Adapter Technology Co., Ltd.

Specification for Approval

Customer	:	**Energy Access Incorporated**
Part Name	:	**AC ADAPTER**
Description	:	**24 Volts / 2.71 Amps**
Model No.	:	**ATS065T-P240 (Level VI)**
Customer P / N	:	**PS2524**
Product P / N	:	**ATS065TP240518201**
Issued Date	:	**29-Dec.-2021**
Version	:	**A7**

Issued Stamp :

Customer's Approval Signature

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E-mail : service_tw@ adaptertech.com.tw；service@ adaptertech.com.tw
Factory (China)：BOAYANG ELECTRONICS CO., LTD.
Di Feng Gong Ye Qu 2 Hao,Xiasha Liuwu Village, Shipai Town, Dong Guan City, Guang Dong Province,China
TEL：86-0769-8136-9899；86-0769-8136-0909；86-0769-8136-9008
86-0769-8186-8338；86-0769-8186-8900
FAX：86–0769-8136-9009

65 W
AC ADAPTER
SPECIFICATION

Model No.	:	**ATS065T-P240 (Level VI)**
Description	:	**24Volts / 2.71Amps**
Part No.	:	**ATS065TP240518201**
Version	:	**A7**
Date	:	**29-Dec-2021**

Approved	Reviewed	Checked	Prepared	Sales
	阿達特 2021.12.29 徐東昇	阿達特 2021.12.29 余家華	阿達特 2021.12.29 余家華	

■ Approval Documents/Spec. Revised Records

- Customer : Energy Access Incorporated
- Model No. : ATS065T-P240
- Original Documents Content : Spec. 10 Pages, Attachment 2 Pages

Revised Records : No.	Date	Description (Before / After)	Page(s) Revised	Revised By (Adapter/Customer)	Remark
1	Nov./17/2015	ISSUE	-	李智杰	A1
2	Dec./07/2015	Modify label	P7	李智杰	A2
3	Aug./24/2017	Modify label	P7	Sun	A3
4	Mar./19/2020	Modify label	P7	Sun	A4
5	Aug./22/2020	Modify label	P7	Sun	A5
6	Jun./19/2021	Modify label	P7	Sun	A6
7	Dec./29/2021	Modify label	P7	Sun	A7

1. Feature：

- ♦ Input ： Universal 100 ~ 240 Vac / 50 ~ 60 Hz Input, without any slide switch.
- ♦ Output ： +24V / 0~2.71A
- ♦ Case Dimension ： 115 (L) *53 (W) * 38 (H) mm
- ♦ Efficiency ： Eff (av) ≧ 88%
- ♦ Safety ： UL / cUL / GS / PSE / BSMI / CB / UKCA / NOM
- ♦ EMI ： CE / FCC Class B ； Conduction & Radiation Met.
- ♦ 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 DoE / ErP (Stage 2) / GEMS / NRCan / CEC / EPA

2. Input：

2.1 Voltage	Universal 100~240Vac, single phase
2.2 Frequency	50 ~ 60 Hz
2.3 Current	1.4A Max.
2.4 Inrush Current	80A Max. / 240Vac (Cold start at 25 ℃，full load)
2.5 Efficiency	Eff (av) ≧ 88% (At 115 Vac & 230 Vac)
2.6 Power Consumption	Pi ≦ 0. 21 W (At 230Vac & No load)

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

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	+24 V ± 5%
	Current	2.71A Max.
	Regulation	22.80Vmin. ~ 24.00Vtyp. ~ 25.20Vmax.
	Ripple & Noise	240mV Max.
	Total Power	65 W Max.

Remark：For ripple & noise measurement, use a 20MHz bandwidth frequency oscilloscope, and add a 0.1μF multilayer Cap. and a Low ESR Electrolytic Cap. (10 μF) at output connector terminals. (At nominal line voltage, full load)

4. Protection :

4.1 Over Voltage Protection (OVP)	(V out *150%) Max.
4.2 Short Circuit Protection (SCP)	Automatic recovery after short-circuit fault being removed
4.3 Over Current Protection(OCP)	(I out *180%) 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 latch .

