



- 10KV Lightning Surge Protection
- Smart Over-Temperature Protection
- Universal AC Input up to 305Vac
- High Efficiency (Up to 92%)
- Active Power Factor Correction
- Constant Current With Dimming Options
- Waterproof up to IP67
- Comprehensive Protection Circuitry
- UL8750 & EN61347 Approvals
- 5 Year Warranty



SELV IP65 IP67 RoHS CE CB

### 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<br>>0.95 @ 230VAC       |
| Leakage Current | 0.75mA @ 277VAC                       |

#### General

|                                  |                                                                                                                                                     |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency                       | See graph p.5                                                                                                                                       |
| Isolation                        | 3.75kVAC input to output<br>2kVAC input to ground<br>0.5kVAC output to ground<br>220Khrs min. (25°C)<br>>50,000hrs @ 230Vac 100% load, Tcase = 70°C |
| MTBF (MIL-HDBK-217F)<br>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<br><0.5S @ 230VAC, full load<br>>12mS @ 115VAC, full load                                                     |
| Hold Up Time             | >12mS @ 115VAC, full load                                                                                                               |
| Line Regulation          | ±1%                                                                                                                                     |
| Output Current Tolerance | ±5%                                                                                                                                     |
| Ripple & Noise           | 2V pk-pk, measured at 20MHz bandwidth<br>with a 22uF electrolytic capacitor in parallel with a<br>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<br>2423.10-2008; 5-500Hz, 1.0G, 1 Oct/min, 2<br>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,<br>output load is limited to 75%<br>When ambient temperature is >85±10°C output is<br>disabled. Auto recovery when case temperature<br>is <95°C |

#### Safety & EMC

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

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

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Specifications subject to change.  
PDL185U-C-A: July 9, 2015



### Models and Ratings Chart

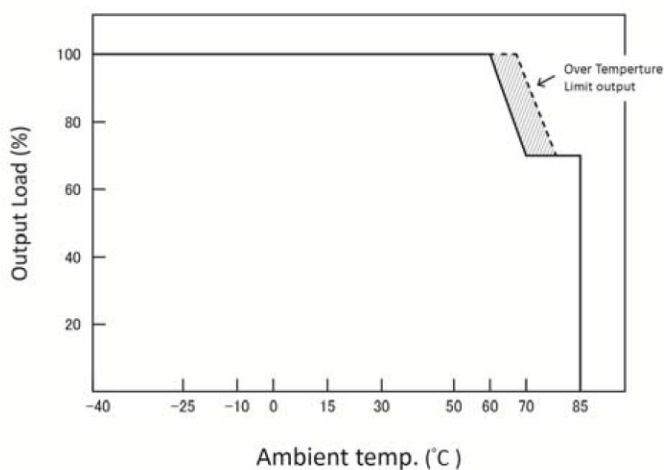
| Model <sup>1</sup> | Rated Output Current | Current Adjustment Range | Output Voltage | Output Power | Efficiency <sup>2</sup> |
|--------------------|----------------------|--------------------------|----------------|--------------|-------------------------|
| PDL185U-C500-A     | 500mA                | 260-500mA                | 200-400V       | 200W         | 92%                     |
| PDL185U-C700-A     | 700mA                | 360-700mA                | 143-286V       | 200W         | 92%                     |
| PDL185U-C1050-A    | 1050mA               | 600-1050mA               | 95-190V        | 200W         | 92%                     |
| PDL185U-C1400-A    | 1400mA               | 750-1400mA               | 71-143V        | 200W         | 92%                     |
| PDL185U-C3850-A    | 3850mA               | 2000-3850mA              | 32-49V         | 189W         | 91%                     |
| PDL185U-C4200-A    | 4200mA               | 2100-4200mA              | 27-42V         | 177W         | 91%                     |
| PDL185U-C5250-A    | 5250mA               | 2750-5250mA              | 25-35V         | 183W         | 91%                     |

<sup>1</sup>Model numbers for IP65 internal potentiometer type dimming shown. For external IP67 rated dimming type, model numbers are PDL185U-CXXXX-D.

