

PHILIPS ADVANCE

LED Driver

Xitanium

20W 0.1-0.56A 54V 0-10V INT
(1% dim) with SimpleSet
XI020C056V054BST2



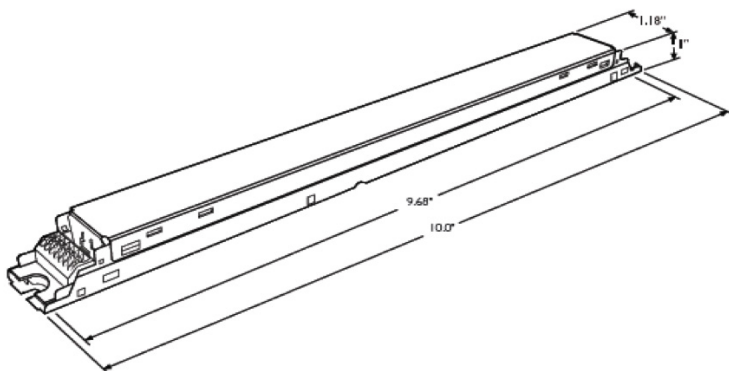
The Philips Advance Xitanium range of linear LED drivers is designed to provide OEMs with ultimate flexibility. These models are compatible with standard 0-10V dimming systems to deliver reliably smooth dimming performance down to a minimum of 1%. Enabled with SimpleSet technology, these drivers offer the needed flexibility and performance for the application with precise tuning of drive currents, selectable dimming curves and adjustable minimum dimming levels. With wide operating windows, slim profile and simple current adjustability, the drivers make it easy for luminaire manufacturers to design linear fixtures with desired lumen levels to suit the application.

Specifications

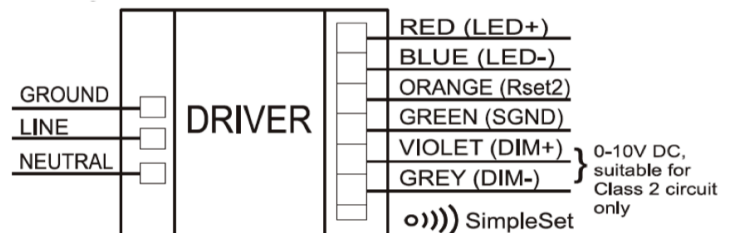
Input Voltage (Vac)	Output Power (W)	Output Voltage (V)	Output Current (A)	Efficiency@ Max Load and 75°C Case	Max Case Temp. (°C)	Input Current (A)	Max. Input Power (W)	THD @ Max Load (%)	Power Factor @ Max Load	Surge Protection (Ring Wave, KV)	Envir. Protection Rating
120	20	22.5 - 54	0.1 - 0.56	83	Life-75°C UL-80°C	0.21	26	<10%	>0.95	2.5	UL damp & dry
277				85		0.1		<10%			

Enclosure

	In. (mm)
Case Length	10.0 (254)
Case Width	1.18 (30)
Case Height	1.00 (25.4)
Mounting Length	9.68 (246)



Wiring Diagram



WARNING:
Install in accordance with National and Local Electrical Codes. Use 18 AWG Solid Copper Wire. Rated $\geq 300V$. Strip Wire 3/8".

GROUNDING:
Driver case must be grounded.

Dimming	Dimming Range (with specified dimmers)	Minimum Output Current (A)	Other Comments
0-10V Analog Class 2 Wiring	1% ~ 100% (for output current range 0.1-0.56A)	0.001	Dimming source current: 150 μA

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Features

- 50,000+ hour lifetime¹
- SimpleSet programmable
- Large operating window
- 1% minimum dim level

Benefits

- Slim profile housing enables easy design-in with excellent thermal performance
- Enables simple, fast, flexible application-specific configurations
- Enables fixture designs with comprehensive application coverage for various loads and lumen levels

