

**PHILIPS
ADVANCE**

LED Driver

CertaDrive

31W 0.68A 45V 0-10V
(5% dim) 120-277V
CI031C068V045CNN1



Class P
LED class 2 output
For Dry and Damp Location

Intertek
Class P
Conforms to UL STD 8750
Certified to CAN/CSA STD
C22.2 No. 250.13

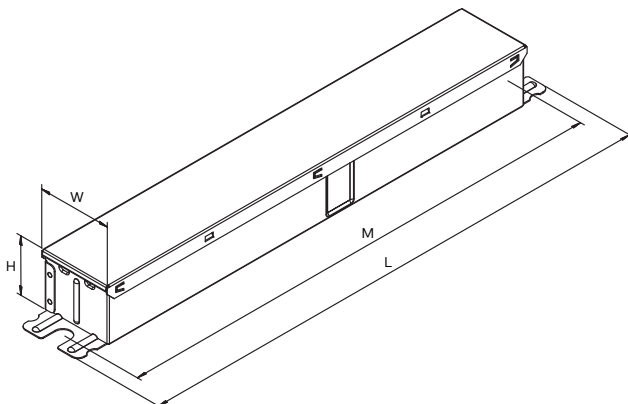
Philips Advance CertaDrive indoor LED drivers are designed to meet basic lighting needs. These dimmable drivers are offered with specific voltage-current settings and are, thus, optimized with specifications that are appropriately suited for the application, making LED conversion even more affordable.

Specifications

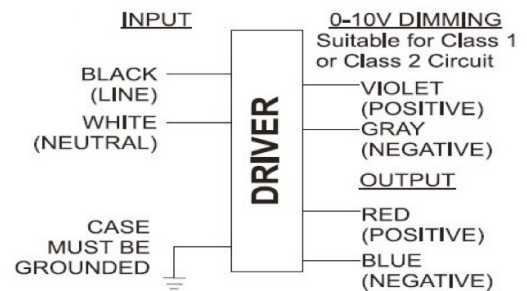
| Input Voltage (Vac) | Output Power (W) | Output Voltage (V) | Output Current (A) | Efficiency@ Max Load and 70°C Case | Max Case Temp. (°C) | Input Current (A) | Max. Input Power (W) | THD @ Max Load (%) | Power Factor @ Max Load | Surge Protection (Ring Wave, KV) | Envir. Protection Rating |
|---------------------|------------------|--------------------|--------------------|------------------------------------|---------------------|-------------------|----------------------|--------------------|-------------------------|----------------------------------|--------------------------|
| 120 | 31 | 30-45 | 0.68 | 86 | 80°C | 0.30 | 36 | <10% | >0.9 | 2.5 | UL damp & dry |
| 277 | | | | 87 | | 0.13 | | <15% | | | |

Enclosure

| | In. (mm) |
|-----------------|-------------|
| Case Length | 8.34 (212) |
| Case Width | 1.32 (33.5) |
| Case Height | 1.06 (27) |
| Mounting Length | 8.89 (226) |
| Overall Length | 9.45 (240) |



Wiring Diagram



Input and output use lead- wires.

Lead-wires are 18AWG 105C/600V solid copper.

Driver case must be grounded.

| Dimming | Dimming Range | Minimum Output Current (A) |
|--------------------------------------|---------------|----------------------------|
| 0-10V Analog Class 1 and 2 Wiring | 5% ~ 100% | 0.034 |

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Features

- 50,000+ hour lifetime¹
- Excellent thermal performance
- High Power Factor & Low THD²

Benefits

- Enables long life luminaire designs
- Allows operability in indoor (low-bay) ambient conditions
- Suitable for commercial indoor applications

Application

- Indoor linear troffers, pendants
- Office areas
- Retail centers
- Educational facilities

Electrical Specifications

All the specifications are typical and at 25°C Tcase unless specified otherwise.

