



Advance Xitanium LED Outdoor Driver portfolio offers a range of products specially designed to operate LED solutions in outdoor applications. These drivers are designed for hard-wired integration into outdoor luminaires for the most rugged applications. They operate to specification under wide temperature and electrical ranges to ensure reliability.

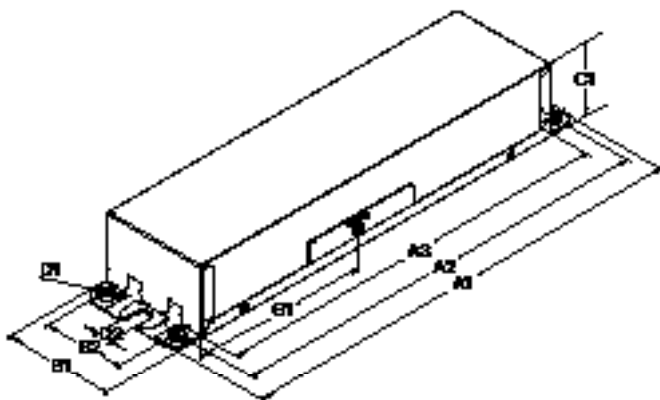
Specifications

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 (Combi-Wave, KV)	Envir. Protection Rating	Dimming	Dimming Range (with specified dimmers)	Min. Output Current (A)	Driver Type
120	180	100 - 285	0.1 - 0.9	91.5	Life - 85°C UL - 90°C	1.68	200	<10%	>0.95	6	UL damp & dry and Type HL	0-10V Analog Class 1 and 2 Wiring	10% - 100%	0.05	Constant Current
277				93.5		0.73		<10%							

Enclosure

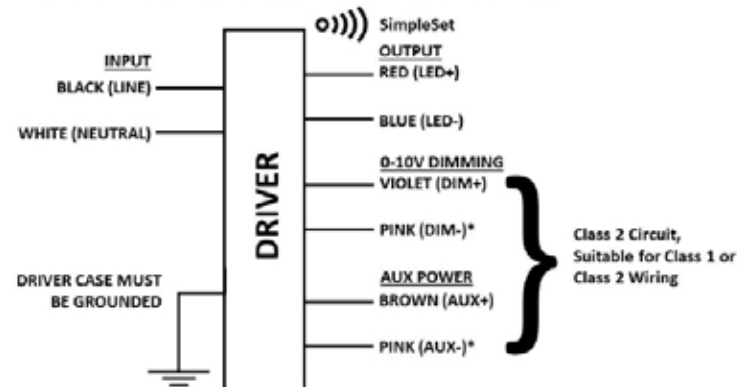
	In. (mm)	Tolerance
Overall Length (A1)	9.47 (240.5)	± 0.5
Mounting Length (A2)	8.91 (226.2)	± 0.5
Case Length (A3)	8.31 (211.0)	± 0.5
Case Width (B1)	2.31 (58.6)	± 0.5
Mounting Width (B2)	1.69 (42.9)	± 0.5
Case Height (C1)	1.48 (37.6)	± 1.0
Mounting Hole Diameter (D1)	0.23 (5.9)	± 0.5
Mounting Hole Diameter (D2)	0.31 (7.9)	± 0.5
Center of SimpleSet Antenna (G1)	3.77 (95.8)	± 3.0

Mechanical Diagram



Wiring Diagram

	Wire Length (mm)
Black (Line)	270 (± 30)
White (Neutral)	270 (± 30)
Red (Positive, LED output)	270 (± 30)
Blue (Negative, LED output)	270 (± 30)
Violet (Positive, 0-10V)	270 (± 30)
Pink* (Negative, 0-10V)	270 (± 30)
Brown(Positive, Aux power output)	270 (± 30)
Pink* (Negative, Aux power output)	270 (± 30)



Warning

- Install in accordance with national and local electrical codes.
- The field-wiring leads or push-in terminals shall be fully enclosed.

