

Features

- Universal 90~264V AC input voltage
- Operating ambient temperature range: -0°C ~ +40°C
- Approved to UKCA, CE, TUV, cURus, RCM (C-Tick), FCC, RoHS
- EN/IEC 62368-1, EN/IEC 60601-1 Approvals
- Output SCP, OCP, OVP
- Efficiency up to 83%
- Output Voltage 12V DC



Image for Illustration Purpose
Models may vary

Ideal Power's 44ATM012T-W120V-RS 12W AC/DC External Adapter Interchangeable Power Supply (PSU) Series are certified to UKCA, CE, TUV, cURus, RCM (C-Tick), FCC, RoHS & EN 62368-1/IEC 62368-1/EN 60601-1/IEC 60601-1 Standards and comply with Efficiency Regulations. These are primarily used in Medical, ITE, Audio & Video Industries and customised solutions are available upon request.

Models

Model Number	Output Voltage (V DC)	Output Current (A)	Output Power (W)	Efficiency (%)
44ATM012T-W120V-RS	12	1	12	83

Input Data

	Min	Typical	Max	Units	Notes
Input Voltage	90	--	264	V AC	100-240VAC +/- 10%
Input Frequency	47	--	63	Hz	50-60Hz +/- 5%
Inrush Current	--	--	60	A	At 240 Vac (ac source chroma 6530)
At cold start at 25°C	--	--	120	A	At 230 Vac (mains electricity from wall)
Power Consumption	--	--	--	--	$P_i \leq 0.075W$ (At 115 & 230Vac & No Load)

Output Data

	Min	Typical	Max	Units	Notes
Output Voltage	--	--	12	V	$\pm 5\%$
Current	--	--	1	A	
Regulation	11.4	12	12.6	V	
Ripple & Noise	--	--	120	mVp-p	

Protection Requirements

	Min	Typical	Max	Units	Notes
Over Current Protection	--	--	3	A	
Short Circuit Protection	--	--	--		Auto Recovery
Over Voltage Protection	--	--	22	V	

Environmental Data

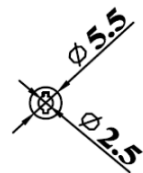
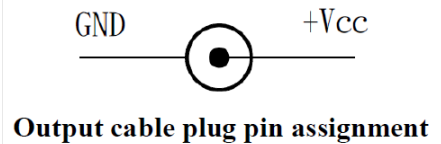
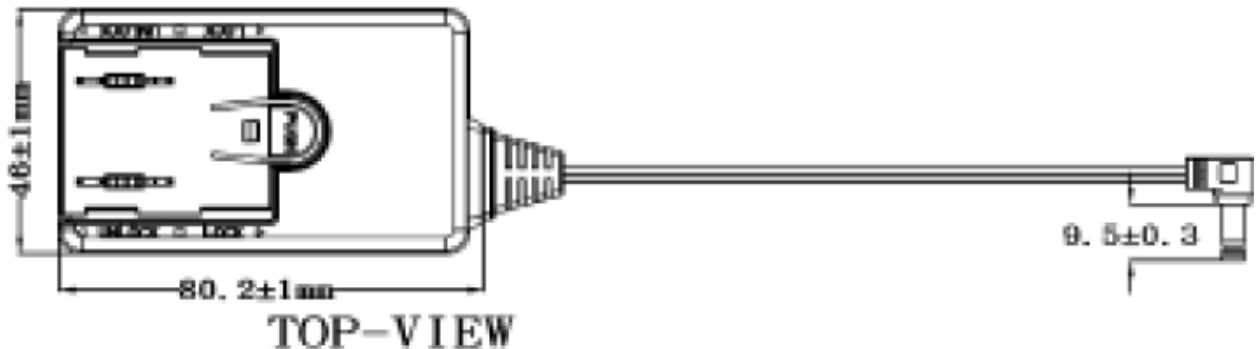
	Min	Typical	Max	Units	Notes
Operating Temperature	-0	--	+40	°C	
Storage Temperature	-20	--	+80	°C	
Operating Humidity	20	--	80	%	
Storage Humidity	10	--	90	%	