5. Safety、EMI and EMC Requirement：

5.1 Safety Requirement

a. Safety ： UL / cUL / GS / PSE / BSMI / CB / UKCA / NOM

b. Dielectric Strength ： Cut off current 10mA

(1)	Primary to Secondary	3000Vac for 1 Minute
(2)	Primary to Frame Ground	1500Vac for 1 Minute
※Secondary return connected to FG		

c. Insulation Resistance ：

(1)	Primary to Secondary	10 M ohm for 500Vdc
(2)	Primary to Frame Ground	10 M ohm for 500Vdc
※Secondary return connected to FG		

5.2 EMI Requirement ： CE / FCC Class B ； Conduction & Radiation Met.

5.3 Leakage Current ： Less than 3.5mA

5.4 Grounding Test ： Resistance 0.1ohm Max. @ 32A

6. Operation and Environment Performance：

6.1 Temperature Range

Operating	+ 0ºC ~ + 40ºC
Storage	- 20 ºC ~ + 80ºC

6.2 Humidity Range(Non-condensing)

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

6.3 Cooling：By natural air.

8.Mechanical :

8.1 Weight : 310 g Typical

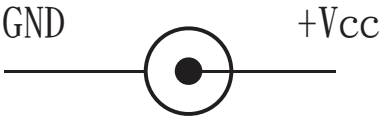
8.2 Cable Type : Black UL2468 AWG18
(Wire + Plug)
Plug : ø5.5*ø2.5*9.5mm
(Tuning Fork & Cannelure)

8.3 Cable Length : 1800mm

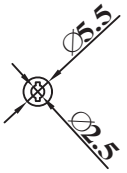
8.4 Case Dimension : 115mm(L)*53mm(W)*38mm(H)

