

**PHILIPS  
ADVANCE**



**LED Driver**

**Xitanium**

180W 0.1-1.25A 0-10V Dimming  
with SimpleSet and Aux. Output  
XI180C125V200PSF1



**RoHS  
COMPLIANT**

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

**UL** US  
**LISTED**  
**E321253**  
Class P  
For Dry and Damp Location

**SP** US

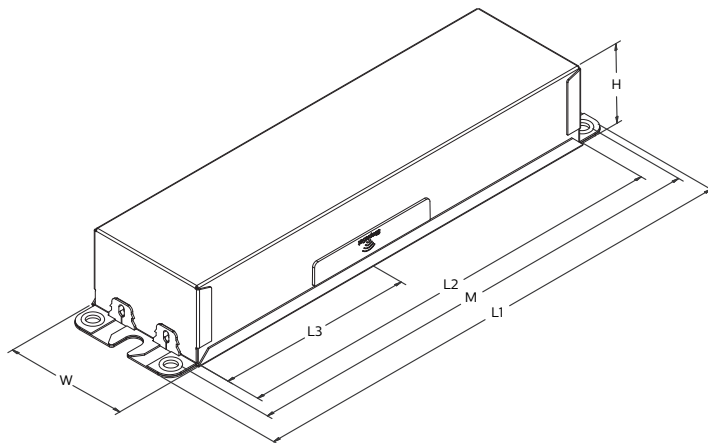
Philips Advance Xitanium LED drivers with SimpleSet technology and auxiliary power supply extend the driver application scope to include simple self-contained control solutions for luminaires. The driver provides an additional auxiliary output for powering simple sensors (occupancy/photocell), and the driver has a built-in standby mode through the 0-10V leads. The additional auxiliary power output eliminates the need for a mains relay or power pack for the sensor and allows the sensor to turn the driver on/off and also operate the dimming function.

**Specifications**

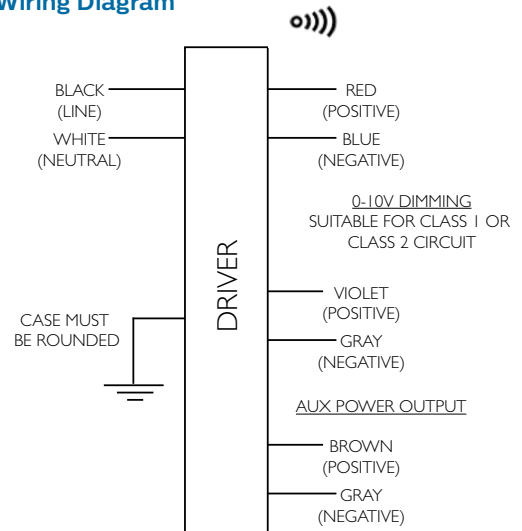
Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max. Load and 75°C Case	Max. Case Temp. (°C)	Input Current (A)	Max. Input Power (W)	THD @ Max. Load (%)	Power Factor @ Max. Load	Surge Protection (Combi-Wave, KV)	Envir. Protection Rating
120	180	70-210	0.1 - 1.25	91	Life - 85°C UL - 90°C	1.87	200	<10%	>0.95	6	UL damp & dry and Type HL
277				93		0.72					

**Enclosure**

	In. (mm)
Case Length (L2)	8.31 (211.0)
Case Width (W)	2.31 (58.0)
Case Height (H)	1.48 (37.6)
Mounting Length (M)	8.91 (226.2)
Overall Length (L1)	9.45 (240.0)
Center of SimpleSet Antenna (L3)	3.75 (95.3)



**Wiring Diagram**



Dimming	Dimming Range (with specified dimmers)	Minimum Output Current (A)
0-10V Analog Class 1 and 2 Wiring	10% ~ 100%	0.07

# Xitanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Features

- 50,000+ hour lifetime<sup>1</sup>
- Programmable output current through SimpleSet technology
- Large operating window
- 6kV combi-wave surge rating to comply with ANSI C82.77-5 CAT C low
- Auxiliary power output
- 0-10V dimming with ON/OFF functionality

## Benefits

- Enables long life luminaire designs
- Fast and simple way of programming
- Enables fixture designs with wide variety of loads and adjustable current options
- No external surge protection required to pass C82.77-5 CAT C low
- Provides power supply for additional control/sensing devices in the fixture
- The driver can be turned ON/OFF using a passive low-voltage control device or relay

