

Main Features:



- Input Voltage: 180~528Vac or 250~740Vdc
- Output Wattage: Constant Wattage (C.P.) at **400W** with Adjustable Current Setting
- Programmable Method: Wire or Wireless
- High Efficiency: Up to **90%**
- Dimming Function: **0-10V/PWM**
- Auxiliary Voltage: **12Vaux** with **300mA**
- Lightning Protection: Built-in Surge Protector at 10KV/5KA
- Reliability Protection: OVP, SCP, OTP
- Safety Regulation: Complies with UL8750 & EN61347
- **Type TL and HL** Program Certified from UL
- **Class P** UL standard for retrofit kit
- Waterproof Rating: IP67
- Five Year Warranty under Normal Usage Conditions



SPECIFICATION

| Model No. ⁽ⁱ⁾ | Output Voltage Range | Programmable Output Constant Current Range | OVP | OTP | Case Temperature |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|------------------|----------------------|------------------|
| | (Vdc) | (mA) ⁽ⁱ⁾ | (Vdc max.) | (°C) ⁽ⁱⁱ⁾ | (Tc) |
| LDD-400D190P2100HH-V | 114 - 286 | 1400 – 2100 | 120% Vomax, typ. | Tc ≥ 105 ± 10°C | 90C |
| LDD-400D095P4200HH-V | 57 – 142 | 2800 - 4200 | 120% Vomax, typ. | Tc ≥ 105 ± 10°C | 90C |
| Note | (i) Pre-set Constant Current Value with dimming (ii) Lower the output current when Tc ≥ 105 ± 10°C; Auto Recovery When Tc ≤ 70 ± 10°C | | | | |

| Input Spec. | Condition Description | Min. | Normal | Max. | Units |
|---------------------------------|-----------------------------------------------------------------------|------|---------|----------------|-------|
| Input Voltage Range | Dedicated High Voltage Input | 180 | 208-480 | 528 | VAC |
| Input Frequency Range | | 47 | 50/60 | 63 | Hz |
| Input Current | 277 VAC/480 VAC input, full load output | | | 1.8/0.9 | A |
| Power Factor | @60% - 100% load | | >0.9 | | |
| THD (total harmonic distortion) | @60% - 100% load | | <15 | | % |
| Inrush Current | At 277 VAC input, 25°C cold start / At 480 VAC input, 25°C cold start | | | 65 / 70 | A |
| Leakage Current | max @277Vac 60Hz | | | 1.0 | mA |
| Surge Protection | Line to line 6kV, line to ground 10kV, IEC 61000-4-5 | | | | |

| Output Spec. | Condition Description | Min. | Normal | Max. | Units |
|------------------------|--------------------------------------------------------------------------------------|------|--------|-------|-------------|
| Current Accuracy | | | ±5 | | % |
| Ripple Current | At 100%-60% Load. The result differs according to different LED load characteristic. | | | < 5 | % Ip-p (Io) |
| Overshoot/Undershoot | % of Iout max & LED load | | | < 10 | % |
| Turn-On Delay | Startup time at cold start | | | < 1.2 | s |
| Auxiliary Power (Vaux) | With 300mA max | -5% | 12 | +5% | Vdc |

