



Specification for Approval

Customer : ELFA AB

Part Name : AC ADAPTER

Description : 12 Volts / 12.5 Amps

Model No. : STD-12125 (LEVEL V)

Customer P / N : 69-234-84

Product P / N : RXTD12125D15202

Issued Date : 03 – Feb. – 2012

Version : A2

Issued Stamp :

Customer's Approval Signature

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

**Di Feng Gong Ye Qu 2 Hao,Xiasha Liuwu Village, Shipai Town, Dong Guan City,
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86-0769-8186-8338 ; 86-0769-8186-8900

FAX : 86-0769-8136-9009



<p style="text-align: center;">150W AC ADAPTER SPECIFICATION</p>

Model No. : **STD-12125 (LEVEL V)**

Description : **12Volts / 12.5 Amps**

Part No. : **RXTD12125D15202**

Version : **A2**

Date : **03 – Feb. – 2012**

Approved	Checked	Prepared



1. Feature :

- ◆ **Input** : Universal 100 ~ 240 Vac / 47 ~ 63 Hz Input, without any slide switch.
- ◆ **Output** : +12V / 0 ~ 12.5A
- ◆ **Case Dimension** : 175.2 (L) * 74 (W) * 42 (H) mm
- ◆ **Efficiency** : Eff (av) \geq 87%
- ◆ **Safety** : CUL / UL / GS / PSE / BSMI
- ◆ **EMI** : CE / FCC Class B; Conduction & Radiation Met.
- ◆ **Protection** : OVP (Over Voltage Protection), SCP (Short Circuit Protection), OCP (Over Current Protection), OTP (Over Temperature Protection)
- ◆ High frequency design, less power consumption.
- ◆ Suitable for usage at Telecommunication, Computer, Industrial Controller, & OA System.
- ◆ Meet Energy Star V / Erp (Stage 2) / MEPS V .

2. Input :

2.1 Voltage	Universal 100 ~ 240Vac, single phase
2.2 Frequency	47 ~ 63 Hz
2.3 Current	2.2 A Max.
2.4 Inrush Current	100 A Max. / 230Vac (Cold start at 25 °C, full load)
2.5 Efficiency	Eff (av) \geq 87% (At 115 Vac & 230 Vac)
2.6 Power Consumption	Pi \leq 0.5 W (At 230Vac & No load)
2.7 Power Factor (PF)	Pi \geq 0.9 (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	+12.00 V \pm 5%
	Current	12.5 A Max.
	Regulation	11.4 Vmin. ~ 12.0 Vtyp. ~ 12.6 Vmax.
	Ripple & Noise	240 mV Max.
	Total Power	150W 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. (10 μ F) at output connector terminals. (At nominal line voltage, full load)



4. Protection :

4.1 Over Voltage Protection (OVP)	Vout * (105% ~ 150%)
4.2 Short Circuit Protection (SCP)	Automatic recovery after short-circuit fault being removed
4.3 Over Current Protection(OCP)	Iout * (105% ~ 150%)
4.4 Over Temperature Protection (OTP)	OTP about 110 degree. Latch protection.

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 latch.

5. Safety 、EMI and EMC Requirement :

5.1 Safety Requirement

a. Safety : CUL / UL / GS / PSE / BSMI

b. Dielectric Strength : Cut off current 10mA

(1)	Primary to Secondary	1800Vac 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 Met.

5.3 Leakage Current : Less than 3.5mA

5.4 Grounding Test : Resistance 0.1 ohm Max. @ 25 A

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.

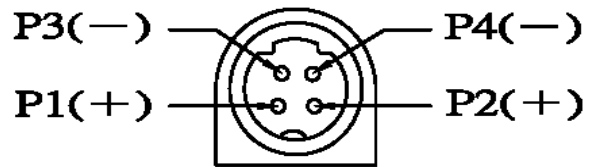
7. M.T.B.F. : 50,000 hours min. at 25°C, by MIL-HDBK-217F

