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
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 25ºC**
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:	**-30ºC to +60ºC**
Maximum Case Temp.	**90°C (3330mA and 15V, 88°C) (4200mA and 12V, 78°C)**
Storage Temperature:	**-40ºC to +85ºC**
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 40ºC 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	49.7	89%
LED50W-111-C0450-XX	450	37-111	49.9	89%
LED50W-072-C0530-XX	530	24-72	38.1	88%
LED50W-072-C0700-XX	700	24-72	50	88%
LED50W-060-C0830-XX	830	20-60	49.8	88%
LED50W-048-C1050-XX	1050	16-48	50	88%
LED50W-042-C1190-XX	1190	14-42	50	87%
LED50W-040-C1250-XX	1250	13-40	50	87%
LED50W-036-C1400-XX	1400	12-36	50	87%
LED50W-029-C1750-XX	1750	9-29	50	87%
LED50W-024-C2100-XX	2100	8-24	50	87%
LED50W-020-C2500-XX	2500	7-20	50	87%
LED50W-018-C2800-XX	2800	6-18	50	86%
LED50W-015-C3330-XX	3330	5-15	49.9	85%
LED50W-012-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-012	12	1050-4200	50	84%
LED50W-015	15	833-3330	49.9	85%
LED50W-018	18	700-2800	50	86%
LED50W-020	20	625-2500	50	87%
LED50W-024	24	525-2100	50	87%
LED50W-029	29	438-1750	50	87%
LED50W-036	36	350-1400	50	87%
LED50W-040	40	313-1250	50	87%
LED50W-042	42	298-1190	50	87%
LED50W-048	48	263-1050	50	88%
LED50W-060	60	208-830	49.8	88%
LED50W-072	72	175-700	50	88%
LED50W-111	111	113-450	49.9	89%
LED50W-142	142	88-350	49.7	89%

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. 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.

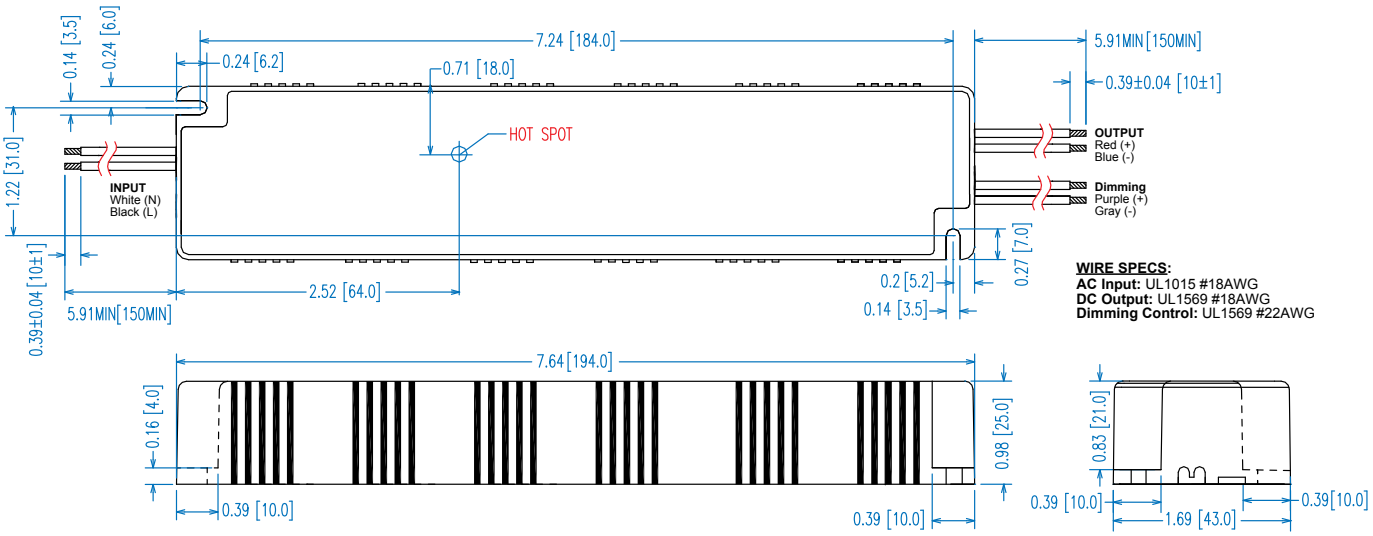
c UL us E332160 CE FC RoHS IP66

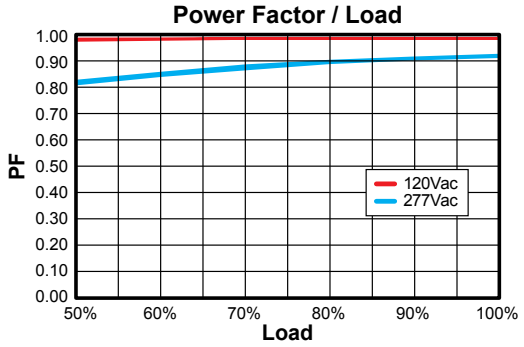
Note:
LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED driver, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.

