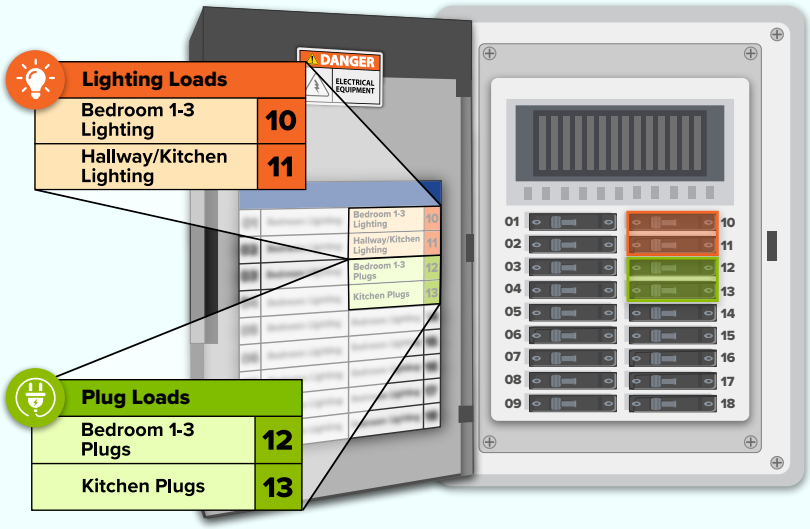
CALIFORNIA ENERGY-SMART HOMES ALL-ELECTRIC

Segregated Circuits

What are Segregated Circuits?

Segregated circuits are electrical circuits that have been separated by load type. Also referred to as dedicated circuits, segregated circuits serve singular appliances or electrical load types. High-power appliances, such as refrigerators, ovens, washing machines, heaters, and HVAC systems, are often installed on segregated circuits.

California Energy-Smart Homes requires homes go beyond California Energy Code by installing interior plug loads and lighting loads on separate circuits. These segregated circuits must also be separate from high-power appliances. **This means each circuit can only serve either a lighting load, a plug load, or a single major appliance.**



Why are Segregated Circuits important?

Reliability:

- Prevent circuit overload, tripped breakers, and potential electrical fires by specifying circuits for a single purpose.

Smart Load Management:

- Enable future smart panel installation without needing to rewire. Smart panels allow enhanced control and monitoring of electrical usage to help manage a home's energy use.

Installation

Partner with an electrician to install segregated circuits.

Use conventional panelboards, fuses, circuit breakers, motor control centers, and other standard wiring methods to separate electrical loads.

An alternative wiring approach, such as connecting all HVAC units to a single feeder from the service using a combination of feedthroughs and taps, can also provide the benefits of segregated circuits.

Be sure to install the circuits to comply with local codes and ordinances.

How is Segregated Circuits Installation Verified?

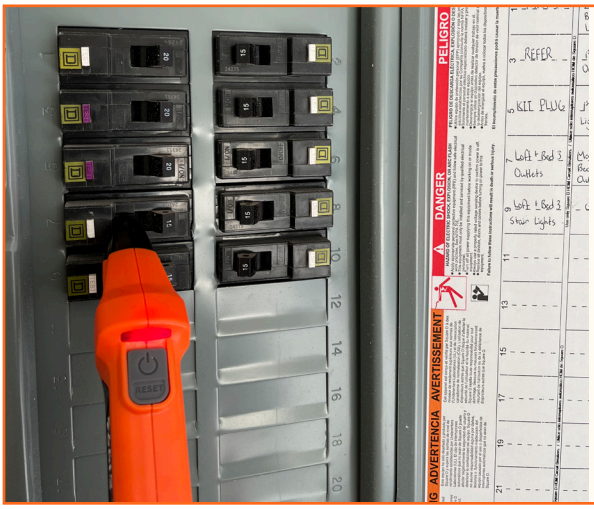
Energy-Smart Homes will conduct site visits on randomly selected homes to verify proper installation of segregated circuits by following the steps outlined below.

Step 1: Use a Circuit Breaker Finder

A circuit breaker finder is a tool comprised of a transmitter and a receiver. The site visit verifier will plug the transmitter into an outlet where it releases an electrical signal that travels through the home and is picked up at the electrical panel.

Step 2: Check the Electrical Panel

Once at the electrical panel, the verifier will turn on the receiver and slowly drag the tip of the receiver across all the circuits in the panel. The receiver will steadily beep and blink a green light, signaling it is trying to find the signal the transmitter is emitting through the home's electrical wires.



Step 3: Identify Segregated Circuit

The verifier will drag the tip of the receiver across all the circuits again until the receiver light turns permanently red and stops beeping. This indicates the receiver has found the circuit breaker that the transmitter was releasing the signal from.

The verifier will turn off the circuit breaker and, with the circuit breaker in the off position, the lights in that room continue to stay on. This verifies the plug loads and lighting loads are on two different circuits.

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Pacific Gas and Electric Company

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