

# PLED-96W Series

## Flicker-Free LED Drivers



### Electrical Specifications

|                             |  |
|-----------------------------|--|
| Input Voltage Range:        | 100-277 Vac Nom. (90-305 V Min/Max)  |
| Input Over-Voltage:         | Can endure 320Vac for 48 Hrs, 350Vac for 2 Hrs   |
| Frequency:                  | 50/60 Hz Nom. (47-63 Hz Min/Max)   |
| Power Factor:               | >0.90 @ 60-100% load, 100-277Vac   |
| Inrush Current:             | <50.0 Amps max @ 230Vac, cold start 25°C   |
| Input Current:              | 1.30 Amps max  |
| Maximum Power:              | 96W  |
| Current Accuracy:           | ± 2% Over input line variation   |
| Load Regulation:            | ± 3%   |
| THD:                        | ≤ 20% @ 60-100% load, 100-277Vac   |
| Ripple & Noise:<br>(Vpk-pk) | 5% Vo max @ 20 MHz BW, Full load output in parallel with 0.1 µF ceramic & 10 µF Electrolytic                                     |
| Ripple:<br>(Ipk-pk)         | 5% Io max @ 20 MHz BW, Full load output in parallel with 0.1 µF ceramic & 10 µF Electrolytic.<br>120 Hz component (Flicker Free) |
| Start-up Time:              | 200mS typical @ Full Load, 120Vac/60Hz (1000mS max)  |
| Leakage Current:            | 0.28 mA max @ 120Vac, 0.78 mA max @ 277Vac   |
| Hold Up Time:               | 40mS typical @ Full Load, 277Vac   |

### Protections

|               |               |
|---------------|---------------|
| Over-voltage  | Output        |
| Over-current  | Output        |
| Short Circuit | Auto Recovery |

### Environmental Specifications

|  |   |
|--|---|
| Max Case Life Temp:<br>(5 year warranty) | 73°C  |
| Maximum Case Temp (UL):                  | 90°C  |
| Minimum Starting Temp:                   | -30°C   |
| UL Type TL Rating:                       | Class 2: 83/54°C; Non-Class 2: 90/75°C                                      |
| Storage Temperature:                     | -40°C to +85°C  |
| Humidity:                                | 5% to 95%   |
| Cooling:                                 | Convection  |
| Vibration Frequency:                     | 5 to 55 Hz/2g, 30 minutes   |
| Sound Rating:                            | Class A   |
| Impact Resistance:                       | 1g/s  |
| MTBF:                                    | 474,000 Hours @ full load and 40°C ambient conditions per MIL-217F Notice 2 |
| EMC:                                     | FCC 47CFR Part 15 Class B compliant   |
| Weight:                                  | 21.6 oz. (612 grams)  |

#### Dimming Option:

“-D” 0-10V & Resistance dimmable models include an extra two wires +Purple/-Gray on the output side. “-D” Compatible with most quality 0-10V wall dimmers. See page 3.

“-D3” 3-wire dimmable model dims 100% to 10%. Three extra wires included on the output side: Yellow/Purple/Gray. This model is suitable for potentiometer dimming. See page 3.

#### Note:

LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED drivers, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.



