# OPTOTRONIC® Power Supply

**OT96W/24V/UNV/DIM**

## General Information
- **Item Number**: 51520
- **Type**: Constant Voltage
- **Output Power**: 96W (Max.)
- **Output Voltage**: 24V DC
- **Input**: Universal (120-277V)

## Electrical Specifications
### Input
- **Input Voltage (VAC)**: 120V-277V (+/- 10%)
- **Frequency Range (Hz)**: 50 – 60 Hz (+/- 10%)
- **Input Current (A)**: 0.91 @ 120V, 0.39 @ 277V
- **Input Power (W)**: 111W
- **THD**: < 20%
- **Power Factor**: > 0.95
- **Inrush Current (A<sub>pk</sub>)**: < 55A
- **Line Regulation**: < 5%
- **Stand-by Power (W)**: < 1.5W

### Output
- **Output Voltage (VDC)**: 24V (+/- 5%)
- **Output Current (A)**: 0.1 – 4.0A
- **Output Ripple (V)**: 1V
- **Efficiency**: >85% (Typical)
- **Load Regulation**: <5%

## Dimming
- **Dimming Control**: 0 – 10V
- **Dimming Range**: 10 – 100%
- **Dimming Type**: PWM
- **Frequency**: 250Hz
- **Dimming Input Isolation**: 2.5KV

## Environmental Specifications
- **Ambient Operating Temp**: -25 to 40 °C
- **Max. Case Temp. Tc**: 75°C
- **Storage Temp.**: -25 to 50 °C
- **Max. Relative Humidity (%)**: 96% non-condensing
- **Surge Protection (KV)**: ANSI C62.41 Cat A (2.5KV)

## Wiring Diagram
- **Wiring Leads**: Only
- **Wire Gauge**: 18AWG
- **Input Wire**: 6” (black & White)
- **Output**: 6” (red, blue & yellow)
- **Dimming Input**: 6” (purple & gray)

*When using the additional OTDIM unit, wire the 96W driver as in the NON-DIMMABLE diagram.*

## Mechanical Diagram

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**Optotronic® Power Supply**

*www.sylvania.com/OPTOTRONIC*
TYPICAL EFFICIENCY

- [% Efficiency vs. Output Power (W)]
  - 120 VAC
  - 277 VAC

TYPICAL POWER FACTOR

- [% Power Factor vs. Output Power (W)]
  - 120 VAC
  - 277 VAC

TYPICAL THD

- [% THD vs. Output Power (W)]
  - 120 VAC
  - 277 VAC

WARRANTY

OPTOTRONIC® products are covered by our LED Module, OPTOTRONIC Power Supply or Control Warranty. For additional details, refer to the latest version of the warranty available at www.sylvania.com.
### Key Features
- **UL Class 2**
- Ultra small, compact size
- Tightly regulated output: 1% line, 5% load
- Power factor: 90% min
- Total harmonic distortion: 20% max
- Current crest factor: 1.5 max

### Specifications
- **Location:** Damp IP66
- **Output Voltage:** 24v DC
- **Output Power:** 100w
- **Input Voltage:** 120 to 277 VAC
- **Ambient Temp:** -40˚C to +50˚C
- **Weight:** 1.41 lbs
- **Dimming:** Yes

### 100-Watt Driver

<table>
<thead>
<tr>
<th>Remote Distance</th>
<th>Diameter</th>
<th>Max Run Length in Series</th>
<th>Max Run Lengths in Parallel</th>
</tr>
</thead>
<tbody>
<tr>
<td>7'-0&quot; (2.1m)</td>
<td>w/22 AWG (.644mm)</td>
<td>47' (14.33m)</td>
<td>87' (26.52m)</td>
</tr>
<tr>
<td>18'-0&quot; (5.5m)</td>
<td>w/18 AWG (1.02mm)</td>
<td>12' (3.66m)</td>
<td>23' (7.018m)</td>
</tr>
<tr>
<td>46'-0&quot; (14.0m)</td>
<td>w/14 AWG (1.63mm)</td>
<td>9' (2.74m)</td>
<td>17' (5.18m)</td>
</tr>
<tr>
<td>71'-0&quot; (21.6m)</td>
<td>w/12 AWG (2.05 mm)</td>
<td>30' (3.66m)</td>
<td>60' (18.23m)</td>
</tr>
</tbody>
</table>

