



PDL150U-C-A Series 142-159W LED Driver



- 10KV Lightning Surge Protection
- Smart Over-Temperature Protection
- Universal AC Input up to 305Vac
- High Efficiency (Up to 91%)
- Active Power Factor Correction
- Constant Current With Dimming Options
- Waterproof up to IP67
- Comprehensive Protection Circuitry
- UL8750 & EN61347 Approvals
- 5 Year Warranty



Electrical Specifications

Input

Input Voltage	90-305VAC, 127-431VDC
Input Frequency	47-63 Hz
Input Current	2.1A@115VAC, 0.9A@230VAC, 0.8A@277VAC
Inrush Current	75A Peak @ 230VAC, Cold Start
Power Factor	>0.98 @ 115VAC >0.95 @ 230VAC
Leakage Current	0.75mA @ 277VAC

General

Efficiency	See graph p.5
Isolation	3.75kVAC input to output 2kVAC input to ground 0.5kVAC output to ground 220Khrs min. (25°C) >50,000hrs @ 230Vac 100% load, Tcase = 70°C
MTBF (MIL-HDBK-217F) Lifetime	
Dimensions	8.62"(219mm)L x 2.64"(67mm)W x 1.57"(40mm)H
Net Weight	2.20 lbs. (980g)

Output

Output Voltage	See table p.2
Start Up Delay	<1.5S @ 115VAC, full load <0.5S @ 230VAC, full load >12mS @ 115VAC, full load
Hold Up Time	
Line Regulation	±1%
Output Current Tolerance	±5%
Ripple & Noise	2V pk-pk, measured at 20MHz bandwidth with a 22uF electrolytic capacitor in parallel with a 0.1uF ceramic capacitor across output

Environmental

Operating Temp.	-40°C to +70°C (see derating curve p.2)
Operating Humidity	10% to 95% RH, non-condensing
Storage Temperature	-40°C to +85°C
Vibration	IEC 68-2-2-1995/CNS-3629-C6016/GB/T 2423.10-2008; 5-500Hz, 1.0G, 1 Oct/min, 2 cycles: x, y, z, 75 min

Protection

Overvoltage Protection	110-150% of rated output voltage, auto recovery
Over Power Protection	110-150% of rated output power, auto recovery
Short Circuit Protection	No damage to unit, auto recovery
Smart Over-Temperature Protection	When ambient temperature is >70°C±10°C, output load is limited to 75% When ambient temperature is >85±10°C output is disabled. Auto recovery when case temperature is <95°C

Safety & EMC

Safety Approvals	UL/cUL 8750 Approved
USA/Canada	EN61347-1, EN61347-2-13
Europe	
EMC Approvals	
EMI	EN55015 (Radiated & Conducted) Class B FCC Part 18 Class B
Harmonic Currents	EN61000-3-2: Class C
Voltage Flicker	EN61000-3-3:
ESD Immunity	EN61000-4-2: 8kV air; 4kV contact
Radiated Immunity	EN61000-4-3: 3V/m
EFT/Burst	EN61000-4-4: ±1.0kV
Surge Immunity	EN61000-4-5: (5kV line-line; 10kV line-ground)
Conducted Immunity	EN61000-4-6: 3Vrms
Magnetic Field	EN61000-4-8: 3 A/m
Dips / Interruptions	EN61000-4-11: 100% reduction for 10ms, 30% reduction for 100ms.

Note: All specifications typical at 25°C unless noted.

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Power Partners, Inc. | 43 Broad Street | Hudson, MA 01749

Tel: (978)567-9600 | Fax: (978)567-9601

Website: www.powerpartners-inc.com

Specifications subject to change.
PDL150U-C-A: July 9, 2015



Models and Ratings Chart

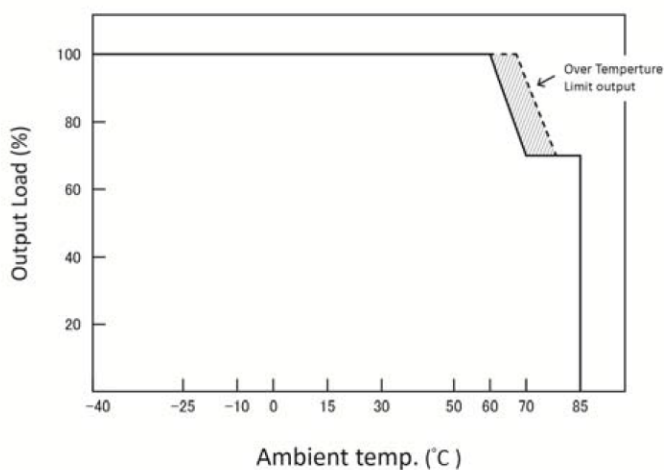
Model ¹	Rated Output Current	Current Adjustment Range	Output Voltage	Output Power	Efficiency ²
PDL150U-C2450-A	2450mA	1650-2450mA	32-58V	142W	91%
PDL150U-C3150-A	3150mA	2000-3150mA	32-49V	154W	91%
PDL150U-C3500-A	3500mA	2200-3500mA	27-42V	147W	91%
PDL150U-C4550-A	4550mA	2750-4550mA	25-35V	159W	91%