8. Mechanical :

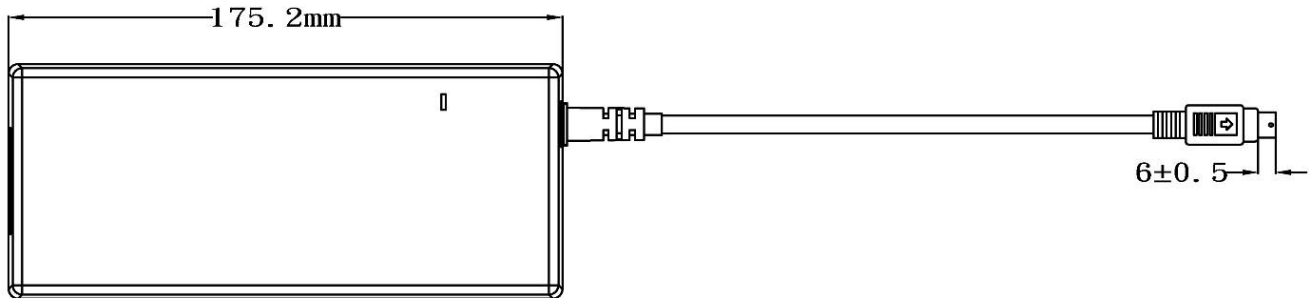
- 8.1 Weight : 700 g Typical
- 8.2 Cable Type : Black UL2464 AWG16
(Wire + Plug)

Plug : 4 Pin Din

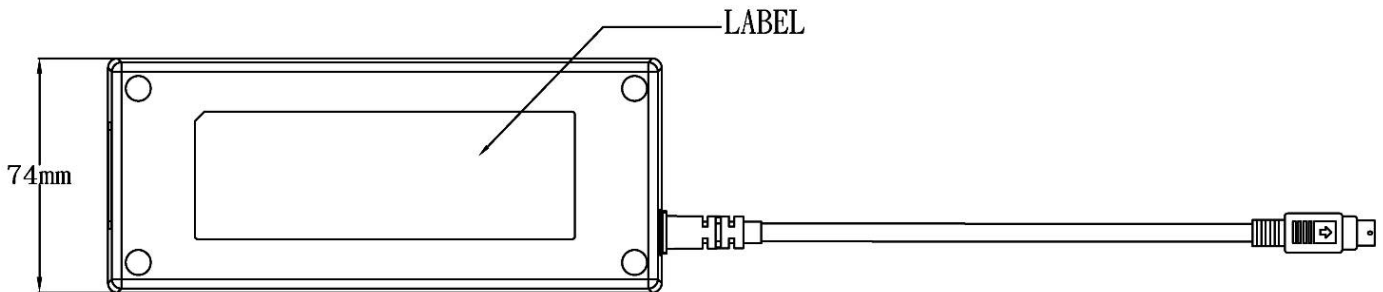
- 8.3 Cable Length : 1500 mm
- 8.4 Case Dimension : 175.2mm(L) *74 mm(W) * 42 mm(H)
- 8.5 Material Flammability : UL 94V-0
- 8.6 External Apperance : As drawing below (Scale → mm)



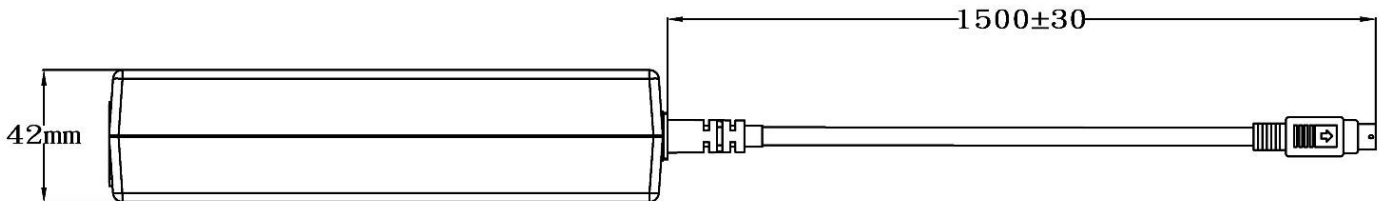
Output Cable Plug Pin Assignment



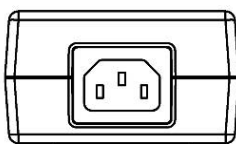
TOP-VIEW



BOTTOM-VIEW



SIDE-VIEW



FRONT-VIEW



Adapter Technology Co, Ltd

87 Spec Label Materials : Metalized Polyester Label (Silver Gloss)
 Color : Black Background with Silver Printing
 Label Dimension : 39mm(H)*119mm(W)

