ADVANCE
by signify

LED Driver

CertaDrive X

CI025C051V048CDX1

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

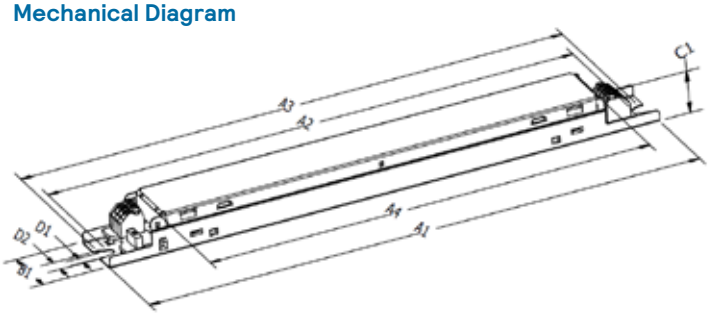
Specifications

Input Volt. (Vac)	Output Power (W)	Output Volt. (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	Dim	Dimming Range (with specified dimmers)	Driver Type
120	25	28-48 Class 2 Output	0.485/ 0.515A	85	T_{life}: 70°C T_{UL}: 80°C	0.24	29.1	<20%	>0.90	2.5	UL damp & dry	0-10V Analog	10% ~ 100%	Constant Current
277				87		0.11								

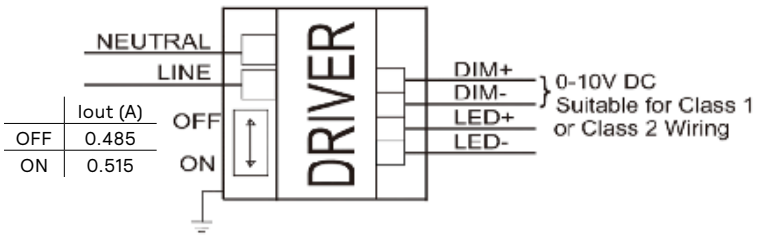
Enclosure

Item	In(mm)	Tolerance (mm)
Overall length (A1)	11.02 (280.0)	+/-0.5
Mounting Hole Distance (A2)	10.52 (267.3)	+/-0.5
Mounting Hole Distance (A3)	10.85 (275.6)	+/-0.5
Cover Length (A4)	8.81 (223.8	+/-0.5
Case Width (B1)	1.18 (30.0)	+/-0.5
Case Height (C1)	0.83 (21.0)	+/1.0
Mounting Hole Diameter (D1)	0.20 (5.08)	+/-0.3
Mounting Hole Diameter (D2)	0.30 (7.7)	+/-0.3

Mechanical Diagram



Wiring Diagram



Switch position default = OFF

*DIM- will change from GREY to PINK from 2021 onwards.

WARNING:

Install in accordance with national and local electrical codes.
Use 18 AWG Solid Copper Wire Rated >= 90 °C.
Strip Wire 3/8".
For Class 2 Wiring, Use 20 AWG-16 AWG.

The field-wiring leads or push-in terminals shall be fully enclosed.

USE ONLY WITHIN AN ENCLOSURE.

DOIT ÊTRE INSTALLÉ DANS UNE ENCEINTE

GROUNDING:

Driver case must be grounded.

RoHS COMPLIANT c UL us LISTED NOM

CertaDrive X CI025C051V048CDX1

25W 0.485–0.515A 48V 0–10V 120–277V

Features

- 50,000+ hour lifetime[1]
- Excellent thermal performance
- High power factor & low THD[2]

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	CI025C051V048CDX1 (Mid-Pack, 18pcs/Box) 12NC:929001791413
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]
Protected	Short Circuit protection
Over Voltage Protection	52V+/-4V Hiccup mode protection
Features	
0-10V Dimming	See dim curve for detail.
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +40°C
Max Case Temperature (Tcase)	80°C, Tcase Life: 70°C
Agency Approbations	UL8750, UL1310, cUL, Class P(UL, cUL)
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<20dB Class A
Weight	0.390Lbs / 0.177kgs

1. 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.

