

Specification for Approval

Customer :

Part Name : AC ADAPTER

Description : 12Volts / 3Amps

Model No. : (Level VI)

P / N : SW4272A(PW02711)

Product P / N : A1

Issued Date : 24 – Jun. – 2015

Version : A1

Issued Stamp :

Customer's Approval Signature

36W
AC ADAPTER
SPECIFICATION

Model No. : (Level VI)

Description : 12Volts / 3Amps

Part No. : A1

Version : A1

Date : 24 - Jun. - 2015

Approved	Reviewed	Checked	Prepared	Sales
				

1. Feature :

- ◆ **Input** : Universal 100 ~ 240 Vac / 50 ~ 60 Hz Input, without any slide switch.
- ◆ **Output** : +12.0V / 0~3 A
- ◆ **Case Dimension** : 99(L) * 33(W) * 50(H) mm
- ◆ **Efficiency** : Eff (av) \geq 87.40%
- ◆ **Safety** : UL / CUL / BSMI
- ◆ **EMI** : CE / FCC Class B ; Conduction & Radiation Meet
- ◆ **Protection** : OVP (Over Voltage Protection) 、 SCP (Short Circuit Protection) 、 OCP (Over Current Protection)
- ◆ High frequency design , less power consumption.
- ◆ Suitable for usage at Telecommunication, Computer, Industrial Controller, & OA System.
- ◆ Meet Energy Star VI / ErP (Stage 2) / MEPS V .

2. Input :

2.1 Voltage	Universal 100~240Vac, single phase
2.2 Frequency	50 ~ 60 Hz
2.3 Current	1A Max.
2.4 Inrush Current	70Max. / 230Vac (Cold Start At 25 °C , Full Load)
2.5 Efficiency	Eff (av) \geq 87.40 % (At 115 Vac & 230 Vac)
2.6 Power Consumption	Pi \leq 0.1 W (At 115 Vac & 230 Vac & No Load)

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

E1=efficiency with 25% rated load ; E2= efficiency with 50% rated load
 E3=efficiency with 75% rated load ; E4= efficiency with 100% rated load

3. Output :

3.1 DC Output	Voltage	+12V \pm 5%
	Current	3A Max.
	Regulation	11.40Vmin. ~ 12.00Vtyp. ~ 12.60Vmax.
	Ripple & Noise	120 mVpp Max.
	Total Power	36W Max.

Remark : For ripple & noise measurement, use a 20MHz bandwidth frequency oscilloscope, and add a 0.1 μ F multilayer Cap. and a Low ESR Electrolytic Cap. (47 μ F) at output connector terminals. (At nominal line voltage, Full Load)

4. Protection :

4.1 Over Voltage Protection (OVP)	V out *180%(Max)
4.2 Short Circuit Protection (SCP)	Automatic recovery after short-circuit fault being removed
4.3 Over Current Protection(OCP)	I out *170%(Max)

Remark : When Short Circuit Protection or Over Current Protection is activated,the power supply will shutdown automatically.

Once the abnormal condition resulting in the failure being removed, the power supply will restart accordingly. When

Over Voltage Protection is activated, the power supply will shutdown.

5. Safety 、 EMI and EMC Requirement :

5.1 Safety Requirement

- a. Safety : UL / CUL / BSMI
 b. Dielectric Strength : 10mA Max. Cut off current.

(1)	Primary to Secondary	3000Vac for 1 Minute
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- c. Insulation Resistance :

(1)	Primary to Secondary	10 M ohm for 500Vdc
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- 5.2 EMI Requirement : CE / FCC Class B ; Conduction & Radiation Meet

- 5.3 Leakage Current : Less than 0.25mA

6. Operation and Environment Performance :

6.1 Temperature Range

Operating	+ 0°C ~ + 40°C
Storage	- 20 °C ~ + 80 °C

6.2 Humidity Range(Non-condensing)

Operating	20% ~ 80% RH
Storage	10% ~ 90% RH

- 6.3 Cooling : By natural air.

