

■ Features

- Power Rating: 320W
- Input Voltage: 120-277Vac or 127-420Vdc
- Constant voltage design
- Output current (0mA-20000mA)
- 0-10V/PWM/Timer/DALI/DMX (Optional) Dimming
- Dim to Off with 0.5W Standby Power
- 12V 300mA Auxiliary power to power controllers and fans (optional)
- UL Class P, Type HL
- Optional External Thermal Protection NTC
- OVP, SCP, & OTP
- IP67
- 5+ year warranty
- Surge Immunity 10kV



*Product images are for illustrative purposes only and may vary from actual design.

■ Application

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

■ Model List

Model Number	Input Voltage Range	Output Power	Output Voltage	Output Current Min	Output Current Max	Certification
LWA320-V016-XYZ	120-277 Vac	320 W	16V	0	20A	UL/cUL
LWA320-V024-XYZ	120-277 Vac	320 W	24V	0	13.3A	UL/cUL
LWA320-V048-XYZ	120-277 Vac	320 W	48V	0	6.7A	UL/cUL

Ordering Options	XY=	Dimming Method	Programmable	12Vaux	Dim-off	Programming Range
	NN	-	-	-	-	
	TR	Timing	√	-	-	100%-115%Vo
	EN	0-10V	-	√	√	
	ER	0-10V	√	√	√	100%-115%Vo
	AN	DALI	-	-	√	
	MX	DMX	√	-	√	
Cable Options	Z=	K=UL cable with ground wire (green), S=VDE cable/Class I, D=VDE cable/Class II				
External Thermal Protection NTC Option	-THR	LWA320-V024-XYZ-THR				

DMX Notes: Works with DMX-512 Presently. DMX Dimming range 10-100% (1% DMX command will be treated as 10% Dimming).

Note: Dimmable Constant Voltage Drivers Do NOT Support Switching DC-DC Regulator as Load

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December 2, 2019

■ Technical Data

Input Voltage	120-277 Vac or 127V-420Vdc
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	2.9Amax@120Vac & Full-Load, 1.5Amax@220Vac & Full-Load
Inrush Current	65A peak, 1.2ms duration, <0.25A2s@230Vac, Cold Start 70A peak, 1.3ms duration, <0.5A2s@277Vac, Cold Start
Leakage Current	1mA max @277Vac 60Hz, UL8750, 0.75mAmax @220Vac 50Hz, IEC61347-1
Input Under Voltage	Shut down and auto-restart
Input Over Voltage	*Optional: Shutdown @320Vac
Surge Protection	Line to line 6kV, line to ground 10kV, IEC 61000-4-5
Voltage Accuracy	±3%Vo
Setup Time	1.2s max.
Output 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 $T_c \leq 70 \pm 10^\circ\text{C}$ 105 +/- 10°C (relates to internal component temperature / optional settings are possible, contact Autec sales)
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	8.82x3.54x1.63 by inch (body), 9.88x3.54x1.63 by inch (endcaps included) 224 x 90 x 41.5 by mm (body), 251 x 90 x 41.5 by mm (endcaps included)
Net Weight	1600g
Packing	12pcs/Carton/21.3kg, 490x370x345mm

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

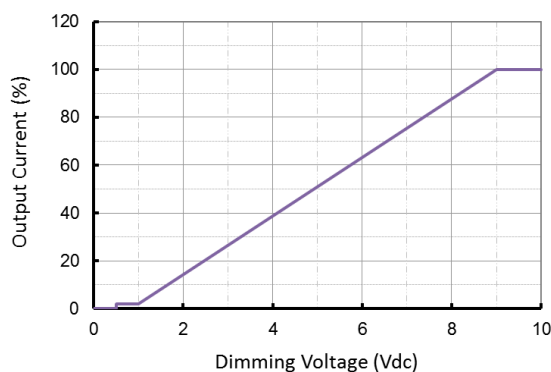
* Marked items are optional. Please contact Autec Sales to specify the required functions.

■ Dimming

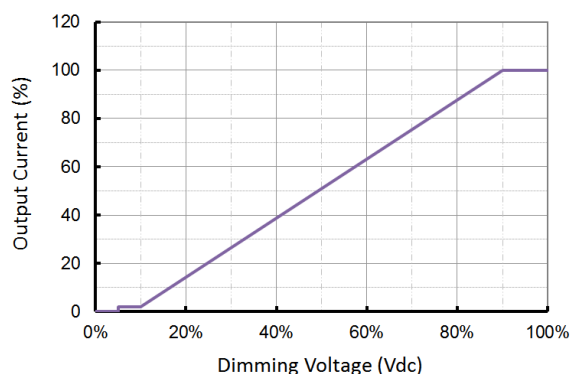
Parameter	Min.	Typ.	Max.
Vdim Sourcing Current	200uA	300uA	450uA
Vdim Allowed Input Voltage	-20 V		20 V
0-10V Dimming Range	2% (Vdim=1V)	Linear	100% (Vdim=9~10V)
PWM Dimming Range	2% (Duty=10%)	Linear	100% (Duty=90-100%)
Dim-off threshold	0.4V or 4%	0.5V or 5%	0.6V or 6%
Dim-on threshold	0.6V or 6%	0.7V or 7%	0.8V or 8%
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