Application

- Indoor linear applications such as troffers and pendants
- Office
- Education
- Healthcare
- Retail

Electrical Specifications

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

Product Data

Order Information	
Full Product Code	XI020C056V054BST2M (Mid-Pack, 18pcs/Box), 12NC: 929000754913
Line Frequency	50/60Hz
Min. Mains Voltage Operational	108 Vac
Max. Mains Voltage Operational	305 Vac
Output Information	
Maximum Open Circuit Voltage	< 60Vdc
Output Current Ripple (ripple = peak to average / average)	15% max @ max Iout 4% max @ Visible for stroboscopic frequency range 60Hz-3KHz
Output Current Tolerance (in the performance window)	<5%
Protections	Short Circuit, Open Circuit Protection for LED + and LED -
Features	
0-10V Dimming	150µA source current from driver. See dim curve for detail.
AOC (Adjustable Output Current)	100mA to 560mA via external resistor or SimpleSet programming (refer to graph and notes below)
Additional SimpleSet Configurable Features	Adjustable minimum dimming level, Dimming curve selection (linear or logarithmic), Adjustable output level, Adjustable output min, OEM write protection
Environment & Approbation	
Operating Ambient Temp. Range	-20°C to +55°C
Max Case Temperature (Tcase)	80°C
Agency Approbations	UL8750, UL1310, CSA-C22.2 No. 250.13-12, CSA Class P, ETL Class P, UL TL
Electromagnetic Compliance	FCC Title 47 Part 15 Class A
Audible Noise	<24dB Class A
Weight	0.48 Lbs / 0.22 kgs

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 MTBF modeling.

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0-10V Dimming Curve

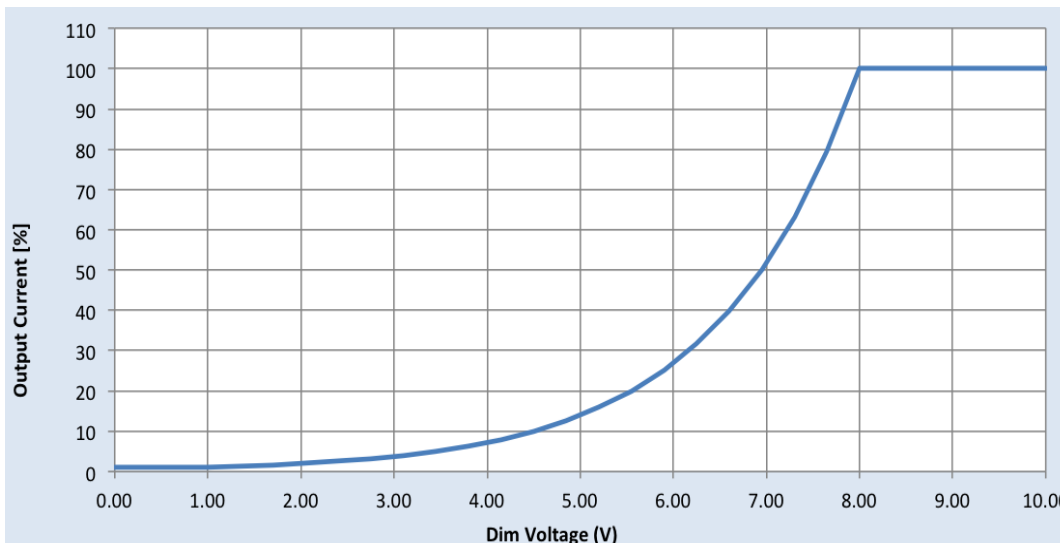
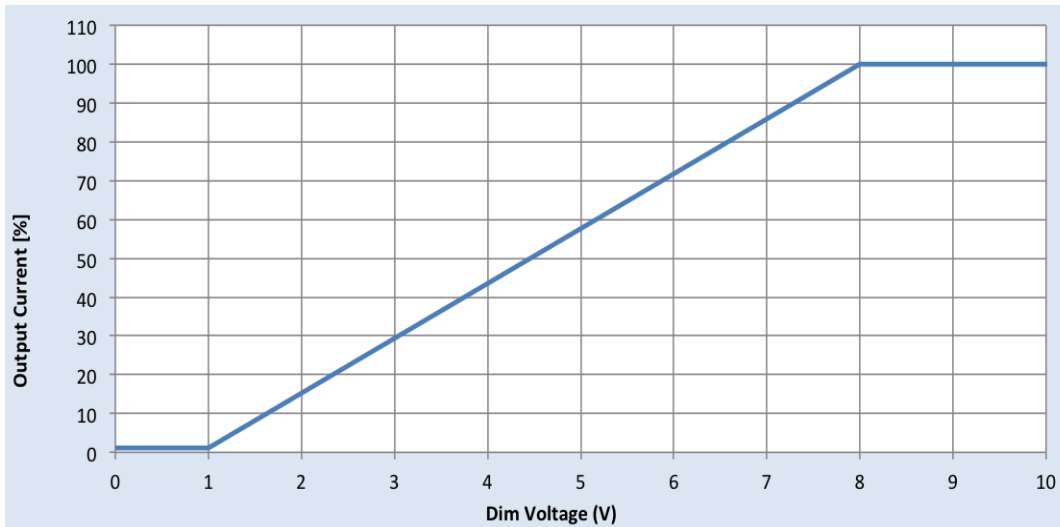
Dimming source current from the driver: 150µA (@ 0<Vdim<8V)

