HOMEOWNER GUIDE

ReliaHome™ load center
Electrical panels

As technology advances and becomes part of our everyday lives, it is also being implemented throughout items within your home, including your electrical panel. With over 140 years of experience, ABB is dedicated to finding optimal solutions to provide safe and reliable electrical products.

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01 ReliaHome load center

Congratulations on your new home!
Your home has an ABB ReliaHome load center and circuit breakers to help protect your family and property. ABB uses the latest technology in electronic arc fault circuit interrupters (AFCI), ground fault circuit interrupters (GFCI) and dual function circuit interrupters (DFCI) to provide additional protection within the home, governed by the National Electrical Code.

National Electrical Code (NEC)
The National Fire Protection Agency (NFPA) develops the National Electrical Code (NEC) as “the benchmark for safe electrical design, installation and inspection to protect people and property from electrical hazards.” The code is not federal law, but some form of the NEC has been adopted by all 50 states. Thus, compliance with the NEC within the U.S. is not optional, but mandatory, and critical to the safety and wellbeing of workers, homeowners and tenants. Every three years, the NFPA updates the NEC. As you can see from the map on the following page, different states adopt the NEC at different rates.

ABB offers a full range of GFCI, AFCI and DFCI circuit breakers, Type 1 and Type 2 surge protective devices, safety disconnect switches and enclosed circuit breakers in accordance with NEC requirements.

GFCIs were first required only on outdoor receptacles and receptacles near swimming pools. Since then, the requirements grew inside the home as potential contact between water and electricity increased.

According to the Electrical Safety Foundation International (ESFI), electrical fires cause more than 35,000 home fires and $1.4 billion in property damage each year due to worn or inadequate wiring, overburdened circuits, aging electrical systems and outdated technology. AFCIs use advanced technology to detect hazardous arcing conditions and are designed to de-energize the circuit. Combination arc fault circuit interrupters have been required by the NEC since 2008.

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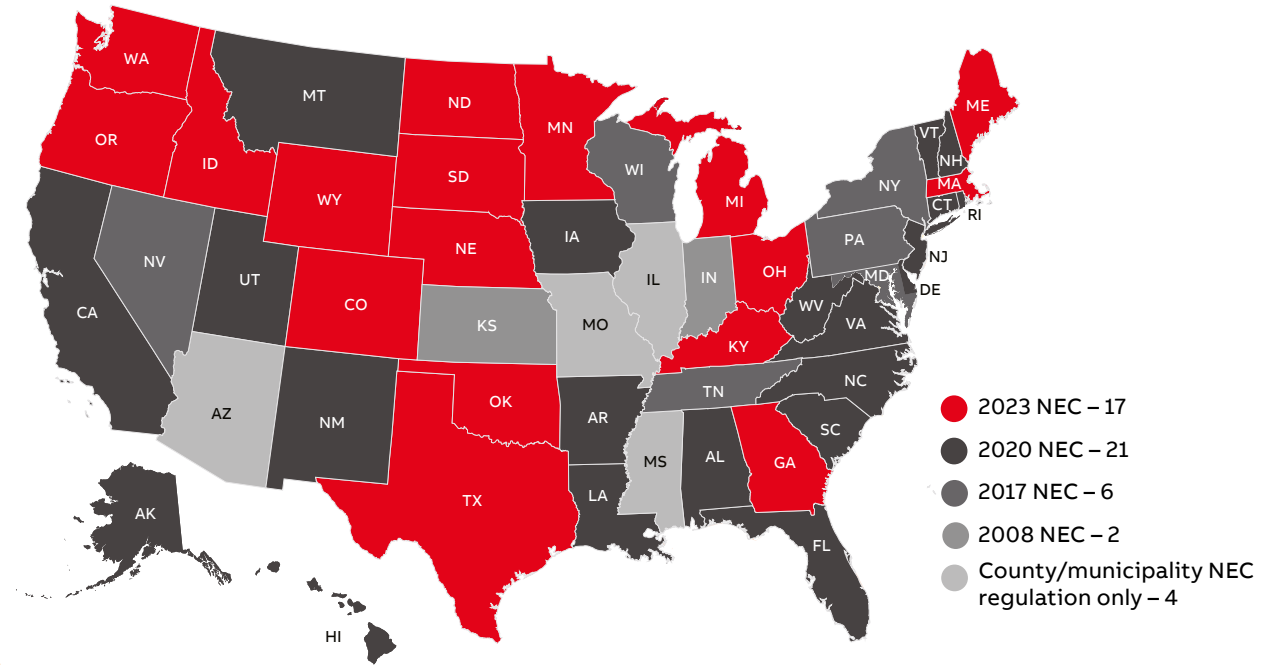
02 NEC in effect as of Feb. 1, 2025, according to NFPA. To view the NFPA's latest NEC adoption maps, visit https://www.nfpa.org/NEC/NEC-adoption-and-use/NEC-adoption-maps.



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In 2020, the NEC required surge protection devices (SPD) to be installed in new and renovated homes for power surges. SPDs help protect entire home electronics and appliances against damaging power surges. The average home has $15,000 worth of equipment that can be damaged by a surge and is a common cause for the failure of electrical equipment.

ABB designed residential circuit breakers and surge protective devices to work seamlessly with ReliaHome™ load centers. Our products are designed with you in mind. ABB incorporates feedback from trusted electricians when developing products. There may be many types of circuit breakers within your load center, providing additional protection to your home. The technology and requirements have expanded to safeguard against hidden and sometimes difficult-to-find intermittent conditions.