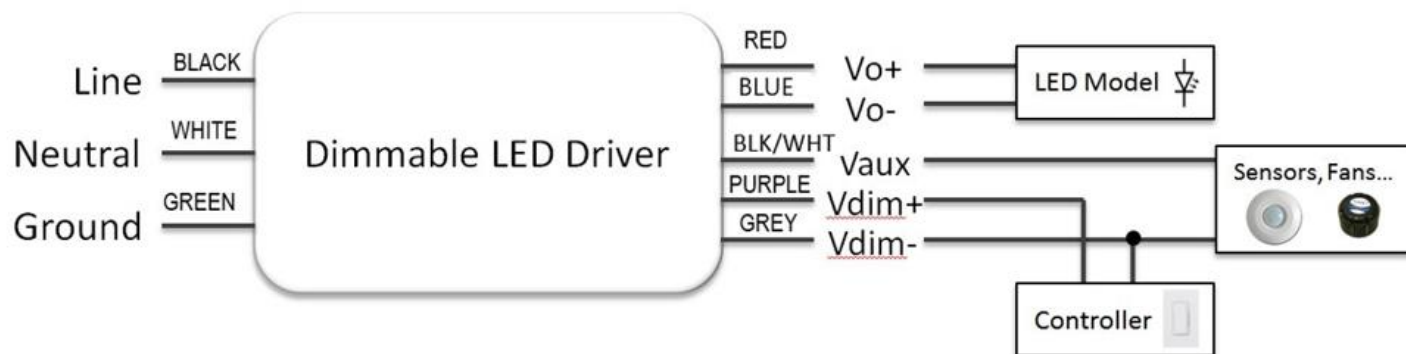
0-10V Dimming Curve



PWM Dimming Curve



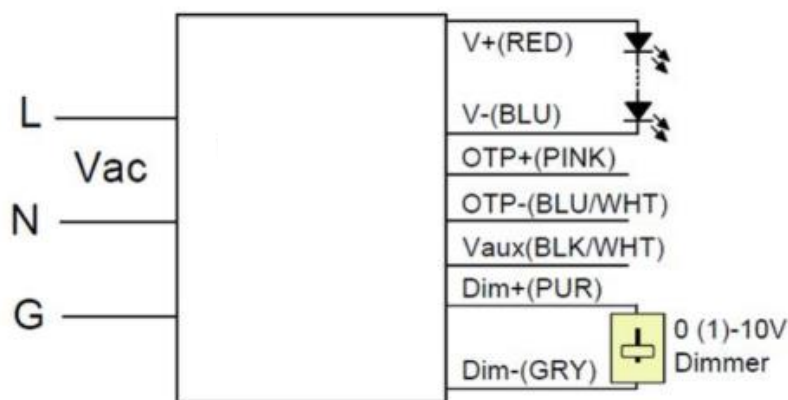
■ Wiring Diagram



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■ **Wiring Diagram/Optional External Thermal Protection**



■ **External Thermal Protection Table(optional)**

Parameter		Min.	Typ.	Max.	Notes
External Thermal Protection NTC	R1	-	7.81 kOhm	-	When R_NTC falls below R1, External Thermal Protection is triggered, reducing output current until R2 is reached.
	R2	-	4.16 kOhm	-	When R_NTC is less than R2, output current is reduced to the programmed "Protection Current Floor."
	Protection Current Floor	10%loset	60%loset	100%loset	10%loset>lomin (default setting is 60%)
		lomin	60%loset	100%loset	10%loset≤lomin (default setting is 60%)

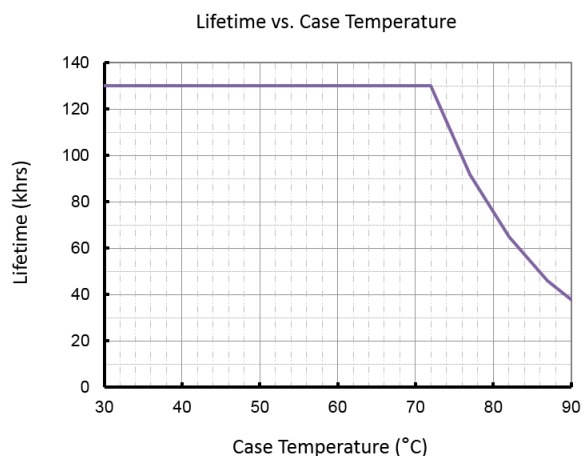
■ Safety/EMC Compliance

Safety Standards	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 DC or AC 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

Disclaimer:

Autec Power Systems' (Autec) LED Drivers are Hi-Pot tested during the manufacturing process. Autec assumes no responsibility for secondary Hi-Pot testing at customer location or designated production line(s). Should customer require further Hi-Pot testing, at their own production line, following assembly of the LED Driver into the customer's assembled fixture, Autec requests advance notice. This request must be communicated to Autec in a timely manner and is recommended to be requested at time of issuing each purchase order.

■ Lifetime vs. Case Temperature

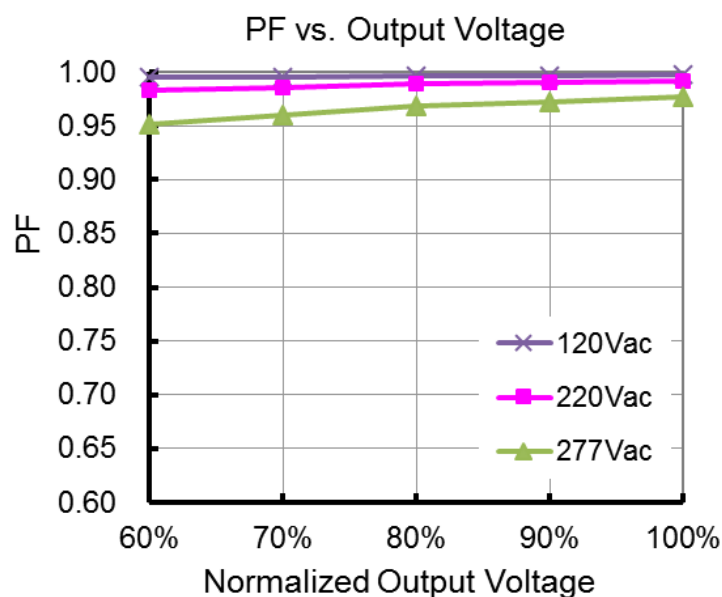


(End of Life: Maximum Failure Rate=10%)

