



Thomas Research Products

SSL Solutions Faster Than The Speed Of Light™

LED-50W Series– Fixed Output and Dimmable
Switch Mode LED Drivers
Constant Current & Constant Voltage with Isolation
Black Magic Thermal Advantage™ Plastic Housing

Total Power: 50 Watts
Input Voltage: 90-305 Vac
Outputs: Single from 4 - 142 Vdc
Indoor or Outdoor Applications
High Power Factor
UL8750 and Class 2 Compliant, as noted

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: <20.0 Amps max @ 230 Vac, cold start 25°C
Input Current: 0.52 Amps max
Maximum Power: 50W
Current Accuracy: ± 1% Over input line variation
Load Regulation: ± 3%
THD: ≤ 20% @ Full Load
Leakage Current: 400 µA Typical
Hold Up Time: Half Cycle
Protection: Output Over-Voltage, Output Over-Current, and Output Short Circuit Protection with Auto Recovery

Environmental Specifications

Operating Temperature: -30°C to +60°C
Maximum Case Temp. 90°C (3330mA and 15V, 88°C)
 (4200mA and 12V, 78°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
MTBF: 474,000 Hours at full load and 40°C ambient conditions per MIL-217F Notice 2
EMC: FCC 47CFR Part 15 Class B compliant



Constant Current - Product Specifications

Model Number	Output Current (mA ±3%)	Output Voltage Range (Vdc)	Max. Output Power (W)	Typical Efficiency
LED50W-142-C0350-XX	350	47-142	50	89%
LED50W-111-C0450-XX	450	37-111	50	89%
LED50W-72-C0530-XX	530	24-72	38.1	88%
LED50W-72-C0700-XX	700	24-72	50	88%
LED50W-60-C0830-XX	830	20-60	50	88%
LED50W-48-C1050-XX	1050	16-48	50	88%
LED50W-42-C1190-XX	1190	14-42	50	87%
LED50W-40-C1250-XX	1250	13-40	50	87%
LED50W-36-C1400-XX	1400	12-36	50	87%
LED50W-29-C1750-XX	1750	9-29	50	87%
LED50W-24-C2100-XX	2100	8-24	50	87%
LED50W-20-C2500-XX	2500	7-20	50	87%
LED50W-18-C2800-XX	2800	6-18	50	86%
LED50W-15-C3330-XX	3330	5-15	50	85%
LED50W-12-C4200-XX	4200	4-12	50	84%

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

Constant Voltage - Product Specifications

Model Number	Output Voltage (Vdc ±5%)	Output Current Range (mA)	Max. Output Power (W)	Typical Efficiency
LED50W-142	142	88-350	50	89%
LED50W-111	111	113-450	50	89%
LED50W-72	72	175-700	50	88%
LED50W-60	60	208-830	50	88%
LED50W-48	48	263-1050	50	88%
LED50W-42	42	298-1190	50	87%
LED50W-40	40	313-1250	50	87%
LED50W-36	36	350-1400	50	87%
LED50W-29	29	438-1750	50	87%
LED50W-24	24	525-2100	50	87%
LED50W-20	20	625-2500	50	87%
LED50W-18	18	700-2800	50	86%
LED50W-15	15	833-3330	50	85%
LED50W-12	12	2100-4200	50	84%

Class 2: US/Canada US Only

Ordering Options:

- D: 0-10V & Resistance dimmable version comes with an extra two wires +Purple/-Gray on the output side. -D 0-10V Dimming is compatible with most quality 0-10V wall dimmers and direct 0-10V analog signal. See page 3 for additional specifications.
- 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.



Specifications subject to change without notice.