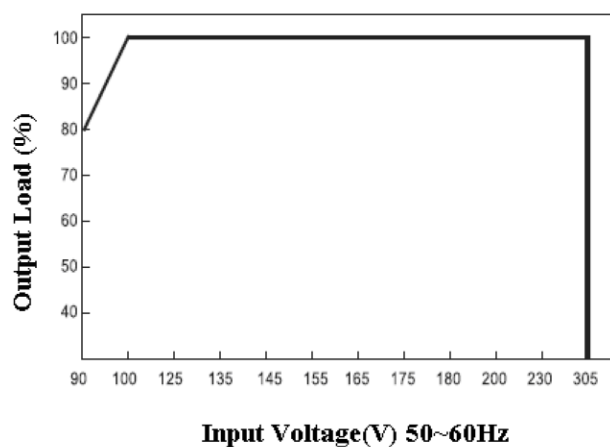
<sup>2</sup>Please reference efficiency vs. Load graph for more precise values.

### Derating Curves

Temperature vs. Load %



Input Voltage vs. Load %



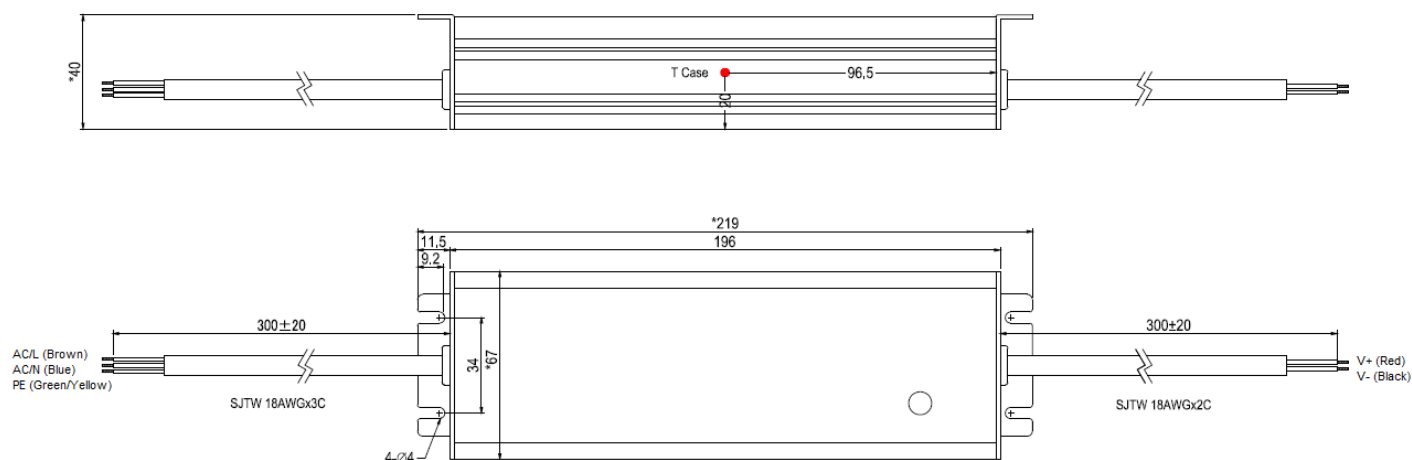
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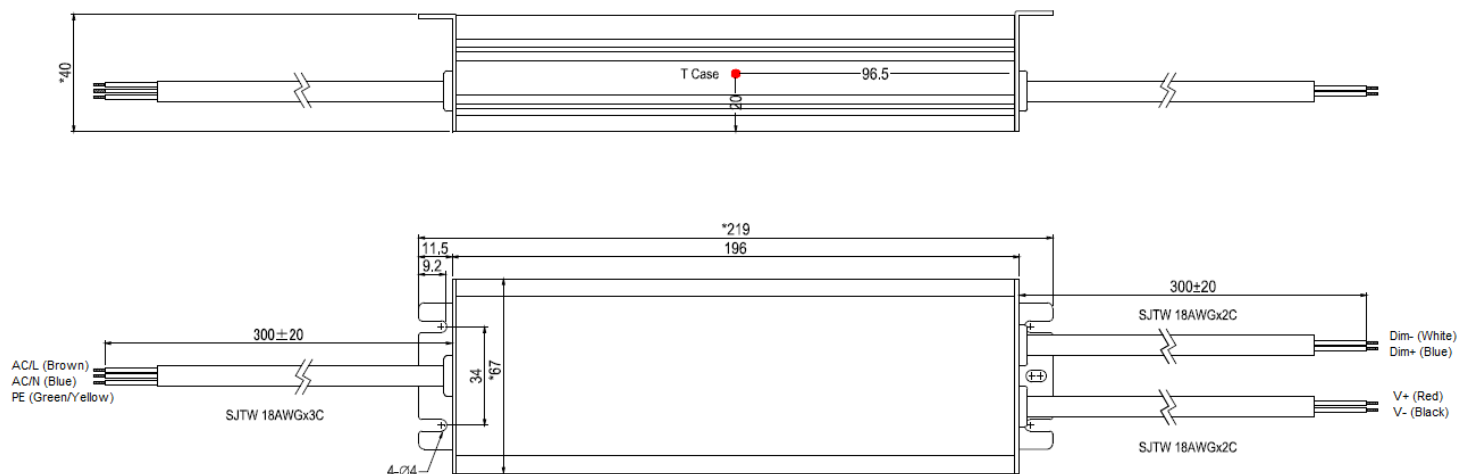
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## Mechanical Drawings

