LED50WPR2T5 Series
Programmable LED Driver

**Electrical Specifications**

- **Input Voltage Range:** 120-277 Vac Nom. (108-305 V Min/Max)
- **Frequency:** 50/60 Hz Nom. (47-63 Hz Min/Max)
- **Power Factor:** ≥ 0.90 @ ≥ 60% load, 120Vac-277Vac
- **Inrush Current:** < 20.0 Amps max @ 277 Vac
- **Input Current:** 0.59 Amps @ 120 Vac, 60Hz
  - 0.25 Amps @ 277 Vac, 60Hz
- **Maximum Power:** 50W
- **Line Regulation:** ± 3%
- **Load Regulation:** ± 4%
- **THD:** ≤ 20% @ ≥ 60% full load
- **Ripple Current:** 4% (max)
- **Start-up Time:** 1 sec. typical

**Protections**

- **Over-voltage:** Yes
- **Short Circuit:** Auto Recovery

**Environmental Specifications**

- **Maximum Case Temp.:** 80°C
- **Type TL Rating:** xx°C/ xx°C
- **Minimum Starting Temp:** -20°C
- **Storage Temperature:** -25°C to +80°C
- **Humidity:** Up to 90% RH
- **Cooling:** Convection
- **Vibration Frequency:** 5 to 55 Hz, 2g, 30 minutes
- **Sound Rating:** Class A
- **Lifetime:** 50,000 Hours, 50ºC @ Tc point
  (see lifetime graph for lifetimes at different temperatures)
- **MTBF:** 352,000 hours @ Full Load per MIL-217F Notice 2
- **EMC:** FCC 47CFR Part 15 Class A compliant

**Constant Current • Product Specifications**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Output Current (mA)</th>
<th>Output Voltage (Vdc)</th>
<th>Max Output Power (W)</th>
<th>Type TL Rating</th>
<th>Typical Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED50WPR2T5-050-C1400-D</td>
<td>500-1400</td>
<td>20-50</td>
<td>50</td>
<td>89/75ºC</td>
<td>83%</td>
</tr>
</tbody>
</table>

**Programming Key**

- **TRP Catalog # Nominal Output Current (Amps)**
- **Actual Output Current (Amps)**

<table>
<thead>
<tr>
<th>TRP Catalog #</th>
<th>Nominal Output Current (Amps)</th>
<th>Actual Output Current (Amps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR2-C0500-C3</td>
<td>0.500</td>
<td>0.507</td>
</tr>
<tr>
<td>PR2-C0530-C3</td>
<td>0.530</td>
<td>0.522</td>
</tr>
<tr>
<td>PR2-C0700-C3</td>
<td>0.700</td>
<td>0.691</td>
</tr>
<tr>
<td>PR2-C0830-C3</td>
<td>0.830</td>
<td>0.827</td>
</tr>
<tr>
<td>PR2-C1000-C3</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>PR2-C1050-C3</td>
<td>1.050</td>
<td>1.043</td>
</tr>
<tr>
<td>PR2-C1190-C3</td>
<td>1.190</td>
<td>1.175</td>
</tr>
<tr>
<td>PR2-C1250-C3</td>
<td>1.250</td>
<td>1.248</td>
</tr>
<tr>
<td>PR2-C1400-C3</td>
<td>1.400</td>
<td>1.404</td>
</tr>
</tbody>
</table>

- **Safety Certification:**
  - **UL/CUL:** UL8750, UL6995 for UL Class 2, CAN/CSA C22.2 No. 250.13, UL Type TL xx/xx°C
  - **CE:** EN61347-1, EN61347-2-13

- **EMC Standards**
  - **FCC 47CFR Part 15 Class B**
  - **EN 55015:** Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.
  - **EN 61000-3-2:** Part 3-2: Limits for harmonic current emissions Class C, ≥80% Rated Power.
  - **EN 61000-3-3:** Part 3-3: Limitation of voltage changes, voltage fluctuations and flicker.
  - **EN 61000-4-5:** Part 4-5: Surge Immunity test, 2 kV L-N, 4kV L-FG & N-FG
  - **EN 61547 ESD (Electrostatic Discharges):** Class B

- **Energy Star:** Energy Star transient protection: Ballast or driver shall comply with ANSI/IEEE C62.41.1-2002 and ANSI/IEEE C62.41.2-2002, Category A operation. The line transient shall consist of seven strikes of a 100 kHz ring wave, 2.5 kV level, for both dimming mode and differential mode.

- Simple programming with USB cable
- Linear dimming curve
- Adjustable Output Current: 500-1400mA
- UL Dry & Damp Location Rated, Class 2, Type TL
- Dim to 10% with 0-10V dimming
- Metal housing

Programming cable is a 1m USB cable with 3-pin connector and programming button. Resistance and current is marked on the label. Other output currents and cables available upon request.

© 2017 Thomas Research Products. Specifications subject to change without notice.
LED50WPR2T5 Series
Programmable LED Driver

Dimensions

Power Characteristics

Note: The area under the life-temperature curve represents where the driver has highly reliable operation within specification. Driver performance may drift out of published specifications as the hours of operation exceed the curve at a given temperature. Higher operating temperatures increase the chances of a failure to function. Other electrical, mechanical and environmental factors affect driver lifetime but are not represented in this calculation.

© 2017 Thomas Research Products. Specifications subject to change without notice.
Wiring

Programming Guide
Note that the driver does NOT need to be connected to AC power to be programmed. The cable assembly should have the output current and resistance on the label. Note that each setup cable corresponds to a specific output current value.

1) Plug the 3-pin cable connector into the 3-pin connector on the driver.
2) Plug the USB connector of the cable into an active USB port. The USB port only has to provide +5V to the driver.
3) Push and hold the button on the USB cable for approximately 0.5 to 1 second to program the driver current. To keep the programmed value, go to step 5. If the driver needs to be reset to the default current value, go to step 4.
4) Push and hold the button on the USB cable for >6 seconds to reset the driver current to the default value of 1.4A.
5) Remove the setup cable when done programming. The driver is ready for use.

0-10VDC Dimming

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Current out of 0-10V Purple Wire</td>
<td>0 mA</td>
<td>—</td>
<td>1.5 mA</td>
</tr>
<tr>
<td>Absolute Voltage Range on 0-10V (+) Purple Wire</td>
<td>-2.0 V</td>
<td>—</td>
<td>+15 V</td>
</tr>
</tbody>
</table>

Typical Dimming Circuit: 2-Wire Resistance

Typical Dimming Circuit: 2-Wire 0-10V Analog

0-10V Dimming Notes:
1. Part comes with two dimming input connectors +Purple/-Gray on the output side.
2. Part is compatible with most 0-10V Wall Slide dimmers and 0-10V dimming.
3. Output current will be 10% when Vdim ≤0.60V.
4. Output will be 100% with Purple/Gray open and 10% with Purple/Gray Shorted.

Labeling Programmable Drivers:
It is highly recommended that the drivers be labeled with information traceable to the programmed current. This information is critical to answering any field questions from the contractor or end user.