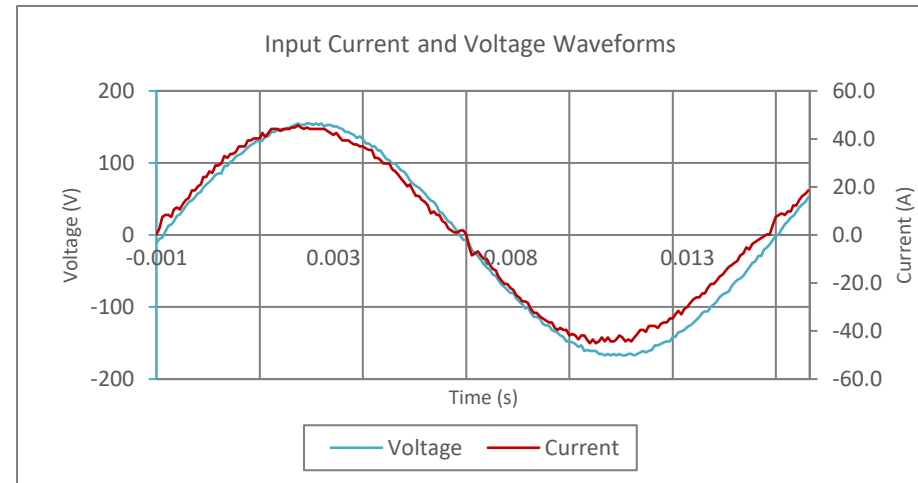


80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	92.39%
AVERAGE EFFICIENCY :	91.43%
80 PLUS COMPLIANT:	YES



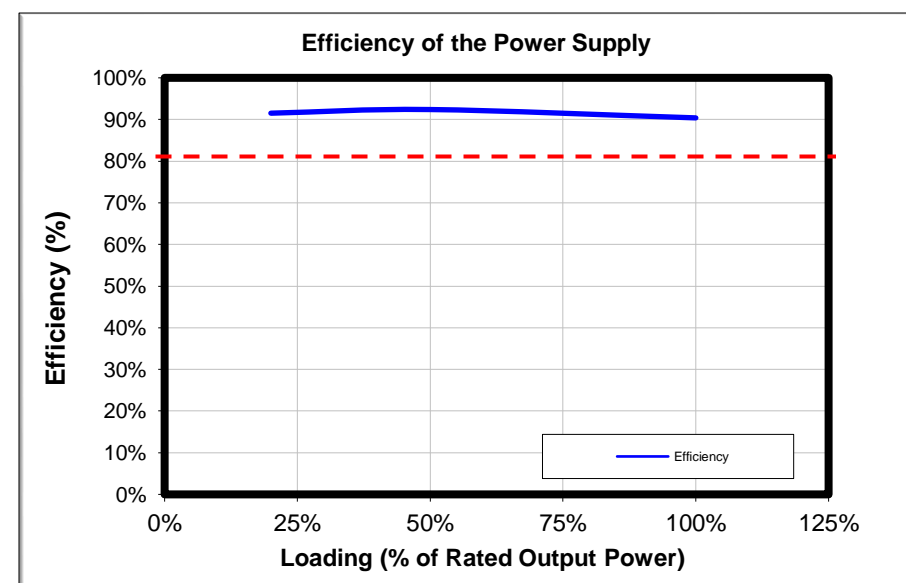
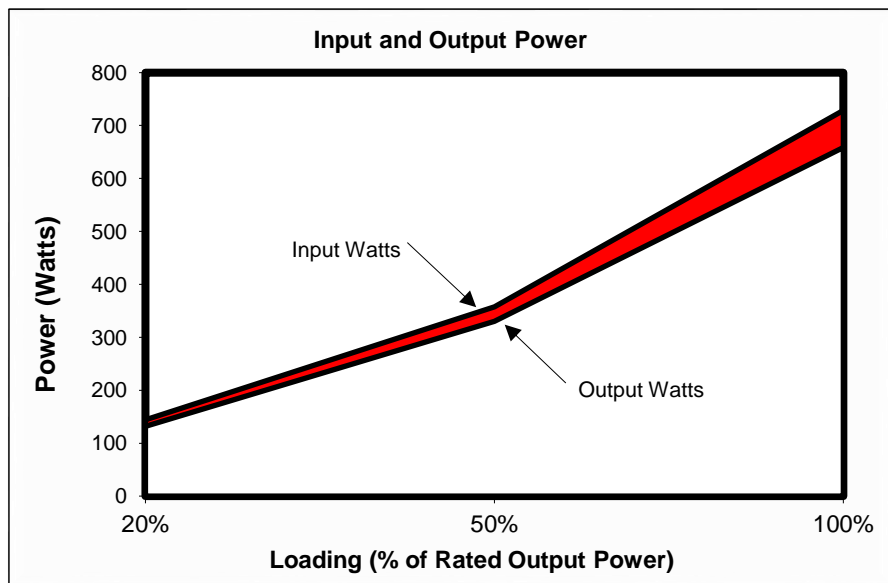
ID Number	5536
Manufacturer	Fractal Design
Model Number	FD-PSU-IONP-660P-BK
Serial Number	N/A
Year	2019
Type	ATX12V
Test Date	4/2/19



Rated Specifications	Value	Units
Input Voltage	100-240	Volts
Input Current	10-5	Amps
Input Frequency	50-60	Hz
Rated Output Power	660	Watts

Note: All measurements were taken with input voltage at 115 V nominal at 60 Hz.

I _{RMS}	PF	I _{THD}	Load	Input Watts	DC Terminal Voltage (V)/ DC Load Current (A)				Output Watts	Efficiency	
					12V (cumulative of 12V1, 12V2, etc.)	-12V	3.3V	5V			5Vsb
0.69	0.95	21.50%	10%	75.90	11.99/4.62	12.06/0.03	3.31/1.11	4.99/1.11	4.98/0.25	66.20	87.21%
1.28	0.98	15.27%	20%	144.50	11.97/9.25	11.88/0.05	3.31/2.22	4.99/2.21	4.99/0.5	132.23	91.51%
3.12	1.00	3.21%	50%	357.30	11.94/23.13	11.49/0.13	3.31/5.55	5.03/5.5	5/1.26	330.10	92.39%
6.35	1.00	3.20%	100%	728.70	11.91/46.22	11.86/0.25	3.37/11.11	5.03/10.98	4.96/2.51	658.63	90.38%



These tests were conducted by a third party independent testing firm on behalf of the 80 PLUS Program. 80 PLUS is a certification program to promote highly-efficient power supplies (greater than 80% efficiency in the active mode) in technology applications. <http://www.80plus.org/>