100%

NORDIC POWER

AC ADAPTER 交換式電源供應器
Model (型號) : STD-12125
INPUT (輸入) : 100-240V ~ 47-63Hz 2.2A MAX.
OUTPUT (輸出) : 12V $\overline{\text{---}}$ 12.5A
FOR INDOOR USE ONLY

For use with information technology equipment only
 Laite on Liitettävä suojamaadoituskoskettimilla
 varustettuun pistorasiaan
 Apparater må tilkobles jordet stikkontakt
 Apparaten skall anslutas till jordat uttag

RoHS R33154
EFFICIENCY LEVEL V

PS E JET
 I/P : AC 100-240V 50/60Hz 170VA-190VA 2.2A
 O/P : DC 12V 12.5A 必ず接地接続を行って下さい

P3(-) P4(-)
 P1(+) P2(+)

FC **UL US**
 LISTED
 I.T.E. POWER SUPPLY
 60JJ
 E225703

D/C:1120
MADE IN CHINA
 ID NO. A
 XXX
 ADAPTER TECH.

"XXX"

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

160%

NORDIC POWER

AC ADAPTER 交換式電源供應器
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FC **UL US**
 LISTED
 I.T.E. POWER SUPPLY
 60JJ
 E225703

D/C:1120
MADE IN CHINA
 ID NO. A
 XXX
 ADAPTER TECH.

Label Part No:9443030731
Rev: B



A. Line Regulation Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
90Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
115Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
132Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
180Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
230Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
264Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V

B. Efficiency Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac	87 % Min.	87.49%	87.84%	87.50%
230Vac	87 % Min.	88.80%	89.26%	88.74%

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

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
115Vac / 0 % Load	11.4 V ~ 12.6 V	12.12 V	12.11 V	12.22 V
115Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
115Vac / 100 % Load	11.4 V ~ 12.6 V	11.90 V	11.79 V	11.92 V
230Vac / 0 % Load	11.4 V ~ 12.6 V	12.12 V	12.10 V	12.22 V
230Vac / 50 % Load	11.4 V ~ 12.6 V	12.05 V	11.94 V	12.06 V
230Vac / 100 % Load	11.4 V ~ 12.6 V	11.90 V	11.79 V	11.92 V

D. Ripple & Noise Test

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	240 mV Max.	102 mV	112 mV	115 mV
230Vac / 100 % Load	240 mV Max.	104 mV	118 mV	121 mV



E. Inrush Current

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 100 % Load	100A Max.	79 A	77 A	78 A

F. Over Voltage Protection

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	Vout*(105%~150%)	124%	123%	123%
230Vac / 100 % Load	Vout*(105%~150%)	124%	123%	123%

G. Over Current Protection

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115Vac / 100 % Load	Iout*(105%~150%)	122%	125%	125%
230Vac / 100 % Load	Iout*(105%~150%)	122%	125%	125%

H. 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

I. Input Power Consumption(No Load)

Test Result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230Vac / 0 % Load	≤ 0.5 W	0.33W	0.34W	0.34W

J. Power Factor

Test Result :