### Standard Version (Type -A)



### Type -D



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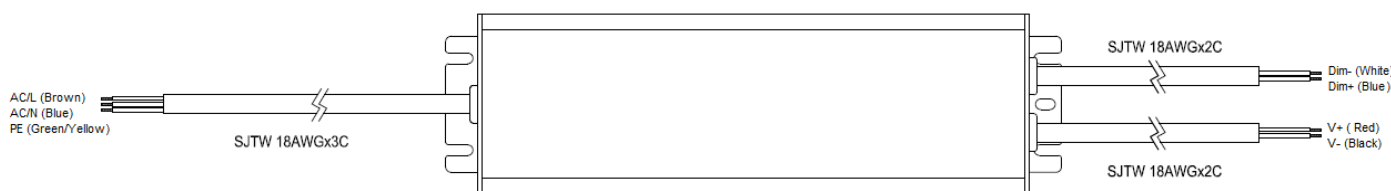
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### Dimming Control (-D type only)

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/fix 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 $\Omega$ | 20K $\Omega$ | 30K $\Omega$ | 40K $\Omega$ | 50K $\Omega$ | 60K $\Omega$ | 70K $\Omega$ | 80K $\Omega$ | 90K $\Omega$ | 100K $\Omega$ | 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

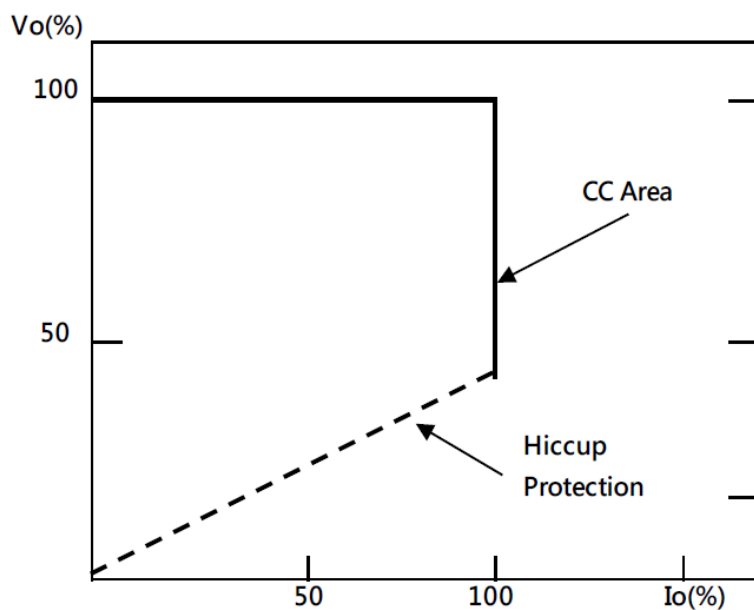
| Duty Cycle                | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | OPEN    |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|
| % of Rated Output Current | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% | 95~105%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