## Application

- Area
- Roadway
- Parking garages
- Floodlights
- High-bay and mid-bay

## Electrical Specifications

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

## Product Data

Order Information	
Full Product Code	XI180C125V200PSF1M (Mid-Pack, 10pcs/Box)
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108 Vac
Max. Mains Voltage Operational	305 Vac
Output Information	
Maximum Open Circuit Voltage	285Vdc
Output Current Ripple (ripple = peak to average / average)	15% max @ max Iout (Low frequency ripple (≤120Hz) content <5%)
Output Current Tolerance (in performance window)	<5%
Protections	Short Circuit, Open Circuit Protection for LED + and LED – and Temperature Foldback
Features	
Auxiliary Power Supply Output	
Nominal Aux. Output Voltage	16 – 24Vdc
Maximum Aux. Output Voltage Ripple (peak/average)	2%
Rated Aux. Output Power	2.5W
Peak Power (<10s)	4W
Max. Output Current	140mA. See Aux. Output for details.
Turn-on Time (from power on to >16V)	<100ms
Turn-off Time (from power off to <1V)	<1s
Max. Voltage Overshoot during Turn ON	30Vdc
Max. Voltage Undershoot during Turn ON	8Vdc
Max. Hold-up Time after Mains Power OFF (20mA load)	t.b.d
Protections	Short Circuit & Open Circuit Protection for Aux. + and Aux. – and Over-temperature Foldback

1. Philips 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 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Electrical Specifications

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

## Product Data (continued)

<b>0-10V Dimming Interface</b>	
<b>Dimming Source Current</b>	100-250 $\mu$ A (for dimming voltage >1V)
<b>0-10V Active Range</b>	1V to 8V. See dim curve for details.
<b>0-10V Turn OFF Threshold</b>	<0.3V
<b>0-10V Turn ON Threshold</b>	>0.7V
<b>Input Standby Power in OFF State (across 120-277V mains range)</b>	< 0.5W <sup>2</sup>
<b>Protections</b>	Short Circuit & Open Circuit Protection for Dim + and Dim – and protected against accidental mains applied on dimming input
<b>Programmable Features</b>	
<b>AOC (adjustable output current)</b>	0.1A-1.25A via SimpleSet (Factory Default at 1.05A)
<b>Additional Configurable Features</b>	Adjustable Min. Dim Level, Adjustable Lumen Output, Adjustable Lumen Output Min., OEM Write Protection Switch Aux. output ON/OFF
<b>Environment &amp; Approbation</b>	
<b>Operating Ambient Temp. Range</b>	-40°C to +55°C
<b>Max. Case Temperature (Tcase)</b>	90°C
<b>Agency Approbations</b>	UL 8750, CSA 250.13
<b>Electromagnetic Compliance</b>	FCC Title 47 Part 15 Class A
<b>Audible Noise</b>	<24dB Class A
<b>Weight</b>	2.1 Lbs / 0.95 kgs

2. Input standby power is < 0.5W when no load on aux. output. With about 320mW load on aux. output, the input standby power is < 1W.

# Xtanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Electrical Specifications

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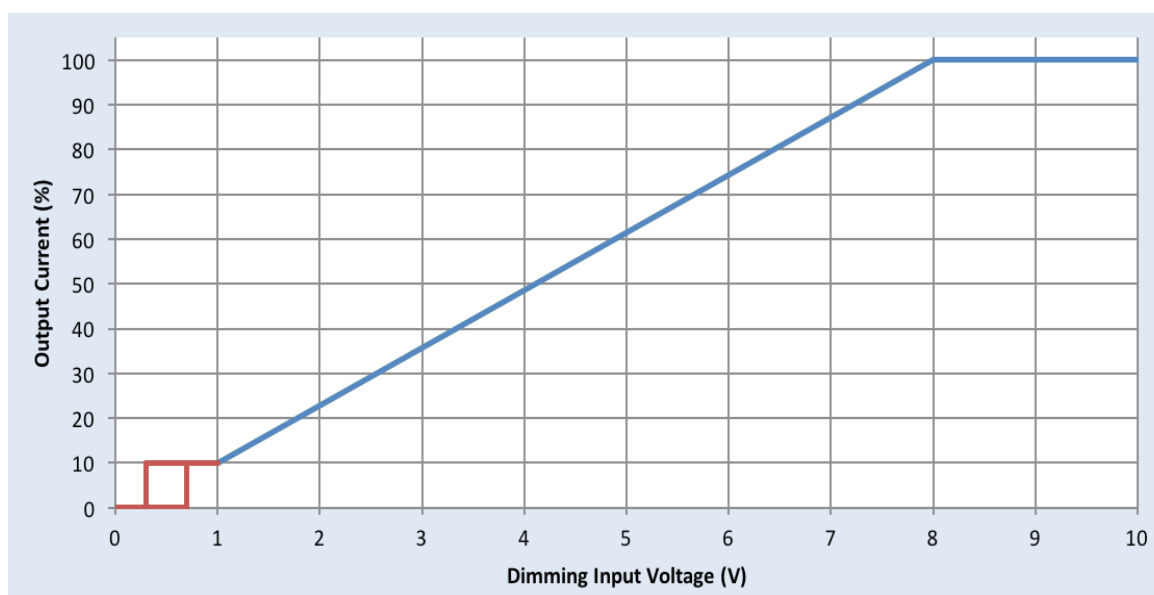
### 0-10V Dimming

