



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

## 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 @ 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

Minimum Starting Temp:	-30°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
Sound Rating:	Class A
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

### 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.



- Total Power: 60 Watts
- Input Voltage: 100-277 Vac Nom.
- UL Dry & Damp Location Rated
- IP66
- High Power Factor
- UL8750, CSA 22.2, EN61347, EN61000-3-2, EN61000-3-3 Class C
- UL Sign Components Manual (S.A.M. Models)

### 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	59.5	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	59.8	89%
LED60W-020-C3000-XX	3000	7-20	60	89%
LED60W-018-C3330-XX	3330	6-18	59.9	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-015	15	1000-4000	60	87%
LED60W-018	18	833-3300	59.9	88%
LED60W-020	20	750-3000	60	89%
LED60W-022	22	680-2720	59.8	89%
LED60W-027	27	575-2300	60	90%
LED60W-036	36	418-1670	60	91%
LED60W-043	43	350-1400	60	91%
LED60W-048	48	313-1250	60	91%
LED60W-058	58	263-1050	60	91%
LED60W-086	86	175-700	60	92%
LED60W-134	134	113-450	60	92%
LED60W-170	170	88-350	59.5	92%
LED60W-012	12	1250-5000	60	87%
LED60W-024	24	625-2500	60	90%

• Indicates S.A.M.



### Note:

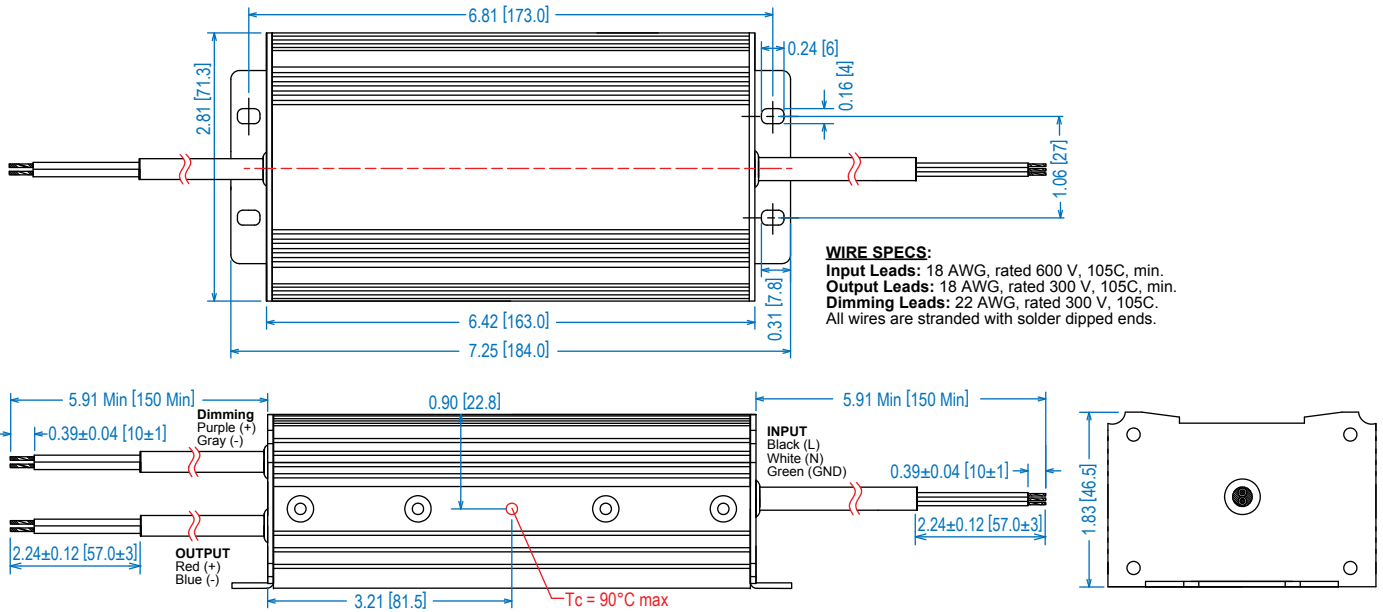
LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED drivers, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.

Specifications subject to change without notice.

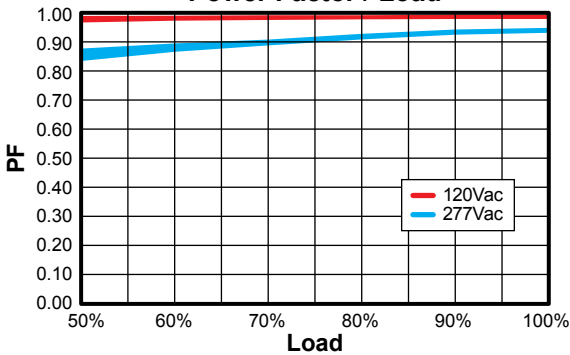
Class 2: US/Canada US Only

Rev 8-25-15

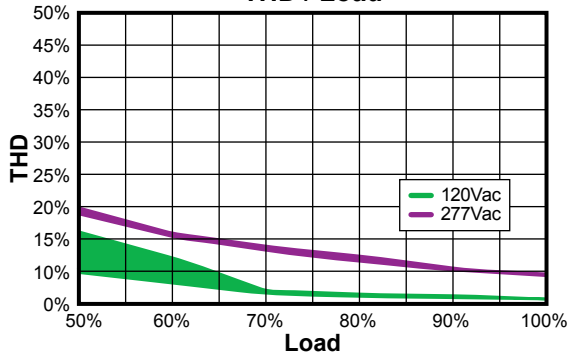
## Dimensions - IN [mm]