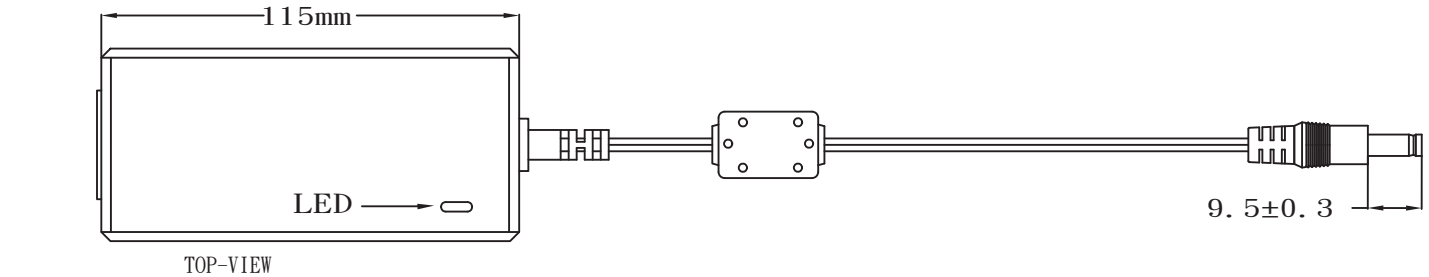
8.5 Material Flammability : UL 94V-0

8.6 External Apperance : As drawing below (Scale → mm)

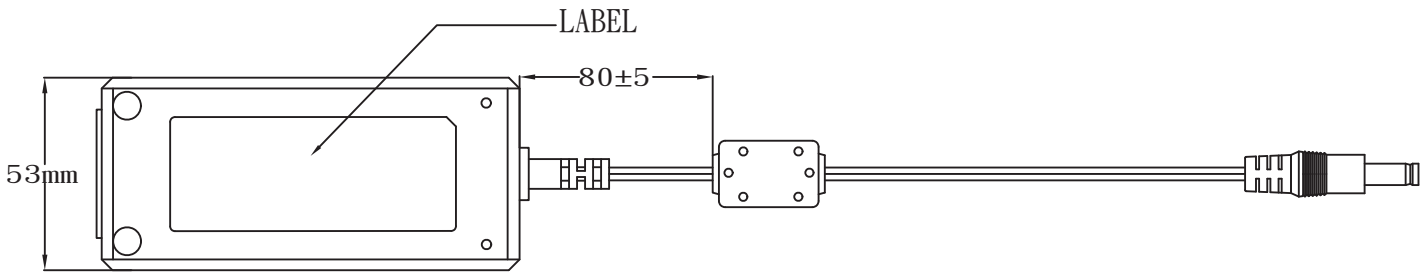


Output Cable Plug Pin Assignment

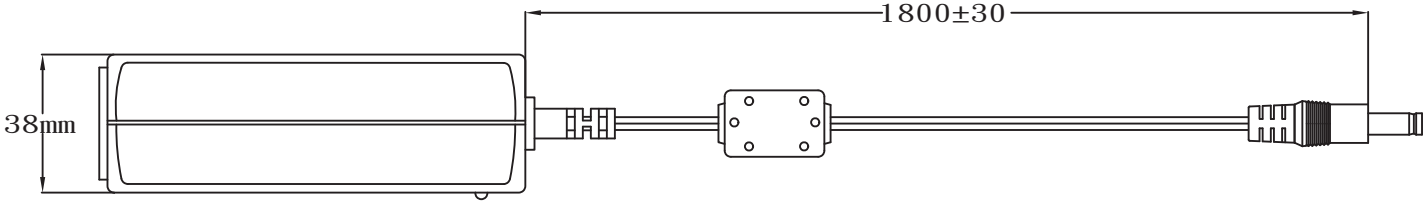




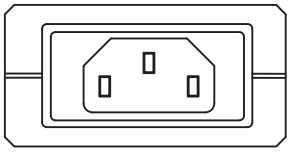
TOP-VIEW



BOTTOM-VIEW



SIDE-VIEW

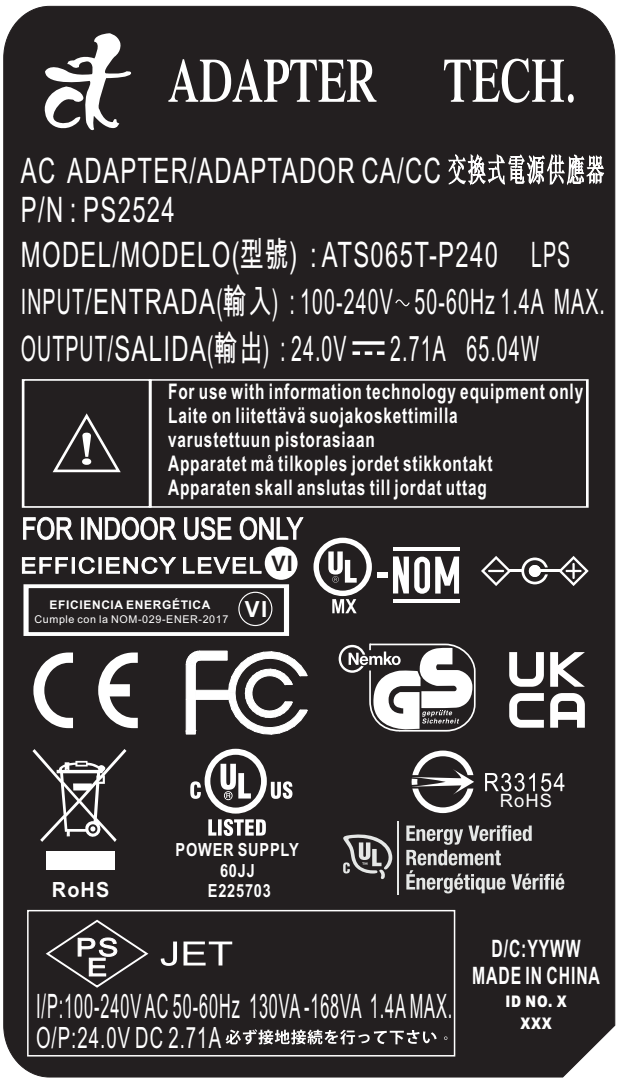


FRONT-VIEW

8.7 Spec. Label Materials : Metalized Polyester Label (Silver Gloss)
Color : Black Background with Silver Printing
Label Dimension : 70.8mm(L)*40.4mm(W)+/-0.2mm
Label Thickness : 75#

100%

200%



"YYWW"
YY=Year 2019=19
WW=Week

"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.:9443059696
REV.:G

A. Line Regulation Test

Test Result ：

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95V
115Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95V
132Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95V
180Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95V
230Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95V
264Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95V

B. Efficiency Test

Test Result ：

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	88 % Min.	89.60 %	89.44 %	89.66%
230Vac	88 % Min.	90.14 %	89.89 %	90.27%

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

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	22.8 V ~ 25.2 V	24.08V	23.96V	24.09 V
115Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95 V
115Vac / 100 % Load	22.8 V ~ 25.2 V	23.83 V	23.46 V	23.82V
230Vac / 0 % Load	22.8 V ~ 25.2 V	24.08V	23.96V	24.09 V
230Vac / 50 % Load	22.8 V ~ 25.2 V	23.96 V	23.72V	23.95 V
230Vac / 100 % Load	22.8 V ~ 25.2 V	23.83 V	23.46 V	23.82V

D. Ripple & Noise Test

Test Result ：

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	240mV Max.	73.4 mV	70.8 mV	75.4 mV
230Vac / 100 % Load	240mV Max.	71.2 mV	72.1 mV	73.3 mV