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



Efficiency Test Report

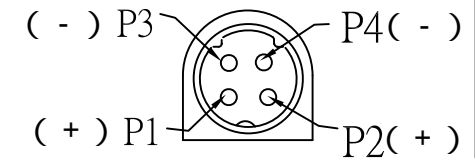
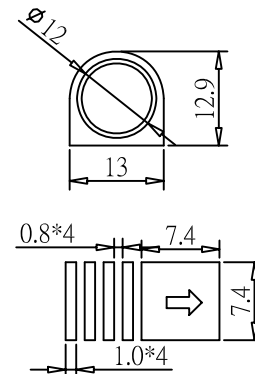
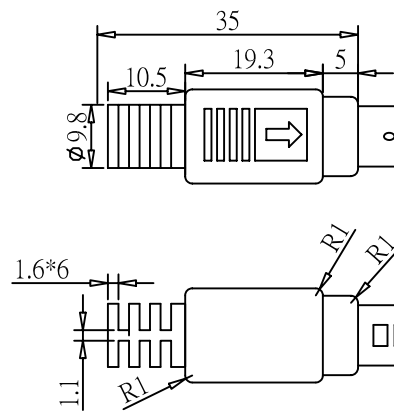
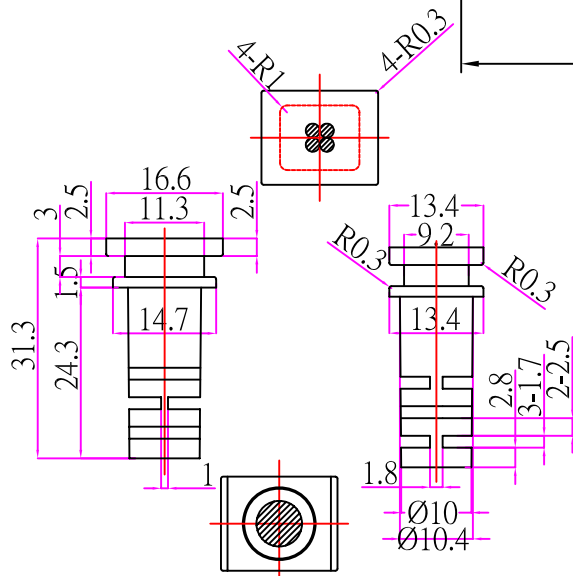
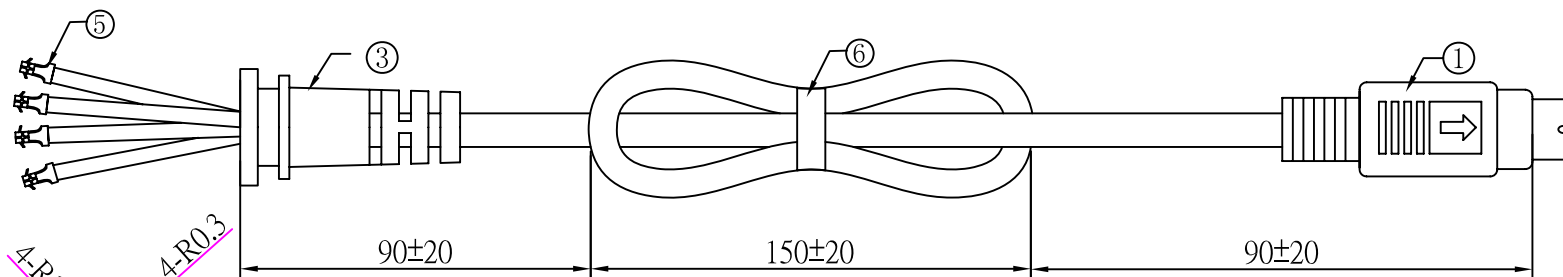
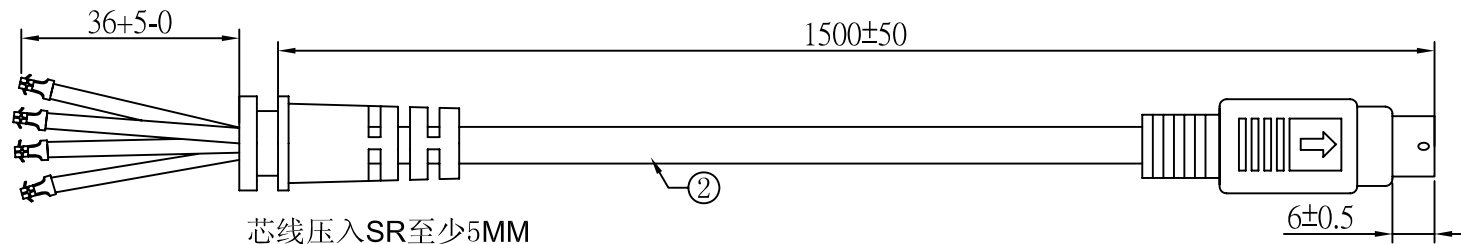
- A. Model Number : STD-12125(12V /12.5A /150 W)
- B. DC Power Cord : UL2464, 16AWG, 1500 mm
- C. Average Efficiency :
- Energy Star V 87 % Min.
- Erp (Stage 2) 87 % Min.
- MEPS V 87 % Min.
- D. NO Load Power Consumption :
- Energy Star V 0.5W max.
- Erp (Stage 2) 0.5W max.
- MEPS V 0.5W max.
- E. Testing Dequpment :
1. AC Power Source : " APE " 2700M-10
2. Electronic Load : " PRODIGIT " 3302
3. Power Meter : "YOKOGAWA" WT290
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
Reported Quantity					
Rms Output Current(mA)	12500mA	9375mA	6250mA	3125mA	0mA
Rms Output Voltage(V)	11.810V	11.900V	11.989V	12.081V	12.175V
Active Output Power(W)	147.63W	111.56W	74.93W	37.75W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V
Rms Input Current(A)	1.467A	1.099A	0.751A	0.396A	0.330A
Rms Input Power(W)	168.51W	126.71W	84.63W	44.23W	0.38W
Voltage T.H.D.(%)	0.19	0.17	0.15	0.10	0.09
True Power Factor	0.993	0.990	0.973	0.961	0.091
Power Consumed by UUT(W)	20.89W	15.15W	0.97W	6.48W	0.38W
Efficiency	87.61%	88.05%	88.54%	85.36%	*
Average Efficiency	87.39%				*