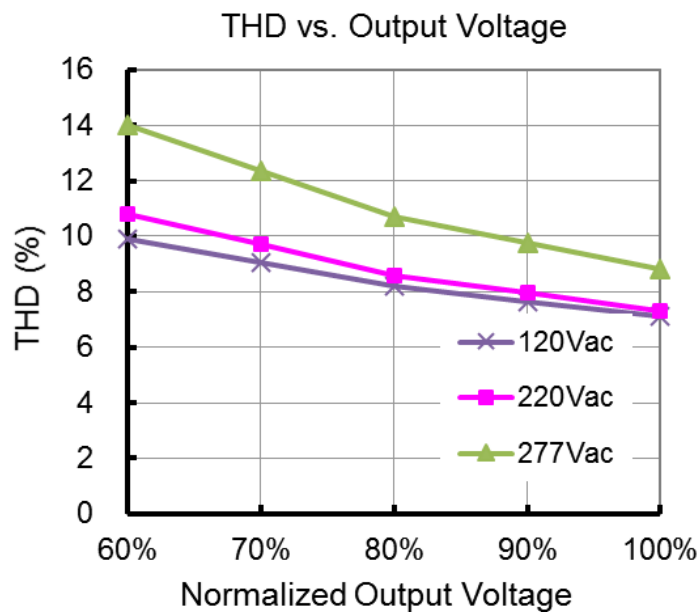
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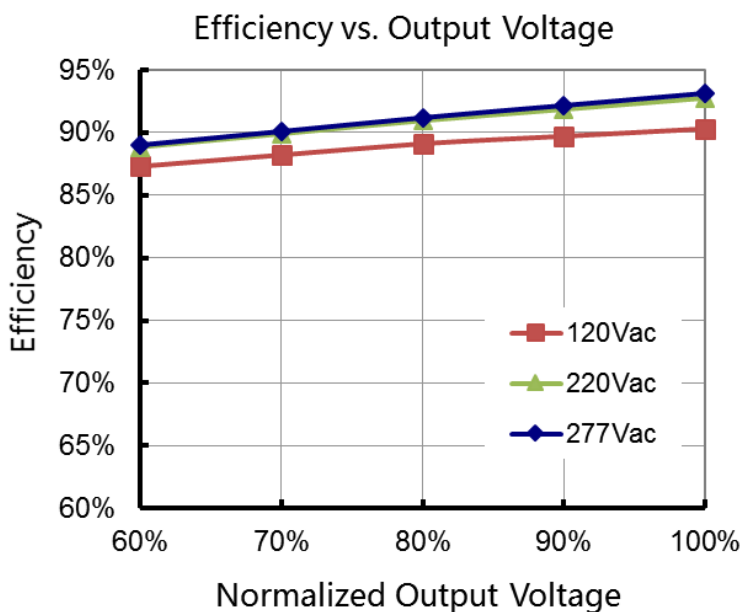
■ **Power Factor vs. Load**



