

AFCI vs. GFCI

Two little devices keeping your house from becoming a bad news story.

One helps reduce electrical fire risk. The other helps reduce electric-shock risk. Neither cares how confident you are with a screwdriver.

Electrical people love acronyms. We have AFCIs, GFCIs, combination devices, and enough abbreviations to make alphabet soup look like a wiring diagram. Here is what actually matters: they address different hazards, and sometimes both protections are needed.

AFCI	GFCI
Arc-Fault Circuit Interrupter	Ground-Fault Circuit Interrupter
Detects certain hazardous arcing conditions to reduce fire risk.	Detects imbalance between outgoing and returning current to reduce shock risk.
Think: FIRE	Think: SHOCK

Canadian edition: Written for Saskatchewan readers using the 2024 Canadian Electrical Code (CEC) and TSASK interpretations. This is an educational field guide, not a substitute for the complete code or an inspection.

01 / Meet the protection crew

GFCI: because you are not an approved return conductor

A GFCI compares current leaving a circuit with current returning. If the difference suggests current is escaping the intended path, it trips rapidly. Water, damaged equipment or a person can be involved. Your body can conduct electricity; it should not be recruited for the job.

A GFCI does not replace bonding, overcurrent protection, correct wiring or safe work practices. It also does not guarantee protection against every possible shock scenario.

AFCI: the fire-risk detective

An AFCI looks for characteristics of certain hazardous series and parallel arcs, which can occur with damaged wiring, insulation or connections. A combination-type AFCI is designed to address both types. Normal switching can also produce arcs, so these devices use detection logic to distinguish conditions.

An AFCI does not replace a GFCI, and neither replaces proper workmanship. Technology is good. Tight, correctly made terminations are also pretty fashionable.

02 / Where do they go? Saskatchewan quick reference

Use this chart as a planning prompt for typical dwelling-unit 125 V, 15/20 A receptacles. It is not a blanket instruction to retrofit every existing circuit. Check the full rule, circuit layout, equipment instructions and TSASK interpretation before specifying devices.

Location / application	AFCI consideration	GFCI consideration
Bedrooms, living rooms, halls	Generally required for applicable dwelling-unit receptacle circuits.	Not automatically required solely because of the room.
Bathroom receptacle near wash basin	TSASK identifies an AFCI exception for receptacles within 1 m of wash basin.	Class A GFCI for applicable 5-15R/5-20R receptacles within 1.5 m of sink, tub or shower.
Kitchen counter / island / peninsula	TSASK identifies exceptions for these receptacles.	Class A GFCI when within 1.5 m of sink, subject to the rule exception.
Outdoor receptacle near grade	Generally no dwelling-unit AFCI requirement for associated outdoor receptacles under TSASK interpretation.	Class A GFCI for 5-15R/5-20R within 2.5 m of finished grade; decks and balconies count as walking surfaces.
Garage / basement general-use receptacle	Do not assume exempt; check whether circuit is inside dwelling unit and what it supplies.	Do not assume every garage/basement receptacle requires GFCI merely by room name; check location and equipment rules.

03 / Exceptions are not a free-for-all

Saskatchewan TSASK interpretations of CEC Rule 26-658 identify specific AFCI exceptions, including designated refrigerator/freezer receptacles, kitchen counter/island/peninsula receptacles, bathroom receptacles within 1 m of the wash basin, and certain single dedicated receptacles for sump/septic pumps or central heating equipment. Conditions matter: the same circuit feeding general-purpose receptacles may change the answer.

The outdoor rule is more specific than "all outside outlets, always": under Rule 26-704 and TSASK guidance, 5-15R and 5-20R receptacles outdoors within 2.5 m of finished grade require Class A GFCI protection, with defined exceptions. A deck or patio is not a magical loophole.

Also, AFCI and GFCI are not synonyms. A dual-function breaker can provide both, but a regular GFCI receptacle does not become an AFCI because the packaging looks impressive.

04 / Troubleshooting without playing breaker roulette

- GFCI trips: look for wet equipment, insulation problems, leakage current or connected appliance issues.
- AFCI trips: damaged cords, wiring/termination issues or equipment operating characteristics may warrant investigation.
- Both: repeated trips are a reason to investigate, not to bypass the device. Replacing it with an ordinary breaker because it is "annoying" is like taking the batteries out of a smoke alarm because dinner got smoky.

Homeowners can unplug connected appliances where safe and follow the manufacturer's reset/test instructions. If trips continue, the device will not reset, or there is heat, burning smell or visible damage, stop using the circuit and call a qualified electrician. Do not open energized equipment.

05 / Test buttons are not decorative

Use the device TEST function at the interval and by the procedure specified by its manufacturer. If the test fails, have the device assessed. A successful built-in test does not certify the entire installation or replace inspection and electrical testing.

06 / Contractor + homeowner walkthrough

Before a renovation or new circuit, walk through these questions together:

- Which receptacles are on the circuit, and what equipment do they supply?
- Is the circuit inside a dwelling unit, outdoors, in an accessory building, or mixed?
- Are any receptacles near sinks, tubs or showers? Measure the actual distances.
- Does a specific dedicated-equipment exception apply, including required labelling?
- Does the installation need AFCI, GFCI, both, or another type of protection?
- Does the chosen device meet the manufacturer, panel compatibility and code requirements?
- Have permits, testing and inspection requirements been addressed?

THE TAKEAWAY

AFCI = certain arc-related fire hazards. GFCI = ground-fault shock hazards. Sometimes you need both. Sometimes an exception applies. The trick is knowing the difference before you start buying breakers like they are hockey cards.

Code desk / references

Primary: CSA C22.1:24, Canadian Electrical Code, Part I, especially Rules 26-658 and 26-704 (consult the licensed code text for full requirements).

Provincial: Technical Safety Authority of Saskatchewan (TSASK), 2024 Canadian Electrical Code Saskatchewan Interpretations, v2.0, Section 26, pp. 85-86 (document pagination).

TSASK electrical page: <https://www.tsask.ca/electrical/>

TSASK interpretations:

<https://www.tsask.ca/publication/canadian-electrical-code-saskatchewan-interpretations/>

Scope: This chart addresses selected common receptacle scenarios. Special equipment and locations, including pools/spas, EV charging, patient care and rooftop maintenance, may have additional requirements not summarized here.

IMPORTANT SAFETY NOTE

This resource is general educational material, not an installation design, code compliance determination, or substitute for a qualified electrician, the adopted CEC, TSASK direction, manufacturer instructions, permits or inspections. Confirm requirements for the particular installation. Published October 2026.