

■ Features

- Supply Voltage: 180-528Vac or 250-740Vdc
- Surge Immunity 10kV
- 100,000Hour Life @ Tc=75C
- 5 Year Warranty @ Tc<=80C
- Near Field Communication Programmability
- High-Efficiency @ 90% and above
- +/-2% Output Current Accuracy (Programmable Model)
- 0-10V/PWM/Timer/DALI (Optional) Dimmable
- Dim Off with 1.5W Standby Power
- 12V 300mA Auxiliary Power to Power Controllers and Fans (Optional)
- UL Class P, ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3, 61347-2-13, 62384



■ Application

- Bay lights, Pole lights, Stadium lights

■ Model List

| Model Number | Input Voltage Range | Output Power | Output Voltage | Full Power Settable Current Min | Full Power Settable Current Max | Certification |
|-----------------|---------------------|--------------|----------------|---------------------------------|---------------------------------|-----------------------|
| LHA180-C105-XYZ | 180-528Vac | 180 W | 102-257Vdc | 700mA | 1050mA | UL/FCC/CB ENEC/CCC |
| LHA180-C140-XYZ | 180-528Vac | 180 W | 77-171Vdc | 1050mA | 1400mA | UL/FCC/CB ENEC/CCC |
| LHA180-C210-XYZ | 180-528Vac | 180 W | 51-129Vdc | 1400mA | 2100mA | UL/FCC/CB ENEC/CCC |
| LHA180-C420-XYZ | 180-528Vac | 180 W | 26-64Vdc | 2800mA | 4200mA | UL/FCC/CB ENEC/CCC |

| XY= | Dimming Method | Programmable | 12Vaux | Dim-off |
|--------|---------------------------|----------------------|-----------------------|---------|
| NN | - | - | - | - |
| EN | 0-10V | - | √ | √ |
| TR | Timer | √ | - | - |
| ER | 0-10V/PWM/Timer | √ | √ | √ |
| AR | DALI | √ | √ | √ |
| Z = K, | UL cable with ground wire | S, VDE cable/Class I | D, VDE cable/Class II | |

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■ Technical Data

| | |
|------------------------|---|
| Input Voltage | 180-528Vac or 250-740Vdc |
| Input Frequency | 47~63Hz |
| Power Factor | >0.9@60-100%load, refer to PF vs. Load curve |
| THD | <15%@60-100%load, refer to THD vs. Load curve |
| Input Current | 0.90Amax@277Vac & Full-Load, 0.45Amax@480Vac & Full-Load |
| Inrush Current | 65A peak, 1.2ms duration, <0.25A2s@277Vac, Cold Start 70A peak, 1.3ms duration, <0.5A2s@480Vac, Cold Start |
| Leakage Current | 1mA max @277Vac 60Hz, UL8750, 0.75mAmax @220Vac 50Hz, IEC61347-1 |
| Input Under Voltage | Shut down and auto-restart |
| Surge Protection | Line to line 6kV, line to ground 10kV, IEC 61000-4-5 |
| Current Accuracy | ±5%Io |
| Ripple Current | Ip-p:5%Io max |
| Setup Time | 1.2s max |
| Overshoot | 10% Io max & LED Load |
| Output Over Voltage | 120% Vomax, typ. |
| Short Circuit | Auto recovery. The output recovers when short is removed. |
| Over Temperature | Lower the output current when $T_c \geq 105 \pm 10^\circ\text{C}$; Auto Recovery When $T_c \leq 70 \pm 10^\circ\text{C}$ |
| Auxiliary Power (Vaux) | 12V+/-5%, 300mA max |
| Operating Temperature | -40°C~+70°C ; 10%RH~100%RH (See Derating Curve for more details) |
| Storage Temperature | -40°C~+85°C; 5%RH~100%RH |
| MTBF | ≥280,000 hours, 75°C case temperature (MIL-HDBK-217F) |
| Lifetime | ≥100,000 hours, 75°C case temperature, refer to life vs. Tc curve |
| Case Temperature | 90°C max, marked in the Tc point of label |
| Dimensions | 9.29x2.66x1.32 by inch (body), 10.35x2.66x1.32 by inch (endcaps included) 236.0x67.5x33.5 by mm (body), 263.0x67.5x33.5 by mm (endcaps included) |
| Net Weight | TBD |
| Packing | TBD |

Notes: Unless specified, all the test results are measured in 25°C room temperature.