3-19-13



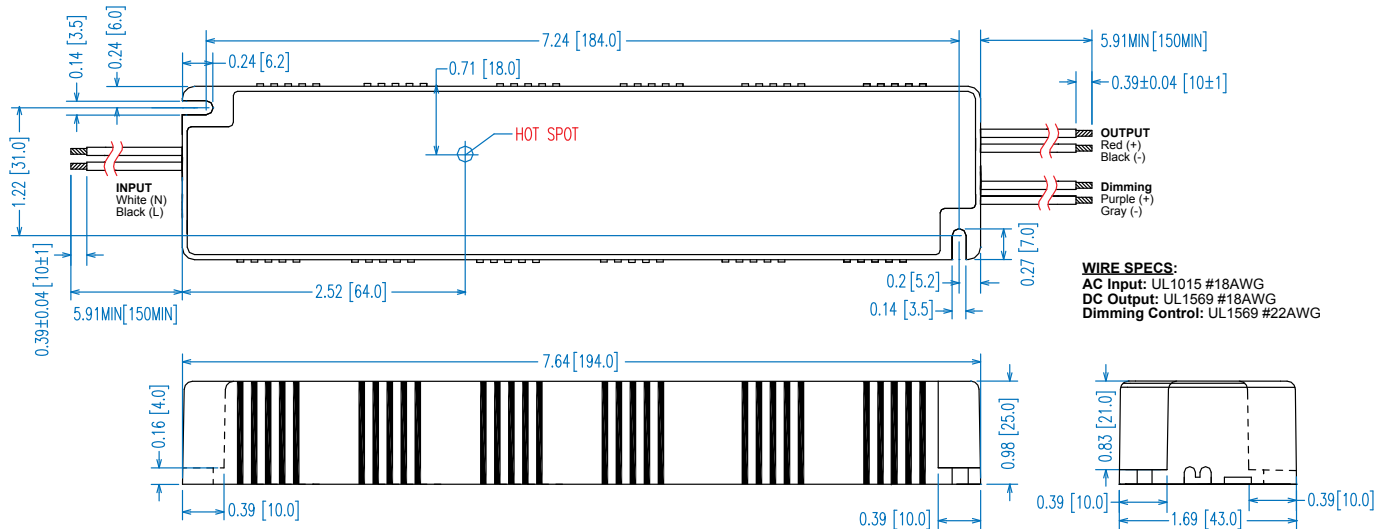
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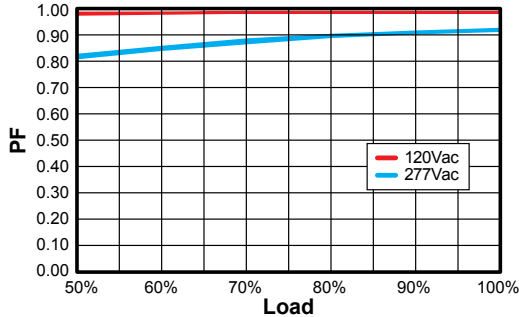
LED50W

Pg 2 of 4

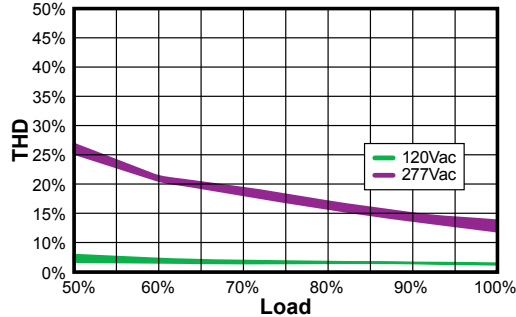
Dimensions - Inches (mm)



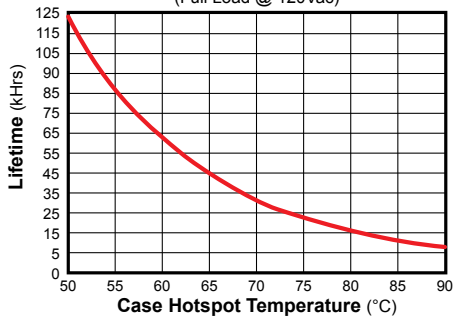
Power Factor / Load



THD / Load



Lifetime / Case Temperature
(Full Load @ 120Vac)



