

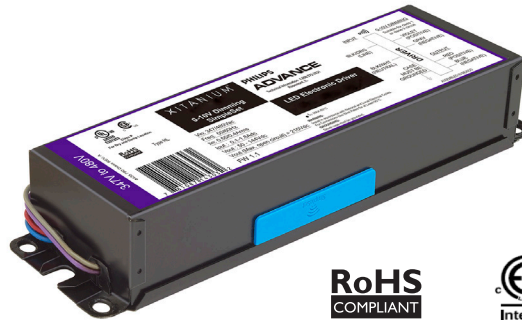
**PHILIPS
ADVANCE**



LED Driver

Xitanium

180W 0.1-1.25A 0-10V Dimming
with SimpleSet and Aux. Output
XH180C125V200PSF1



**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

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

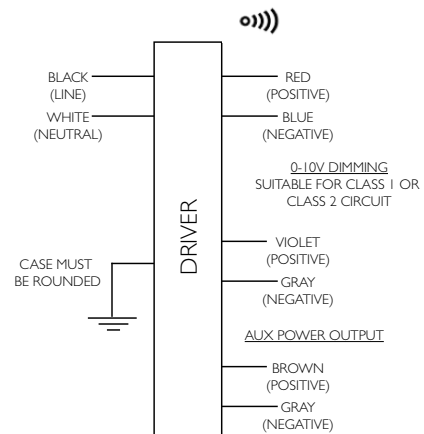
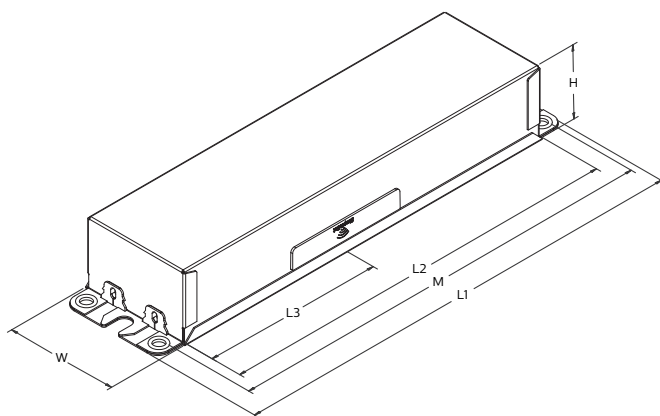
Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max. Load and 75°C Case	Max. Case Temp. (°C)	Input Current (A)	Max. Input Power (W)	THD @ Max. Load (%)	Power Factor @ Max. Load	Surge Protection (Combi-Wave, KV)	Envir. Protection Rating	Dimming	Dimming Range (with specified dimmers)	Min. Output Current (A)
347	180	70-210	0.1 - 1.25	92.4	Life - 85°C UL - 90°C	0.56	200	<10%	>0.95	6	UL damp & dry and Type HL	0-10V Analog Class 1 and 2 Wiring	10% ~ 100%	0.07
480				93.3		0.4								

Enclosure

	In. (mm)	Tolerance
Case Length (L2)	8.31 (211.0)	± 0.5mm
Case Width (W)	2.31 (58.0)	± 0.5mm
Case Height (H)	1.48 (37.6)	± 1.0mm
Mounting Length (M)	8.91 (226.2)	± 0.5mm
Overall Length (L1)	9.45 (240.0)	± 1.0mm
Center of SimpleSet Antenna (L3)	3.75 (95.3)	± 1.0mm

Wiring Diagram

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



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

Features

- 50,000+ hour lifetime¹
- 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
- No external surge protection required to pass C82.77-5 CAT C low
- Aux power output is a great alternative to using 347V or 480V power packs which are expensive.
- 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	XH180C125V200PSF1M (Mid-Pack, 10pcs/Box), 12NC: 929001705513
Line Frequency	50/60Hz
Min. Mains Voltage Operational	312 Vac
Max. Mains Voltage Operational	528 Vac
Output Information	
Maximum Open Circuit Voltage	290Vdc
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	24Vdc (± 10%, including line and load regulation)
Maximum Aux. Output Voltage Ripple (peak/average)	2%
Rated Aux. Output Power	3W
Peak Power (<10s)	4W
Max. Output Current at Aux output port	125mA. See Aux. Output for details.
Turn-on Time (from mains applied to output within 90%)	<220 milliseconds
Max. Voltage Overshoot during Turn ON	30Vdc
Max. Voltage Undershoot during Turn ON	8Vdc
Max. Hold-up Time after Mains Power OFF (20mA load)	75 milliseconds (until the aux output voltage drops out of nominal range)
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

