



# Specification for Approval

**Customer** : 株式会社アコン

**Part Name** : AC Adapter

**Description** : 24.0 Volts / 12.5 Amps

**Model No.** : AT300T-P240 (Level VI)

**Customer P / N** :

**Product P / N** :

**Issued Date** : 14 - Feb. - 2022

**Version** : 01

**Issued Stamp** :

**Customer's approval signature**

**ADAPTER TECHNOLOGY CO.,LTD.**

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**(Philippines) : ADAPTER TECHNOLOGY CO.,LTD.**



<p style="text-align: center;"><b>300.0 W</b> <b>AC Adapter</b> <b>SPECIFICATION</b></p>
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**Model No.** : **ATS300T-P240 (Level VI)**

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**Part No.** :

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**Version** : **01**

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Approved	Reviewed	Checked	Prepared	Sales



## ■ Approval documents / spec. revised records

■ Customer : 株式会社アコン

■ Model no : ATS300T-P240

■ Original documents content : Spec. 10 pages , Attachment 0 pages

Revised Records : No.	Date	Description ( Before / After )	Page(s) Revised	Revised By (Adapter/Customer)	Version
1	Feb./14/2022	Issue	-	Satoshi	01



## 1. Feature :

- ◆ **Input** : Universal 100 ~ 240 Vac / 50 ~ 60 Hz input, without any slide switch
- ◆ **Output** : +24.0 V / 0 ~ 12.5 A
- ◆ **Case Dimension** : 254.0 (L) \* 116.0 (W) \* 47.0 (H) mm ± 1 mm
- ◆ **Efficiency** : Eff (av) ≥ 87.5% (at 115 Vac & 230 Vac)
- ◆ **Safety** : UL / CUL / GS / PSE / BSMI / CCC
- ◆ **EMI** : 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

## 2. Input :

2.1 Voltage	Universal 100 ~ 240 Vac, single phase
2.2 Frequency	50 ~ 60 Hz
2.3 Current	3.9 A max.
2.4 Inrush Current	150 A max. / 230Vac (cold start at 25 °C, full load) ( ac source chroma 6530 )
2.5 Efficiency	Eff (av) ≥ 87.5% (at 115 Vac & 230 Vac)
2.6 Power Consumption	Pi ≤ 0.5 W (at 115 Vac & no load for DoE level VI)
2.7 Power Factor (PF)	Pi ≥ 0.9 ( at full load)

※Eff (av) =  $\frac{E_1 + E_2 + E_3 + E_4}{4}$  E<sub>1</sub>=efficiency with 25% rated load ; E<sub>2</sub>= efficiency with 50% rated load  
E<sub>3</sub>=efficiency with 75% rated load ; E<sub>4</sub>= efficiency with 100% rated load

## 3. Output :

3.1 DC Output	Voltage	+24.0 V ± 5%
	Current	12.5 A max.
	Regulation	22.8 Vmin. ~ 24.0 Vtyp. ~ 25.2 Vmax.
	Ripple & Noise	240 mV <sub>p-p</sub> max.
	Total Power	300.0 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.
4.2 Short circuit protection (SCP)	latch off.
4.3 Over current protection (OCP)	Iout * 150% max., latch off.
4.4 Over temperature protection (OTP)	latch off.

## 5. Safety requirement :

5.1. Dielectric strength : Cut off current 10 mA

(1)	Primary to secondary	3000Vac for 1 minute
(2)	Primary to frame ground	1770Vac for 1 minute
※ Secondary return isolated to FG		

