

■ 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

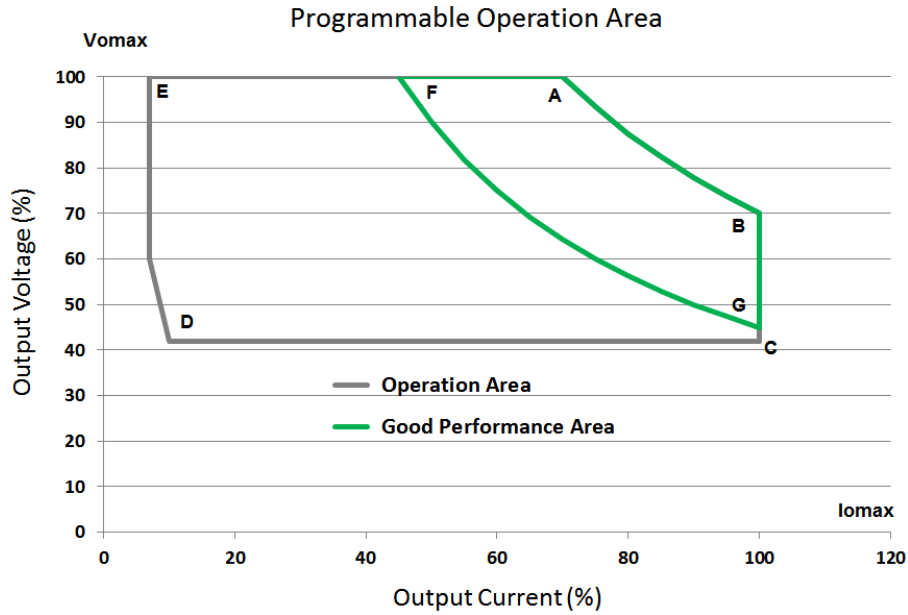
- Bay lights, Pole lights, Stadium lights

■ Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Full Power Settable Current Min	Full Power Settable Current Max	Efficiency	Certification
LHA400-C210-XYZ	180-528Vac	400W	114-286Vdc	1400mA	2100mA	92.5% @ 120Vac 93.5% @ 277Vac	UL/FCC/CE
LHA400-C420-XYZ	180-528Vac	400W	57-142Vdc	2800mA	4200mA	92% @ 120Vac 93% @ 277Vac	UL/FCC/CE

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

■ **Operation Area**



Model	C280		C420	
Item	Io(mA)	Vo (V)	Io(mA)	Vo (V)
A	1400	286	2800	143
B	2100	190	4200	95
C	2100	114	4200	57
D	210	114	420	57
E	140	286	280	143
F	840	286	1680	143
G	2100	114	4200	57

**■ 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	1.8 Amax@277Vac & Full-Load, 0.9Amax@480Vac & Full-Load
Inrush Current	65A peak, 1.2ms duration@277Vac , <0.25A2s 70A peak, 1.3ms duration@480Vac , <0.5A2s
Leakage Current	1mA max @277Vac 60Hz, UL8750,0.75mAmax @380Vac 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%lo
Ripple Current	Ip-p:5%lo 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	9.29x3.54x1.63 by inch (body), 10.35x3.54x1.63 by inch (endcaps included) 236x 90 x 41.5 by mm (body), 263 x 90 x 41.5 by mm (endcaps included)
Net Weight	1650g
Packing	10pcs/Carton/20kg, 500x370x335mm

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

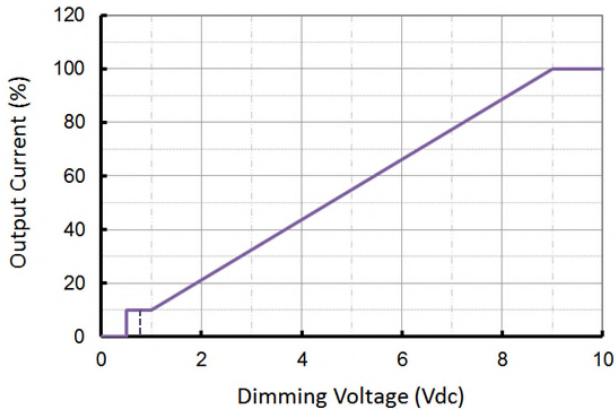
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	200uA	300uA	450uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	10% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	10% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim off threshold		0.5V or 5%	0.6V or 6%
Dim on threshold	0.6V or 6%	0.7V or 7%	
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

Note: Dim-off function is only available in the models with 12Vaux power.

