

Essential Electric Supply Releases Guide to 14 Types of Circuit Breakers and Their Applications

GOLDEN, CO, UNITED STATES, August 12, 2026 /EINPresswire.com/ -- Essential Electric Supply, a leading power distribution supplier in the United States, has published a guide titled "14 Common Types of Circuit Breakers and Their Uses," detailing the applications each breaker technology is built to handle. The resource is designed to help electricians, facilities teams, and industrial engineers select the correct breaker technology for a given voltage range, environment, or safety requirement.

Circuit breakers protect electrical systems by detecting overloads, short circuits, and other faults, and then interrupting the flow of electricity before damage occurs. While every breaker performs that basic function, the guide notes that breaker types vary widely in the current loads, voltage ranges, and environmental conditions they're built to handle.

Breakers for Homes and Light Commercial Use

The guide covers the devices most electricians encounter in residential and small commercial panels:

- Miniature circuit breakers (MCBs), which protect individual circuits at 100 amps or less.
- Ground fault circuit interrupters (GFCIs), which guard against electrical shock in wet-area outlets.
- Arc fault circuit interrupters (AFCIs), which detect the electrical signature of damaged wiring.
- Thermal-magnetic breakers, which combine a bimetallic strip and a solenoid to detect faults.

Breakers for Industrial and High-Voltage Systems

For heavier loads and utility-scale infrastructure, the guide profiles:

- Molded case circuit breakers (MCCBs), rated between 100 and 1,000 amps with adjustable trip settings.

- High-voltage circuit breakers, built for substations and power grids above 72,000 volts.
- Low-voltage circuit breakers, used below 1,000 volts across lighting, HVAC, and smaller equipment.
- Oil circuit breakers, a legacy high-voltage technology using oil to extinguish arcs.
- SF6 circuit breakers, which use sulfur hexafluoride gas for high-efficiency arc extinguishing.
- Air circuit breakers (ACBs), which use air rather than oil or gas to extinguish arcs.
- Vacuum circuit breakers (VCBs), which use a vacuum to extinguish arcs.

Specialized and Emerging Breaker Technologies

The guide also addresses breakers built for specific operating conditions:

- Hydraulic-magnetic breakers, which operate independently of ambient temperature.
- Hybrid breakers, which pair mechanical contacts with solid-state components for faster switching.
- Smart circuit breakers, which add sensors and remote monitoring for real-time load data.

Choosing the correct breaker type affects both system safety and equipment uptime. An undersized or mismatched breaker can trip unnecessarily or fail to protect a circuit, while the right breaker for the application reduces downtime and extends equipment life.

Essential Electric Supply stocks circuit breaker parts across all of these categories, including load centers and motor operators, for facilities and contractors sourcing hard-to-find components.

To learn more about the different circuit breaker types and how to choose the right one for your application, the [full guide is available at essentialparts.com](https://essentialparts.com).

About Essential Electric Supply

Essential Electric Supply is one of the top power distribution suppliers in the United States, stocking more than 70,000 new and recertified items, including circuit breakers, motor controls, fusible switches, bus plugs, transformers, and fuses. The company serves contractors and facilities teams that need difficult-to-source electrical components quickly, with multiple ship points across North America, after-hours emergency services, and expedited air delivery available when timing is critical. Essential Electric Supply backs every product with a two-year warranty and a 30-day return policy. The company is headquartered in Golden, Colorado. Learn

more at essentialparts.com.

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