



Thomas Research Products

SSL Solutions Faster Than The Speed Of Light®

VLED-50W Series Dimmable LED Drivers Constant Current Aluminum Housing

Total Power: 52 Watts
Input Voltage: 100-277 Vac, 50/60 Hz
Outputs: Single from 13-149 Vdc
High Efficiency
Damp & Wet Location Rated, IP67
High Power Factor
Input/Output Protection & Lightning Protection
UL8750 and EN61347 Certified

Electrical Specifications

Input Voltage Range: 100 - 277 Nom. Vac (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: 60 A @ 220Vac
Input Current: 0.80 A @ 100 Vac, 0.40 A @ 220 Vac
Maximum Power: 50W
Line Regulation: ± 1%
Load Regulation: ± 3%
Leakage Current: 0.75 mA max @ 277Vac 60Hz
THD: ≤ 20% @ 100-277Vac, 75-100% load
Turn-on Delay: 0.6S @ 110Vac, 0.3S @ 220Vac Typical
Protection: Over-Voltage, Over-Temperature (Hiccup Mode), Over-Load, Short Circuit Protection with Self-Recovery

Environmental Specifications

Operating Temperature: -40°C to +70°C
Maximum Case Temp. 90°C
Storage Temperature: -40°C to +85°C
Humidity: 10% to 100%
Cooling: Convection
MTBF: 321,000 Hours @ 25°C, 80% load, 120Vac input (MIL-HDBK-217F)
Lifetime: 93,300 Hours @ 60°C case temperature, 80% load, 120Vac input
Weight: 480 g



Constant Current - Product Specifications

Model Number	Output Current (mA ±5%)	Output Voltage Range (Vdc)	Max. Output Power (W)	Typical Efficiency
VLED50W-149-C0350-XX	350	75-149	52	90%
VLED50W-116-C0450-XX	450	58-116	52	89%
VLED50W-075-C0700-XX	700	38-75	52	89%
VLED50W-050-C1050-XX	1050	25-50	52	88%
VLED50W-037-C1400-XX	1400	19-37	52	87%
VLED50W-025-C2100-XX	2100	13-25	52	86%

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

Class 2: US/Canada US Only

Ordering Options:

-D: 0-10V dimmable version comes with an extra three wires +Purple/-Gray/Yellow on the output side. 0-10V Dimming is compatible with most quality 0-10V wall dimmers and direct 0-10V analog signal. See page 2 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 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.

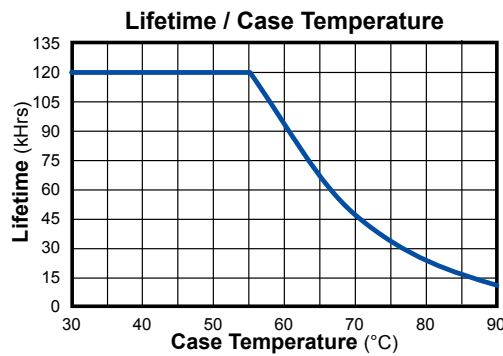
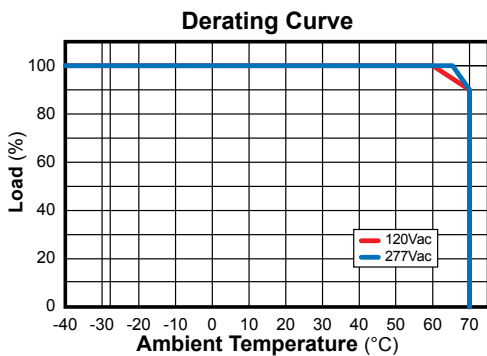
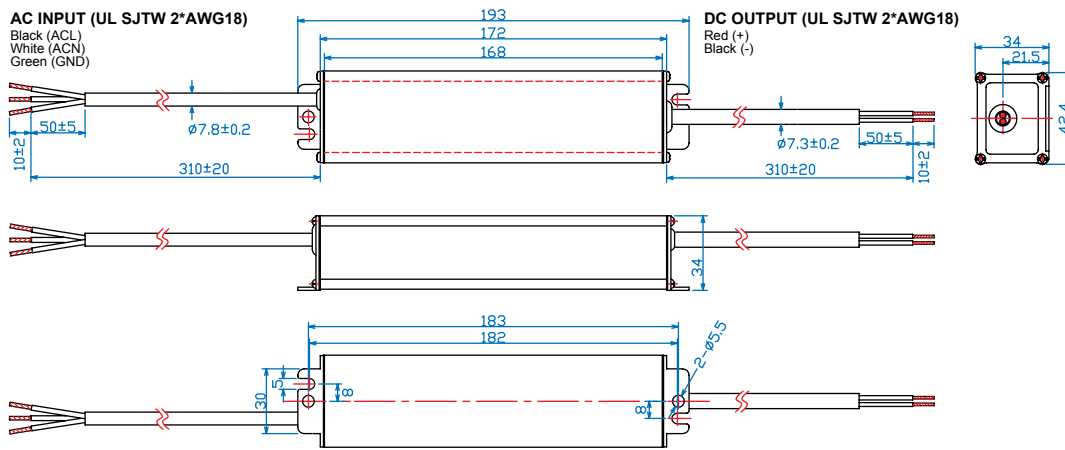
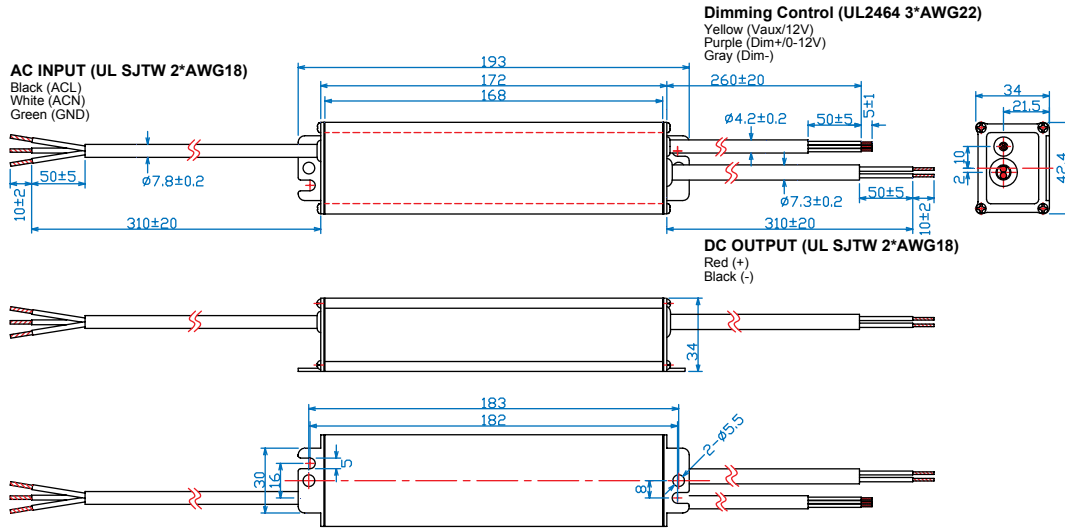
Safety and EMC Compliance

