Technical Article

Occupancy Sensors and Fluorescent Lamp Life

Product: Occupancy Sensors and Fluorescent Lamp Life

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Summary: This document describes the recent studies which prove that time-delay occupancy sensors do not negatively affect T8/T5 fluorescent light fixture life.

Information: According to a whitepaper by the NEMA Lighting Systems Division, "Compatibility of Fluorescent Lamps and Electronic Ballasts in Frequently Switched Applications", a recommended15-minute time delay setting on occupancy sensors used in conjunction with the switching OFF of fluorescent lamps whenever a room is unoccupied saves energy but does not shorten lamp life by cycling lamps every time someone steps out of the room momentarily. Leviton occupancy sensors are programmed with a factory default time-delay of 15 minutes from the last motion sensed to turning OFF, reducing the effects of frequent ON/OFF cycles while still providing significant energy savings.

By keeping the lights on longer with delays to account for departures and returns, switch cycles of the ballasts are significantly reduced. The NEMA whitepaper recommends several guidelines for the user to consider in order to achieve an acceptable lamp life:

- **Switching Scenarios**
  - Minimum lighting "on time" be no less than 15 minutes
- **Ballast Type**
  - ***Instant-Start Ballasts*** are recommended for application with switching frequencies of less than five cycles per day or where energy is considered more important than lamp life
  - ***Rapid Start Ballasts*** are recommended for applications with switching frequencies of less than five cycles per day
  - ***Programmed Start Ballasts*** are recommended in applications with frequent starts where extended lamp life is a primary concern – these ballasts provide the best lamp ignition and longest lamp life

Balancing lamp life concerns with time delays results in the best of both worlds: reductions in energy use and extended lamp life.

- Calibrating occupancy sensors to a minimum 15-minute delay setting
- Using ballasts that meet ANSI requirements for lamp ignition
- Using Programmed Start Ballasts in areas where a high number of switching cycles per day are regularly expected

For more information, please consult the following resources:
http://www.nema.org/stds/LSD18.cfm

Contact: If you have any questions or concerns, please call LES technical support at (800) 959-6004.

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