Thomas Research Products

PLED200W Series

Fixed Output & Dimmable Flicker-Free LED Drivers

Rev 09-24-2021

selectSYNC classic

E332160

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 @ > 70% load, 120-277V
Inrush Current:	<60.0 Amps max @ 277Vac, cold start, full load
Input Current:	0.96 Amps max @ 230Vac, 1.82 A max @ 120Vac
Maximum Power:	200W
Current Accuracy:	± 3% Over input line variation
Load Regulation:	± 4%
THD:	≤ 20% @ > 70% load, 120-277V
Ripple & Noise: (Vpk-pk)	5% Vo max @ 20 MHz BW, Full load output in parallel with 0.1 µF ceramic & 10 µF Electrolytic
Ripple: (Ipk-pk)	5% Io max @ 20 MHz BW, Full load output in parallel with 0.1 µF ceramic & 10 µFElectrolytic. 120 Hz component (Flicker Free)
Start-up Time:	150mS typical @ Full Load, 120Vac/60Hz (1000mS max)
Leakage Current:	0.68 mA max @ 120Vac, 0.75 mA max @ 277Vac
Hold Up Time:	30mS typical @ Full Load, 277Vac

Protections

Over-voltage	Output
Over-current	Output
Short Circuit	Auto Recovery

Environmental Specifications

Max Case Life Temp: *(5 year warranty)*	75˚C
Maximum Case Temp (UL):	-30ºC
Maximum Case Temp.	90°C
UL Type TL Rating:	Non-Class 2: 90/84°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:	280,000 Hours at full load and 40ºC ambient conditions per MIL-217F Notice 2
EMC:	FCC 47CFR Part 15 Class B compliant
Impact Resistance:	1g/s
Weight:	33.2 oz (940 grams)

Dimming Option:

"-D" 0-10V & Resistance dimmable models include an extra two wires +Purple/-Pink on the output side. "-D" Compatible with most quality 0-10V wall dimmers. See page 3.

"-D3" 3-wire dimmable model dims 100% to 10%. Three extra wires included on the output side: Yellow/Purple/Pink. This model is suitable for potentiometer dimming. See page 3.

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.

Constant Current Models

Model	Output Current *(mA ±5%)*	Output Voltage Range *(Vdc)*	Max Output Power *(W)*	Typical Efficiency
PLED200W-445-C0450-XX	450	149-445	200W	92%
PLED200W-285-C0700-XX	700	95-285	200W	92%
PLED200W-190-C1050-XX	1050	64-190	200W	91%
PLED200W-142-C1400-XX	1400	48-142	200W	91%
PLED200W-114-C1750-XX	1750	38-114	200W	91%
PLED200W-095-C2100-XX	2100	32-95	200W	91%
PLED200W-081-C2450-XX	2450	27-81	200W	90%
PLED200W-071-C2800-XX	2800	24-71	200W	90%
PLED200W-063-C3150-XX	3150	21-63	200W	90%
PLED200W-057-C3500-XX	3500	19-57	200W	90%
PLED200W-047-C4200-XX	4200	16-47	200W	89%
PLED200W-040-C4900-XX	4900	14-40	200W	89%
PLED200W-035-C5600-XX	5600	12-35	200W	89%
PLED200W-032-C6300-XX	6300	11-32	200W	88%
PLED200W-024-C8330-XX	8330	8-24	200W	88%

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

Constant Voltage Models

Model	Output Voltage *(Vdc ±5%)*	Output Current Range *(mA)*	Max Output Power *(W)*	Typical Efficiency
PLED200W-024 •	24	2083-8330	200W	88%
PLED200W-032	32	1575-6300	200W	88%
PLED200W-035	35	1400-5600	200W	89%
PLED200W-040	40	1225-4900	200W	89%
PLED200W-047	47	1050-4200	200W	89%
PLED200W-057	57	875-3500	200W	90%
PLED200W-063	63	788-3150	200W	90%
PLED200W-071	71	700-2800	200W	90%
PLED200W-081	81	613-2450	200W	90%
PLED200W-095	95	525-2100	200W	91%
PLED200W-114	114	438-1750	200W	91%
PLED200W-142	142	350-1400	200W	91%
PLED200W-190	190	163-1050	200W	91%
PLED200W-285	285	175-700	200W	92%
PLED200W-445	445	113-450	200W	92%

• Indicates S.A.M.