Minimum dim level: 1% of Iout (minimum 1mA)

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	IllumaTech IP7 series
Philips	Sunrise - SR1200ZTUNV



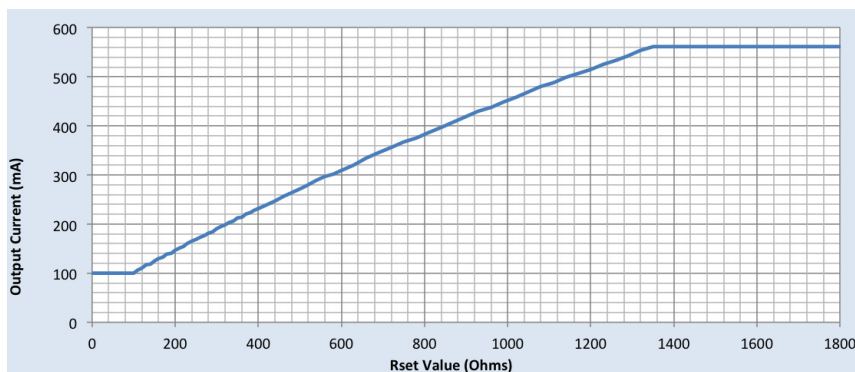
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AOC (Adjustable Output Current) Settings (Rset)

Rset (Ohms)	Current (mA)	Rset (Ohms)	Current (mA)
0	100	440	247
80	100	460	256
90	100	480	264
100	100	500	272
110	105	520	280
120	111	540	288
130	116	560	297
140	119	580	302
150	125	600	310
160	130	630	321
170	133	660	335
180	138	690	346
190	141	720	357
200	146	750	368
210	152	780	376
220	155	810	387
230	160	840	398
240	166	870	408
250	168	900	419
260	174	930	430
270	176	960	439
280	182	990	449
290	185	1020	458
300	190	1050	469
310	196	1080	479
320	198	1110	488
330	204	1140	499
340	206	1170	507
350	212	1200	515
360	215	1230	526
370	220	1260	534
380	223	1290	542
390	228	1320	553
420	239	1350	561
400	231	1500	561
		1600	561
		1800	561
		>100000	561



