

MOBILE/MANUFACTURED HOMES ELECTRICAL WIRING GUIDE

For the purpose of this wiring guide, unless otherwise indicated, the term mobile home includes manufactured home and vice versa. Manufactured homes can be identified by metal tags on the back of each section of the home stating that it is a manufactured home. Modular homes will not be on a metal chassis and will have a Colorado Division of Housing tag usually under the kitchen sink that indicates it is “Factory Built” to building code standards. ***This guide does not apply to “Factory Built” modular homes.*** NEC means the National Electrical Code as adopted by Larimer County.

Each mobile home or moveable structure shall have the service (including the feeder termination in the distribution panel) inspected any time the mobile home is moved, and when any modifications or changes are made in or on the service equipment. Per Colorado state law (CRS 12-115-120 (2)), the owner or person responsible for the electrical work is responsible for arranging these inspections.

When any other changes are made, (for example; additions, out-buildings or air conditioners are added) only that portion of the wiring need be inspected unless the additional load is such that an increase in service size is required.

All wiring in a mobile home park **must** be performed by a licensed electrical contractor. *Exception: If the mobile home is rated 50 amperes or less and is equipped with a proper cord and plug connection, and the existing service equipment involved is properly set up for the plug, and meets the current National Electrical Code requirements, a homeowner may obtain the permit.*

A homeowner may obtain a permit and do the electrical work only if the applicant fulfills all the following requirements:

1. Applicant owns the structure involved.
2. Applicant will be occupying the home.
3. Applicant owns the property the mobile/manufactured home is on.
4. The home is **NOT** located in a mobile home park.
5. The home or any part of the home is **NOT** for rent.

Mobile home service equipment shall be rated not less than 100 amps at 120/240 volts, and provisions shall be made for connecting a mobile home feeder assembly by a permanent wiring method. Power outlets used as mobile home service equipment shall also be permitted to contain receptacles rated up to 50 amperes with appropriate overcurrent protection. Fifty-ampere receptacles shall conform to the configuration as shown in NEC Section 550.10(C).

Mobile homes with a 40- or 50-amp rating may be cord-connected. The mobile home cord shall be a listed type with four conductors, one of which shall be identified by a continuous green color or a continuous green color with one or more yellow stripes for use as the grounding conductor. The cord shall have a molded or securely attached plug cap, be no less than 21 feet and no more than 36-1/2 feet in length, without splices. A suitable clamp or equivalent shall be provided at the distribution panelboard knockout to relieve strain on the cord to prevent strain from being transmitted to the terminals when the power-supply cord is handled in its intended manner. **40- or 50-amp cords shall have proper overcurrent protection for the rating of the cord.**

The mobile home service equipment shall be located adjacent to the mobile home and not mounted in or on the mobile home. The service equipment shall be located not more than 30 feet from the exterior wall and visible from the mobile home it serves. Outdoor mobile home disconnecting means shall be installed so the bottom of the enclosure containing the disconnecting means is not less than 2 feet above finish grade or working platform, with the center of the grip of the operating handle, when in the highest position, not more than 6 feet 7 inches above the finish grade or work platform.

NEC 550.32(B) Manufactured home service equipment shall be permitted to be installed in or on a manufactured home, provided that all of the following provisions are met:

- (1) The manufacturer shall include in its written instructions information indicating that the home shall be secured in place by an anchoring system or installed on and secured to a permanent foundation.
- (2) The installation of the service equipment shall comply with Article 230.
- (3) Means shall be provided for the connection of a grounding electrode conductor to the service equipment and routing it outside the structure.
- (4) Bonding and grounding of the service shall be in accordance with Article 250.
- (5) The manufacturer shall include in its written installation instructions one method of grounding the service equipment at the installation site. The instructions shall clearly state that other methods of grounding are found in Article 250.
- (6) The minimum size grounding electrode conductor shall be specified in the instructions.
- (7) A red warning label shall be mounted on or adjacent to the service equipment. The label shall state the following:

