

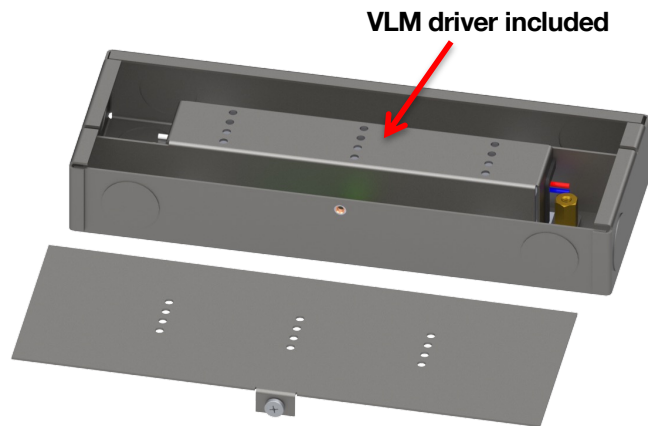
60 & 96 W, Efficient, Compact CV Class 2 LED Drivers in a Junction Box

| Nominal Input Voltage | Max. Output Power | Nominal Output Voltage | Max. Output Current | Efficiency | Max. Case Temperature | THD | Power Factor |
|-----------------------|-------------------|------------------------|---------------------|-------------------|---------------------------------|-------|--------------|
| 120 & 277 Vac | 96 W | 12, 24, 48 Vdc | 5, 4, 2 A | up to 92% typical | 90°C (measured at the hot spot) | < 20% | > 0.9 |



Dimensions

L 207.2 x W 75.4 x H 33 mm
(L 8.16 x W 2.97 x H 1.30 in)



Typical Application Diagram



Wiring Diagram

FEATURES

- Low profile, rugged steel enclosure designed for use with our Constant Voltage VLM series.
- JVLM is Plenum-rated, so it can go in air handling spaces. (In building construction, the plenum is the space that is used for air circulation in heating and air conditioning systems, typically between the structural ceiling and the suspended ceiling or under a raised floor).
- Designed for contractor installation:
 - UL listed
 - Separation of low-voltage wiring and high-voltage wiring
 - 4 mounting holes for surface mounting
 - 4 knockout holes for low-voltage wiring and 4 knockout holes for high-voltage wiring enable maximum wiring flexibility
- Same electrical features as the VLM series
- IP20-rated case
- Patent protected

TYPICAL APPLICATIONS

- Strip lights
- Pendants
- Linears
- Cove Lights



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1 - ORDERING INFORMATION

| 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) | Comments |
|-------------|-----------------------------|--------------|----------------|--------------|--------------|--|--|
| JVLM100 | | | | | | | |
| JVLM100W-24 | 120 & 277 | 96 | 24 | 0.2 | 4 | 25.68 | Contains the VLM100W-24 in the aluminum case with flying leads |
| JVLM100W-48 | 120 & 277 | 96 | 48 | 0.1 | 2 | 51.36 | Contains the VLM100W-48 in the aluminum case with flying leads |
| JVLM60 | | | | | | | |
| JVLM60W-12 | 120 & 277 | 60 | 12 | 0.1 | 5 | 12.84 | Contains the VLM60W-12 in the aluminum case with flying leads |
| JVLM60W-24 | 120 & 277 | 60 | 24 | 0.1 | 2.5 | 25.68 | Contains the VLM60W-24 in the aluminum case with flying leads |
| JVLM60W-48 | 120 & 277 | 60 | 48 | 0 | 1.3 | 51.36 | Contains the VLM60W-48 in the aluminum case with flying leads |

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2 - INPUT SPECIFICATION (@25° C ambient temperature)

| | Units | Minimum | Typical | Maximum | Notes |
|----------------------------------|--|-----------------------------|-----------|--------------------------------------|--|
| Input Voltage Range (Vin) | Vac | 90 | 120 & 277 | 305 | <ul style="list-style-type: none"> The rated output voltage for each model is achieved at $V_{in} \geq 105$ Vac & at $V_{in} \geq 249$ Vac At maximum load, as specified in section 1. |
| Input Frequency Range | Hz | 47 | 60 | 63 | |
| Input Current (Iin) | A | | | 1.05 A @ 120 Vac 0.48 A @ 277 Vac | |
| Power Factor (PF) | | 0.9 | > 0.9 | | <ul style="list-style-type: none"> 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% | <ul style="list-style-type: none"> At nominal input voltage From 100% to 60% of rated power Complies with DLC (Design Light Consortium) technical requirements |
| Efficiency | % | - | up to 92% | - | Measured with nominal input voltage |
| Isolation | The AC input to the main DC output is isolated. | | | | |

