

SERIES: VLED15 | DESCRIPTION: LED DRIVER
FEATURES

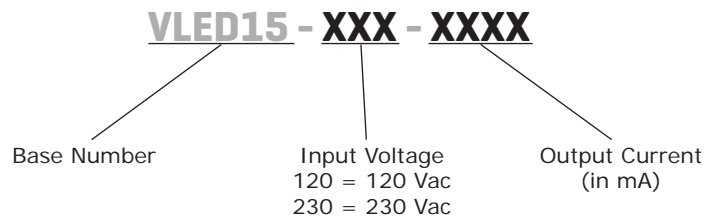
- constant current
- high efficiency
- 90~135 Vac and 176~265 Vac input range available
- 0.35~1.5 A output current
- operates with industry standard dimmers
- compact encapsulated assembly
- active power factor correction
- over voltage, over current, over temperature protection max., short circuit protection: auto recovery
- high temperature operation (up to 90°C case)
- UL approved, ENEC approved, CE Mark
- long life > 50,000 hours



| MODEL | output voltage ¹ | | output current | | output wattage | efficiency |
|------------------------------|-----------------------------|-----------|----------------|----------|----------------|------------|
| | min (Vdc) | max (Vdc) | min (mA) | max (mA) | max (W) | max (%) |
| VLED15-120-350 | 24 | 48 | 0 | 350 | 16.8 | 80 |
| VLED15-120-480 | 10 | 13.5 | 0 | 480 | 6.5 | 80 |
| VLED15-120-600 | 8 | 12 | 0 | 600 | 7.2 | 80 |
| VLED15-120-700 | 16 | 24 | 0 | 700 | 16.8 | 80 |
| VLED15-120-800 | 8 | 12 | 0 | 800 | 9.6 | 80 |
| VLED15-120-900 | 10 | 16 | 0 | 900 | 14.4 | 80 |
| VLED15-120-900L | 8 | 12 | 0 | 900 | 10.8 | 80 |
| VLED15-120-1000 | 10 | 16 | 0 | 1,000 | 16 | 80 |
| VLED15-120-1200 | 10 | 14.1 | 0 | 1,200 | 16.92 | 80 |
| VLED15-120-1250 | 8 | 12 | 0 | 1,250 | 15 | 80 |
| VLED15-120-1400 ² | 8 | 11.5 | 0 | 1,400 | 16.1 | 80 |
| VLED15-120-1500 | 5 | 10 | 0 | 1,500 | 15 | 80 |
| VLED15-230-350 | 24 | 48 | 0 | 350 | 16.8 | 80 |
| VLED15-230-480 | 10 | 13.5 | 0 | 480 | 6.5 | 80 |
| VLED15-230-600 | 8 | 12 | 0 | 600 | 7.2 | 80 |
| VLED15-230-700 | 16 | 24 | 0 | 700 | 16.8 | 80 |
| VLED15-230-800 | 8 | 12 | 0 | 800 | 9.6 | 80 |
| VLED15-230-900 | 10 | 16 | 0 | 900 | 14.4 | 80 |
| VLED15-230-900L | 8 | 12 | 0 | 900 | 10.8 | 80 |
| VLED15-230-1000 | 10 | 16 | 0 | 1,000 | 16 | 80 |
| VLED15-230-1200 | 10 | 14.1 | 0 | 1,200 | 16.92 | 80 |
| VLED15-230-1250 | 8 | 12 | 0 | 1,250 | 15 | 80 |
| VLED15-230-1400 ² | 8 | 11.5 | 0 | 1,400 | 16.1 | 80 |
| VLED15-230-1500 | 5 | 10 | 0 | 1,500 | 15 | 80 |

- Note:
1. Total LED forward voltage must be within these ratings under all conditions including dimming
 2. 80°C maximum case rating
 3. Ripple Current: <40% (p-p) of maximum Output Current with no dimming

PART NUMBER KEY



INPUT

| parameter | conditions/description | min | typ | max | units |
|----------------|------------------------|-----|-----|------|-------|
| voltage | | 90 | | 135 | Vac |
| | | 176 | | 265 | Vac |
| frequency | | 47 | | 63 | Hz |
| input current | at 115 Vac | | | 0.22 | A |
| inrush current | at 25°C | | | 5 | A |
| power factor | at 120 Vac | 90 | | | % |

OUTPUT

| parameter | conditions/description | min | typ | max | units |
|------------------|------------------------|-----|-----|-----|-------|
| voltage accuracy | of set point | | ±5 | | % |
| load regulation | | | ±5 | | % |

