

## Code Requirements

### 2020 National Electrical Code

Article 480 Storage Batteries

Article 706 Energy Storage Systems

Article 690 Part VIII. Energy Storage Systems

### 2018 International Building Code (IBC)

Table 509 Incidental Uses

907.2.23 Battery Rooms

### 2018 International Residential Code (IRC)

New Section R327 - Stationary Battery Storage

Install per the manufacturer's instructions

Vehicle impact protection, if applicable

Permits repurposed EV battery systems where outdoors or in detached sheds  $\geq$  five feet from exterior walls, property lines and public ways.

Battery systems must be listed to UL 9540

Not permitted in habitable space of a dwelling unit

Ventilation if charging produces hydrogen gas

Applies to battery systems > 1KWh

### 2018 International Fire Code (IFC)

105.7.2 Battery Systems

907.2.22 Battery Rooms

Table 1105.4 Incidental Uses in Existing Group I-2 Occupancies

### New Chapter 12

1201 General

1202 Definitions

1203 Emergency and Standby Power Systems

1204 Solar Photovoltaic Power Systems

1205 Fuel Cell Energy Systems

1206 Electrical Energy Storage Systems

- 1206.1 Scope
- 1206.2 Stationary Storage Battery Systems
- 1206.3 Electrical Capacitor Energy Systems

Requirements Include:

- listed to UL 9540
- permits and inspection – NEC references
- locations within buildings
- application of specific battery types
- vehicle impact protection
- safety signage
- fire detection and suppression
- ventilation
- thermal runaway protection
- large scale fire & fault testing for > 50 KWh arrays

## Listed and Labeled

Energy storage systems are required by the Codes to be listed in accordance with UL 9540 (Standard for Safety for Energy Storage Systems and Equipment). A certification mark such as the UL Certified Mark, affixed to the product as well as product installation in accordance with the manufacturers installation instructions provides the inspector evidence of code compliance [NEC Section 110.3(B)].

NEC Section 706.5 requires that other than lead-acid batteries, energy storage components shall be listed and labeled or self-contained energy storage systems shall be listed as a complete energy storage system.

NEC Section 706.8(B) requires that when energy storage systems are connect to other energy systems such as PV, only inverters and ac modules listed and identified as interactive are permitted on interactive systems.



**Multimode  
Energy Storage  
System**

The Certification Mark for these products includes the UL symbol, the words "CERTIFIED" and "SAFETY," the geographic identifier(s), and a file number.



**Utility Interactive  
Energy Storage  
System**

Section   of  

For multi-piece units, the Certification Mark appears on each outside enclosure section constituting a complete energy storage system eligible for certification. Each enclosure section of a certified energy storage systems is provided with a "Section \_\_\_\_\_ of \_\_\_\_\_" marking, where the second blank indicates the total number of enclosure sections contained in the certified energy storage system and the first blank indicates the respective enclosure section number bearing the Certification Mark.

The UL Certification Mark on the product is the only method provided by UL to identify products have been evaluated to the applicable safety standards.

One of the following product identities appears on the UL Certified product:

- Multimode Energy Storage System
- Special-purpose Multimode Energy Storage System
- Special-purpose Utility Interactive Energy Storage System
- Stand-alone Energy Storage System
- Utility Interactive Energy Storage System

For additional information visit [www.ul.com/codeauthorities](http://www.ul.com/codeauthorities)



# ENERGY STORAGE SYSTEMS – INSTALLATION CODES