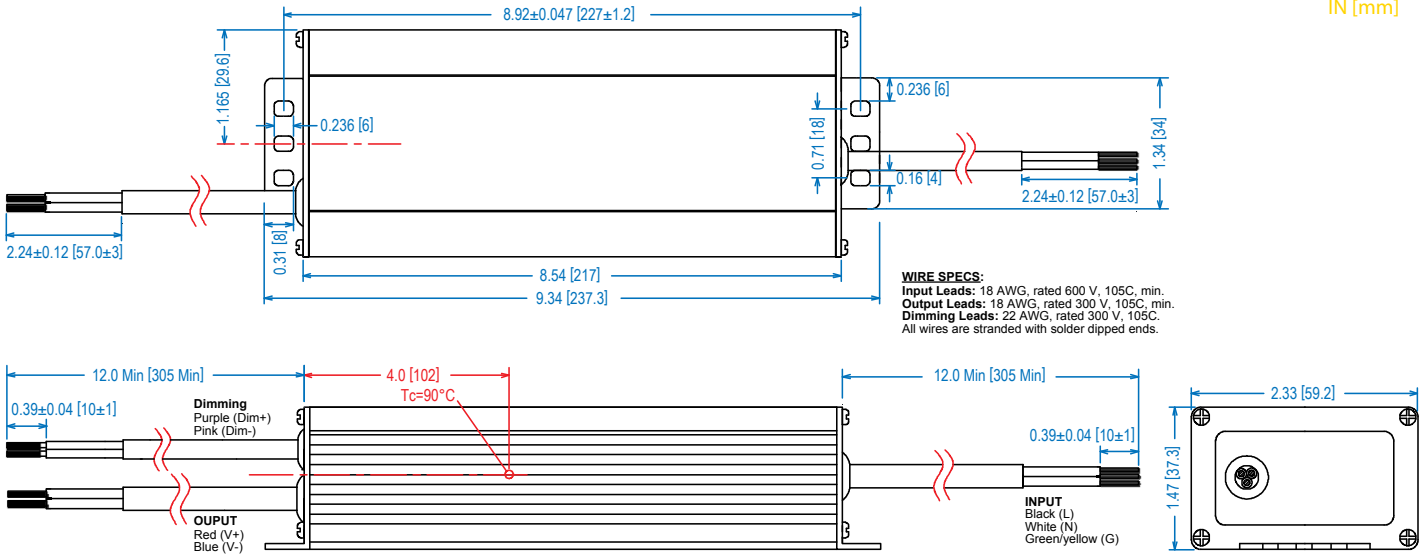
- Total Power: 200 Watts
- Constant Current & Constant Voltage with Isolation
- Input Voltage: 100-277 Vac Nom.
- UL Dry & Damp Location Rated
- IP66 & NEMA6
- UL Type TL
- UL Type HL Rated for Hazardous Locations
- UL Sign Components Manual (S.A.M. Models)
- Black Magic Thermal Advantage™ Aluminum Housing

PLED200W Series

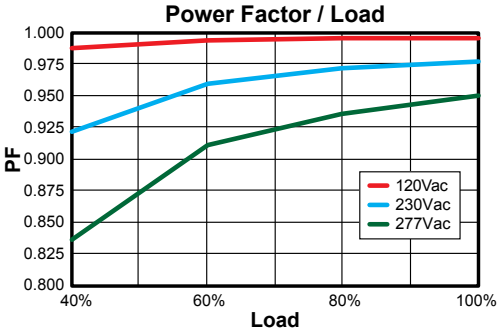
Fixed Output & Dimmable Flicker-Free LED Drivers

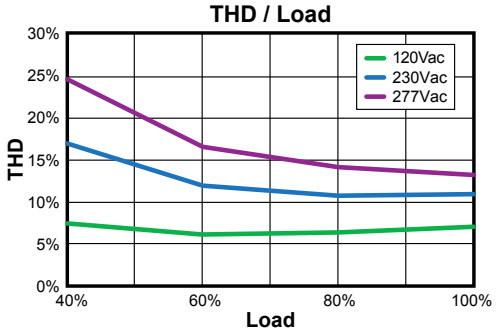
Dimensions

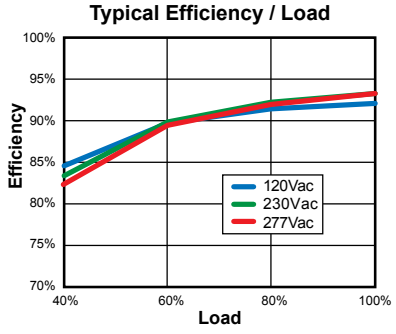
IN [mm]

