



Specification for Approval

Customer : AKON CO.,LTD.

Part Name : AC ADAPTER

Description : 24.0 Volts / 8.3 Amps

Model No. : ATS200A1-P240 (Level VI)

Customer P / N :

Product P / N : ATS200A1P240D15204

Issued Date : 13 – Oct. – 2023

Version : A1

Issued Stamp :

Customer's approval signature

ADAPTER TECHNOLOGY CO.,LTD.

Office (Taiwan) : 6F,No.258, Liancheng Rd.,Zhonghe District,New Taipei City 235,Taiwan (R.O.C.)

TEL : +886-2-8226-2279

FAX : +886-2-8226-2238

E-mail : service@ adaptertech.com.tw ; service_tw@ adaptertech.com.tw

Factory (China) : BOYANG ELECTRONICS CO., LTD.



199.2 W
Switching Power Adapter
SPECIFICATION

Model No. : **ATS200A1-P240 (Level VI)**

Description : **24.0 Volts / 8.3 Amps**

Part No. : **ATS200A1P240D15204**

Version : **A1**

Date : **13 – Oct. – 2023**

Approved	Reviewed	Checked	Prepared	Sales



1. Feature :

- ◆ **Input** : Universal 100 ~ 240 Vac / 50 ~ 60 Hz Input, without any slide switch.
- ◆ **Output** : +24.0 V / 0 ~ 8.3 A
- ◆ **Case Dimension** : 175.2(L) * 74.0(W) * 42.0(H) mm ± 1 mm
- ◆ **Efficiency** : Eff_(av) ≥ 88%
Eff ≥ 79%@10% load
- ◆ **Safety** : UL / CUL / GS / PSE / BSMI / UKCA
- ◆ **EMC** : CE / FCC (conduction & radiation Class B)
- ◆ **Protection** : OVP (Over Voltage Protection) 、 SCP (Short Circuit Protection) 、
OCP (Over Current Protection) 、 OTP (Over Temperature Protection)
- ◆ **Suitable for usage at I.T.E., industrial controller**
- ◆ **Meet DoE Level VI/ ErP (Lot 7) / GEMS / NRCan.**

2. Input :

2.1 Voltage	Universal 100 ~ 240 Vac , single phase
2.2 Frequency	50 ~ 60 Hz
2.3 Current	2.4 A Max.
2.4 Inrush Current	100 A max. / 230 Vac (Cold start at 25°C , full load) (ac source chroma 6530)
2.5 Efficiency	Eff _(av) ≥ 88% (At 115 Vac & 230 Vac) Eff ≥ 79%@10% load
2.6 Power Consumption	Pi ≤ 0.21 W (At 115 Vac & 230 Vac & At No load)
2.7 Power Factor (PF)	Pi ≥ 0.9 (At 115 Vac & 230 Vac, At Full load)

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

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

3. Output :

3.1 DC Output	Voltage	+24.0 V ± 5%
	Current	8.3 A Max.
	Regulation	22.8 Vmin. ~ 24.0 Vtyp. ~ 25.2 Vmax.
	Ripple & Noise	240 mVp-p max.
	Total Power	199.2 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. (47 μF) at output connector terminals. (At nominal line voltage, full load)



4. Protection :

4.1 Over Voltage Protection (OVP)	Vout * 150% max., latch off.(50% Load)
4.2 Over Current Protection(OCP)	Iout * 180% max. Autorecovery
4.3 Short Circuit Protection (SCP)	Autorecovery
4.4 Over Temperature Protection (OTP)	Autorecovery

5. Safety requirement :

5.1. Dielectric strength : Cut off current 10 mA

(1)	Primary to secondary	3000 Vac (RMS) for 1 minute
(2)	Primary to Frame Ground	1770 Vac (RMS) for 1 minute
※ Secondary return isolated to FG		

5.2. Insulation resistance :

(1)	Primary to secondary	10 MΩ for 500 Vdc
(2)	Primary to Frame Ground	10 MΩ for 500 Vdc
※ Secondary return isolated to FG		

5.3 Leakage Current : Less than 3.5 mA

5.4 Grounding test : < 0.1 Ω

6. Operation and environment performance :

6.1 Temperature range

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

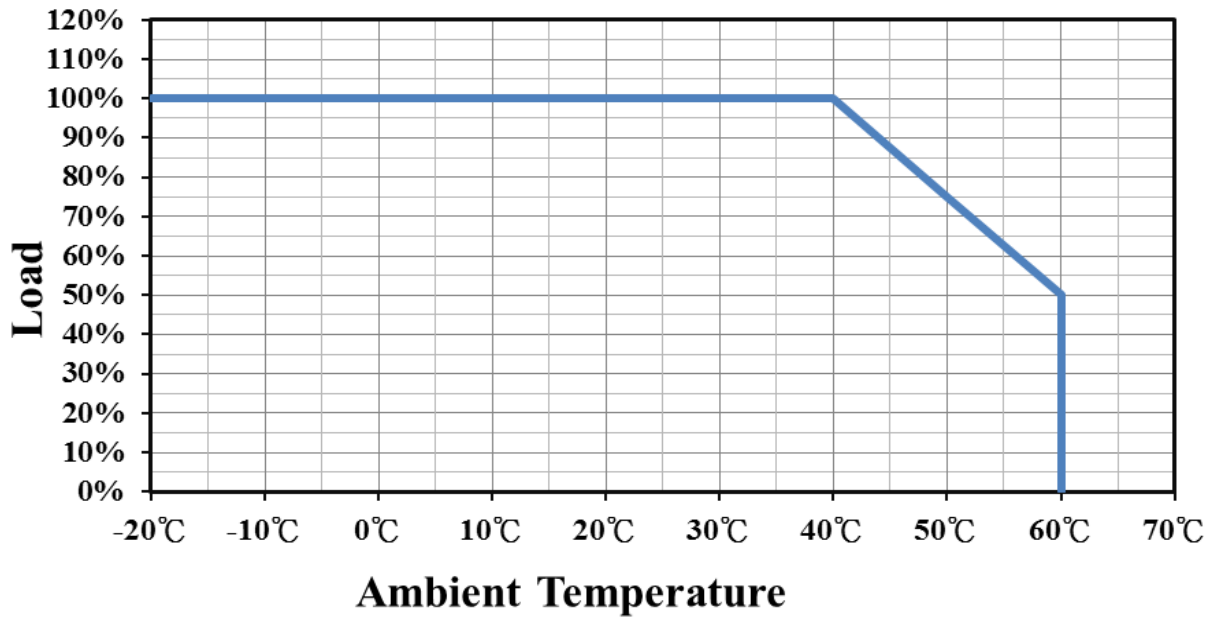
6.2 Humidity range (non-condensing)