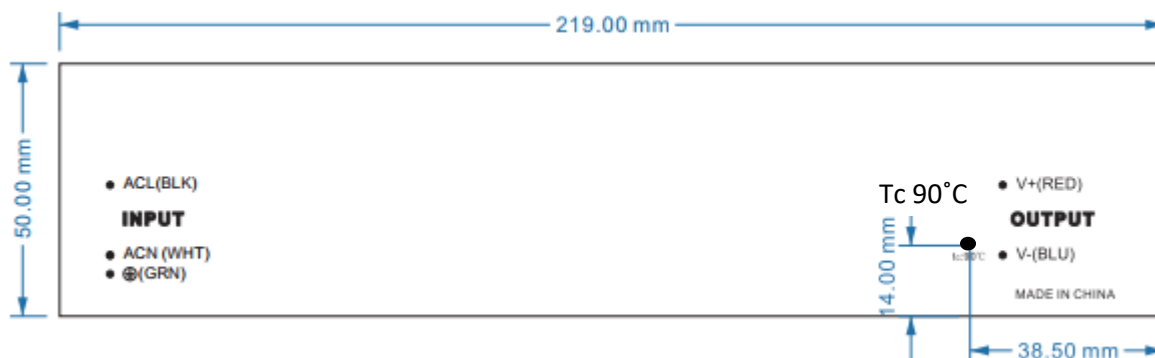
■ **THD vs. Load**



■ **Efficiency vs. Load (24V Model)**

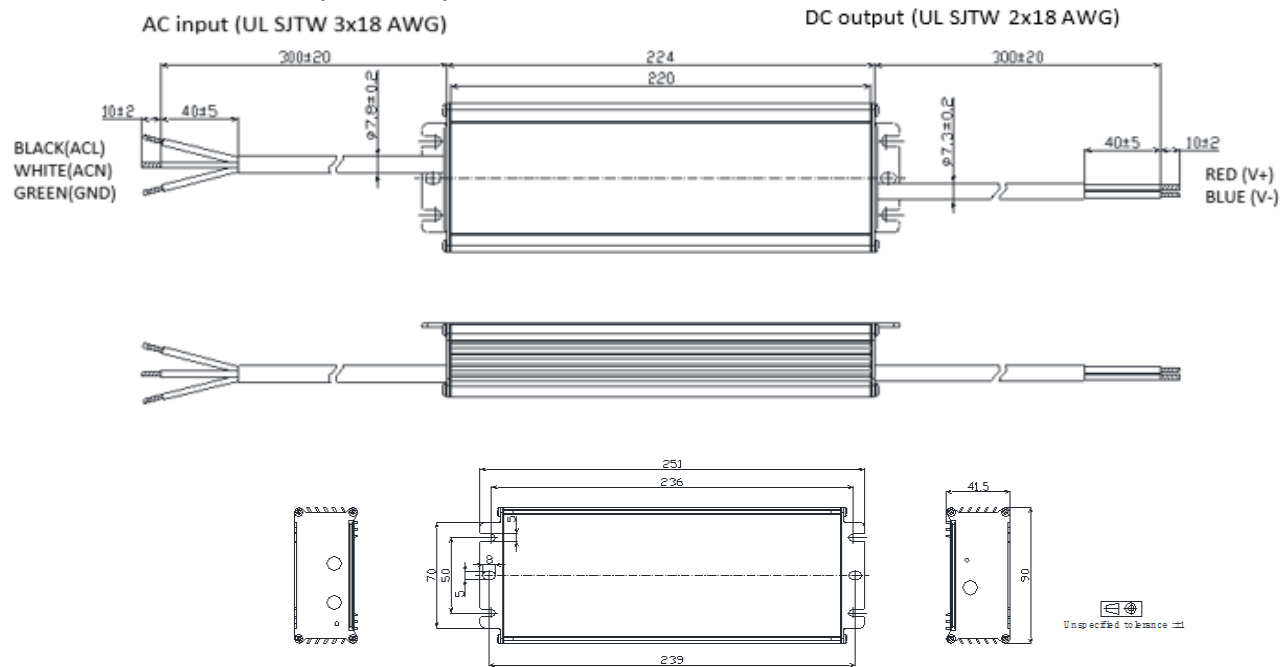


■ **Tc Location(LED Driver Label)**