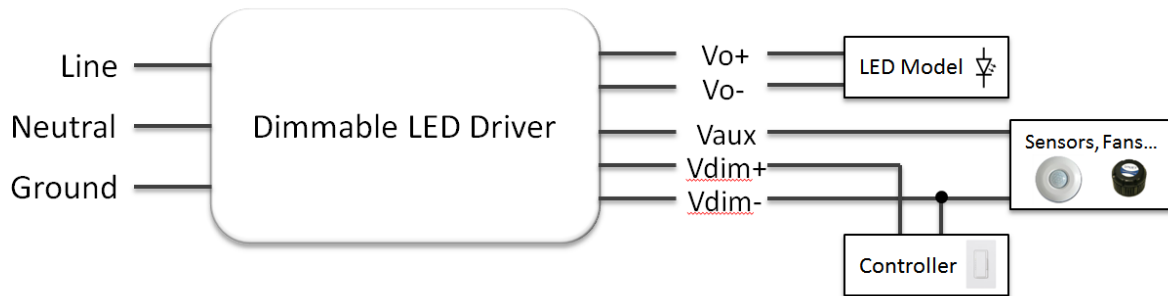
| General Spec. | Condition Description | Min. | Normal | Max. | Units |
|-------------------------------|---------------------------------------------------------|----------------------|----------|-------|-------|
| Efficiency | Measured at full load in the thermal balanced condition | | 92 | 93 | % |
| MTBF | measured at Tc= 75°C (MIL-HDBK-217F) | | ≥280,000 | | Hours |
| Lifetime | measured at Tc= 75°C | | ≥100,000 | | Hours |
| Operating/Storage Temperature | 10%RH~100%RH (See De-rating Curve for more details) | -40/-40 | | 70/85 | °C |
| Dimension (OL/L x W x H) | OL is the overall length with mounting plates | 263/236*90*41.5 | | | mm |
| | | 10.35/9.29*3.54*1.63 | | | inch |
| Weight | Net weight without package | 3.63/1.65 | | | lb/kg |

| Safety & EMC Compliance | Category | Condition Description |
|-------------------------|----------------|----------------------------------------------------------------------------------------------------------------------|
| Safety Regulations | UL8750 | Light Emitting Diode(LED) Equipment for Use in Lighting Products |
| | UL1012 | Power Unit Other Than Class 2 |
| | IEC 61347-1 | Lamp Control gear Part 1: General and Safety Requirements |
| | IEC 61347-2-13 | Lamp Control gear Part 2-13: Particular Requirement for d.c. or a.c. Supplied Electronic Controlgear for LED Modules |
| | CE | Europe: EN 61347-1, EN61347-2-13 |
| EMI Standards | IEC 55015 | Conducted emission test & Radiated emission test |
| | IEC 61000-3-2 | Harmonic current emissions; Class C (≥75% load) |
| | IEC 61000-3-3 | Voltage fluctuations & flicker |
| | FCC Part 15 | Class B |
| EMS Standards | IEC 61000-4-2 | Electrostatic discharge (ESD) |
| | IEC 61000-4-3 | Radio frequency electromagnetic field susceptibility test (RS) |
| | IEC 61000-4-4 | Electrical fast transient (EFT) |
| | IEC 61000-4-5 | Surge immunity test L-N:2kV; LN-PE:4kV (External Surge Protection Device 4K/6K or 6K/10K) |
| | IEC 61000-4-6 | Conducted radio frequency disturbances test (CS) |
| | IEC 61000-4-8 | Power frequency magnetic field test |
| | IEC 61000-4-11 | Voltage dips |
| | IEC 61547 | Electromagnetic immunity requirements applies to lighting equipment |

■ Dimming Curve

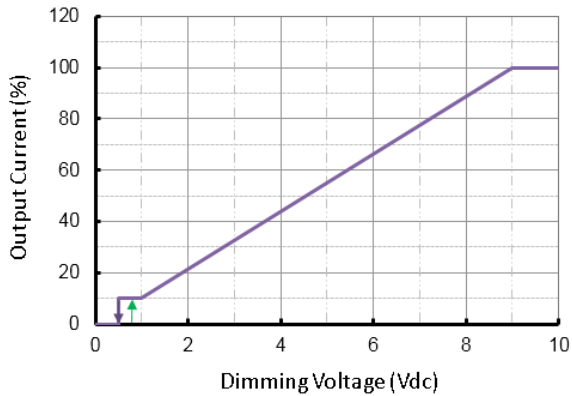
| Parameter | Min. | Typ. | Max. |
|----------------------------------------------------|----------------|------------|---------------------|
| Vdim Sourcing Current | 200uA | 300uA | 450uA |
| Vdim Allowed Input Voltage | -20 V | | 20 V |
| 0-10V Dimming Range | 10% (Vdim=1V) | Linear | 100% (Vdim=9~10V) |
| PWM Dimming Range | 10% (Duty=10%) | Linear | 100% (Duty=90-100%) |
| Dim off threshold | | 0.5V or 5% | 0.6V or 6% |
| Dim on threshold | 0.6V or 6% | 0.7V or 7% | |
| PWM High | 3V | | 10V |
| PWM Low | 0V | | 0.6V |
| PWM Frequency | 300Hz | | 2kHz |
| External PWM Controller Current Sinking Capability | 300uA | | |