Dimming source current from the driver: 100-250uA (@  $0 < V_{dim} < 8V$ )

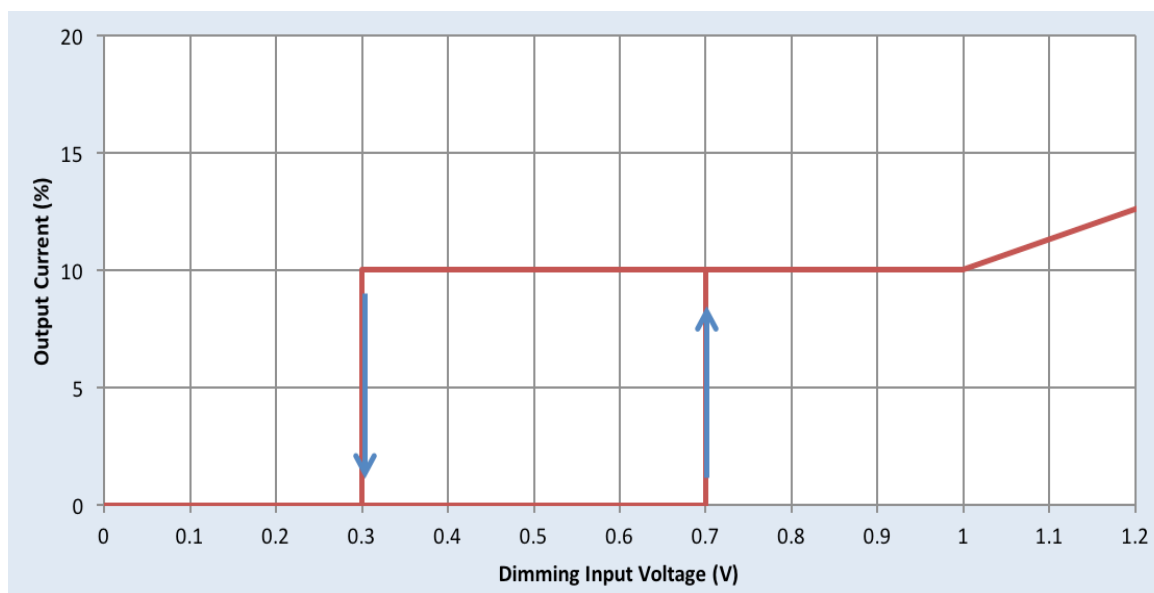
Minimum dim level: 10% of Iout setting as default

Maximum output voltage on the dimming wires: 12V

### 0-10V Dimming Curve



### Detail on Hysteresis for ON-OFF

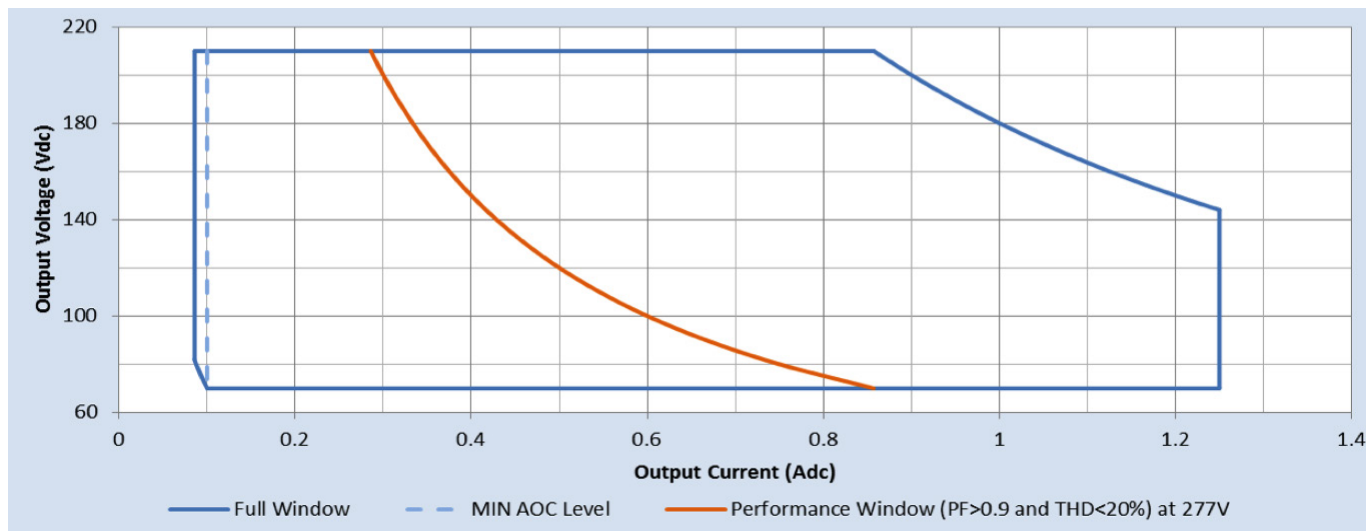


# Xitanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Electrical Specifications

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## Driver Output Window



## Notes

1. Factory default output current is 1.05A.
2. To get a 100% to 10% dimming range, the output current setting through AOC should be  $\geq 700\text{mA}$ .
3. Factory default minimum dimming level is 10%. This can be adjusted between 10% and 100% using Philips MultiOne.