Product Data

| Order Information | |
|---|---|
| Full Product Code | CI031C068V045CNN1M (Mid-Pack, 30pcs/Box) 12NC:929000763713 |
| Line Frequency | 50/60Hz |
| Min. Mains Voltage Operational | 108 Vac |
| Max. Mains Voltage Operational | 305 Vac |
| Output Information | |
| Maximum Open Circuit Voltage | 60Vdc, Class 2 output |
| Output Current Ripple (ripple = peak to average / average) | 30% max @ max Iout |
| Output Current Tolerance (at maximum output current) | <8% ² |
| Protections | Short Circuit, Open Circuit Protection for LED + and LED - |
| Features | |
| 0-10V Dimming | See dim curve for detail. |
| Environment & Approbation | |
| Operating Ambient Temp. Range | -20°C to +50°C |
| Max Case Temperature (Tcase ³) | 80°C, Tcase Life: 65°C |
| Agency Approbations | UL 8750, UL 1310, CSA 250.13, Class P (UL, CSA, ETL) |
| Electromagnetic Compliance | FCC Title 47 Part 15 Class A |
| Audible Noise | <24dB Class A |
| Weight | 0.51Lbs / 0.23kgs |

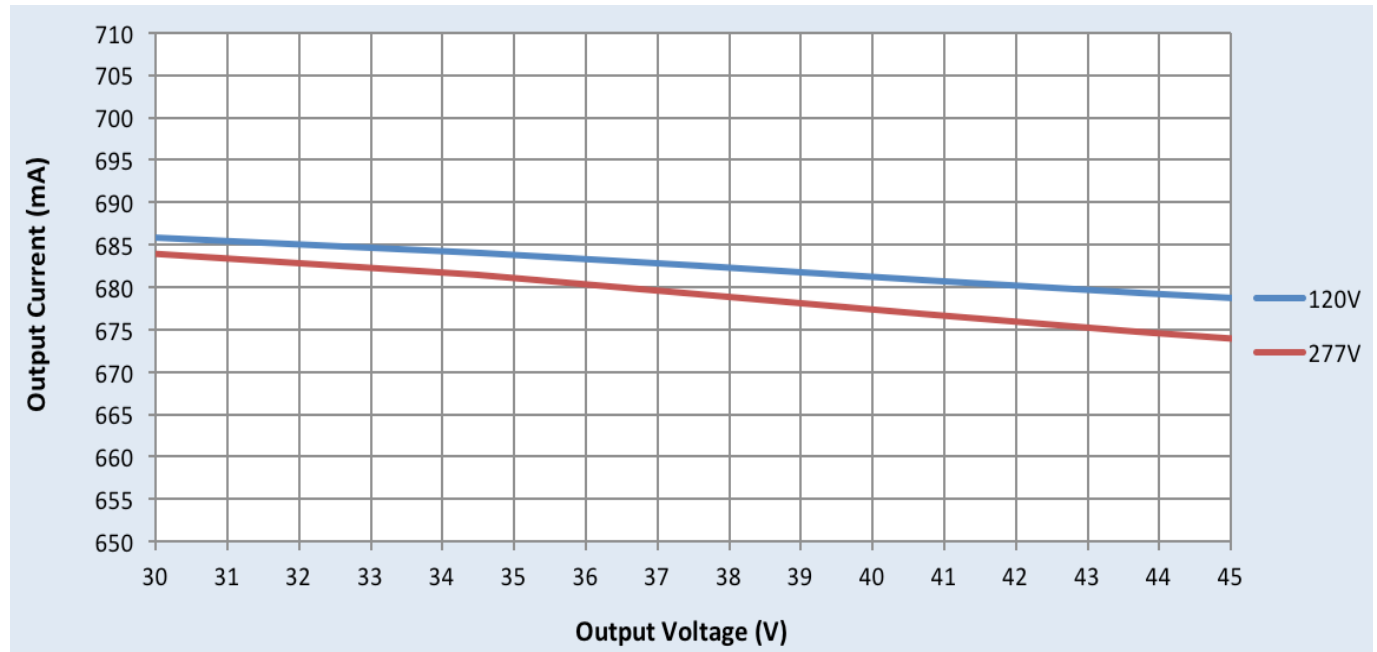
1. Philips Advance CertaDrive LED drivers are manufactured to engineering standards correlating to a designed and average life expectancy of 35,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTBF modeling.
2. Note: Power Factor (PF) and Total Harmonic Distortion (THD) may deviate under adverse mains voltage conditions outside nominal operation. Output Current (I out) variation includes effects of line and load regulation, temperature variation and component tolerances.
3. For Tc point location, please refer to the Philips Advance CertaDrive design-in guide.