Safety Requirements

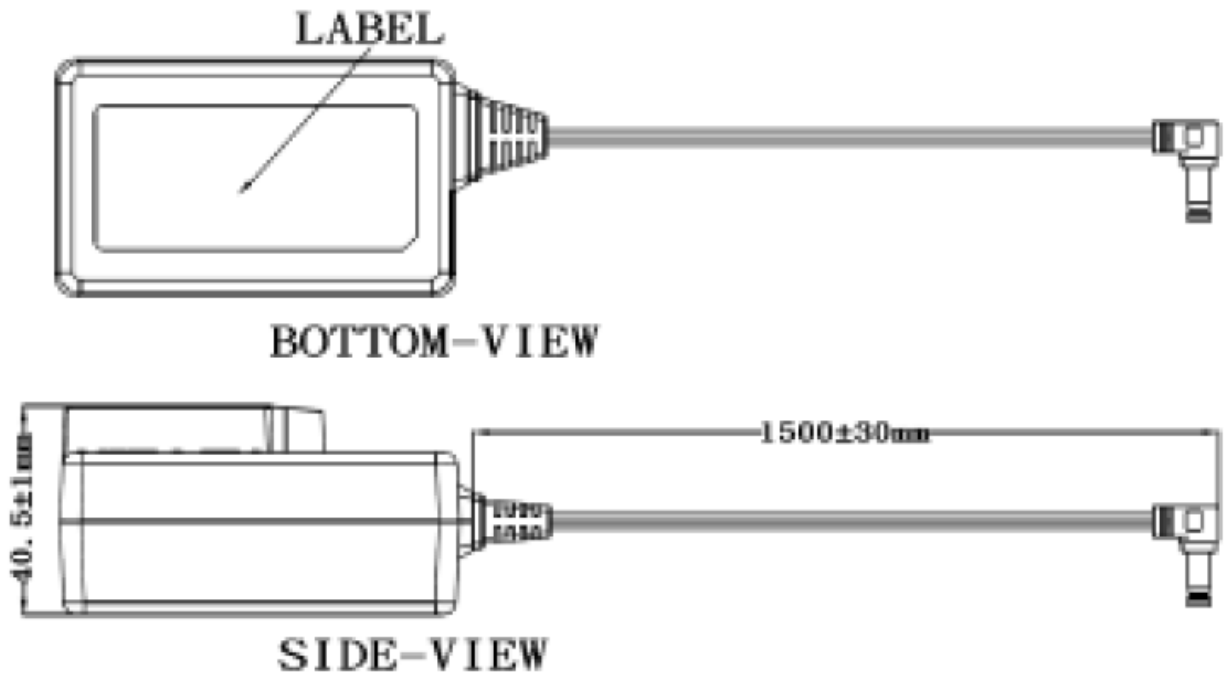
	Min	Typical	Max	Units	Notes
Dielectric Strength	--	--	10	kV	Cut off current.
Insulation	--	10	--	MΩ	For 500V dc test voltage
MTBF	--	300,000	--	hrs	At 25°C
Leakage Current					Less than 0.1 mA

Product Information

Dimensions	80.2x46x40.5mm
Weight	140g
Cable	Black, UL2468, 24AWG, 1500mm
Output Connector	2.5x5.5mm
Approvals	EN/IEC 62368-1, EN/IEC 60601-1
Certifications	UKCA, CE, cURus, TUV, RCM (C-Tick), FCC, RoHS

Mechanical Drawing


Mechanical Drawing (continued)



USA	Europe	U.K.	Australia	China	Korea

Typical Label Drawing

RS Stock Number
XXXXXX

Medical Power Supply / 交換式電源供應器
Model (型號): ATM012T-W120V
Input (輸入): 100-240V ~ 50-60Hz 0.32-0.19A
Output (輸出): 12.0V \pm 1.0A 12.0W
CAUTION: Risk of electric Shock, dry location use only.
EFFICIENCY LEVEL

