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What is NEC® 210.8 (B)?

The National Fire Protection Association® (NFPA®) 70 – National Electrical Code (NEC®) – Article 210 Section 8 (210.8) has been in the code for more than 45 years. Previously, the focus had been on ground fault in dwelling units and temporary wiring. The section required ground fault circuit interrupter (GFCI) protection for personnel, and required the inclusion of GFCI in the home including kitchens, bathrooms, laundry rooms and other locations. The main focus was on GFCI protection near sources of water in the residential and light commercial applications. The focus was also on 125V single phase 15A and 20A receptacles. There was also a requirement in non-dwelling units for 15A and 20A receptacles in kitchens, bathrooms, rooftops, etc.

Q: What changed in the 2017 edition of the NEC?

A: The 2017 edition of the NEC added new requirements to non-dwelling units in 210.8 (B). This includes commercial structures such as restaurants, malls and office buildings. In residential spaces, the requirements have been expanded to include bathrooms, kitchens, and rooftops where all single-phase receptacles with 150 volts to ground or less, 50A or less are required to have ground fault protection.

Q: What does 210.8(B) actually require for conformance based on the 2017 NEC?

A: It would require any single-phase receptacle 50A or less, three-phase receptacle 100A or less, and receptacle with 150 volts to ground or less to have ground-fault protection in the circuit breaker or in the receptacle. GFCIs are defined in Article 100 of the NEC as having to be Class A. Class A is defined by UL® 943 – Ground Fault Circuit Interrupters. Class A ground fault protection requires the circuit breaker to trip on ground faults greater than 6mA and not trip on ground faults less than 4mA. This is typically referred to as 5mA level ground fault trip.

Q: What compliant options are offered by Siemens today?

A: Siemens currently offers Class A GFCI 1-pole circuit breakers up to 30A and 2-pole circuit breakers up to 60A. As of May 2017, Siemens does not offer any 3-phase Class A ground fault protection.

Q: Are there other ways to address the changes in NEC 210.8 (B)?

A: Yes, NEC 210.8(B) applies only to receptacles. If the appliance is hardwired, this section of code does not apply, there is no requirement for GFCI and the appliance will comply with NEC code.

Q: Does a Class C Special Purpose Ground Fault Circuit Interrupter comply with NEC 210.8(B)?

A: No. UL 943C - Special Purpose Ground Fault Circuit Interrupters identifies ground fault circuit interrupters listed as GFCI devices in addition to the standard Class A GFCI devices. UL 943C introduces Class C, D and E ground fault circuit interrupters. These GFCIs interrupt the current at a 20mA level versus the 5mA Class A level. This level is called special personnel protection. GFCIs are defined in Article 100 of the NEC as having to be Class A, meaning Classes C, D and E cannot be used.

Q: Can non-UL GFCI protection be installed in our equipment?

A: No. GFCI protection components that have not been certified or evaluated by UL may not be installed in UL-listed equipment.

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