Arc Fault Receptacles Are Not Equal to AFCI Circuit Breakers

ACBMA®
American Circuit Breaker Manufacturers Association

Don't Let Industry Claims Mislead You On Your Voting Decision

Some wiring device manufacturers have claimed that standard thermal magnetic circuit breakers will protect the wiring in each home (called the home run) against parallel arcing faults when used with their Outlet Branch Circuit Arc Fault Circuit Interrupters (OBC AFCIs). They have taken the position that an OBC AFCI can be installed at the first outlet in a circuit and the entire circuit will be protected against parallel and series arcing faults.

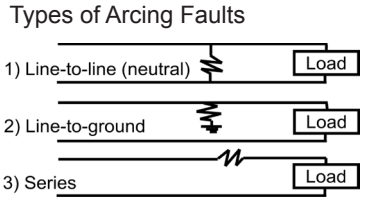
In reality, their claims are based upon incomplete information and testing. Here are some facts to consider:

Claim: Standard thermal magnetic circuit breaker will protect the home run against parallel arcing faults therefore the OBC AFCI can be placed at the first receptacle.

Reality Check #1: ACBMA testing showed that standard thermal magnetic circuit breakers cannot protect the home run (the portion of the circuit from the circuit breaker to the first outlet) in all cases against parallel arcing faults. The arcing current needs to exceed the magnetic trip level of the circuit breaker. If this is not the case the circuit breaker will not trip and a fire can result.

Some OBC AFCI manufacturers are trying to get the National Electrical Code changed by claiming that a standard thermal magnetic circuit breaker can protect the home run against all potential parallel arcing faults. We are the manufacturers of these circuit breakers and can confirm that they can't protect the home run against all parallel arcing faults. We have experimental video evidence to prove it. This is why Circuit Breaker type AFCIs were created in the first place. The ACBMA believes that the entire circuit should be protected against all hazardous arcing faults per the UL standard and that this level of protection should not be compromised. **Therefore, we take the position that the proposal by the OBC AFCI manufacturers should be rejected.**

Reality Check #2: Arc Fault Circuit Breakers are very different from standard circuit breakers. They can protect the entire circuit from parallel and series arcs RELIABLY by meeting all the industry requirements. Standard circuit breakers were never designed for arc fault interruption. Arc Fault Circuit Breakers have been manufactured since the 1999 Code Cycle and have a proven track record of stopping arcing faults throughout the circuit. By design, they are placed in the load center to cover the entire circuit downstream. Standard circuit breakers cannot protect against all parallel arcs and were never designed to do so.



Arc Fault Circuit Breakers provide complete circuit protection and meet all UL testing requirements

Up to 30% of a home electrical system is considered Home Run. Ask yourself this question...What National Electrical Code have we ever written that permits the protection system not to work? Why leave that wire unprotected with a device that may or may not detect a low level arcing condition? Would it be ok if one or two smoke alarms in every house didn't work? That's what this proposal is suggesting. Why take a step backwards in safety?

Electrical fire safety and proven electrical products available should always be of primary consideration when modifying the electrical code. If a manufacturer cannot meet industry standards supported by Underwriters Laboratories, it should not be allowed to become a critical piece of electrical safety equipment in the home.

Learn more at www.acbma.org