E. Inrush Current

Test Result ：

Test condition	Spec.	Reading 1	Reading 2	Reading 3
240Vac / 100 % Load	80A Max	63 A	62 A	65 A

F. Over Current Protection

Test Result ：

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	(I out *180%) Max.	125 %	124 %	123 %
230Vac / 100 % Load	(I out *180%) Max.	127 %	126 %	126 %

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(No Load)

Test Result ：

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 0 % Load	≦ 0.21 W	0.07W	0.07W	0.07W

Efficiency Test Report

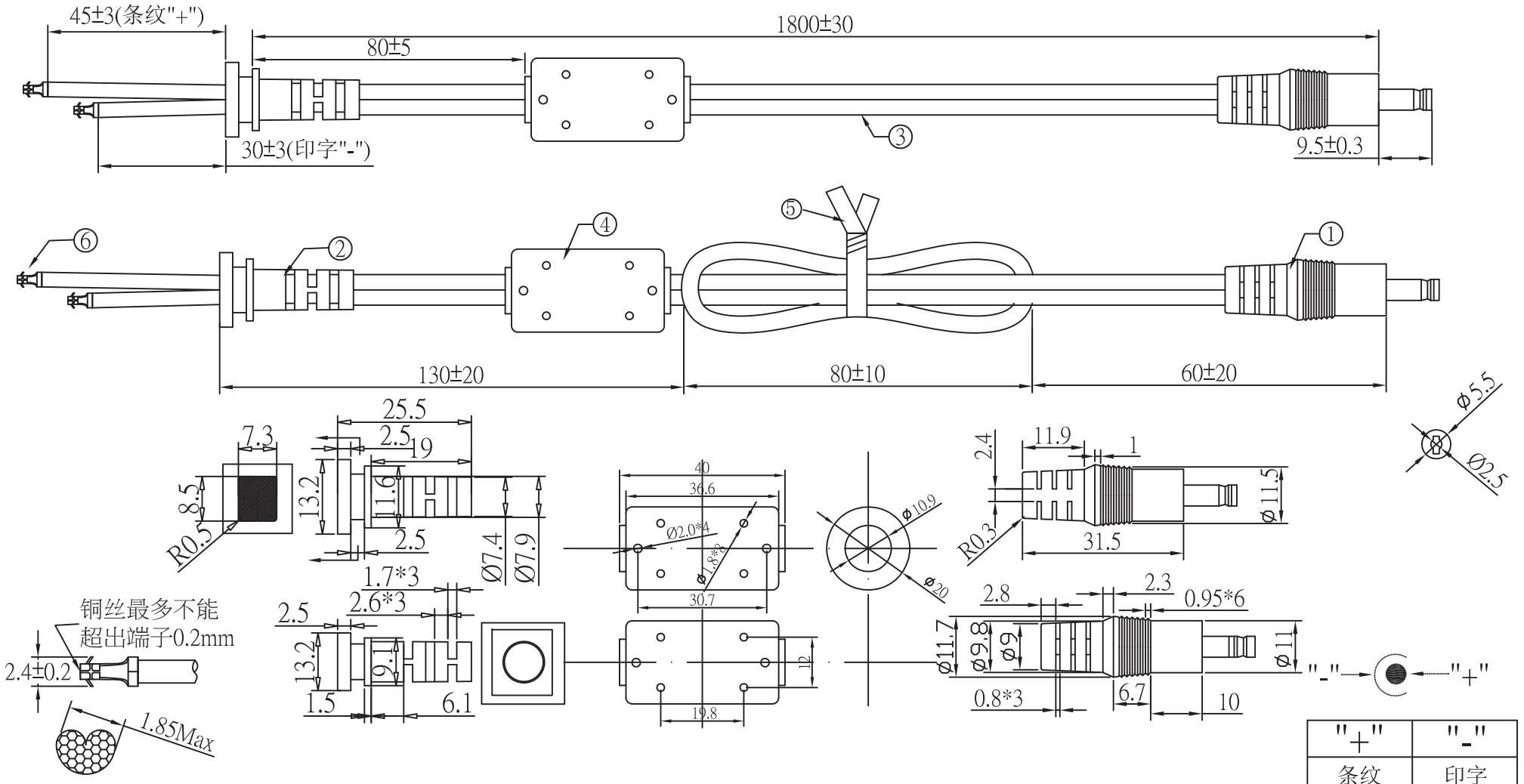
A.	Model Number	:	ATS065T-P240 (24V/2.71A/65W)
B.	DC Power Cord	:	UL1185 , 18AWG ,1.5M
C.	Average Efficiency	:	
	LEVEL VI		Eff (av) ≧ 88%
D.	NO Load Power Consumpti	:	
	LEVEL VI		0.21W max.
E.	Testing Dequipment	:	
	1. AC Power Source	:	" ALL POWER " APW-110N
	2. Electronic Load	:	" PRODIGIT " 3311F
	3. Power Meter	:	"YOKOGAWA " WT310
	4. Digital Meter	:	" FLUKE " 179
F.	AC Input Voltage	:	115Vac/60Hz

