

NEC 2014 AFCI installation comparison

The 2014 National Electric Code, 210.12(A), describes Arc-Fault Circuit Interrupter Protection installation requirements. The NEC reads as follows: Dwelling Units. All 120-volt, single-phase, 15- and 20-ampere branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas shall be protected by any of the means described in 210.12(A)(1) through (6).

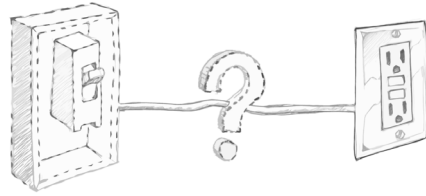
	Scenario description	Additional requirements	vs. 2011 NEC	Considerations
1	Listed combination type AFCI	None	Same	<ul style="list-style-type: none"> Protects entire circuit (incl. lighting) No limitations or restrictions
2	Listed branch/feeder type AFCI + listed outlet branch circuit type AFCI	<ul style="list-style-type: none"> OBC-AFCI installed at 1st outlet box 1st outlet box marked 	New	<ul style="list-style-type: none"> Receptacle must be on line side of any protected lighting circuits
3	Listed supplemental arc protection circuit breaker + listed outlet branch circuit type AFCI	<ul style="list-style-type: none"> OBC-AFCI installed at 1st outlet box Branch circuit continuous wiring to OBC-AFCI Branch circuit max wire lengths (50'-14AWG, 70'-12AWG) 1st outlet box marked 	New	<ul style="list-style-type: none"> "Supplemental arc protection circuit breakers" not commercially available Wire length limitations Receptacle must be on line side of any protected lighting circuits
4	Listed outlet branch circuit type AFCI + listed branch circuit over current protective device	<ul style="list-style-type: none"> OBC-AFCI installed at 1st outlet box Branch circuit continuous wiring to OBC-AFCI Branch circuit max wire lengths (50'-14AWG, 70'-12AWG) 1st outlet box marked CB & OBC-AFCI listed as "System Combination" 	New	<ul style="list-style-type: none"> "System Combination" listing requirements yet to be developed Difficulty ensuring compliance to "System Combination" requirements Wire length limitations Receptacle must be on line side of any protected lighting circuits
5	Listed outlet branch circuit type AFCI	<ul style="list-style-type: none"> OBC-AFCI installed at 1st outlet box Branch circuit in metallic conduit / armored cable install per 250.118 Metal outlet & junction boxes 	Same	<ul style="list-style-type: none"> Atypical, costly installation requirements
6	Listed outlet branch circuit type AFCI	<ul style="list-style-type: none"> OBC-AFCI installed at 1st outlet box Branch circuit in conduit encased in concrete 	Same	<ul style="list-style-type: none"> Atypical, costly installation requirements

Below illustrations show the 6 options for AFCI installation.

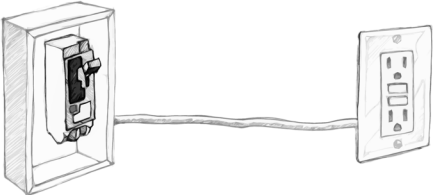
1



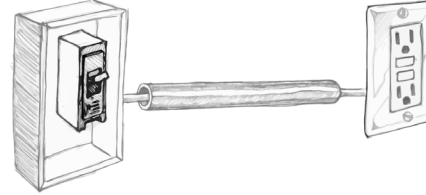
4



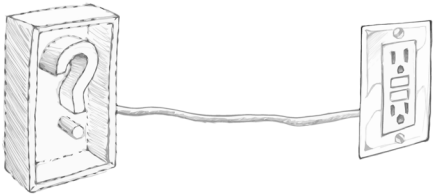
2



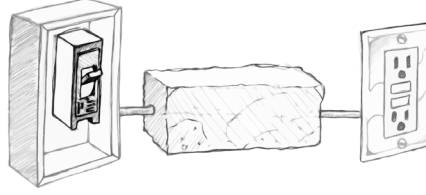
5



3



6



Siemens Industry, Inc.
5400 Triangle Parkway
Norcross, GA 30092

1-800-241-4453
info.us@siemens.com

Subject to change without prior notice
Order No.: RPFL-AFNEC-0916
Printed in USA
© 2016 Siemens Industry, Inc.

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

www.usa.siemens.com/afci