Aerocool Strike-X Power Supply

DATA SHEET

Model Name:	Strike-X 500W / Strike-X 500W [Smart Cable]
	Strike-X 600W / Strike-X 600W [Smart Cable]
	Strike-X 800W [Smart Cable]
	Strike-X 1100W [Smart Cable]
Issue Date:	2011/08/01
Revision:	A1.0

Aerocool Strike-X Power Supply

DATA SHEET

Revision Change History

Revision	Change description	Date
A1.0	Original	2011/08/01

1. Product Introduction

Introducing the new "Strike-X" product series from Aerocool - the ultimate gaming equipments for gamers and enthusiasts world-wide !! The "Strike-X" series includes a wide array of gaming equipments ranging from cases, PSU, fan controller, speakers, mouse, mouse pad and headsets.

Like all Strike-X products, the Strike-X power supplies bears the distinct mark of "X" such as the aluminum frame on the top cover and the label sticker design on the side of the chassis. The Strike-X power supplies were designed with the concept of "POWER", "STYLE" and "COOL" and they are perfect for those power-hungry users and yet cool enough to show off to friends.

2. Features

- Powerful "X" theme Gaming PSU.
- Low Noise 13.9cm Fan with intelligent fan speed control
- High-Efficiency – 80+ Certified
- Modular Cable w/ Black Sleeving to reduce the cable mess inside your chassis and improves the air flow of your system. (Only for modular cable models)
- Supports Dual Core CPU, ATI CrossFire, NVIDIA SLi and all Multi-Core GPU technologies.
- Built in next generation 6+2 pin PCI-Express graphic card connector.
- Active Power Factor Correction (PF>0.99)
- Extremely good voltage regulation (±5%): provides steady power input
- High reliability: MTBF>120,000 hours
- Green power design that meets ErP requirements
- Protections: Over Current, Over Voltage, Over Power, Over Temperature, Under Voltage and Short-Circuit protection
- Safety / EMI Approvals: CE, FCC, TUV, Gost, CB.

3. AC Input and DC Output Specification

Strike-X 500W

AC Input	230VAC 15A 50-60Hz				
Output Voltage	3.3V	5V	+12V	-12V	5Vsb
Min. Output Current	0.5A	0.5A	1A	0A	0.1A
Max. Output Current	24A	24A	41A	0.5A	2.5A
Max. Combined Wattage	150W		492W	6W	12.5W
Total Continuous Wattage	500W				

Strike-X 600W

AC Input	230VAC 15A 50-60Hz				
Output Voltage	3.3V	5V	+12V	-12V	5Vsb
Min. Output Current	0.5A	0.5A	1A	0A	0.1A
Max. Output Current	24A	24A	50A	0.5A	3A
Max. Combined Wattage	150W		600W	6W	15W
Total Continuous Wattage	600W				

■ Strike-X 800W

AC Input	115-230VAC 15A 50-60Hz				
Output Voltage	3.3V	5V	+12V	-12V	5Vsb
Min. Output Current	0.8A	0.5A	0A	0A	0.1A
Max. Output Current	24A	24A	66A	0.5A	3A
Max. Combined Wattage	170W		792W	6W	15W
Total Continuous Wattage	800W			21W	

■ Strike-X 1100W

AC Input	100-240VAC 13A 50-60Hz				
Output Voltage	3.3V	5V	+12V	-12V	5Vsb
Min. Output Current	0.8A	0.5A	0A	0A	0.1A
Max. Output Current	24A	30A	90A	0.5A	3A
Max. Combined Wattage	170W		1080W	6W	15W
Total Continuous Wattage	1100W			21W	

4. Output Voltage Regulation

Output Voltage	MIN	Nominal	MAX	Units	Range
+5V	4.75	5.00	5.25	Volts	±5%
+12V1/12V2	11.40	12.00	12.60	Volts	±5%
-12V	-10.80	-12.00	-13.20	Volts	±10%
+3.3V	3.14	3.30	3.47	Volts	±5%
+5Vs	4.75	5.00	5.25	Volts	±5%

5. Efficiency versus Load

Strike-X 500/600W Efficiency			
Loading	100%	50%	20%
Efficiency	82%	85%	82%
PFC	≧0.9	--	--

Strike-X 800W Efficiency			
Loading	100% Load	50% Load	20% Load
Efficiency	82%	85%	82%
PFC	≧0.9	--	--

Strike-X 1100W Efficiency			
Loading	100% Load	50% Load	20% Load
Efficiency	82%	85%	82%
PFC	≧0.9	--	--

6. DC Output Ripple & Noise

Parameter	Ripple + Noise	Units
+5V	50	mV
+12V1	120	mV
+12V2	120	mV
-12V	120	mV
+3.3V	50	mV
+5Vsb	50	mV

7. Output Protection

7.1 Over Voltage Protection

The +5V/+12V/+3.3V DC output are protected against the over voltage condition. Maximum value can't be over 6.5V at 5V terminal and 15.5V at 12V, 4.3V at 3.3V.