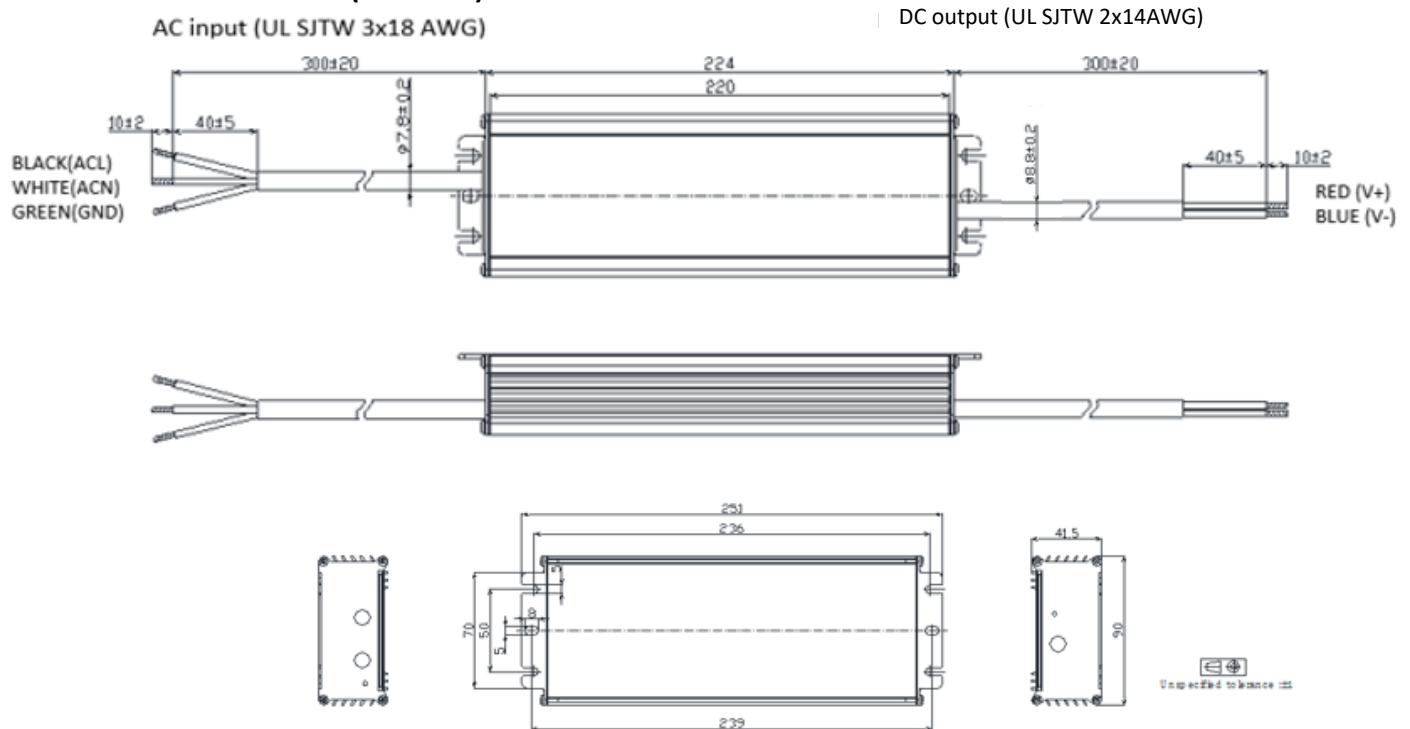


■ Mechanical Design

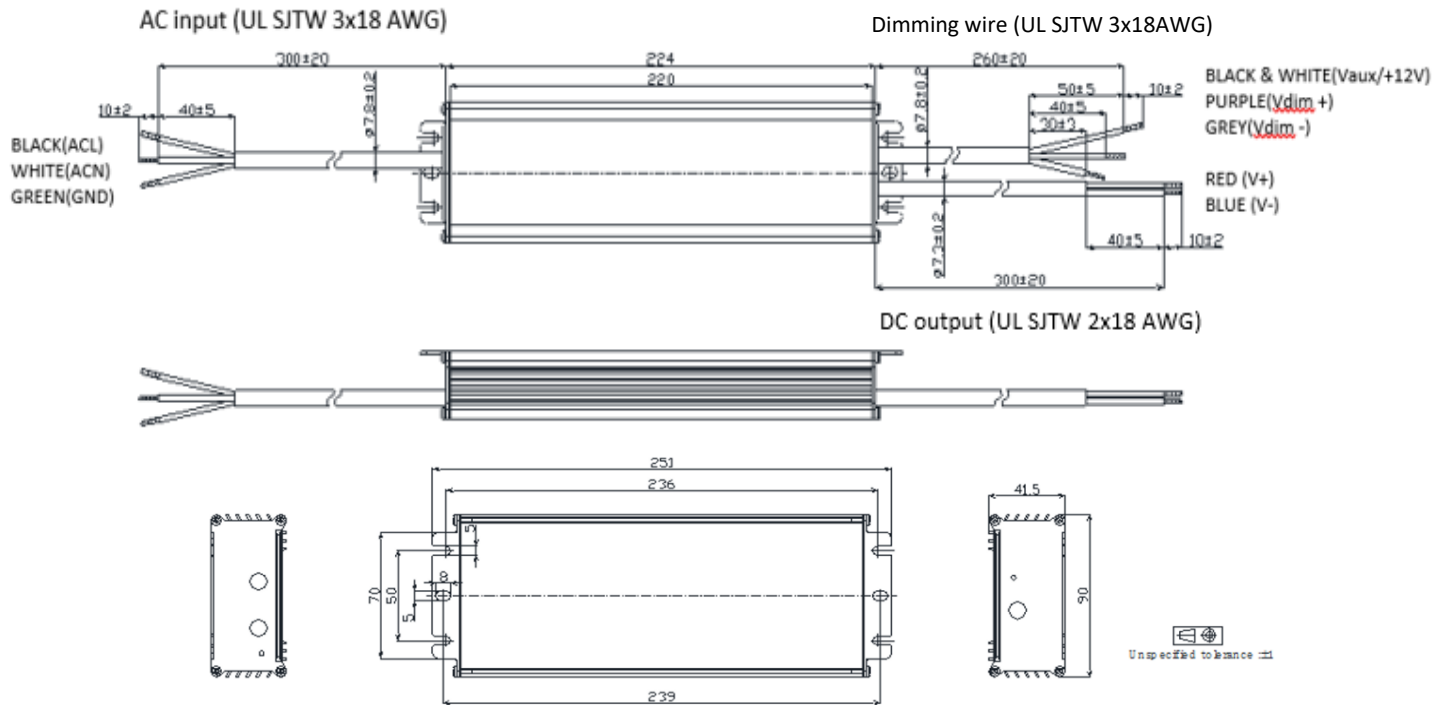
- LWA320-Vxxx-NNK (UL Cable)48V



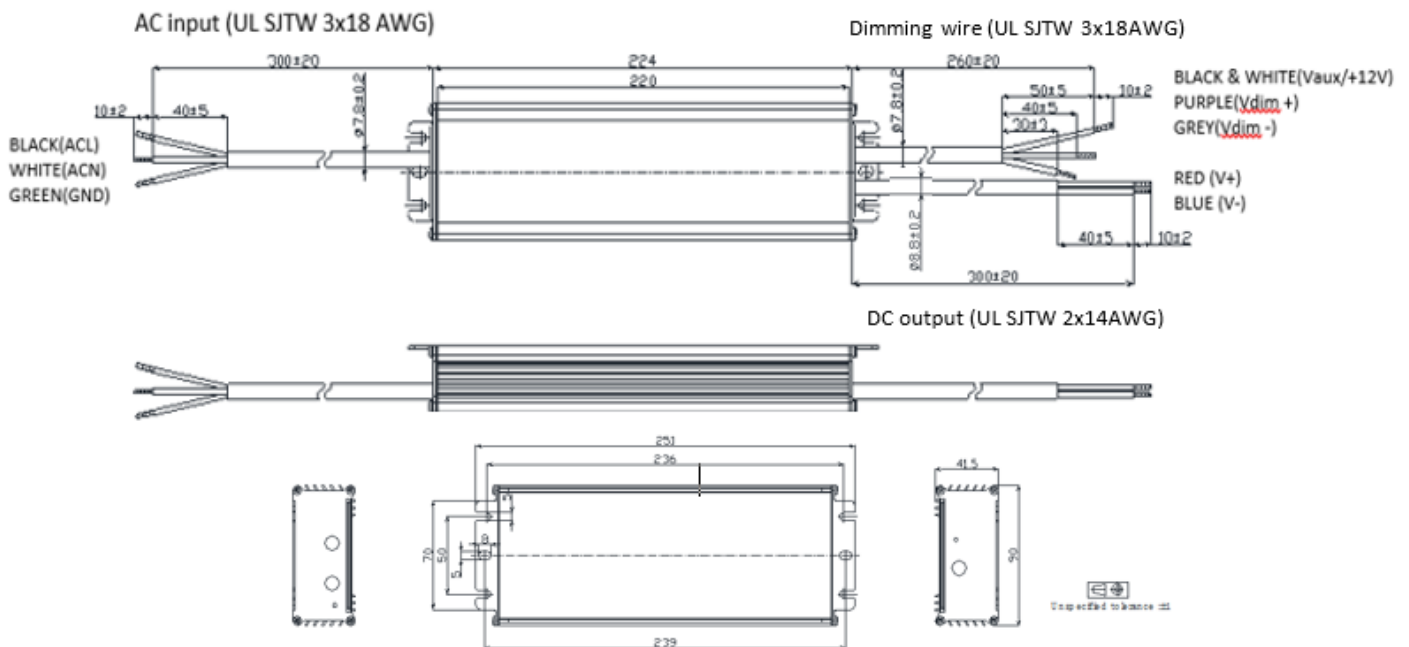
- LWA320-Vxxx-NNK (UL Cable)24V