7. M.T.B.F. : 300,000Hrs.(Calculated Hours at 25°C,By Telcordia SR-332)

8.Mechanical :

8.1 Weight : 170 g Typical

8.2 Cable Type : Black UL2468 18AWG
(Wire + Plug)

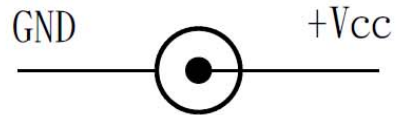
Plug : $\varnothing 5.5 * \varnothing 2.1 * 12\text{mm}$
(Tuning Fork & Cannelure)

8.3 Cable Length : 1500mm

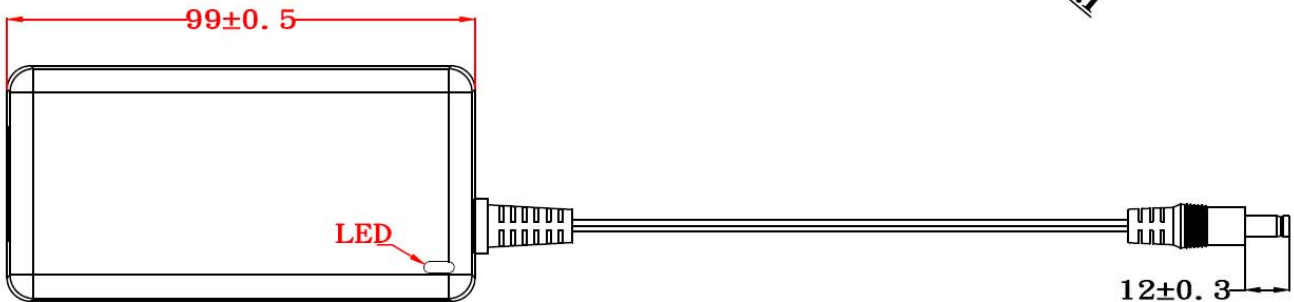
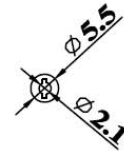
8.4 Case Dimension : 99mm(L)*33mm(W)*50mm(H)

8.5 Material Flammability : UL 94V-0

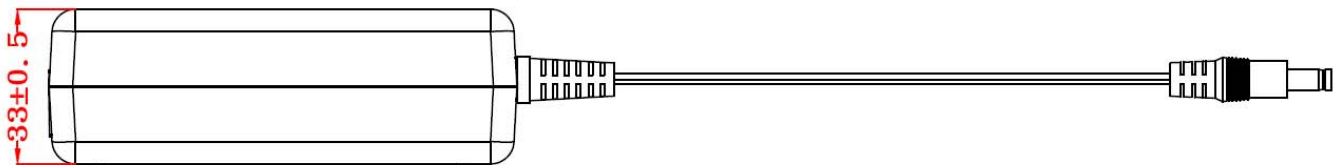
8.6 External Apperance : As drawing below (Scale \rightarrow mm)



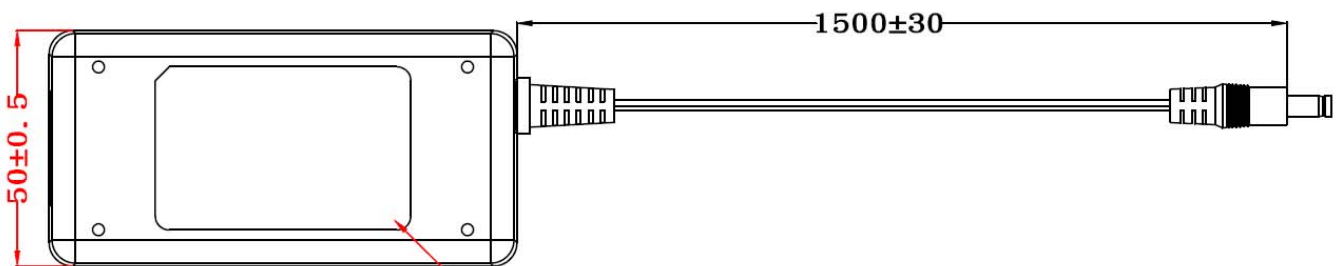
Output Cable Plug Pin Assignment



TOP VIEW

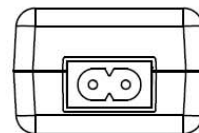


SIDE VIEW



BOTTOM VIEW

Label



FRONT-VIEW

8.7 Spec. Label Materials : Metalized Polyester Label (Silver Gloss)
 Color : Black Background with Silver Printing
 Label Dimension : 53.5mm(L)*34mm(W)+/-0.1mm
 Label Thickness : 0.1mm

100%



"XXX"

Label supplier's code.
 It is accurate that the number
 of words depends on the real
 finished product.