7.2 Over-Current Protection

Current protection should be designed to limit the current to operate within safe operating conditions. Over current protection schemes where only the voltage output that experiences the over current event is shut off may be adequate to maintain safe operation of the power supply and the system; however, damage to the motherboard or other system components may occur. The recommended over current protection scheme is for the power supply to latch into the shutdown state. The setting of over current protection for each output rail is as following.

7.3 Over Power Protection

The power supply will be shutdown and latch off when output power is 105%~150%.

7.4 Over-Temperature Protection

This power supply includes an over-temperature protection sensor, which can trip and shut down the power supply at 110℃

7.5 Under voltage protection

In an under voltage fault occurs, the supply will latch all DC outputs into a shutdown state when +12V,+5V & +3.3V outputs under 60% of it's maximum value.

7.6 Short Circuit Protection

Short circuit placed on +5V,+12V,+3.3V,-12V will latch off. +5VSB will auto-recovery.

8. Environmental Requirements

6.1 Operating / Storage Temperature Range

Operating ambient :	0℃ min to +40℃ max
Non operating ambient :	-20℃ to +60℃

6.2 Humidity (non condensing)

Operating ambient :	10% to 90% relative humidity
Non operating ambient :	5% to 95% relative humidity

6.3 Altitude

Operating ambient : 0 to 10,000 ft

Non operating ambient : 0 to 50,000 ft

9. Safety Certificate

Certificate	Mark	Description
CB		Global Certification by IECEE
FCC		Federal Communication Commission
CE		Certification Europe
TUV		Certification for GERMANY
GOST		Russian Certification

10. Output Connectors / Pin Description

The output connector pin assignments should follow the arrangements as shown in the table below.

Main Power Connector					
Pin	**Signal**	**Wire**	**Pin**	**Signal**	**Wire**
1	+3.3VDC	Orange	13	+3.3VDC [+3.3V sense]	Orange [Brown]
2	+3.3VDC	Orange	14	-12VDC	Blue
3	COM	Black	15	COM	Black
4	+5VDC	Red	16	PS_ON#	Green
5	COM	Black	17	COM	Black
6	+5VDC	Red	18	COM	Black
7	COM	Black	19	COM	Black
8	PWR_OK	Gray	20	Reserved	NC
9	+5VSB	Purple	21	+5VDC	Red

10	+12VDC1	Yellow	22	+5VDC	Red
11	12VDC1	Yellow	23	5VDC	Red
12	+3.3VDC	Orange	24	+ COM	Black

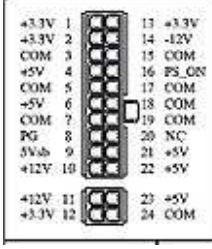
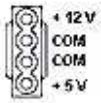
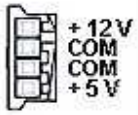
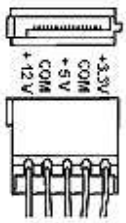
+12V Power Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	COM	Black	5	+12VDC1	Yellow/ Blue
2	COM	Black	6	+12VDC1	Yellow/ Blue
3	COM	Black	7	+12VDC2	Yellow/ Blue
4	COM	Black	8	+12VDC2	Yellow/ Blue

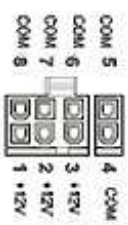
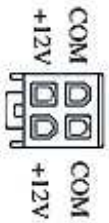
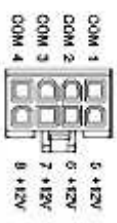
Peripheral Connector(s)			Floppy Drive Connector		
Pin	Signal	Wire	Pin	Signal	Wire
1	+12VDC1	Yellow	1	+5VDC	Red
2	COM	Black	2	COM	Black
3	COM	Black	3	COM	Black
4	+5VDC	Red	4	+12VDC1	Yellow

Series ATA Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	+12V1	Black	4	COM	Yellow
2	COM	Black	5	+3.3V	Yellow
3	+5V	Black	-	-	-

PCI-E 6pin Power Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	+12VDC1/2	Yellow	4	COM	Black
2	+12VDC1/2	Yellow	5	COM	Black
3	+12VDC1/2	Yellow	6	COM	Black

