



Thomas Research Products

SSL Solutions Faster Than The Speed Of Light®

PLED-96W Series— Fixed Output & Dimmable

Compact, Switch Mode LED Drivers
Constant Current & Constant Voltage with Isolation
Black Magic Thermal Advantage™ Aluminum Housing

Total Power: 96 Watts
Input Voltage: 100-277 Vac Nom.
Outputs: Single from 6-274 Vdc
UL Dry & Damp Location Rated
IP66, NEMA6
High Power Factor

Electrical Specifications

Input Voltage Range:	100-277 Vac Nom. (90-305 V Min/Max)
Frequency:	50/60 Hz Nom. (47-63 Hz Min/Max)
Power Factor:	>0.90 @ full load, 100V through 277V
Inrush Current:	<30.0 Amps max @ 230 Vac, cold start 25°C
Input Current:	1.30 Amps max
Maximum Power:	96W
Current Accuracy:	± 1% Over input line variation
Load Regulation:	± 3%
THD:	≤ 20% @ full load
Leakage Current:	400 µA Typical
Hold Up Time:	Half Cycle
Output Protection:	Over-Voltage, Over-Current, and Short Circuit Protection with Auto Recovery

Environmental Specifications

Operating Temperature:	-30°C to +65°C
Maximum Case Temp.	90°C
Storage Temperature:	-40°C to +85°C
Humidity:	5% to 95%
Cooling:	Convection
Vibration Frequency:	5 to 55 Hz/2g, 30 minutes
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)

Ordering Options:

- D: 0-10V & Resistance dimmable version comes with an extra two wires +Purple/-Gray on the output side. 0-10V Dimming is compatible with most quality 0-10V wall dimmers. See page 3 for additional specifications.
- D3: 3-wire dimmable model comes with three extra wires Yellow/Purple/Gray on the output side. 3-wire dimming is compatible with potentiometer dimming.
- PD: PWM Dimmable version comes with an extra two wires +Purple/-Gray on the output side. PD PWM version is PWM Dimmable via a positive 10% to 100% Duty Cycle, 200Hz to 1KHz, 0-10V Pulse. See page 4 for additional specifications.



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 driver, 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.

Specifications subject to change without notice.



Constant Current Versions - Specifications

Model Number	Output Current (mA ±5%)	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 Versions - Specifications

Model Number	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%

Class 2: US/Canada US Only

12-05-13



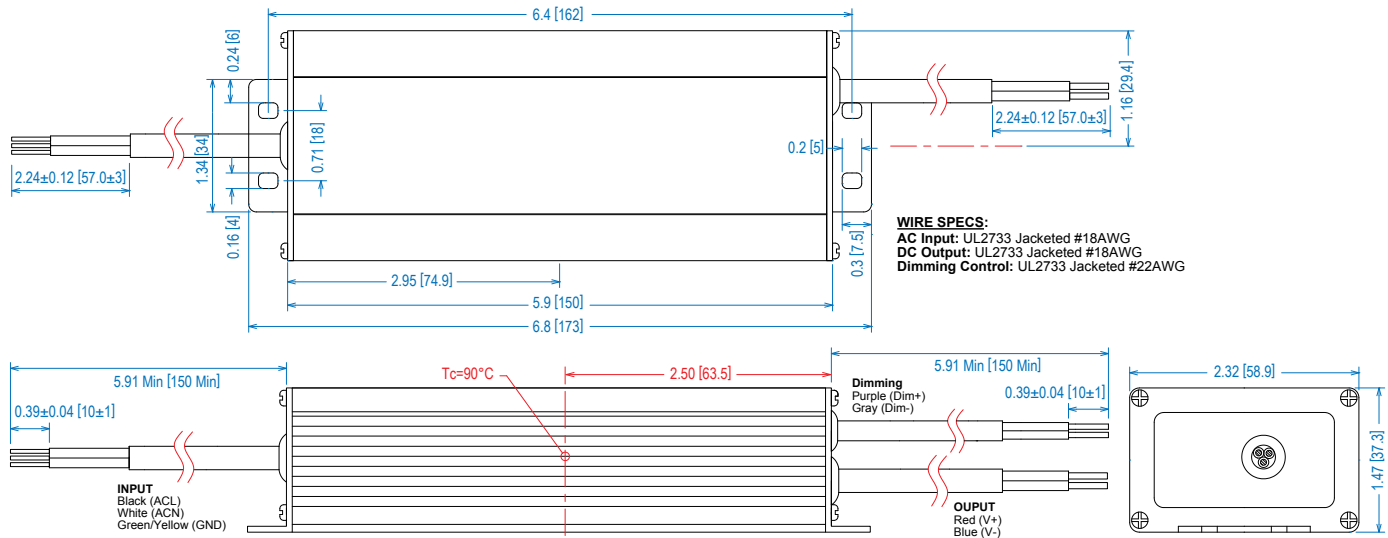
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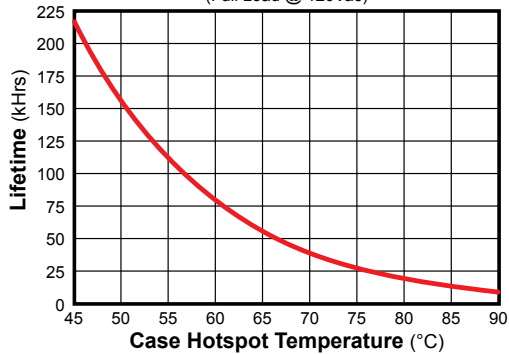
Pg 2 of 4