ID NO."X"

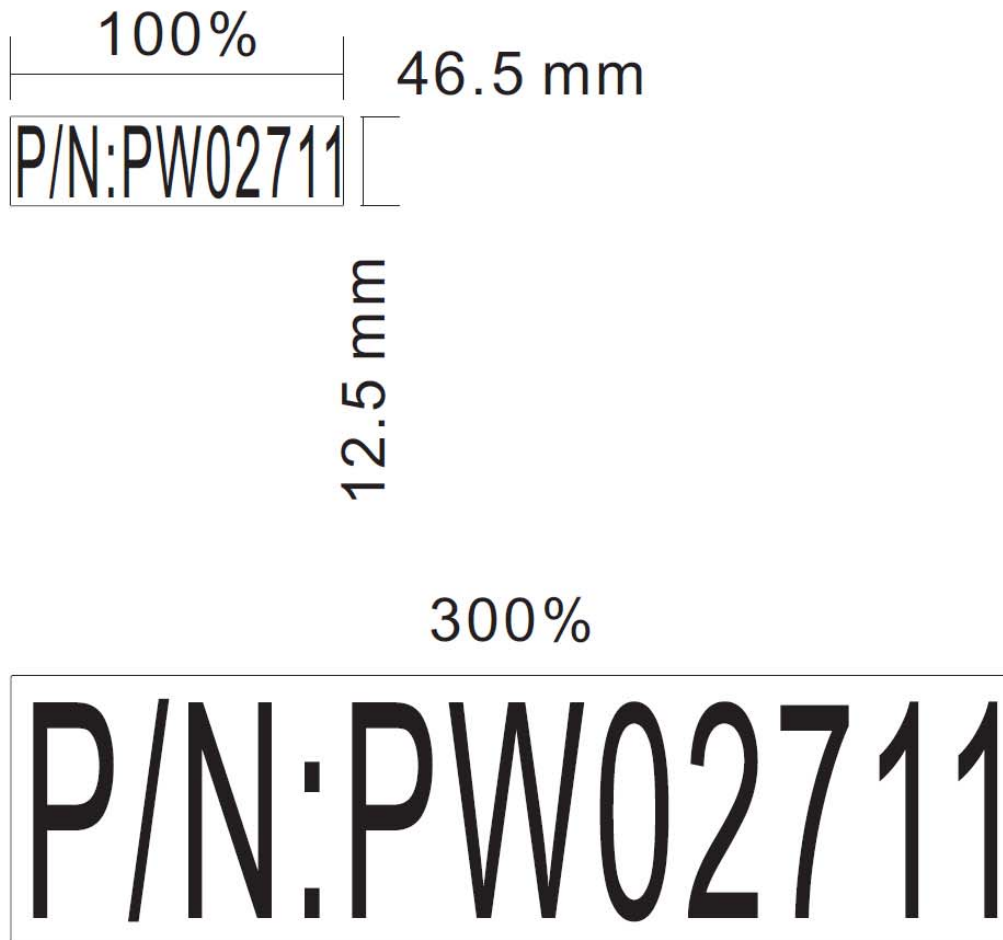
Manufacturer's code.
 It is accurate that the number
 of words depends on the real
 finished product.

Label Part No.:9443055180

200%



8.8 White Box Label Materials : Art paper + Gloss
Color : White Background with Black Printing
Label Dimension : 46.5mm(L)*12.5mm(W)+/-0.1mm
Label Thickness : 0.1mm



Label Part No. :9443025420
REV:A

A. Line Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
115Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
132Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
180Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
230Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
264Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V

B. Efficiency Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 60Hz	87.40 % Min.	88.12 %	88.10 %	88.10 %
230Vac / 50Hz	87.40 % Min.	87.96 %	88.10 %	88.00 %

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

E1=efficiency with 25% rated load ; E2= efficiency with 50% rated load
E3=efficiency with 75% rated load ; E4= efficiency with 100% rated load

C. Load Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 0 % Load	11.4 V ~ 12.6 V	12.16 V	12.14 V	12.15 V
115Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
115Vac / 100 % Load	11.4 V ~ 12.6 V	11.91 V	11.87 V	11.89 V
230Vac / 0 % Load	11.4 V ~ 12.6 V	12.16 V	12.14 V	12.15 V
230Vac / 50 % Load	11.4 V ~ 12.6 V	12.03 V	12.01 V	12.02 V
230Vac / 100 % Load	11.4 V ~ 12.6 V	11.90 V	11.87 V	11.89 V

D. Ripple & Noise Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	120 mVpp Max.	71.9 mV	77.2 mV	80.8 mV
230Vac / 100 % Load	120 mVpp Max.	71.2 mV	76.7 mV	70.9 mV