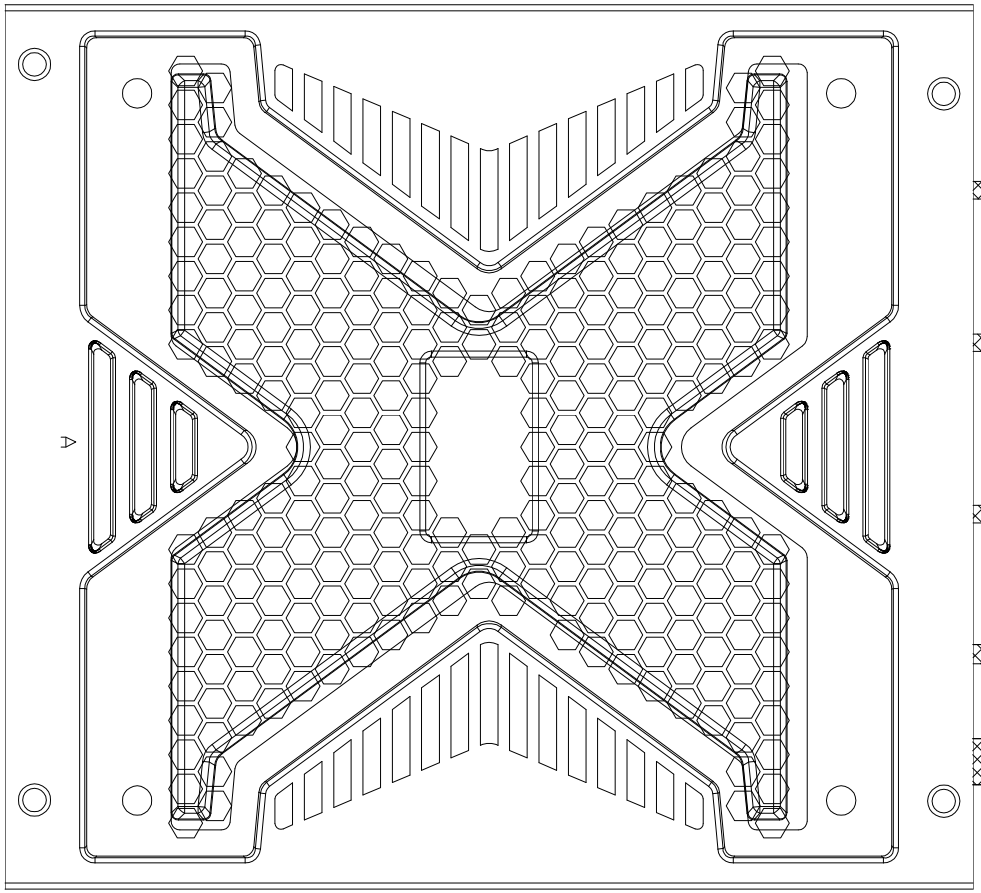
PCI-E 6+2pin Power Connector					
Pin	Signal	Wire	Pin	Signal	Wire
1	+12VDC1/2	Yellow	5	COM	Black
2	+12VDC1/2	Yellow	6	COM	Black
3	+12VDC1/2	Yellow	7	COM	Black
4	COM	Black	8	COM	Black

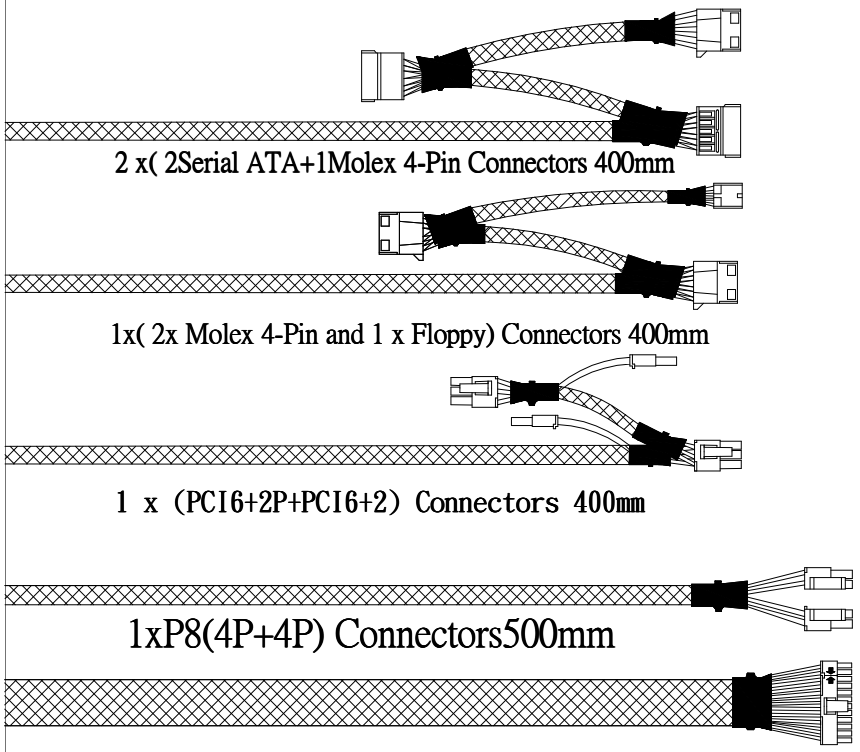
Main 24(20+4)Pin Connector	Peripheral Connector (4 Pin)	Floppy Connector (4 Pin)	S-ATA Connector (15 Pin)
			

PCI-E Connector (6Pin)	PCI-E Connector (6+2Pin)	ATX12V 4 Pin Connector	EPS12V 8Pin Connector
			