Notes

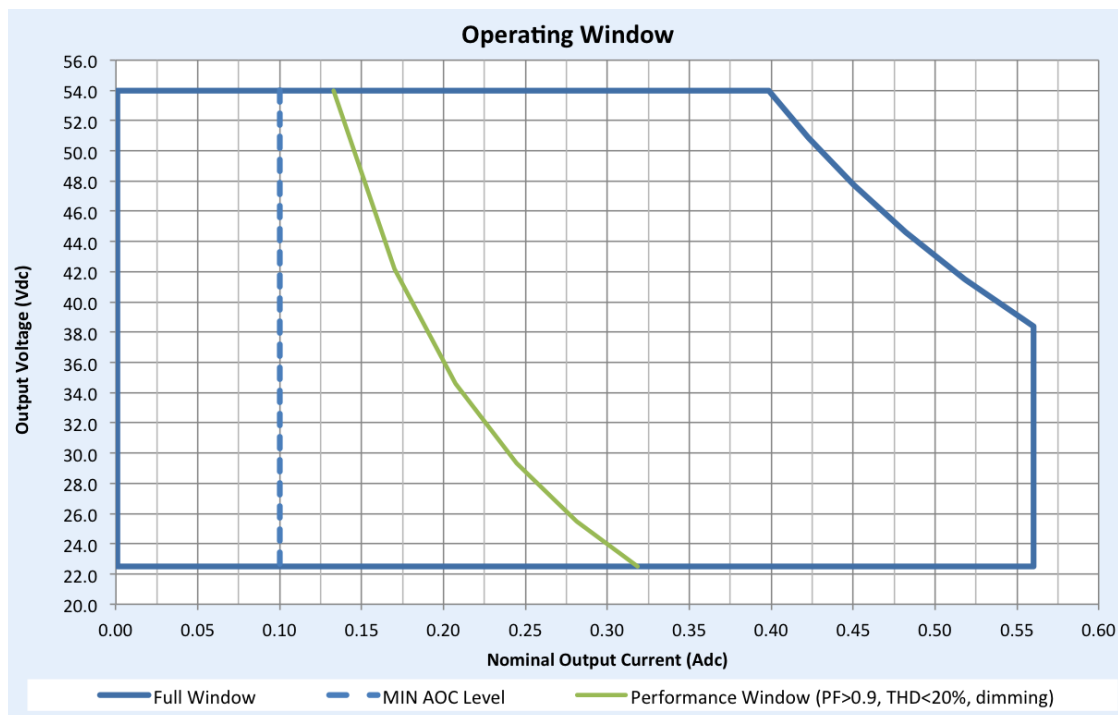
1. Current is set via a resistor between Rset2 and SGND leads.
2. Any through-hole or SMD resistor with >0.25W and >20V can be used as Rset.
3. Driver will default to 560mA when Rset is left open.