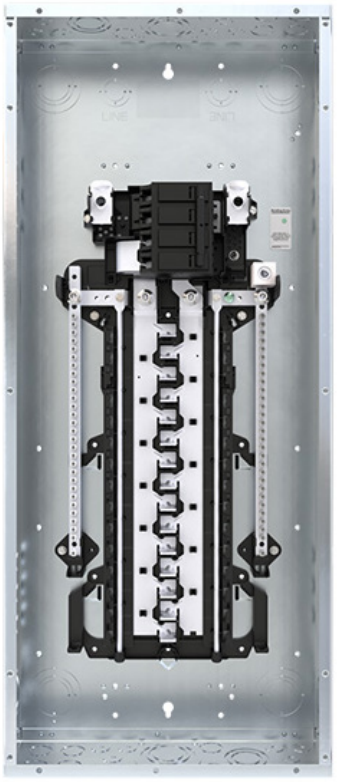
Arc fault circuit interrupter (AFCI)
Arc faults are unintended electrical arcs that may ignite combustible materials. An AFCI uses advanced technology to monitor and detect arc faults and is designed to de-energize the circuit. Emergency equipment items, such as smoke alarms, fire extinguishers and escape ladders, are used in homes to respond promptly when a fire occurs. An AFCI is designed to detect a wide range of electrical arcs to help prevent the electrical system from becoming an ignition source for a fire.

Ground fault circuit interrupter (GFCI)
GFCIs detect low levels of electrical current leakage (ground faults) and act quickly to shut off power with the purpose of preventing serious electrical shock. The electrical current traveling to the connected equipment is equal to the current traveling from that equipment. An imbalance in that flow indicates a current leak — also referred to as a ground fault. ABB's GFCIs monitor the circuit for minimal current differences to de-energize if above allowed amounts.

Dual function circuit interrupter (DFCI)
A DFCI uses the latest technology to protect against arc faults and ground faults in a single device. DFCIs provide the highest level of protection to people and equipment throughout the entire circuit.

When a breaker trips, something has been detected. Some best practices include:

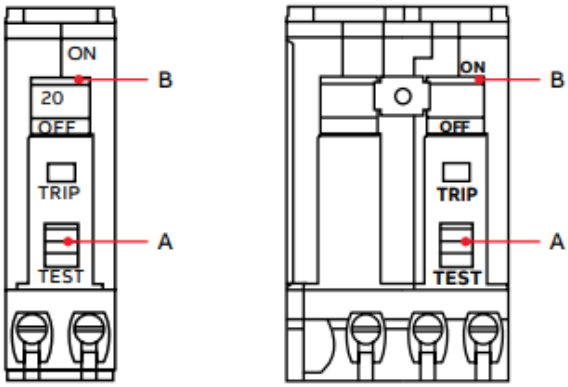
- Be sure you are not plugging too many devices into a single circuit and exceeding the allowed amperage.
- Check all connections.
  - A loose connection, such as an untightened light bulb, can cause an arc.
  - Look for worn insulation on wires or extension cords.
  - Electrical connections that feel warm, appear damaged or have a burning odor should be replaced.
  - Check to make sure no pressure is on the plugs or cords of plugged-in equipment. This can damage the plugs and cause arcing.
  - Extension cords must be properly tested and rated for the application. Never have extension cords in walls, ceilings, floors or doorways to prevent over-heating and potential arcing.
- For electrical projects, always use a licensed electrician.
- Make sure all installed equipment is Underwriters Laboratories (UL) listed or the equivalent.



Push-to-test button

All AFCI, GFCI and DFCI breakers are equipped with a push-to-test button to confirm the functionality of the circuit breaker. ABB recommends using the push-to-test button functionality regularly, at least once per month, following the instructions below.

1. With handle B in “ON” position, press “PUSH TO TEST” button A up or down.
2. Handle B should move to “TRIP” position, indicating the circuit interrupter has opened the circuit.
3. To restore power, move handle B to “OFF” and then “ON.”



IMPORTANT: If handle B does not move to “TRIP” position when “TEST” button is pressed, the circuit breaker’s protection is not complete. Confirm the load center has power; if it does and the circuit breaker still does not move to the trip position, replace the circuit breaker immediately.

ABB's electronic circuit breakers are equipped with LEDs to provide additional insight into what the circuit breaker is detecting. If a circuit breaker trips, multiple options are available. When resetting the circuit breaker, the LEDs will allow you to determine what the circuit breaker has identified and inform a certified electrician prior to coming on site.

LED indications and troubleshooting

LED	Detected	Next steps
Orange to flashing red	Arc fault	Check all connections. A loose connection, such as an untightened light bulb, can cause an arc. Check all plugs and electrical wires for damage.
Orange to steady red		
Orange to flashing yellow	Neutral (white) wire is grounded on the load side of the GFCI	The grounded neutral must be cleared for proper operation of the GFCI.
Orange to steady yellow	Excessive leakage to ground; leakage current in excess of the trip level of the GFCI	The leakage to ground must be cleared for proper operation of the GFCI. Please contact the appliance manufacturer.

Only on GFT2 circuit breakers

To reset the LEDs from a previously found fault, follow the steps below.

1. Turn the breaker OFF.
2. Simultaneously hold the push-to-test button in the DOWN direction and turn the breaker ON.
3. The breaker will trip, then turn the breaker back ON.
4. The orange functioning LED will then be present.

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