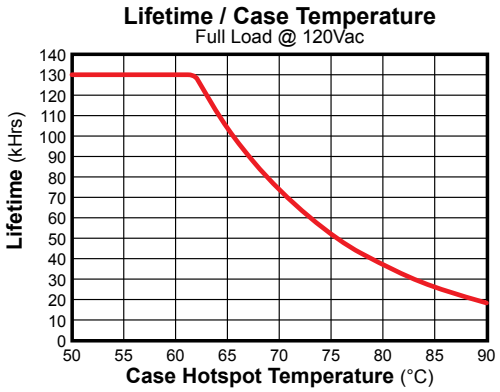


Power Characteristics









Safety Cert.	Standard
UL/CUL	UL8750 & CAN/CSA-22.2 No. 250.13-12, UL1012/CSA-C22.2 No.107.1
CE	EN 61347-1, EN61347-2-13
EMC Standard	**Notes**
FCC, 47CFR Part 15	Class B
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.
EN 61000-3-2	Part 3-2: Limits for harmonic current emissions Class C, >80% Rated Power
EN 61000-3-3	Part 3-3: Limitation of voltage changes, voltage fluctuations and flicker.
EN 61000-4-5	Part 4-5: Surge Immunity test, 2 kV L-N, 4 kV L-G & N-G

UL Conditions of Acceptability

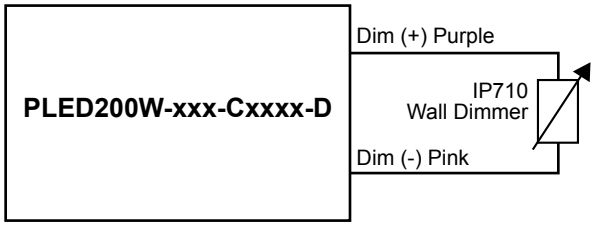
See website for additional information

Note: *The area under the life-temperature curve represents where the driver has highly reliable operation within specification. Driver performance may drift out of published specifications as the hours of operation exceed the curve at a given temperature. Higher operating temperatures increase the chances of a failure to function. Other electrical, mechanical and environmental factors affect driver lifetime but are not represented in this calculation.*

"-D" and "-D3" Options: 0-10VDC and Resistance Dimming

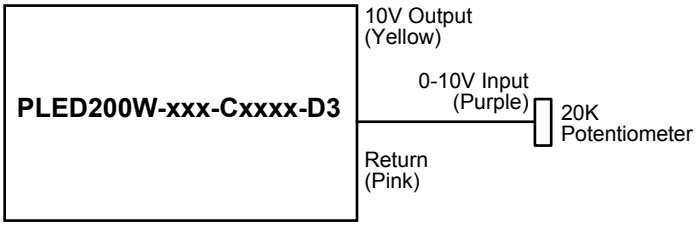
Parameters	Minimum	Typical	Maximum
10V Output, Yellow Wire	9.2V	10.0V	10.8V
Source Current out of Aux Yellow Wire	—-	—-	10mA
Absolute Voltage Range on 0-10V (+) Purple Wire	-2.0V	—	+15V
Source Current out of 0-10V Purple Wire	0mA	—	2mA

Typical Dimming Circuit

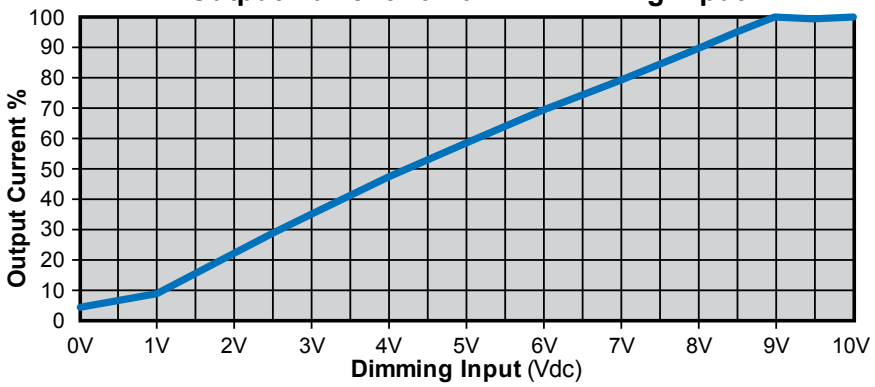


(Dimmer must be current-sink type control)

3-Wire Dimming Typical Circuit



Output Current / 0-10VDC Dimming Input



Notes:

1. 0-10V dimmable version comes with an extra two wires +Purple/-Pink 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 to zero (off). Will be Iout <10% @ Vdim <1.0V
4. 0-10V dimmable version output will be 100% with Purple/Pink open and minimum with Purple/Pink Shorted.
5. For units manufactured after Date of January 1st 2022, the Dim(-) wire will be gray, not pink.