¹Model numbers for IP65 internal potentiometer type dimming shown. For external IP67 rated dimming type, model numbers are PDL150U-CXXXX-D.

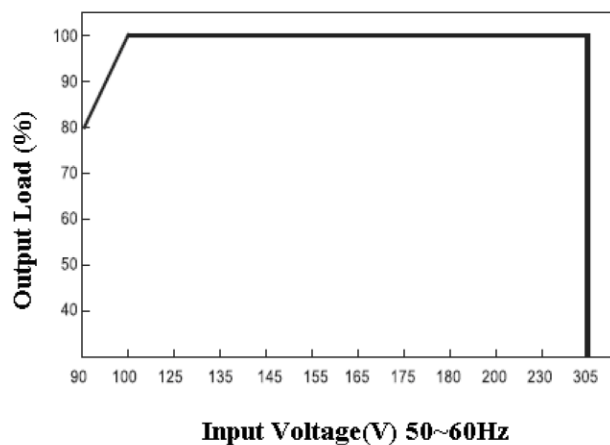
²Please reference efficiency vs. Load graph for more precise values.

Derating Curves

Temperature vs. Load %



Input Voltage vs. Load %



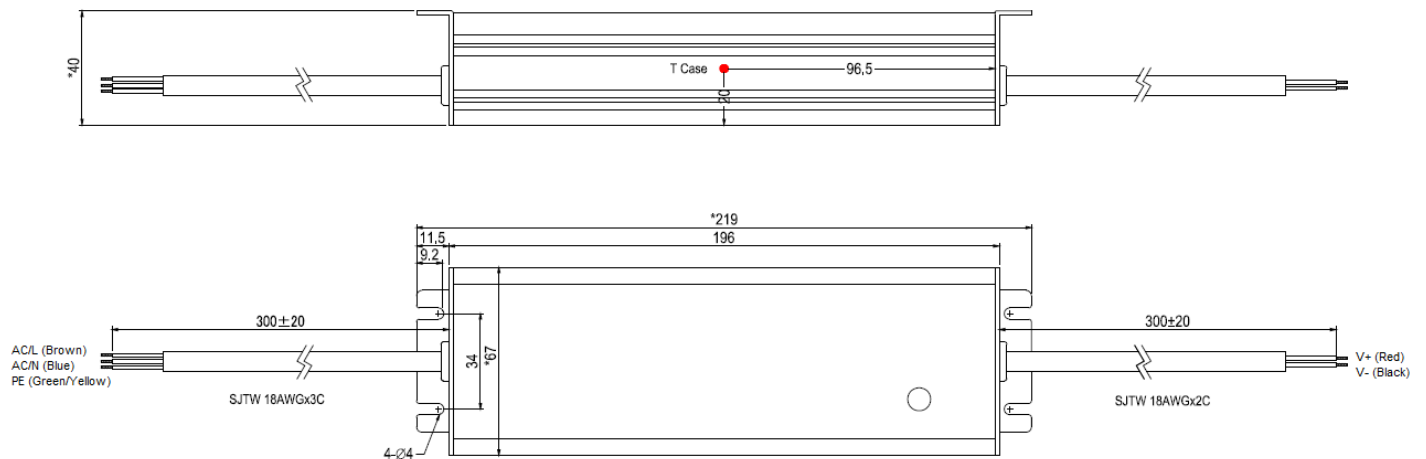
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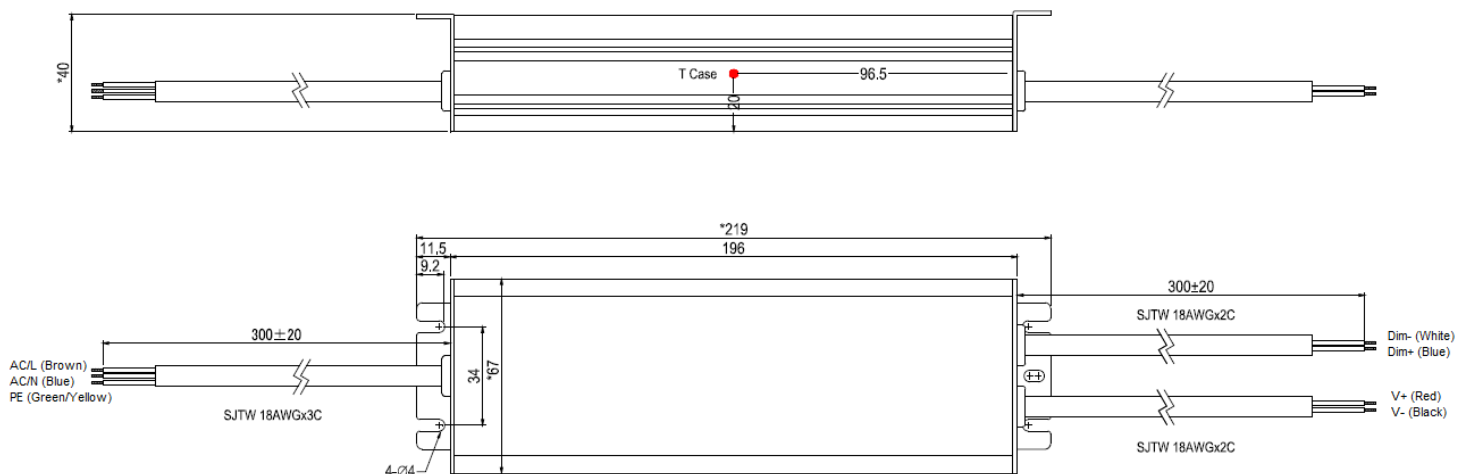
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Mechanical Drawings