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

| | Units | Minimum | Typical | Maximum | Notes |
|---------------------------|---|---------|------------|---|--|
| Output Voltage (Vout) | Vdc | | 12, 24, 48 | | See ordering information for details |
| Output Current (Iout) | A | | | 12 Vdc: 5 A 24 Vdc: 4 A 48 Vdc: 2 A | The rated output voltage for each model is achieved at $V_{in} \geq 105$ Vac & at $V_{in} \geq 249$ Vac |
| Output Voltage Regulation | % | -5 | | 5 | <ul style="list-style-type: none"> 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 | $\leq 5\%$ of rated output voltage for each model | | | | <ul style="list-style-type: none"> Measured at maximum load and nominal input voltage. Calculated in accordance with the IES Lighting Handbook, 9th edition. |
| Start-up Time | ms | | | 500 | <ul style="list-style-type: none"> Measured from application of AC line voltage to 100% light output. Complies with ENERGY STAR® luminaire specification. |

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4 - ENVIRONMENTAL CONDITIONS (Please refer to the VLM100 and VLM60 data sheets)

| | Units | Minimum | Typical | Maximum | Notes |
|------------------------------------|---|---------|---------|---------|---|
| Operating Ambient Temperature (Ta) | °C | -20 | | 40 | |
| Maximum Case Temperature (Tc) | °C | | | +90 | Please refer to the VLM100 and VLM60 data sheets. |
| Storage Temperature | °C | -40 | | +85 | |
| Humidity | % | 5 | - | 95 | Non-condensing |
| Cooling | Convection cooled | | | | |
| Acoustic Noise | dBA | | | 22 | Measured at a distance of 1 foot (30 cm) |
| Mechanical Shock Protection | per EN60068-2-27 | | | | |
| Vibration Protection | per EN60068-2-6 & EN60068-2-64 | | | | |
| MTBF | Please refer to the VLM100 and VLM60 data sheets. | | | | |
| Lifetime | Please refer to the VLM100 and VLM60 data sheets. | | | | |

5 - EMC COMPLIANCE AND SAFETY APPROVALS (Please refer to the VLM100 and VLM60 data sheets)

| 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 | UL2108 |
| cUL | CAN/CSA C22.2 No. 250.0-08 |

| Safety | | | | | |
|---|-------|---------|---------|---------|---|
| | Units | Minimum | Typical | Maximum | Notes |
| Hi Pot (High Potential) or Dielectric voltage-withstand | Vdc | 2500 | | | <ul style="list-style-type: none"> Insulation between the input (AC line and Neutral) and the output Tested at the RMS voltage equivalent of 1768 Vac |

6 - OTHER CHARACTERISTICS

For information on other characteristics such as protections, lifetime, efficiency, THD, PF curves, please refer to the VLM100 and VLM60 data sheets.

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7 - PREDICTED LIFETIME VERSUS CASE AND AMBIENT TEMPERATURE

Lifetime is defined by the measurement of the temperatures of all the electrolytic capacitors whose failure would affect light output under the nominal LED load and worst case AC line voltage. The graphs in figures 2 and 3 are determined by the electrolytic capacitor with the shortest lifetime, among all electrolytic capacitors. It represents a worst case scenario in which the LED driver is powered 24 hours/day, 7 days/week. The lifetime of an electrolytic capacitor is measured when any of the following changes in performance are observed:

- | | |
|--|--|
| 1) Capacitance changes more than 20% of initial value | 2) Dissipation Factor ($\tan \delta$): 150% or less of initial specified value |
| 3) Equivalent Series Resistance (ESR): 150% or less of initial specified value | 4) Leakage current: less of initial specified value |

