

■ Features

- Supply Voltage: 180-528Vac or 250-740Vdc
- Surge Immunity: 10kV
- PWM Output Frequency >1kHz
- 100,000Hour Life @ Tc=75C
- 5 Year Warranty @ Tc<=80C
- 0-10V/PWM/DALI (optional) Dimmable
- 2% Minimum Dimming Output
- Dim Off with 1.5W Standby
- 12V 300mA Auxiliary Power to Power Controllers and Fans (Optional)
- Input Over Voltage Protection (Optional)
- UL Class P, ENEC/CB/CCC SELV Output
- Safety according to EN 61347-1, 61347-2-3, 61347-2-13, 62384



■ Application

- Strip lights, Landscape lights, Bay lights, Street lights, Flood lights

■ Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Output Current Min	Output Current Max	Certification
LHA400-V024-XYZ	180-528Vac	400 W	24V	0	16.7A	UL/FCC
LHA400-V048-XYZ	180-528Vac	400 W	48V	0	8.3A	UL/FCC

XY=	Dimming Method	Programmable	12Vaux	Dim-off
NN	-	-	-	-
EN	0-10V	-	√	√
AN	DALI	-	-	√

Z = K, UL cable with ground wire S, VDE cable/Class I D, VDE cable/Class II

■ 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
Voltage Accuracy	±3%Vo
Setup Time	1.2s max.
Overshoot	10% Vo, max.
Output Over Current	120% Io, 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 $T_c \leq 70 \pm 10^\circ\text{C}$
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

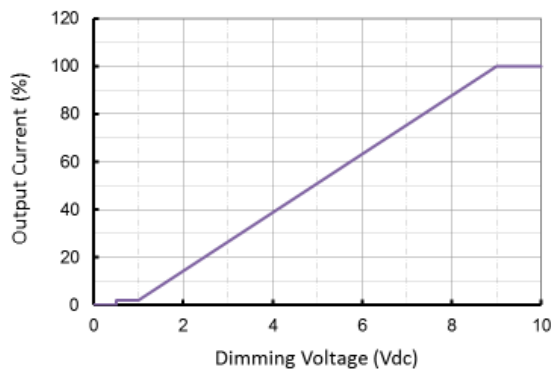
Notes: Unless specified, all the test results are measured in 25°C room temperature.

■ Dimming

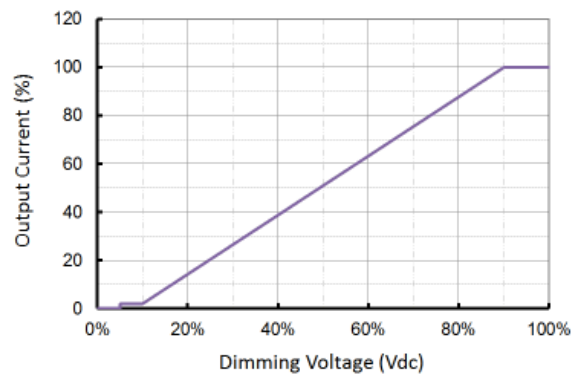
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	200uA	300uA	450uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	2% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	2% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim off threshold		0.5V or 5%	0.6V or 6%
Dim on threshold	0.6V or 6%	0.7V or 7%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

