



# ULV36

36 WATT-24 VOLT | CLASS 2 SUPPLY

Fixture Type: \_\_\_\_\_

Project: \_\_\_\_\_

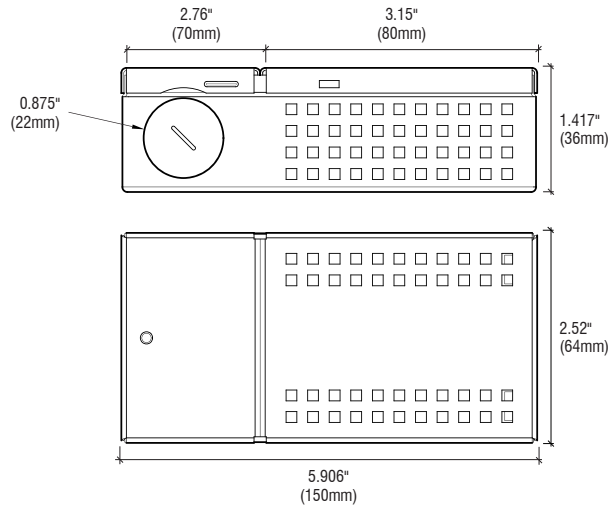
Location: \_\_\_\_\_

### PRODUCT FEATURES

- 431 Hz/Flicker-free Dimming Down to 5%
- Incandescent, ELV, MLV, or 0-10V Dimming
- Protections: Short Circuit/Over Current/Over Voltage
- Free Air Convection Cooling
- Suitable for Dry/Damp Location
- UL-Listed Class 2

### SPECIFICATIONS

Model	ULV36
Input Voltage	100-277 VAC
Output Voltage	24 VDC / Constant Voltage
Max. Wattage	36 W
Temp Range	-20 °F - 158 °F
Dimensions W x H x D	5.906" x 2.52" x 1.417"
Classification	Class 2



Conforms to ANSI/UL Standard 2108  
Certified to CAN/CSA Standard C22.2 No. 250.0





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## MODEL LIST

Model Name	Rated Input Voltage	Rated Output Power	Rated Output Voltage	Output Current	Note
ULV36	120-277 VAC	36W	24VDC	0-1500 mA × 2	
	120 VAC (Phase Cut Dimming)				

## SPECIFICATION

Parameters	Symbols	Test Conditions / Comment	Min	Typ	Max	Units
<b>INPUT</b>						
Input Voltage	V <sub>IN</sub>		108		305	VAC
Rated Input Voltage	V <sub>IN RATED</sub>	Phase Cut Dimming		120		VAC
		No Phase Cut Dimming	120		277	VAC
Input Frequency	f <sub>line</sub>		47	50/60	63	Hz
Input Current	I <sub>IN</sub>	Full Load, V <sub>IN</sub> = 120 VAC			0.40	A
		Full Load, V <sub>IN</sub> = 230 VAC			0.20	A
		Full Load, V <sub>IN</sub> = 277 VAC			0.18	A
<b>GENERAL CHARACTERISTICS</b>						
Power Factor	PF	30% – 100% Load, V <sub>IN</sub> = 120 VAC	0.95			PF
		50% – 100% Load, V <sub>IN</sub> = 230 VAC	0.9			PF
		70% – 100% Load, V <sub>IN</sub> = 277 VAC	0.9			PF
Total Harmonic Distortion	THD	30% – 100% Load, V <sub>IN</sub> = 120 VAC			20	%
		50% – 100% Load, V <sub>IN</sub> = 230 VAC			20	%
		70% – 100% Load, V <sub>IN</sub> = 277 VAC			20	%
Efficiency	η	Full Load, V <sub>IN</sub> = 120 VAC	82	83		%
		Full Load, V <sub>IN</sub> = 230 VAC	83	83.5		%
		Full Load, V <sub>IN</sub> = 277 VAC	83	83.5		%
Turn On Delay Time	T <sub>on_delay</sub>	Cold Start, No Dimmer		0.3	0.5	S
Leakage Current	I <sub>Leakage</sub>	V <sub>IN</sub> = 277 VAC / 60Hz			0.5	mA
<b>OUTPUT</b>						
Output Voltage	V <sub>OUT</sub>	No Dimming	22.8	24	24.7	V
Output Current	I <sub>OUT</sub>		0		1500	mA
Line Regulation	I <sub>OUT-LINE</sub>				1	%
Load Regulation	I <sub>OUT-LOAD</sub>				1	%
Ripple Voltage	I <sub>OUT-RIPPLE</sub>	Full Load, (pk-to-pk) / (2 × Average)			10	%
Output Voltage Overshoot	I <sub>OVERSHOOT</sub>	Power ON			5	%
<b>0-10V OR RESISTOR DIMMING</b>						
The 0-10V or resistor dimming is a dimming manner that can be used to dim the output voltage via a standard commercial wall dimmer (0-10VDC) or an external control voltage source (0-10VDC) or external resistor.						
The dimming range is 100% V <sub>OUT</sub> to 5% V <sub>OUT</sub> . When V <sub>DIM</sub> is 8-10VDC, the output voltage maintains 100% V <sub>OUT</sub> , and when V <sub>DIM</sub> is below 0.6V, the output voltage is 5% V <sub>OUT</sub> .						
Absolute Maximum Voltage on 0-10V Pin	V <sub>DIM</sub>		-2		15	V
Source Current on 0-10V Dimming Pin	I <sub>DIM</sub>			100		μA
V <sub>DIM</sub> Voltage for Full Bright	V <sub>DIM-MAX</sub>		8			V
Output Duty Cycle	D <sub>0-10V</sub>	PWM Output	5		100	%