11. Cable Configuration

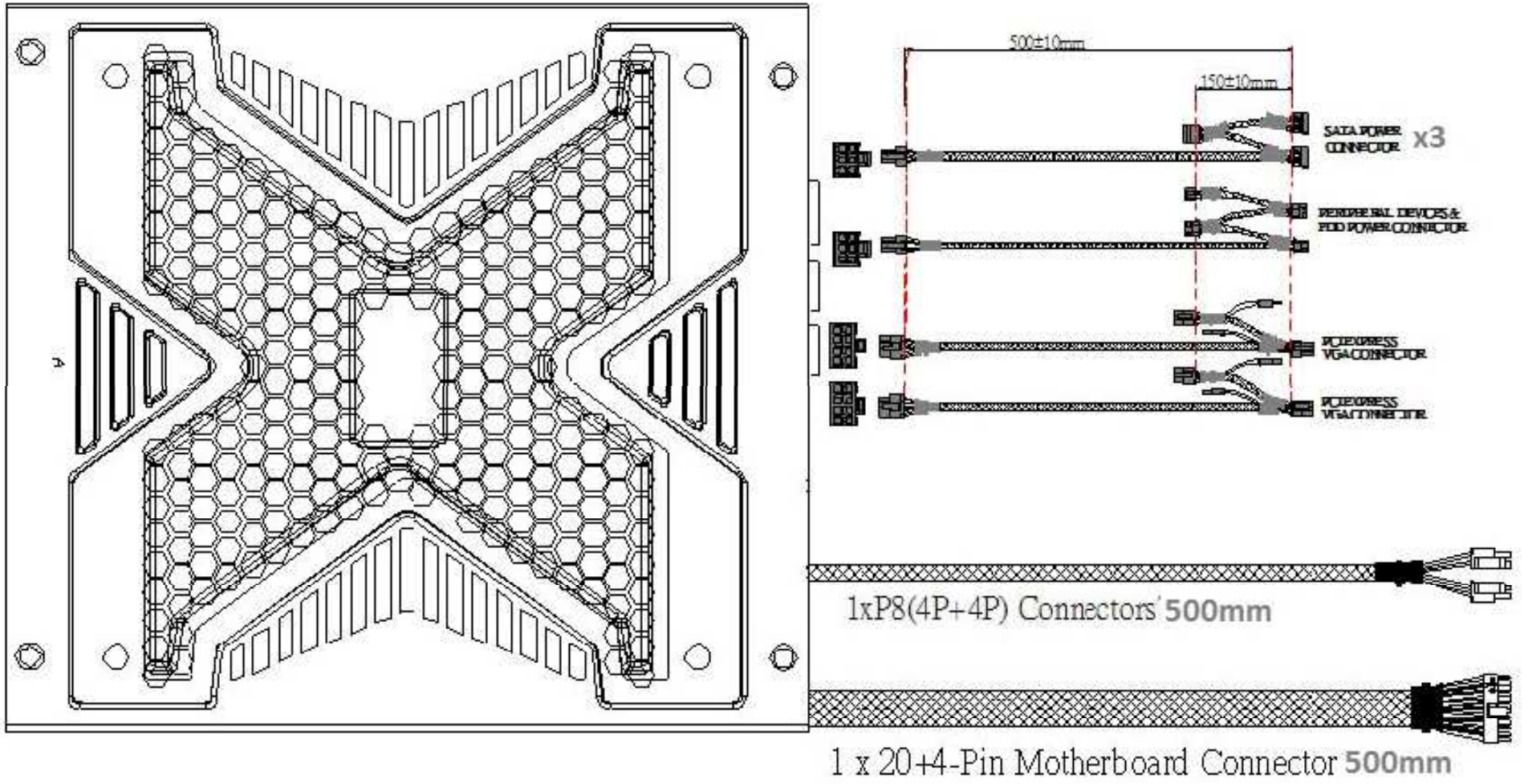
Strike-X 500/600W Cable Configuration