Dimming Curve

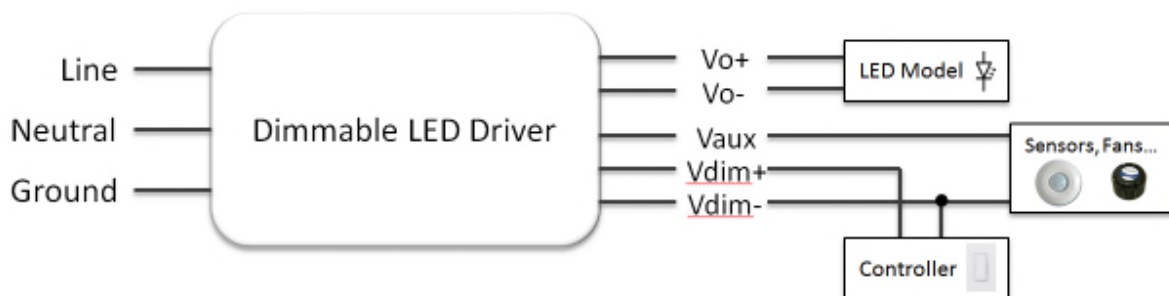
0-10V Dimming Curve



PWM Dimming Curve



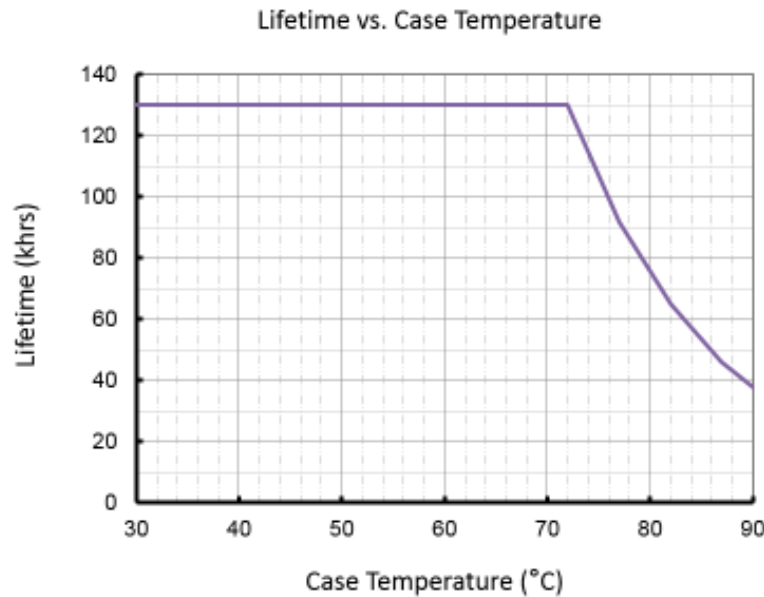
Dimming Wiring



■ 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

■ Lifetime vs. Case Temperature

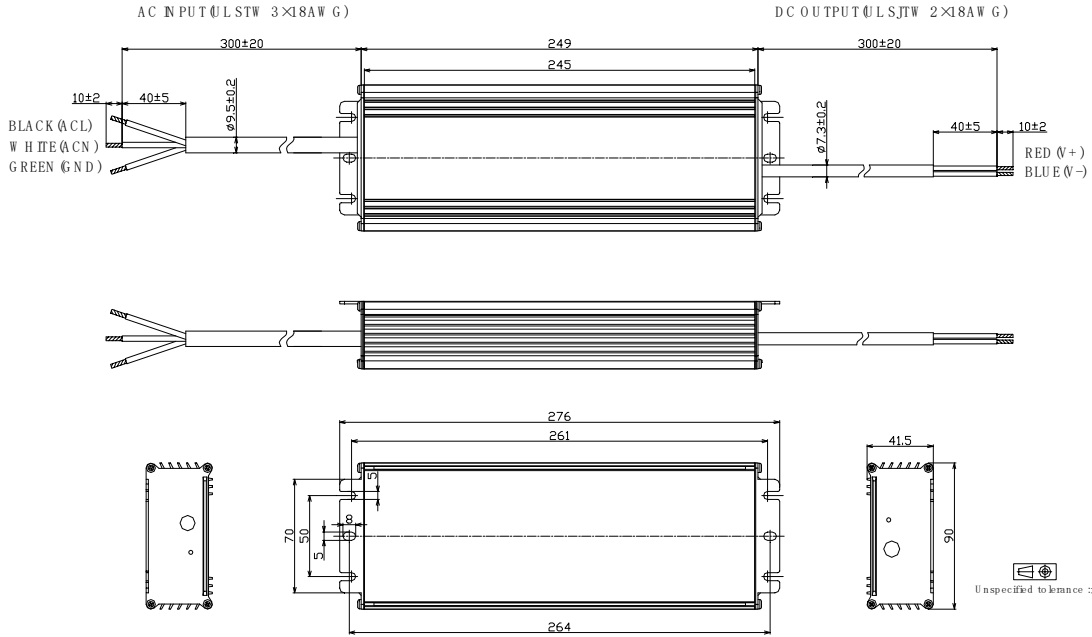


(End of Life: Maximum Failure Rate=10%)

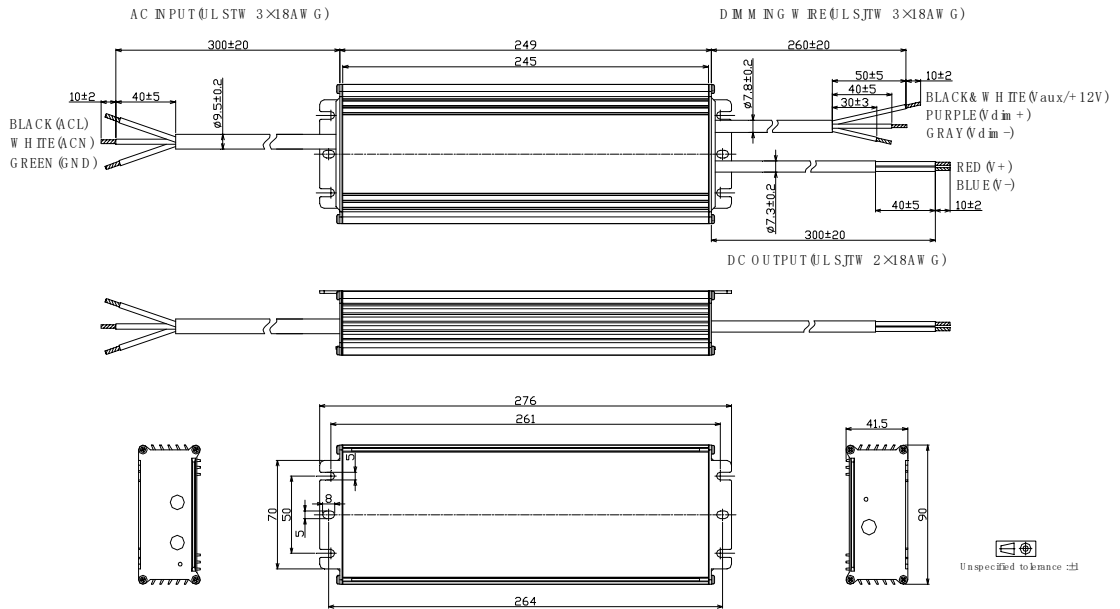
Technical Sales / Customer Service: +1-818-338-7788 • Email: Sales@autec.com
 31328 Via Colinas Suite 102 • Westlake Village, California 91362 USA • www.autec.com

■ Mechanical Design

- LHA400-Vxxx-NNK (UL Cable)



- LHA400-Vxxx-ENK (UL Cable)



- LHA400-Vxxx-ANK (UL Cable)

