

LED Driver Replacement Tips



Contributing Writer:

Bill Brosius
VP Sales - Key Accounts
and Business Development

This article will review the best practices for keeping an LED driver healthy. We will review the effects on the luminaire and driver when they are mismatched, review safety tips for using and installing a driver and how to establish a checklist to best qualify an LED Driver candidate.

BEST PRACTICES FOR A HEALTHY DRIVER

For a healthy LED Driver and lighting system:

- ✓ Make sure the right LED Driver type is selected to support the chosen LED type. Constant Current and Constant Voltage drivers are not interchangeable.
- ✓ Match the LED load to be less than the maximum Output Voltage and Power of the driver.
- ✓ Mount the driver away from heat sources and where it can shed heat. Additionally, make sure not to exceed the ambient temperature range or the maximum case temperature (tc) specified for the driver.
- ✓ Use the driver in its specified environment. For example, if it's not rated for outdoor use or damp spaces, select a different driver.

WHAT HAPPENS WHEN THERE'S A MISMATCH?

Tuning is used to deliver multiple lumen levels from the same set of LED components in a luminaire. When matching an LED Driver to an LED module in a luminaire, it's important to match the current from the driver output to the LED module. The current controls how much power (wattage) is being used by the LEDs. Providing too much current is called overdriving while delivering too little current is called under driving.

Tuning (programming) the driver to match the specified requirements of the LEDs enables the luminaire to deliver the rated lumens for which it was designed.

LED DRIVER TIPS

When there is an issue with the driver to module Interface	<input checked="" type="checkbox"/> Any wire splice should be in an enclosure. Add strain relief. Use proper, UL rated, connectors
Issues with the luminaire housing	<input checked="" type="checkbox"/> Ensure the driver is mechanically secure to the luminaire. Ensure the ambient temperature does not exceed the driver's rated temperature.
Line Supply Surge	<input checked="" type="checkbox"/> Many LED Drivers have a MOV (metal-oxide varistor) installed within the driver that is fuse protected. When the MOV opens the circuit due to a surge in the line power supply, the driver will cease to function
Use the right UL Class driver	<input checked="" type="checkbox"/> Non-Class 2: Supports higher output voltage, current and power than Class 2, requiring additional protective barriers in the luminaire <input checked="" type="checkbox"/> Class 2: Lower output voltage, current and power limits. More flexibility allowed in luminaire design and access to the modules
Look for UL Class P program participation	<input checked="" type="checkbox"/> For luminaire OEMs, using drivers that are UL Class P certified makes it easier to source. You can change Class P drivers without having to recertify your luminaire



FINDING THE RIGHT DRIVER MANUFACTURER

Whether you're an OEM manufacturing luminaires, a distributor, or an end user buying drivers for a retrofit project or occasional maintenance replacement, it's important to consider the driver manufacturer. When the driver fails, the luminaire fails and may be permanently damaged. Here are some key things to evaluate when sourcing LED Drivers.

Warranty The warranty should be no less than 48 months.	<input checked="" type="checkbox"/> Universal Lighting Technologies EVERLINE® LED Drivers are warranted for up to 60 months
R&D and Manufacturing Experience A supplier should have in-house R&D and manufacturing capabilities	<input checked="" type="checkbox"/> Universal Lighting Technologies has been in the lighting business for 70+ years, researching, designing and manufacturing lighting systems and components, including LED drivers
Quality and Reliability Testing A supplier should control quality and reliability	<input checked="" type="checkbox"/> Universal Lighting Technologies has developed a battery of tests to verify the proper operation of our drivers across a wide range of applications. We follow all safety and testing compliance checks and perform accelerated life testing
Engineering Experience A supplier's engineering team should have experience in thermal management, lighting system design, photometrics and testing	<input checked="" type="checkbox"/> Universal Lighting Technologies develops advanced thermodynamic designs and thermal protection circuitry, tests for maximum thermal loads, designs lighting systems with matched LED Drivers and LED Modules and conducts thermal, electrical and photometric testing
Breadth of Line A supplier should have a broad spectrum of drivers	<input checked="" type="checkbox"/> Universal Lighting Technologies has a diverse series of high-, mid- and low- wattage Constant Current and Constant Voltage drivers in multiple form factors. We're also on the forefront on intelligent drivers, ready to integrate with IoT sensors in connected luminaires.
Programming Tools A supplier should have their own tools to enable OEMs, distributors and end users to program drivers	<input checked="" type="checkbox"/> Universal Lighting Technologies has production and engineering programming applications for both wired and wireless Constant Current driver tuning.
Ease of Doing Business A supplier has to be a partner in your success and easy to do business with	<input checked="" type="checkbox"/> Universal Lighting Technologies has readily available customer technical support, field sales and applications engineering teams, online resources to find, cross, and select drivers, application notes, videos, on-site training, and the Universal University to help you become an expert. We also have the best in class team of Energy Select partners to help you plan your retrofit project or OEM design.

Universal makes it easy for you to choose the right replacement driver for your facility.

Learn about LED Tube & Driver Options:

- Read the other [LED Driver Articles](#)
- Read [LED case studies](#)
- Request [LED Driver Replacement Training](#) for your team at your facility
- Sign up for LED Driver courses at the [Universal University](#)

Find a Replacement LED Driver:

- [Find a local LED "Touch to Tune" Location Near You](#)
- [Learn more about the "Touch to Tune" Driver Tuning App](#)
- [Watch the "Touch to Tune" Video](#)

Need help? Contact an expert:

- Contact the Universal Lighting Technologies **Technical Support Team (TES)** for assistance at tes@unvlt.com or 1-800-225-5278
- [Find a local ENERGY Select partner](#) to help you with your plan retrofit project and select materials