

規格承認書

SPECIFICATION FOR APPROVAL

客 戶:
(CUSTOMER) _____

產 品: SWITCHING POWER SUPPLY
(PRODUCTS) _____

型 號: BT-2000U
(PART NUMBER) _____

樣 品 數 量:
(SAMPLE Q'TY) _____

批 准 APPROVED	審 核 CHECKED	承 辦 TESTED

宏元电气设备有限公司/ ATNG POWER CO., LTD.

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1. General Requirements

This power supply is designed for litecoin or bitcoin miner. There are one DC outputs: +12V it will provide power to all system components.

2. Input Requirements

2.1 Harmonics

The power supply shall incorporate universal power input active power factor correction, which shall reduce line harmonics in accordance with the EN61000-3-2 and JEIDA MITI standards.

2.2 AC Inlet Connector

The AC input connector shall be an IEC 320 C-14 power inlet.

2.3 AC Input Voltage Specification

The power supply must operate within all specified limits over the following input voltage range. Harmonic distortion of up to 10% THD must not cause the power supply to go out of specified limits.

AC Input Rating

Parameter	Min.	Nom.	Max.	Unit
Vin (Full range)	180-200	200-240	264	Vrms
Vin Frequency	50-60			Hz
Full Load	100%	100%	100%	Watts
AC Current	10			Arms

Note: Power factor correction (PFC) >0.95 at full load.

2.4 Efficiency

This model has 91% or greater energy efficient at 100% utilization, for energy and money saving.

2.5 AC Inrush Current

Maximum inrush current from power-on (with power on at any point on the AC sine) and including, but not limited to, three line cycles, shall be limited to a level below the surge rating of the input line cord, AC switch if present, bridge rectifier, fuse, and EMI filter components. Repetitive ON/OFF cycling of the AC input voltage should not damage the power supply or cause the input fuse to blow.

3. DC Output

3. DC Output

3.1 Voltage /Current

Output Voltage	Minimum Load	Maximum Load	Load Reg.	Line Reg.	Ripple & Noise
+12V	0A	150A	±5%	±1%	180 mV p.p

- A. Maximum continuous total DC output power should not exceed 1800W.
- B. Ripple and noise measurements shall be made under all specified load conditions through a single pole low pass filter with 20MHz cutoff frequency. A 0.1uF ceramic disk capacitors in parallel with a 10uF tantalum are placed at the point of measurement. See Figure 1.