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I_{out} vs. V_{out}



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0-10V Dimming Curve

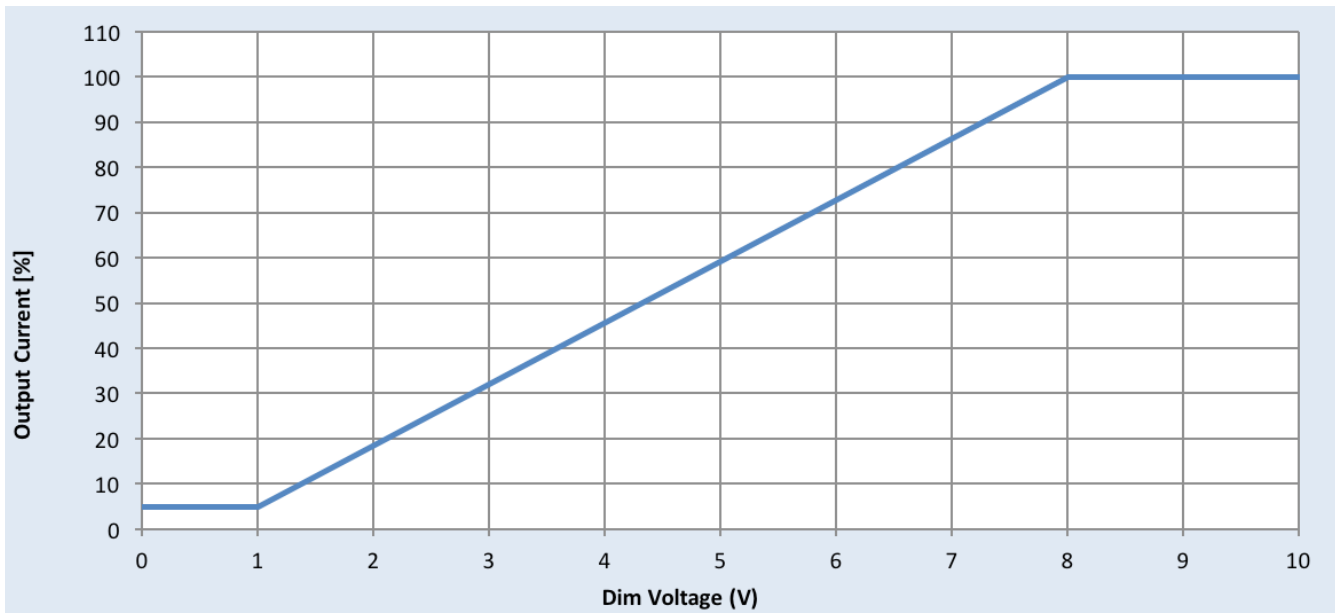
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum dim level: 5% of Iout

Maximum output voltage on the dimming wires: 12V

Approved Dimmer List

| Manufacturer | Manufacturer Part Number |
|--------------|---|
| Lutron | Visit www.lutron.com/advance for a list of dimmers (Mark VII) that will work with this driver |
| Leviton | IlumaTech IP7 series |
| Philips | Sunrise - SR1200ZTUNV |