Standard Version (Type -A)



Type -D



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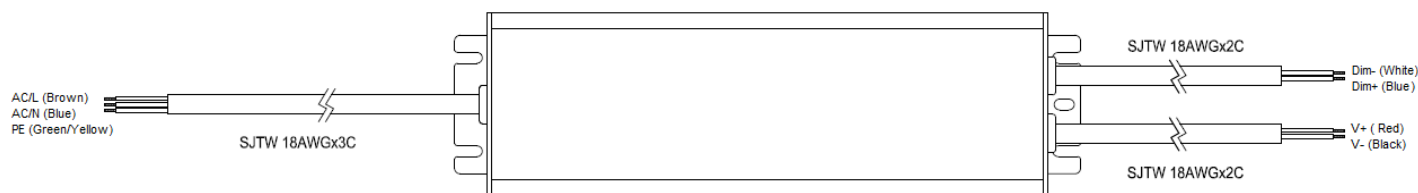
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Dimming Control (-D type only)

For -A type, dimming and output current adjustment is set by internal potentiometer, which can be accessed by removing the “Adj lo” plug on the LED driver case. For -D type, dimming can be controlled in 3 different ways using the Dim(+) and Dim(-) leads: using an external variable/fixed resistor, using a 0-10V signal, or by using a PWM signal. If dimming control is not used, leave the Dim(+) and Dim(-) leads floating.

NOTE: Do not connect Dim- to V-, this can damage the LED driver.



External Resistor Dimming

Resistor value	10K Ω	20K Ω	30K Ω	40K Ω	50K Ω	60K Ω	70K Ω	80K Ω	90K Ω	100K Ω	OPEN
% of Rated Output Current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

0-10V Signal Dimming

Vdc	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
% of Rated Output Current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

10V PWM Signal Dimming: Frequency range 100Hz~3KHz

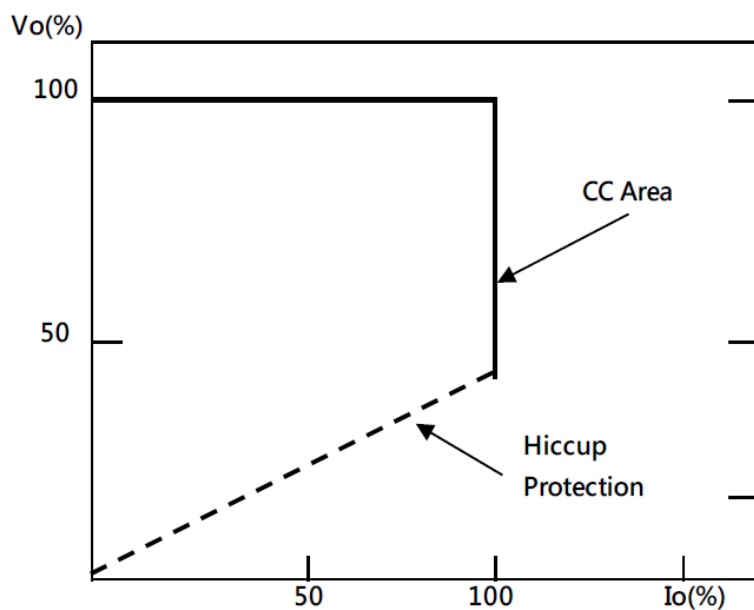
Duty Cycle	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
% of Rated Output Current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95~105%