Xitanium XI180C090V285PSF2

180W 0.1-0.9A 0-10V Dimming

Features

- 50,000+ hour lifetime¹
- Excellent thermal performance
- 0-10V Dimming suitable for UL Class 1 and Class 2 wiring

Benefits

- Enables long life luminaire designs
- Allows luminaire designs for a wide range of ambient environments

Application

- Area
- Roadway
- Parking garages
- Floodlights

Electrical Specifications

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

Product Data

Order Information	
Full Product Code	XI180C090V285PSF2M (Mid-Pack, 10pcs/Box), 12NC: 929002704713
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108Vac
Max. Mains Voltage Operational	305Vac
DC Input Voltage	125/250Vdc An additional EMC filter may be necessary for the product to comply with FCC Part 15 class A limit at DC Mains operation.
Output Information	
Maximum Open Circuit Voltage	395Vdc
Output Current Ripple (ripple = peak to average / average)	15% max @ max lout (Low frequency ripple (≤120Hz) content <5%)
Output Current Tolerance	<5%
Protections	Short Circuit, Open Circuit Protection for LED + and LED - and Temperature Foldback
Features	
0-10V Dimming Interface current	150µA +/-3% (for dimming voltage >1V)
0-10V Active Range	1V to 8V. See dim curve for details.
0-10V Turn OFF Threshold	<0.5V
0-10V Turn ON Threshold	>0.8V
AOC (Adjustable Output Current)	0.1A-0.9A via SimpleSet (Factory Default at 0.7A)
Additional SimpleSet Configurable Features	Adjustable Startup Time Constant Lumen Over Lifetime Diagnostics Mains Limit Protection Advanced Internal Thermal Protection Dynadimmer"

1. Advance Xitanium LED drivers are manufactured to engineering standards correlating to a designed and average life expectancy of 50,000 hours of operation at maximum rated case temperature. Minimum 90% survivals based on MTTF modeling.

Xitanium XI180C090V285PSF2

180W 0.1-0.9A 0-10V Dimming

Product Data (continued)

Auxiliary Power Supply Output	
Nominal Aux. Output Voltage	24Vdc ($\pm 10\%$, including line and load regulation)
Maximum Aux. Output Voltage Ripple (peak/average)	300mV
Rated Aux. Output Power	3W continuous, 10.5W peak for 1.2ms
Peak Power (<60s)	6W
Max. Output Current at Aux output port	125mA
Turn-on Time (mains applied to output within 90%)	<400 msec
Max. Voltage Overshoot during Turn ON	30Vdc
Max. Voltage Undershoot during Turn ON	8Vdc
Pulse current	250mA for 60 sec
Protections	Short Circuit & Open Circuit Protection for Aux. + and Aux. - and Over-temperature Foldback
Environment & Approbation	
Operating Ambient Temp. Range	-40°C to +55°C
Max Case Temperature (Tcase)	85°C for Life & 90°C for UL Safety
Agency Approbations	UL 8750, cUL, Class P (UL, cUL)
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	2.1Lbs/0.95Kgs

Xitanium XI180C090V285PSF2

180W 0.1-0.9A 0-10V Dimming

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0-10V Dimming

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

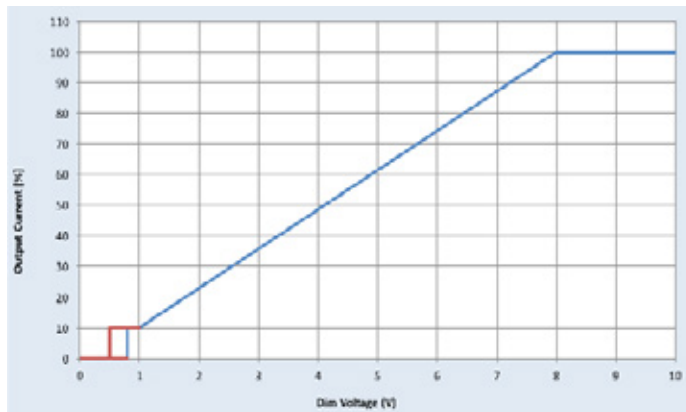
Minimum dim level: Factory default 10% of Iout setting as default

