

## Installation guideline LED Driver

For better EMC (electromagnetic compatibility) behaviour of LED Driver a Y-capacitor is used in various circuit topologies. Because of this circuit design it is possible that transients on the mains towards earth potential (surge or burst impulses) can be transmitted to the output of the LED Driver. In unfavourable cases of oscillation, the transients on the output can even reach higher levels than received on the mains. Current products in most cases reduce the transient voltage at the output to a level much lower than 500 V that do not damage LED modules. The surge voltage at output side (against PE) can be found in the technical data of our LED Driver datasheets.

In applications / luminaire constructions with protection class I and therefore earthed luminaire-housings or heat sinks there is a risk of flashovers between the output of the LED Driver and earthed parts of the luminaire construction. For example a flashover can occur from the LED module, respectively solder joint, towards earthed parts if an appropriate isolation air gap is not given.

Normally, this only applies if the LED Driver generates a high transient voltage at the output and on installations with insufficient air- and creepage distances, or inappropriate isolation towards earth.

Furthermore, we would like to remark that this is not a Tridonic specific topic and could potentially occur to every available LED Driver in this type of design since the circuit concept is very common.

Following actions prevent this potential failure:

1. LED modules and all connection points which result from the wiring have to be protected against voltages mentioned in the datasheet or if no value is available there of at least 4 kV by proper isolation. Air- and creepage distances have to be observed.
2. Mounting the LED modules with the help of plastic screws if possible
3. Distance between LED wires and earthed metal surfaces must be increased.
4. As possible do not lay mains wires together with secondary LED wires.