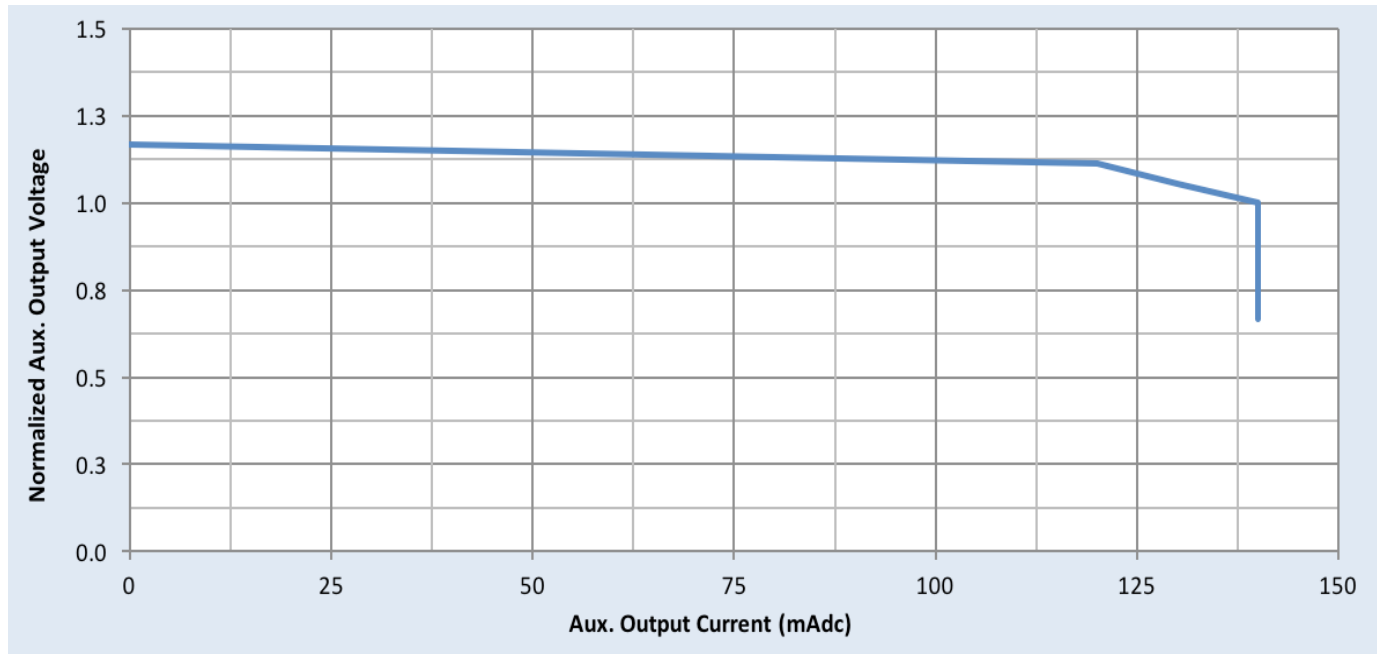
# Xtanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Electrical Specifications

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Chart represents a normalized load regulation of the auxiliary power supply. Nominal ratings are listed on page 2.