Load Conditions	100%* I_0	75%* I_0	50%* I_0	25%* I_0	0%* I_0
Rms Output Current(mA)	2710mA	2033mA	1355mA	678mA	0mA
Rms Output Voltage(V)	23.710V	23.790V	23.870V	23.940V	24.020V
Active Output Power(W)	64.25W	48.35W	32.34W	16.22W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V
Rms Input Current(A)	1.176A	0.932A	0.673A	0.375A	0.016A
Rms Input Power(W)	72.37W	53.97W	35.92W	17.99W	0.05W
Voltage T.H.D.(%)	0.57%	0.51%	0.42%	0.28%	0.11%
True Power Factor	0.533	0.503	0.464	0.416	0.065
Power Consumed by UUT(W)	8.12W	5.62W	3.58W	1.77W	0.05W
Efficiency	88.79%	89.59%	90.04%	90.16%	*
Average Efficiency	89.64%				*

G. AC Input Voltage : 230Vac/50Hz

Load Conditions	100%* I_0	75%* I_0	50%* I_0	25%* I_0	0%* I_0
Rms Output Current(mA)	2710mA	2033mA	1355mA	678mA	0mA
Rms Output Voltage(V)	23.690V	23.760V	23.850V	23.930V	24.020V
Active Output Power(W)	64.20W	48.29W	32.32W	16.21W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V
Rms Input Current(A)	0.733A	0.565A	0.390A	0.209A	0.024A
Rms Input Power(W)	71.32W	53.85W	35.78W	18.01W	0.09W
Voltage T.H.D.(%)	0.50%	0.41%	0.32%	0.23%	0.11%
True Power Factor	0.428	0.419	0.399	0.373	0.022
Power Consumed by UUT(W)	7.12W	5.56W	3.46W	1.80W	0.06W
Efficiency	90.05%	89.72%	90.39%	90.16%	*
Average Efficiency	90.08%				*

Tester :Sun



注意:此圖面所需材料符合"ROHS"標準

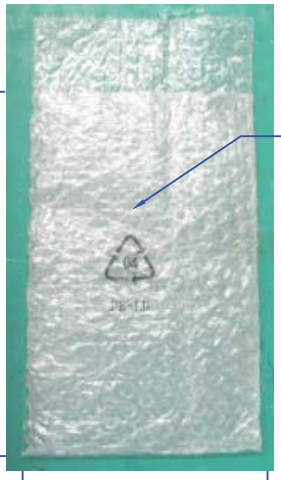
① 5.5*2.5*23音叉車溝黑色半邊,外模P-184號模(二次成型),用料外PVC60P黑色
② SR-348(A)號模,用料PVC60P黑色,吊重:1米/20磅/60秒
③ UL 2468 18AWG(0.16*41)*2C BK OD:2.2*4.4 裁線長度:1860+10/-0
④ 鐵芯規格:14.2*28.5*6.35 ,外模SR-118號模用料PVC60P黑色
⑤ PE无鐵芯紮帶10CM黑色
⑥ 1.8双钩机板端*2PCS(进文提供:P1815-A)
⑦ 單位:MM

一 般 公 差 表			
1.0mm以下	±0.1mm	15.0mm以下	±0.6mm
2.0mm以下	±0.15mm	20.0mm以下	±0.8mm
3.0mm以下	±0.20mm	30.0mm以下	±1.0mm
10.0mm以下	±0.5mm	30.0mm以上	±1.2mm

