REDiTEST

Self-Testing Fluorescent Emergency Ballasts

Frequently Asked Questions

What is REDiTEST?
REDiTEST is a fluorescent emergency ballast technology that performs automatic code-compliance testing. A REDiTEST product automatically tests itself according to the schedule established by the Life Safety Code: 30 seconds every 30 days; 90 minutes once a year. REDiTEST ensures readiness of emergency lighting, so you know it will work when it is needed the most — during the next power failure.

Which Philips Bodine products feature REDiTEST?
Currently Philips Bodine offers this special feature on models B50ST, B30ST and LP600STU for tubular lamps and B74CST for 4-pin compact fluorescent lamps. Refer to individual product specification sheets for complete details.

Code, Self-Testing and Self-Diagnostics

1. Why test unit equipment?
The National Electrical Code® and Life Safety Code® require periodic testing, visual inspections and written records of the test results for emergency lighting. Fire officials, safety personnel, building owners and specifiers all want the assurance of knowing that life safety equipment is ready at all times.

2. What test schedule does code require for emergency lighting?

Article 7.9.3.1.2 Periodic Testing of Emergency Lighting Equipment

Testing of required emergency lighting systems shall be permitted to be conducted as follows:
1. Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be provided.
2. Not less than once every 30 days, self-testing/self-diagnostic battery-operated emergency lighting equipment shall automatically perform a test with a duration of a minimum of 30 seconds and a diagnostic routine.
3. Self-testing/self-diagnostic battery-operated emergency lighting equipment shall indicate failures by a status indicator.
4. A visual inspection shall be performed at intervals not exceeding 30 days.
5. Functional testing shall be conducted annually for a minimum of 90 minutes.
6. Self-testing/self-diagnostic battery-operated emergency lighting equipment shall be fully operational for the duration of the 90 minute test.
7. Written records of visual inspections and tests shall be kept by the owner for inspection by the authority having jurisdiction.
3. If emergency lighting equipment is self-testing and self-diagnostic, will written records still need to be kept?

Yes. Even if emergency lighting is self-testing and self-diagnostic, code still requires that written records be provided for unit equipment. LSC® Article 7.9.3.1.2 exempts only the 30-day manual test, not written records. Simply walk around and visually inspect REDiTEST units and log test results every 30 days.

4. Is REDiTEST self-testing and self-diagnostic?

Yes. Even though it does not have a status indicator display panel with multiple LEDs, REDiTEST provides a simpler method of indicating test results and other information. If the indicator light is illuminated, the unit is charging the battery and monitoring battery voltage and charging current. If the indicator light is not illuminated, the unit is conducting a self-test and monitoring emergency performance or the emergency unit is in emergency mode due to a power failure. If the indicator light is flashing, the unit requires attention. A Trouble Shooting Guide appears on the installation instructions for each REDiTEST product to help provide direction on the indicator status.

Operation, Testing and Status Indicators

1. How does REDiTEST test and monitor itself?

During normal operation, REDiTEST continually monitors charging current and battery voltage, constantly comparing measurements to preset limits. During automated testing, REDiTEST automatically simulates an AC power failure causing the unit to switch to emergency mode and initiates a discharge test monitoring battery voltage, discharge current and emergency lamp operation.

Inside REDiTEST is a microcontroller that knows when the AC ballast is working. The chip will evaluate the data and schedule the optimum time to initiate a test. The unit also keeps track of the tests and knows when to initiate a 30-second test and when to initiate the 90-minute full discharge test.

2. How can I be sure REDiTEST is testing itself?

One of the benefits of REDiTEST is that maintenance personnel do not have to be present when the unit tests. Because they are not physically testing the emergency unit, they may not see REDiTEST testing itself. When maintenance personnel visually inspect the emergency lighting fixture, they will see the test results, however. The indicator light will flash only if REDiTEST detects an abnormality. If the indicator light is illuminated and steady, the unit passed the last test and is ready for the next power failure.

3. How does REDiTEST indicate failed test results?

REDiTEST provides a simple method of indicating test failures and other fault conditions. A flashing indicator light alerts maintenance personnel that the emergency lighting unit requires service. The indicator light will continue to flash until maintenance corrects the fault or the fault indication is reset. Please see the Troubleshooting Guide for more information on test failures and other fault conditions. On model B74CST, the LED status indicator light and test switch are located on the test switch/monitor plate, which can be used for remote installation.
4. What should you do if REDiTEST decides to test while the room is occupied?
   This is not likely to happen because REDiTEST has been designed not to interrupt end-user activity. If the lights are on, the test will be delayed until two hours after the lights are turned off. The maximum delay time is 72 hours. Only then will the unit initiate a self-test when the lights are on. Should the unit begin a test while the room is occupied, REDiTEST provides a method of interrupting a test in progress. Simply reset the unit by turning the wall switch off (or on) for five seconds, then turn it on (or off) again. The unit will postpone the scheduled test for 8 hours.