**Note:** 11" (L) x 4" (W) x 4" (H) enclosure is required by UL.

**Remote Distance Diameter**
- 7'-0" (2.1m) w/22 AWG (.644mm)
- 18'-0" (5.5m) w/18 AWG (1.02mm)
- 46'-0" (14.0m) w/14 AWG (1.63mm)
- 71'-0" (21.6m) w/12 AWG (2.05 mm)
**Enclosure Industry Standards**
- UL/cUL 50: File E64358 type 1, 3, 4X 6P, 12
- NEMA 250: Type 1, 3, 4X, 6P, 12
- CSA Std 22.2: File LR069014 type 1, 3, 4X, 6P, 12
- Temp rating: (-40° to +120°C)
- Flammability rating: UL94-5V

**Enclosure Construction**
Enclosure material is a molded fiberglass reinforced polyester (thermoset). The gasket is poured polurethane seamless gasket that provides watertight, dust-tight environmental seal. The cover screws are recessed, captive and stainless steel.

**Front View Without Cover**
- Watertight gland provided by io. Gland can accept 0.114” to 0.25” O.D. wire. Wire is provided by contractor and must be rated for exterior applications.
- Opening for 3/4” conduit entry. Conduit and conduit fittings provided by others.

**Left End View With Cover**
- Opening for watertight gland. Gland is provided by io.

**Right End View With Cover**
- Opening for 3/4” conduit entry. Conduit and conduit fittings provided by others.

*One driver enclosure can hold one 20W or 96W driver and one dimming module.*
**Dimming Module**

**Key Features**
- Utilizes pulse width modulation (PWM), to control LED performance
- Options available for analog or DMX protocols
- Dimming range: 0-100%
- Short circuit, overload and overheating protection

**Specifications**
- **Location:** Dry
- **Input Voltage:** 24v DC
- **Max Input Current:** 5.3A
- **Control Voltage:** 0-10v DC
- **Frequency:** 135 HZ
- **Ambient Temp:** -20˚C to +50˚C
- **Weight:** .165 lbs
- **Power Consumption:** Up to 3W

**DMX Compatibility**
A DMX to 0-10V converter will typically be required to interface with DMX control systems. ETC has tested the dimming module with the Unison Series Dimming Rack. The Unison Fluorescent Option Module will provide up to (24) 0-10 signals from a single unit. The dimming module has also been tested with a 0-10 converter from Northlight Systems.

**Lutron Products**
0-10 V (current sink) IEC 60929

**Entire Room Controls**
- Radio Touch™ Included
- microWatt™ Included
- Grafik Eye 3000/2000 TVM Module
- Grafik Eye 4000* GRX-TVI
- Grafik Eye GXI Included
- Spacer System SPSF-6A + GRX-TVI

**Building Controls**
- LCP128™ TVM Module
- G5000™/6000/7000™ TVM Module

**Whole Home Controls**
- Radio RA® RA-6ND + GRX-TVI
- Homeworks® GRX-TVI, TVM

**Wallbox**
- Nova™ NTFTV
- Nova® NFTV
- Vareo® 2 VF10 + GRX-TVI
- Diva® 2 DVF103P + GRX-TVI
- Skylark® 2 SF103P + GRX-TVI

**Tested by OSRAM**

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Type</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUNT</td>
<td>0-10 wall mount</td>
<td>PS-010</td>
</tr>
<tr>
<td>Leviton</td>
<td>0-10 wall mount</td>
<td>IP710-DLW</td>
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<tr>
<td>Lightolie</td>
<td>0-10 wall mount</td>
<td>ZP600F-AM 120W</td>
</tr>
<tr>
<td>Lutron</td>
<td>0-10 wall mount</td>
<td>NTFTV Series</td>
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<tr>
<td></td>
<td>Control Panel</td>
<td>Grafik Eye</td>
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<tr>
<td></td>
<td>Converter to 0-10v dc</td>
<td>GRX-TVI, GRX-TVM</td>
</tr>
<tr>
<td>NorthLight Systems</td>
<td>DMX to 0-10v Converter</td>
<td>8 channels, 24 channels</td>
</tr>
</tbody>
</table>

Source: OSRAM’s “Controllers for LED Modules” PowerPoint

*Please contact specific manufacturers for details on specific dimming control