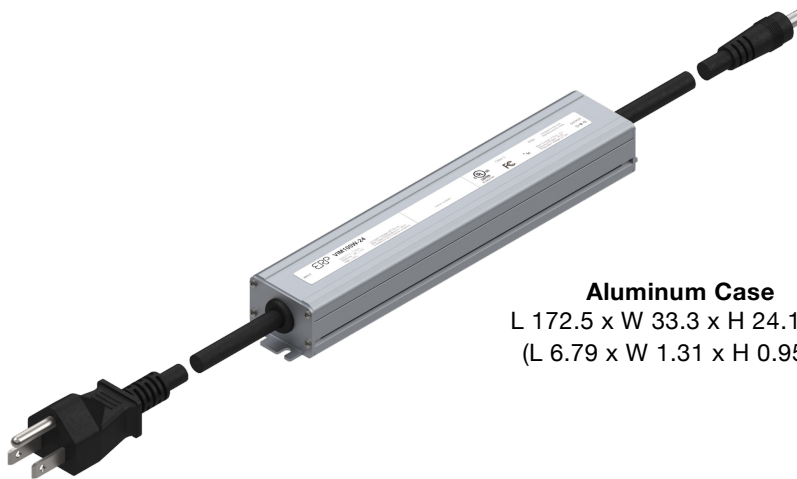


90 & 60 W, Efficient, CV Class 2 LED Drivers

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



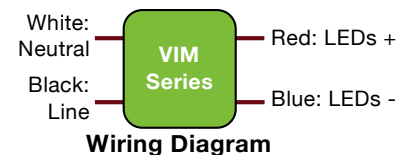
Aluminum Case
L 172.5 x W 33.3 x H 24.1 mm
(L 6.79 x W 1.31 x H 0.95 in)

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



Typical Application Diagram



Wiring Diagram

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

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
Input Voltage Range (Vin)	Vac	90	120 & 277	305	- The rated output voltage for each model is achieved at Vin ≥ 105 Vac & at Vin ≥ 249 Vac. - At maximum load
Input Frequency Range	Hz	47	50/60	63	
Input Current (Iin)	A			1.05 A @ 120 Vac 0.48 A @ 277 Vac	
Power Factor (PF)		0.9	> 0.9		- At nominal input voltage - From 100% to 60% of rated power
Inrush Current	A	Meets NEMA-410 requirements			At any point on the sine wave and 25°C
Leakage Current	μA			400 μA @ 120 Vac 920 μA @ 277 Vac	Measured per IEC60950-1
Input Harmonics	Complies with IEC61000-3-2 for Class C equipment				
Total Harmonics Distortion (THD)				20%	- At nominal input voltage - From 100% to 60% of rated power - Complies with DLC (Design Light Consortium) technical requirements
Efficiency	%	-	up to 90%	-	Measured with nominal input voltage
Isolation	The AC input to the main DC output is isolated.				

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

	Units	Minimum	Typical	Maximum	Notes
Output Voltage (Vout)	Vdc		12, 24		See ordering information for details
Output Current (Iout)	A			12 Vdc: 5.0 A 24 Vdc: 3.75 A	The rated output voltage for each model is achieved at Vin ≥ 105 Vac & at Vin ≥ 249 Vac.
Output Voltage Regulation	%	-5		5	- At nominal AC line voltage - Includes load and current set point variations.
Output Voltage Overshoot	%	-	-	10	The driver does not operate outside of the regulation requirements for more than 500 ms during power on with maximum load.
Ripple Voltage	≤ 5% of rated output voltage for each model				- Measured at maximum load and nominal input voltage - Calculated in accordance with the IES Lighting Handbook, 9th edition
Start-up Time	ms			500	- Measured from application of AC line voltage to 100% light output - Measured at nominal AC input voltage and with maximum loading - Complies with ENERGY STAR® luminaire specification.