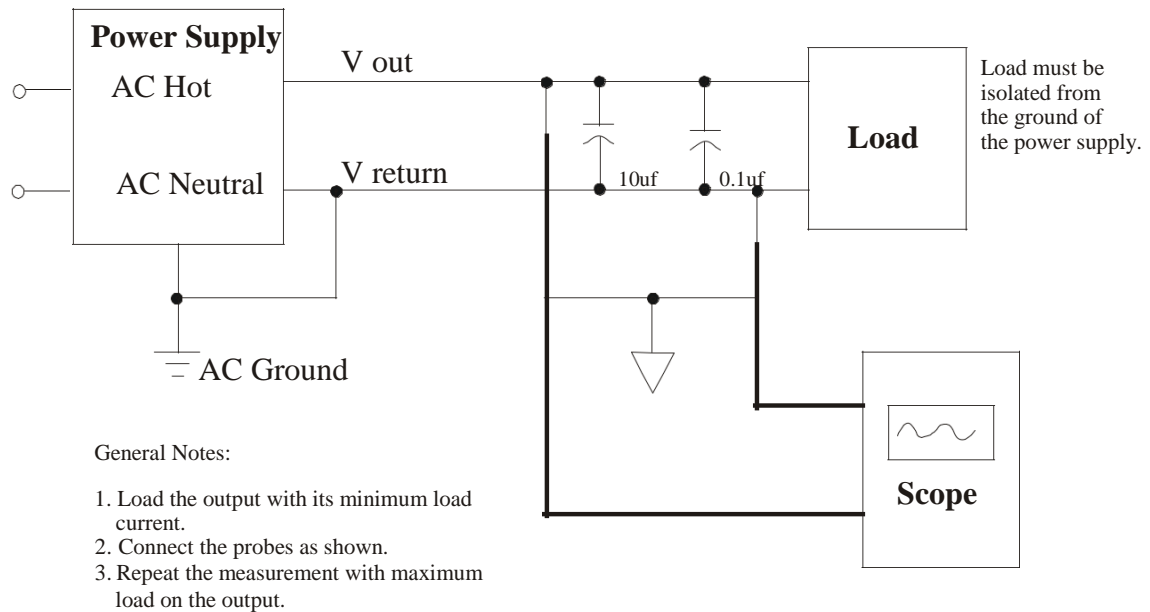


Figure 1. Differential Noise Test Setup

3.2 DC Connectors

PCI-E Power Connector for miner

Connector housing: 6-Pin WST P/N: P6-I42002K5 or equivalent

Pin and Cable Color Assignment

Pin	Signal	Cable Color	Pin	Signal	Cable Color
1	+12VDC	Yellow	4	COM	Black
2	+12VDC	Yellow	5	COM	Black
3	+12VDC	Yellow	6	COM	Black

Note: Output cables may be different in designated model on the length, connector type and/or quantity.

4. Protection Circuits

4.1 Over Voltage Protection

The power supply over voltage protection shall be locally sensed. The power supply shall shutdown and latch off after an over voltage condition occurs. This latch shall be cleared by an AC power interruption. The below enclosed table contains over voltage limits. The values are measured at the output of the power supply's connector. The voltage shall never exceed the maximum levels when measured at the power pins of the power supply connector during any single point of fail. The voltage shall never trip any lower than the minimum levels when measured at the power pins of the power supply connector.

Output Voltage	MIN(V)	MAX(V)
+12V	13.4	15.6

4.2 Short Circuit Protection

A short circuit on any DC output will cause the power to latch. The power supply will withstand a continuous short circuit to the output to prevent damage until overseers check the unit.

4.3 Over Current Protection (OCP)

The power supply shall have current limit to prevent the +12V outputs from exceeding the values shown in below enclosed table.

Voltage	Over Current Limit
+12V	165A minimum, 225A maximum

5 Physical Environment

5.1 Operation Conditions

The power supply shall be capable of continuous operation and meet all electrical specification without need for adjustment when subjected to the following environmental conditions:

	Temp. vs. Load Condition	Humidity
Operation	0~45°C@Full Load	10 ~90 RH
Storage	-20°C~80°C	5 ~90 RH

* No degradation of the power supply shall occur during shipping or storage at the specified condition.