S/N: XXYYZZZZZZ

<http://www.adaptertech.com.tw>
MADE IN CHINA ID NO. X XXX

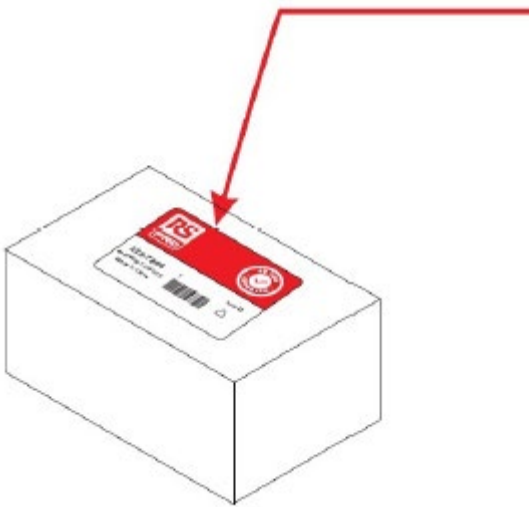
PS JET
I/P: 100-240V AC 50-60Hz 23-33VA 0.32-0.19A
O/P: 12V DC 1A

UL US E225703
R33154 RoHS

CE FC UK CA
RoHS

TUVHafid CERTIFIED
EN 60081-1 IEC 60081-1
ADAPTER TECH.

Packaging Label



Test Results
A. Line regulation test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
115 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
132 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
180 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
230 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
264 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V

B. Efficiency test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac DOE Level VI	82.963% min.	84.940%	84.940%	84.940%
230 Vac COC Tier 2	83.263% min.	84.982%	84.982%	84.982%
230 Vac COC Tier 2 (10% Load)	73.263% min.	77.147%	77.147%	77.147%

$$\text{Eff}_{(av)} = \frac{E_1 + E_2 + E_3 + E_4}{4}$$

E_1 =efficiency with 25% rated load , E_2 =efficiency with 50% rated load
 E_3 =efficiency with 75% rated load , E_4 =efficiency with 100% rated load

C. Load regulation test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 0% Load	11.4 V ~ 12.6 V	12.173 V	12.173 V	12.173 V
115 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
115 Vac / 100% Load	11.4 V ~ 12.6 V	11.879 V	11.879 V	11.879 V
230 Vac / 0% Load	11.4 V ~ 12.6 V	12.173 V	12.173 V	12.173 V
230 Vac / 50% Load	11.4 V ~ 12.6 V	12.026 V	12.026 V	12.026 V
230 Vac / 100% Load	11.4 V ~ 12.6 V	11.879 V	11.879 V	11.879 V

Test Results
D. Ripple & Noise test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	120 mV _{p-p} max.	30.4 mV _{p-p}	30.4 mV _{p-p}	30.4 mV _{p-p}
230 Vac / 100% Load	120 mV _{p-p} max.	27.2 mV _{p-p}	27.2 mV _{p-p}	27.2 mV _{p-p}

E. Inrush current

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230 Vac / 100% Load	60 A max. (chroma 6530)	48.2 A	48.2 A	48.2 A

F. Over voltage protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	22 V max.	18 V	18 V	18 V
230 Vac / 100% Load	22 V max.	17.6 V	17.6 V	17.6 V

G. Over current protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	3 A max.	1.56 A	1.56 A	1.56 A
230 Vac / 100% Load	3 A max.	1.52 A	1.52 A	1.52 A

H. Short circuit protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	Auto recovery	Ok	Ok	Ok
230 Vac / 100% Load	Auto recovery	Ok	Ok	Ok

I. Input power consumption (no load)

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 0% Load	≤ 0.075 W	0.050 W	0.050 W	0.050 W
230 Vac / 0% Load	≤ 0.075 W	0.058 W	0.058 W	0.058 W