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Product Data (continued)

0-10V Dimming Interface	
Dimming Source Current	100-250 μ A (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
Protections	Short Circuit & Open Circuit Protection for Dim + and Dim – and protected against accidental mains applied on dimming input
Programmable Features	
AOC (adjustable output current)	0.1A-1.25A via SimpleSet (Factory Default at 1.05A)
Additional Configurable Features	Adjustable Min. Dim Level, Adjustable Lumen Output, Adjustable Lumen Output Min., OEM Write Protection
Environment & Approbation	
Operating Ambient Temp. Range	-40°C to +55°C
Max. Case Temperature (Tcase)	90°C
Agency Approbations	UL 8750, CSA 250.13
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	2.1 Lbs / 0.95 kgs

2. Input standby power is < 0.5W when no load on aux. output. With about 0.3W load on aux. output, the input standby power is < 1W.

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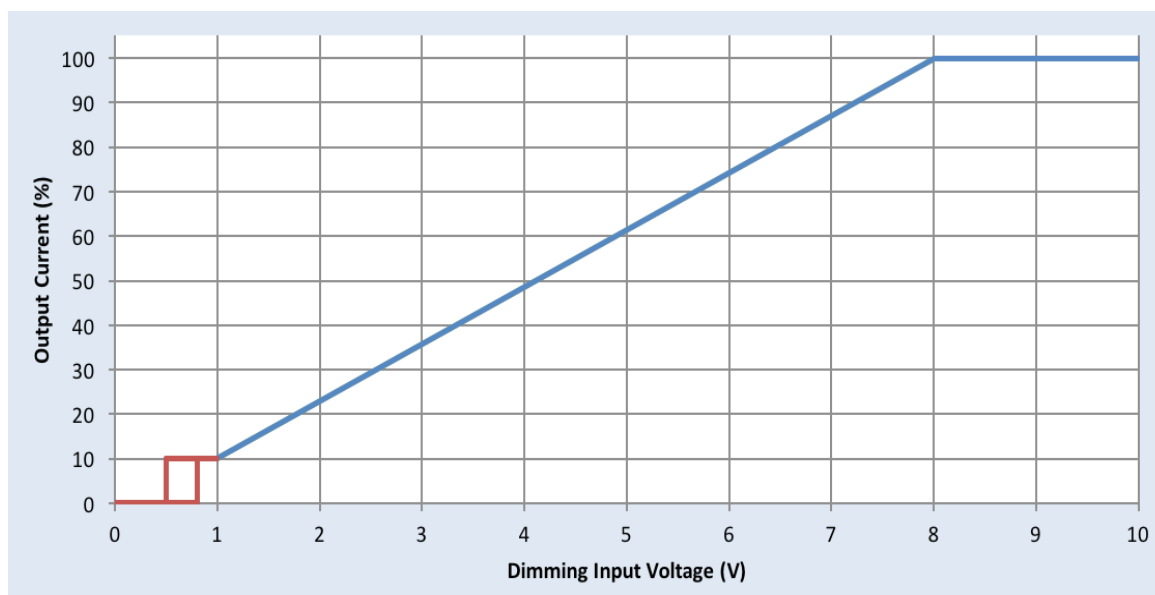
0-10V Dimming

Dimming source current from the driver: 100-250uA (@ 0<Vdim<8V)