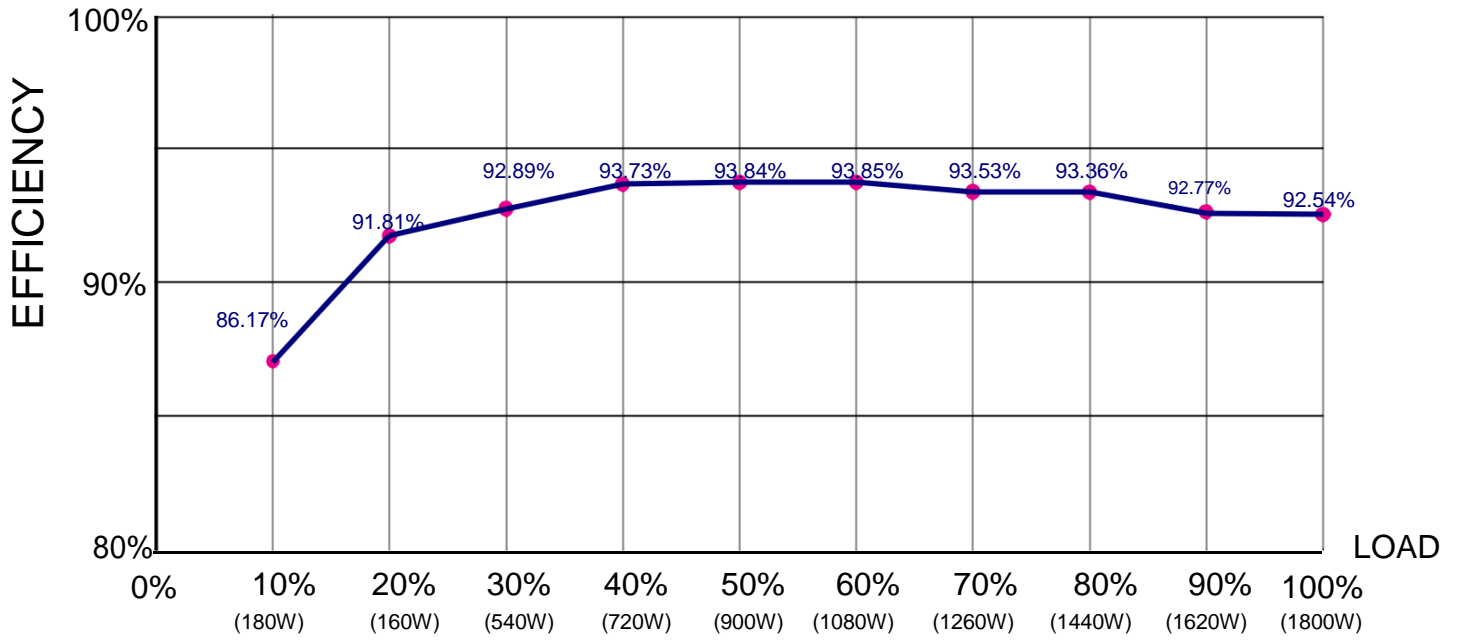
6. Regulatory Compliance

- CE (Class A)
- FCC (Class A)
- UL/CUL

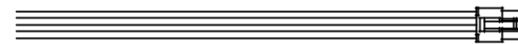
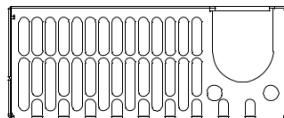
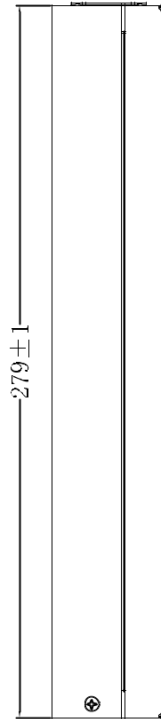
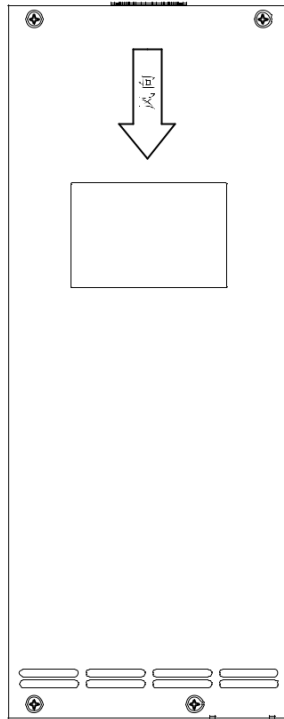
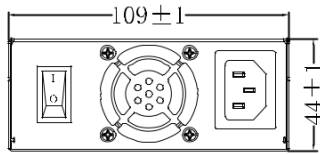
APPROVED BY: _____ CHECKED BY: _____ PREPARED BY: _____

宏元电气设备有限公司

BT-2000U 效率测试图表



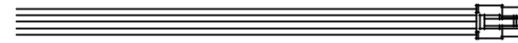
测试条件: AC 230V 50Hz
环境温度: 30 度
测试设备: 变频器: 阳宏 YF-650 (5KVA)
功率计: 擎宏 CP-310
负载机: ITECH IT8516C+



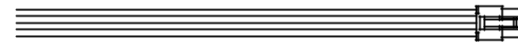
6 Black (GND) 3 Yellow (-12VDC) 3 PCI-E6P
 3 Black (GND) 2 Yellow (+12VDC) 2
 4 Black (GND) 1 Yellow (+12VDC) 1