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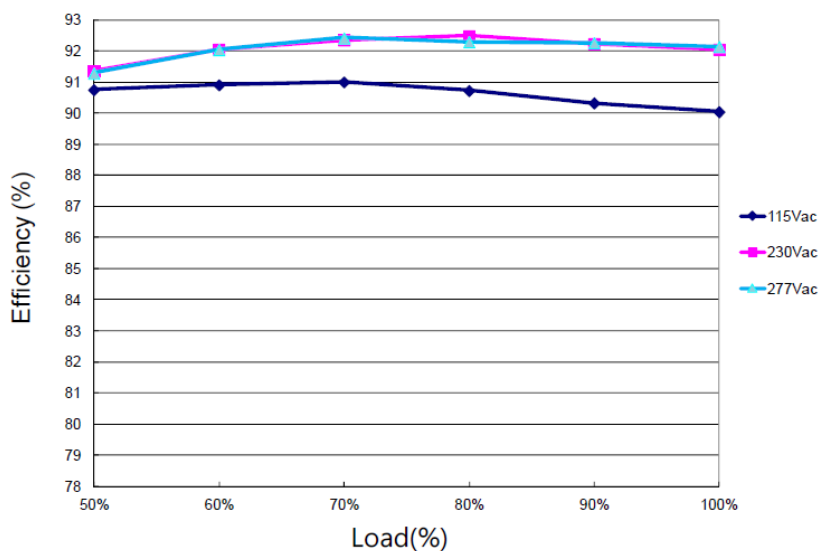
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### LED Driver I-V Curve



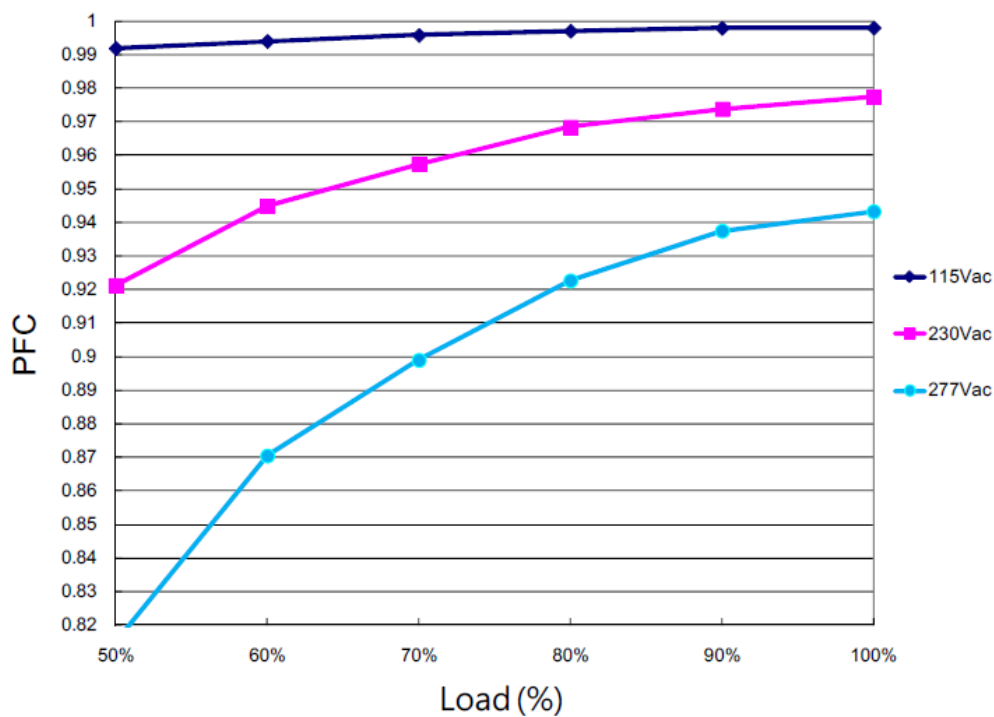
### Efficiency vs. Load



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

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