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Driver Output Window



Notes

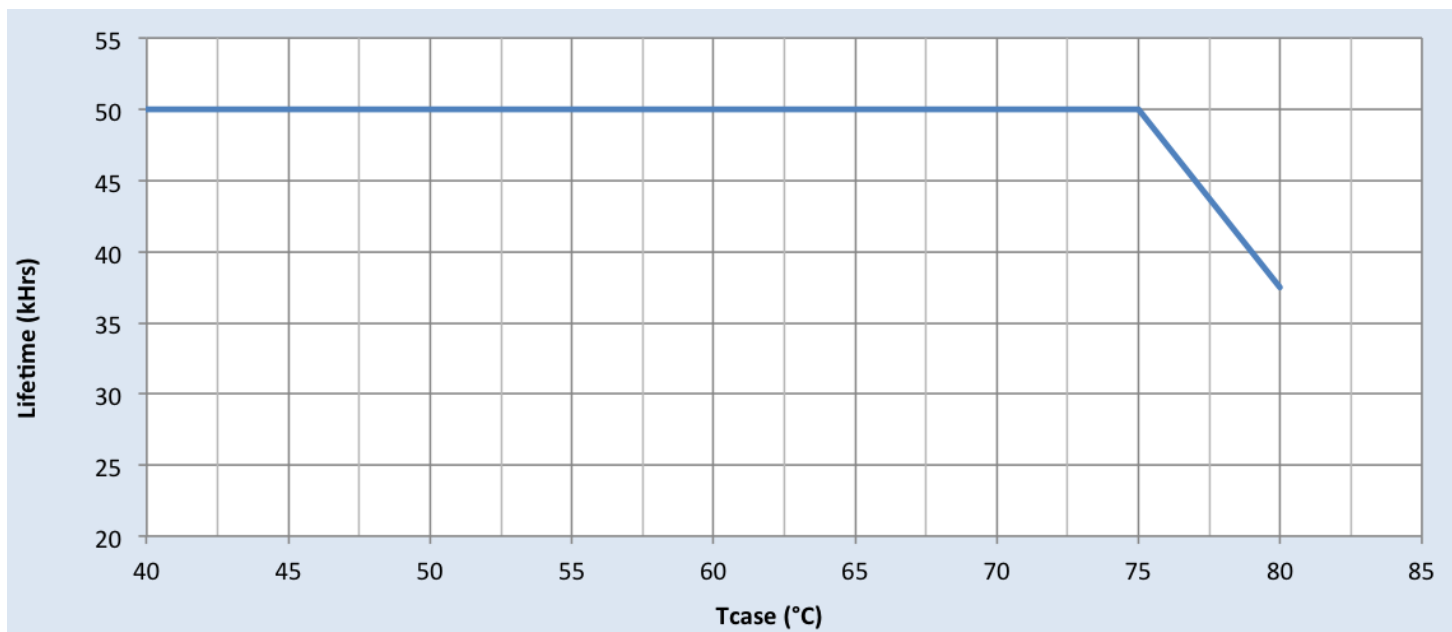
1. Factory default output current is 0.56A.
2. For dimming to a minimum level of 1% the output current setting through AOC should be $\geq 0.1A$.

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Driver Lifetime vs. Driver Case Temperature