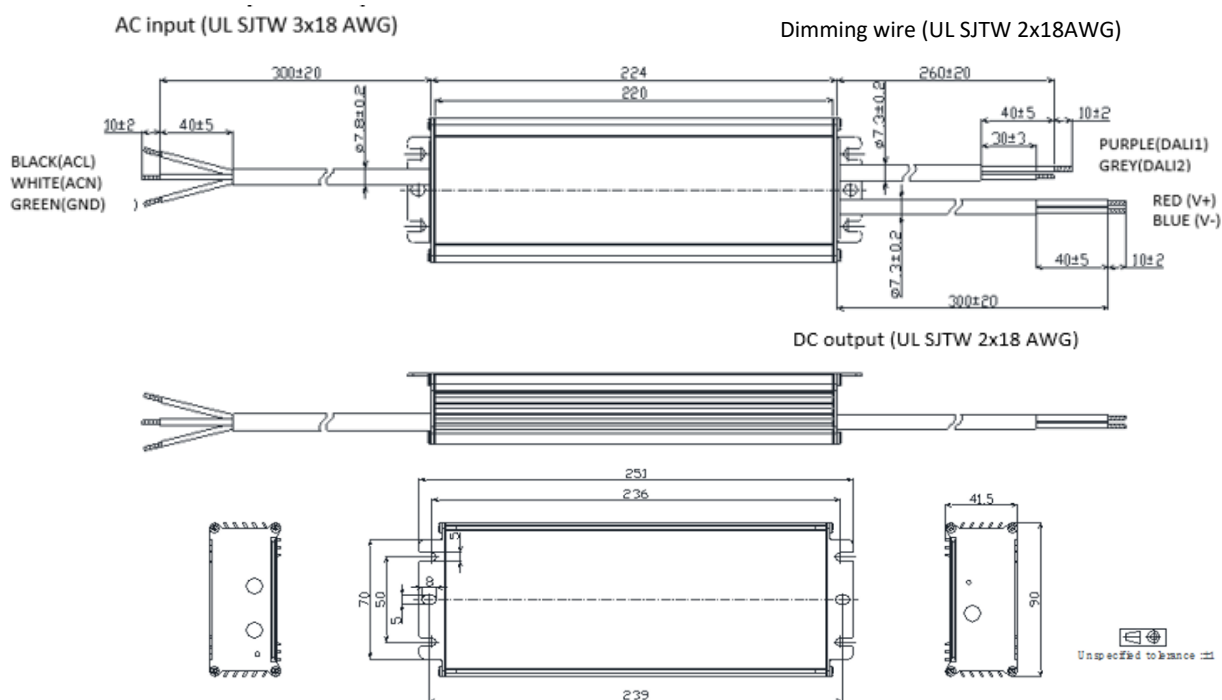
- **LWA320-Vxxx-ENK (UL Cable)48V**



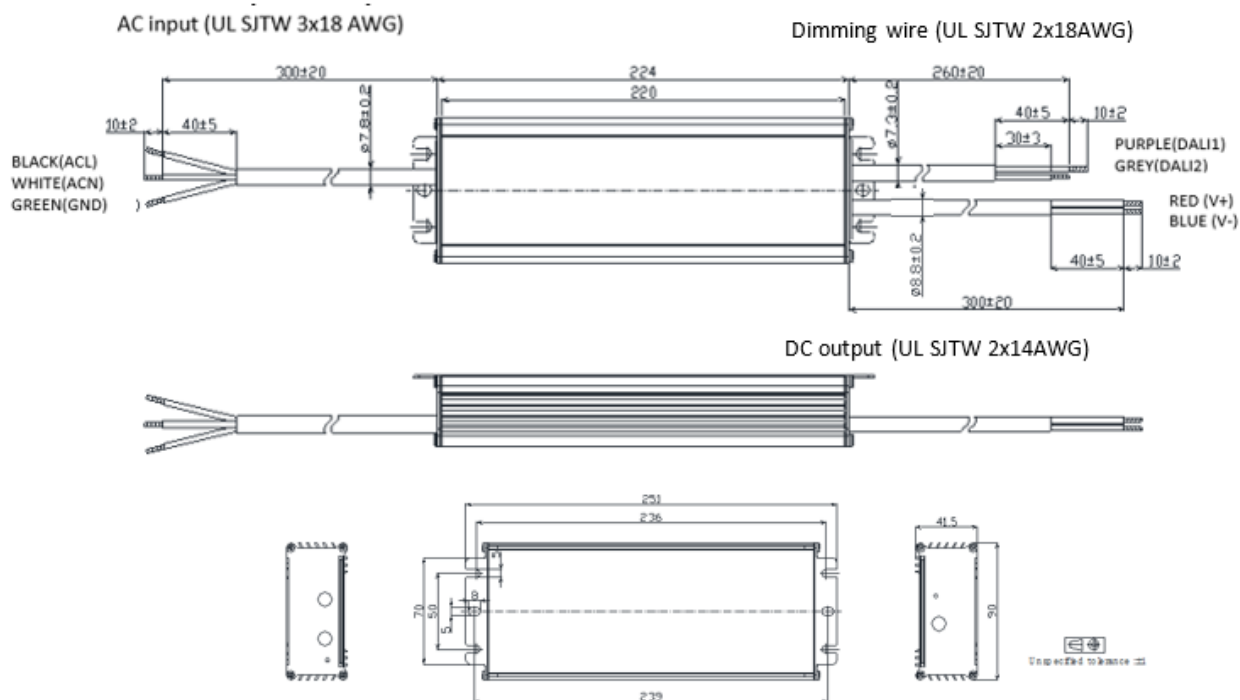
- **LWA320-Vxxx-ENK (UL Cable)16V/24V**



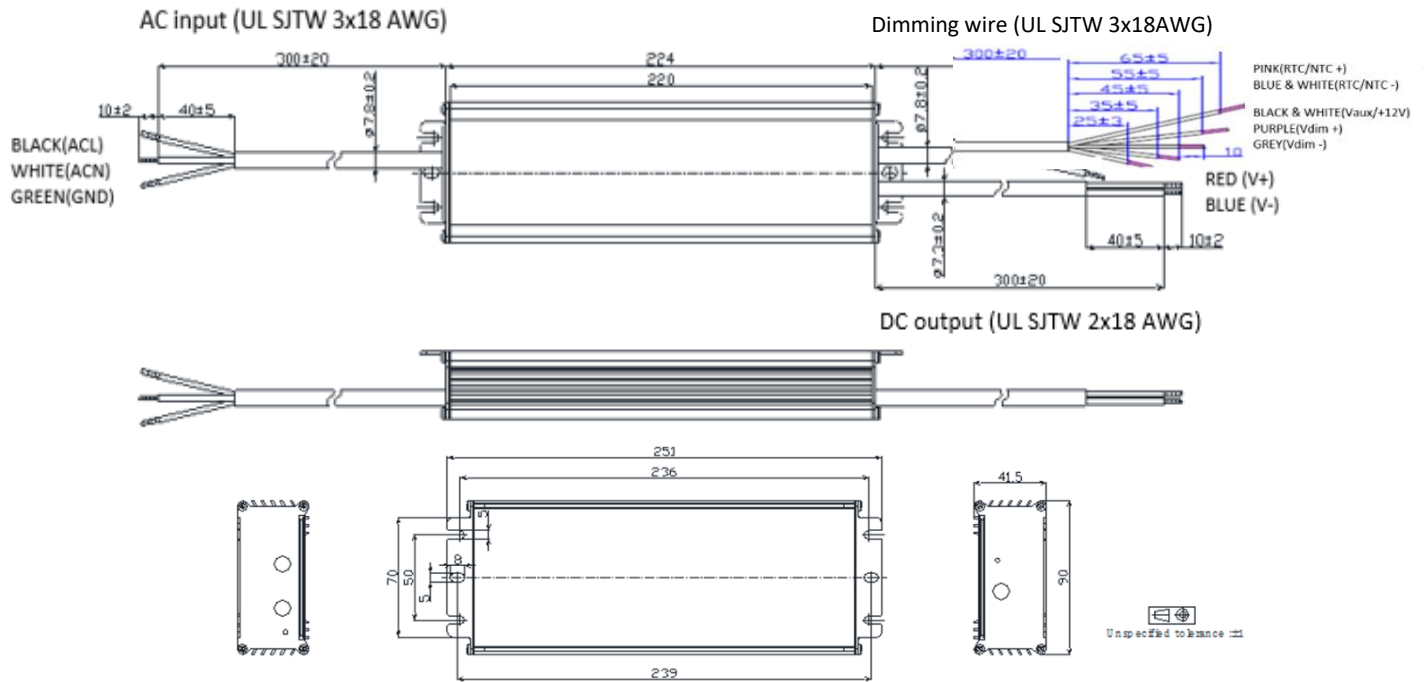