PROTECTION

| parameter | conditions/description | min | typ | max | units |
|--|---------------------------------|-----|-----|-----|---------|
| over voltage protection | auto restart | | | | |
| over current protection | auto restart | | | | |
| short circuit protection | auto restart | | | | |
| control | output dims without any flicker | | | | |
| dimming range (conduction angle/output) | use with incandescent dimmer | 30 | | 147 | degrees |
| over temperature protection | auto restart | | | | |

SAFETY & COMPLIANCE

| parameter | conditions/description | min | typ | max | units |
|------------------|--|-----|-----|------|-------|
| isolation | meets the UL 60950-1 reinforced, double insulation NEC (Class 2) EN 60598-1 class II | | | | |
| safety approvals | UL 60950-1, LPS, UL 8750, EN61347-2-13 | | | | |
| EMI/EMC | EN 55015 class B, FCC class 47 CFR part 15 class B, EN 61000-4-(2,3,4,5,6,11), IEC 61000-3-(2,3) ANSI c62.41-1991 category A1, 2.5 kV Ringwave | | | | |
| harmonics | meets EN 61000-3-(2,3) | | | | |
| leakage current | at 120 Vac | | | 0.25 | mA |
| RoHS compliant | yes | | | | |

ENVIRONMENTAL

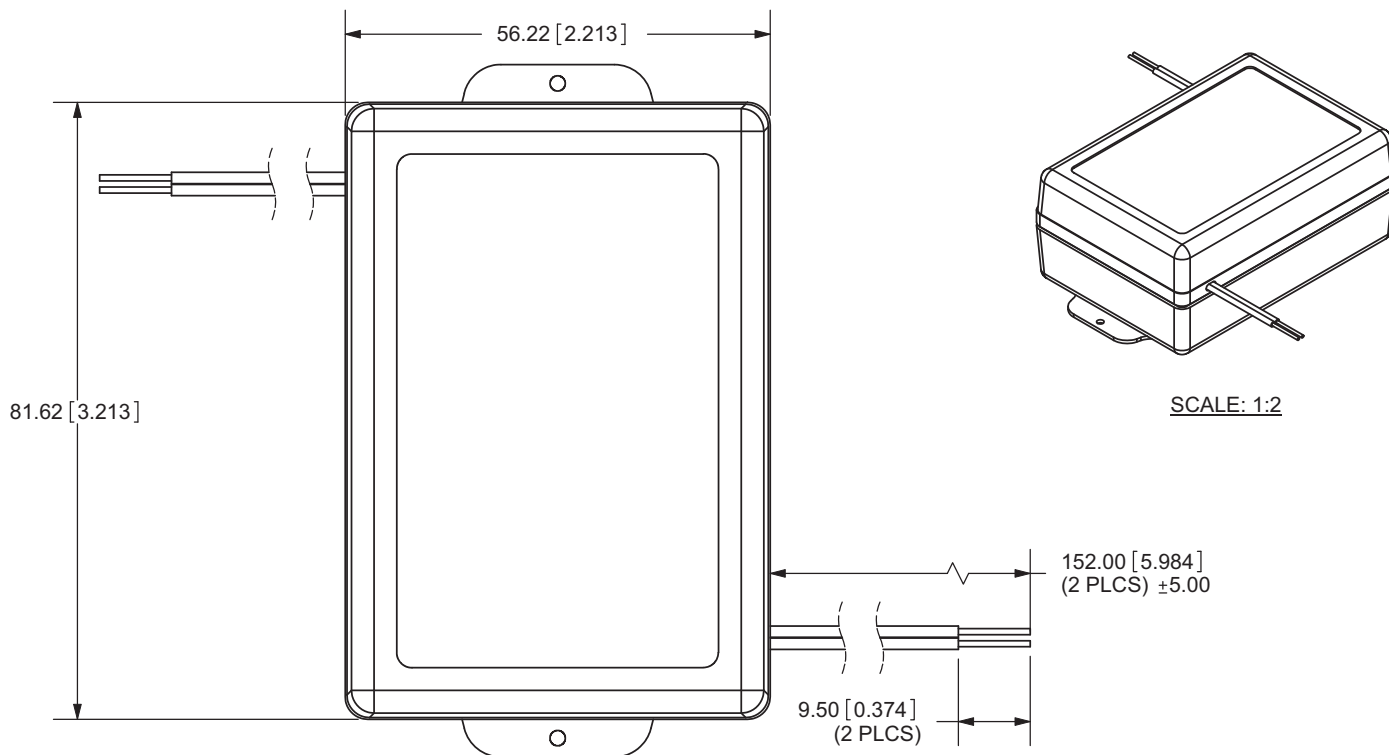
| parameter | conditions/description | min | typ | max | units |
|-----------------------|--|-----|-----|-----|-------|
| operating temperature | | -30 | | 90 | °C |
| storage temperature | | -40 | | 95 | °C |
| operating humidity | non-condensing | 5 | | 95 | % |
| surface temperature | exposed surfaces, under all operating conditions | | | 90 | °C |