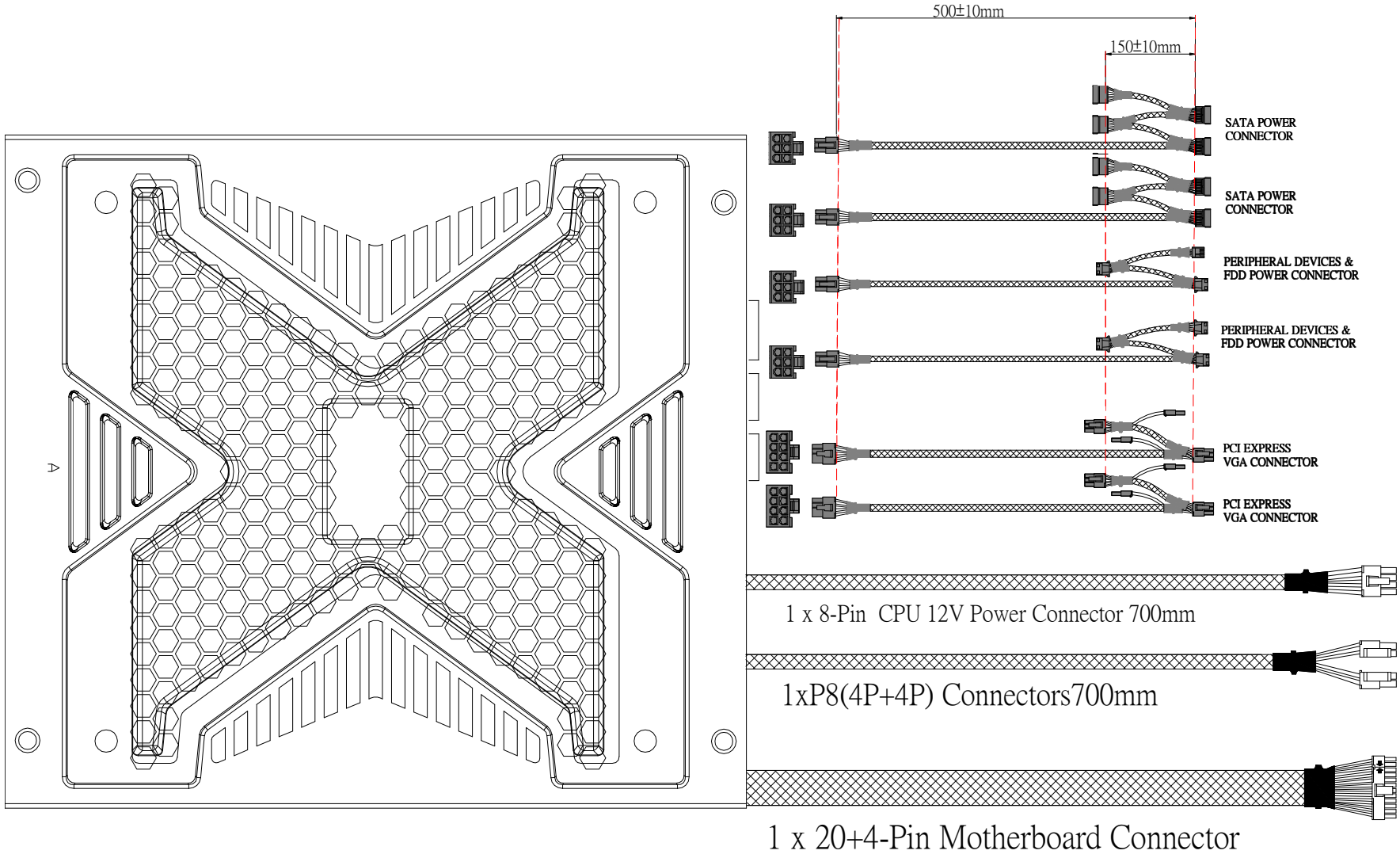


Strike-X 500/600W Cable Configuration

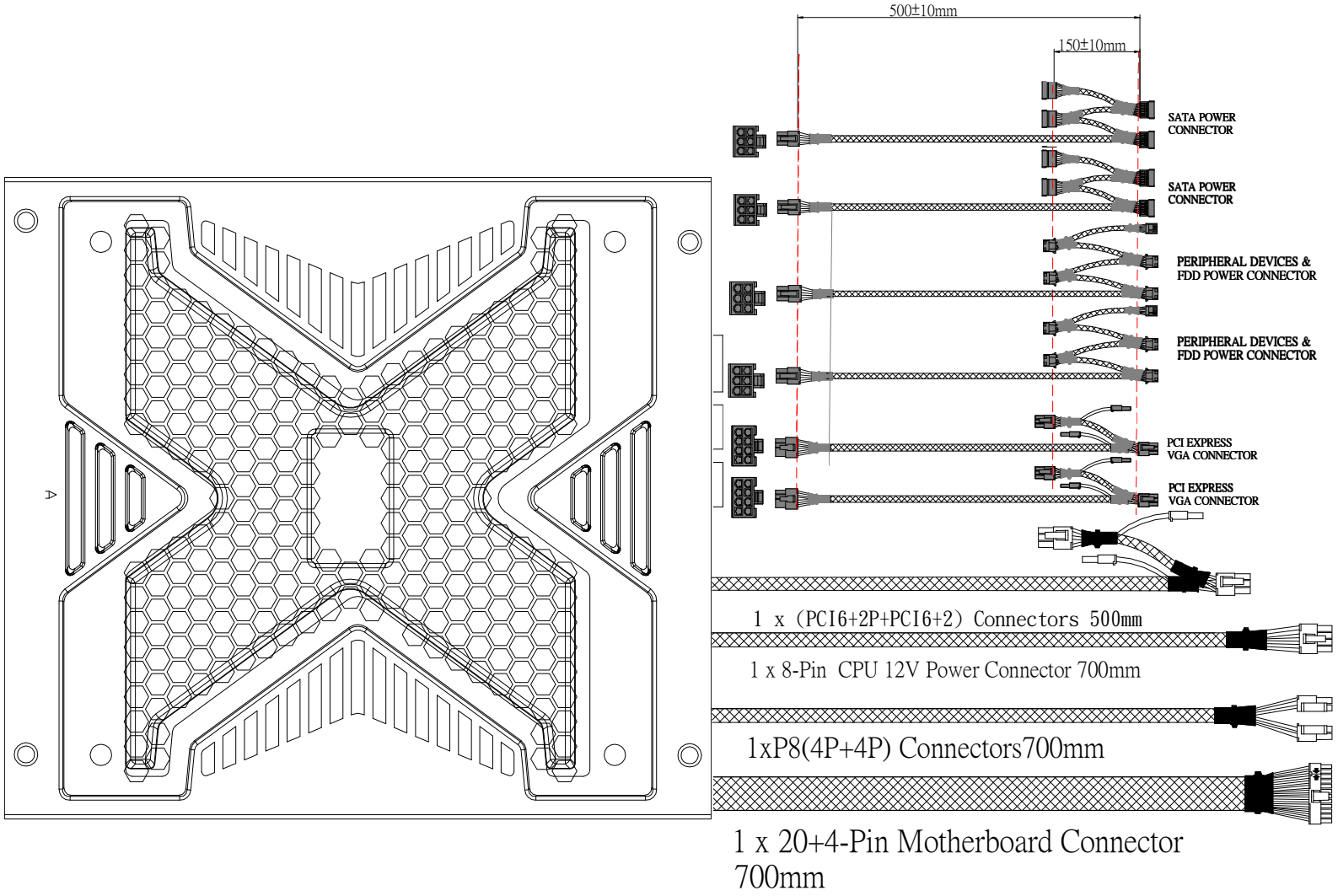
[Smart Cable Models]