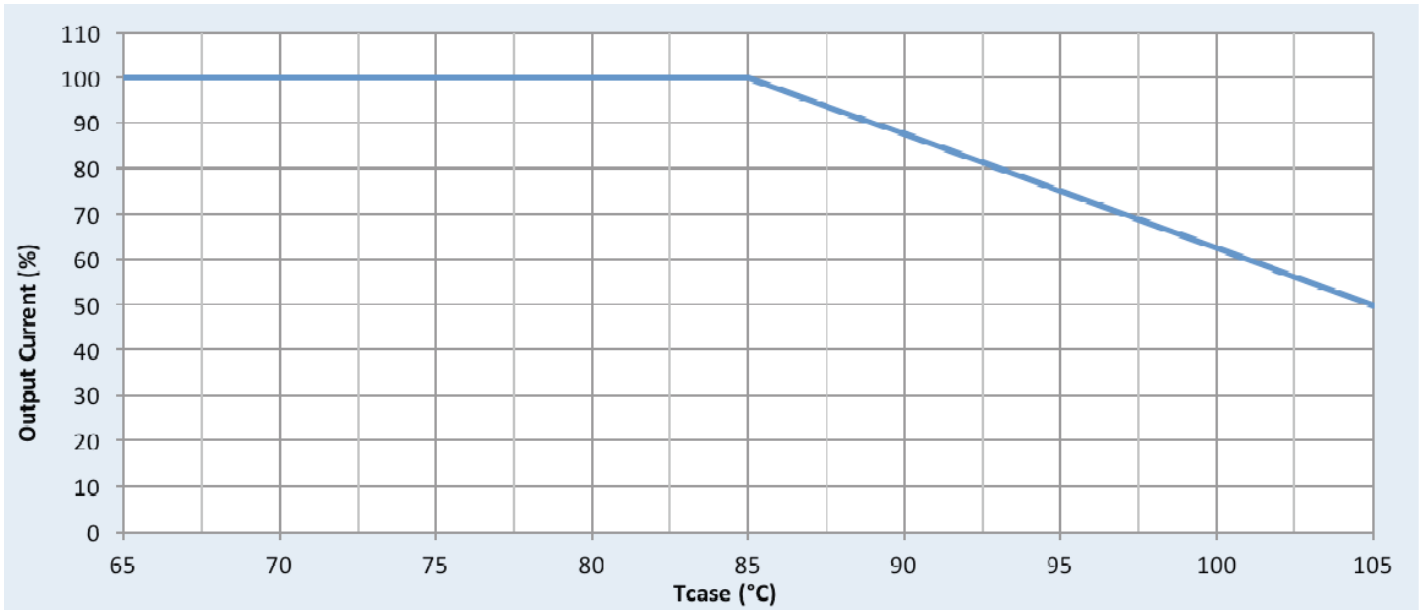


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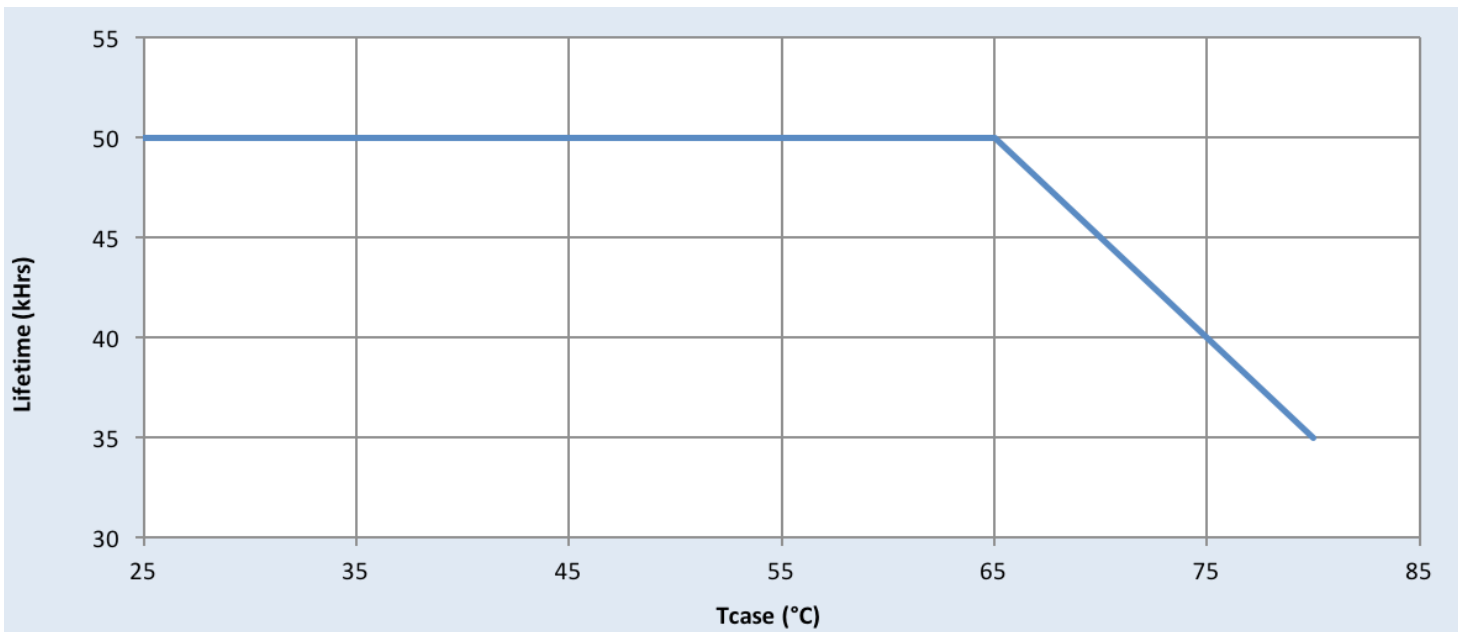
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Output Current Vs. Driver Case Temperature



