

Nissan Leaf Module Handling Information

Thunderstruck Motors 2022

Safety and Care

- Short circuits or mishandling can damage cells internally.
- Tools should be insulated and never placed on the pack.
- Personnel protection equipment including insulated gloves and face shields are recommended.
- Test connections with a voltmeter before attaching interconnects or cables.
- All terminals are high current sources and should be kept insulated during assembly.
- Lift assembled packs with non-conductive straps to avoid short circuits.

Pack Construction and Operation

- Each module contains four cells. Two in parallel, and two parallel pairs in series. Voltage between red and black terminals is 8 volts nominal. The center terminal taps into the series connection between pairs (4 volts to each side). This center terminal and the larger end terminals are connected to the BMS for cell monitoring.
- Test modules for balance before assembly and charge individually if necessary.
- If connecting modules in parallel to increase the amp-hour rating of the pack, the center terminals of paralleled groups must be connected as well as shared positive and negative terminals. Use a 12 gauge or larger wire for the center connection.
- Align and square the modules before compressing as below.
- Modules must be held under compression using end plates and through bolts. 4 ea. ¼" or 6mm all-thread rods are recommended. Tighten all-thread nuts to 85 in-lbs in a progressive manner until torque is reached.
- Tighten 6mm module terminal bolts to 50 in-lbs. No torque is listed for center tap screws.
- OEM end plates are available from Thunderstruck Motors. Plates may be manufactured out of plate aluminum or steel.
- Once built, a split garden hose or 3/4" clear vinyl tubing can be used to insulate each row of terminals along the length of the pack.
- BMS installation is essential for safety during charging and system operation. See our website for instructions and tutorials.

<https://www.thunderstruck-ev.com/bms/>