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

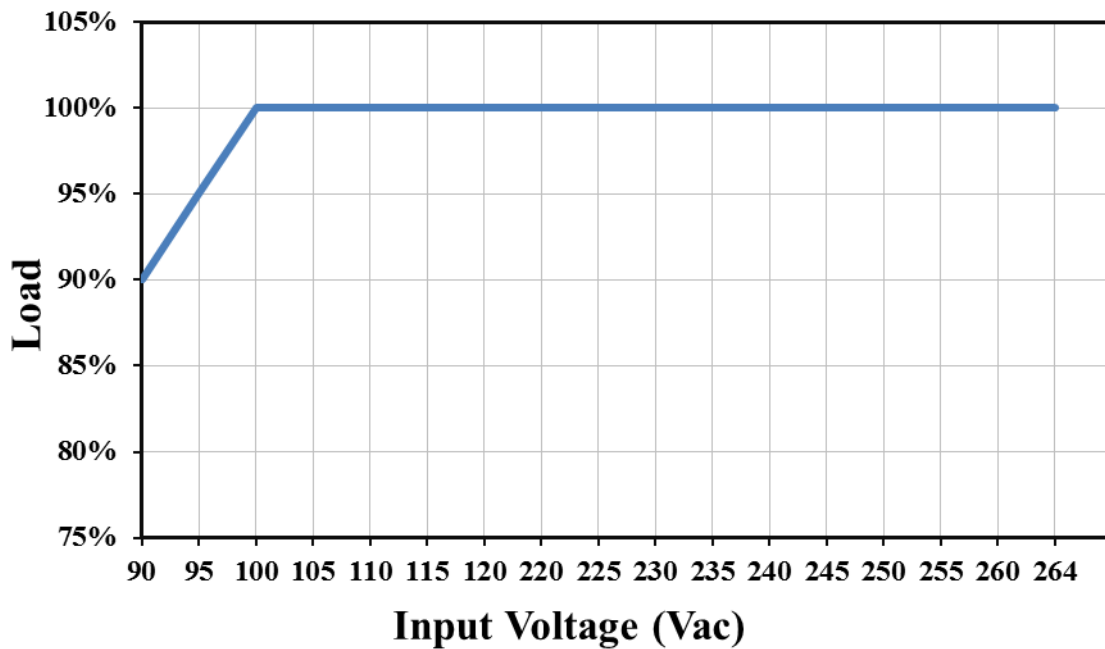
6.3 Cooling : By natural air.

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

8. Derating Curve :



9. Static Characteristics :



10. Mechanical :

10.1 Weight : 738 g Ref.

10.2 Cable type : Black UL2464 18 AWG * 4C
(wire + plug)

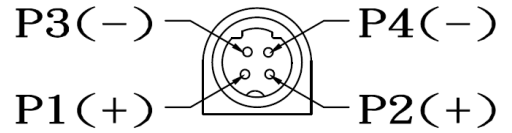
Plug : 4 Pin Din

10.3 Cable length : 1500 mm

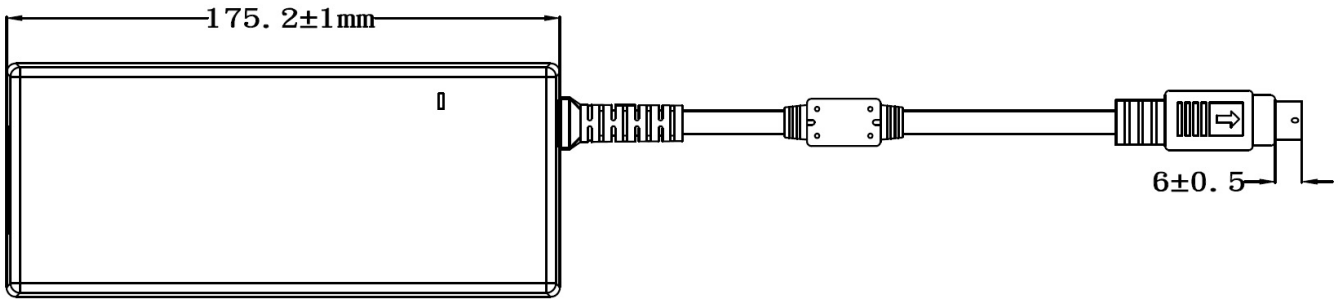
10.4 Case dimension : 175.2 (L) * 74.0 (W) * 42.0 (H) mm \pm 1 mm

10.5 Material flammability : UL 94V-0

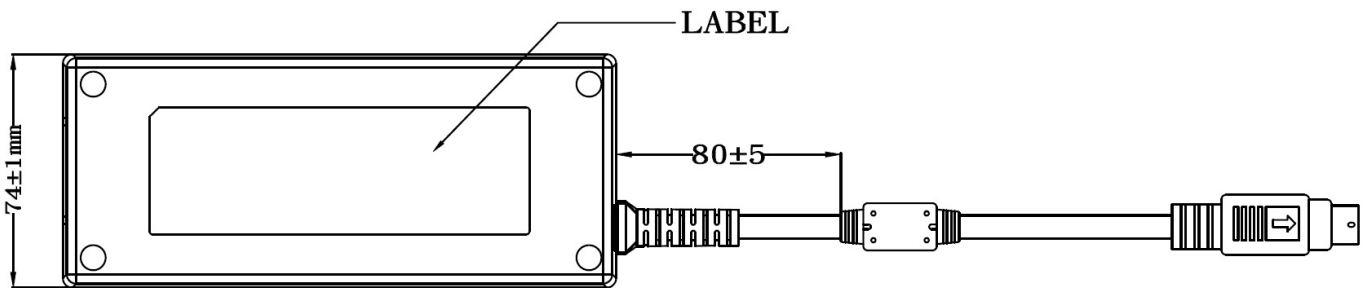
10.6 External appearance : As drawing below (scale \rightarrow mm)