UL Conditions of Acceptability

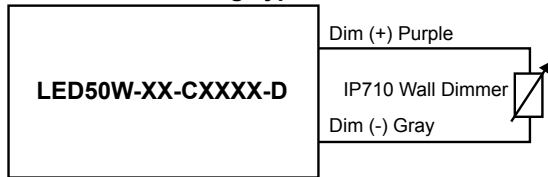
See website for additional information



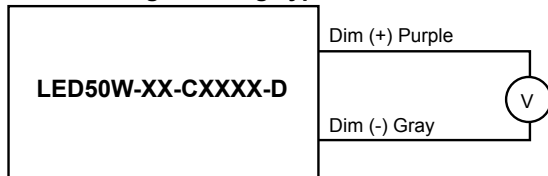
“-D” Option: 0-10VDC and Resistance Dimming

Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0 mA	—	10 mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0 V	—	+15 V
Sink Current into 0-10V Purple Wire	0 mA	—	1.2 mA

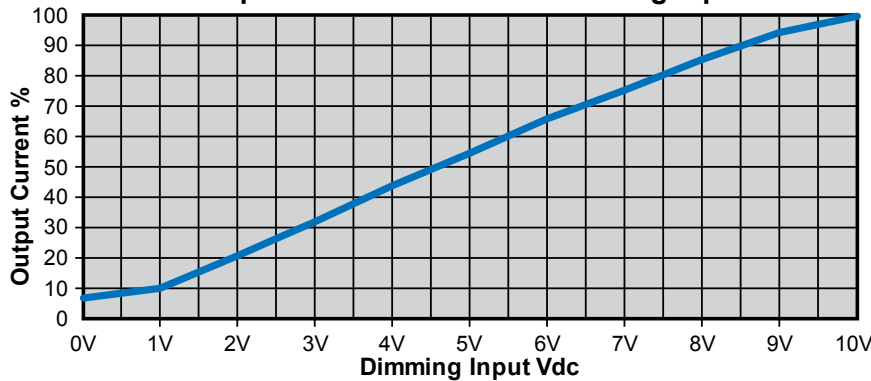
Resistance Dimming Typical Circuit



0-10V Analog Dimming Typical Circuit



Output Current / 0-10VDC Dimming Input



Notes:

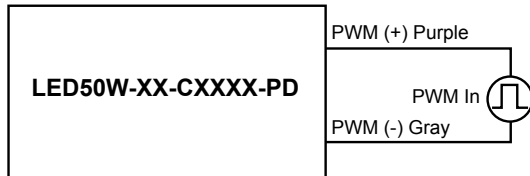
1. 0-10V dimmable version comes with an extra two wires +Purple/-Gray on the output side.
2. Compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal. Recommended dimmer is Leviton IP710 or equivalent
3. 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V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



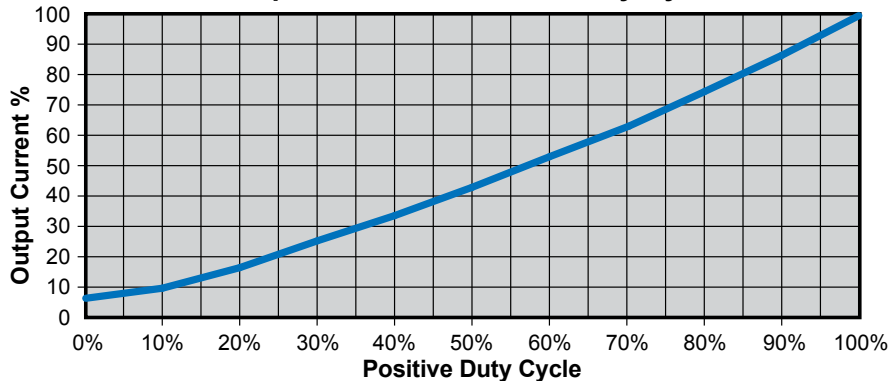
“-PD” Option: PWM Dimming

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.