E. Inrush Current

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
240Vac / 100 % Load	80A Max	61.4 A	53.6 A	55.0 A

F. Output Current Protection

Test Result Test Result

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	Iout*150%(Max)	142 %	141 %	140 %
230Vac	Iout*150%(Max)	137 %	137 %	135 %

G. Short Circuit Protection

Test Result :

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

H. Input Power Consumption

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 0 % Load	$\leq 0.1W$	0.07 W	0.07 W	0.07 W

Efficiency Test Report

- A. Model Number** : ATS036T-A120 (12V / 3A)
- B. DC Power Cord** : UL2468 , 18AWG , 1500mm
- C. Average Efficiency** :
- Energy Star VI** (0.071*Ln(Pout)-0.0014*Pout+0.67) = 87.40 % Min.
- Erp (Stage 2)** (0.063*Ln(Nameplate Output)+0.622) = 82.22 % Min.
- MEPS V** (0.0626*Ln(Nameplate Output)+0.622) = 82.09 % Min.
- D. NO Load Power Consumption** :
- Energy Star VI** 0.1W Max.
- Erp (Stage 2)** 0.3W Max.
- MEPS V** 0.3W Max.
- E. Testing Dequpment** :
- a. AC Power Source** : " Zentech " 2700M-10
- b. Electronic Load** : " PRODIGIT " 3311D
- c. Power Meter** : " YOKOGAWA " WT210
- d. Digital Meter** : " APPA " 99III
- F. AC Input Voltage** : 115Vac/60Hz

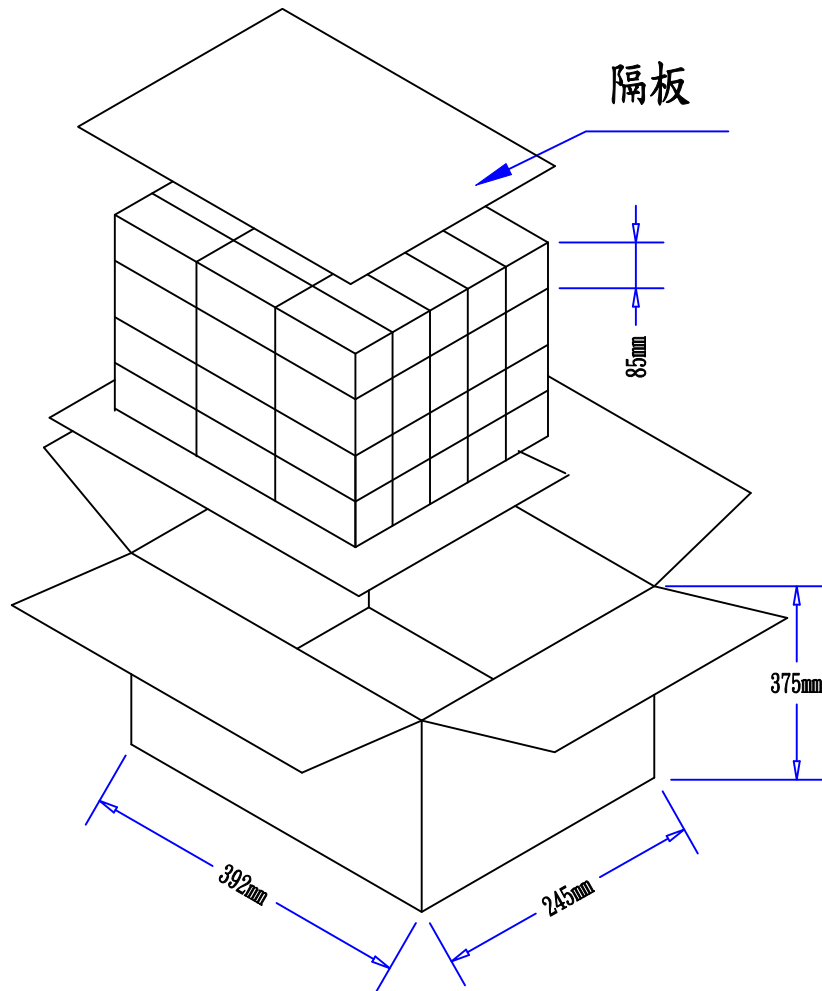
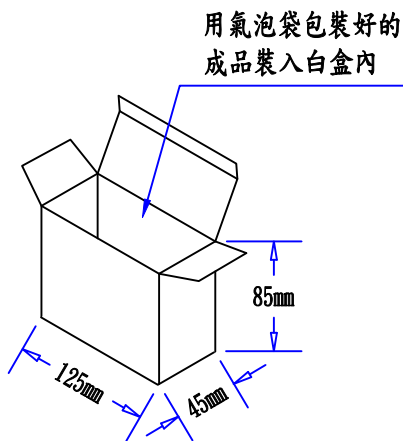
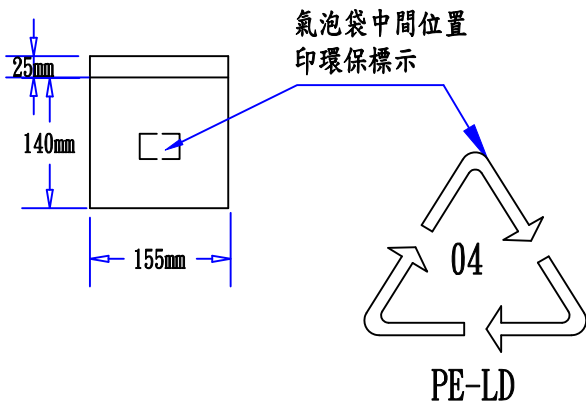
Load Conditions	100%* I ₀	75%* I ₀	50%* I ₀	25%* I ₀	0%* I ₀
Reported Quantity					
Rms Output Current(mA)	3000mA	2250mA	1500mA	750mA	0mA
Rms Output Voltage(V)	11.76V	11.84V	11.92V	12.00V	12.08V
Active Output Power(W)	35.28W	26.64W	17.88W	9.00W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V
Rms Input Current(A)	0.703A	0.563A	0.415A	0.226A	0.014A
Rms Input Power(W)	40.54W	30.30W	20.16W	10.13W	0.06W
T.H.D. (Voltage)	0.54	0.46	0.4	0.3	0.13
True Power Factor	0.502	0.469	0.423	0.390	0.037
Power Consumed by UUT(W)	5.26W	3.66W	2.28W	1.13W	0.06W
Efficiency	87.03%	87.92%	88.69%	88.86%	*
Average Efficiency	88.12%				*