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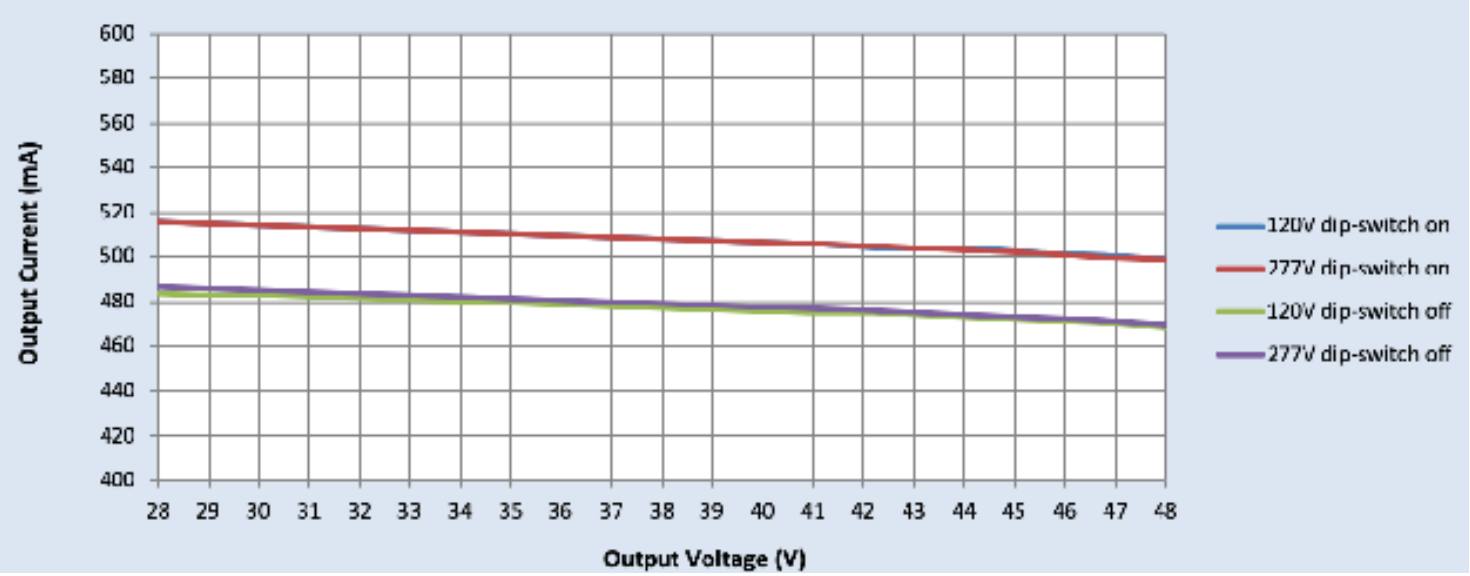
Iout Vs. Vout



When designing LED board, please consider LED voltage increases due to cold temperature, forward voltage tolerance and aging to make sure LED voltage is always below 48V. Recommended typical LED voltage at room temperature 43V or below.

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0-10V Dimming Curve

Dimming source current from the driver: 200µA (@ 0<Vdim<8V)