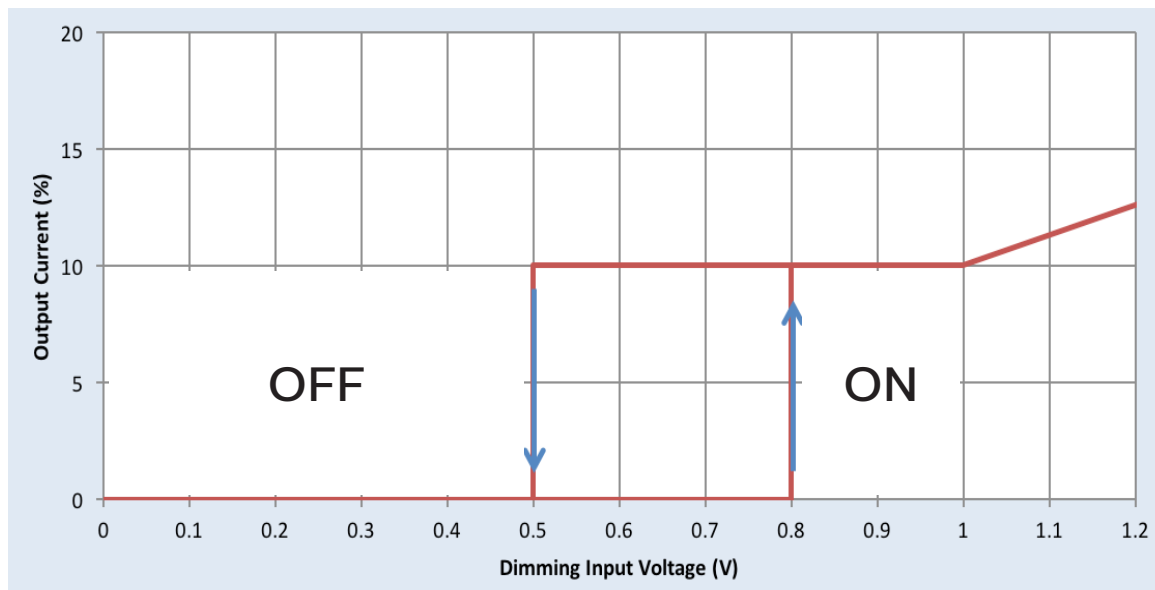
Minimum dim level: 10% of Iout setting as default