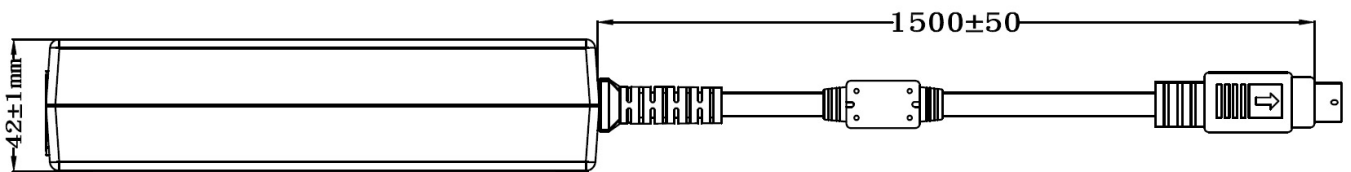
Output cable plug pin assignment



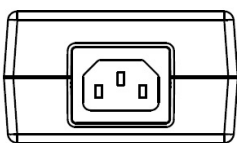
TOP-VIEW



BOTTOM-VIEW



SIDE-VIEW



FRONT-VIEW

11. Label :

- 11.1 Label materials : Metalized polyester label (silver gloss)
- 11.2 Color : Black background with silver printing
- 11.3 Label dimension : 39.0 (L)mm * 119.0 (W)mm ± 0.2 mm
- 11.4 Label thickness : 75#

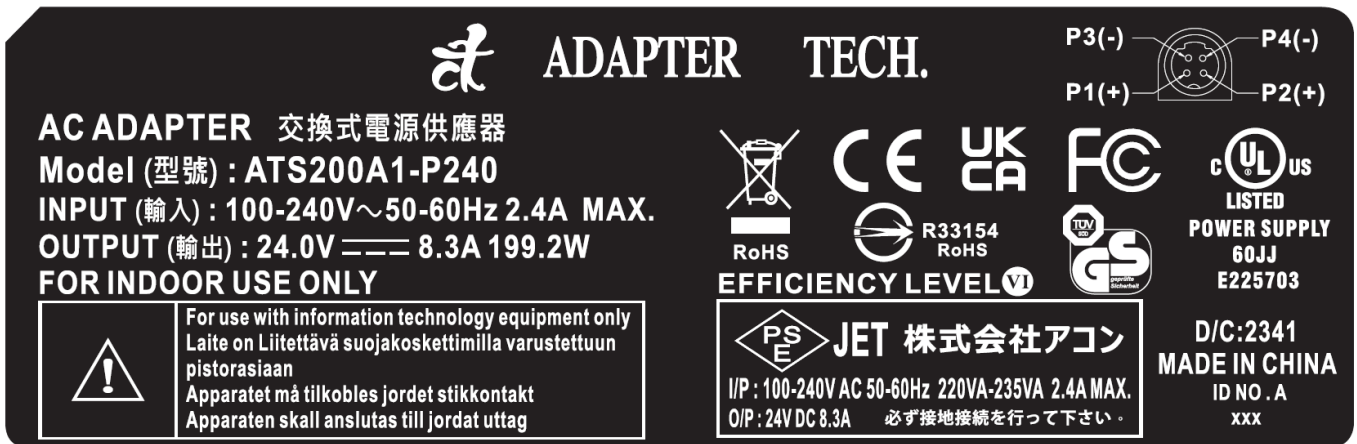
100%



"XXX"

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

160%



Label Part No:9443130140



A. Line regulation test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
115 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
132 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
180 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
230 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
264 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V

B. Efficiency test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac	88% Min.	92.23%	92.30%	92.25%
230 Vac	88% Min.	93.25%	93.28%	93.27%
230 Vac (10% Load)	79% Min.	84.87%	84.90%	84.90%

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

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	22.8 V ~ 25.2 V	24.01 V	24.03 V	24.00 V
115 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
115 Vac / 100% Load	22.8 V ~ 25.2 V	23.47 V	23.49 V	23.46 V
230 Vac / 0% Load	22.8 V ~ 25.2 V	24.01 V	24.03 V	24.00 V
230 Vac / 50% Load	22.8 V ~ 25.2 V	23.68 V	23.70 V	23.67 V
230 Vac / 100% Load	22.8 V ~ 25.2 V	23.47 V	23.49 V	23.46 V

D. Ripple & Noise test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	240 mV _{p-p} max.	83.2 mV _{p-p}	85.6 mV _{p-p}	86.6 mV _{p-p}
230 Vac / 100% Load	240 mV _{p-p} max.	72.6 mV _{p-p}	74.4 mV _{p-p}	75.5 mV _{p-p}



E. Inrush current

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230 Vac / 100% Load	100 A max.	80 A	79 A	81 A

F. Over voltage protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 50% Load	Vout * 150% max.	112%	112%	112%
230 Vac / 50% Load	Vout * 150% max.	112%	112%	112%

G. Over current protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac	Iout * 180% Max.	127%	127%	127%
230 Vac	Iout * 180% Max.	127%	127%	127%

H. Short circuit protection

Test result :

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

I. Input power consumption (no load)

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230 Vac / 0% Load	≤ 0.21 W	0.12 W	0.12 W	0.12 W

J. Power factor

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	≥ 0.9	0.99	0.99	0.99
230 Vac / 100% Load	≥ 0.9	0.95	0.95	0.95