* Marked items are optional. Please contact Sales to specify the required functions.

■ Safety/EMC Compliance

| Safety Standard | Description |
|-----------------|---|
| UL8750 | Light emitting diode(LED) equipment for use in lighting products |
| UL1012 | Power units 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 control gear for LED modules |
| EMI Standards | Description |
| IEC 55015 | Conducted emission test & radiated emission test |
| IEC 61000-3-2 | Harmonic current emissions; Class C |
| IEC 61000-3-3 | Voltage fluctuations & flicker |
| FCC Part 15 | ANSI C63.4:2009 Class B |
| EMS Standards | Description |
| IEC 61000-4-2 | Electrostatic discharge (ESD): 8 kV air discharge, 4 kV contact discharge |
| 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 |
| 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

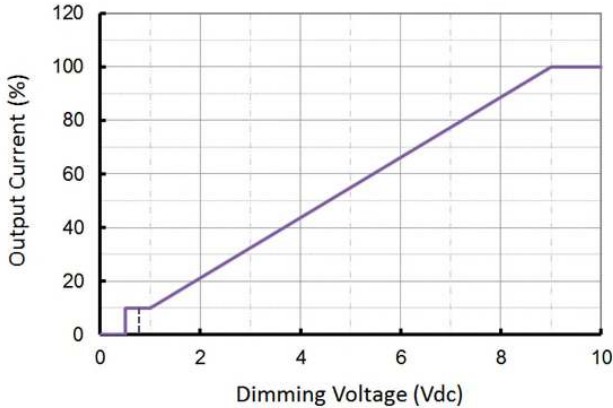
| Parameter | Min. | Typ. | Max. |
|--|----------------|------------|---------------------|
| Vdim Sourcing Current | 200uA | 300uA | 450uA |
| Vdim Allowed Input Voltage | -20 V | | 20 V |
| 0-10V Dimming Range | 10% (Vdim=1V) | Linear | 100% (Vdim=9~10V) |
| PWM Dimming Range | 10% (Duty=10%) | Linear | 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 | | |
| DA1,DA2 High Level | 9.5 | 16 | 22.5 |
| DA1,DA2 Low Level | -6.5 | 0 | 6.5 |
| DA1,DA2 Current | 0 | | 2mA |

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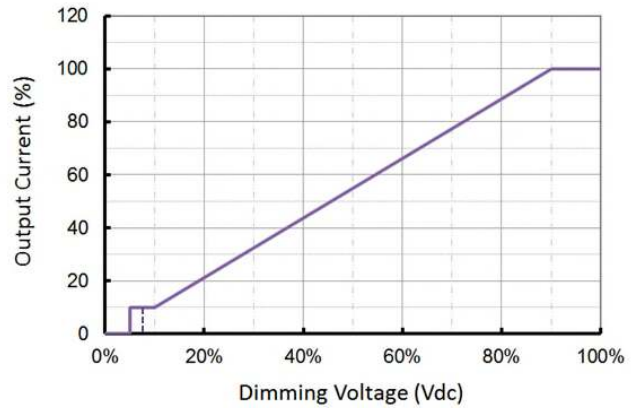
Dimming Curve

a. With dim-off (default)