Test Results
Efficiency Test Report

- A. **Model Number** : ATM012T-W120Z(Z=A,B,C,E,K,U,V) **12.0V** **1.00A** **12.00W**
- B. **DC Power Cord** : UL2468 24AWG , 1.5M
- C. **Average Efficiency** :
- Erp (Lot 7)** $0.0834 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.609 = 82.963\%$ **Min.**
- DoE Level VI** $0.0834 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.609 = 82.963\%$ **Min.**
- GEMS Level VI** $0.0834 \cdot \ln(P_{out}) - 0.0014 \cdot P_{out} + 0.609 = 82.963\%$ **Min.**
- CoC Tier 2** $0.0834 \cdot \ln(P_{no}) - 0.0011 \cdot P_{no} + 0.609 = 83.263\%$ **Min.**
- CoC Tier 2 (10% Load)** $0.0834 \cdot \ln(P_{no}) - 0.00127 \cdot P_{no} + 0.518 = 73.263\%$ **Min.**
- D. **NO Load Power Consumption** :
- Erp (Lot 7)** **0.10W Max.**
- DoE Level VI** **0.10W Max.**
- GEMS Level VI** **0.10W Max.**
- CoC Tier 2** **0.075W Max.**
- E. **Testing Equipment** :
- a. **AC Power Source** : " Zentech " **2700M-10**
- b. **Electronic Load** : " PRODIGIT " **3311C**
- c. **Power Meter** : " YOKOGAWA " **WT-210A**
- d. **Digital Meter** : " FLUKE " **45**
- F. **AC Input Voltage** : **115Vac/60Hz**

Reported Quantity	Load Conditions					
	100% * I ₀	75% * I ₀	50% * I ₀	25% * I ₀	10% * I ₀	0% * I ₀
Rms Output Current(mA)	1000mA	750mA	500mA	250mA	100mA	0mA
Rms Output Voltage(V)	11.830V	11.911V	11.993V	12.074V	12.124V	12.156V
Active Output Power(W)	11.83W	8.93W	6.00W	3.02W	1.21W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V	115V
Rms Input Current(A)	0.226A	0.177A	0.127A	0.076A	0.038A	0.002A
Rms Input Power(W)	14.070W	10.470W	7.020W	3.558W	1.504W	0.053W
True Power Factor (PF)	0.541	0.516	0.479	0.405	0.345	0.292
Total Harmonic Distortion of the input current	140.0A%	153.9A%	175.2A%	222.3A%	274.6A%	292.1A%
Power Consumed by UUT(W)	2.240W	1.537W	1.024W	0.540W	0.292W	0.053W
Active Efficiency	84.080%	85.322%	85.420%	84.837%	80.612%	*
Average Efficiency	84.915%				80.612%	*

- G. **AC Input Voltage** : **230Vac/50Hz**

Reported Quantity	Load Conditions					
	100% * I ₀	75% * I ₀	50% * I ₀	25% * I ₀	10% * I ₀	0% * I ₀
Rms Output Current(mA)	1000mA	750mA	500mA	250mA	100mA	0mA
Rms Output Voltage(V)	11.833V	11.914V	11.995V	12.076V	12.126V	12.158V
Active Output Power(W)	11.83W	8.94W	6.00W	3.02W	1.21W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V	230V
Rms Input Current(A)	0.159A	0.130A	0.092A	0.054A	0.026A	0.001A
Rms Input Power(W)	13.980W	10.530W	7.094W	3.632W	1.586W	0.066W
True Power Factor (PF)	0.383	0.352	0.335	0.292	0.266	0.235
Total Harmonic Distortion of the input current	231.0A%	255.7A%	281.7A%	325.1A%	346.1A%	180.2A%
Power Consumed by UUT(W)	2.147W	1.595W	1.097W	0.613W	0.373W	0.066W
Active Efficiency	84.642%	84.858%	84.543%	83.122%	76.456%	*
Average Efficiency	84.291%				76.456%	*

Tester : Ian