Maximum output voltage on the dimming wires: 12V

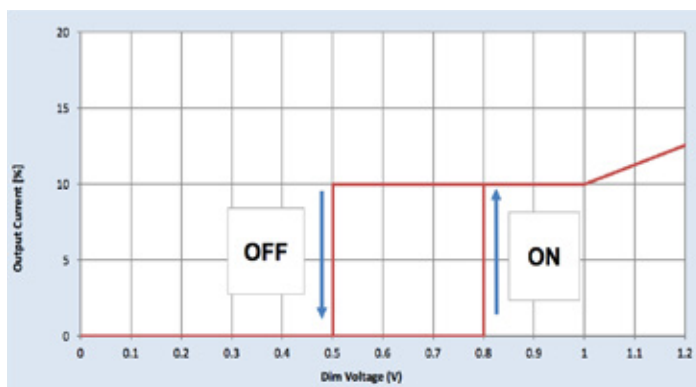
Leakage current of dimming leads: 0.014mA, recommended max number of control circuits in parallel refer to Design-in Guide

The dimming lead leakage current is 0.014mA. The maximum number of drivers that can be connected in parallel to one dimming control circuit is based on this dimming lead leakage current and the calculation is described in the corresponding Design-in Guide.

0-10V Dimming Curve



Detail on Hysteresis for ON-OFF



Dim to off function

Symbol	Parameter	Min	Typical	Max	Unit
Von	Turn on threshold	0.7	0.8	0.9	V
Voff	Turn off threshold	0.4	0.5	0.6	V
Ton	Turn on time			250	mS
Toff	Turn off time			1000	mS

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	IllumaTech IP7 series
Philips	Sunrise - SR1200ZTUNV