Strike-X 800W Cable Configuration



Strike-X 1100W Cable Configuration



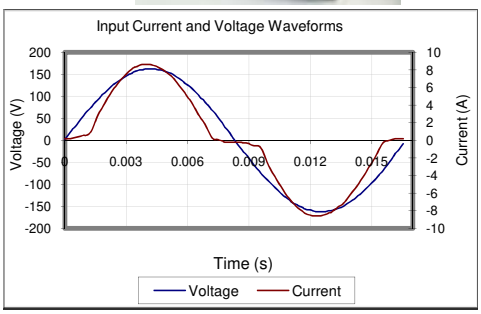
80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	**86.06%**
AVERAGE EFFICIENCY :	**84.54%**
80 PLUS COMPLIANT:	**YES**

Ecos ID #	1171.1
Manufacturer	Aerocool
Model Number	STRIKE-X500
Serial Number	N/A
Year	2008
Type	ATX12V
Test Date	12/2/2008

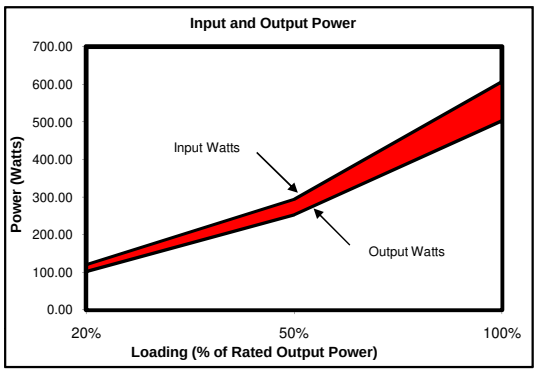
Rated Specifications	**Value**	**Units**
Input Voltage	115-230	Volts
Input Current	10/6	Amps
Input Frequency	50/60	Hz
Rated Output Power	**500**	**Watts**

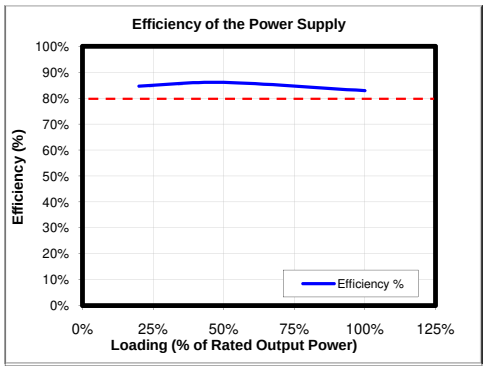
Note: All measurements were taken with input voltage at 115 V nominal and 60 Hz.