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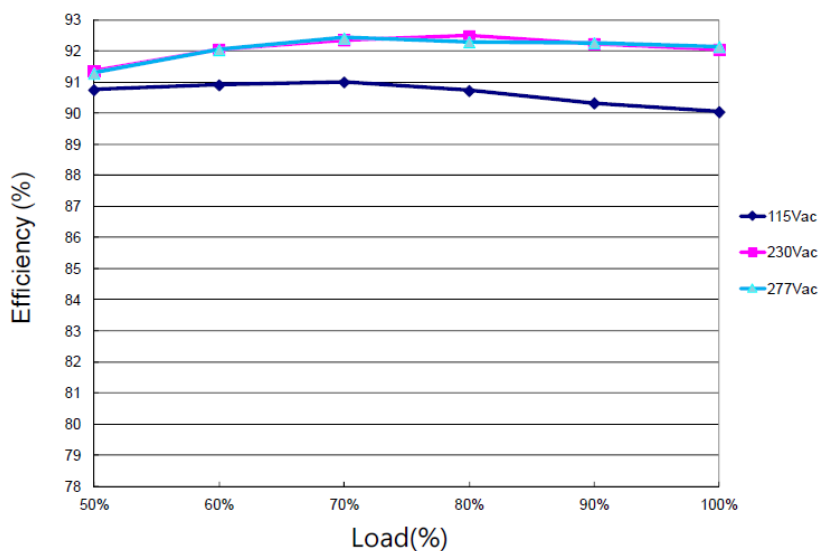
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LED Driver I-V Curve



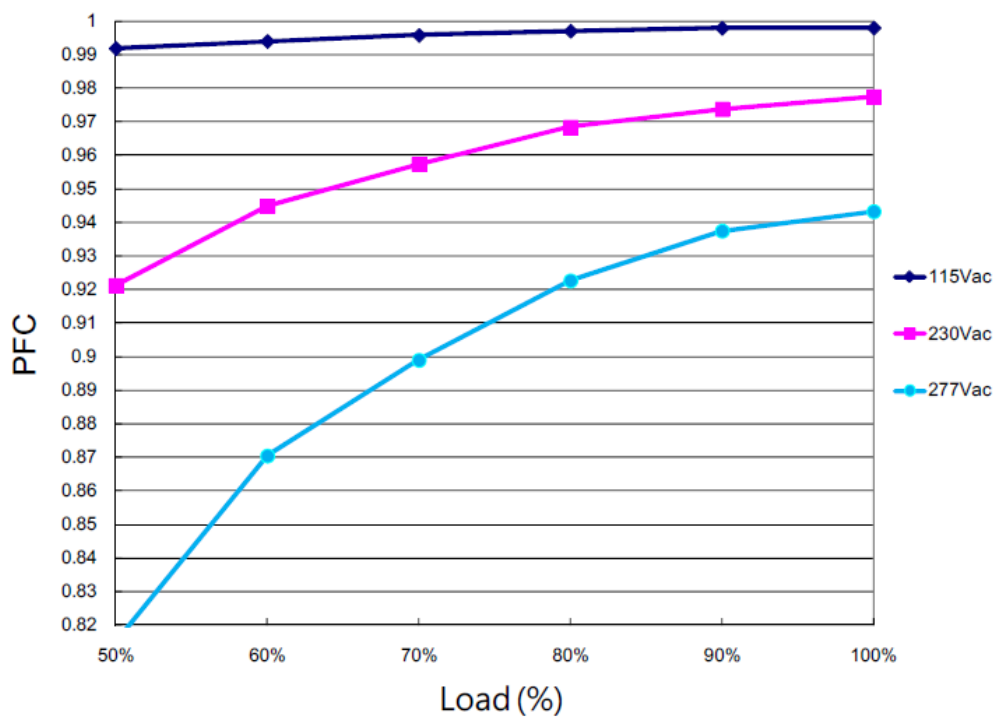
Efficiency vs. Load



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Power Factor vs. Load*Your Partners in Power.....*

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