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 on 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 foot
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			• Insulation between the input (AC line and Neutral) and the output • Tested at the RMS voltage equivalent of 1767 Vac

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

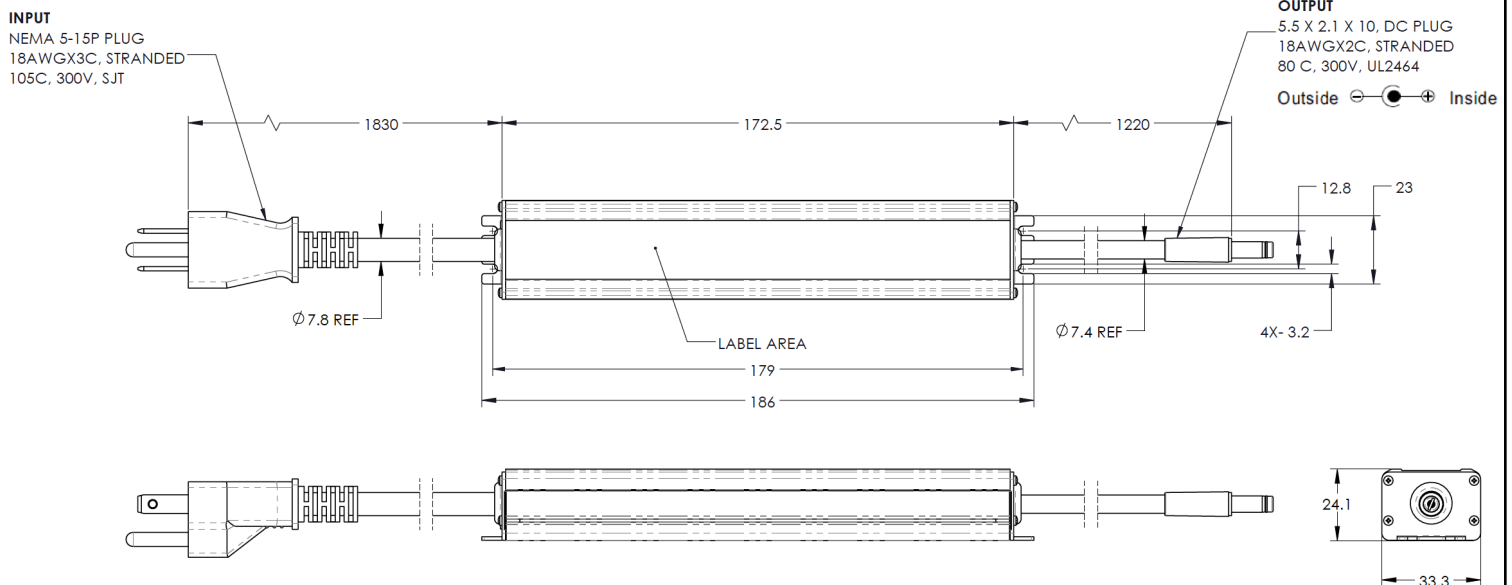
Packaging Options: Aluminum case
I/O Connections: Jacketed wires.
Ingress Protection: IP20 rated
Mounting Instructions: The VIM driver case must be secured on a flat metal baseplate or surface.

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

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.

INPUT  VIM100W-24 120/277 V ~ 1.05 A 50/60 Hz PF ≥ 0.9 THD ≤ 20% Constant Voltage LED Driver Max Case Temperature to = 90°C Suitable for Dry or Damp Locations	(serial number)	 Class 2   Designed in the USA Manufactured in China Max Current 3.75 A Maximum Power 90 W Regulated Voltage 24 Vdc OUTPUT 
--	-----------------	---

Figure 2

USA Headquarters

Tel: +1-805-517-1300
Fax: +1-805-517-1411
2625 Townsgate Road, Suite 106
Westlake Village, CA 91361, USA

CHINA Operations

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

ERP Power, LLC (ERP) reserves the right to make changes without further notice to any products herein. ERP makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ERP assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in ERP data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ERP does not convey any license under its patent rights nor the rights of others. ERP products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the ERP product could create a situation where personal injury or death may occur. Should Buyer purchase or use ERP products for any such unintended or unauthorized application, Buyer shall indemnify and hold ERP and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ERP was negligent regarding the design or manufacture of the part. ERP is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

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

Revision History

Revision	Date	Originator	Comments
Prelim.	17AUG2018	LJ	Created preliminary data sheet
Prelim.	22AUG2018	LJ	Updated MCO
Prelim.	11SEP2018	LJ	Removed double insulation
Prelim.	10OCT2018	LJ	*Updated the AC input voltage from “120/277” to “120 & 277” * Updated the max output power from 100W down to 90W and the max output current from 3.92A down to 3.75A.
Prelim.	14NOV2018	MM	Changed IP66 to IP20
Prelim	23JAN2019	MM	Pg1: changed picture to rendered case image
Final	26MAR2023	MM	Pg1: added RoHS logo