Maximum output voltage on the dimming wires: 12V

0-10V Dimming Curve



Detail on Hysteresis for ON-OFF

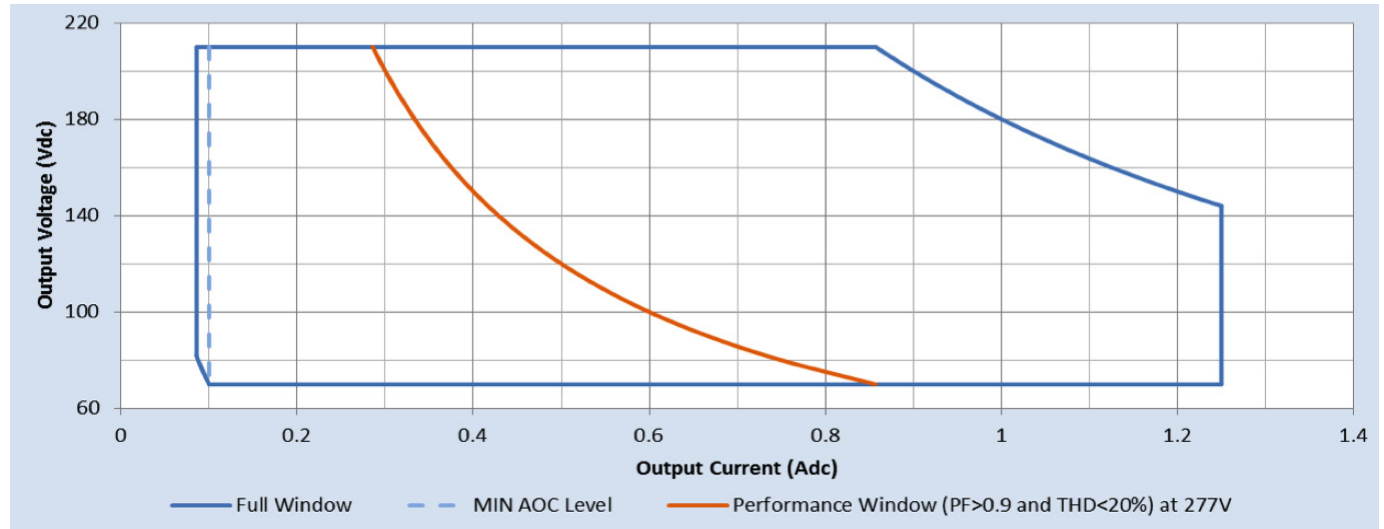


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Electrical Specifications

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Driver Output Window



Notes

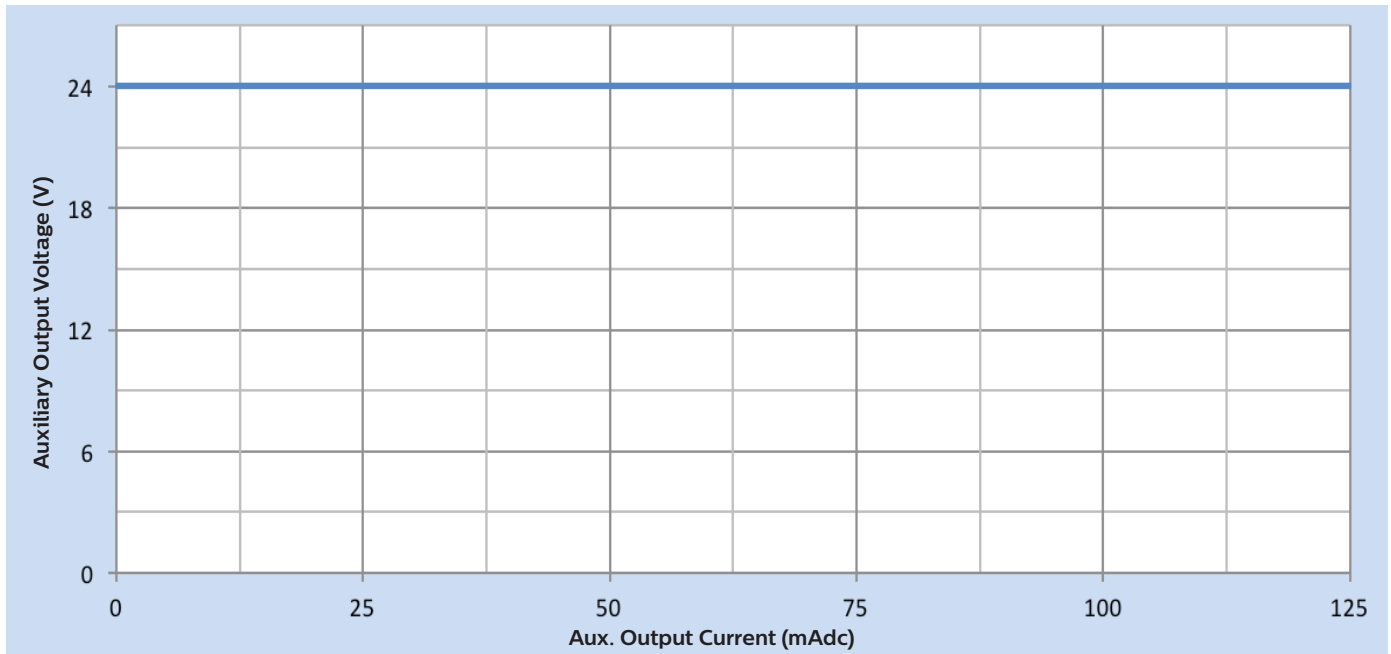
1. Factory default output current is 1.05A.
2. To get a 100% to 10% dimming range, the output current setting through AOC should be $\geq 700\text{mA}$.
3. Factory default minimum dimming level is 10%. This can be adjusted between 10% and 100% using Philips MultiOne.