Efficiency Test Report

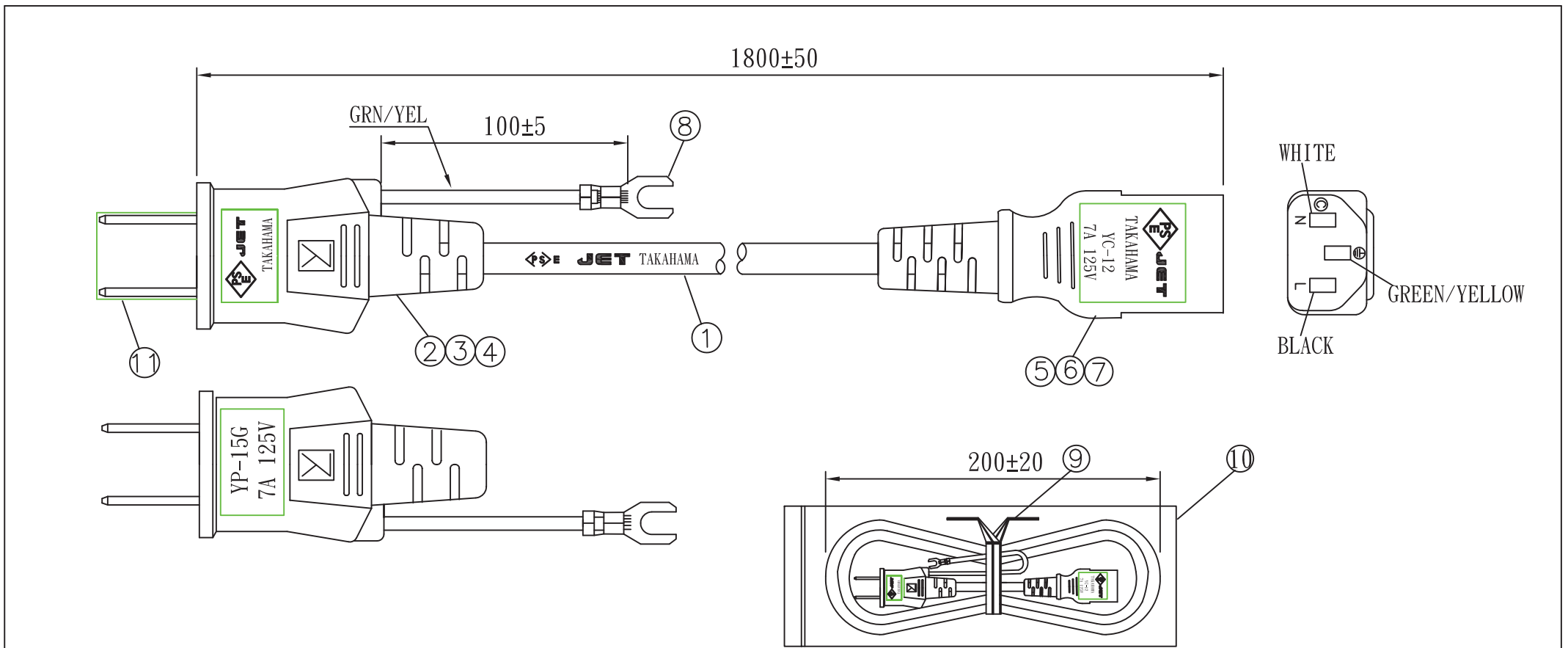
A.	Model Number	: ATS200A1-P240	24.0V	8.30A	199.20W
B.	DC Power Cord	: UL2464 18AWG * 4C, 1.5M			
C.	Average Efficiency	:			
	Erp (LOT 7)	88.0%	Min.		
	DoE Level VI	88.0%	Min.		
	GEMS Level VI	88.0%	Min.		
	CoC Tier 2	89.0%	Min.		
	CoC Tier 2 (10% Load)	79.0%	Min.		
D.	NO Load Power Consumption	:			
	Erp (LOT 7)	0.21W Max.			
	DoE Level VI	0.21W Max.			
	GEMS Level VI	0.21W Max.			
	CoC Tier 2	0.15W Max.			
E.	Testing Dequpiment	:			
	a. AC Power Source	: " Chroma " 61604			
	b. Electronic Load	: " PRODIGIT " 3311F			
	c. Power Meter	: " YOKOGAWA " WT-310A			
	d. Digital Meter	: " FLUKE " 45			
F.	AC Input Voltage	: 115Vac/60Hz			

Load Conditions 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)	8300mA	6225mA	4150mA	2075mA	830mA	0mA
Rms Output Voltage(V)	23.55V	23.66V	23.77V	23.87V	23.94V	23.98V
Active Output Power(W)	195.48W	147.29W	98.64W	49.54W	19.87W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V	115V
Rms Input Current(A)	1.878A	1.410A	0.952A	0.509A	0.235A	0.068A
Rms Input Power(W)	212.35W	158.87W	106.19W	54.28W	23.50W	0.10W
True Power Factor (PF)	0.988	0.983	0.973	0.929	0.870	0.007
Total Harmonic Distortion of the input current						
Power Consumed by UUT(W)	16.87W	11.58W	7.55W	4.74W	3.63W	0.10W
Active Efficiency	92.054%	92.712%	92.889%	91.266%	84.539%	*
Average Efficiency	92.230%				84.539%	*

G. AC Input Voltage : 230Vac/50Hz

Load Conditions 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)	8300mA	6225mA	4150mA	2075mA	830mA	0mA
Rms Output Voltage(V)	23.55V	23.66V	23.77V	23.87V	23.94V	23.98V
Active Output Power(W)	195.49W	147.29W	98.64W	49.54W	19.87W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V	230V
Rms Input Current(A)	0.950A	0.728A	0.511A	0.301A	0.187A	0.111A
Rms Input Power(W)	208.43W	156.59W	105.18W	54.20W	23.41W	0.12W
True Power Factor (PF)	0.956	0.936	0.896	0.785	0.545	0.002
Total Harmonic Distortion of the input current						
Power Consumed by UUT(W)	12.94W	9.30W	6.54W	4.66W	3.54W	0.12W
Active Efficiency	93.790%	94.064%	93.782%	91.401%	84.872%	*
Average Efficiency	93.259%				84.872%	*