UL/CUL	UL8750, UL1012, UL1310 Class 2, CSA-C22.2 No. 107.1, CSA-C22.2 NO. 223-M91 Class 2
C E	EN61347-1, EN61347-2-13
FCC Part 15	ANSI C63.4: 2009 Class B
EN55015	Conducted emission Test & Radiated emission Test
EN61000-3-2	Harmonic current emissions
EN61000-3-3	Voltage fluctuations & flicker
EN61000-4-2	Electrostatic Discharge (ESD): 4kV contact discharge, 8kV air discharge
EN61000-4-3	Radio-Frequency Electromagnetic Field Susceptibility Test-RS
EN61000-4-4	Electrical Fast Transient / Burst-EFT: Level 3, Criteria A
EN61000-4-5	Surge Immunity Test: AC Power Line: line to line 4 kV, line to earth 6 kV
EN61000-4-6	Conducted Radio Frequency Disturbances Test-CS
EN61000-4-8	Power Frequency Magnetic Field Test
EN61000-4-11	Voltage Dips
EN61547	Electromagnetic Immunity Requirements Applies To Lighting Equipment



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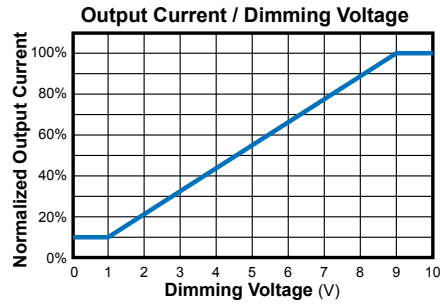
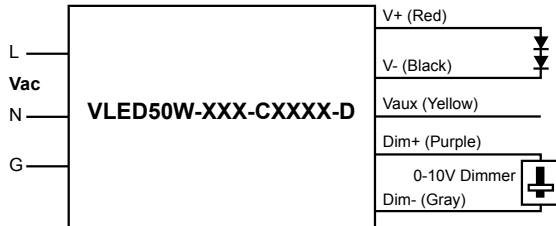


“-D” Option: 0-10Vdc Dimming

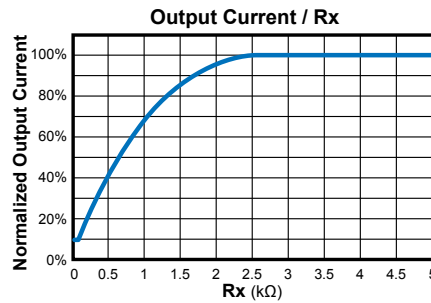
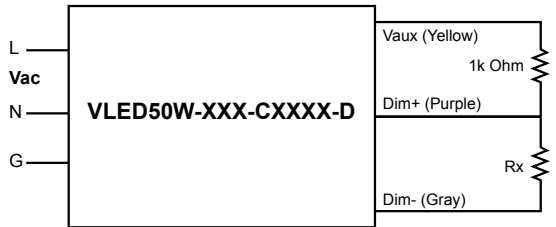
Parameters	Minimum	Typical	Maximum
12V output voltage (Vaux)	10.8 V	12 V	13.2 V
12V output source current	0 mA	—	20 mA
Absolute maximum voltage on the 0-10V input pin	0 V	—	15 V
Source current on 0-10V input pin	0 μ A	—	200 μ A

Note: Do not connect GND to the output.