- **LWA320-Vxxx-ANK (UL Cable)48V**



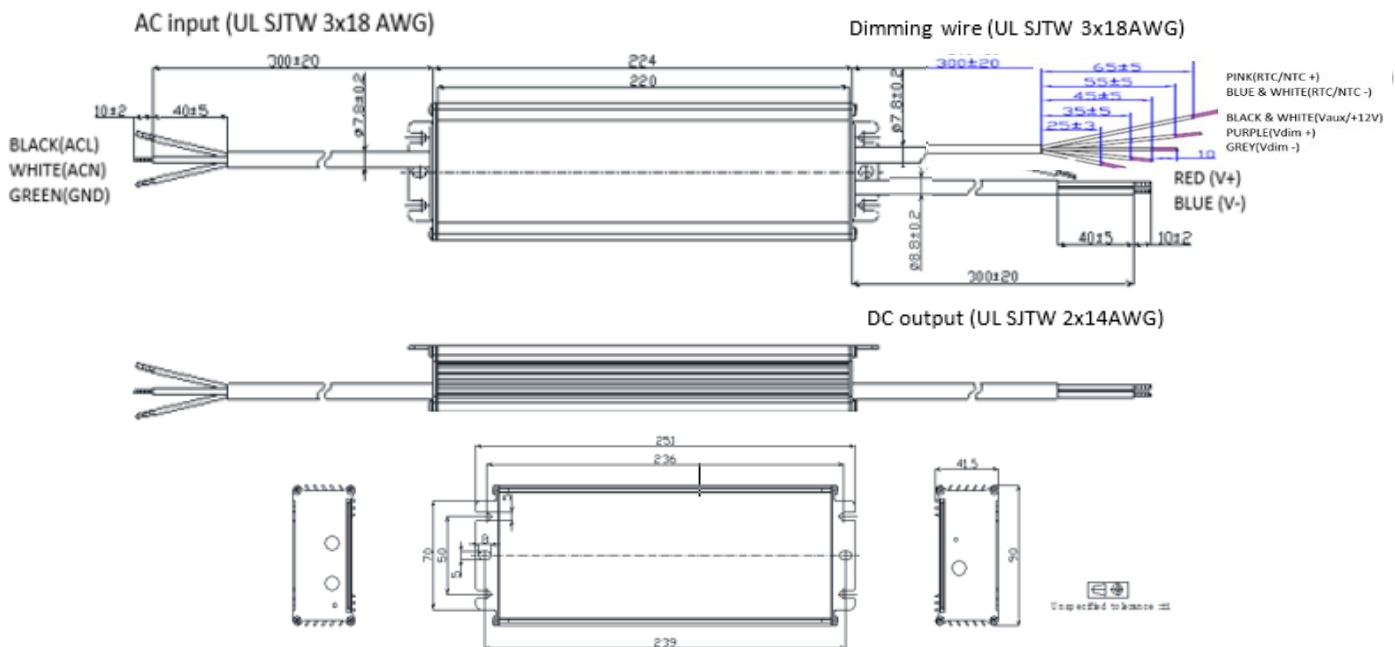
- **LWA320-Vxxx-ANK (UL Cable)16V/24V**



- **LWA320-Vxxx-ENK-THR (UL Cable)48V**



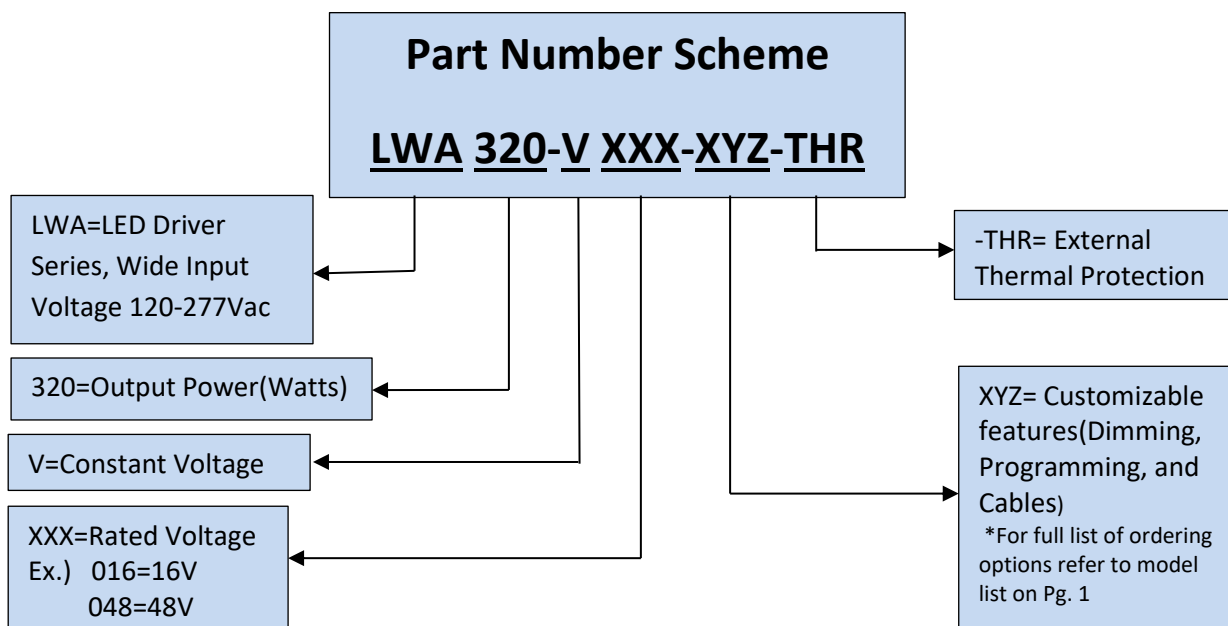