Input AC Current Waveform (ITHD = 31.44%, 50% Load)

I_{RMS} A	PF	I_{THD} (%)	Load (%)	Fraction of 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		
1.09	0.96	25.75%	20%	**Light**	120.46	12.2/6.8	11.3/0.1	3.3/2.4	5.1/1.6	5.1/0.5	101.99	**84.66%**
2.70	0.95	31.44%	50%	**Typical**	294.32	12.2/16.8	11.3/0.2	3.3/5.9	5.1/4	5.1/1.2	253.28	**86.06%**
5.46	0.97	24.96%	100%	**Full**	607.35	12.1/33.6	11.4/0.5	3.3/11.9	5.1/7.9	5/2.5	503.44	**82.89%**





PLUG LOAD solutions

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/*

80 PLUS

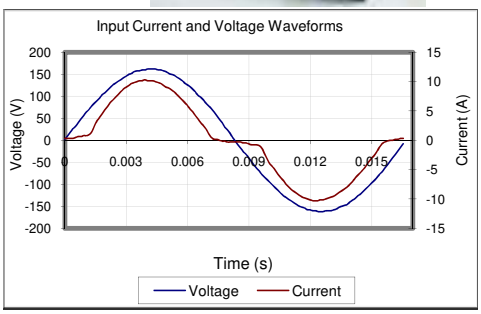
80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	**86.87%**
AVERAGE EFFICIENCY :	**85.19%**
80 PLUS COMPLIANT:	**YES**

Ecos ID #	1169.2
Manufacturer	Aerocool
Model Number	STRIKE-X600
Serial Number	N/A
Year	2008
Type	ATX12V
Test Date	12/1/2008

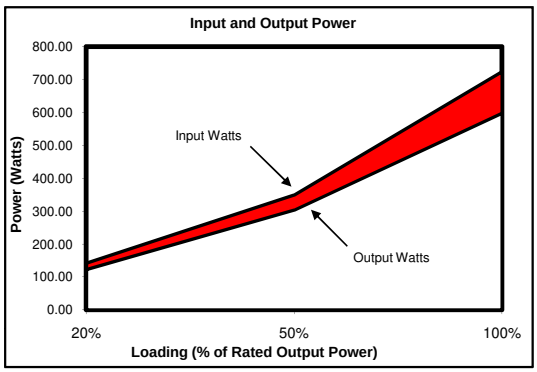
Rated Specifications	**Value**	**Units**
Input Voltage	115-230	Volts
Input Current	12/8	Amps
Input Frequency	50/60	Hz
Rated Output Power	**600**	**Watts**

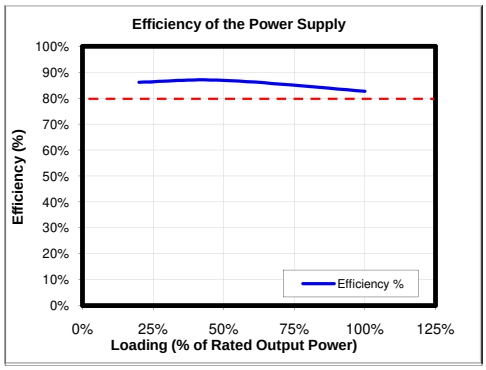
Note: All measurements were taken with input voltage at 115 V nominal and 60 Hz.



Input AC Current Waveform (ITHD = 30.55%, 50% Load)

I_{RMS} A	PF	I_{THD} (%)	Load (%)	Fraction of 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		
1.28	0.97	1.86%	20%	**Light**	142.10	12.2/8.4	11.1/0.1	3.3/2.4	5.1/1.6	5.1/0.5	122.39	**86.13%**
3.20	0.95	30.55%	50%	**Typical**	349.32	12.1/21	11.1/0.2	3.3/6	5.1/4	5.1/1.2	303.46	**86.87%**
6.51	0.97	24.42%	100%	**Full**	724.50	11.9/41.9	11/0.5	3.3/12	5.1/8	5/2.5	598.19	**82.57%**





PLUG LOAD solutions

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/*

80 PLUS

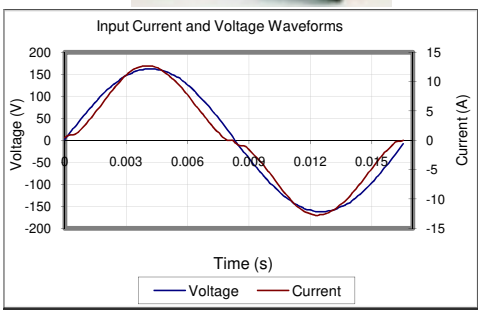
80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	**88.66%**
AVERAGE EFFICIENCY :	**87.14%**
80 PLUS COMPLIANT:	**YES**

Ecos ID #	893.1
Manufacturer	Aerocool
Model Number	STRIKE-X800
Serial Number	NA
Year	2008
Type	ATX12V
Test Date	9/22/2008

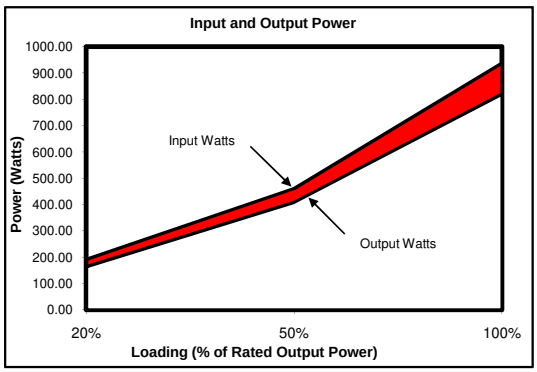
Rated Specifications	**Value**	**Units**
Input Voltage	100-240	Volts
Input Current	9-5	Amps
Input Frequency	50-60	Hz
Rated Output Power	**800**	**Watts**