### Constant Current Models

| Model                | Output Current (mA ±3%) | Output Voltage Range (Vdc) | Max. Output Power (W) | Max Efficiency |
|----------------------|-------------------------|----------------------------|-----------------------|----------------|
| PLED96W-274-C0350-XX | 350                     | 92-274                     | 95.9                  | 92%            |
| PLED96W-213-C0450-XX | 450                     | 71-213                     | 95.6                  | 92%            |
| PLED96W-137-C0700-XX | 700                     | 46-137                     | 95.9                  | 92%            |
| PLED96W-092-C1050-XX | 1050                    | 31-92                      | 96                    | 91%            |
| PLED96W-069-C1400-XX | 1400                    | 23-69                      | 96                    | 91%            |
| PLED96W-054-C1750-XX | 1750                    | 18-54                      | 94.5                  | 91%            |
| PLED96W-048-C2000-XX | 2000                    | 16-48                      | 96                    | 90%            |
| PLED96W-046-C2100-XX | 2100                    | 16-46                      | 96                    | 90%            |
| PLED96W-039-C2450-XX | 2450                    | 14-39                      | 95.5                  | 89%            |
| PLED96W-036-C2660-XX | 2660                    | 12-36                      | 95.7                  | 89%            |
| PLED96W-034-C2800-XX | 2800                    | 12-34                      | 95.2                  | 89%            |
| PLED96W-030-C3150-XX | 3150                    | 10-30                      | 94.8                  | 89%            |
| PLED96W-027-C3500-XX | 3500                    | 9-27                       | 94.5                  | 88%            |
| PLED96W-025-C3840-XX | 3840                    | 9-25                       | 96                    | 88%            |
| PLED96W-024-C4000-XX | 4000                    | 8-24                       | 96                    | 88%            |
| PLED96W-020-C4800-XX | 4800                    | 7-20                       | 96                    | 87%            |
| PLED96W-018-C5350-XX | 5350                    | 6-18                       | 96                    | 86%            |

-XX indicates dimming options are available. See options at left. Blank = fixed current output

### Constant Voltage Models

| Model       | Output Voltage (Vdc ±5%) | Output Current Range (mA) | Max. Output Power (W) | Max Efficiency |
|-------------|--------------------------|---------------------------|-----------------------|----------------|
| PLED96W-018 | 18                       | 1338-5350                 | 96                    | 86%            |
| PLED96W-020 | 20                       | 1200-4800                 | 96                    | 87%            |
| PLED96W-024 | 24                       | 1000-4000                 | 96                    | 88%            |
| PLED96W-025 | 25                       | 960-3840                  | 96                    | 88%            |
| PLED96W-027 | 27                       | 875-3500                  | 94.5                  | 88%            |
| PLED96W-030 | 30                       | 788-3150                  | 94.8                  | 89%            |
| PLED96W-034 | 34                       | 700-2800                  | 95.2                  | 89%            |
| PLED96W-036 | 36                       | 665-2660                  | 95.7                  | 89%            |
| PLED96W-039 | 39                       | 613-2450                  | 95.5                  | 89%            |
| PLED96W-046 | 46                       | 525-2100                  | 96                    | 90%            |
| PLED96W-048 | 48                       | 500-2000                  | 96                    | 90%            |
| PLED96W-054 | 54                       | 438-1750                  | 94.5                  | 91%            |
| PLED96W-069 | 69                       | 350-1400                  | 96                    | 91%            |
| PLED96W-092 | 92                       | 263-1050                  | 96                    | 91%            |
| PLED96W-137 | 137                      | 175-700                   | 95.9                  | 92%            |
| PLED96W-213 | 213                      | 113-450                   | 95.6                  | 92%            |
| PLED96W-274 | 274                      | 88-350                    | 95.9                  | 92%            |

