



# Thomas Research Products

SSL Solutions Faster Than The Speed Of Light™

**LED-60W Series– Fixed Output and Dimmable  
Switch Mode LED Drivers  
Constant Current & Constant Voltage with Isolation  
Black Magic Thermal Advantage™ Aluminum Housing**

**Total Power: 60 Watts  
Input Voltage: 100 - 277 Vac Nom.  
Outputs: Single from 4 - 170 Vdc  
Indoor or Outdoor Applications, IP66  
High Power Factor  
UL8750, EN61347, CSA 22.2  
EN61000-3-2, EN61000-3-3 Class C**

## 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:** 0.90 Amps max  
**Maximum Power:** 60W  
**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 reset by power cycling

## 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  
**MTBF:** 418,000 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
LED60W-170-C0350-XX	350	56-170	60	92%
LED60W-134-C0450-XX	450	44-134	60	92%
LED60W-086-C0700-XX	700	28-86	60	92%
LED60W-058-C1050-XX	1050	19-58	60	91%
LED60W-048-C1250-XX	1250	16-48	60	91%
LED60W-043-C1400-XX	1400	14-43	60	91%
LED60W-036-C1670-XX	1670	12-36	60	91%
LED60W-027-C2300-XX	2300	9-27	60	90%
LED60W-024-C2500-XX	2500	8-24	60	90%
LED60W-022-C2720-XX	2720	7-22	60	89%
LED60W-020-C3000-XX	3000	7-20	60	89%
LED60W-018-C3330-XX	3330	6-18	60	88%
LED60W-015-C4000-XX	4000	5-15	60	87%
LED60W-012-C5000-XX	5000	4-12	60	87%

-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
LED60W-170	170	88-350	60	92%
LED60W-134	134	113-450	60	92%
LED60W-086	86	175-700	60	92%
LED60W-058	58	263-1050	60	91%
LED60W-048	48	313-1250	60	91%
LED60W-043	43	350-1400	60	91%
LED60W-036	36	418-1670	60	91%
LED60W-027	27	575-2300	60	90%
LED60W-024	24	625-2500	60	90%
LED60W-022	22	680-2720	60	89%
LED60W-020	20	750-3000	60	89%
LED60W-018	18	833-3300	60	88%
LED60W-015	15	1000-4000	60	87%
LED60W-012	12	1250-5000	60	87%

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.

3-28-13



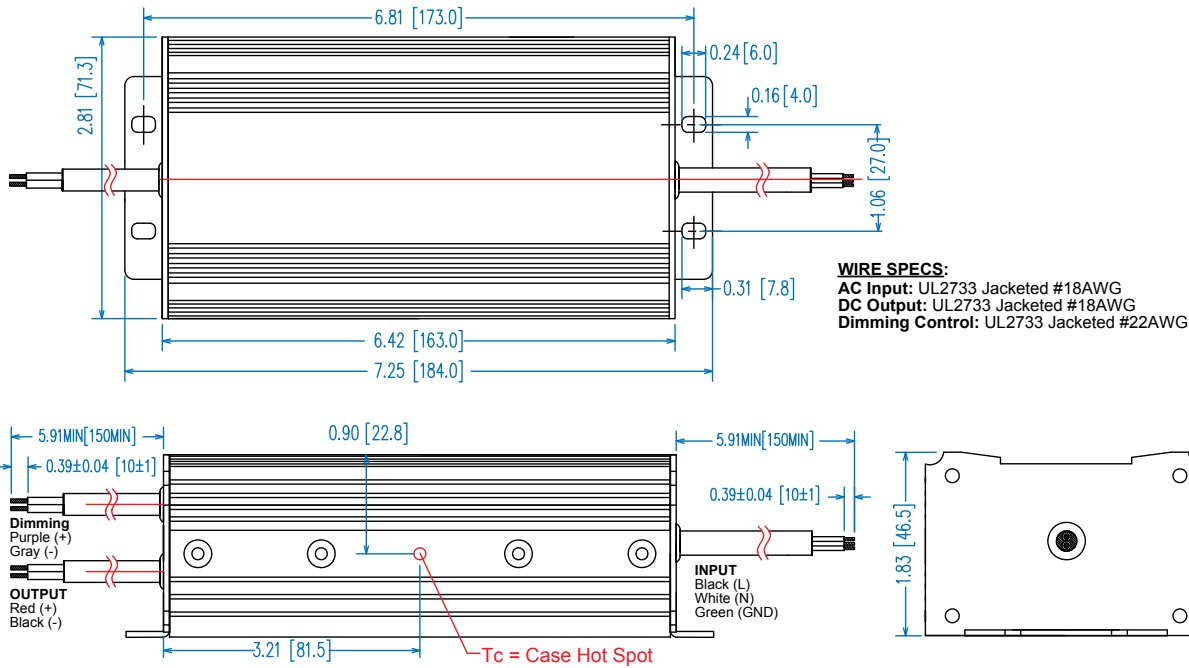
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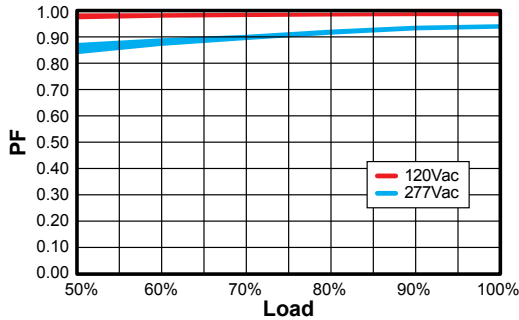
LED60W