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## SPECIFICATION (CONT.)

Parameters	Symbols	Test Conditions/Comment	Min	Typ	Max	Units
<b>PWM DIMMING</b>						
The PWM dimming is a dimming manner that can be used to dim the output voltage via the duty cycle of PWM signal.						
The dimming range is 100% $V_{OUT}$ to 5% $V_{OUT}$ . When the duty cycle is 80% to 100%, the output voltage reaches 100% $V_{OUT}$ , and the output voltage maintains 5% $V_{OUT}$ when the duty cycle below 6%.						
PWM Frequency	f <sub>PWM</sub>		0.1		1	KHz
High Level Voltage of PWM Signal	V <sub>PWM-High</sub>		8	10	12	V
Lower Level Voltage of PWM Signal	V <sub>PWM-Low</sub>		0		1	V
Output Duty Cycle	D <sub>PWM</sub>	PWM Output	5		100	%
<b>TRIAC DIMMING</b>						
The unit is compatible with leading-edge and trailing-edge dimmer.						
Input Voltage	V <sub>IN-TRIAC DIM</sub>			120		VAC
Output Duty Cycle	D <sub>TRIAC</sub>	PWM Output	0	-	100	%
Suggest Load Range	P <sub>Suggest</sub>	V <sub>IN</sub> = 120 VAC	5		36	W
<b>PROTECTION</b>						
Over Voltage Protection	V <sub>ovp</sub>	Latch Off Mode			30	V
Over Temperature Protection	T <sub>otp</sub>	If the case temperature exceeds OTP point, the output voltage of the driver is automatically reduced.	100	105	110	°C
Short Circuit Protection		It will recover automatically after fault conditions is removed.				
<b>ENVIRONMENT</b>						
Storage Temperature	T <sub>Storage</sub>	Humidity: 5% RH to 95% RH	-40	-	+85	°C
Operating Relative Humidity	H <sub>a</sub>	Non Condensing	10		90	%
<b>OTHERS</b>						
Life Time	T <sub>Life</sub>	Full Load, 120 VAC Input, 50 °C Case Temperature	50			kHrs
MTBF	T <sub>MTBF</sub>		200			kHrs
Dimension L × W × H		5.906" × 2.52" × 1.417" (150mm × 64mm × 36mm)				
<b>SAFETY COMPLIANCE</b>						
UL Listed		UL8750 Compliance to UL1310 Class 2, CSA-C22.2 No. 107.1				
<b>EMC COMPLIANCE</b>						
FCC Part 15B		Conducted Emission Test and Radiated Emission Test				
Note: Unless otherwise specified, all the above parameters are measured at ambient temperature of 25 °C and V <sub>IN</sub> = 100–277 VAC.						



