



## LED-20W Series

Switch Mode LED Drivers with Isolation,  
Constant Current, Dimming & Constant Voltage

### 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:	<15.0 Amps max @ 230 Vac, cold start 25°C
Input Current:	0.25 Amps max at 120 Vac
Efficiency:	85% typical at max load
Maximum Power:	20W
Line Regulation:	± 3%
Load Regulation:	± 4%
THD:	≤ 20% @ ≥ 70% load 100-230V, ≥ 80% load 277V
Leakage Current:	300 µA Typical
Hold Up Time:	Half Cycle
Output Protection:	Over-Voltage, Over-Current, and Short Circuit Protection with Auto Recovery

### Environmental Specifications

Minimum Starting Temp:	-30°C
Storage Temperature:	-40°C to +85°C
Maximum Case Temp.	90°C
Humidity:	5% to 95%
Cooling:	Convection
Sound Rating:	Class A
Vibration Frequency:	5 to 55 Hz/2g, 30 minutes
MTBF:	488,000 Hours at full load and 40°C ambient conditions per MIL-217F Notice 2
Weight:	5.8 oz (165 grams) typical



- Total Power: 20 Watts
- Input Voltage: 100-277 Vac Nom.
- UL Dry & Damp Location Rated
- IP66 & NEMA4
- High Power Factor
- UL Sign Components Manual (S.A.M. Models) Models

### Constant Current - Product Specifications

Model Number	Output Current (mA ±4%)	Output Voltage Range (Vdc)	Max. Output Power (W)	Typical Efficiency
LED20W-57-C0350-XX	350	19-57	20	84%
LED20W-48-C0350-XX	350	16-48	16.8	83%
LED20W-43-C0460-XX	460	15-43	20	83%
LED20W-40-C0500-XX	500	14-40	20	82%
LED20W-36-C0550-XX	550	12-36	20	82%
LED20W-28-C0700-XX	700	10-28	20	81%
LED20W-24-C0700-XX	700	8-24	16.8	81%
LED20W-24-C0830-XX	830	8-24	20	81%
LED20W-22-C0910-XX	910	7-22	20	81%
LED20W-18-C1100-XX	1100	6-18	20	80%
LED20W-15-C1330-XX	1330	5-15	20	80%
LED20W-13-C1540-XX	1540	4-13	20	79%
LED20W-12-C1660-XX	1660	4-12	20	78%

-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
LED20W-12 •	12	415-1660	20	82%
LED20W-13	13	385-1540	20	82%
LED20W-15	15	333-1330	20	83%
LED20W-18	18	275-1100	20	83%
LED20W-22	22	228-910	20	84%
LED20W-24 •	24	208-830	20	84%
LED20W-28	28	175-700	20	84%
LED20W-36	36	138-550	20	85%
LED20W-40	40	125-500	20	85%
LED20W-43	43	115-460	20	85%
LED20W-48	48	88-350	16.8	85%
LED20W-57	57	88-350	20	85%

• Indicates S.A.M.