- 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)	12500mA	9375mA	6250mA	3125mA	0mA
Rms Output Voltage(V)	11.810V	11.900V	11.992V	12.082V	12.175V
Active Output Power(W)	147.63W	111.56W	74.95W	37.76W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V
Rms Input Current(A)	0.749A	0.574A	0.401A	0.223A	0.033A
Rms Input Power(W)	165.11W	124.03W	83.60W	43.69W	0.40W
Voltage T.H.D.(%)	0.17	0.15	0.12	0.11	0.09
True Power Factor	0.955	0.934	0.902	0.845	0.040
Power Consumed by UUT(W)	17.49W	0.43W	8.65W	5.93W	0.40W
Efficiency	89.41%	89.95%	89.65%	86.42%	*
Average Efficiency	88.86%				*

Tester : Satoshi



正面圖

芯線	黃色	紅色	白色	黑色
PIN	P1	P2	P3	P4

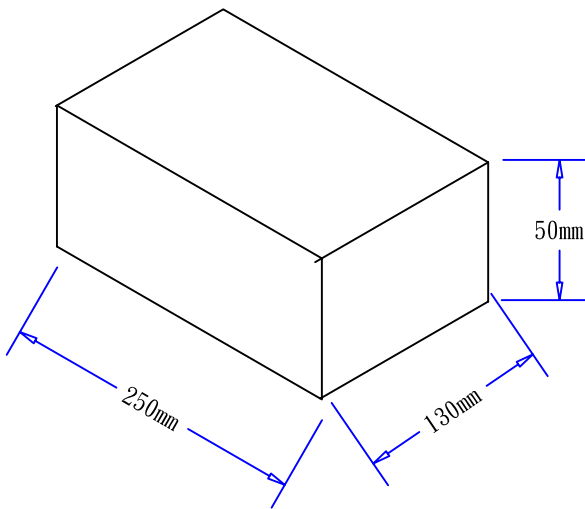
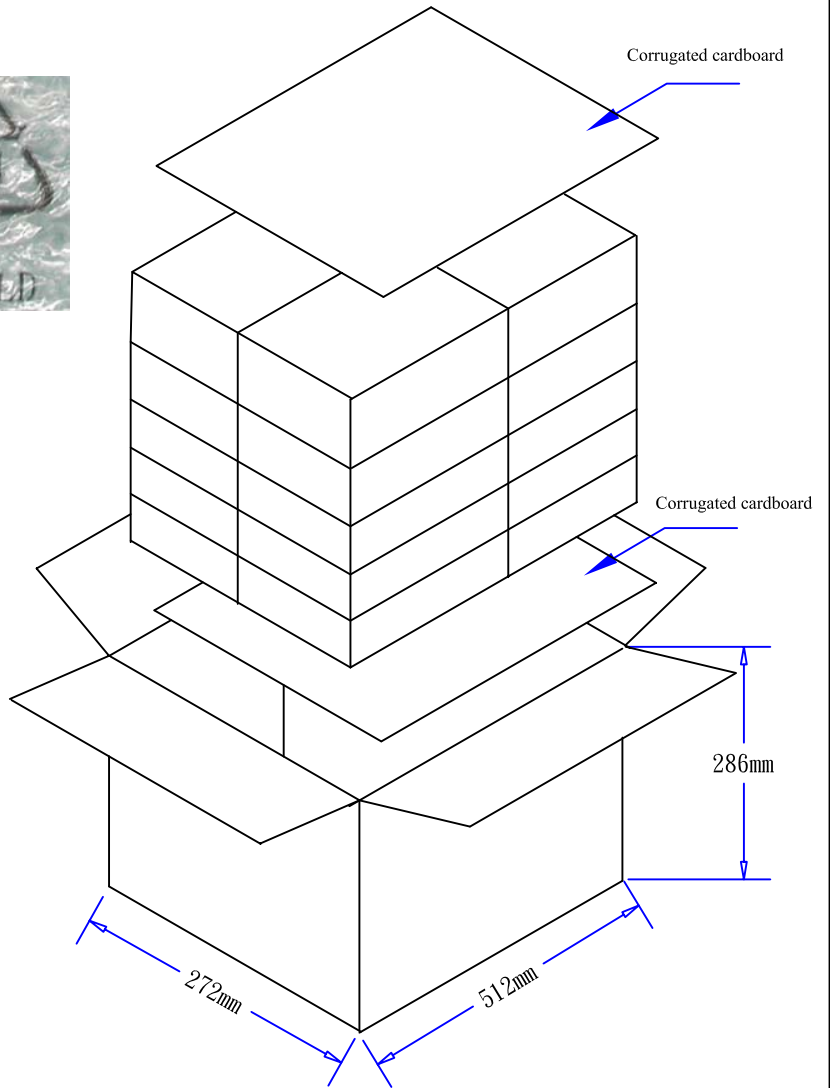
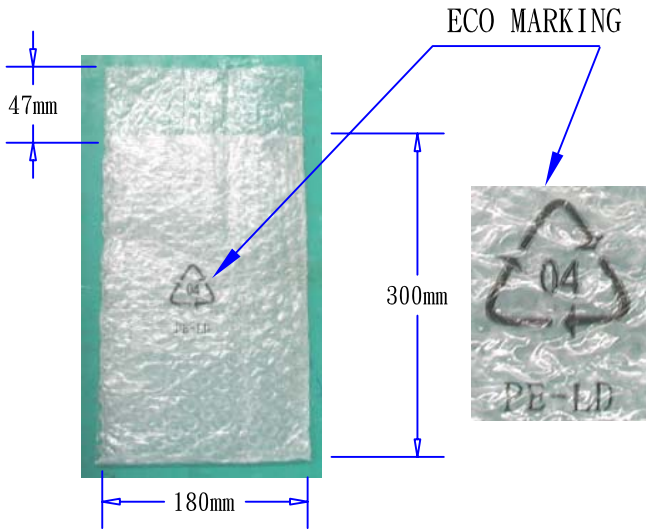
注意:此圖面所需材料符合"ROHS"標準

