

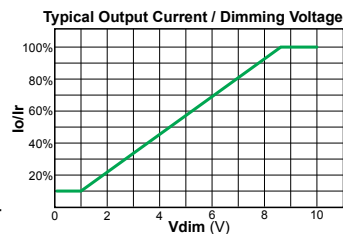
How Do I Choose The Proper LED Driver For My Application?

- Identify whether a constant-current or constant-voltage source is required to operate the LEDs in your application
- Identify the number of LEDs used in your application, the drive current and the voltage required
- Identify the maximum wattage load the driver will encounter in your application
 - Choose a driver rated slightly higher than your maximum rated load
 - Make sure the driver's output will operate within its specified range (voltage range for a constant-current driver, or current range for a constant-voltage driver)
- Identify any dimming needs
- Choose a driver from a manufacturer with US operations (sales and engineering support is just a phone call away), who can also supply your manufacturing locations worldwide

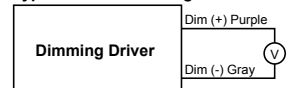
For more information on choosing the right LED driver, see our website FAQ page

What Do I Need To Know About Dimming LED Drivers?

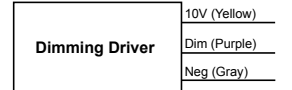
- If the application requires dimming, specify a dimmable driver
 - Dimming drivers are designed to allow LEDs to be dimmed down to 10-25% light output, depending on model
 - Dimming drivers operate on 0-10Vdc dimmers only. Some TRP models are compatible with line-voltage dimmers
 - Some dimming drivers include a 10V source lead for use with potentiometers. Cap off yellow lead when using a 0-10V dimmer



Typical 2 Wire Dimming Circuit



Typical 3 Wire Dimming Circuit



Features Of LED Drivers From TRP

Long-life LED Drivers from Thomas Research Products represent the latest available technology. Most LED Drivers from TRP feature:

- **TRUE** 277V input: Universal 120-277V Nom. (90-305V Min/Max), TSC/TSV and -HV Series feature 277-480V Nom. Input
- Operate on either 50 or 60 Hz Nom. line-voltage frequency (47-63 Hz Min/Max)
- Single output with constant-current or constant-voltage mode
- UL Recognized in both the US & Canada, many also CE certified
- UL1310, Class 2 compliant or UL8540 as appropriate
- RoHS compliant
- IP66 or IP67 compliant, suitable for damp or dry locations (Note: BLED series is IP64 compliant)
- Output protection: over-voltage, over-current and short-circuit
- Compact, lightweight UV-rated plastic or aluminum case. Many feature **Black Magic Thermally Advantaged™** housings
- Must typically be loaded to a minimum of 50% of their rated max power output (wattage) to ensure proper operation
- Power factor ≥ 0.90 (Active Power Factor Correction)*
- Minimum Operating Temperature -20°C or lower*
- Operating Frequency $\geq 120\text{ Hz}^*$
- Meets FCC CFR Part 15 Part B emission limits*
- Complies with IEEE C.62.41.1-2002 and C.62.41.2-2002 transient protection requirements*
- Class A sound rating*
- Standard 5-year warranty, exceeds the Energy Star 3 year warranty requirement* (Note: BLED series have 2-year warranty)



* Nearly all Thomas Research Products LED Drivers meet or exceed the program requirements for the **ENERGY STAR** Luminaires Version 1.2 Spec

Custom Drivers

Can't find a driver that meets the particular requirements of your application? TRP takes great pride in analyzing needs, solving problems and producing unique products tailored to meet customer applications. We can quickly design and deliver custom LED Drivers for your specific requirements. Contact us for details. Some of our designs include:

- **"Tuned" Output Drivers** to meet requirements of your specific application. Outputs (constant-current or constant-voltage) of 60W, 90W, and 100W Drivers can be factory-tuned for your specific application.
- **Multi-channel Drivers.** We design high-wattage drivers with multiple output channels, to keep groups of LEDs within a fixture operating independently of each other. This ensures that a fixture continues to operate at a reduced light-output level in the unlikely event that an LED fails. Multi-channel drivers are also a good solution to avoid connecting multiple LED arrays in parallel, which could lead to "current hogging".