## Auxiliary Power

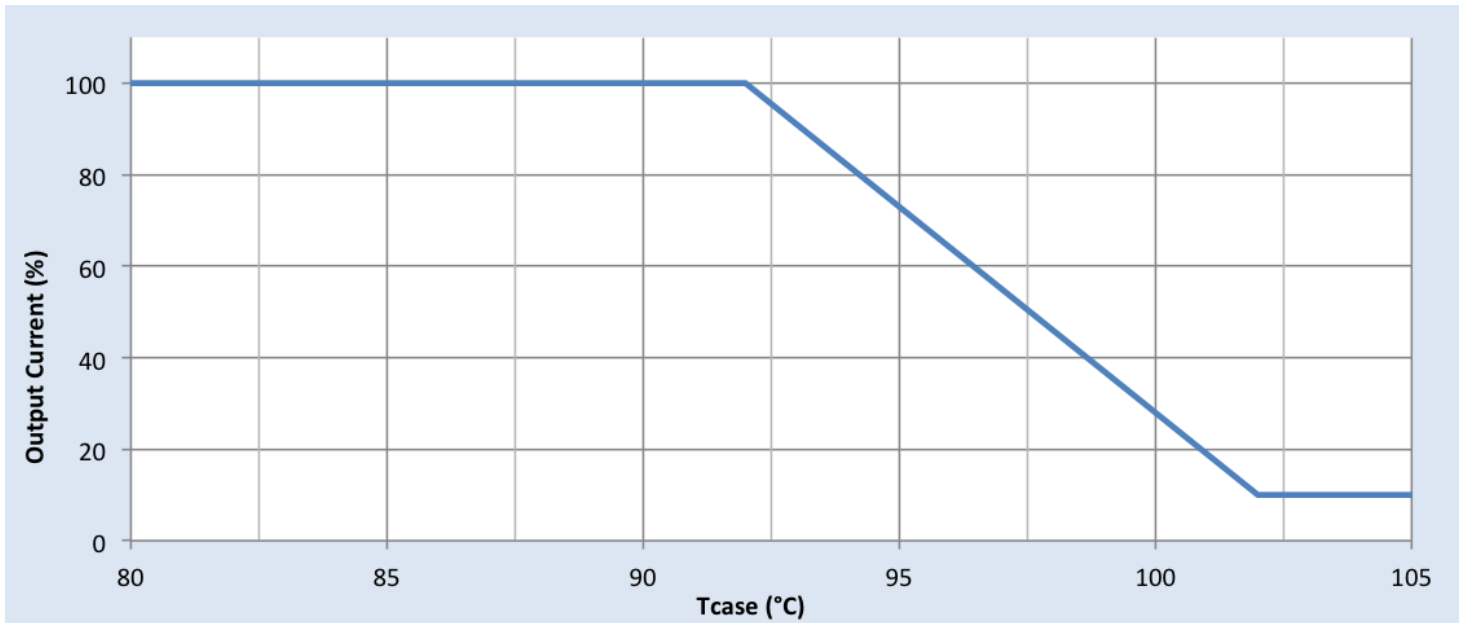


# Xtanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Electrical Specifications

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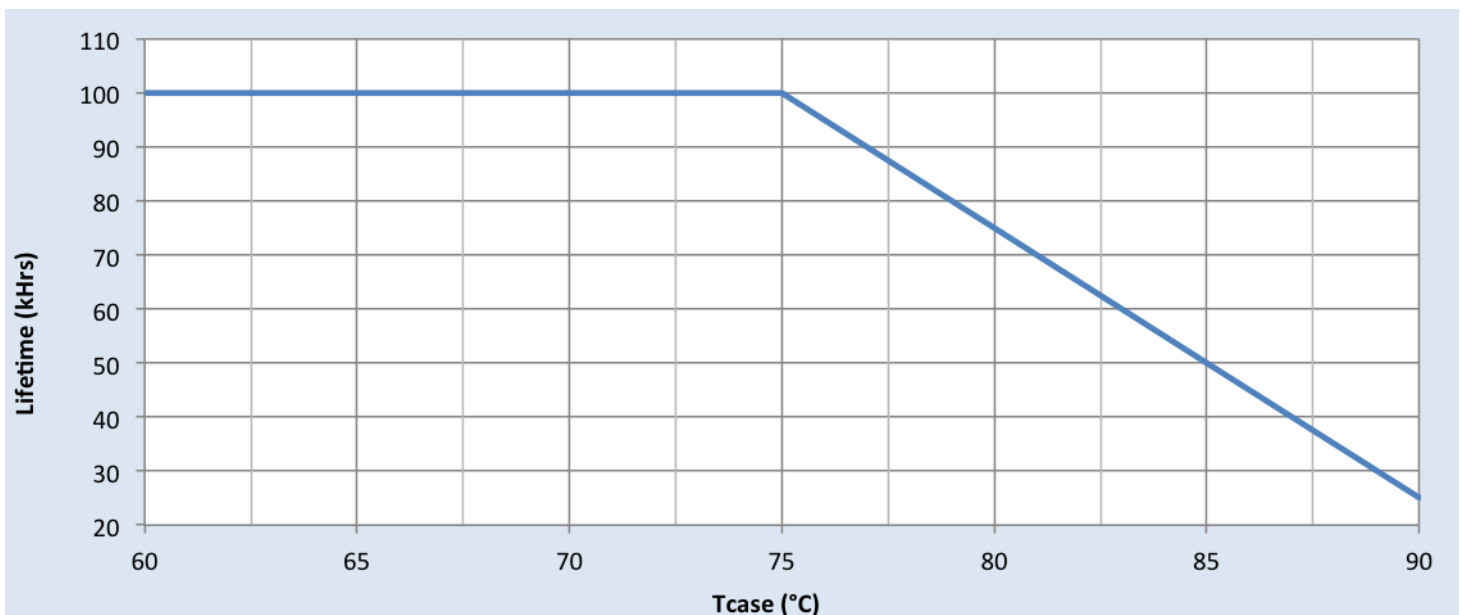
### Output Current Vs. Driver Case Temperature



