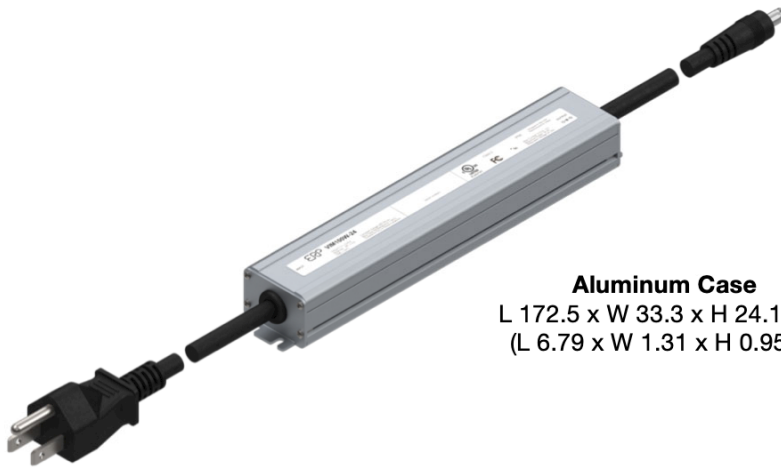


## 90 & 60 W, Efficient, CV Class 2 LED Drivers

Nominal Input Voltage	Max. Output Power	Nominal Output Voltage	Max. Output Current	Efficiency	Max. Case Temperature	THD	Power Factor
120 & 277 Vac	90 W	12, 24 Vdc	5, 3.75 A	up to 90% typical	90°C (measured at the hot spot)	< 20%	> 0.9



**Aluminum Case**  
 L 172.5 x W 33.3 x H 24.1 mm  
 (L 6.79 x W 1.31 x H 0.95 in)



**Typical Application Diagram**



**Wiring Diagram**

### ORDERING INFORMATION

ERP Part Number	Nominal Input Voltage (Vac)	Pout Max (W)	Vout Nom (Vdc)	Iout Min (A)	Iout Max (A)	Open Loop Voltage (No Load Vout Max) (Vdc)
VIM060W-12	120 & 277	60	12	0.1	5	12.84
VIM100W-24	120 & 277	90	24	0.2	3.75	25.68

### FEATURES

- Class 2 power supply
- IP20-rated case with silicone-based potting
- Complies with ENERGY STAR®, DLC (DesignLight Consortium®) and CA Title 24 technical requirements
- Lifetime: 50,000 hours min
- Worldwide safety approvals cUL<sub>US</sub> LISTED FC



CA Title 24



### TYPICAL APPLICATIONS

- Signage
- Strip lights



## 90 & 60 W, Efficient, CV Class 2 LED Drivers

### 1 - INPUT SPECIFICATION (@25°C ambient temperature)

	Units	Minimum	Typical	Maximum	Notes
<b>Input Voltage Range (Vin)</b>	Vac	90	120 & 277	305	<ul style="list-style-type: none"> <li>The rated output voltage for each model is achieved at <math>V_{in} \geq 105</math> Vac &amp; at <math>V_{in} \geq 249</math> Vac.</li> <li>At maximum load</li> </ul>
<b>Input Frequency Range</b>	Hz	47	50/60	63	
<b>Input Current (Iin)</b>	A			1.05 A @ 120 Vac 0.48 A @ 277 Vac	
<b>Power Factor (PF)</b>		0.9	> 0.9		<ul style="list-style-type: none"> <li>At nominal input voltage</li> <li>From 100% to 60% of rated power</li> </ul>
<b>Inrush Current</b>	A	Meets NEMA-410 requirements			At any point on the sine wave and 25°C
<b>Leakage Current</b>	µA			400 µA @ 120 Vac 920 µA @ 277 Vac	Measured per IEC60950-1
<b>Input Harmonics</b>	Complies with IEC61000-3-2 for Class C equipment				
<b>Total Harmonics Distortion (THD)</b>				20%	<ul style="list-style-type: none"> <li>At nominal input voltage</li> <li>From 100% to 60% of rated power</li> <li>Complies with DLC (Design Light Consortium) technical requirements</li> </ul>
<b>Efficiency</b>	%	-	up to 90%	-	Measured with nominal input voltage
<b>Isolation</b>	The AC input to the main DC output is isolated.				

