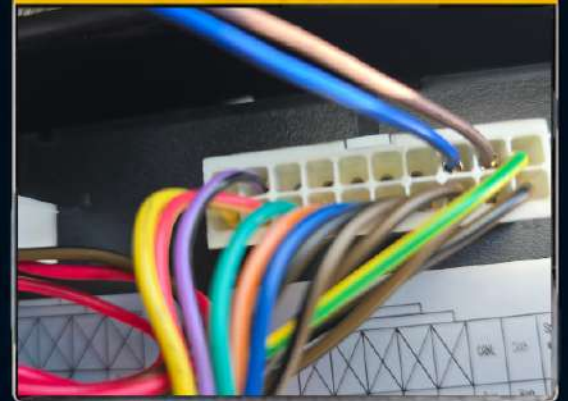
## DISPLAY INSTALLATION

This step covers the installation of the Hornet / ICON display to monitor your battery system.

**HORNET / ICON DISPLAY**



**DISPLAY HARNESS**



### INSTALLATION INSTRUCTIONS

- 1** Remove factory display.
- 2** Connect the supplied display harness to the vehicle.
- 3** Connect harness to Hornet / ICON display.
- 4** Install display into dash and secure.
- 5** Turn vehicle ON and verify display operation.  
(SOC, voltage, speed, odometer, etc.)



### VERIFY INSTALLATION

- |   |  |
|---|--|
| <input type="checkbox"/> Display harness connected securely | <input type="checkbox"/> Display powers on           |
| <input type="checkbox"/> Harness connected to display       | <input type="checkbox"/> Values display correctly    |
| <input type="checkbox"/> Display installed and secured      | <input type="checkbox"/> System ready for monitoring |



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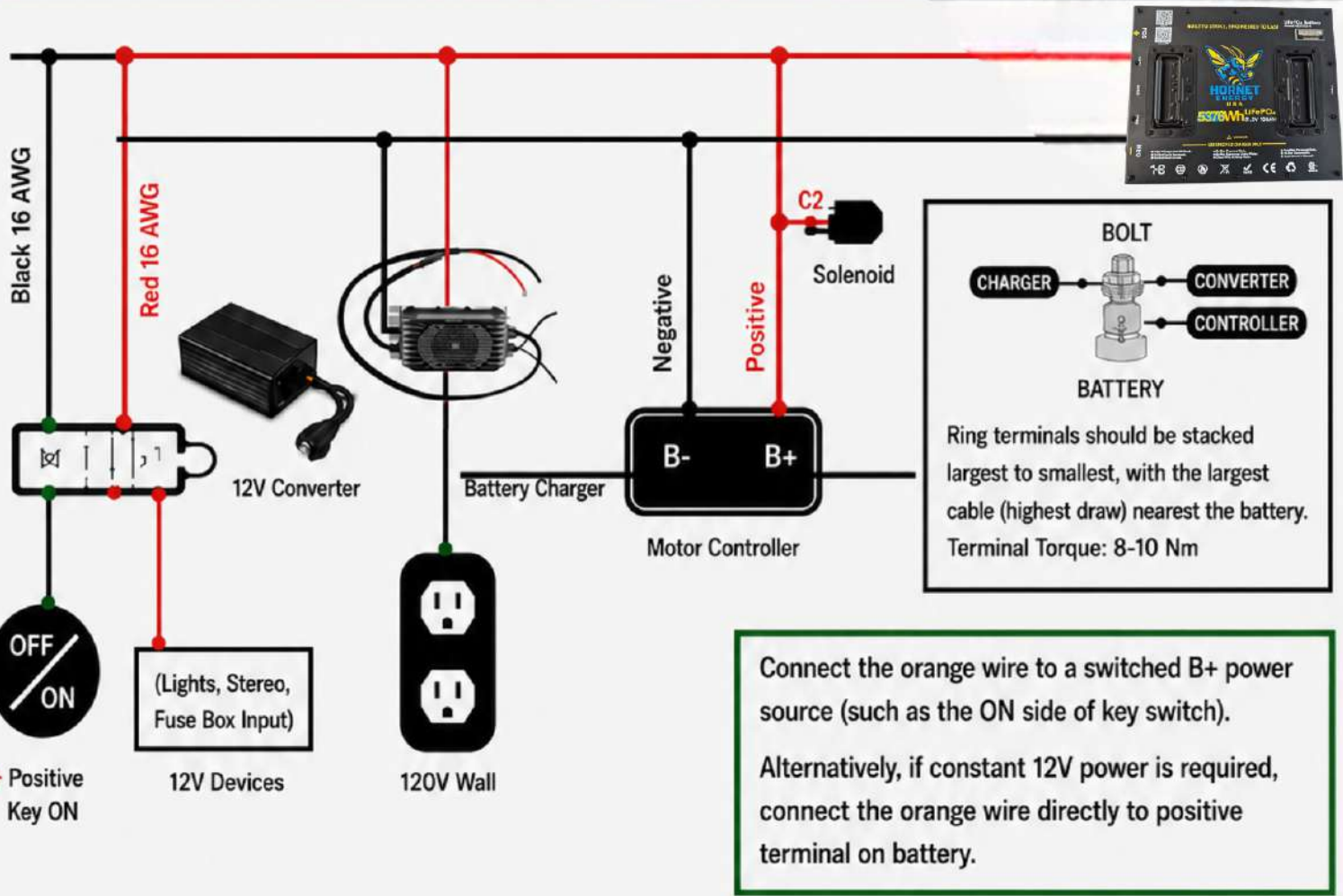
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# STEP 5