#### Note

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

### Driver Lifetime Vs. Driver Case Temperature

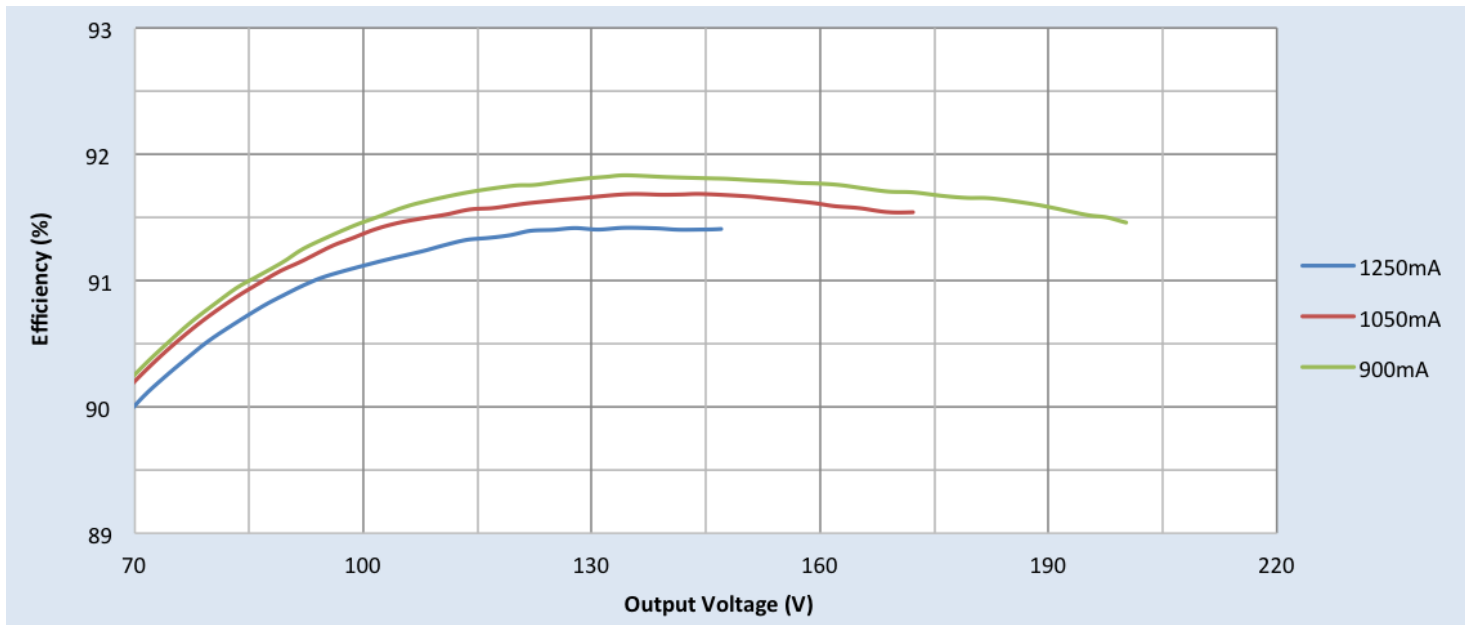


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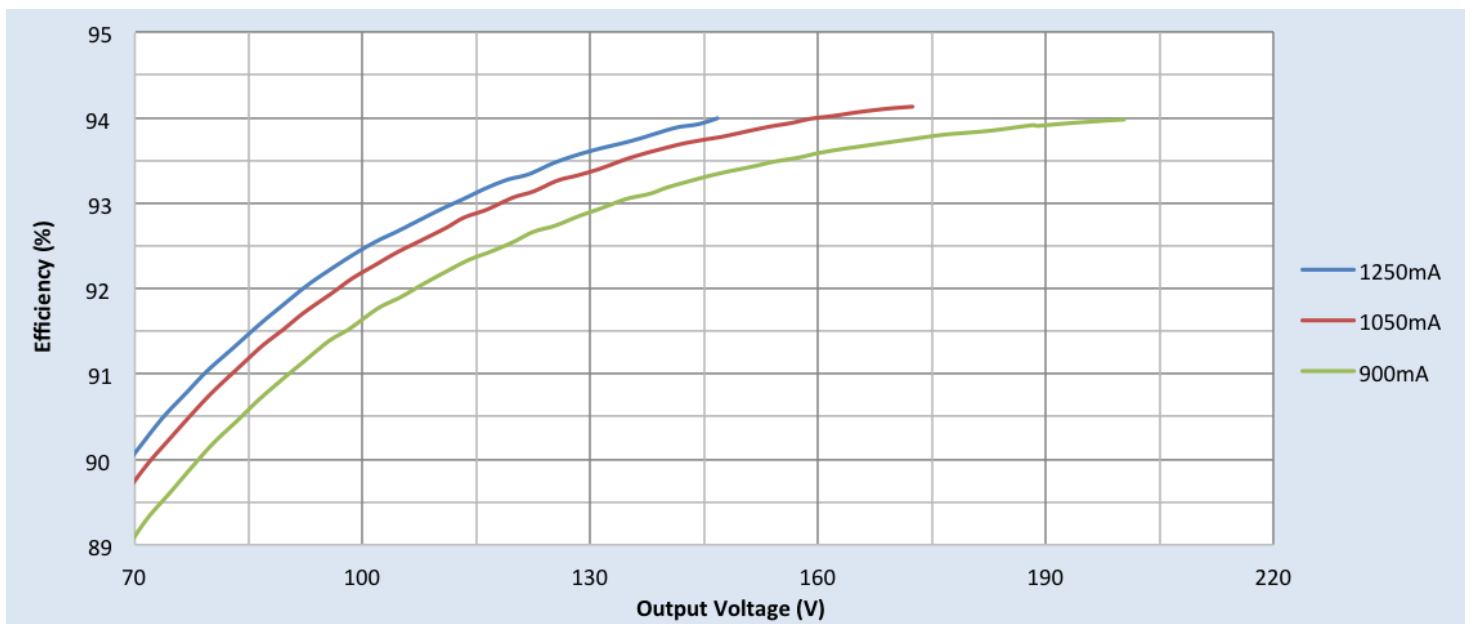
## Performance Characteristics

Based on measurements on a typical sample at 75°C case. The accuracy of the measurements is within the tolerance of the measurement instruments. Measurements were made with no load on the auxiliary output port.