5. Can REDiTEST self-test in night-light applications?
   For applications where lights remain illuminated, REDiTEST postpones a scheduled test for a maximum of 72 hours and then executes the scheduled test to ensure code requirements are met.

Installation

1. Will REDiTEST require different installation?
   No. However, please consult the wiring diagrams found in the installation instructions before beginning any installation project.

2. If REDiTEST tests itself, why include/install the test switch?
   UL requires that all emergency lighting provide a test switch, self-testing or otherwise. A single-pole switch is provided with the unit. The test switch serves as the means to reset the indicator light and audible alarm and allows manual tests to be conducted any time.

3. Can the REDiTEST B50ST be installed inside the ballast channel like the standard B50?
   Yes. Because the microcontroller and electronic circuitry fit inside the ballast case, the REDiTEST B50ST is the same size as the standard B50. Therefore, the B50ST can be installed inside the ballast channel, on top of or remote from the fixture. Model B74CST is supplied with conduit for installation with typical downlight fixtures for compact fluorescent lamps and can be installed on top of or remote from the fixture.

4. Will the installer be able to conduct a manual test shortly after installing the emergency ballast?
   A short-term test may be conducted after one hour. A long-term test may be conducted after 24 hours. For more details, please refer to installation instructions.

5. Will REDiTEST begin a self-test if the battery has not had enough time to charge?
   No. REDiTEST will not begin a self-test until the unit has charged the battery for 48 hours. REDiTEST has a built-in “gas gauge” that keeps track of the battery’s state-of-charge.

6. What should the installer do if, after installation, the indicator light and audible alarm were activated?
   The installer should disconnect the battery connector and AC power source and consult the Trouble Shooting Guide found in the installation instructions before continuing installation. Also, check to see if the unit has been wired correctly.
Troubleshooting

1. What happens when REDiTEST indicates a problem and the unit is not serviced by the next scheduled test?
   In the event that a test failure is not serviced prior to the next test cycle and the unit passes the subsequent test, then the failure indicator is automatically reset. Failure of a 90-minute test will cause the next scheduled test to also be a 90-minute test so that failure due to low battery capacity will not be reset by a short functional test.

2. Will REDiTEST substitute a manual test for a scheduled test?
   No. To ensure that a unit will adhere to code, REDiTEST will not substitute a manual test or test of shorter duration to fulfill testing requirements. A REDiTEST unit must pass the next scheduled test.

   For example, if the unit indicates failure as a result of conducting a 90-minute test, the next scheduled test will also be a 90-minute test. REDiTEST will continue to schedule the 90-minute test until the problem has been corrected or the unit passes the next 90-minute test.

   Real power failures do not take the place of scheduled tests either, though they may delay them. The battery must be fully recharged to initiate a scheduled test.

3. I am concerned that after REDiTEST completes its 90-minute discharge test, the battery will not have enough time to recharge and the emergency ballast will not operate should a power failure occur shortly afterward. What should I do?
   The National Electrical Code® requires that emergency lighting be tested annually for 90 minutes, so this possibility exists whether emergency lighting is tested manually or automatically. REDiTEST attempts to schedule tests during unoccupied times. This minimizes disruption and allows recharging before the space is occupied again.

   Code also states that any required illumination shall be arranged "so that the failure of any individual lighting element, such as the burning out of a light bulb, cannot leave in total darkness any space that requires emergency illumination" (NEC® 700.16). This requirement is commonly met by providing emergency lighting with overlapping patterns. Because each REDiTEST ballast operates independently, the chance of two adjacent units testing simultaneously is extremely small. On the other hand, manual tests are usually performed on entire building emergency systems at once, creating a wider window of vulnerability.

4. How do I reset the indicator light once the unit has been serviced?
   To reset the indicator light, push and hold the manual test switch for a minimum of 15 seconds.

5. What do I do if the unit continues to indicate failure?
   Follow all steps of the Trouble Shooting Guide found on the installation instructions for each REDiTEST product to help provide direction on the indicator status.

Any questions?
Call 800-223-5728, e-mail bodineinfo@philips.com or visit www.philips.com/bodine.