

SmartlockPro® Outlet Branch Circuit AFCI Devices

Advanced technology helps protect against electrical fires resulting from arc-faults.

The U.S. Fire Administration (USFA) National Fire Incident Reporting System reported that in 2011, an estimated 47,700 home structure fires reported to U.S. fire departments involved some type of electrical failure or malfunction as a factor contributing to ignition. And, according to the National Fire Protection Association (NFPA), arc-faults are “the principle electrical failure mode resulting in fire”.

Arc Fault Circuit Interrupters (AFCI) were developed to help combat the problems associated with arc-faults.

- AFCIs are designed to detect a wide range of arc-faults to help reduce the likelihood of the electrical system being an ignition source of a fire.
- AFCIs function by de-energizing the circuit downstream of the device upon which an arc-fault is detected; which could help prevent ignition and a resultant fire.
- AFCIs are now required by the National Electrical Code® in most areas throughout the home.

Often unseen, arc-faults can occur anywhere in the home's electrical system including within walls, at loose electrical connections or within damaged electrical cords. Leviton Outlet Branch Circuit (OBC) AFCI Devices are designed to identify arc-faults and to respond by interrupting power to help prevent arc-faults that may lead to a fire.

AFCI Devices

Whole house electrical safety is a tall order, but with the new line of SmartlockPro OBC AFCI Devices Leviton has developed a means to offer added protection from arc-faults. Previously, the only available option for providing the required AFCI protection against electrical fire hazards was through the use of AFCI breakers. And, even though there were some exceptions to the Code that would allow for the use of AFCI protection at the receptacle level with prescribed wiring techniques, there were no AFCI devices available on the market. That has recently changed.

AFCI Receptacle

OBC AFCI Receptacles address the dangers associated with both types of potentially hazardous arcing – parallel and series arcing. Similar to GFCIs, AFCI receptacles provide feed-through protection and are able to detect downstream parallel and series arc-faults as well as upstream series arc-faults. Utilizing an AFCI receptacle offers homeowners the benefit of localized TEST and RESET. Applications include installation in living rooms, dining rooms, family rooms, bedrooms, parlors, dens, libraries, sunrooms, recreation rooms, closets, hallways, dormitories or similar areas.



Blank Face AFCI

The Blank Face AFCI offers the ideal solution for outlet branch circuits where AFCI protection is desired but located where an outlet is not needed. This type of application could include installing a Blank Face AFCI in a location to make AFCI protection readily accessible per the 2014 National Electrical Code. A Blank Face AFCI may also be used on circuits feeding lighting loads and/or other loads such as smoke detectors where a receptacle is not used.

Combination AFCI/Switch

Our Combination AFCI/Switch provides AFCI protection plus the convenience of a single pole switch to control the lights. This combination is ideal for kitchens, family rooms, bedrooms, dining rooms and hallways. The AFCI Switch may be used for new circuits or modifications to existing circuits where a switch is the first outlet on a branch circuit.

OBC Options for AFCI Requirements in the 2014 NEC

New Branch Circuit

NEC 210.12(A)

Covers new branch circuits originating from the panel. AFCI protection for all 15A and 20A, 125V branch circuits supplying outlets in designated locations. (Locations noted below)

What type of wiring is coming from the panel?

Type NM (i.e. Romex®)

- Install at first outlet
- Must be readily accessible
- First outlet box must be marked
- Wiring between panel and first outlet must be continuous and not more than 50' if 14 AWG, not more than 70' if 12 AWG
- OBC AFCI must have "System Combination" listing with the breaker*

RMC, IMC, EMT, Type MC, Type AC

- Install at first outlet
- Must be readily accessible
- Any boxes between panel and first outlet must be metal

Note:

It is not necessary to continue the metal cable/conduit or metal boxes past the first outlet (transition could be made to NM)

Modifications or extension to an existing branch circuit

NEC 210.12(B)

AFCI protection needs to be added when modifying or extending existing branch circuits in locations designated in 210.12(A). Not required if extension of circuit is less than 6 ft. and does not include any additional outlets or devices.

- Install at first outlet
- Must be readily accessible

Notes:

- For circuit extensions of less than 6' it is not necessary to add AFCI protection
- OBC AFCI Outlet can be used for all wiring types

Changing out an existing receptacle

NEC 406.4(D)

Covers replacement of any receptacles in those locations designated in 210.12 that are not currently AFCI protected.

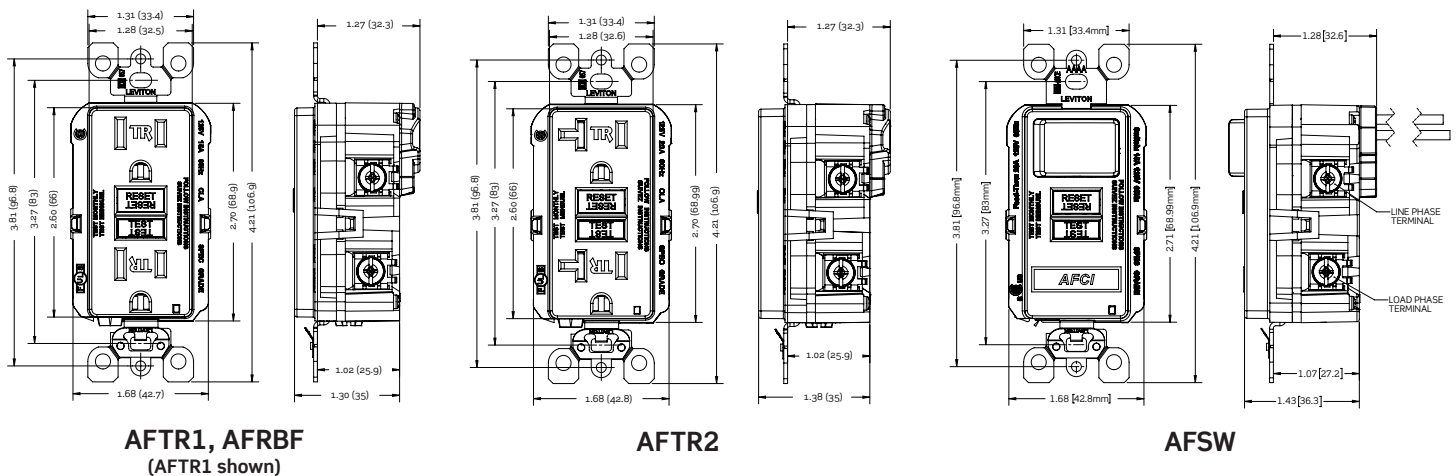
- Install OBC AFCI in place of receptacle being replaced **or**
- Install OBC AFCI at any outlet location "upstream" (closer to the panel) of receptacle being replaced
- Recommend the first outlet