Tester : Jeff



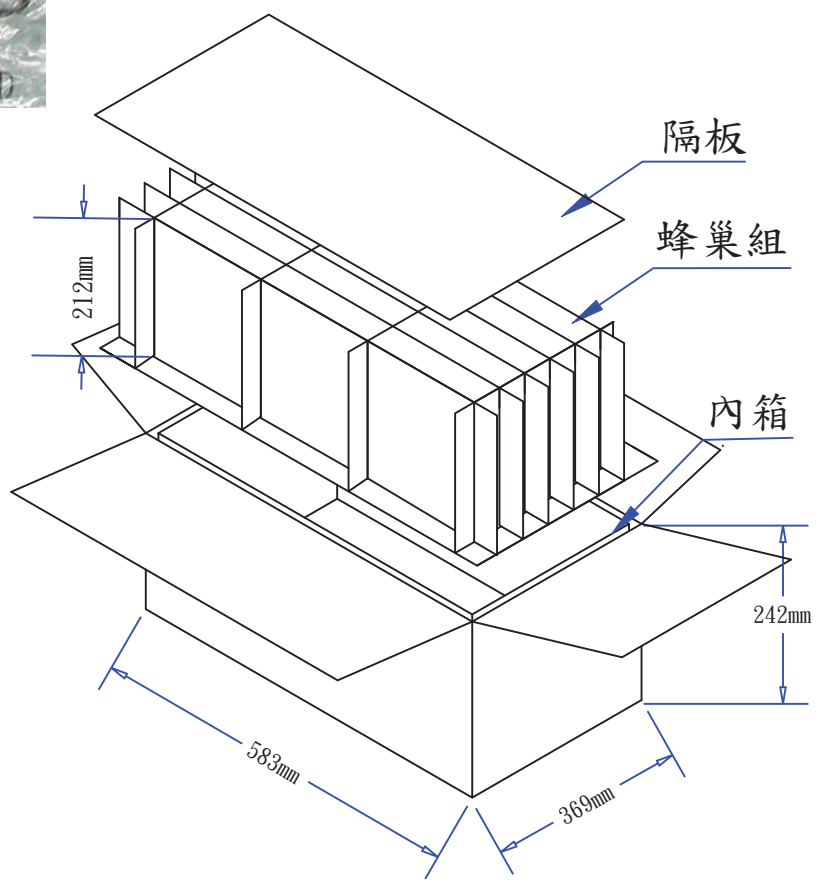
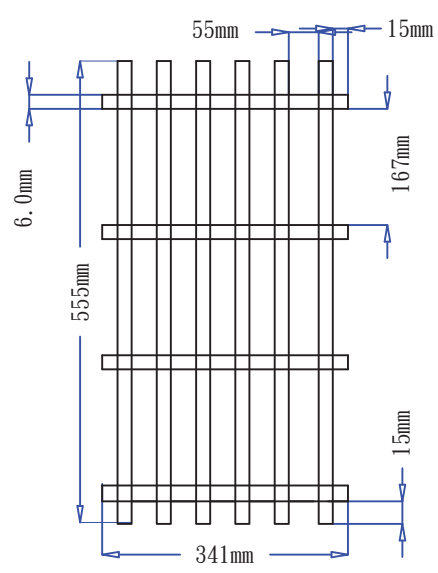
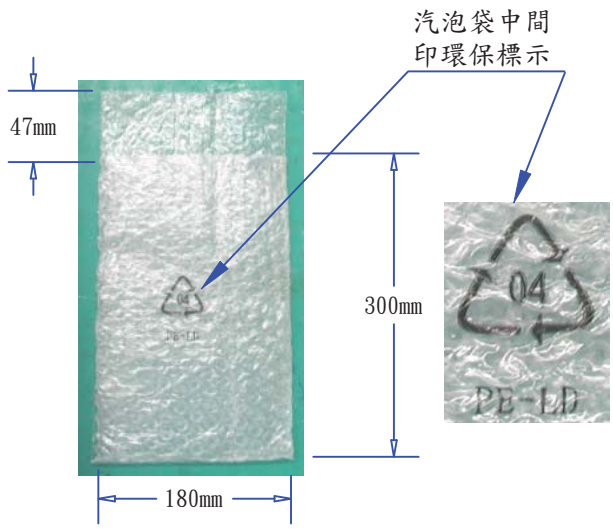
NO.	SPECIFICATION	Q' TY	REMARK
1	VCTF 0.75/3C BLACK PSE	1PC	
2	YP-15G TER:98675BS-1	2PCS	
3	TP-15G INNER BODY	1PC	
4	YP-15G PVC PLASTIC:50P BLACK	23g/PC	
5	YC-12 PVC PLASTIC:50P BLACK	18g/PC	
6	YC-12 TER:97740PS-0	3PCS	
7	YC-12 INNER BODY	1PC	
8	"Y"TER:96552BS-2	1PC	
9	MINI TIE:L=130mm	1PC	
10	LOCK BAG:250*110*0.04mm	1PC	
11	SLEEVE WHITE	1PC	

CORD MARKING:

《P》E JET TAKAHAMA VCTF 3G 0.75mm² 20XX -F-

Tolerance >0±0.30 >1.0±0.50 >10.0±1.0 >20.0±2.0 Angle: ±1°	Approved	Date		YUNG LI CO.,LTD					
	Checked	Date							
	Drawn	黃 方	Date	15.12.24	Customer	阿達特			
	Cat. No.	YP-15G/YC-12			P/N.	R427A218011			
	Drawing No.	CY-P0335		Rev.	B	Material	P.V.C	Unit	mm
						HEFT(g)			

<input checked="" type="checkbox"/> 用膠帶封口 <input type="checkbox"/> 無需膠帶封口	REVISIONS				
	SHOW	REV	DESCRIPTION	DATE	APPROVED
	△	A	初版制作	20/11/07	SUN



PIS160W0009 包裝(FOR 160W+AC CORD)(K=K)-環保雙面氣泡袋-內箱-邊分-15

- 9550046401 1. 隔板:555(L)*341(W)*6mm K=K 2/15
- 9520073001 2. 數量:3*5*1=15PCS
- 9520073101 3. 內箱:569(L)*355(W)*224(H)mm(無上下蓋) K=K 1/15
- 9560044801 4. 外箱:583(L)*369(W)*242(H)mm K=K 1/15
- 9560044901 5. 4刀卡:555(L)*212(W)*6mm(邊分) K=K 6/15
- 9540005101 6. 6刀卡:341(L)*212(W)*6mm(邊分) K=K 4/15
- 7. 環保雙面汽泡袋:300(L)*180(W)*47mm 無色透明, 中間位置須加印環保標示. 1/1
- 8. 將成品放入氣泡袋中, 銘板與環保標示同一側, SR部份朝上裝入蜂巢內, AC線裝入蜂巢位於DC線側, 方向須統一.
- 9. 外箱標示為外徑尺寸, 以上材料需符合RoHS標準.



阿達特科技股份有限公司
Adapter Technology Co., Ltd.