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Auxiliary Power

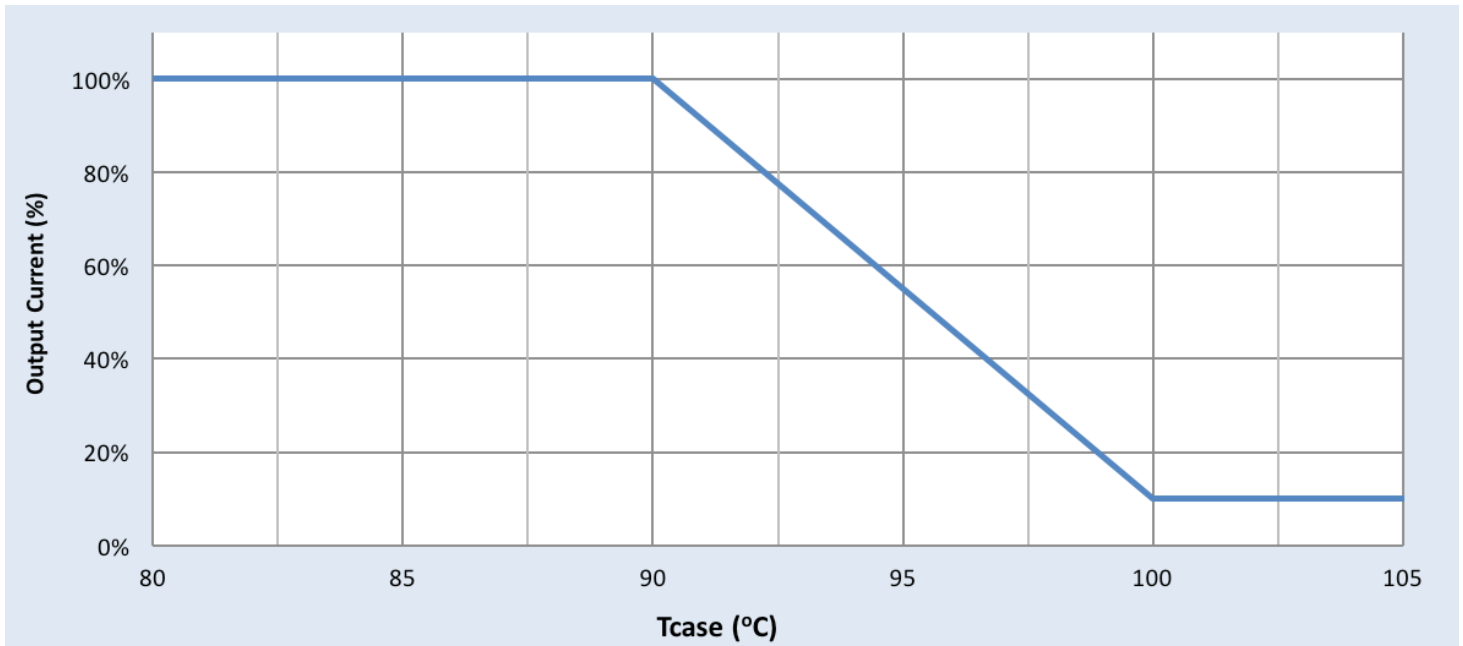


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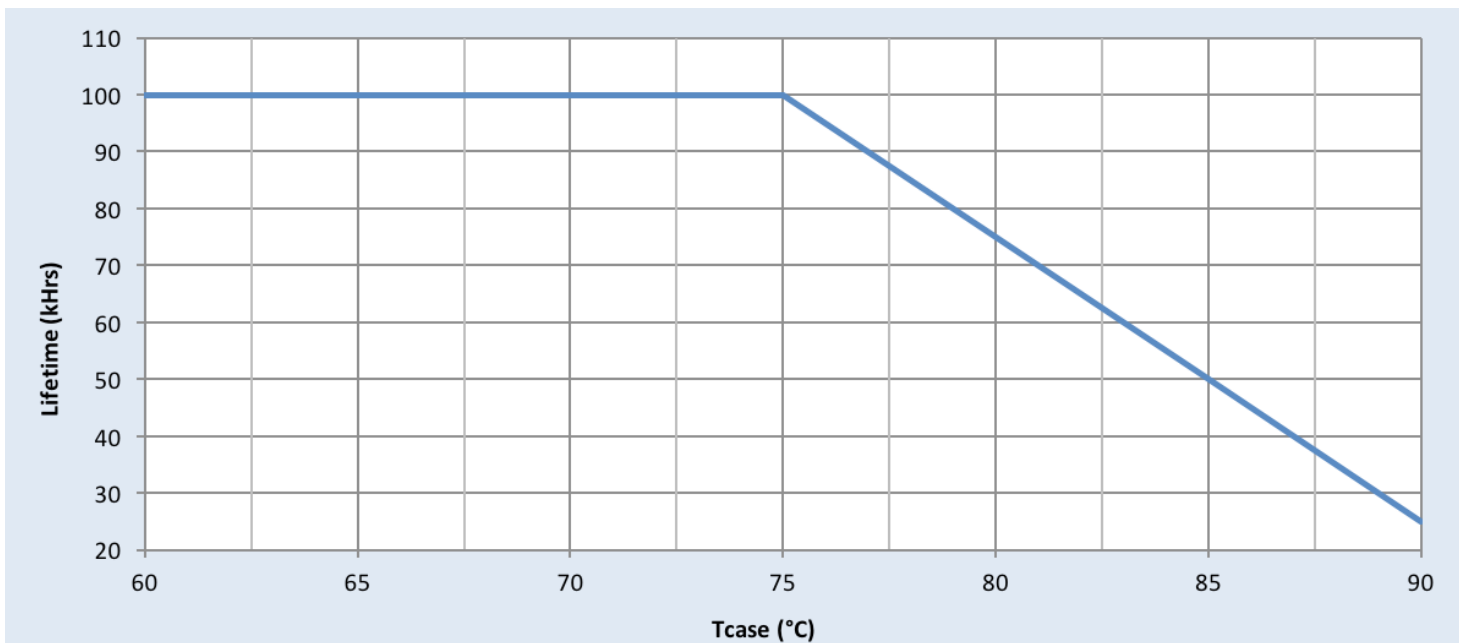
Output Current Vs. Driver Case Temperature