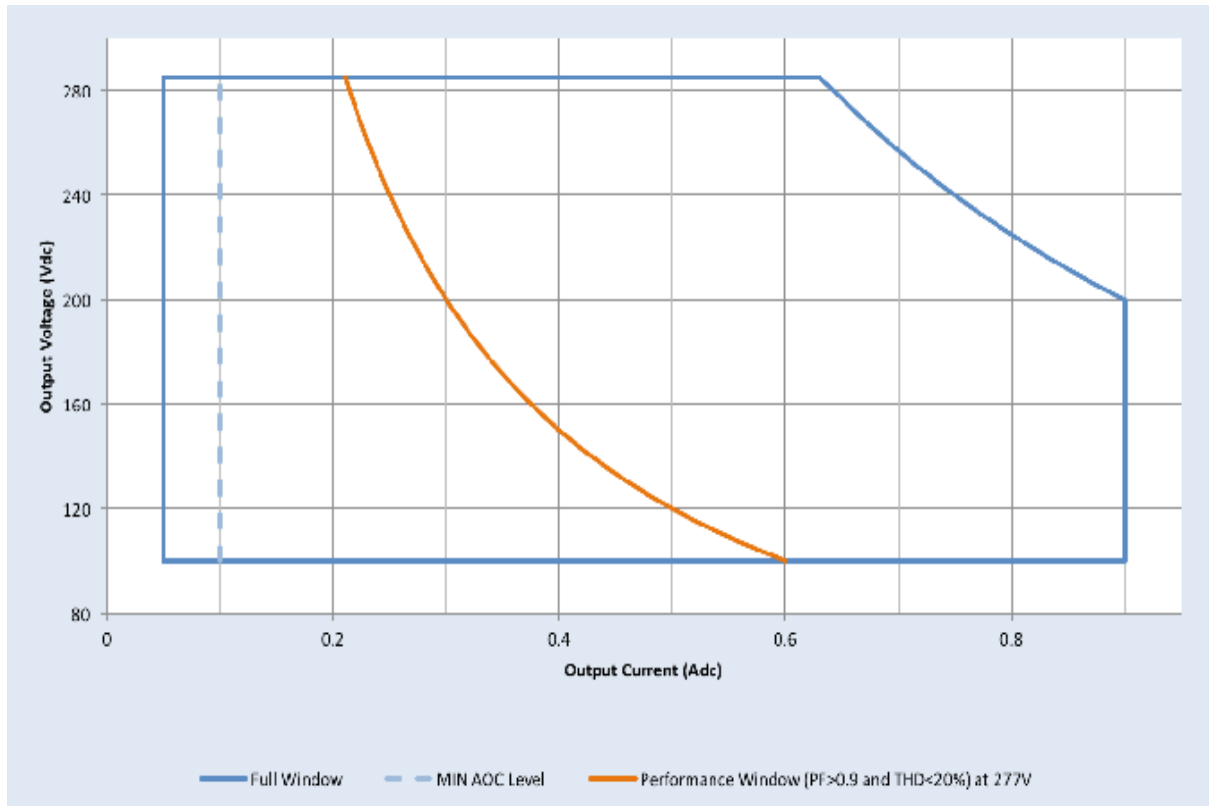
Xitanium XI180C090V285PSF2

180W 0.1-0.9A 0-10V Dimming

Electrical Specifications

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

Driver Output Window



Notes

1. Factory default output current is 0.7A.
2. To get a 100% to 10% dimming range, the output current setting through AOC should be $\geq 0.5A$.
3. Factory default minimum dimming level is 10%. This can be adjusted between 10% and 100% using Advance MultiOne.

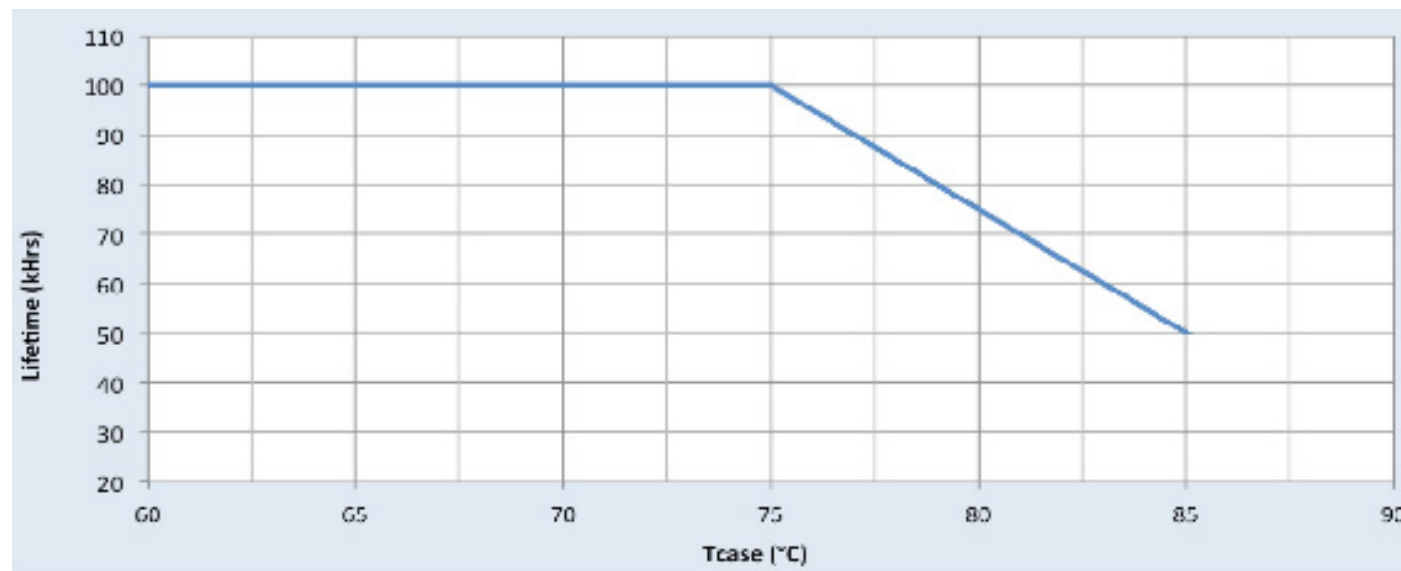
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180W 0.1-0.9A 0-10V Dimming

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Driver Lifetime Vs. Driver Case Temperature