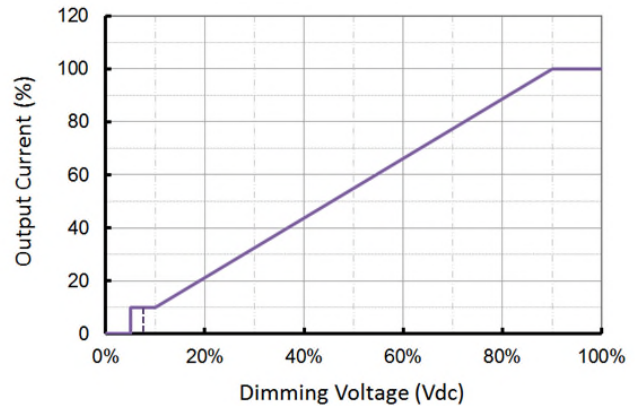
- Dimming Curve

a. With dim-off (default)

0-10V Dimming Curve

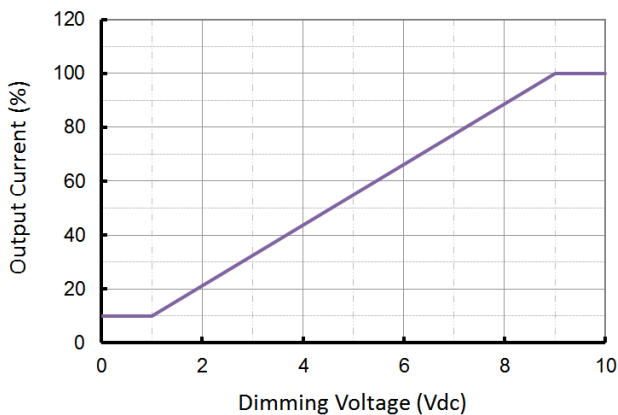


PWM Dimming Curve

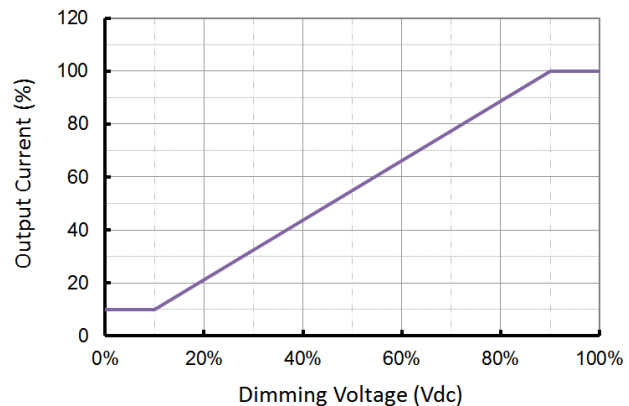


b. Without dim-off (contact sales to get this feature)