### 2 - MAIN OUTPUT SPECIFICATION (@25°C ambient temperature)

	Units	Minimum	Typical	Maximum	Notes
<b>Output Voltage (Vout)</b>	Vdc		12, 24		See ordering information for details
<b>Output Current (Iout)</b>	A			12 Vdc: 5.0 A 24 Vdc: 3.75 A	The rated output voltage for each model is achieved at $V_{in} \geq 105$ Vac & at $V_{in} \geq 249$ Vac.
<b>Output Voltage Regulation</b>	%	-5		5	<ul style="list-style-type: none"> <li>At nominal AC line voltage</li> <li>Includes load and current set point variations.</li> </ul>
<b>Output Voltage Overshoot</b>	%	-	-	10	The driver does not operate outside of the regulation requirements for more than 500 ms during power on with maximum load.
<b>Ripple Voltage</b>	≤ 5% of rated output voltage for each model				<ul style="list-style-type: none"> <li>Measured at maximum load and nominal input voltage</li> <li>Calculated in accordance with the IES Lighting Handbook, 9th edition</li> </ul>
<b>Start-up Time</b>	ms			500	<ul style="list-style-type: none"> <li>Measured from application of AC line voltage to 100% light output</li> <li>Measured at nominal AC input voltage and with maximum loading</li> <li>Complies with ENERGY STAR® luminaire specification.</li> </ul>

## 90 & 60 W, Efficient, CV Class 2 LED Drivers

### 3 - ENVIRONMENTAL CONDITIONS

	Units	Minimum	Typical	Maximum	Notes
Operating Ambient Temperature (Ta)	°C	-20		+40	
Maximum Case Temperature (Tc)	°C			+90	Case temperature measured at the hot spot •tc (see label in page 6)
Storage Temperature	°C	-40		+85	
Humidity	%	5	-	95	Non-condensing
Cooling	Convection cooled				
Acoustic Noise	dBA			24	Measured at a distance of 1 meter
Mechanical Shock Protection	per EN60068-2-27				
Vibration Protection	per EN60068-2-6 & EN60068-2-64				
MTBF	> 200,000 hours when operated at nominal input and output conditions, and at Tc ≤ 70°C				
Lifetime	50,000 hours at Tc ≤ 70°C				

### 4 - EMC COMPLIANCE AND SAFETY APPROVALS

EMC Compliance					
Conducted and Radiated EMI	FCC CFR Title 47 Part 15 Class B at 120 Vac and Class A at 277 Vac				
Harmonic Current Emissions	IEC61000-3-2 For Class C equipment				
Voltage Fluctuations & Flicker	IEC61000-3-3				
Immunity Compliance	ESD (Electrostatic Discharge)	IEC61000-4-2	6 kV contact discharge, 8 kV air discharge, level 3		
	RF Electromagnetic Field Susceptibility	IEC61000-4-3	3 V/m, 80 - 1000 MHz, 80% modulated at a distance of 3 meters		
	Electrical Fast Transient	IEC61000-4-4	± 2 kV on AC power port for 1 minute, ±1 kV on signal/control lines		
	Surge	IEC61000-4-5	•± 2 kV line to line (differential mode) /± 2 kV line to common mode ground (tested to secondary ground) on AC power port, ±0.5 kV for outdoor cables		
			ANSI/IEEE c62.41.1-2002 & c62.41.2-2002 category A, 2.5 kV ring wave		
	Conducted RF Disturbances	IEC61000-4-6	3V, 0.15-80 MHz, 80% modulated		
Voltage Dips	IEC61000-4-11	>95% dip, 0.5 period; 30% dip, 25 periods; 95% reduction, 250 periods			
Safety Agency Approvals					
UL	UL8750 listed LVLE				
cUL	CAN/CSA C22.2 No. 250.13-14 LED equipment for lighting applications				
Safety					
	Units	Minimum	Typical	Maximum	Notes
Hi Pot (High Potential) or Dielectric voltage-withstand	Vdc	2500			<ul style="list-style-type: none"> <li>Insulation between the input (AC line and Neutral) and the output</li> <li>Tested at the RMS voltage equivalent of 1767 Vac</li> </ul>



# VIM Series

VIM060W-12 60 W  
VIM100W-24 90 W

## 90 & 60 W, Efficient, CV Class 2 LED Drivers

### ■ 5 - PROTECTION FEATURES

#### **Under-Voltage (Brownout)**

The VIM series provides protection circuitry such that an application of an input voltage below the minimum stated in section 1 (Input Specification) shall not cause damage to the driver.

#### **Internal Over temperature Protection**

The VIM is equipped with an internal temperature sensor on the primary power train. Failure to stay within the convection power rating will cause the driver to shut down. The main output current will be resumed when the temperature of the built-in temperature sensor cools adequately.

#### **Output Open Load**

A no load condition will not damage the VIM or cause a hazardous condition. The driver will remain stable and operate normally after application of a load. When the LED load is removed, the output voltage of the VIM series is limited to 7% about the output voltage of each model.

#### **Over Power Protection**

The VIM will shut down and auto recover in an over power condition. This condition will cause no damage to the power supply.

#### **Input Over Current Protection**

The VIM series incorporates a primary AC line fuse for input over current protection.