Note

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

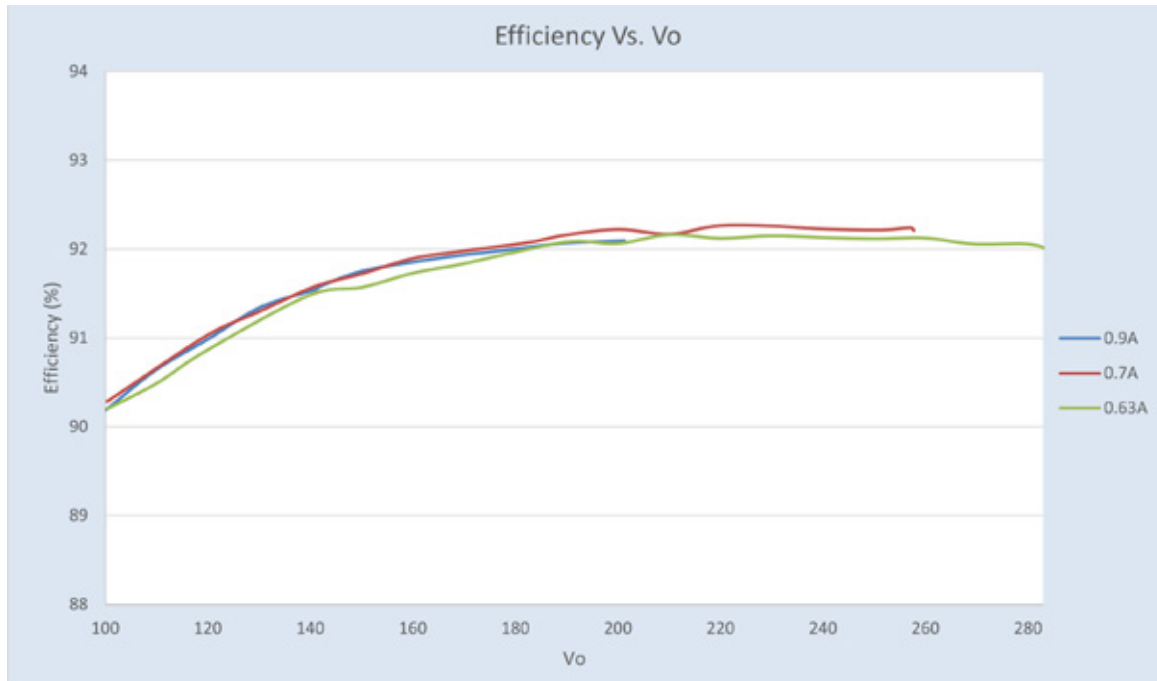
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180W 0.1-0.9A 0-10V Dimming