DRAWING NO. PIS160W0009		APPROVAL 1 BY		
UNIT	MODEL NO 160W+AC CORD+內箱	APPROVAL 2 BY		
mm	FILE NO. ADT-0713	CHECKED BY(ENGINEER)	Sun	2020/11/07
SCALE	REV. A	SHEET 1/1	DRAWN BY	Moon
	Apply for sales	Apply for engineer	Use the sales	Use the engineer



Adapter Technology Co, Ltd

11. Label

11.1 Label materials : Metalized polyester label (silver gloss)

11.2 Color : Black background with silver printing

11.3 Label dimension : 39 mm(H)*119 mm(W)±0.2 mm

11.4 Label thickness : 75#

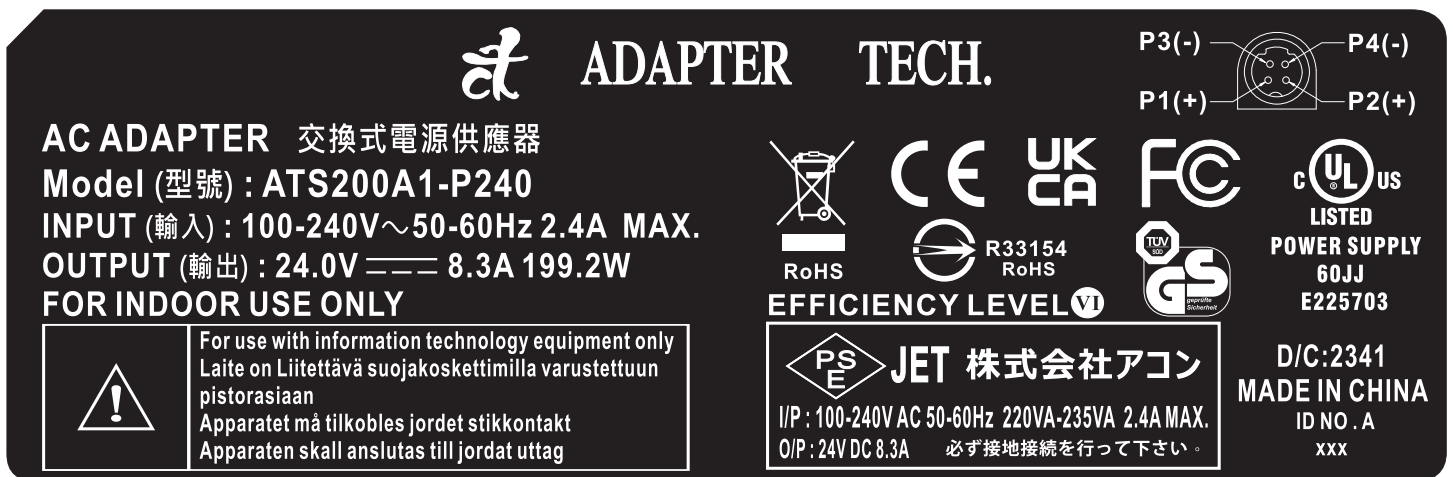
100%



"XXX"

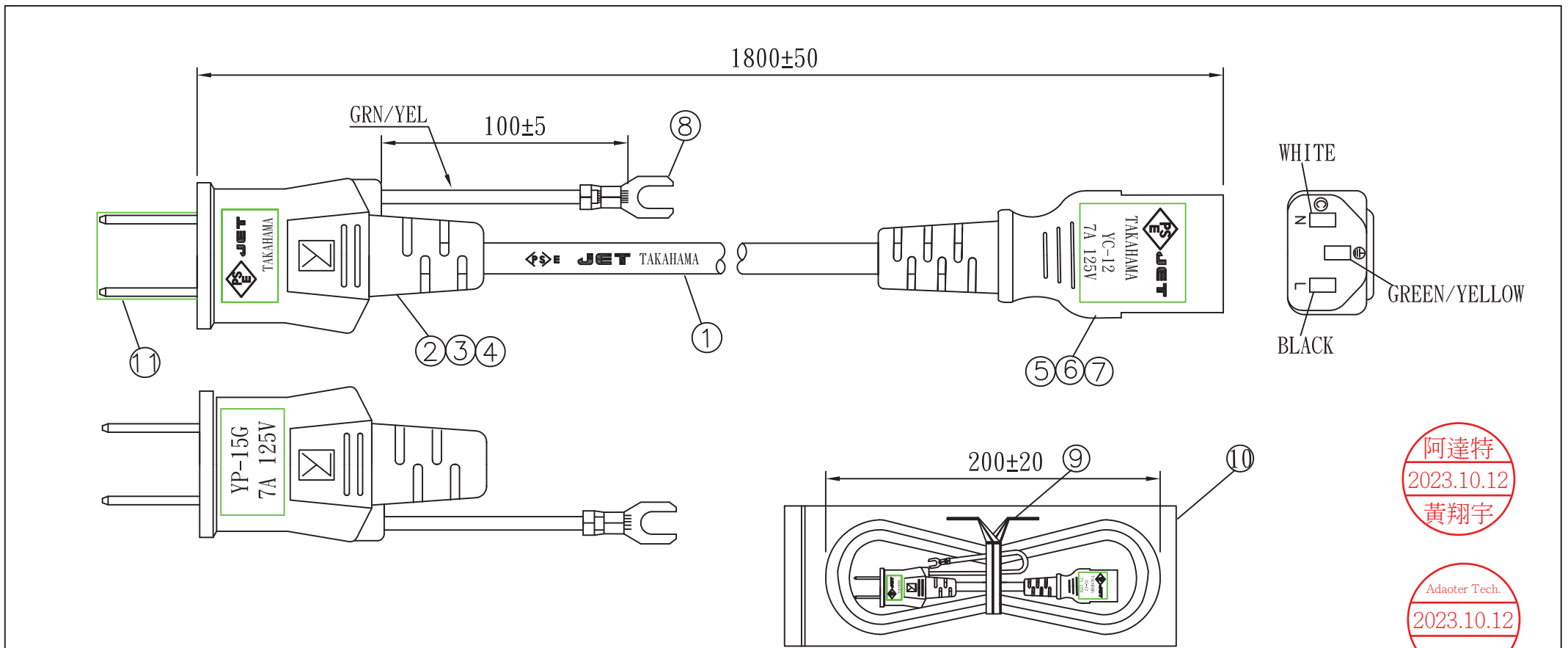
Label supplier's code
It is accurate that the number
of words depends on the real
finished product