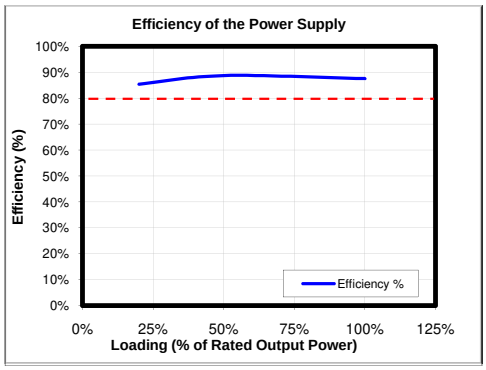
Note: All measurements were taken with input voltage at 115 V nominal and 60 Hz.



Input AC Current Waveform (ITHD = 20.7%, 50% Load)

I_{RMS} A	PF	I_{THD} (%)	Load (%)	Fraction of 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		
1.70	0.98	17.17%	20%	**Light**	192.45	12.3/11.8	12/0.1	3.3/1.8	5/1.8	5/0.5	164.16	**85.30%**
4.10	0.98	20.70%	50%	**Typical**	461.55	12.3/29.5	12/0.2	3.3/4.5	5/4.5	5/1.3	409.21	**88.66%**
8.26	0.99	14.75%	100%	**Full**	938.50	12.2/59.5	12.1/0.4	3.3/9	5/9	4.9/2.6	820.93	**87.47%**





PLUG LOAD solutions

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/*

80 PLUS

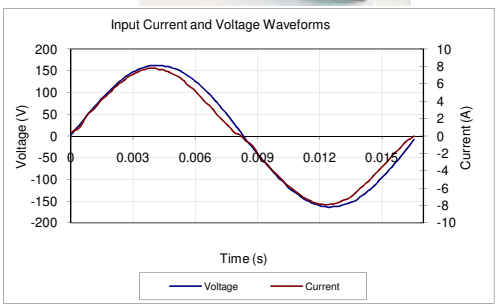
80 PLUS Verification and Testing Report

TYPICAL EFFICIENCY (50% Load):	**90.09%**
AVERAGE EFFICIENCY :	**88.48%**
80 PLUS COMPLIANT:	**YES**

Ecos ID #	2637
Manufacturer	Aerocool
Model Number	STRIKE-X1100
Serial Number	N/A
Year	2011
Type	ATX12V
Test Date	6/30/2011

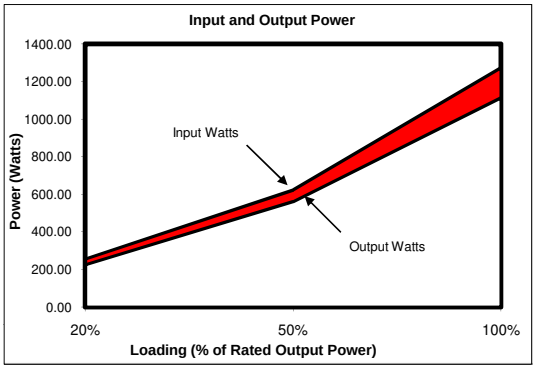
Rated Specifications	**Value**	**Units**
Input Voltage	115-230	Volts
Input Current	15	Amps
Input Frequency	0.00	Hz
Rated Output Power	**1100**	**Watts**

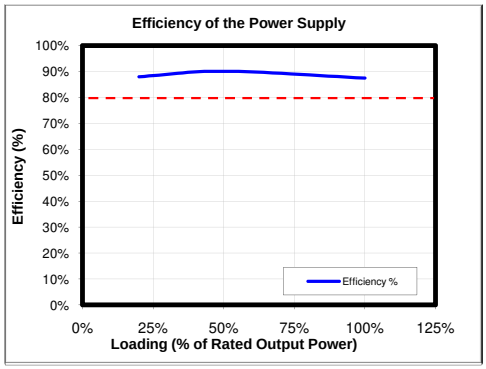
Note: All measurements were taken with input voltage at 115 V nominal and 60 Hz.



Input AC Current Waveform (ITHD = 5.65%, 50% Load)

I_{RMS} A	PF	I_{THD} (%)	Load (%)	Fraction of 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		
2.26	0.99	8.85%	20%	**Light**	256.60	12.3/16.4	11.7/0	3.4/2.3	5/2.9	5.2/0.4	225.62	**87.93%**
5.44	1.00	5.65%	50%	**Typical**	623.70	12.2/40.9	11.7/0.1	3.4/5.7	5/7.1	5.1/0.9	561.90	**90.09%**
11.09	1.00	3.94%	100%	**Full**	1274.50	12.2/81.7	11.8/0.3	3.3/11.3	4.9/14.2	5/1.8	1114.10	**87.41%**





PLUG LOAD solutions

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/*

80 PLUS