# LEVEL 2 - ELECTRIC VEHICLE (EV) CHARGING EQUIPMENT - RESIDENTIAL ONLY

## 2017 National Electrical Code Requirements – Article 625


**NEW YORK ELECTRICAL INSPECTION AGENCY**

**585.436.4460 www.NYEIA.com**


**Level 1** – Plugs into a standard 15- or 20-amp, 120-volt receptacle and offers a charge rate of approx. five miles of range per hour of charge.
**Level 2** – Typically ranges between 30-100 amps, 208-volts or 240-volts and offers a charge rate of approx. thirty-five miles of range per hour of charge.
**Level 3** – Also known as DC Fast Charging systems typically range between 60 -125 amps, 3-phase 208-volts or 480-volts and are most often installed in commercial and industrial locations. This level of charging offers up to two hundred and fifty miles of range per hour of charge.

**1) Level 2 EV Charger Receptacle (Outlet) and Wiring Method Requirements**

a. All receptacles 50-amp or less must be Ground Fault Circuit Interrupter (GFCI) protected
b. Overcurrent protection for the feeders and branch circuits must be sized for continuous duty and have a rating of not less than 125% of the maximum load of the equipment. (Example: A 32-amp charger must have a 40-amp circuit, etc.)
c. If the receptacle is newly installed for the purpose of charging electric vehicles, it must be a dedicated circuit with no other outlets or devices on it
d. Receptacles installed in wet locations must have an enclosure that is weatherproof whether the plug on the power supply cord is inserted into the receptacle or not

**2) Level 2 EV Charging Equipment**

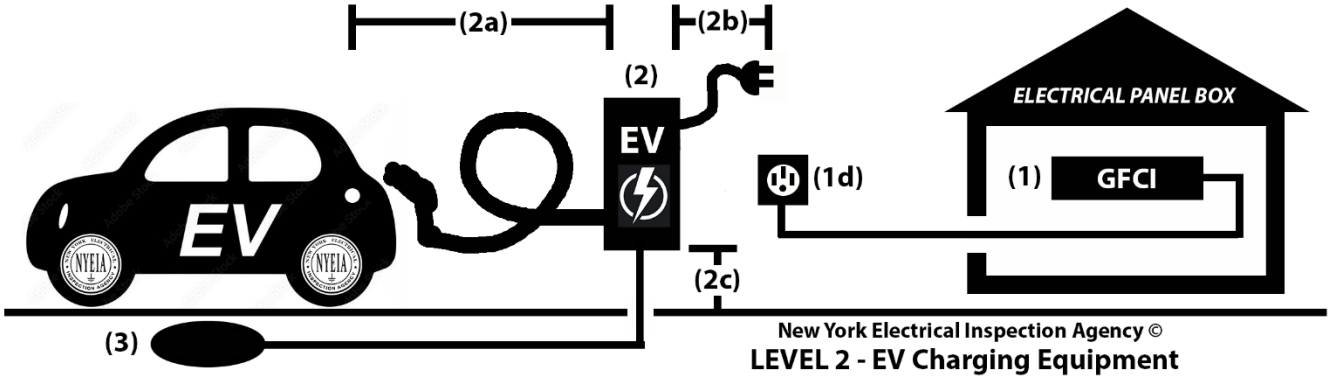
a. Must be located to allow for up to a maximum 25' charging cord to be used (unless equipped with a cable management system that is part of the listed electrical vehicle supply equipment)
b. The power supply cord on the EV Charging Equipment must not be longer than the following:
    1. Portable Equipment – Maximum length of 12"
    2. Stationary Equipment – Maximum length of 6'
    3. When GFCI protection is located at the attachment plug or within the first 12" of the power supply cord, the cord must be a minimum of 6' and not longer than 15'
c. The EV Charging Equipment must be located at a height not less than the following:
    1. Interior Location: not less than 18" above the floor
    2. Exterior Location: not less than 24" above grade

**3) EV Wireless Power Transfer Equipment (if applicable)**

a. Must be grounded,
b. The primary pad base plate must be of a non-ferrous (not iron-based) metal such as copper, aluminum, etc.
c. The Charger Power Converter – If it is ***Not Integral*** to the primary pad, shall be mounted not less than 18" above the floor indoors, and not less than 24" above grade level outdoors. It must also be mounted to a Pedestal, Wall or Pole, Building or Structure, or Raised Concrete Pad
d. The output cable to the primary pad must be secured in place over its entire length to restrict movement and strain on the connection points
e. If the cable is installed where drive-over could occur, supplemental protection must be provided

**4) Other**

a. Building Permits are required. Secure a Building Permit from your municipality prior to beginning work.
b. Contact your local electrical inspector for any questions or additional requirements that may be required in your area.




**PLEASE CONTACT YOUR LOCAL INSPECTOR IF YOU HAVE ANY QUESTIONS**


**NEW YORK ELECTRICAL INSPECTION AGENCY**

**Fritz Gunther – Chief Electrical Inspector**

2767 Dewey Avenue * Rochester, New York 14616 ~ (585) 436-4460 * www.*NYEIA*.com