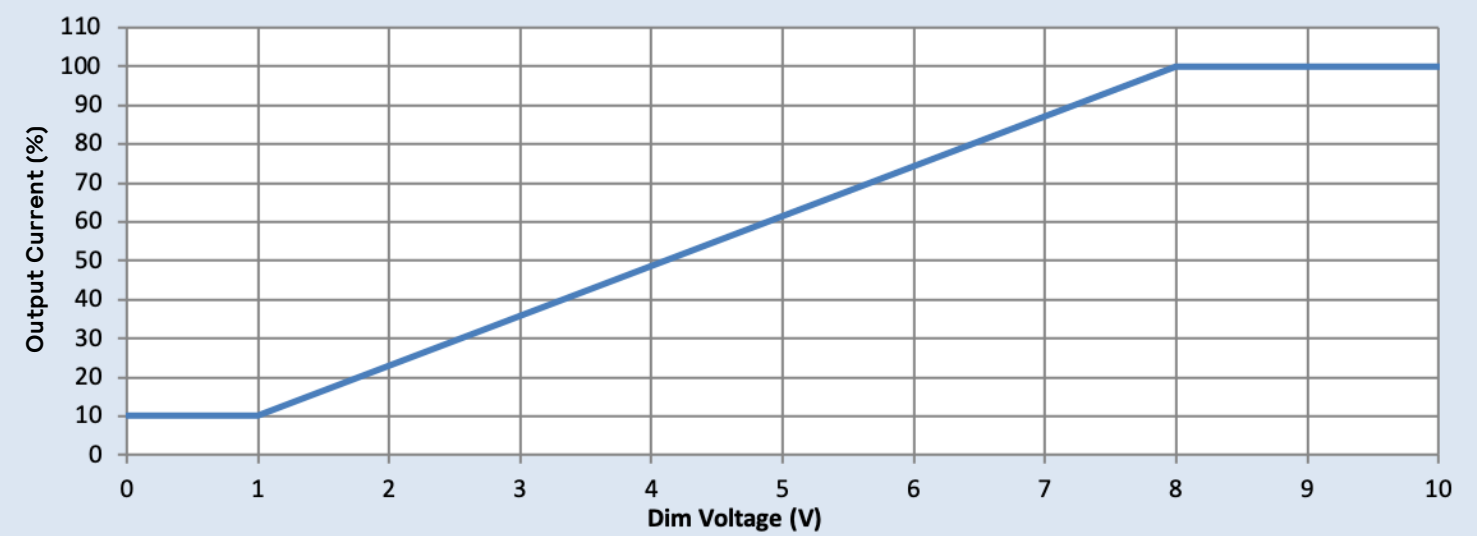
Minimum dim level: 10% of Iout

Maximum output voltage on the dimming wires: 12V

Leaking current of dimming leads: 0.01mA, recommended max number of control circuits in parallel, refer to Design in Guide.

Approved Dimmer List

Manufacturer	Manufacturer Part Number
Lutron	Visit www.lutron.com
Leviton	IllumaTech IP7 series
Philips	Sunrise - SR1200ZTUNV