Dimensions - mm



Lifetime / Case Temperature

(Full Load @ 120Vac)



Safety and EMC Compliance

UL8750
CSA-C22.2
EN61347
EN61000-3-2
EN61000-3-3 Class C
FCC 47CFR Part 15 Class B compliant

UL Conditions of Acceptability

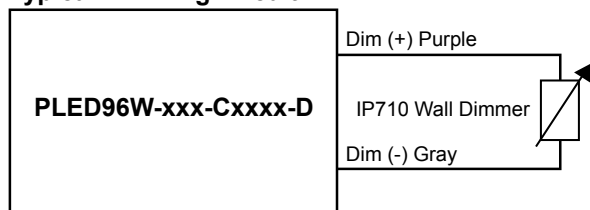
See website for additional information



"-D" and "-D3" Options: 0-10VDC and Resistance Dimming

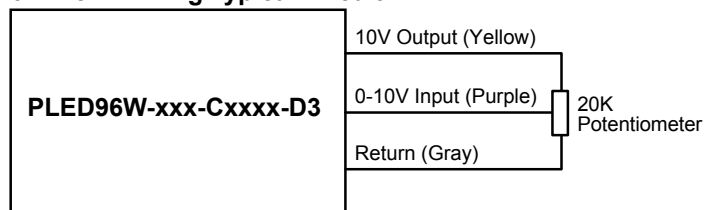
Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0mA	—	2mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0V	—	+15V

Typical Dimming Circuit

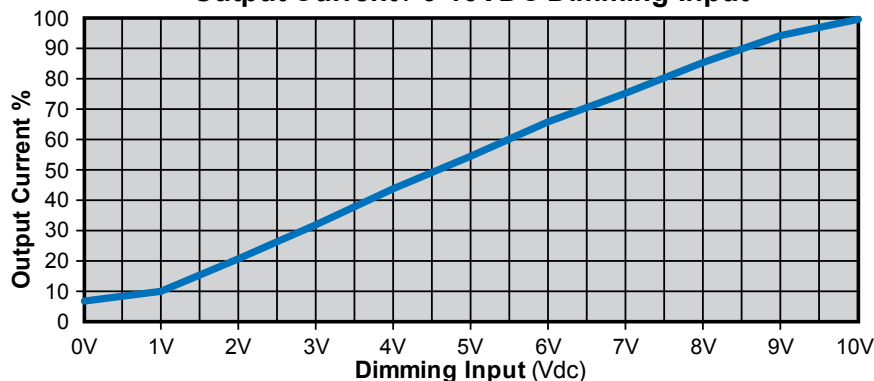


(Dimmer must be current-sink type control)

3-Wire Dimming Typical Circuit



Output Current / 0-10VDC Dimming Input



Notes:

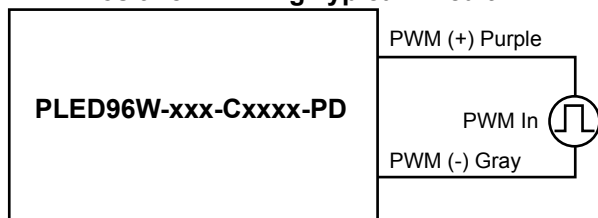
1. 0-10V dimmable version comes with an extra two wires +Purple/-Gray on the output side.
2. Compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal. Recommended dimmer is Leviton IP710 or equivalent
3. 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V
4. 0-10V dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.
5. 3-wire dimmable drivers come with three wires on the output side (Yellow/Purple/Gray).



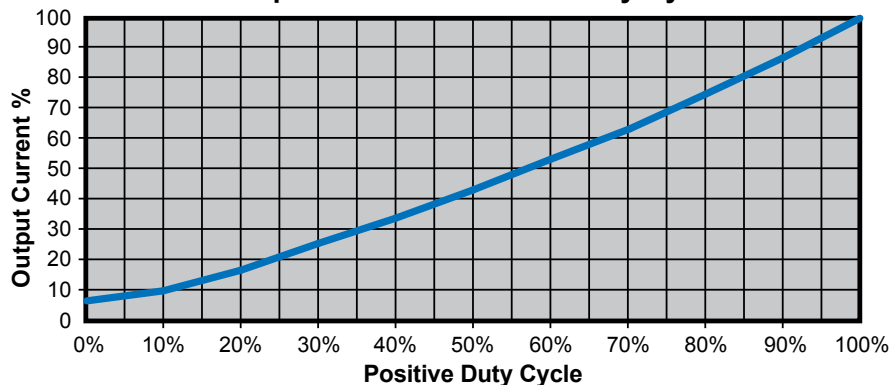
"-PD" Option: PWM Dimming

Parameters	Minimum	Typical	Maximum
Absolute Maximum Voltage Range on PWM Input (Purple Wire)	-2.0V	10V	+28V
Input LOW Level Voltage Range (Purple Wire)	-2.0	0V	+7.5V
Input HIGH Level Voltage Range (Purple Wire)	+9.0	10V	28V
Sink Current into PWM Input (Purple Wire)	0mA	—	1.2mA
PWM Input Signal Frequency	200Hz	—	1000Hz
PWM Input Signal Positive Duty Cycle	0%	10-90%	100%

PWM Positive Dimming Typical Circuit



Output Current / Positive Duty Cycle



Notes:

1. PWM Dimmable version comes with an extra 2 wires +Purple/-Gray on the output side.
2. Below 10% Duty cycle proper dimming operation is not assured. Unit is not intended to turn off at <10% Duty Cycle.
3. PWM dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.