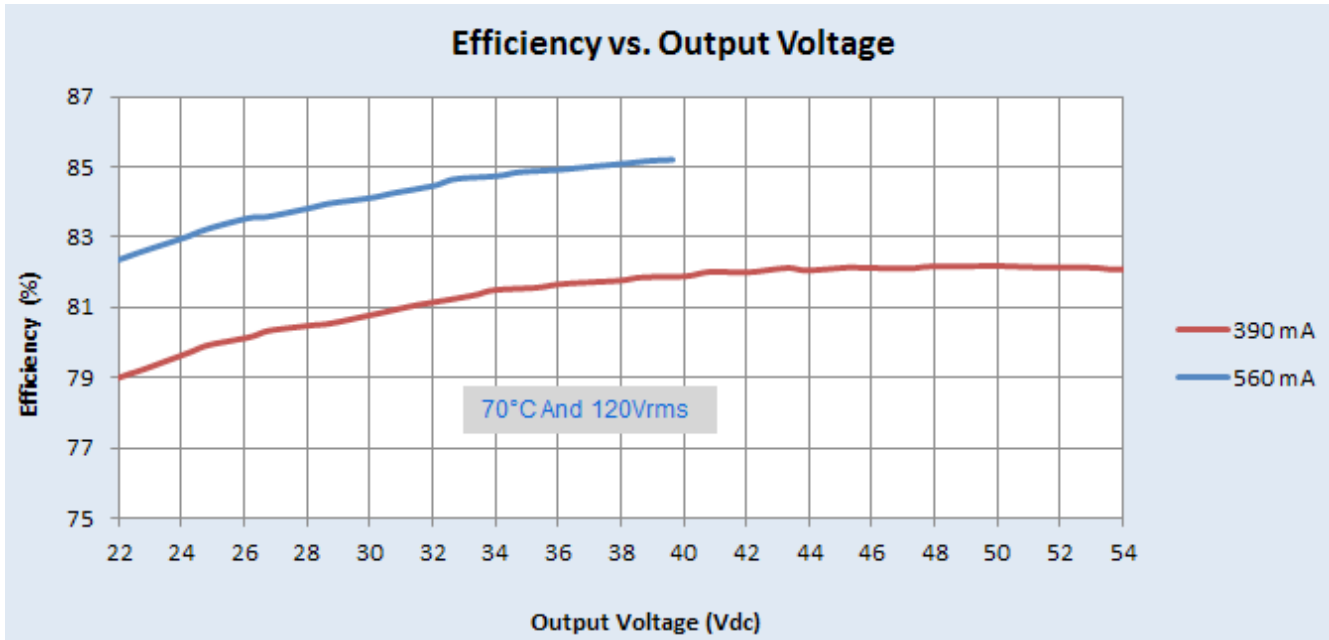


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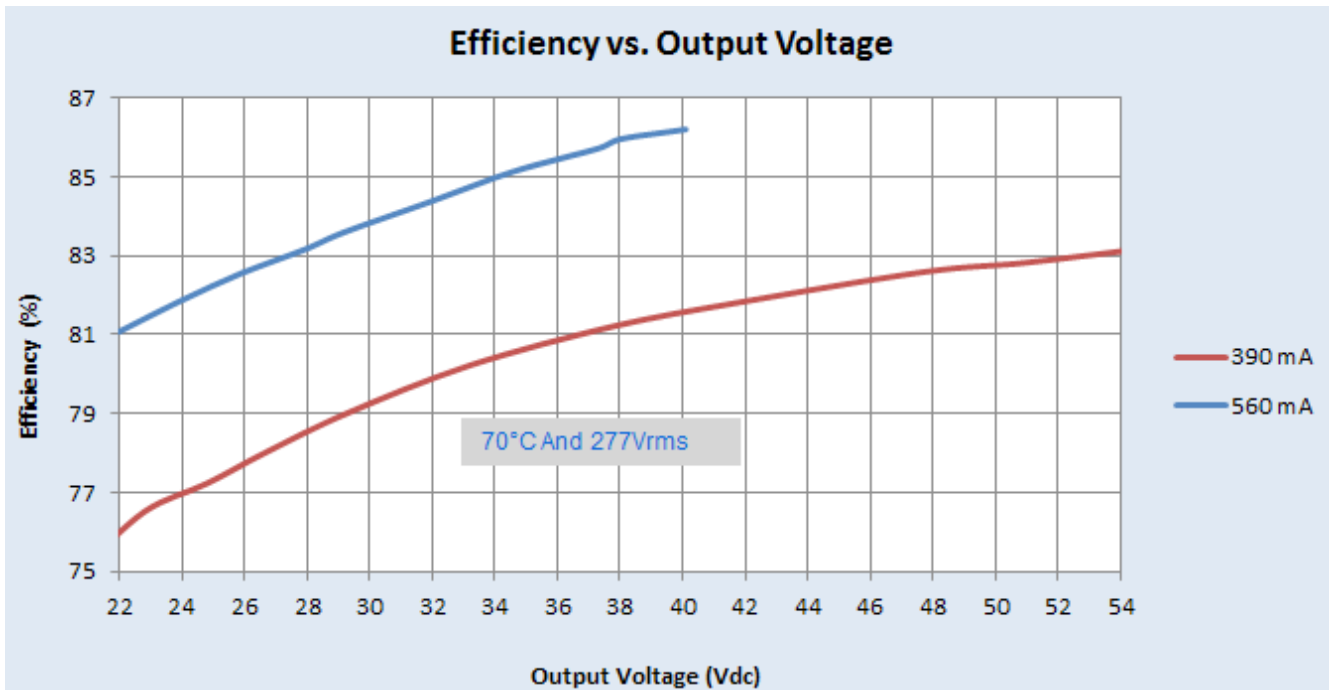
Performance Characteristics