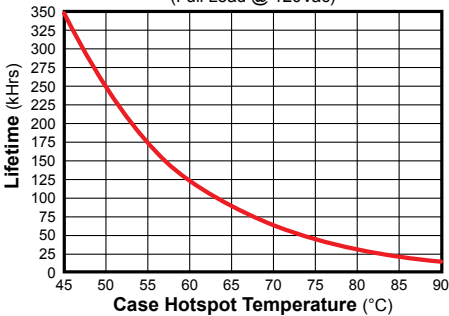
### Power Factor / Load



### THD / Load



### Lifetime / Case Temperature (Full Load @ 120Vac)



**Note:**  
 Life calculations are based on reliability with confidence using a 90% confidence level and <5% failure rate. At a confidence level of 90% it is expected that <5% of the parts will fail at the rated life provided. (Failure is defined as a driver drifting outside specification, rather than fail to operate)

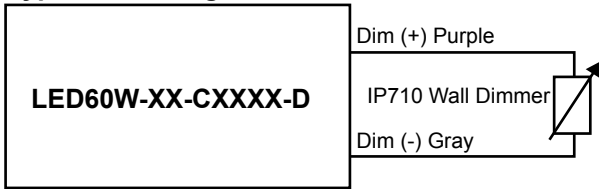
## UL Conditions of Acceptability

See website for additional information

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

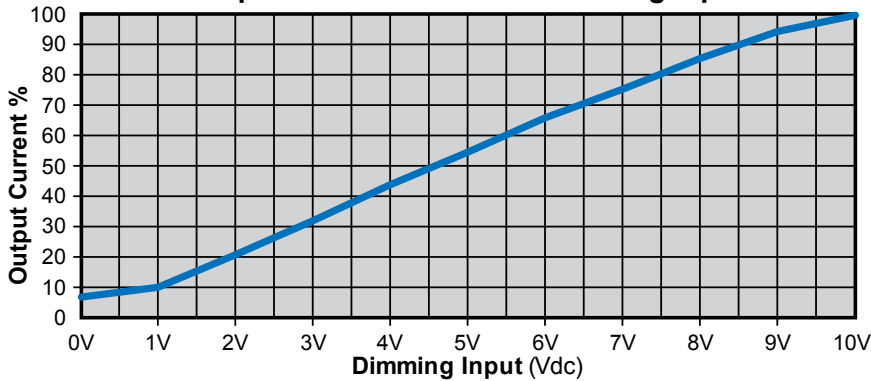
Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0 mA	—	2 mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0 V	—	+15 V

**Typical Dimming Circuit**



(Dimmer must be current-sink type control)

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



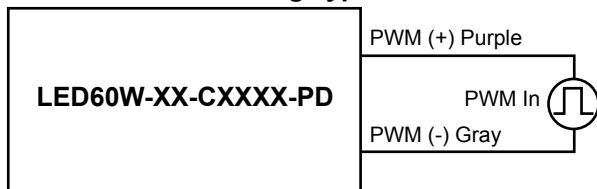
**Notes:**

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.

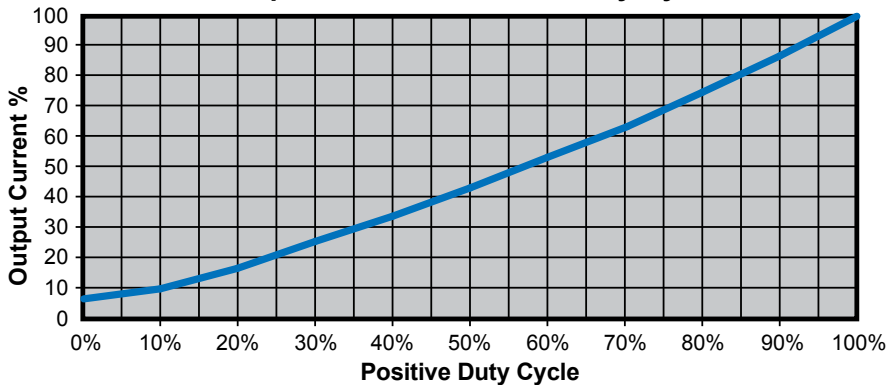
**“-PD” Option: PWM Dimming**

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.