LEVITON

Guide to AFCI Receptacles in the 2014 National Electrical Code®

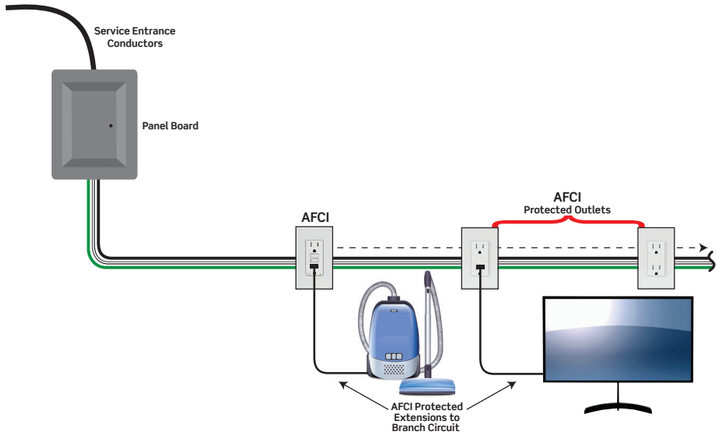
OBC AFCI Outlet Installations – Based on 2014 NEC

What type of installation are you doing?

New Branch Circuit

NEC 210.12(A)

Covers new branch circuits originating from the panel. AFCI protection for all 15A and 20A, 120V 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*

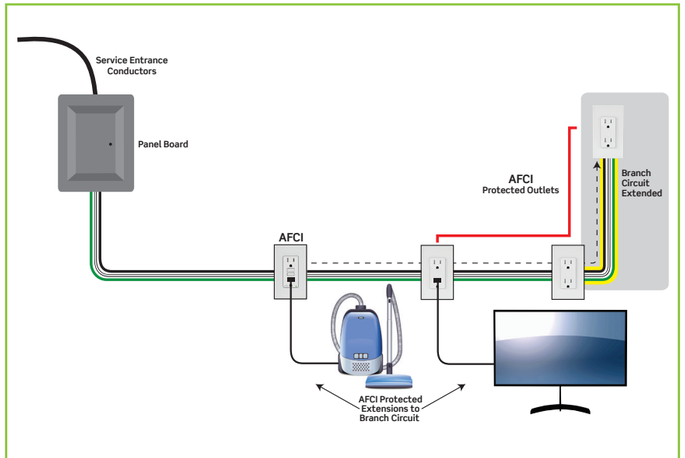
RMC, IMC, EMT, Type MC, Type AC
- Install at first outlet
- Must be readily accessible
- Any boxes between panel and first outlet must be metal

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.



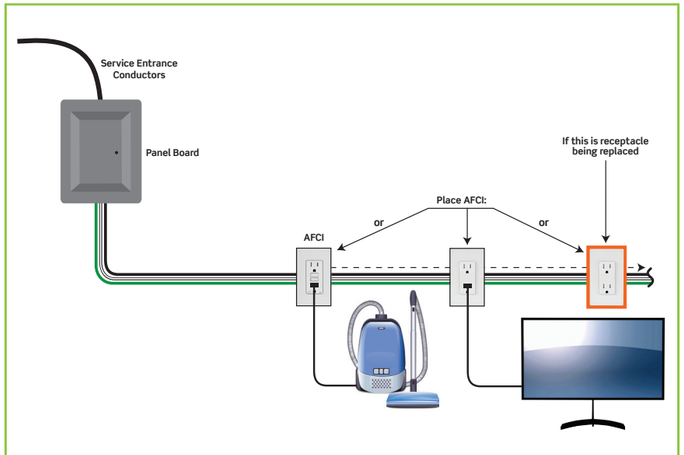
- Install at first outlet
- Must be readily accessible

Notes:
- For circuit extensions of less than 6' it is not necessary to add AFCI protection
- OBC 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 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.

Your customers rely on you for your expertise in guiding them on products that can help make their home safer and comply with the NEC. At Leviton, we have a rich history of developing electrical safety products and continuously improving the safety of electrical devices as technology advances. In fact, our latest innovation is the first commercially available AFCI Receptacle.

The NEC has been updated for 2014 and it addresses the use of Outlet Branch Circuit (OBC) AFCI Receptacles as a sensible alternative to breakers when used for modifications/extensions, as replacement receptacles or in new construction. The device is designed to address the dangers associated with both types of potentially hazardous arcing – parallel arcs and series arcs – and to interrupt power to help prevent arc-faults that may lead to a fire.

Article 210.12 of the National Electrical Code mandates AFCI protection in residential family rooms, dining rooms, living rooms, kitchens, parlors, libraries, dens, bedrooms, laundry rooms, sunrooms, recreation rooms, closets, hallways or similar rooms. They are also required in dormitory units.

Cat. No. AFTR1
- 15 Amp Receptacle
- Tamper-Resistant

Cat. No. AFTR2
- 20 Amp Receptacle
- Tamper-Resistant

Cat. No. AFRBF
- 20 Amp Blank Face

Cat. No. TBD
- 15 Amp Switch

Receptacle vs. Breaker

The table below highlights key features homeowners and electrical professionals should consider when selecting the most suitable way to provide arc-fault protection based upon the application within the home.

	Outlet Branch Circuit AFCI Receptacle	AFCI Breaker
Test and Reset	- Local TEST and RESET with buttons on face of receptacle	- Need to open circuit breaker panel and locate AFCI breaker for TEST and RESET
Parallel Arc Protection	- Provides parallel arc protection for branch circuit starting at AFCI receptacle - Standard circuit breaker relied on for some degree of parallel arc protection of home run	- Provides parallel arc protection for entire branch circuit
Series Arc Protection	- When installed as first outlet provides series arc protection for entire branch circuit	- Provides series arc protection for entire branch circuit
Universally Applicable	- Can be used on any wiring system regardless of panel	- AFCI breaker must match panel - For some older panels there may not be an AFCI breaker that will match
Wiring Methods	- 2011 code requires RMC, IMC, EMT, or steel sheath Type AC or MC cable for new circuits – Effective 1/1/2014 limited length of “home run” allowed - No special wiring for replacement receptacles - NEC section 406.4(D)	- No special wiring methods required

The information provided in this guide is intended to give electrical professionals a snapshot of the new 2014 National Electrical Code as it relates to arc-fault protection within residences, and how the new OBC AFCI Receptacle offers a code compliant solution. For further information and details on the Leviton SmartlockPro® OBC AFCI Receptacle applications please contact your local Leviton Sales Representative or visit **leviton.com/afci**

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