Dimming Wire

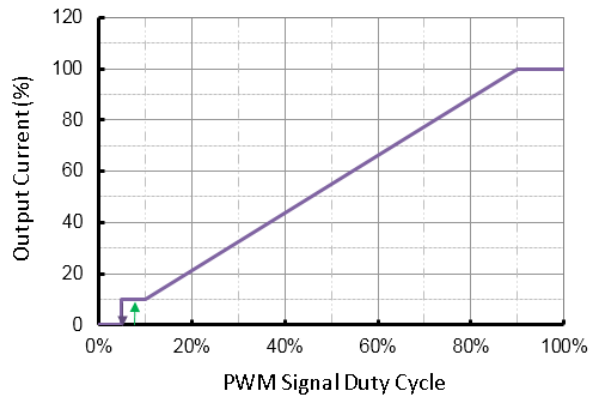


With dim-off (dto)

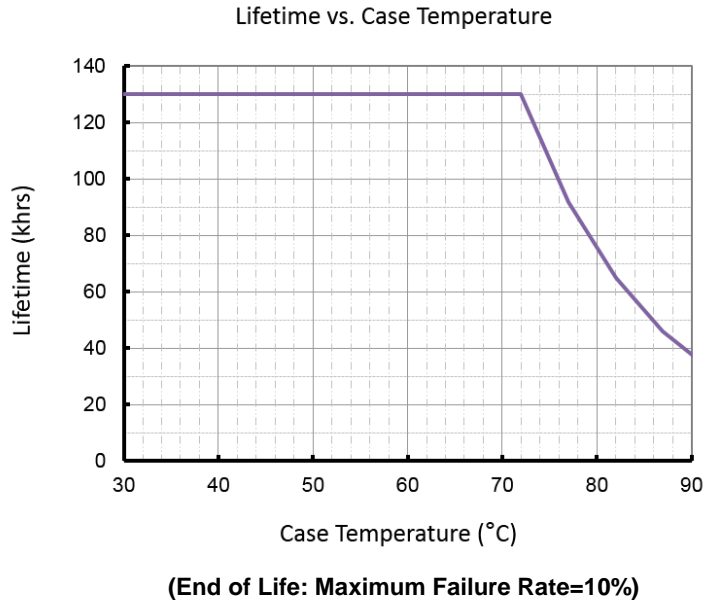
0-10V Dimming Curve



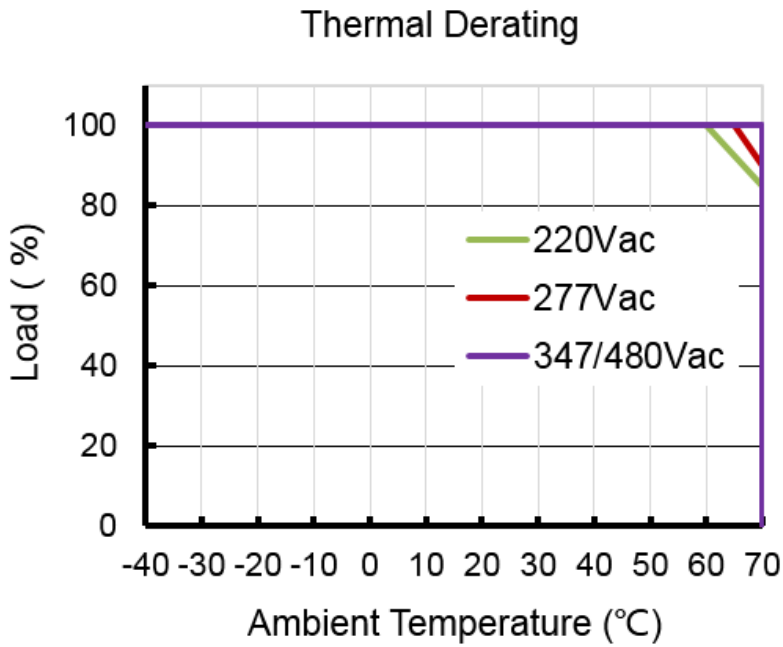
PWM Dimming Curve



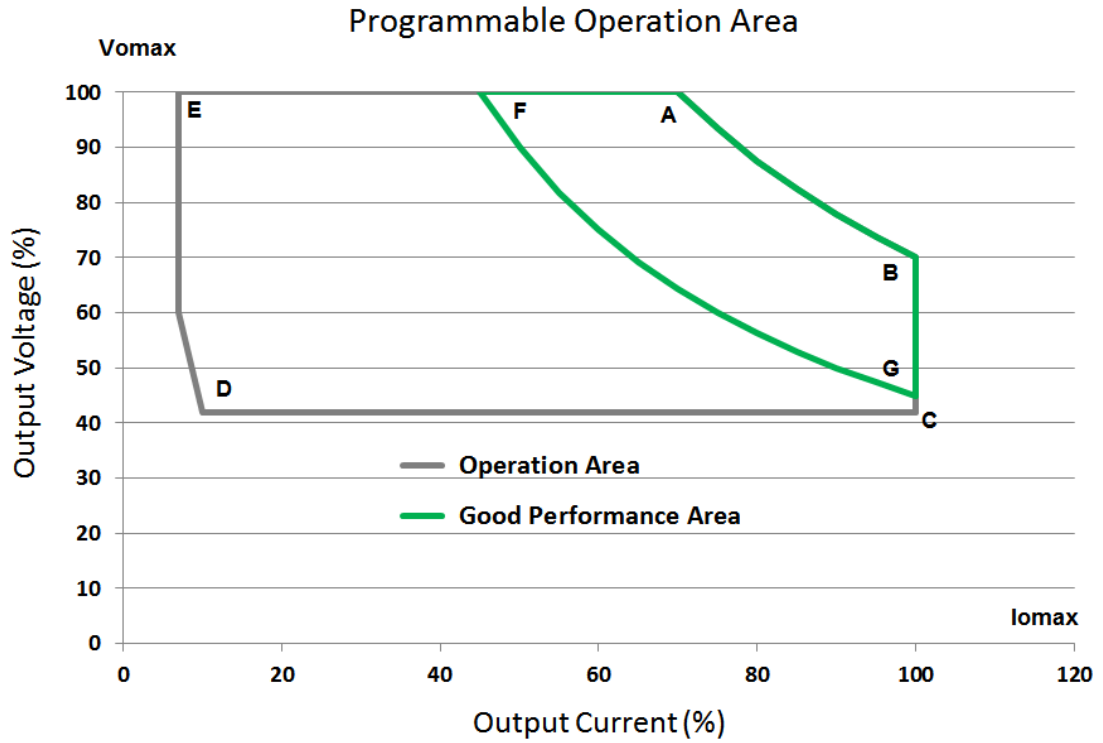
■ Lifetime vs. Case Temperature



■ De-rating Curve



■ Current vs. Voltage Curve



| I_o (mA) V_o (V) | B I_{max} | A V_{max} | F (60% of I at A) (as V_{max}) | G (as I_{max}) (60% of V at B) | C (as I_{max}) $V_{min} =$ (60% of V at B) | D (10% of I_{max}) (60% of V at B) | E (10% of I at A) (as V_{max}) |
|-----------------------------|-----------------------|-----------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------|
| LDD-400D190P2100HH-V | 2100 190 | 1400 286 | 840 286 | 2100 114 | 2100 114 | 210 114 | 140 286 |
| LDD-400D095P4200HH-V | 4200 95 | 2800 143 | 1680 143 | 4200 57 | 4200 57 | 420 57 | 280 143 |
| On BA Curve Line | Constant Power Area | | | | | | |
| Within BAFG Box | Good Performance Area | | | | | | |
| Within ABCDE Box | Operational Area | | | | | | |

