



GE UltraMax™ Ballast: Understanding Maintenance Mode Operation.

The GE UltraMax ballast is different from other T8 ballasts, because of its built-in UL Type CC anti-arcing “Arc Guard” feature. The ballast has a Maintenance Mode operation that, by operation of the Arc Guard system, reduces the possibility of arcing at the lampholders or anywhere else in the lamp circuit. When in the Maintenance Mode, a lamp holder’s OCV is reduced from the normal 600 to about 380 volts when the lamp is removed, is non-active, or at end of its useful life. For each lamp, the UltraMax ballast “remembers” the last mode of operation so, on a 4-lamp ballast, one lamp can be in Maintenance Mode, while normal operation of the other 3 is unaffected.

Working with the Arc Guard and Maintenance Mode of the GE UltraMax Ballast.

“Memory.” Due to the arc guard function, the ballast has a “memory” of the last state of operation of each lamp. For example, suppose a lamp fails at the end of its useful life and must be replaced. Because of the lamp’s failure, the ballast will be in the reduced voltage of Maintenance Mode (380 volts instead of the normal 600 volts). The ballast will “remember” this mode when a new lamp is installed.

For safety reasons, GE strongly recommends that you turn the power off when relamping. If, however, you choose to relamp with the power on, keep in mind that the ballast will be in the reduced voltage of Maintenance Mode. Generally, there still will be enough voltage for the lamp to strike and the current flow will be detected, thereby erasing the “memory” and bringing the lamp out of Maintenance Mode. However, some new lamps that are just out of the box may require a higher voltage to start them the first time. If this is the case, you simply need to shut down the power for 20 to 30 seconds, thereby “erasing the memory” of Maintenance Mode operation. When the power is restored after 20 or 30 seconds, the new lamp should strike and operate normally.

Lamp Malfunctions. Should a malfunction occur, like arcing from a lamp not fully inserted into the lampholder, the Arc Guard will detect this problem and reduce the output voltage so the arc cannot be sustained, earning GE the UL Type CC rating on these ballasts. Once the Arc Guard is activated on a particular lamp module, it will remain in Maintenance Mode until the lamp is reinserted properly and the ballast detects that normal operation can occur. If there were multiple issues, say a loose lampholder that was holding a lamp that is approaching end of useful life, the Arc Guard will stay active until all the issues are resolved. Note the UltraMax ballast contains an Arc Guard circuit for each individual lamp position, so it is possible to have some lamps in normal operation, and others in Maintenance Mode on the same ballast. Once all connections are properly made and suitable lamps are installed, the system should operate properly.

GE Recommended UltraMax Ballast Installation Method

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Risk of Electric Shock

- Turn Power off before servicing
- Properly ground Ballast and Fixture

1. Turn off the power at the breaker box for the fixture to be retrofitted.
2. Remove the old ballast and, if the lampholders are to be reused, ensure that they are shorted side to side for instant start application.
3. Install and wire the new ballast according to wiring diagram. Ensure the ballast case is grounded to the fixture by the mounting screws or clips.
4. Insulate any unused lead for 600 volts, and ensure that no lamp leads are in contact with the grounded fixture or the AC supply leads.
5. Reassemble the fixture and install the new lamps.
6. Restore power to the fixture. The system should operate properly.