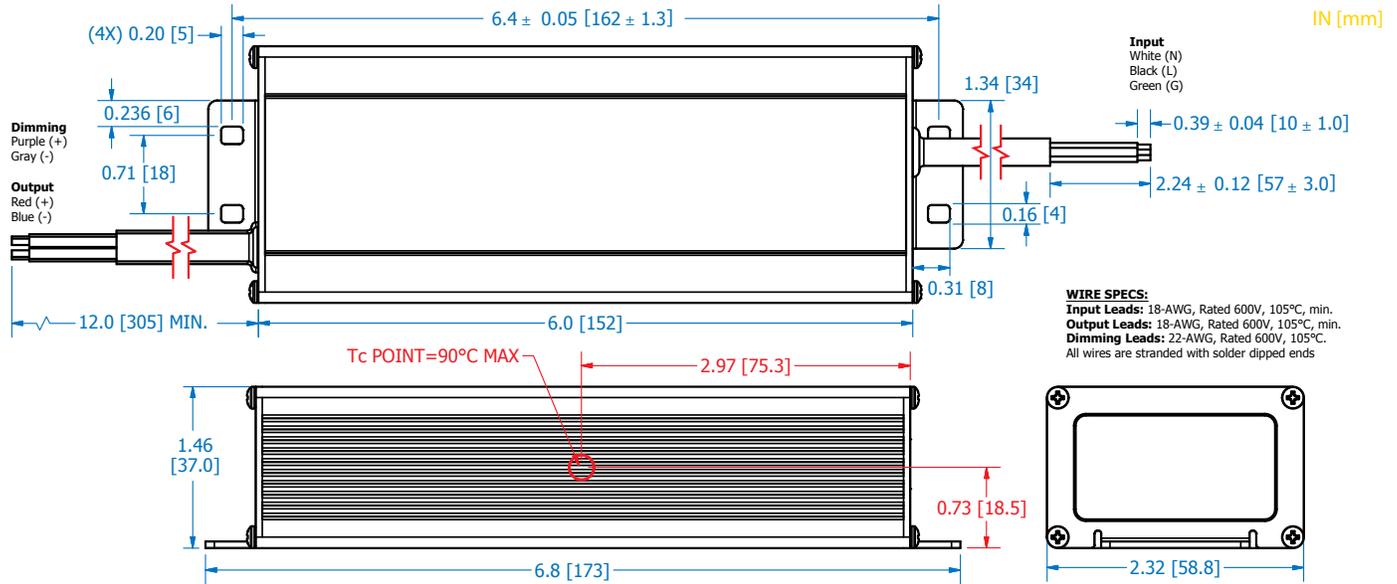
• Indicates S.A.M.

Class 2: US/Canada

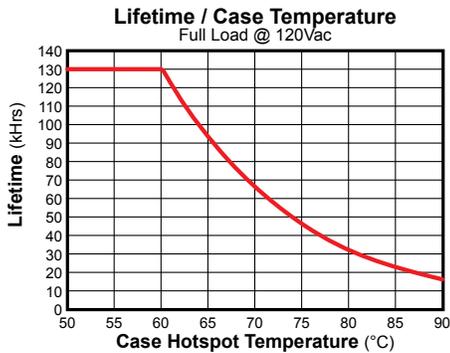
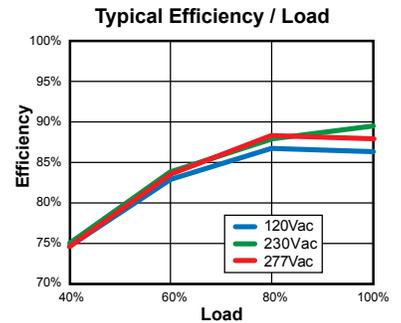
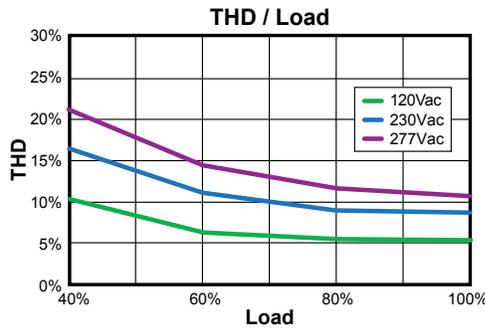
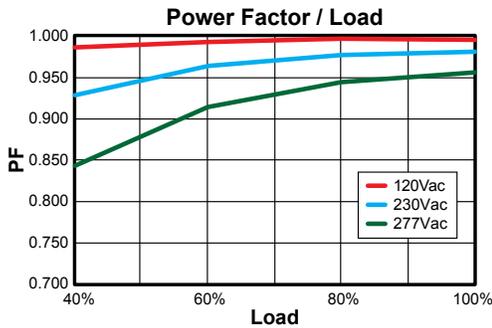
- Total Power: 96 Watts
- Constant Current & Constant Voltage with Isolation
- Input Voltage: 100-277 Vac Nom.
- UL Dry & Damp Location Rated
- IP66 & NEMA6
- UL Type TL
- UL Type HL Rated for Hazardous Locations
- UL Sign Components Manual (S.A.M. Models)
- Black Magic Thermal Advantage™ Aluminum Housing