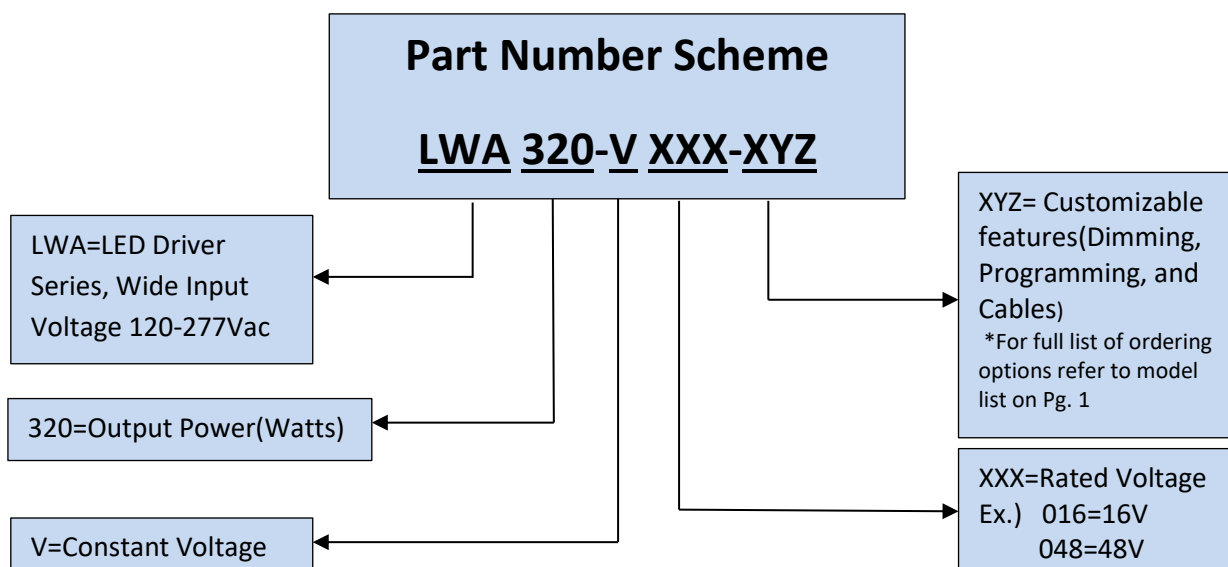
- **LWA320-Vxxx-ENK-THR (UL Cable)16V/24V**



***Contact Autec Sales for non UL Mechanical Diagrams**

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