MECHANICAL

| parameter | conditions/description | min | typ | max | units |
|------------|--|-----|------------|-----|---------|
| dimensions | 82 x 56 x 29 (3.21 x 2.21 x 1.13 inch) | | | | mm |
| weight | | | 145 5.1 | | g oz |

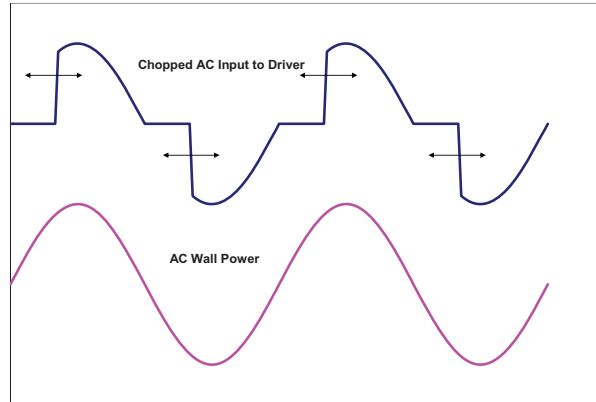
MECHANICAL DRAWING

units: mm
 tolerance: ± 0.3 mm
 unless otherwise specified



DIMMING REQUIREMENTS

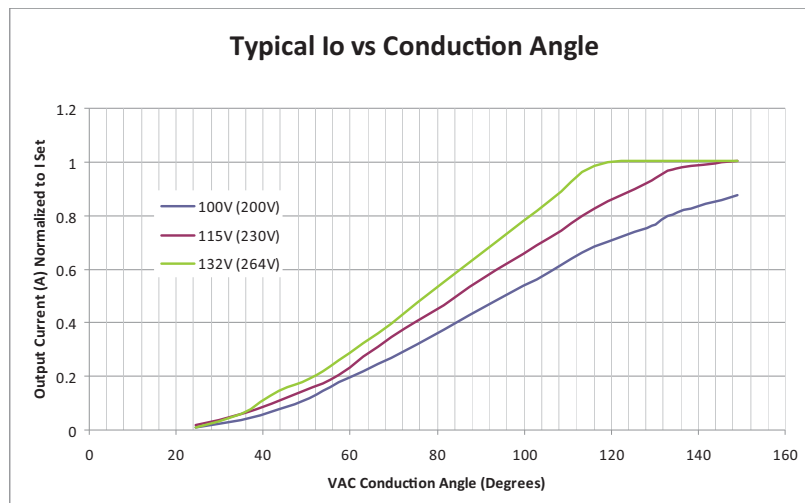
Dimming of the driver shall be possible with standard triac based incandescent dimmers that chops the AC voltage as shown below or with Electronic Low Voltage dimmers that employ reverse phase control.



During the rapid rise time of the AC voltage when the dimmer turns on, the driver shall not generate any voltage or current oscillations and inrush current shall be controlled. During the on time of the AC input, the driver shall regulate the output. The RMS value of the driver output current shall be proportional to the on time of the AC input voltage. Care must be taken to assure that the minimum load requirements are met. Multiple drivers/LEDs may be connected to the dimmer in order to meet the minimum load requirement.

DIMMING RANGE

When operating with an incandescent dimmer, the RMS output current shall vary depending upon the conduction angle and RMS value of the applied AC input voltage. The following graph shows the typical output versus conduction angle at various line voltages.



The specified dimming range shall be from 30 degrees through 147 degrees conduction angle. Operation throughout this dimming range shall be monotonic and produce a smooth transition of light output in both directions of the dimming range. At 120 Vac or 240 Vac input, the driver shall achieve full rated output current at less than 147 degree conduction angle.

REVISION HISTORY

| rev. | description | date |
|------|-----------------------------------|------------|
| 1.0 | initial release | 07/29/2010 |
| 1.01 | model update and added dimensions | 03/21/2011 |
| 1.02 | applied new spec template | 02/15/2012 |
| 1.03 | updated input voltage | 04/24/2012 |
| 1.04 | new template applied | 07/18/2012 |
| 1.05 | corrected output current units | 09/16/2013 |

The revision history provided is for informational purposes only and is believed to be accurate.



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