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 at 120Vac



Efficiency Vs. Output Voltage at 277Vac

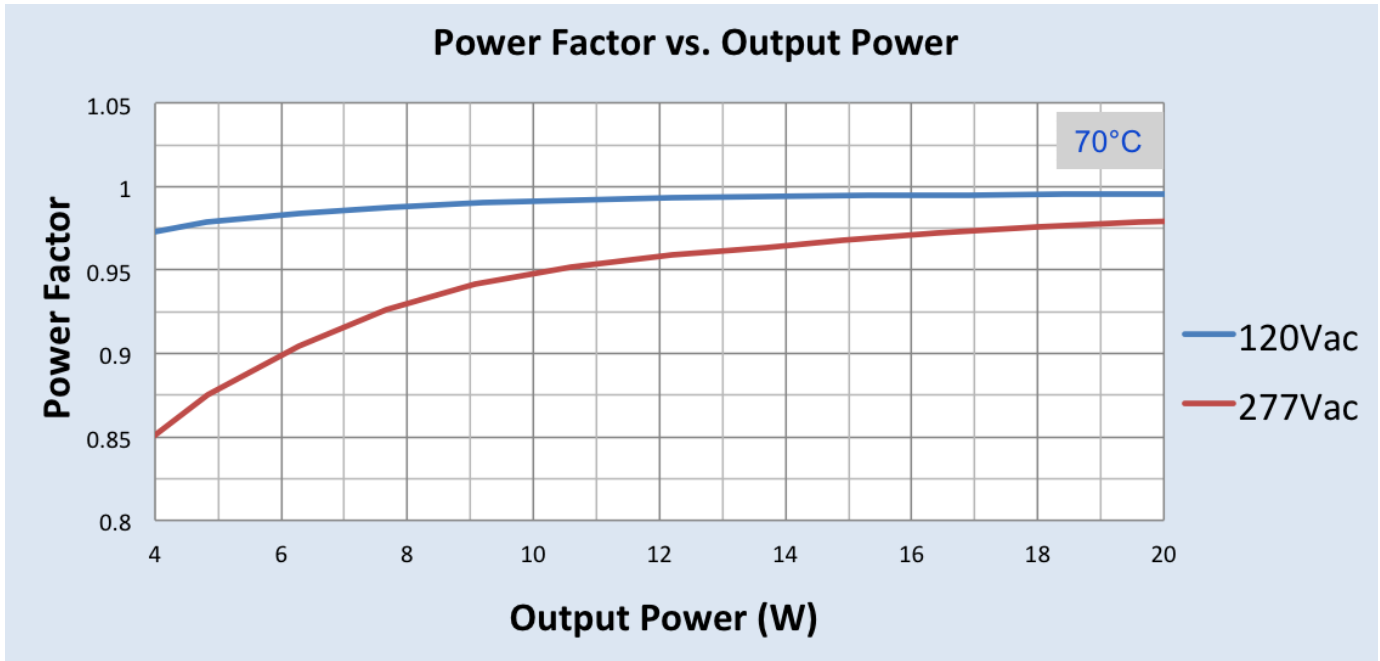


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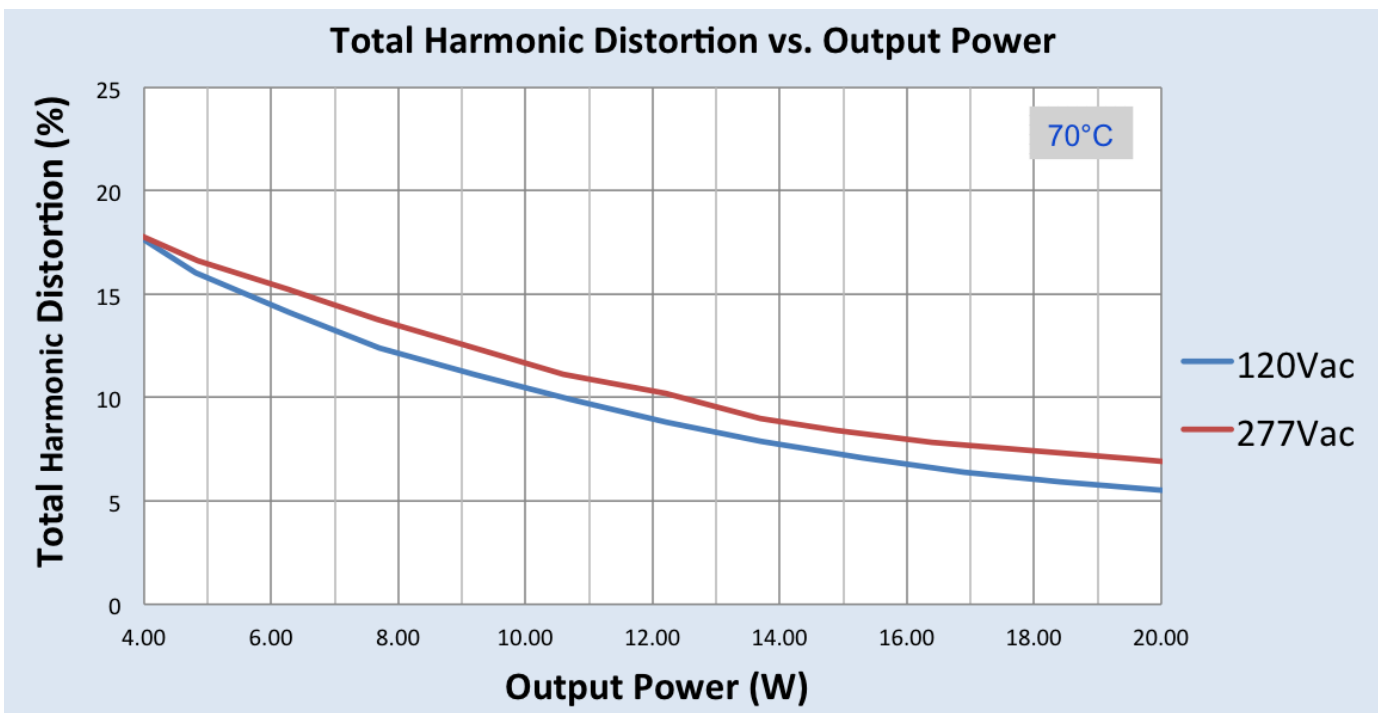
Performance Characteristics

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

Power Factor Vs. Output Power

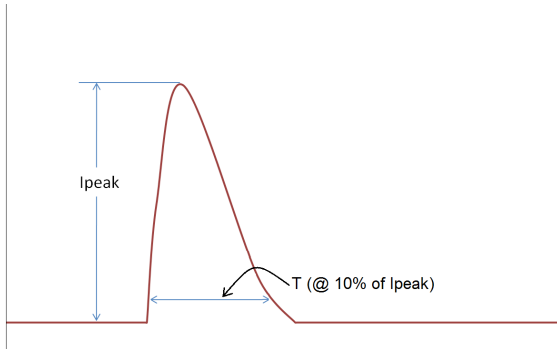


Total Harmonic Distortion (THD) Vs. Output Power



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Inrush Current Info



V_{in}	I_{peak}	$T (@ 10\% \text{ of } I_{peak})$
120 Vrms	10.5A	210 μ S
277 Vrms	25.5A	225 μ S

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)
100kHz Ring Wave (w/t 30 Ω)	>2.5KV	>2.5KV

Isolation

Isolation	Input	Output	0-10V	Enclosure
Input	–	2xU+1kV	2xU+1kV	2xU+1kV
Output	2xU+1kV	–	NA	500V
0 - 10V (class 2)	2xU+1kV	Non-isolated	–	500V
Enclosure	2xU+1kV	500V	500V	–

U = Max input voltage

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