Note: There is $\pm 5^\circ\text{C}$ tolerance on the driver case temperature

Driver Lifetime vs. Driver Case Temperature

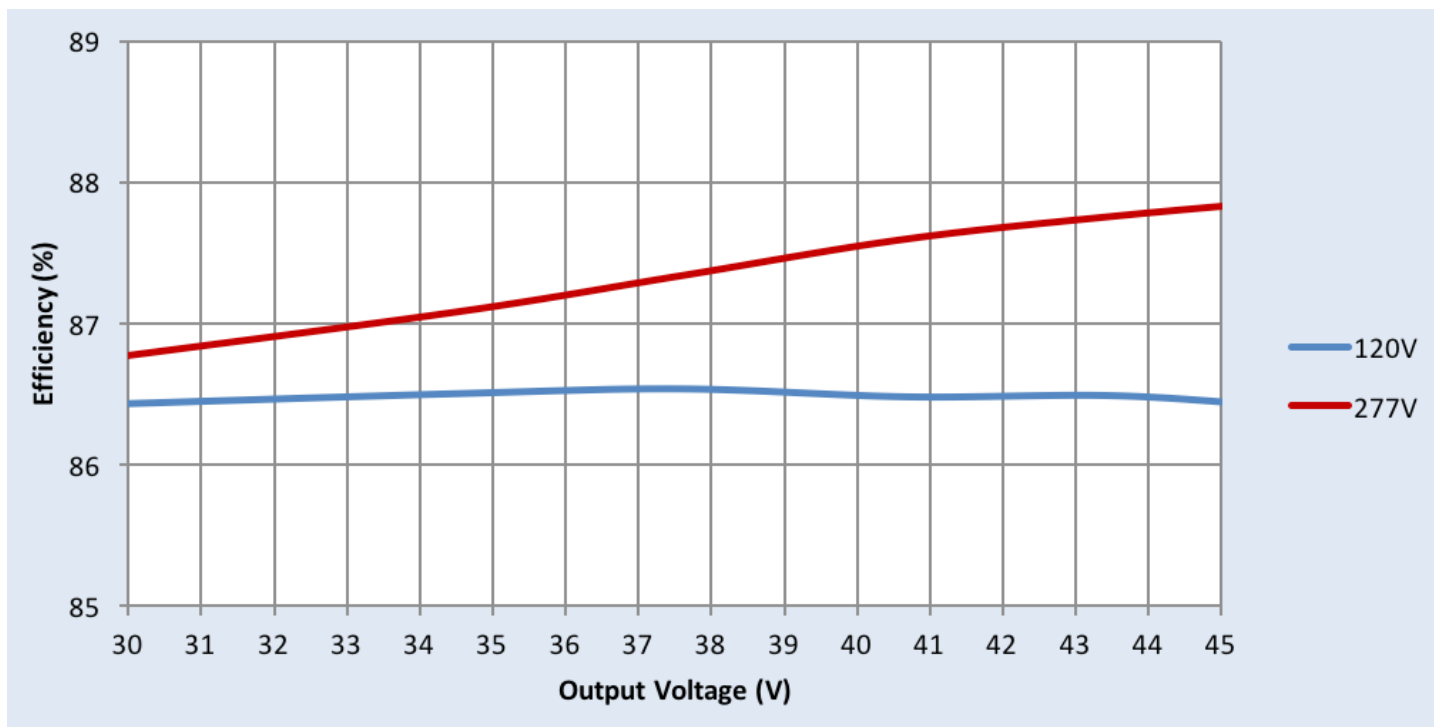


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Performance Characteristics

Based on measurements on a typical sample at 70°C case. The accuracy of the measurements is within the tolerance of the measurement instruments.

