

Installation Instructions

Legacy LED Drivers with Non-Isolated dimming

Installation Instructions: Legacy LED Drivers with Non-Isolated Dimming

These installation instructions were created to allow the end user to comply with UL8750 Supplement SF taking effect on Nov, 1, 2020 and IEC61347-1-2015 Section 15.4.

SUPPLEMENT SF - LED EQUIPMENT WITH WIRED CONTROL CIRCUIT

IEC61347-1-2015, Section 15.4 Insulation between circuits and accessible parts

The intent of UL8750 supplement SF and IEC61347-1-2015, Section 15.4 is that LED drivers shall provide suitable isolation between input and output circuits as well as between output and dimming control circuits. Though isolated dimming is required, exceptions are called out in both standards:

UL8750 Supplement SF Exceptions: Must comply with all

- a) The control circuit does not exit the lighting equipment (i.e. the control circuit is internal to a fire/ electrical enclosure),
- b) Risks of fire and shock concerns due to interposed circuits between different components of the lighting equipment are addressed by circuit analysis, component abnormal tests, or both,
- c) The required isolation for Isolated, Class 2, or LVLE power circuits is not compromised,
- d) The control circuit shall be marked adjacent to the terminals or lead wires: "Notice: This control circuit is not isolated – see installation instructions" or equivalent and
- e) The installation instructions include related information described in SF8.5.

SF8.5 LED equipment installation instructions shall include:

- a) A description of the electrical characteristics of the control circuit,
- b) The intended function of the control circuit,
- c) Details of product markings described in Markings, UL8750, Section SF8, and
- d) The manufacturer's recommendations for proper installation of the control circuit (e.g., acceptable system wiring configurations, considerations for load distribution, cumulative control circuits leakage currents, acceptability of the control circuit to exit the luminaire, acceptable control and sense devices that can be integrated with the control circuit, etc.).

IEC61347-1-2015 Exceptions: Must comply with all

- control signals are injected via the supply terminals or circuits connected to the supply via a separate terminal;
- control signal receiver is located in the ballast case and the signal is transmitted remotely via infra-red or radio wave transmitters;
- control terminals are only to be used together with one sensing device outside of the controlgear case, but inside the luminaire (not remotely).

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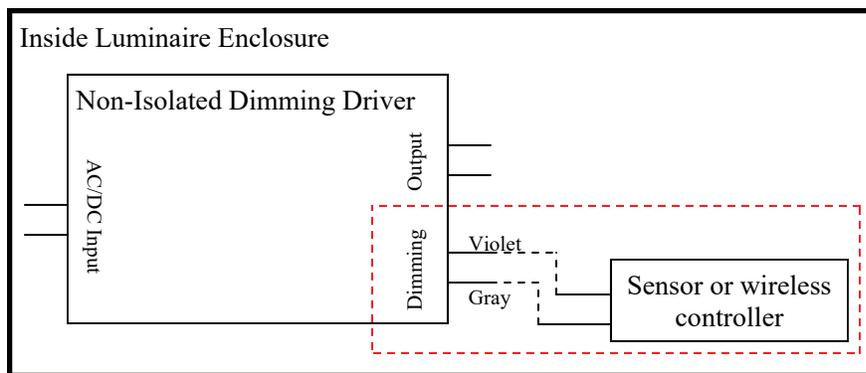
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Installation Instructions for Non-Isolated Dimming Drivers:

1) The control circuit (dimming leads) do not exit the lighting equipment enclosure. (Internal to fire/ electrical enclosure)

Non-isolated dimming driver is enclosed with the controller inside the luminaire case or the drivers dimming is not being used and the dimming leads are capped off.



- 2) Risks of fire and shock concerns due to interposed circuits between different components of the lighting equipment are addressed by circuit analysis, component abnormal tests, or both. This refers to other solutions that can be identified. These type alternate solutions require a detailed system level review with your certification body.
- 3) The required isolation for Isolated, Class 2, or LVLE power circuits is not compromised. All EPtronics non-isolated dimming drivers have their dimming circuit rated the same as the main output (SELV/Non SELV/Class 2/LVLE). Any external controls connected to the LED drivers dimming circuit must be suitable for the corresponding rating of the driver (SELV/Non SELV/Class 2/LVLE).

Summary:

These exceptions result in the use of a non-isolated dimming driver becoming application dependent.