Pg 2 of 4

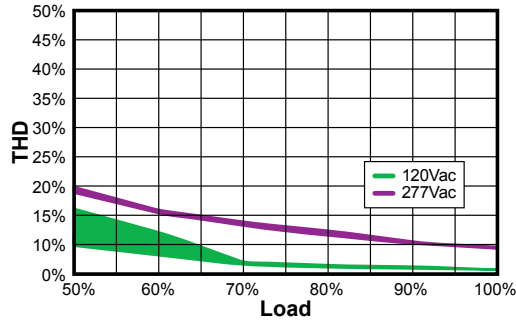
## Dimensions - mm



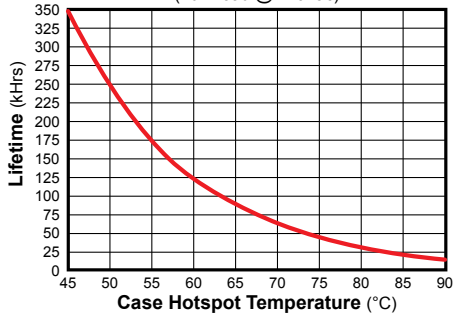
Power Factor / Load



THD / Load



Lifetime / Case Temperature  
 (Full Load @ 120Vac)



## UL Conditions of Acceptability

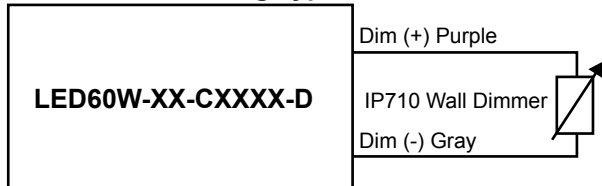
See website for additional information



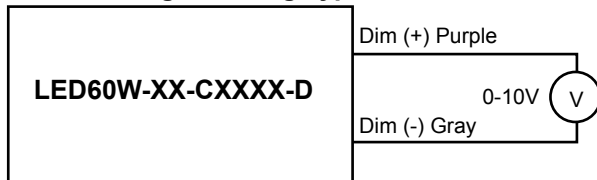
## “-D” Option: 0-10VDC and Resistance Dimming

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

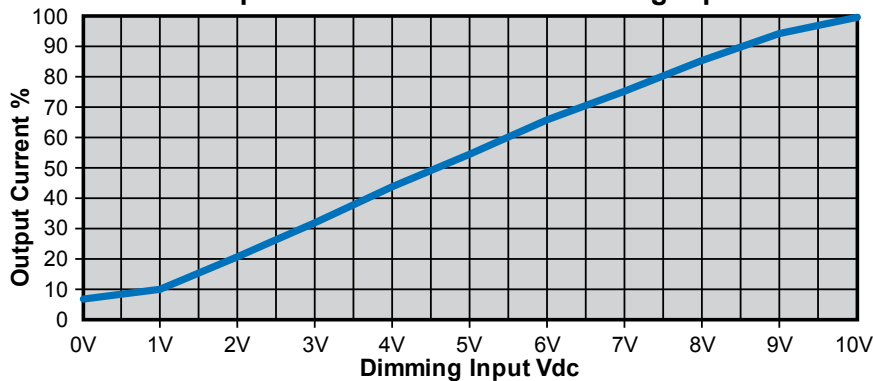
### Resistance Dimming Typical Circuit



### 0-10V Analog Dimming Typical Circuit



### Output Current / 0-10VDC Dimming Input



### Notes:

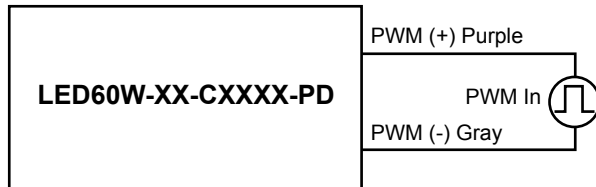
1. 0-10V dimmable version comes with an extra two wires +Purple/-Gray on the output side.
2. Compatible with most 0-10V Wall Slide dimmers and direct 0-10V analog signal. Recommended dimmer is Leviton IP710 or equivalent
3. 0-10V dimmable version is not intended to dim below about 5% @ 0V or 10% @ 1.0V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



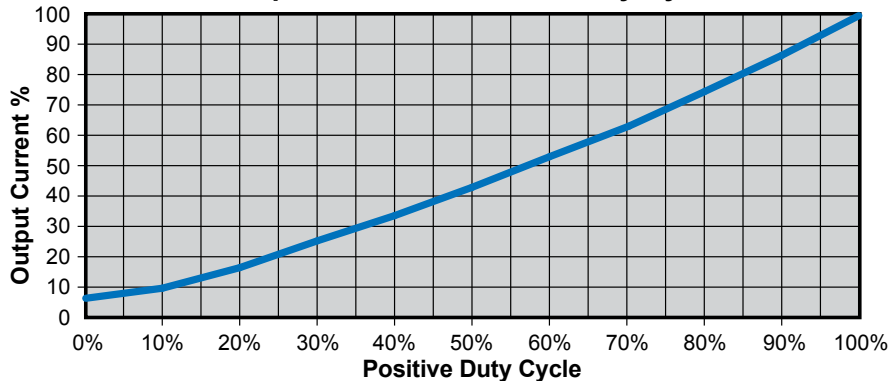
## “-PD” Option: PWM Dimming

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.