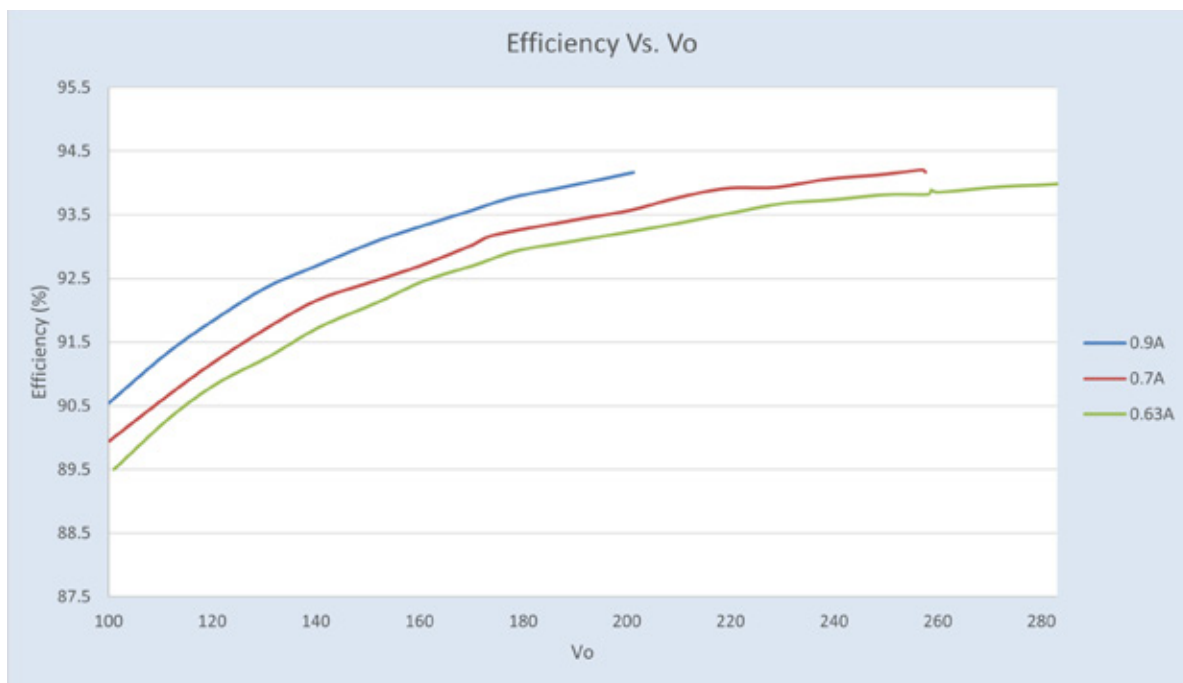
Performance Characteristics

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 at 120Vac



Efficiency Vs. Output Voltage at 277Vac



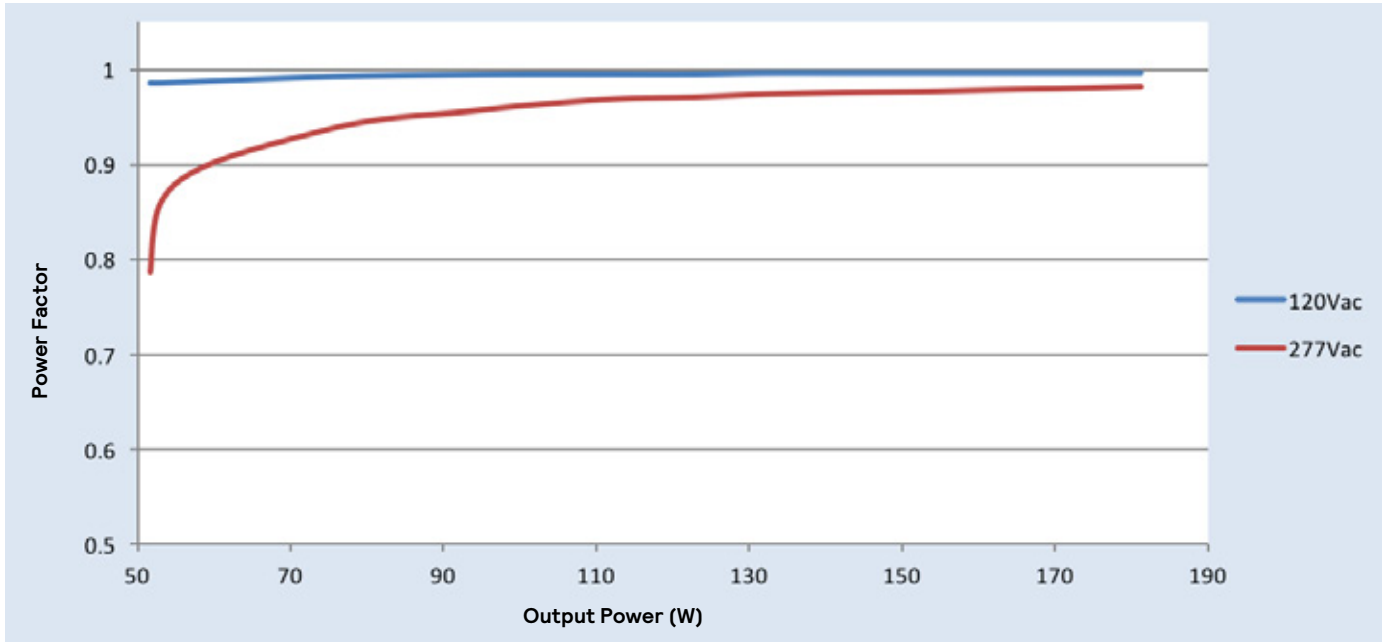
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180W 0.1-0.9A 0-10V Dimming