#### **Short Circuit and Over Current Protection**

The VIM series is protected against short-circuit such that a short from any output to return shall not result in a fire hazard or shock hazard. The driver shall hiccup as a result of a short circuit or over current fault. Removal of the fault will return the driver to within normal operation. The driver shall recover, with no damage, from a short across the output for an indefinite period of time.

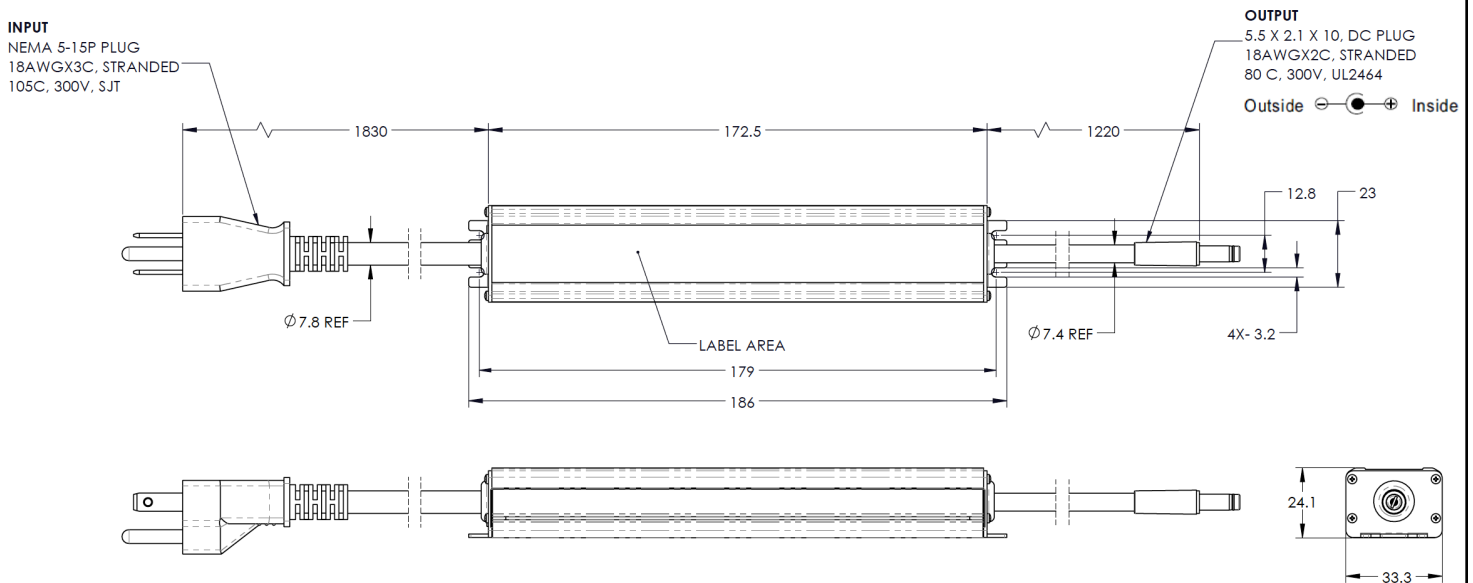
## 90 & 60 W, Efficient, CV Class 2 LED Drivers

### 6 - MECHANICAL DETAILS

- Packaging Options:** Aluminum case
- I/O Connections:** Jacketed wires.
- Ingress Protection:** IP20 rated
- Mounting Instructions:** The VIM driver case must be secured on a flat metal baseplate or surface.

### 7 - OUTLINE DRAWINGS

- Dimensions:** L 172.5 x W 33.3 x H 24.1 mm (L 6.79 x W 1.31 x H 0.95 in)
- Volume:**
- Weight:**



All dimensions are in mm  
**Figure 1**



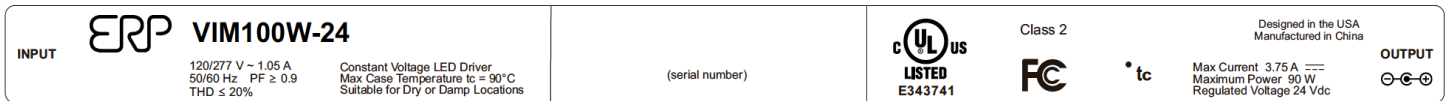
# VIM Series

**VIM060W-12 60 W**  
**VIM100W-24 90 W**

## 90 & 60 W, Efficient, CV Class 2 LED Drivers

### 8 - LABELING

The VIM100W-24 is used in figure 2 as examples to illustrate a typical label.



**Figure 2**

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 Fax: +1-805-517-1411  
 893 Patriot Drive, Suite E,  
 Moorpark, CA 93021, USA

**CHINA Operations**  
 Tel: +86-756-6266298  
 Fax: +86-756-6266299  
 No. 8 Pingdong Road 2  
 Zhuhai, Guangdong, China 519060

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