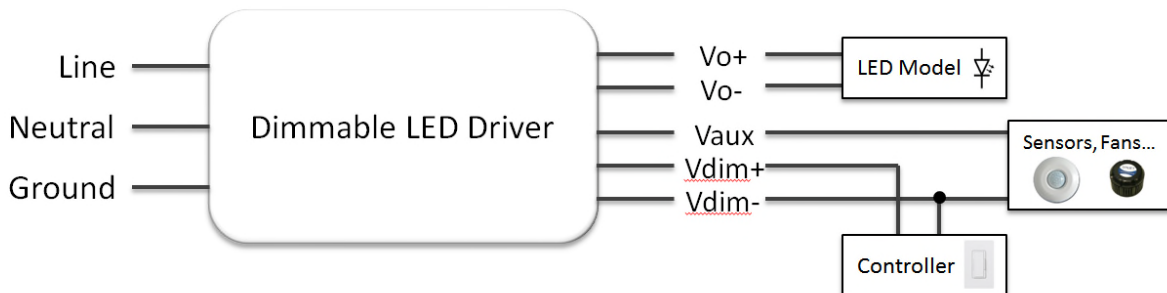
0-10V Dimming Curve



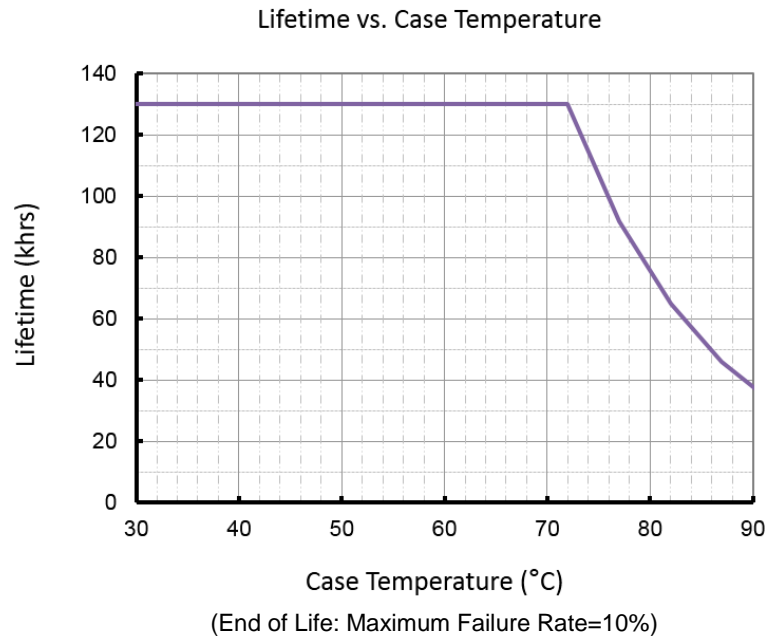
PWM Dimming Curve



- Dimming Wiring

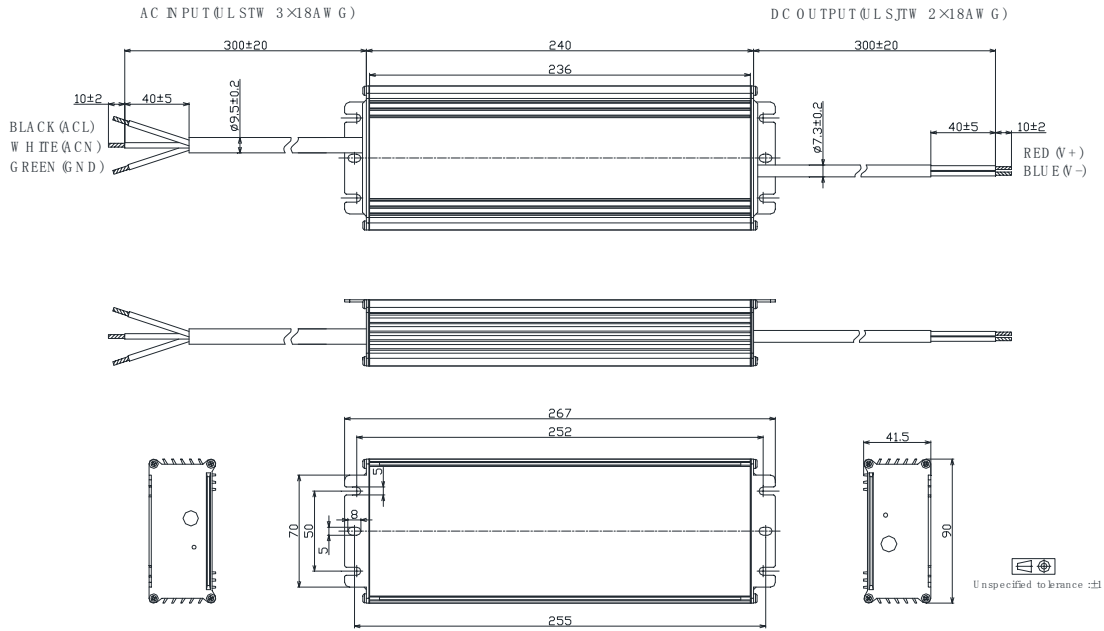


■ Lifetime vs. Case Temperature

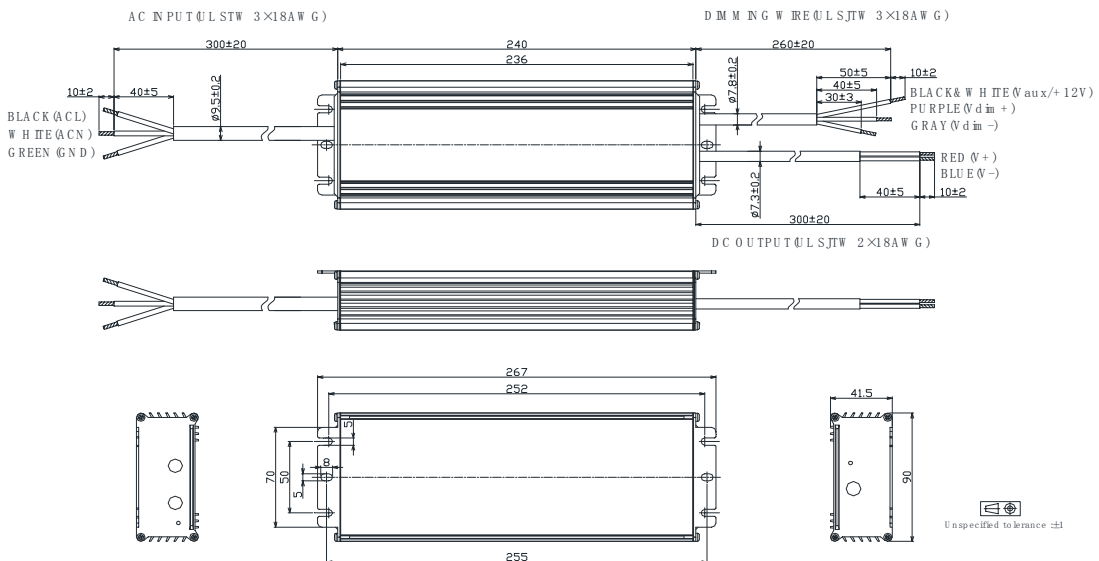


■ Mechanical Design

- LHA400-Cxxx-NN/TRK (UL Cable)



- LHA400-Cxxx-ERK (UL Cable)



- LHA400-Cxxx-ARK (UL Cable)