6 Black (GND) 3 Yellow (-12VDC) 3 PCI-E6P
 3 Black (GND) 2 Yellow (+12VDC) 2
 4 Black (GND) 1 Yellow (+12VDC) 1



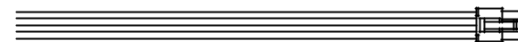
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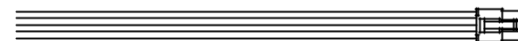
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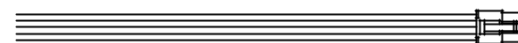
6 Black (GND) 3 Yellow (-12VDC) 3 PCI-E6P
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 3 Black (GND) 2 Yellow (+12VDC) 2
 4 Black (GND) 1 Yellow (+12VDC) 1

L=300 外露

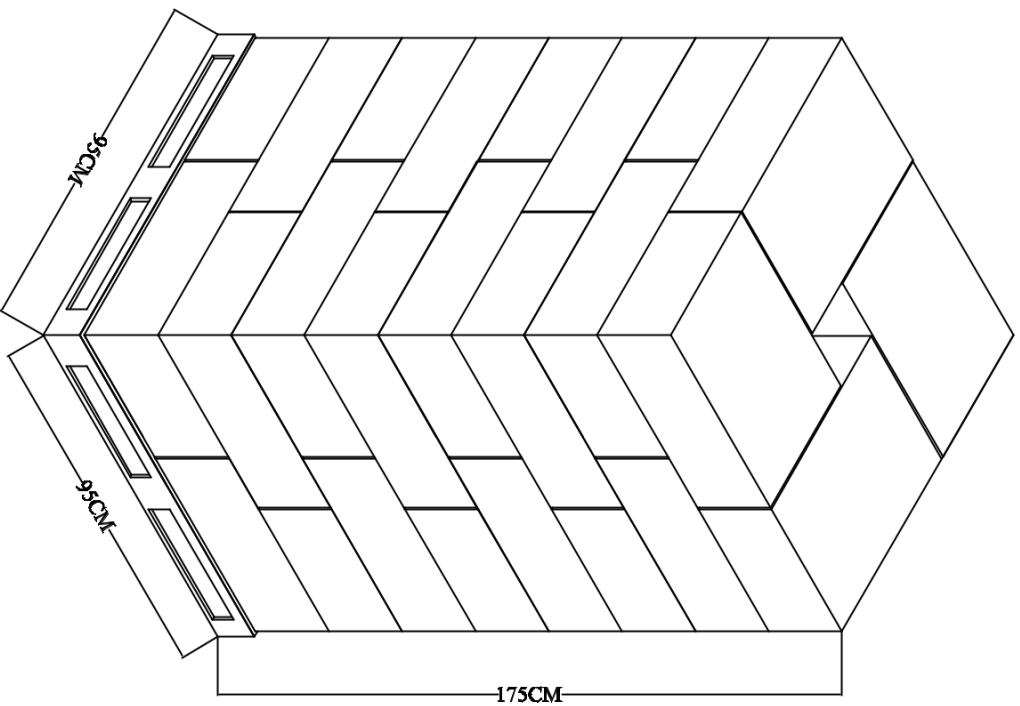
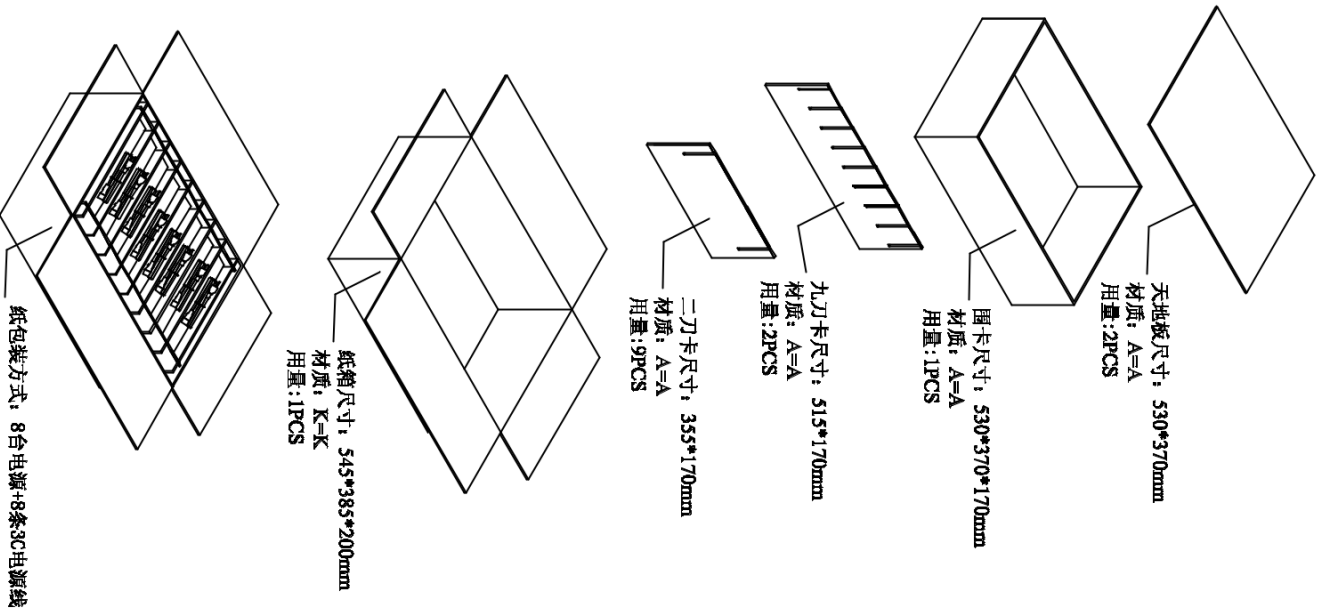
WIRE: UL 1007 18AWG