Note

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

Driver Lifetime Vs. Driver Case Temperature

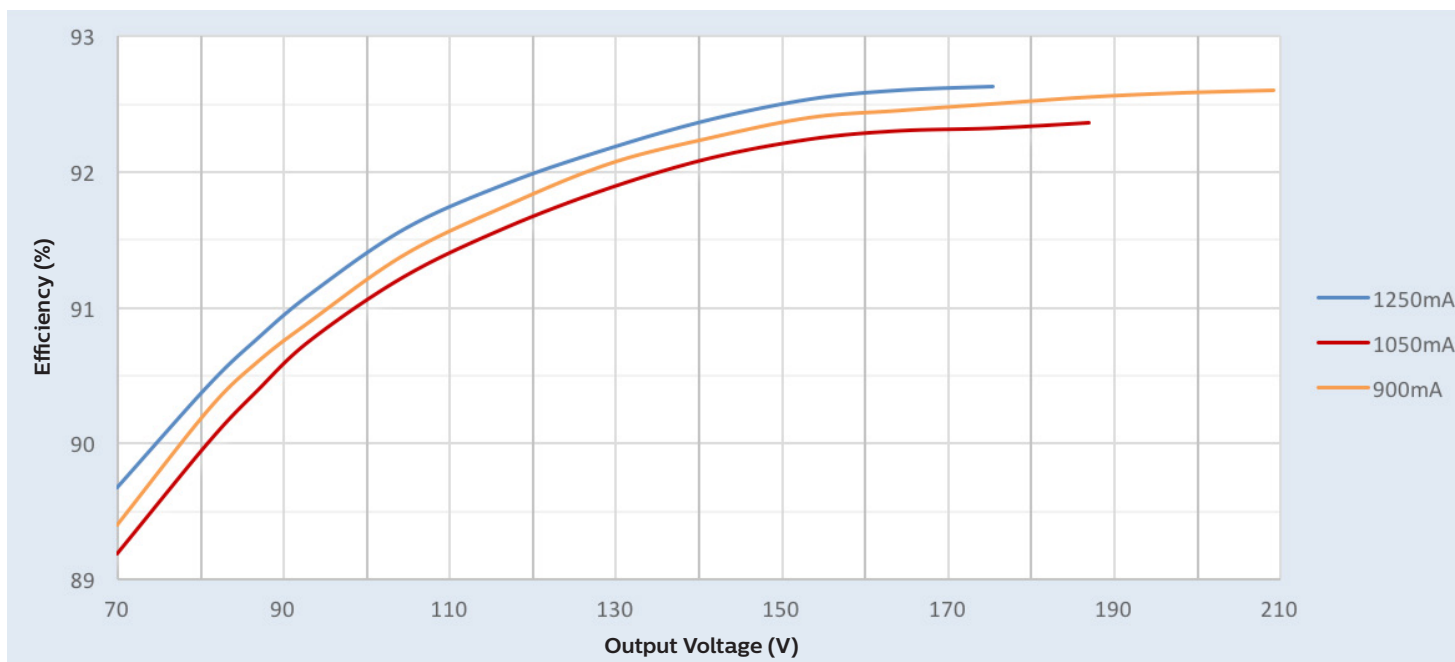


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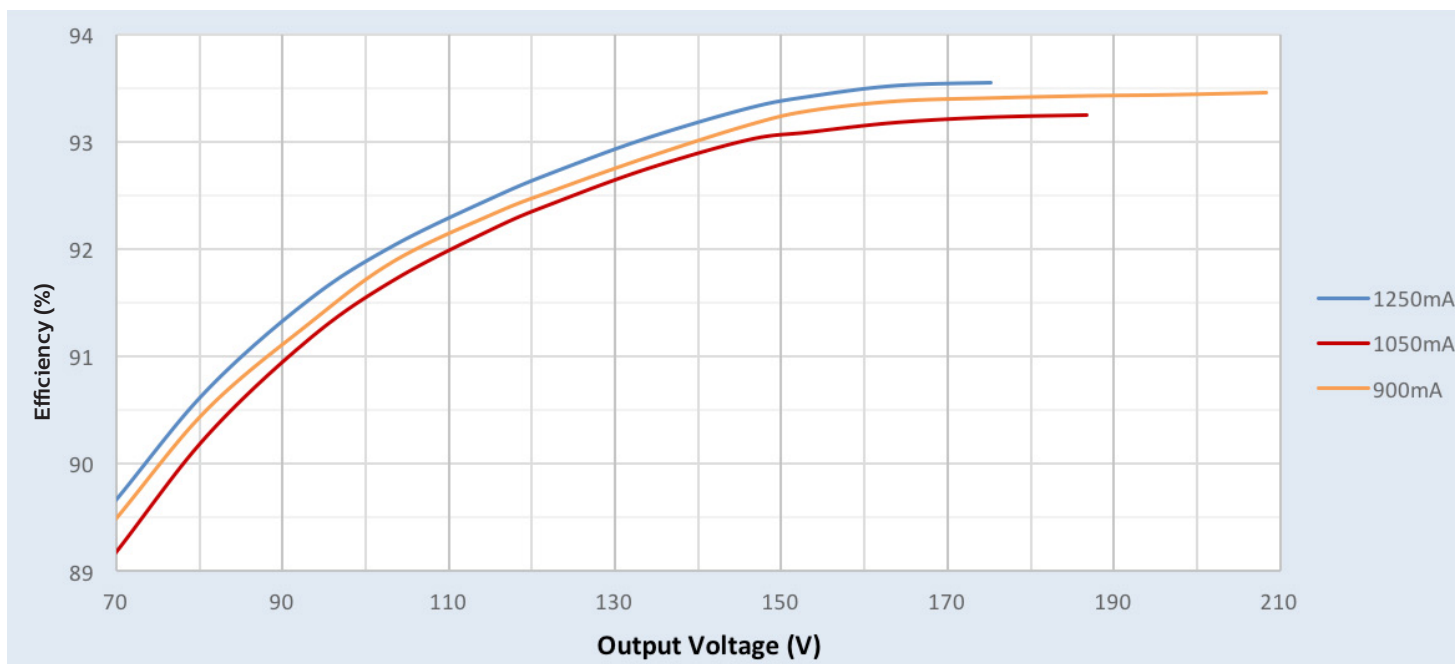
Performance Characteristics