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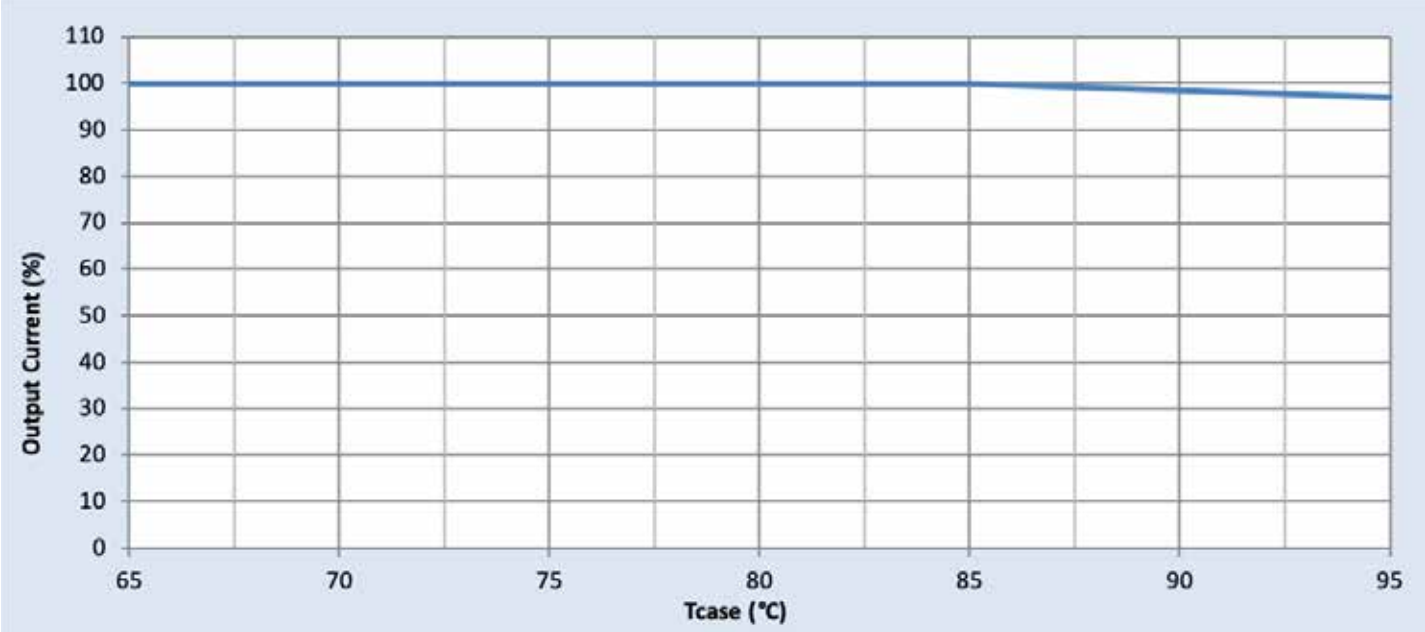
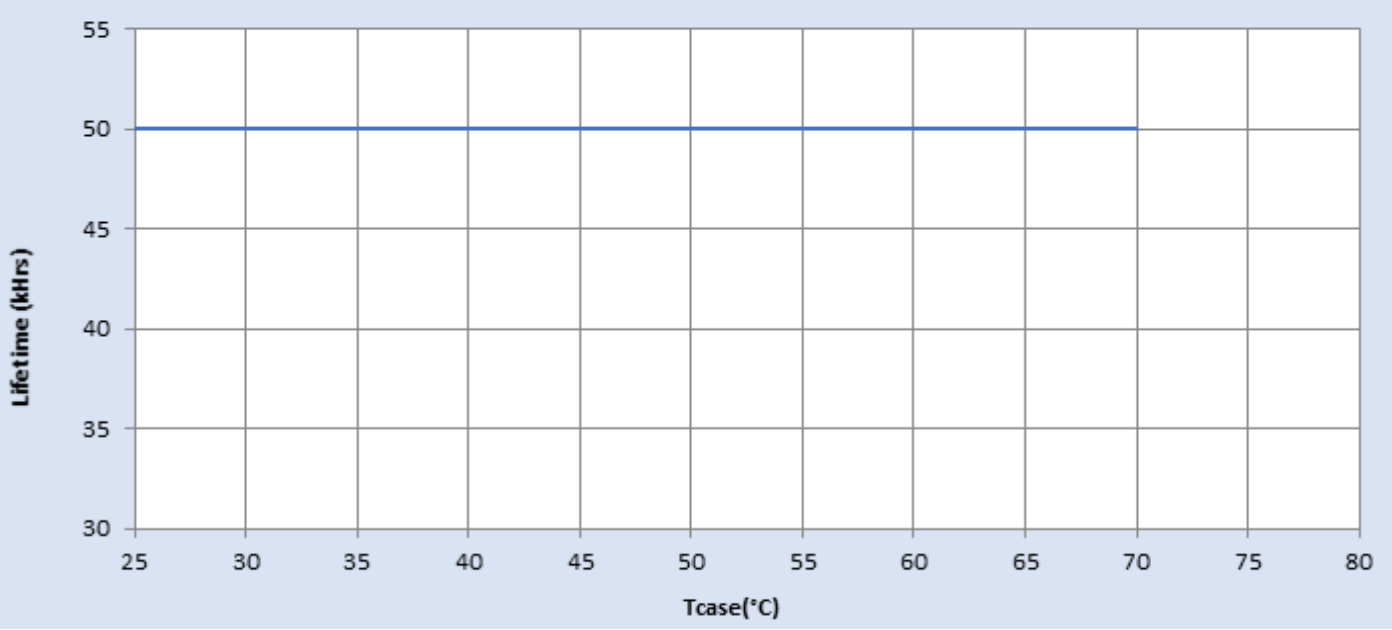
Output Current Vs. Driver Case Temperature