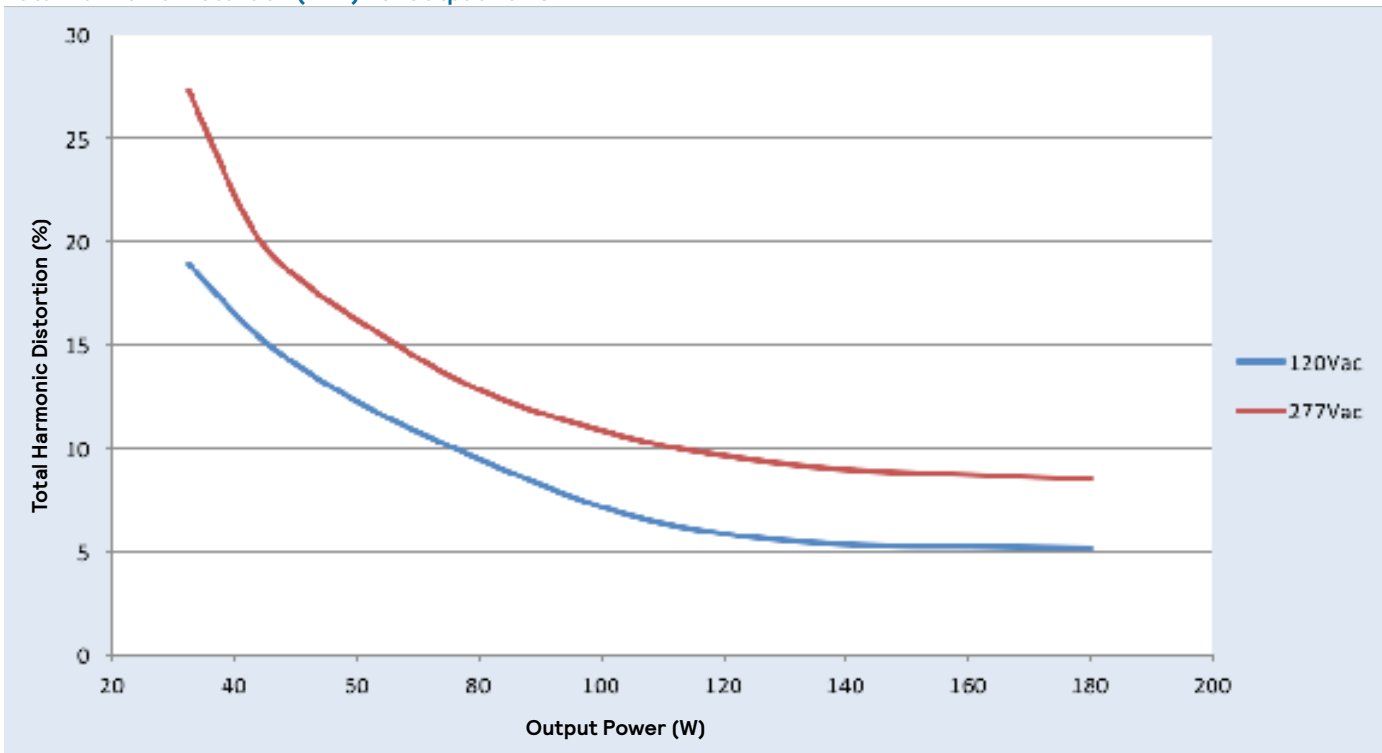
Performance Characteristics

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

Power Factor Vs. Output Power



Total Harmonic Distortion (THD) Vs. Output Power

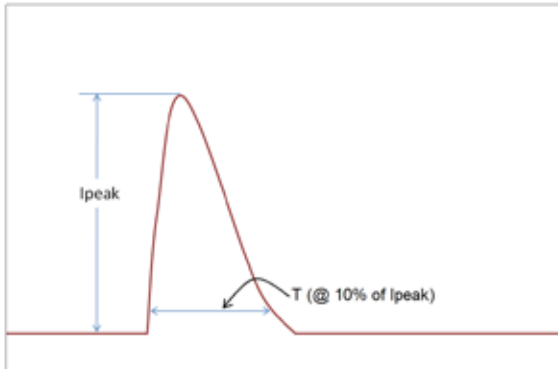


Note: PF>0.9, THD<20%.

Xitanium XI180C090V285PSF2

180W 0.1-0.9A 0-10V Dimming

Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
120 Vrms	94A	200us
277 Vrms	220A	192us

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)
Combi Wave (w/t 2Ω)	6kV	6kV

Isolation

Isolation	Input	Output	0-10V & Aux.	Enclosure
Input	N/A	2xU+1kV	2xU+1kV	2xU+1kV
Output	2xU+1kV	N/A	2xU+1kV	2xU+1kV
0-10V & Aux.	2xU+1kV	2xU+1kV	N/A	2xU+1kV
Enclosure	2xU+1kV	2xU+1kV	2xU+1kV	N/A

U = Max. working voltage

UL Conditions of Acceptability

Please contact your Advance representative for a copy of the latest UL Conditions of Acceptability (COA).



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