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 347Vac



Efficiency Vs. Output Voltage at 480Vac

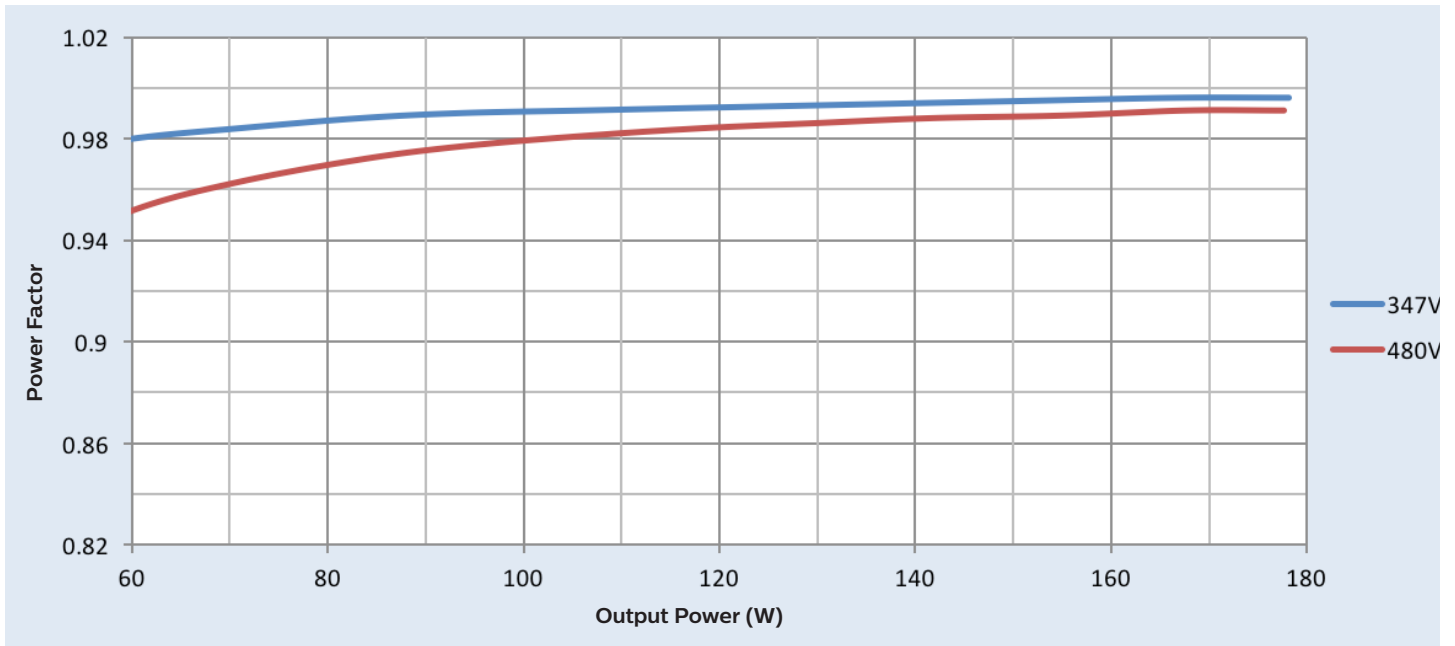


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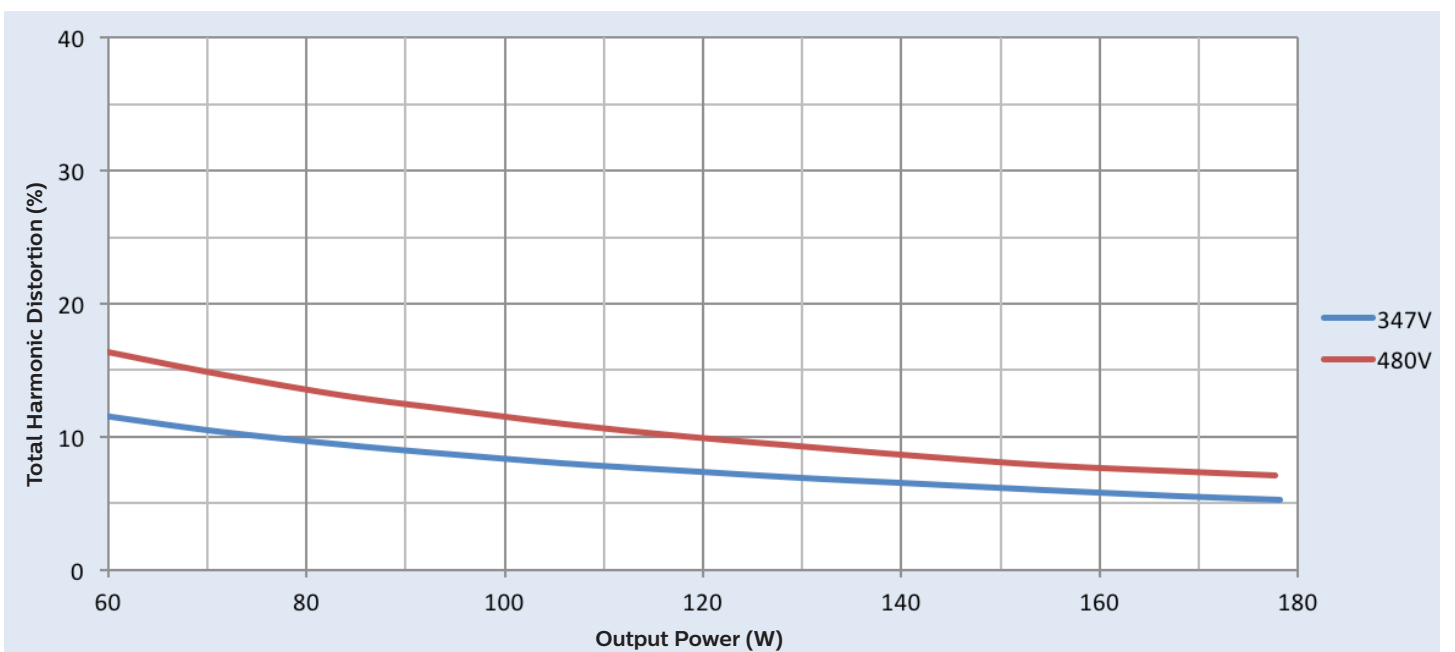
Performance Characteristics

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 auxiliary output port.

Power Factor Vs. Output Power

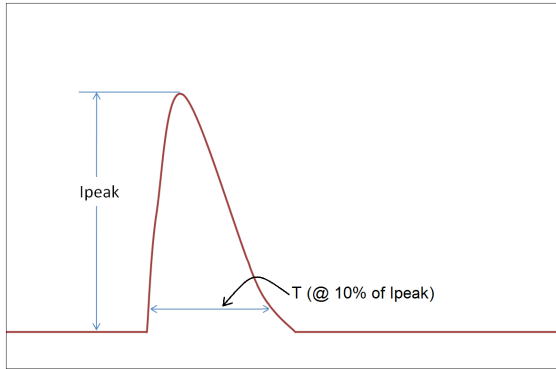


Total Harmonic Distortion (THD) Vs. Output Power



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Inrush Current Info



Vin	Ipeak	T (@ 10% of Ipeak)
347 Vrms	58A	244µS
480 Vrms	75A	244µS

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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