Efficiency Vs. Output Voltage

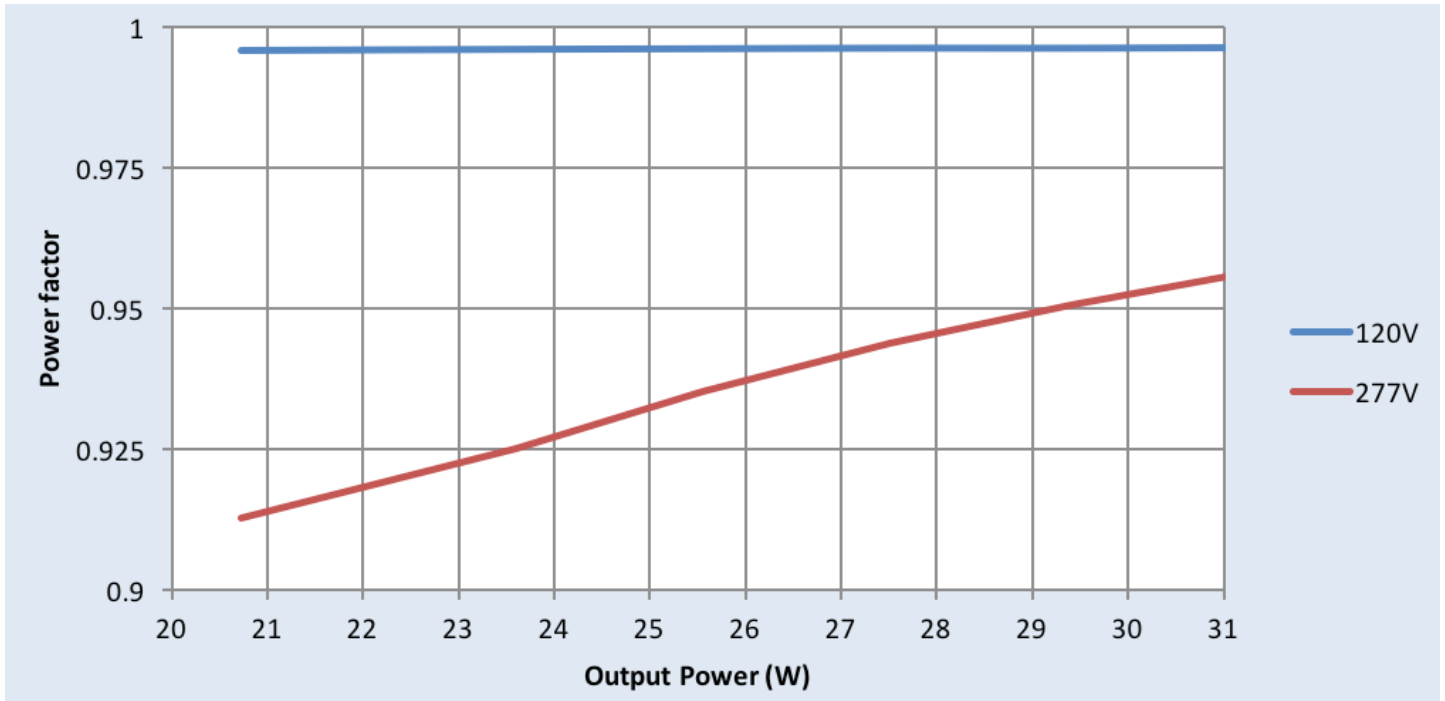


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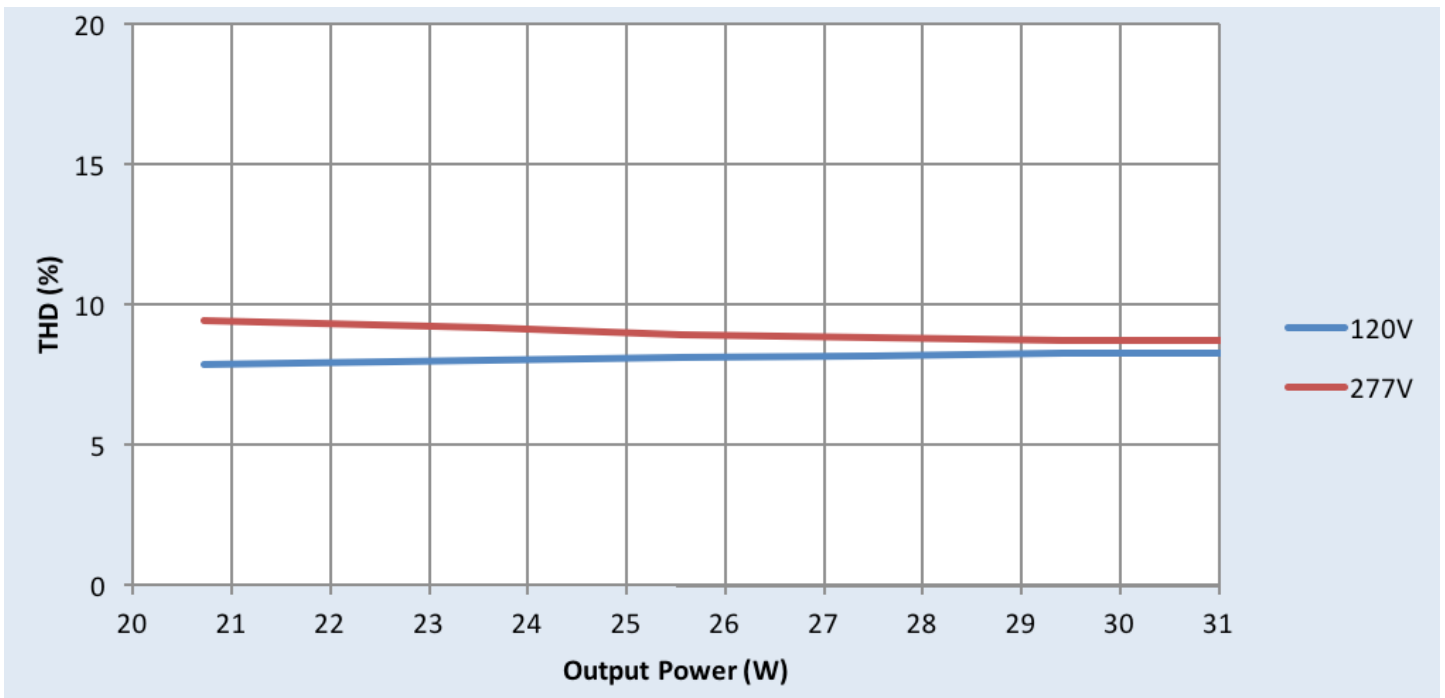
Performance Characteristics

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Power Factor Vs. Output Power

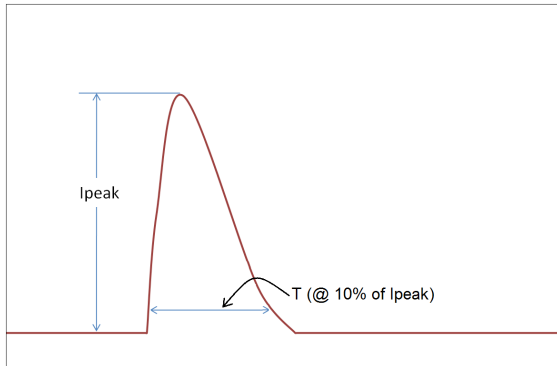


Total Harmonic Distortion (THD) Vs. Output Power



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Inrush Current Info



| Vin | Ipeak | T (@ 10% of Ipeak) |
|----------|-------|--------------------|
| 120 Vrms | 8A | 6μS |
| 277 Vrms | 21A | 8μS |

Inrush current is measured at peak of the corresponding line voltage. Source impedance per NEMA 410.

Lightning Surge Info

| ANSI Surge Type | Differential Mode (L-N) | Common Mode (L-G, N-G, L&N-G) |
|-----------------------------|-------------------------|-------------------------------|
| 100 kHz Ring Wave (w/t 30Ω) | 2.5kV | 2.5kV |

Isolation

| Isolation | Input | Output | 0-10V | Enclosure |
|-----------|---------|---------|---------|-----------|
| Input | NA | 2xU+1kV | 2.5kV | 2xU+1kV |
| Output | 2xU+1kV | NA | 2.5kV | 2xU+1kV |
| 0-10V | 2.5kV | 2.5kV | NA | 2xU+1kV |
| Enclosure | 2xU+1kV | 2xU+1kV | 2xU+1kV | NA |

U = Max working voltage

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