0-10V Dimming Curve

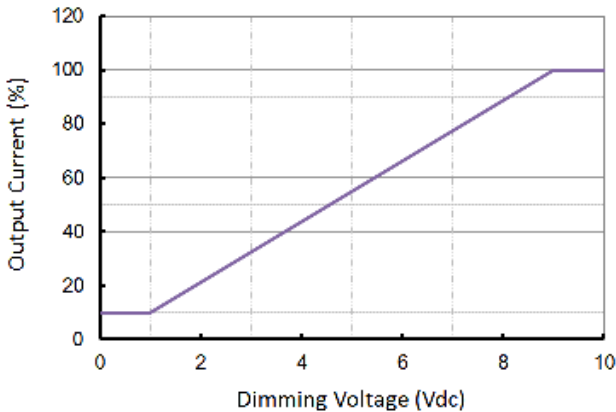


PWM Dimming Curve

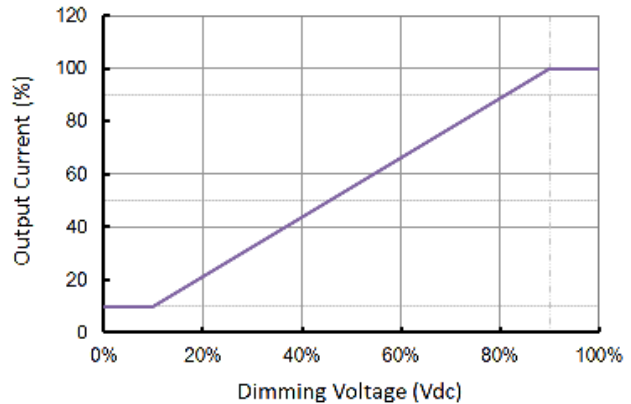


b. Without dim-off (contact sales to get this feature)

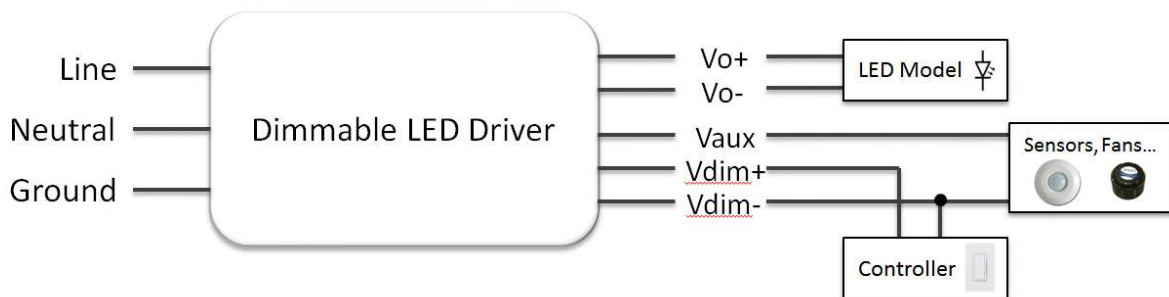
0-10V Dimming Curve



PWM Dimming Curve

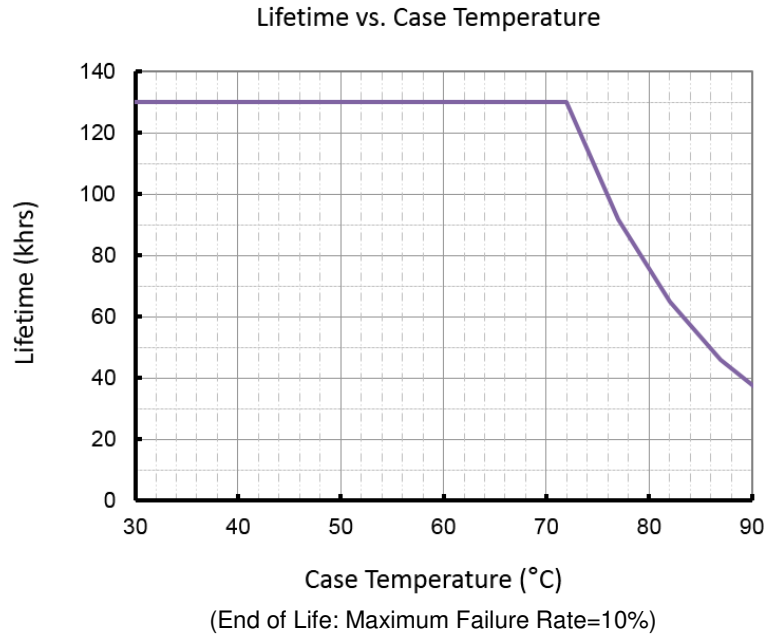


- Dimming Wiring



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■ Lifetime vs. Case Temperature



■ Mechanical Design (TBD)

- LHA180-Cxxx-NN/TRK (UL Cable)
- LHA180-Cxxx-EN/ERK (UL Cable)
- LHA180-Cxxx-ARK (UL Cable)
- LHA180-Cxxx-NN/TRS (VDE Cable)
- LHA180-Cxxx-EN/ERS (VDE Cable)
- LHA180-Cxxx-ARS (VDE Cable)