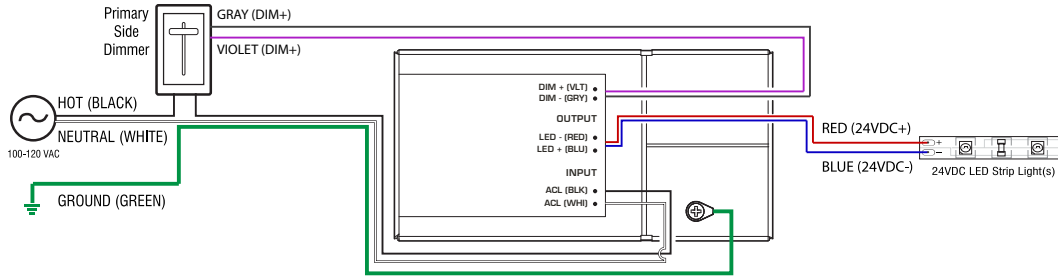
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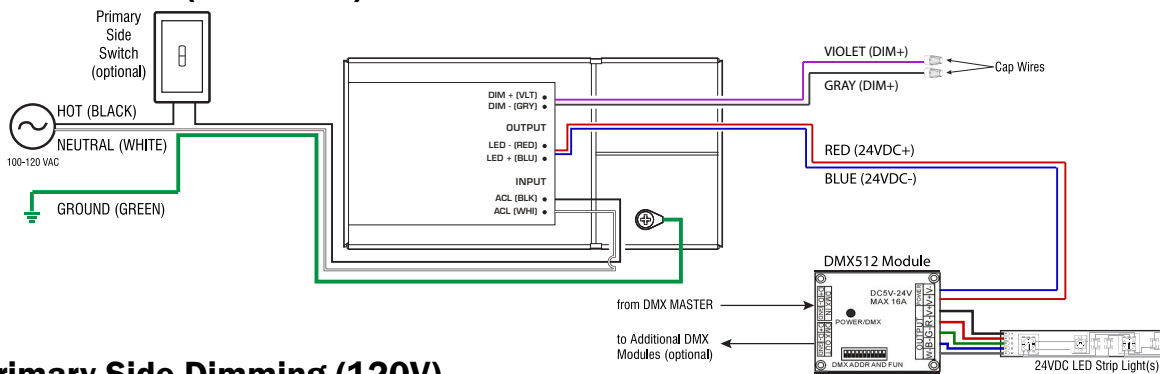


## TYPICAL APPLICATION

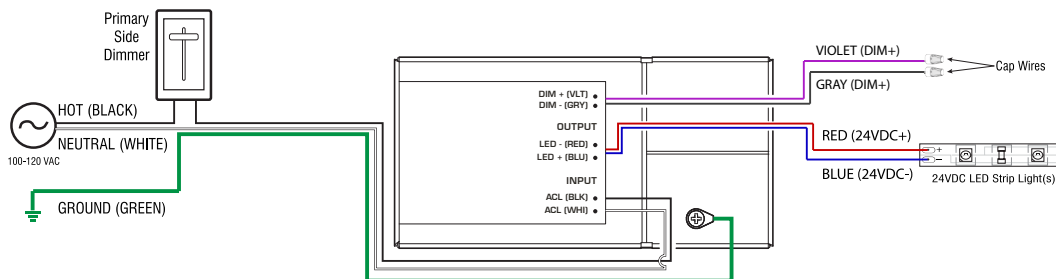
### 0-10V Dimming (120-277V)



### DMX Control (120-277V)



### Primary Side Dimming (120V)



### Primary Side Switching (120-277V)