- ① 4PIN 粗針成型式,外模P-180號模(二次成型),大網尾,單箭頭,用料外PVC60P黑色
- ② UL 2464 16AWG(0.254*26)*4C(紅,黑,白,黃)過粉線 BK亮 OD:6.5 裁線長度:1560+10/-0
- ③ SR-511號模,用料PVC60P黑色(YV-PVC-00009):吊重:1米/20磅/60秒
- ④ PE有鐵芯紮帶14CM(YV-ES-00001)
- ⑤ 机板端:D262A(旗欣提供)*4PCS
- ⑥ 絕緣阻抗:20Ω,導通阻抗:1.5Ωmax
- ⑦ 單位:MM

料號	R44R1515015		
客戶	阿達特	制圖	吳遠松
版次	01	初審	
頁數	01	審核	
		批准	
泰岳電子有限公司			
圖號	ADT-2070	日期	2011/07/01

PIS200W0003

REVISIONS				
SHOW	REV	DESCRIPTION	DATE	APPROVED
△	A	按客户要求, 初版制作	10/07/22	
	B			
	C			



- | | | | |
|-----------------------------------------------------|---------|------------|------|
| 1. Corrugated cardboard: .500*260*6mm | B=B | 9550013001 | 2/20 |
| 2. Q'ty: 4*5=20PCS | | | |
| 3. Master carton: L*W*H=512*272*286mm | K=K | 9520017101 | 1/20 |
| 4. White box: L*W*H=250*130*50mm | 350P+CE | 9510008101 | 1/1 |
| 5. PE bubble bag: 300*180*47mm, no color and clear. | | | |
| 5. Carton, box marks with dimension | | | |
| 6. Above materials should be compliance with RoHS | | | |

Adapter Technology Co., Ltd

DRAWING NO. 10-07-22-1		APPROVAL2	
UNIT	200W 白盒裝	APPROVAL1	
mm	ADT-0045	ENGINEER	
SCALE	REV. A	SHEET 1/1	DRAWN BY