±30mm

NOTE:

1. The size of the Fan is 4cm.
2. Actual product may slightly different from the drawing;
3. Output cables may be different in designated model on the length,connector type and/or quantity.

ATNG POWER Co.,Ltd.					REV: 1	NEW
					MATERIAL	
DESCRIPTION		UNIT	mm	APPROVED	CHECKED	DRAWN
PART NO.		SCALE	NON			
MODEL	BT-2000U	TOLERANCE				



卡板示意图

卡板尺寸: 95*95*175CM (4箱*8层*8台=256台)

Power Supply Test Report

Company: **ATNG POWER CO.,LTD.**
 Customer: **198**

Model Name: **BT-2000U**
 Serial No :

List Date: **2018-6-20 9:34:13**
 Test Date: **2018-6-20 9:34:13**

===== Test Condition =====

Retry Time: 2.00Sec	Ready Time: 1.00Sec			Steady Time: 0.60Sec		
Short Model: After Shorted	Input Select: AC to DC			Power Down Model: AT Power		
VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Down Voltage	8.00	8.00	8.00	8.00	8.00	8.00
Reset Voltage	1.00	1.00	1.00	1.00	1.00	1.00

===== Outcome Report =====

[01]AC 200V
[Pass]

[02]100% LOAD

Wait Times: 0.5S Wait Select: Wait Pass

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current(A)	25.00	25.00	25.00	25.00	25.00	25.00
Upper(V)	12.600	12.600	12.600	12.600	12.600	12.600
Lower(V)	11.400	11.400	11.400	11.400	11.400	11.400
Output(V)	12.02	11.99	11.99	11.99	12.06	12.06
Output(W)	300.50	299.75	299.75	299.75	301.50	301.50
Total Power(W)	1802.750					

[Pass]

[03]AC 264V

[Pass]

[04]PF TEST

Wait Times: 2.00S

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J		
Load Current(A)	25.00	25.00	25.00	25.00	25.00	25.00		
Meter Value	Freq	Ip-p	Watt	Vrms	Irms	Eff	Vp-p	P.F.
Upper	63.00	20.00	2500.00	400.00	10.00	100.00	500.00	1.000
Lower	47.00	0.00	1800.00	250.00	0.00	92.00	300.00	0.950
Output	50.00	10.44	1953.61	263.70	7.47	92.28	377.60	1.000

[Pass]

[05]AC 230V

[Pass]

[06]100% LOAD

Wait Times: 0.5S

Wait Select: Wait

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current(A)	25.00	25.00	25.00	25.00	25.00	25.00
Upper(V)	12.600	12.600	12.600	12.600	12.600	12.600
Lower(V)	11.400	11.400	11.400	11.400	11.400	11.400
Output(V)	12.02	11.99	11.99	11.99	12.06	12.06
Output(W)	300.50	299.75	299.75	299.75	301.50	301.50
Total Power(W)	1802.750					