Driver Lifetime vs. Driver Case Temperature



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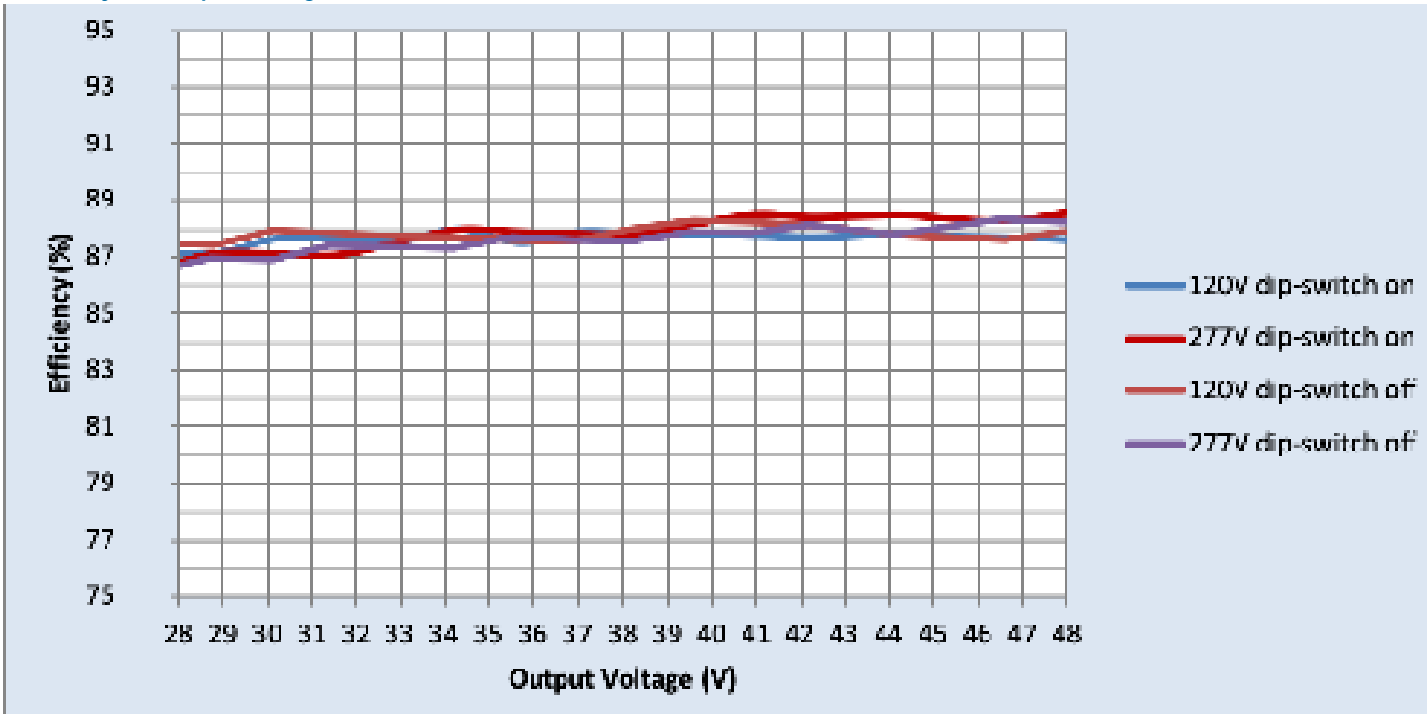
Performance Characteristics