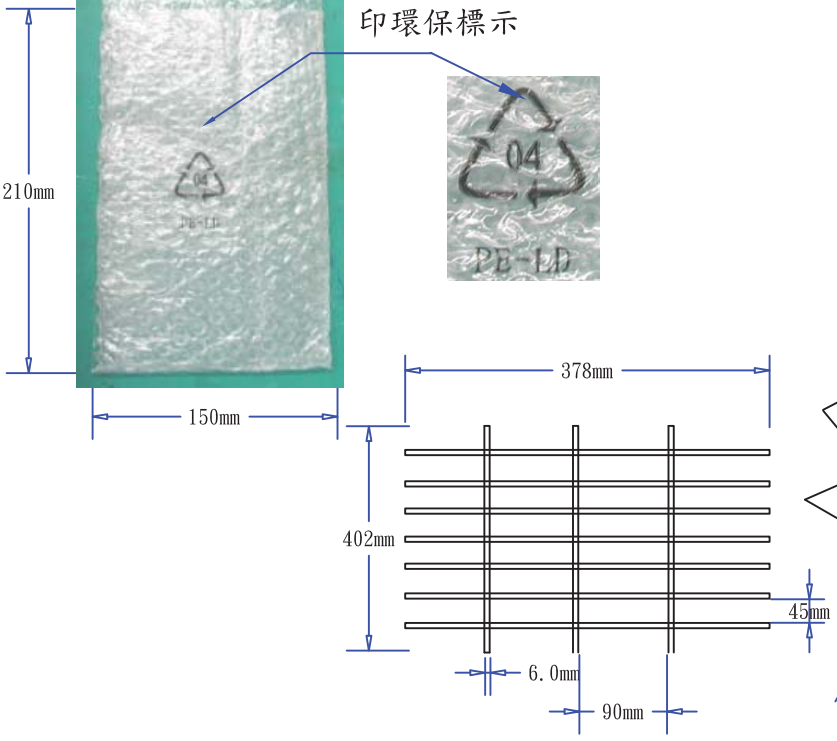
版次	变更内容	日期
02	增加端子	2015/11/14
01	新出	2009/08/17

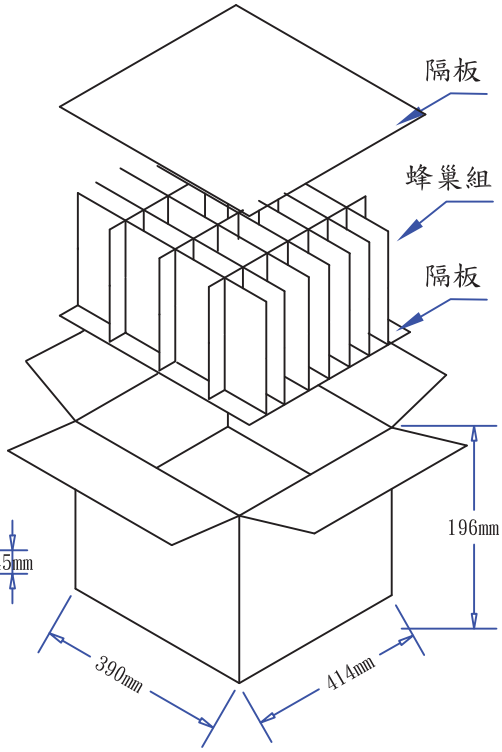
料號	R44L1G1801A		
客戶	阿達特	制圖	潘胜
頁數	01	審核	
		批準	
泰岳電子有限公司			
圖號	ADT-1418	日期	2015/11/14

REVISIONS				
SHOW	REV	DESCRIPTION	DATE	APPROVED
△0	A	依阿達特尺寸,初版制作	2012/09/13	



汽泡袋中間
印環保標示





零件料號

9550016401	1. 隔板:402*378*6mm k=k 2/32		
	2. 數量:32PCS		
9520021901	3. 外箱:L*W*H=414*390*196mm	k=k	1/32
9560018301	4. 七刀卡:402*160*6mm(中分)	k=k	3塊/32
9560018401	5. 三刀卡:378*160*6mm(中分)	k=k	7塊/32
9540000901	6. 环保气泡袋:210*150mm*47mm	無色透明,短边單端開口,長邊中間位置印環保標志	

7. 外箱標注為外徑尺寸.
8. 成品裝入气泡袋,銘板面位於環保標志側,折合袋口后用小胶纸封口
9. 成品豎向側立裝入蜂巢內,方向須統一.

阿達特科技股份有限公司	DRAWING NO. PIS36W00019		APPROVAL 1 BY		
	UNIT mm	MODEL NO. 36W~65W	APPROVAL 2 BY		
		FILE NO. ADT-0121	CHECKED BY(ENGINEER)		DATE: 2009/06/18
	SCALE	REV. A SHEET 1/1	DRAWN BY	王月才	DATE: 2012/09/13