160%



Label Part No:9443130140





阿達特
2023.10.12
黃翔宇

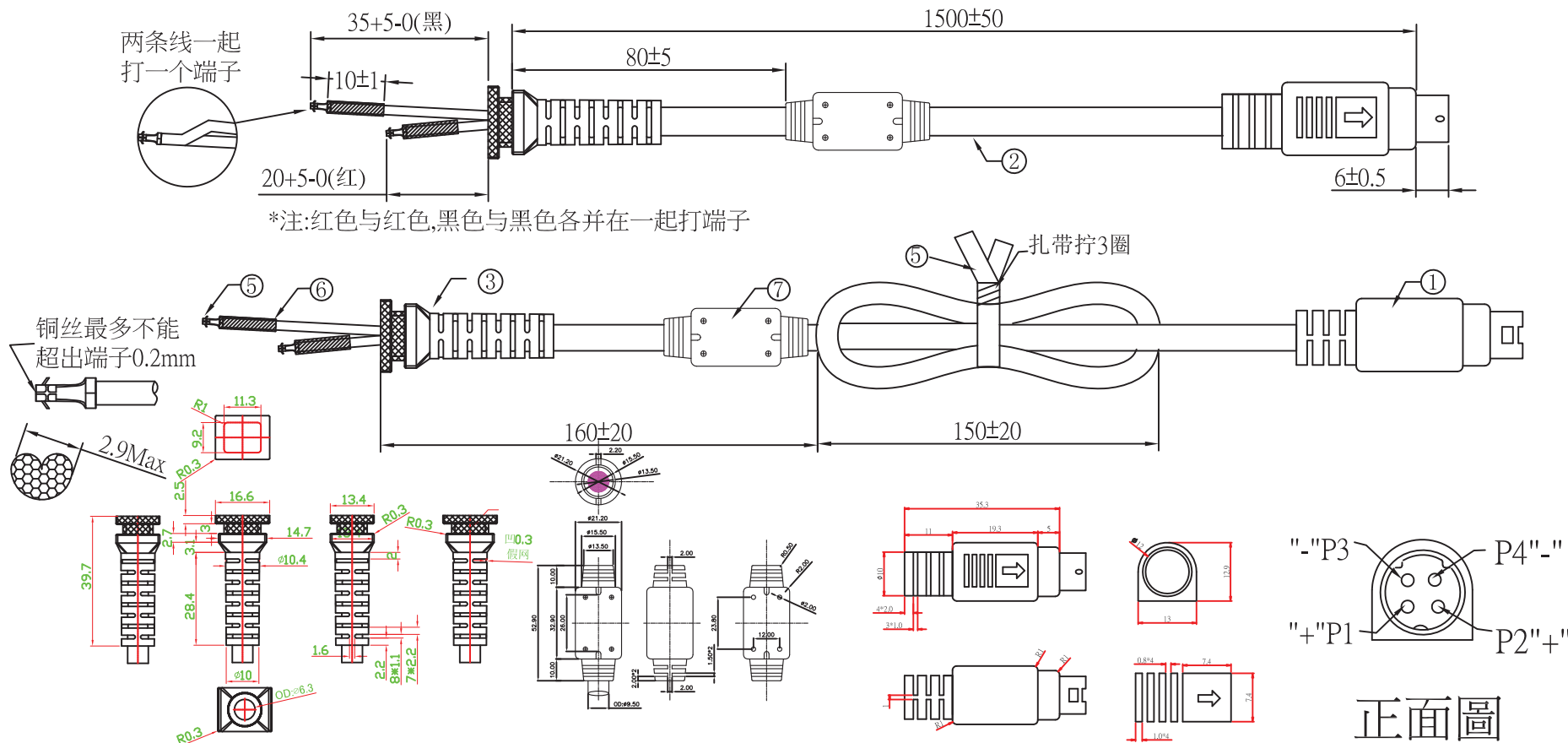
Adaoter Tech.
2023.10.12
Steven Liao

NO.	SPECIFICATION	Q' TY	REMARK
1	VCTF 0.75/3C BLACK PSE	1PC	
2	YP-15G TER:98675BS-1	2PCS	
3	TP-15G INNER BODY	1PC	
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5	YC-12 PVC PLASTIC:50P BLACK	18g/PC	
6	YC-12 TER:97740PS-0	3PCS	
7	YC-12 INNER BODY	1PC	
8	"Y"TER:96552BS-2	1PC	
9	MINI TIE:L=130mm	1PC	
10	LOCK BAG:250*110*0.04mm	1PC	
11	SLEEVE WHITE	1PC	

CORD MARKING:

《P》E JET TAKAHAMA VCTF 3G 0.75mm² 20XX -F-

Tolerance >0±0.30 >1.0±0.50 >10.0±1.0 >20.0±2.0 Angle: ±1°	Approved	Date		YUNG LI CO.,LTD				
	Checked	Date						
	Drawn	黃方	Date	15.12.24	Customer	阿達特		
	Cat. No.	YP-15G/YC-12			P/N.	R427A218011		
Drawing No.	CY-P0335		Rev.	B	Material	P.V.C	Unit	mm
					HEFT(g)		⊕	≡



注意:此圖面所需材料符合"ROHS"標準

- ① 4PIN 粗針成型式, 外模P-180号模(二次成型), 单箭头, 大网尾, 用料PVC 60P 黑色
- ② UL 2464 18AWG(0.16*41)*4C(紅,紅,黑,黑)过粉线 BK亮 OD:6.3 裁線長度:1560+10/-0
- ③ SR-BY-029号模(阿达特模号: 外模:SR-A002002/内模:SR-A002002-IN) (二次成型), 外模用料PVC75P黑色, 内模用料PVC25P黑色,吊重:1米/20磅/60秒
- ④ PE无鐵芯紮帶14CM
- ⑤ 2.9双钩机板端*2PCS(进文提供:P1811-U)
- ⑥ 热缩套管(黑色): $\phi 4*10*2$ Pcs
- ⑦ 铁芯规格:16*28.5*8,外模T-A367号模,用料PVC 60P 黑色
- ⑧ 單位:MM