[Pass]

[07]Ripple&Noise Test

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00
V-Upper (V)	12.60	12.60	12.60	12.60	12.60	12.60
V-Lower (V)	11.40	11.40	11.40	11.40	11.40	11.40
Output (V)	12.02	11.99	11.99	11.99	12.06	12.06
R & N Upper (mV)	180	180	180	180	180	180
R & N Lower (mV)	0	0	0	0	0	0
Output (mV)	152	158	161	154	159	163

[Pass]

[08]Over Power Protect Test

Step Times: 0.15S

Down Model: AND

Turn Off Way: AC OFF

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00
Step Current (A)	0.50	0.50	0.50	0.50	0.50	0.50
End Current (A)	40.00	40.00	40.00	40.00	40.00	40.00
Upper	2340.0W					
Lower	1980.0W					
Output	2263.0W					

[Pass]

[09]AC ON

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00

[Pass]

[10]100% LOAD

Wait Times: 0.5S

Wait Select: Wait

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00
Upper (V)	12.600	12.600	12.600	12.600	12.600	12.600
Lower (V)	11.400	11.400	11.400	11.400	11.400	11.400
Output (V)	12.06	11.99	11.99	11.99	12.08	12.06
Output (W)	301.50	299.75	299.75	299.75	302.00	301.50

Total Power(W) 1804.250

[Pass]

[11]+12V SHORT

Short Times: 0.50S

Down Model: AND

VxSelect: +12V-A

Turn Off Way: No

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00
Upper (V)	3.00	3.00	3.00	3.00	3.00	3.00
Lower (V)	0.00	0.00	0.00	0.00	0.00	0.00
Output (V)	0.03	0.00	0.03	0.00	0.04	0.03

[Pass]

[12]Wait

Wait Times: 0.5S

Wait Select: Wait Pass

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00
Upper (V)	3.000	3.000	3.000	3.000	3.000	3.000
Lower (V)	0.000	0.000	0.000	0.000	0.000	0.000
Output (V)	0.12	0.07	0.10	0.09	0.11	0.11
Output (W)	3.00	1.75	2.50	2.25	2.75	2.75

Total Power(W) 15.000

[Pass]

[13]LOW LOAD

Wait Times: 0.5S

Wait Select: Wait

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	0.00	0.00	0.00	0.00	0.00	0.00
Upper (V)	12.600	12.600	12.600	12.600	12.600	12.600
Lower (V)	11.400	11.400	11.400	11.400	11.400	11.400
Output (V)	12.24	12.23	12.24	12.22	12.22	12.22
Output (W)	0.00	0.00	0.00	0.00	0.00	0.00

Total Power(W) 0.000

[Pass]

[14]AC 220V

[Pass]

[15]100% EFF

Wait Times: 3.00S

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J		
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00		
Meter Value	Freq	Ip-p	Watt	Vrms	Irms	Eff	Vp-p	P.F.
Upper	63.00	25.00	2200.00	400.00	15.00	100.00	500.00	1.000

Lower	47.00	0.00	1800.00	200.00	0.00	92.00	300.00	0.950
Output	50.00	13.27	1955.68	215.80	9.22	92.18	309.20	1.000

[Pass]

[16]100% LOAD

Wait Times: 0.5S

Wait Select: Wait

VxName	+12V-I	+12V-A	+12V-C	+12V-G	+12V-H	+12V-J
Load Current (A)	25.00	25.00	25.00	25.00	25.00	25.00
Upper (V)	12.600	12.600	12.600	12.600	12.600	12.600
Lower (V)	11.400	11.400	11.400	11.400	11.400	11.400
Output (V)	12.01	11.99	11.99	11.99	12.07	12.06
Output (W)	300.25	299.75	299.75	299.75	301.75	301.50
Total Power (W)	1802.750					

[Pass]

[17]AC OFF

[Pass]

Equipment Support :Sun Moon Technology Corp.

Version:2.01-----

End Of

Data-----

2018-6-20 9:35:15

Total time: 62 (Sec)