### 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.



### Note:

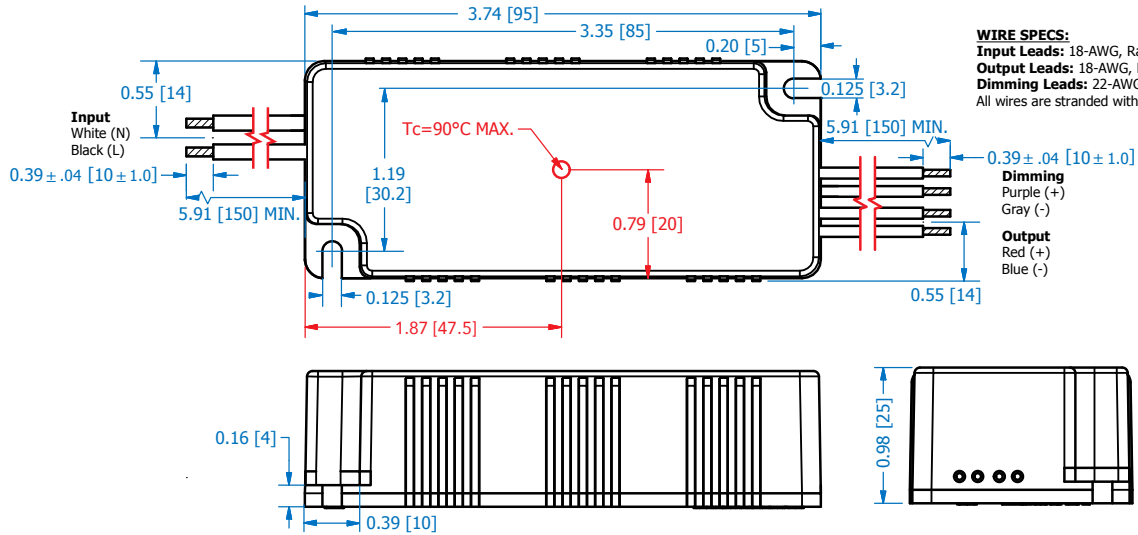
LED drivers are designed and intended to operate LED loads only. Non-LED loading may be outside the specified design limits of our LED drivers, and therefore cannot be covered by any warranty. If you desire to use our LED drivers to operate non-LED loads please contact us to discuss compatibility.

Specifications subject to change without notice.

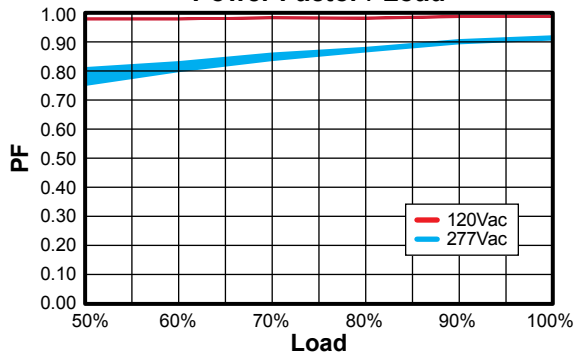
Class 2: US/Canada

Rev 6-3-16

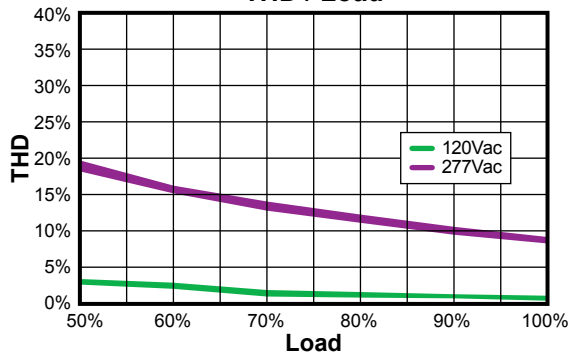
## Dimensions - IN [mm]



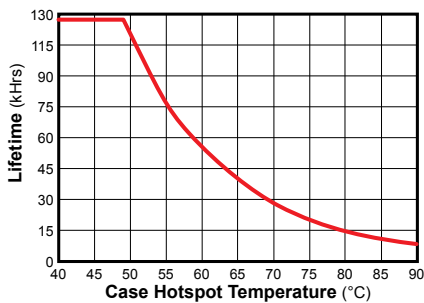
**Power Factor / Load**



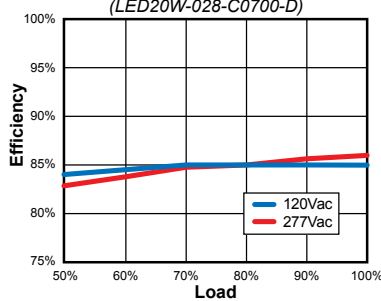
**THD / Load**



**Lifetime / Case Temperature**



**Typical Efficiency / Load**



**Safety and EMC Compliance**

UL/CUL	UL8750, CSA-C22.2
C E	EN61347
FCC, 47CFR Part 15	Class B
EN61000-3-2	
EN61000-3-3	Class C