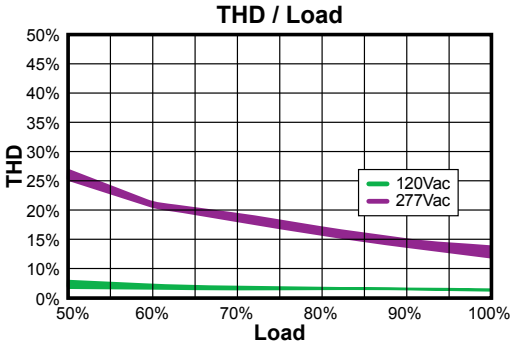
Specifications subject to change without notice.

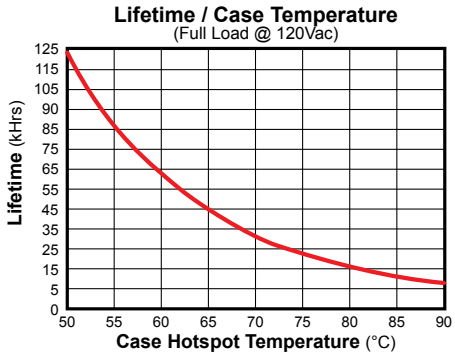
11-25-13

Dimensions - Inches (mm)









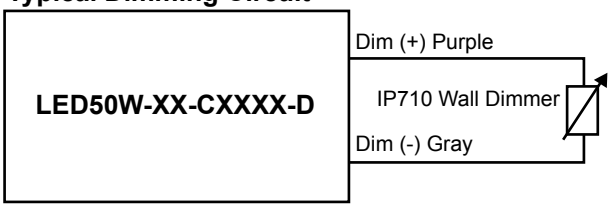
UL Conditions of Acceptability

See website for additional information

"-D" Option: 0-10VDC and Resistance Dimming

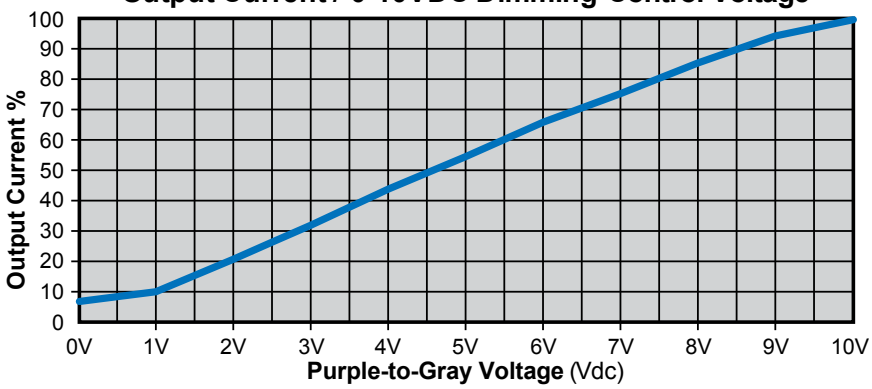
Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0 mA	—	2 mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0 V	—	+15 V

Typical Dimming Circuit



(Dimmer must be current-sink type control)

Output Current / 0-10VDC Dimming Control Voltage



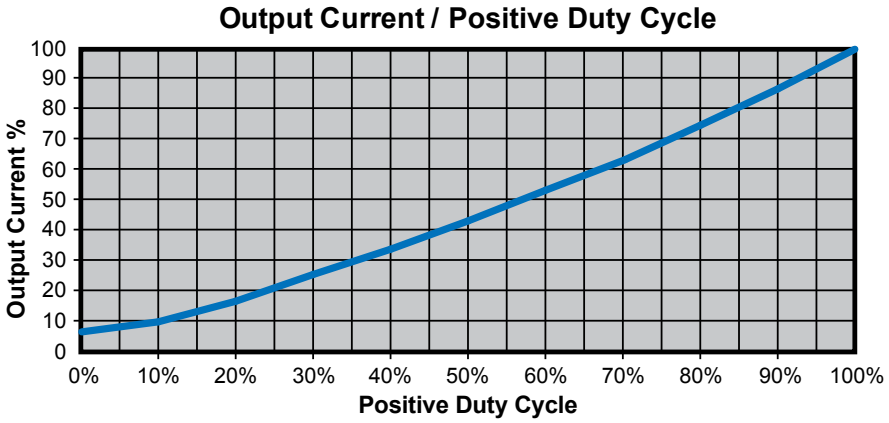
Notes:

1. 0-10V dimmable version comes with an extra two wires +Purple/-Gray on the output side.
2. Compatible with most 0-10V dimmers. 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



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.