### Dimensions



### Power Characteristics



| Safety Cert.       | Standard  |
|--------------------|---|
| UL/CUL             | UL8750 & CAN/CSA-22.2 No. 250.13-12, UL1310/CSA-C22.2 No.223-M91 for Class 2, UL1012/CSA-C22.2 No.107.1 for Non-Class 2 |
| CE                 | EN 61347-1, EN61347-2-13  |
| EMC Standard       | Notes   |
| 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, 4 kV L-G & N-G   |

### UL Conditions of Acceptability

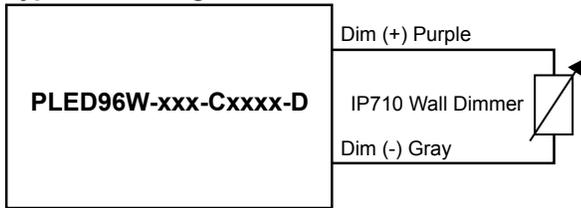
See website for additional information

**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.

### “-D” and “-D3” Options: 0-10VDC and Resistance Dimming

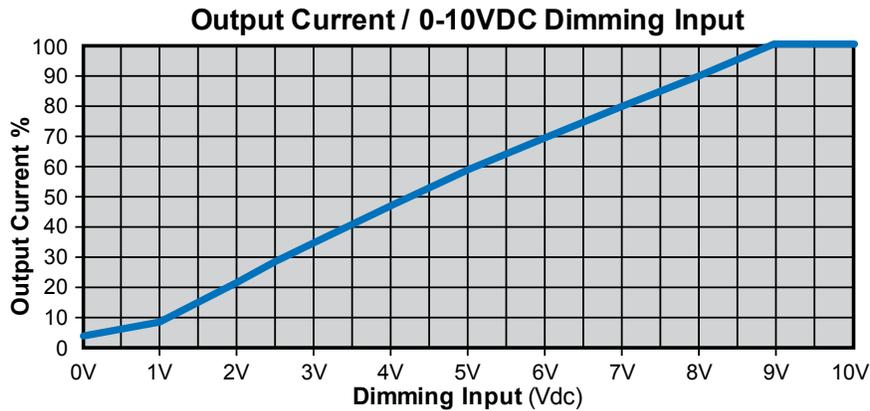
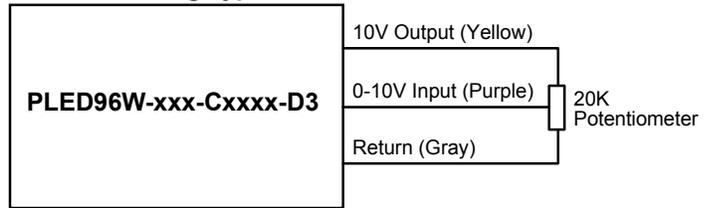
| Parameters                                      | Minimum | Typical | Maximum |
|---|---------|---------|---------|
| 10V Output, Yellow Wire                         | 9.2V    | 10.0V   | 10.8V   |
| Source Current out of Aux Yellow Wire           | —       | —       | 10mA    |
| Absolute Voltage Range on 0-10V (+) Purple Wire | -2.0V   | —       | +15V    |
| Source Current out of 0-10V Purple Wire         | 0mA     | —       | 2mA     |

#### Typical Dimming Circuit



(Dimmer must be current-sink type control)

#### 3-Wire Dimming Typical Circuit



#### Notes:

- 0-10V dimmable version comes with an extra two wires +Purple/-Gray on the output side.
- Compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal. Recommended dimmer is Leviton IP710 or equivalent
- 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V
- 0-10V dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.
- 3-wire dimmable drivers come with three wires on the output side (Yellow/Purple/Gray).