**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)

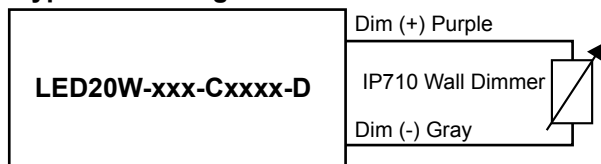
## UL Conditions of Acceptability

See website for additional information

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

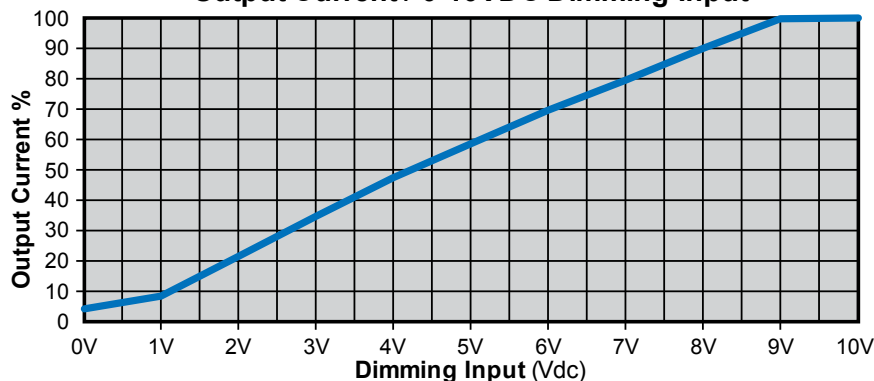
Parameters	Minimum	Typical	Maximum
Source Current out of 0-10V Purple Wire	0mA	—	2mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0 V	—	+15 V
Sink Current into 0-10V Purple Wire	0mA	—	1.2mA

### Typical Dimming Circuit



(Dimmer must be current-sink type control)

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



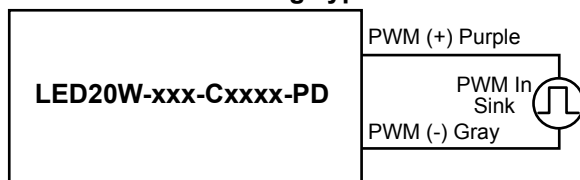
### Notes:

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 output will be  $\leq 10\%$  @ 0-1.0V
4. 0-10V dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.

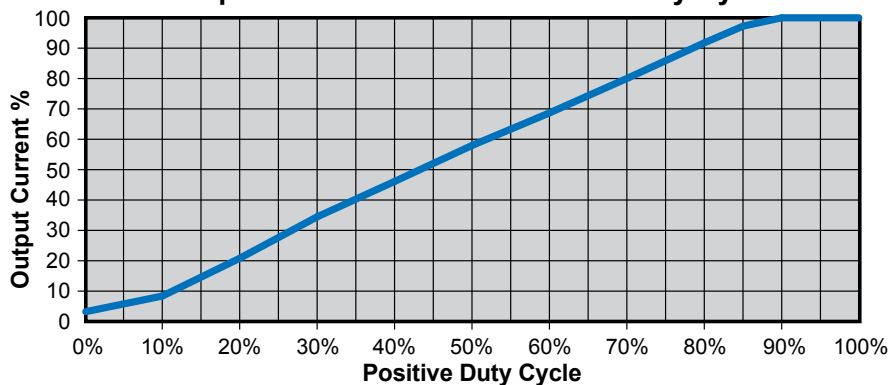
## “-PD” Option: PWM Dimming

Parameters	Minimum	Typical	Maximum
Absolute Maximum Voltage Range on PWM Input (Purple Wire)	-2.0 V	10 V	+15 V
Input LOW Level Voltage Range (Purple Wire)	-2.0 V	0 V	+5.5 V
Input HIGH Level Voltage Range (Purple Wire)	+9.0 V	10 V	+15 V
Current into PWM Input (Purple Wire)	0 mA	—	1.2 mA
Source Current out of PWM Input (Purple Wire)	0 mA	—	2 mA
PWM Input Signal Frequency	500 Hz	—	1500 Hz
PWM Input Signal Positive Duty Cycle	0%	10-90%	100%

### PWM Positive Dimming Typical Circuit



### Output Current / 1.0kHz 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 dim below 5% at 0% Duty Cycle.
3. PWM dimmable version output will be 100% with Purple/Gray open and minimum with Purple/Gray Shorted.