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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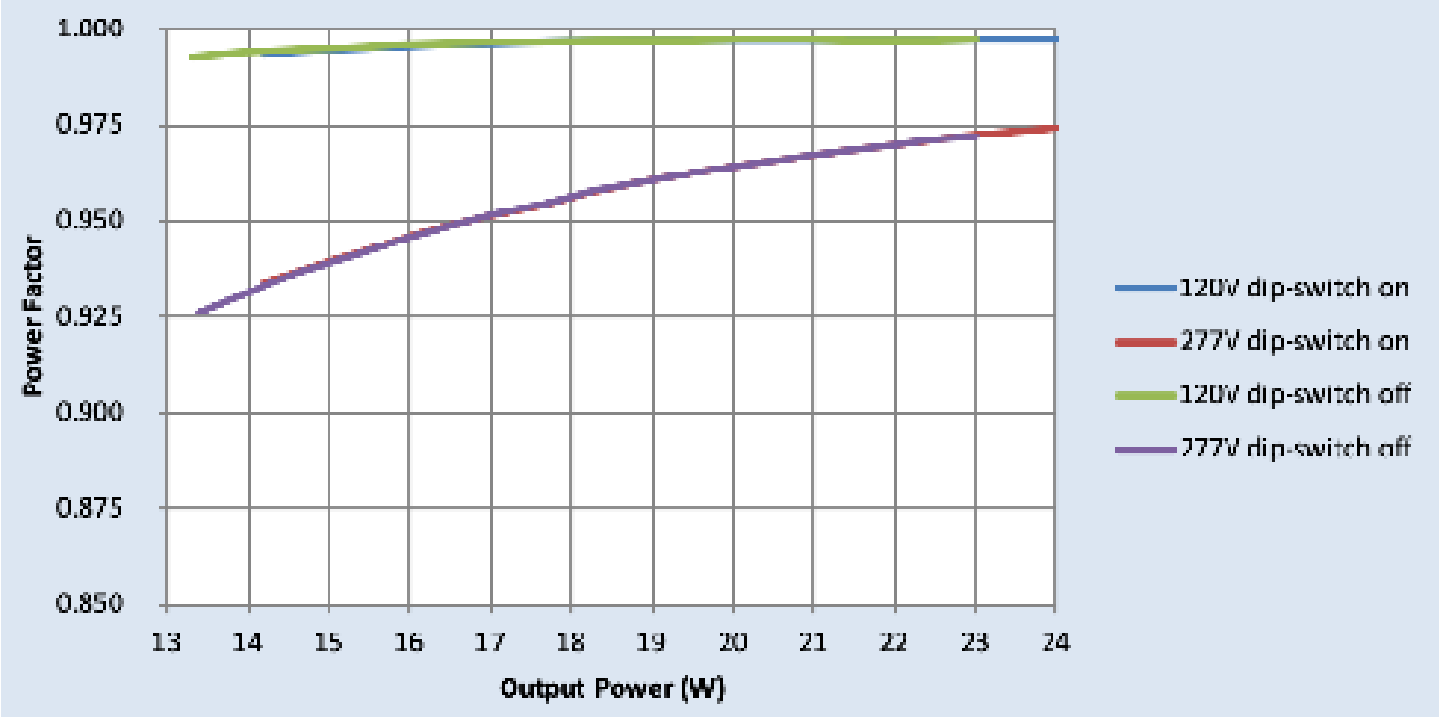
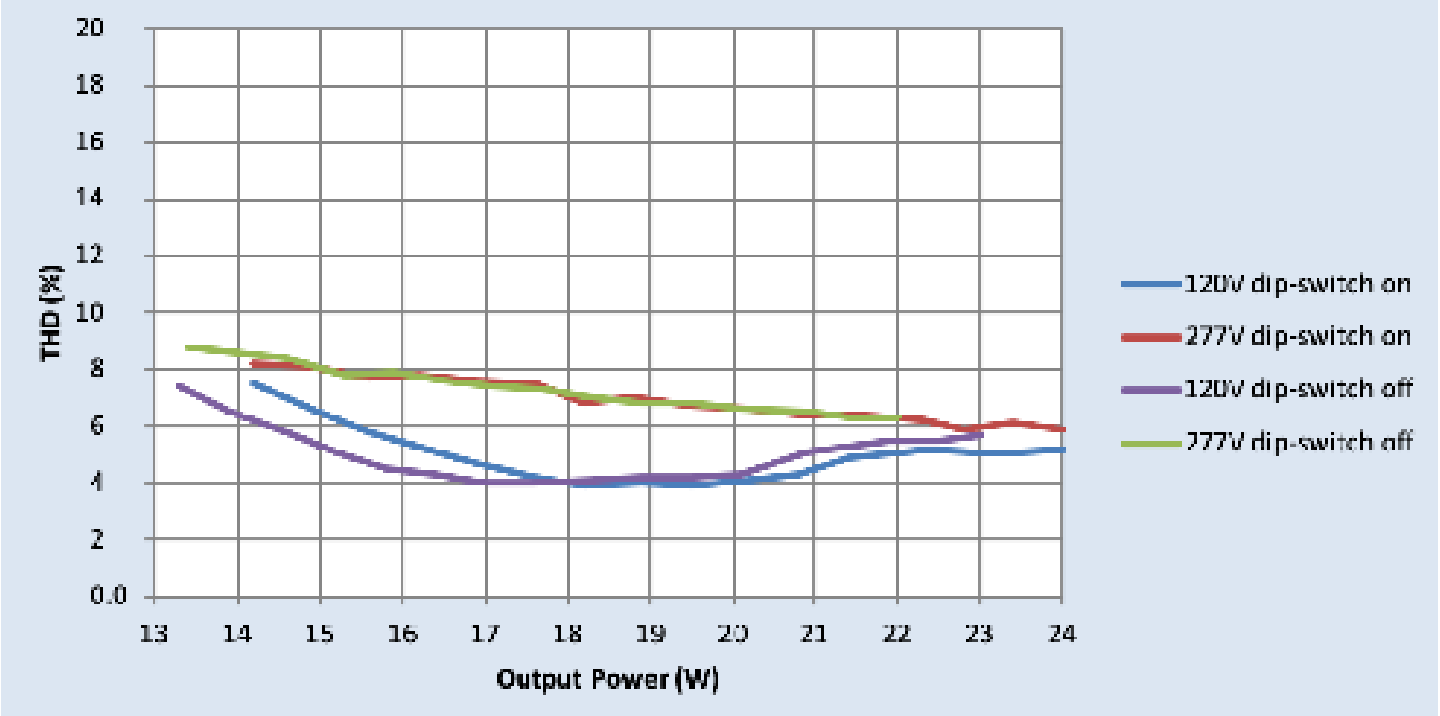
Power Factor Vs. Output Power



Total Harmonic Distortion (THD) Vs. Output Power



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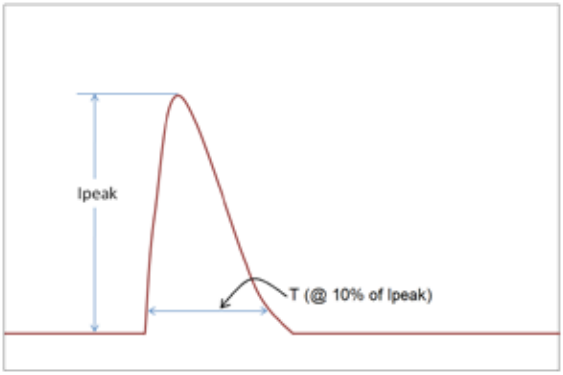
Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	7.5A	4.9µS
277 Vrms	21.2A	4.9µS

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	-	2xU+1kV	2xU+1kV	2xU+1kV
Output	2xU+1kV	-	2xU+1kV	500V
0-10V	2xU+1kV	2xU+1kV	-	2xU+1kV
Enclosure	2xU+1kV	500V	2xU+1kV	-

U = Max input voltage

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