# WIRING DIAGRAM

**NOTE:** Vehicle configurations may vary. Some vehicles utilize the factory-installed voltage reducer while others may utilize a replacement reducer. Regardless of reducer type, wiring connections remain as shown in this diagram.



Red 16 AWG  
Positive Power

Black 16 AWG  
Ground / Negative

Orange  
Switched B+ (Key ON)



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# STEP 6 HORNET APP & OTA FEATURES

Monitor and manage your battery with the Hornet Energy App.



- ### HORNET ENERGY APP FEATURES
- ✓ State of Charge (SOC)
  - ✓ Battery Voltage
  - ✓ Charge / Discharge Current
  - ✓ Temperature Monitoring
  - ✓ Battery Health
  - ✓ Diagnostics & Faults
  - ✓ Over-The-Air (OTA) Updates

**STAY IN CONTROL.** Real-time insights and remote updates help you get the most performance, reliability, and lifespan from your Hornet lithium battery.

- LONGER RUNTIME
- FASTER CHARGING
- REDUCED MAINTENANCE
- SMART MONITORING



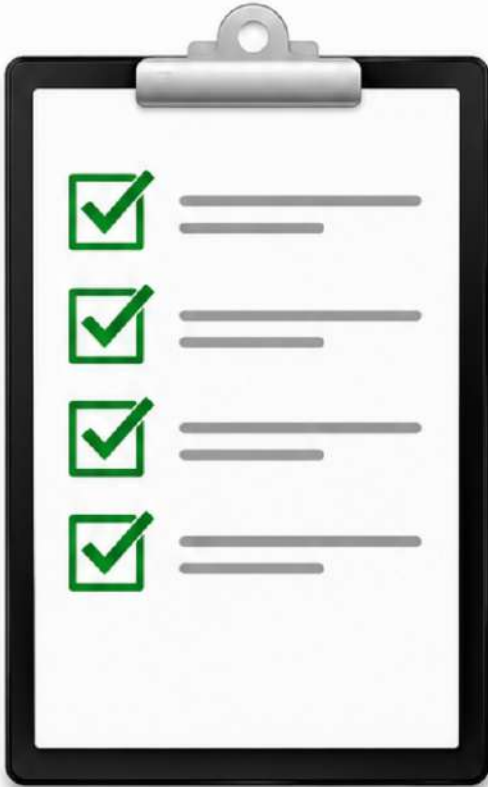
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# STEP 7

# FINAL VERIFICATION CHECKLIST

Complete the following checks to ensure your Hornet Energy USA lithium conversion kit is installed correctly and operating as intended.



Battery securely mounted

Positive connection verified

Negative connection verified

External power switch operational

Charger installed and secured

Charge receptacle installed

Display operational

App connected (Bluetooth)

SOC displayed correctly

Vehicle test driven



## SYSTEM CHECK COMPLETE



### WARRANTY REGISTRATION

Scan to register your Hornet Energy USA lithium conversion kit and activate your warranty.



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