Note:

OBC AFCI Outlet can be used for all wiring types

*Requires listing Nationally Recognized Testing Laboratory (NRTL - i.e. UL). Standard for listing expected in 2014. Always check with your local inspector or AHJ (Authority Having Jurisdiction) for any questions on current local code requirements.

Dimensional Drawings



Features and Benefits

General

- Use of TEST and RESET buttons is similar to traditional GFCI receptacles of which consumers have become familiar with. This translates into greater acceptance of the technology and a more user-friendly platform
- Meets or exceeds UL requirements for tripping time on both series and parallel arcs
- Device design reduces nuisance tripping
- Impact-resistant thermoplastic cover and body
- Superior resistance to electrical surges and over-voltages
- Expanded wiring options with nine back-wire holes (two for each line and load connection plus one for ground with an internal clamp)
- Silver alloy contacts
- Compatible with all Decora® devices and wallplates; available in select colors
- Packed with coordinating wallplate (except AFRBF)
- Backed by Leviton's Limited Two-Year Product Warranty

Lockout Action

- As an additional safeguard, all Leviton AFCI Devices feature a lockout function which prevents the device from being reset if:
- it is not functioning properly
 - protection has been compromised
 - line and load wires were reversed during installation

AFCI Receptacle

- Tamper-resistant to comply with the latest NEC® requirements for tamper-resistant receptacles in residences and childcare facilities

Blank Face

- May be used for outlet branch circuits where AFCI protection is desired but is located where an outlet is not needed
- Ideal for installing in locations to make AFCI protection "readily accessible" per NEC requirements
- May be used on circuits feeding lighting loads as well as other loads such as smoke detectors where a receptacle is not used

AFCI Switch

- Combination AFCI and single pole switch
- Use for new circuits or modifications to existing circuits where a switch is the first outlet in a branch circuit

Key Specifications

- **Amperage:** Switch 15 Amp; Receptacle 15 Amp and 20 Amp
- **Voltage:** 125 Volt
- **Feed-through:** 20 Amp protection
- **NEMA:** 5-15R, 5-20R
- **Pole:** 2
- **Wire:** 3
- **Indicators:** Reverse wiring/power
- **Termination:** Back & Side
- **Strap Material:** Galvanized Steel
- **Warranty:** 2-Year Limited



Specification Details

AC Horsepower Ratings	Electrical Specifications	Environmental Specifications	Material Specifications	Mechanical Specifications	Standards and Certifications
At Rated Voltage: 1 HP	Dielectric Voltage: Withstands 1250VAC per UL 1699A Temperature Rise at terminals: AFTR1/AFTR2: Max 30°C after 250 cycles OL at 200 percent rated current AFRBF/AFSW1: Max 35° C	Flammability: Rated V-2 per UL94 Operating Temperature: -35°C to +66°C	Face Material: Thermoplastic Body Material: Polycarbonate Line Contacts: Brass Double-Wipe .031 Thick* Terminal Screws: Plated Steel Grounding: Self-Ground Clip Grounding Screw: Plated Steel Yoke: Zinc-Plated Steel Clamps: Brass	Terminal ID: Brass-Hot, Green-Ground, Silver-Neutral Terminal: 14-10 AWG Product ID: Ratings are permanently marked on device Wiring: Use with copper or copper-clad wire. No aluminum wiring	NEMA*: WD-6 ANSI*: C-73 UL498* NOM: 003 UL1699A: File E342815 UL Fed Spec WC-596* CSA Standard C22.2 No 42 CSA Technical Information Letter No. M-02A

*Only AFTR1 and AFTR2

Ordering Information

SmartlockPro Outlet Branch Circuit AFCI Devices

Description	Rating	Cat. No.	Color
Tamper-Resistant Outlet Branch Circuit AFCI Receptacle with LED Indicator	15A-125V @ Receptacle, 20A-125V Feed-Through NEMA 5-15R 	AFTR1-W AFTR1-I AFTR1-T AFTR1-GY AFTR1-E AFTR1	White Ivory Light Almond Gray Black Brown
Tamper-Resistant Outlet Branch Circuit AFCI Receptacle with LED Indicator	20A-125V @ Receptacle, 20A-125V Feed-Through NEMA 5-20R 	AFTR2-W AFTR2-I AFTR2-T AFTR2-GY AFTR2-E AFTR2	White Ivory Light Almond Gray Black Brown
Outlet Branch Circuit Combination AFCI/Switch with LED Indicator	15A-120V Switch	AFSW1-W AFSW1-I AFSW1-T	White Ivory Light Almond
Blank Face Outlet Branch Circuit AFCI Receptacle with LED Indicator	20A-125V Feed-Through	AFRBF-W AFRBF-I AFRBF-T	White Ivory Light Almond

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