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

Load Conditions	100%* I ₀	75%* I ₀	50%* I ₀	25%* I ₀	0%* I ₀
Reported Quantity					
Rms Output Current(mA)	3000mA	2250mA	1500mA	750mA	0mA
Rms Output Voltage(V)	11.76V	11.84V	11.92V	12.00V	12.08V
Active Output Power(W)	35.28W	26.64W	17.88W	9.00W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V
Rms Input Current(A)	0.404A	0.314A	0.216A	0.120A	0.024A
Rms Input Power(W)	40.21W	30.20W	20.27W	10.26W	.
T.H.D. (Voltage)	0.69	0.57	0.43	0.29	0.11
True Power Factor	0.434	0.424	0.408	0.374	0.012
Power Consumed by UUT(W)	4.93W	3.56W	2.39W	1.26W	#VALUE!
Efficiency	87.74%	88.21%	88.21%	87.69%	*
Average Efficiency	87.96%				*

Tester : Jarvis

REVISIONS				
SHOW	REV	DESCRIPTION	DATE	APPROVED
	A	ISSUE	13/08/22	



PIS18W00049 包裝(FOR 18, 24, 30W桌上型)(K=K) 短環保雙面氣泡袋厚-白盒-60

- 9550021101 1. 隔板:380(L)*233(W)*6mm K=K 2/60
- 9520028801 2. 數量:5*3*4=60PCS.
- 9510003302 3. 外箱:392(L)*245(W)*375(H)mm K=K 1/60
- 9540008701 4. 白盒:125(L)*45(W)*85(H)mm 350P+CE(即C9紙加裱350磅白板紙) 1/1
- 5. 環保氣泡袋:140(L)*155(W)*25mm 9KG 無色透明,單端開口,中間位置印環保標示. 1/1
- 6. 成品裝入氣泡袋封好,再放入白盒內,方向必須統一.
- 7. 外箱,白盒標注為外徑尺寸.
- 8. 以上所用材料均符合環保要求.

阿達特科技股份有限公司

DRAWING NO. PIS18W00049		APPROVAL 1 BY	
UNIT	MODEL NO. 18W, 24W, 30W(桌上型)	APPROVAL 2 BY	
mm	FILE NO. ADT-0220	CHECKED BY(ENGINEER)	
SCALE	REV. A	SHEET 1/1	DRAWN BY 李金朝
			DATE: 2013/08/22

李金朝
2013.08.23
確認OK