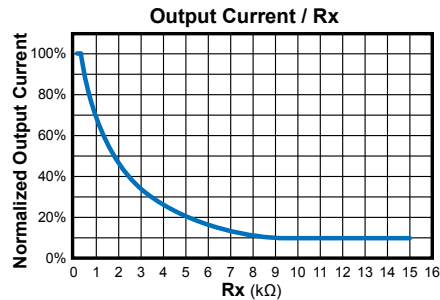
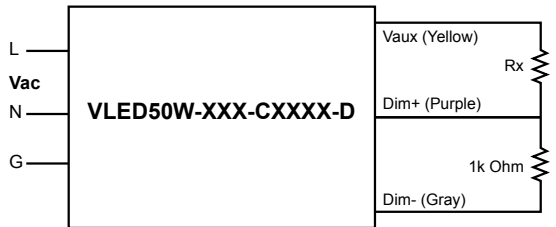
DC Input



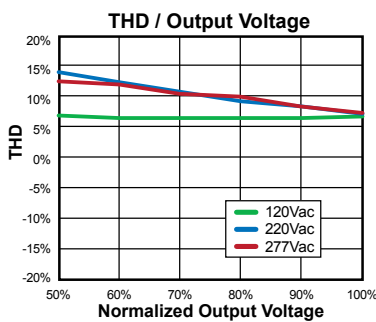
External Resistor Circuit



External Resistor Circuit



Total Harmonic Distortion (700mA model)





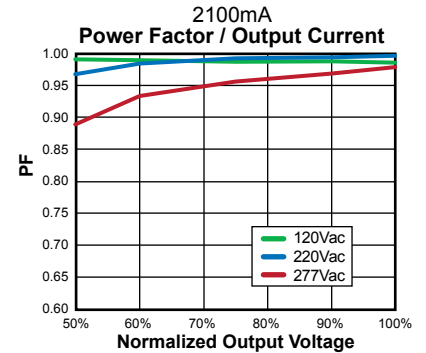
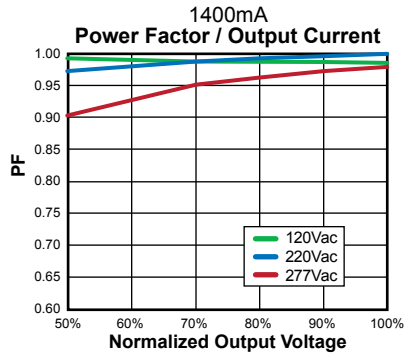
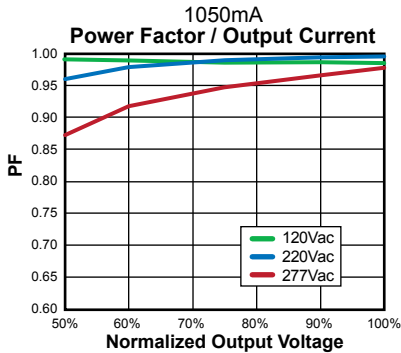
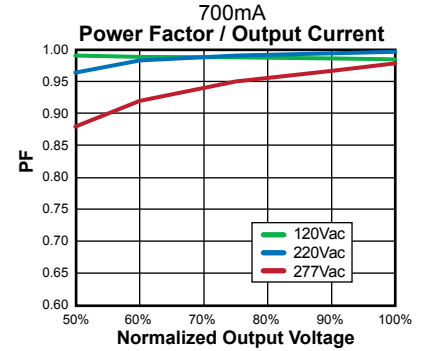
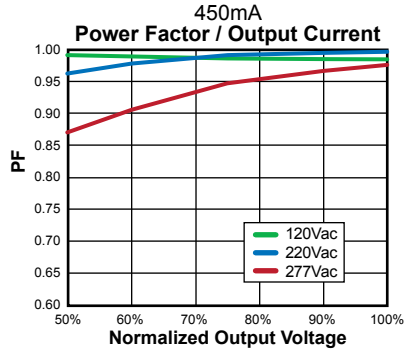
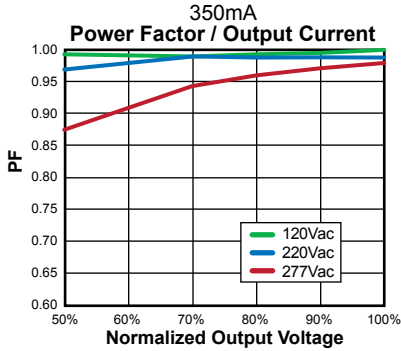
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VLED50W

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Power Factor Characteristics



Efficiency / Load