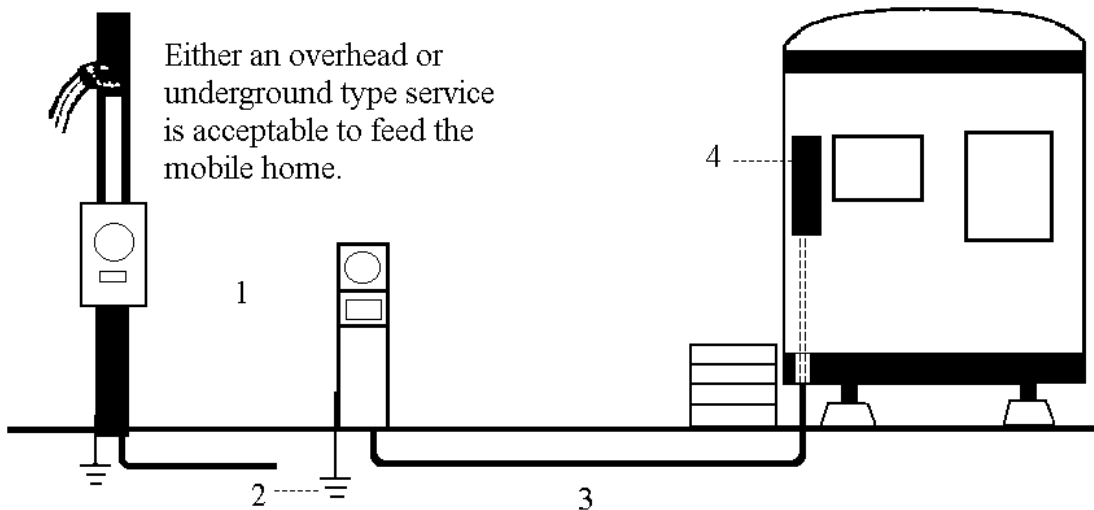
WARNING
DO NOT PROVIDE ELECTRICAL POWER UNTIL THE GROUNDING
ELECTRODE(S) IS INSTALLED AND CONNECTED
(SEE INSTALLATION INSTRUCTIONS)

Mobile home service equipment shall also contain a means (additional breaker space) for connecting a mobile home accessory building or structure or additional electrical equipment located outside a mobile home by a fixed wiring method.

Additional receptacles shall be permitted for connection of electrical equipment located outside the mobile home, and all such 125-volt, 15 and 20-ampere receptacles shall be protected by approved ground fault circuit protection for personnel.

Mobile home service equipment shall be grounded in accordance with NEC Article 250 for service equipment. ALL mobile/manufactured homes on permanent foundations shall have a concrete-encased grounding electrode installed in accordance with NEC 250.52(A)(3).

All metal frame sections of the mobile home shall be bonded together. Any metallic water piping or metallic gas piping shall be bonded to the frame and to the equipment ground in the distribution panel (the latter normally being a factory-provided connection). All bonding connections shall be made with listed clamps and listed pressure-terminal connectors using a minimum #8 AWG copper conductor or equivalent. NEC 550.16(C). When permanent connections are made between the service equipment and the distribution panelboard in the mobile home, it shall be done with four insulated, color-coded conductors. These conductors require mechanical protection from the point of attachment to the service equipment. The neutral is required to be isolated from the distribution panelboard in the mobile home.



1. Pole or pedestal service equipment shall be within 30 ft. of the mobile home.
2. Service grounding electrode.
3. Feeder conductors, four insulated conductors required.
4. Distribution panel located in mobile home.

Any hazardous condition or wiring deficiency observed during the course of the inspection will be noted and corrections required.

Any electrical installation that has been made to the mobile home since it was manufactured shall meet the minimum NEC standards. Permits and inspections are required at the time of installation.

The interior of the manufactured home is inspected by others at the time of construction. Homes built to International Residential Code standards are inspected by the Colorado Division of Housing and are usually labeled under the kitchen sink. Homes built to the H.U.D. standard are inspected under the authority of the U.S. Dept. of Housing and Urban Development and are usually labeled on the exterior of the home on the rear end of each section.