



Date: 05/2015
Author: Darryl Smith, Jonathan Lam
Document Number: 1100SM1501

www.schneider-electric.us/go/codes

Keywords:

UL 943
Auto-Monitoring
Self Test
GFCI

Changes to UL® Standard 943 (Standard for Safety for GFCIs)— Auto-Monitoring Explained

Introduction

There has been a lot of discussion regarding the new UL943 requirement for auto-monitoring of ground fault circuit interrupters (GFCIs). While it is clear this subject is getting a great deal of attention, it is also clear there is an equal amount of misunderstanding that exists. In short, Underwriters Laboratories® (UL®) will require GFCIs manufactured on or after June 29, 2015, to be equipped with an auto-monitoring system. The auto-monitoring function is designed to detect issues related to the device's ability to provide Class A ground fault protection.

How does this impact Square D™ devices?

All Square D QO™ and Homeline™ GFCI and dual function circuit breakers manufactured since October 1st, 2013, meet and exceed the new UL943 auto-monitoring requirements. They perform a self-test multiple times per second to help assure ground fault protection is there when you need it.

How do I know when the circuit breaker was manufactured?

All Square D GFCI and dual function circuit breakers are equipped with a date code on the escutcheon of the device (photo). The escutcheon is visible WITHOUT removing the dead-front from the Load Center. All Square D QO and Homeline GFCI and dual function circuit breakers, with a date code of 1340 (week of September 20, 2013) or higher, are equipped with the auto-monitoring feature.



Details

UL has announced changes to the UL943 Standard for Safety for ground-fault circuit interrupters (GFCIs) (tri-national harmonized UL 943/CSA C22.2 No. 144.1/ANCE NMX-J-520) that will take effect on June 29, 2015. To maintain certification, all manufacturers must meet these revisions with GFCIs produced effective June 29, 2015. Existing GFCIs manufactured prior to June 29, 2015 can still be sold by manufacturers, retailers, and distributors, and can be used by installers until inventories are depleted.

How it Works

Simply stated, circuit breakers certified to this standard will check themselves periodically to help assure proper protection is maintained. To keep people safe, should the self-test sequence identify an issue, the circuit breaker will trip and will continue to trip as long as an issue exists.

The test sequence

The automatic test must be initiated within five seconds of power availability to the line or load terminals and must be repeated at least every three hours.

Which Square D products are affected?

- All QO one-, two- and three-pole GFCI circuit breakers
- All HomeLine one- and two-pole GFCI circuit breakers
- All QO and HomeLine one-pole dual function¹ circuit breakers

Can I still use existing Square D circuit breakers manufactured prior to June 29, 2015

Absolutely! All existing GFCIs manufactured prior to June 29, 2015 can still be sold by manufacturers, retailers, and distributors, and can be used by installers until inventories are depleted.

Do I still need to periodically test GFCIs and Dual Function circuit breakers using the test button?

Yes. A monthly test is recommended using the integrated push-to-test button mounted on the circuit breaker. This quick and easy procedure checks both electronic and mechanical functionality simultaneously.

Additional information regarding the UL standards may be found using the following:

UL1699

<http://ulstandards.ul.com/standard/?id=1699&edition=2&doctype=ulstd>

UL 943

<http://ulstandards.ul.com/standard/?id=943>

Further information may be found by visiting our website at www.SquareD.com or by calling our 24 hour Customer Care Center at 1-888-SquareD (1-888-778-2733).

¹ A dual function circuit breaker is one which is both a ground fault circuit interrupter (GFCI) and a combination arc fault circuit interrupter (AFCI) in a single device.

For More Information

100% Rated Circuit Breakers, Schneider Electric Data Bulletin 0600DB0101.

UL 489, 10th Edition, Sections 7.1.4.3, 9.1.4.4 and 9.1.4.5.

All above references to the NEC are to the 2005 Edition.

Visit the Schneider Electric North America Codes and Standards Electrical Shortz website at:

<http://www.schneider-electric.us/sites/us/en/support/codes-and-standards/technical-library/product-documentation/product-documentation.page>

Schneider Electric USA, Inc.
800 Federal Street
Andover, MA 01810 USA
888-778-2733
www.schneider-electric.us

“Electrical Shortz” are produced by the Schneider Electric North America Codes and Standards Group. These documents provide general guidance on a specific issue. Circumstances regarding particular installation issues may need further consideration.

Schneider Electric and Square D are trademarks owned by Schneider Electric Industries SAS or its affiliated companies. All other trademarks are the property of their respective owners.