### Efficiency Vs. Output Voltage at 120Vac



### Efficiency Vs. Output Voltage at 277Vac



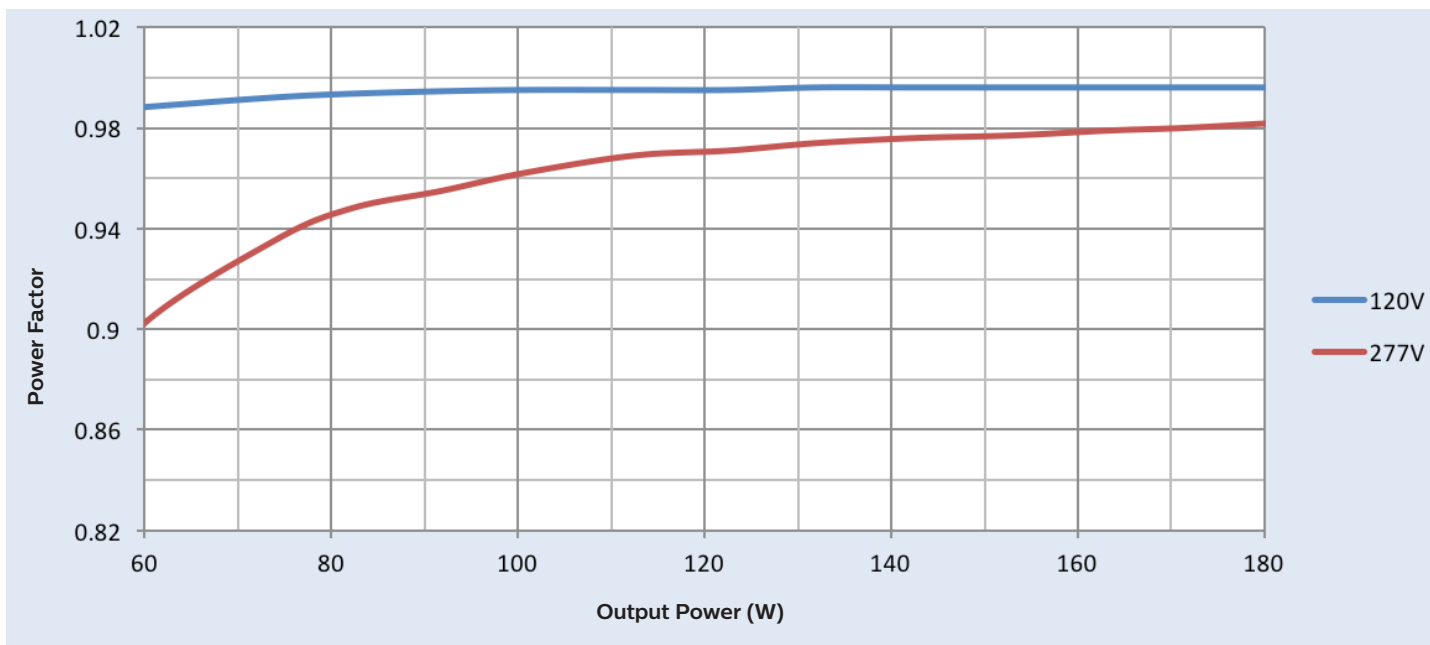


# Xtanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

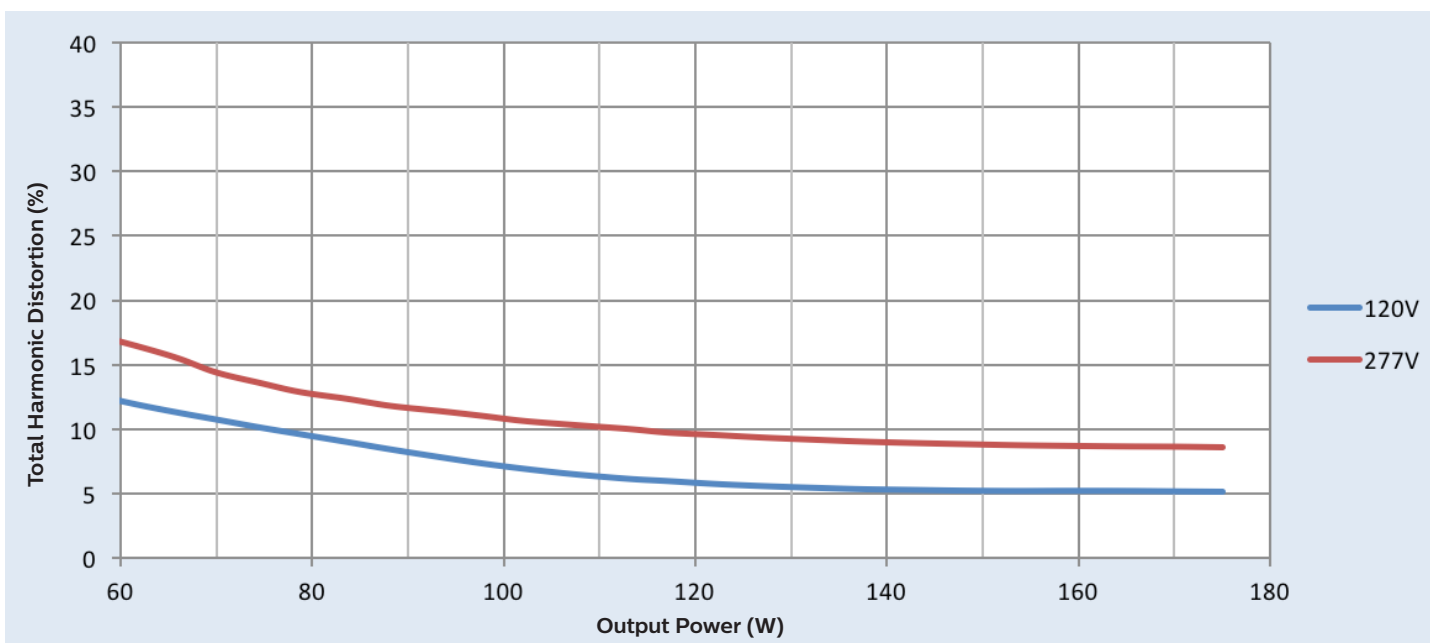
## Performance Characteristics

Based on measurements on a typical sample at 75°C case. The accuracy of the measurements is within the tolerance of the measurement instruments. Measurements were made with no load on auxiliary output port.

### Power Factor Vs. Output Power

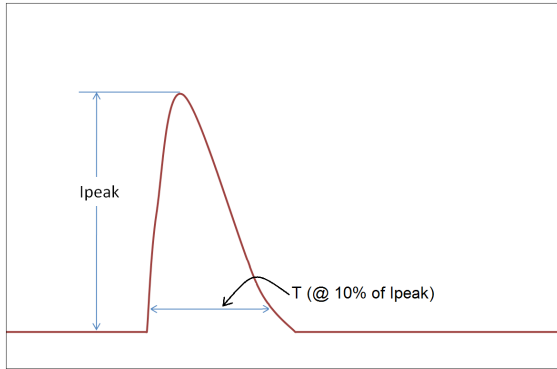


### Total Harmonic Distortion (THD) Vs. Output Power



# Xitanium 180W featuring SimpleSet technology with auxiliary output and dimming with standby

## Inrush Current Info



V <sub>in</sub>	I <sub>peak</sub>	T (@ 10% of I <sub>peak</sub> )
120 Vrms	66 A	247 μS
277 Vrms	158 A	242 μS

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)
1.2/50μs Combination Wave (w/t 2Ω)	6kV	6kV

## Isolation

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

U = Max. input voltage

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