■ Mechanical Outline (Unit: mm)

Note: Dimensions in millimeters, where 25.4 mm = 1 inch

Tolerance: ± 0.51 mm

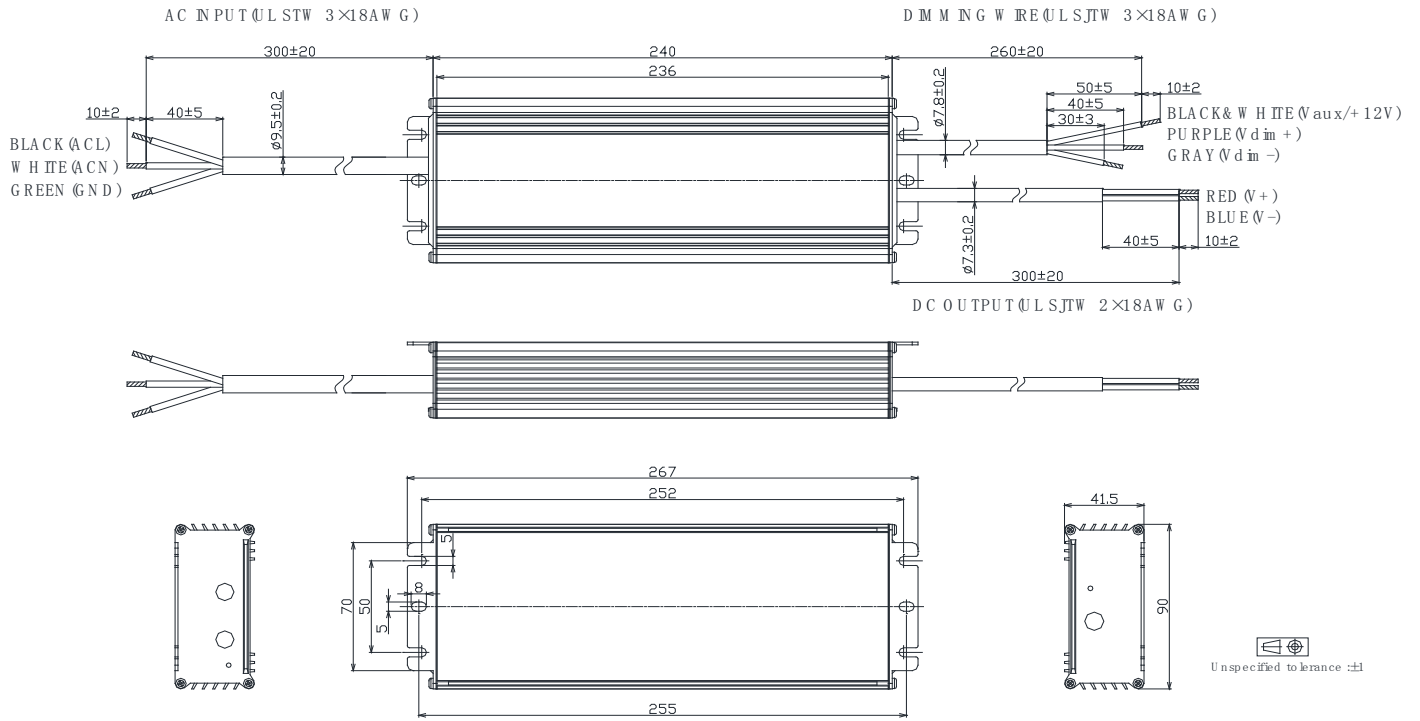


Figure 36: ARHPT

Safety Note: Please make sure the output cable does not connect to dimming cable or the cables of other drivers until 20 seconds after being tested because of the remained voltage in the output capacitor.

Revision

| Date | Rev. | Description of Change | | |
|-----------|------|-----------------------|-----|-----|
| | | Item | Old | New |
| 5/18/2017 | V2a | In Draft Release | / | / |
| | | | | |
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