注:BY-029(SR-A002002)&BY-030(SR-A002003)共用内模SR-002002-IN

Adaoter Tech.
2023.10.12
Steven Liao

阿達特
2023.10.12
黃翔宇

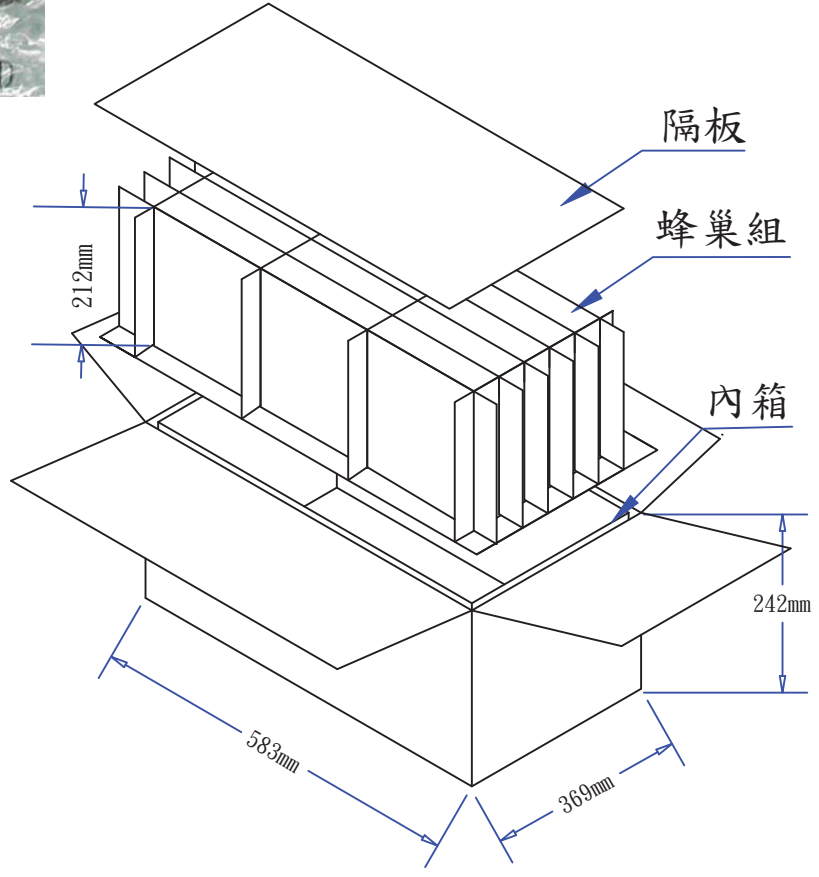
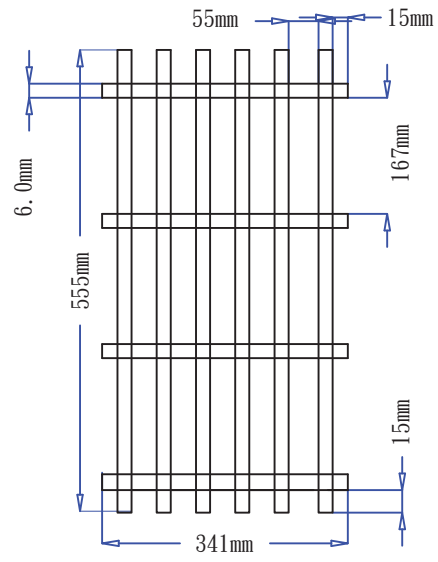
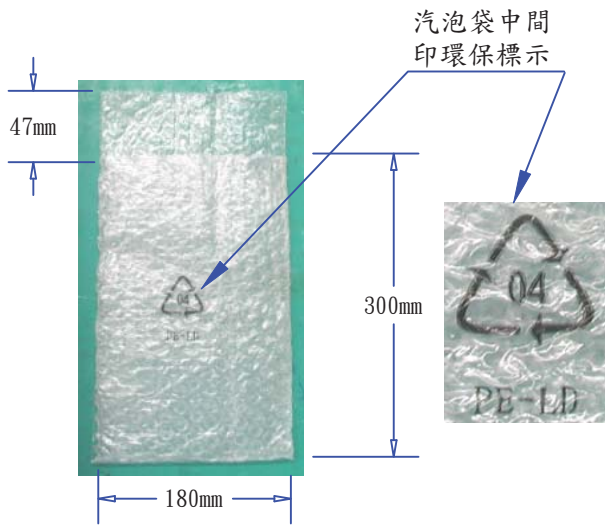
芯線	紅色&紅色	黑色&黑色
PIN	P1&P2"+"	P3&P4"-"

1.0mm以下	± 0.1 mm	15.0mm以下	± 0.6 mm
2.0mm以下	± 0.15 mm	20.0mm以下	± 0.8 mm
3.0mm以下	± 0.20 mm	30.0mm以下	± 1.0 mm
10.0mm以下	± 0.50 mm	30.0mm以上	± 1.2 mm

03	變更SR后留正負公差	2022/12/22
02	變更套管	2022/06/06
01	新出	2022/03/09
版次	變更內容	日期

料號	X44R10E150118		
客戶	阿達特	制圖	陶勝英
頁數	01	審核	
		批准	
泰岳電子有限公司			
圖號	ADT-7043	日期	2022/12/22

<input checked="" type="checkbox"/> 用膠帶封口 <input type="checkbox"/> 無需膠帶封口	REVISIONS				
	SHOW	REV	DESCRIPTION	DATE	APPROVED
	△	A	初版制作	20/11/07	SUN



PIS160W0009 包裝(FOR 160W+AC CORD)(K=K)-環保雙面氣泡袋-內箱-邊分-15

- | | | | |
|----------------------------|------------------------------------|-----|------|
| 9550046401 | 1. 隔板:555(L)*341(W)*6mm | K=K | 2/15 |
| 9520073001 | 2. 數量:3*5*1=15PCS | | |
| 9520073101 | 3. 內箱:569(L)*355(W)*224(H)mm(無上下蓋) | K=K | 1/15 |
| 9560044801 | 4. 外箱:583(L)*369(W)*242(H)mm | K=K | 1/15 |
| 9560044901 | 5. 4刀卡:555(L)*212(W)*6mm(邊分) | K=K | 6/15 |
| 9540005101 | 6. 6刀卡:341(L)*212(W)*6mm(邊分) | K=K | 4/15 |
7. 環保雙面汽泡袋:300(L)*180(W)*47mm 無色透明, 中間位置須加印環保標示. 1/1
 8. 將成品放入氣泡袋中, 銘板與環保標示同一側, SR部份朝上裝入蜂巢內, AC線裝入蜂巢位於DC線側, 方向須統一.
 9. 外箱標示為外徑尺寸, 以上材料需符合RoHS標準.



阿達特科技股份有限公司
Adapter Technology Co., Ltd.

DRAWING NO. PIS160W0009		APPROVAL 1 BY		
UNIT	MODEL NO 160W+AC CORD+內箱	APPROVAL 2 BY		
mm	FILE NO. ADT-0713	CHECKED BY(ENGINEER)	Sun	2020/11/07
SCALE	REV. A	SHEET 1/1	DRAWN BY	Moon
				2020/11/07
Apply for sales		Apply for engineer		Use the sales