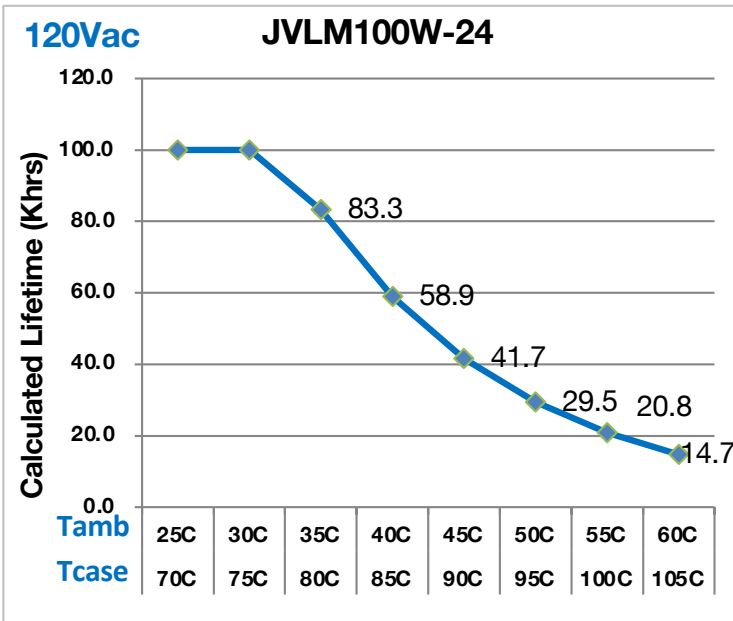


Figure 1

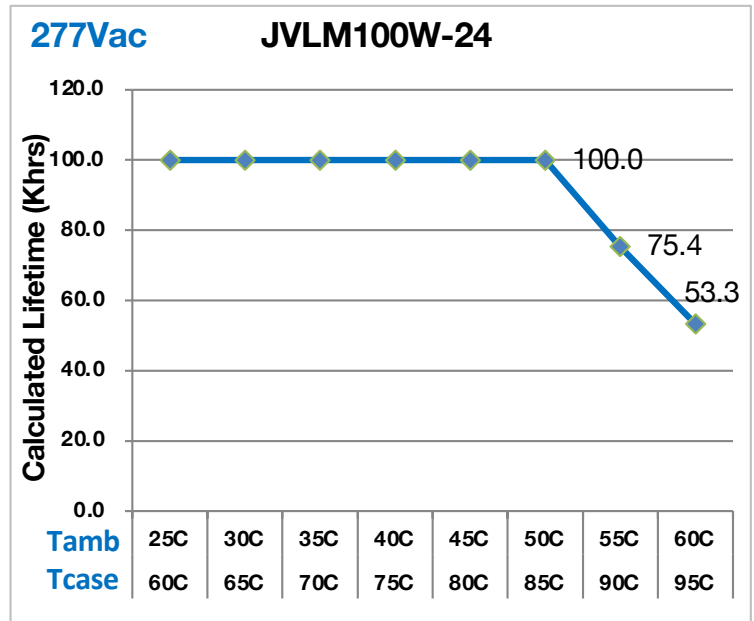


Figure 2

Notes:

- The ambient temperature $T_{ambient}$ and the differential between $T_{ambient}$ and T_{case} mentioned in the above graphs are relevant only as long as both the driver and the light fixture are exposed to the same ambient room temperature. If the LED driver is housed in an enclosure or covered by insulation material, then the ambient room temperature is no longer valid. In this situation, please refer only to the case temperature T_{case} .
- It should be noted the graph "Lifetime vs. Ambient Temperature" may have an error induced in the final application if the mounting has restricted convection flow around the case. For applications where this is evident, the actual case temperature measured at the T_c point in the application should be used for reliability calculations.



JVLM Series

JVLM60W 60 W
JVLM100W 96 W

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10 - LABELING

The JVLM100W-24 is used as an example to illustrate a typical label.



JVLM100W-24

Junction Box with integrated Constant Voltage LED Driver

AC INPUT:
120/277 V ~ 1.05 A
50/60 Hz
PF ≥ 0.9
THD ≤ 20%



DC OUTPUT:
Max Current 4 A ==
Maximum Power 96 W
Regulated Voltage 24 Vdc

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