5.2. Insulation resistance :

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

5.3 Leakage current : Less than 3.5 mA

5.4 Grounding test : < 0.1Ω

## 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. : 300,000Hrs.(calculated hours at 25°C, by Telcordia SR-332)

## 8. Mechanical :

8.1 Weight : 1600 g Ref.

8.2 Cable type : Black UL2464 16AWG \* 4C  
(Wire + Plug)

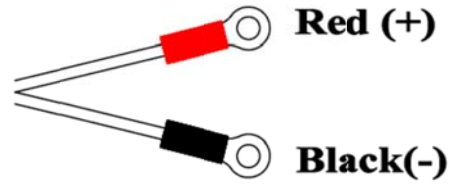
Plug : 圓盤端

8.3 Cable length : 1200 mm

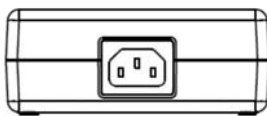
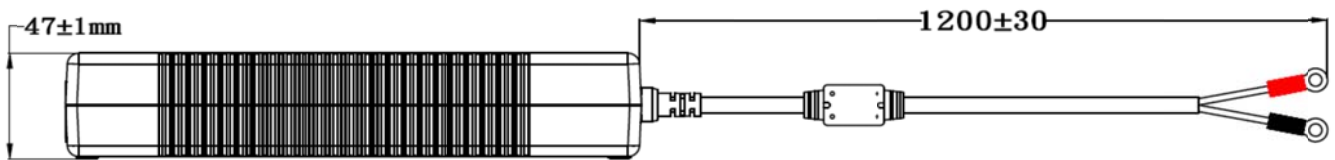
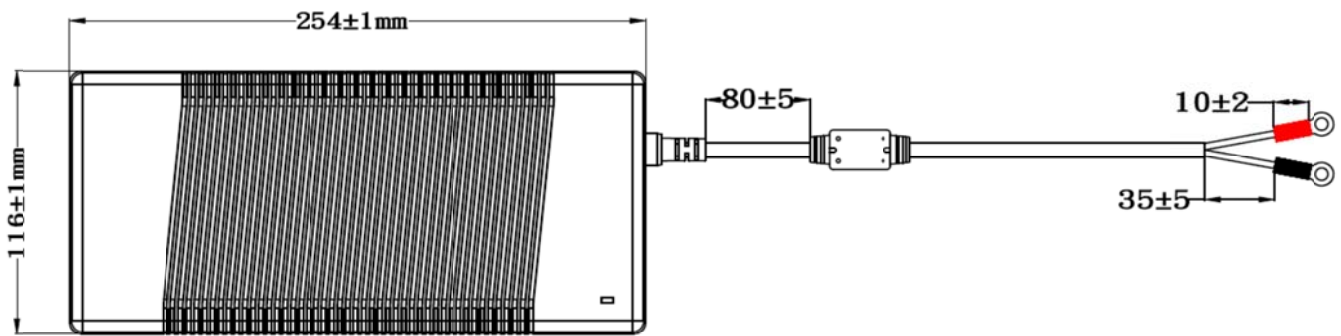
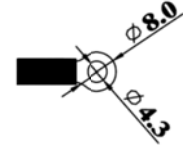
8.4 Case dimension : 254.0 (L) \* 116.0 (W) \* 47.0 (H) mm  $\pm$  1 mm

8.5 Material flammability : UL 94V-0

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



Output Cable Plug Pin Assignment



FRONT-VIEW

## 9. Label :

- 9.1 Label materials : Metalized polyester label (silver gloss)
- 9.2 Color : Black background with silver printing
- 9.3 Label dimension : 174.5 (L) \* 68.5 (W)mm ± 0.2 mm
- 9.4 Label thickness : 75#

100%



**ADAPTER TECH.**

**AC ADAPTER 交換式電源供應器/电源适配器**  
**Model (型號/型号) : ATS300T-P240**  
**INPUT (輸入/输入) : 100-240V ~ 50-60Hz 3.9A Max.**  
**OUTPUT (輸出/输出) : 24V  $\equiv$  12.5A 300W**

**FOR INDOOR USE ONLY**      仅限室内使用

For use with information technology equipment only  
 Laite on Liitettävä suojakoskettimilla varustettuun pistorasiaan  
 Apparaten må tilkobles jordet stikkontakt  
 Apparaten skall anslutas till jordat uttag  
 Apparaten skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikroppsens jord

**PS E JET**      株式会社アコン  
 I/P : 100-240V AC 50-60Hz 310VA-340VA 3.9A  
 O/P : 24V DC 12.5A      必ず接地接続を行って下さい

**CE**      **R33154** RoHS      **CCC**      **10**  
**FC**      **GS**      **RoHS**      **UL** US LISTED POWER SUPPLY 60JJ E225703

**D/C:2206**  
**MADE IN CHINA**  
**ID NO. A**  
**XXX**  
 中国制造

Manufacturer(制造商) 阿达特科技股份有限公司

"XXX"

Label supplier's code

It is accurate that the number of words depends on the real finished product



## 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	23.96 V	23.82 V	23.95 V
115 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.82 V	23.95 V
132 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.82 V	23.95 V
180 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.83 V	23.95 V
230 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.83 V	23.95 V
264 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.83 V	23.95 V

## B. Efficiency test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac	90% Min.	91.34%	91.73%	91.76%
230 Vac	90% Min.	92.84%	93.09%	93.24%

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

$E_1$ =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	24.15 V	24.00 V	24.05 V
115 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.83 V	23.95 V
115 Vac / 100% Load	22.8 V ~ 25.2 V	23.77 V	23.65 V	23.65 V
230 Vac / 0% Load	22.8 V ~ 25.2 V	24.15 V	24.00 V	24.05 V
230 Vac / 50% Load	22.8 V ~ 25.2 V	23.96 V	23.83 V	23.95 V
230 Vac / 100% Load	22.8 V ~ 25.2 V	23.77 V	23.65 V	23.65 V

## D. Ripple & Noise test

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	240 mVp-p max.	110 mV	115 mV	111 mV
230 Vac / 100% Load	240 mVp-p max.	109 mV	112 mV	108 mV





## E. Inrush current

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230 Vac / 100 % Load	150 A max.	96 A	95 A	95 A

## F. Over voltage protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 50% Load	Vout * 150% max.	118%	120%	120%
230 Vac / 50% Load	Vout * 150% max.	118%	120%	120%

## G. Over current protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100% Load	Iout * 150% max.	122%	121%	123%
230 Vac / 100% Load	Iout * 150% max.	122%	121%	123%

## H. Short circuit protection

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
115 Vac / 100 % Load	<b>latch off</b>	OK	OK	OK
230 Vac / 100 % Load	<b>latch off</b>	OK	OK	OK

## I. Input power consumption(no load)

Test result :

Test condition	Spec.	Reading 1	Reading 2	Reading 3
230 Vac / 0% Load	$\leq 0.5$ W	0.34 W	0.32 W	0.33W

## J. Power factor

Test result :

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



## Efficiency Test Report

- A. Model Number** : ATS300T-P240 ( 24.0 V, 12.50 A, 300.0 W )  
**B. DC Power Cord** : UL2464, 16AWG, 4C, 1200 mm.  
**C. Average Efficiency** :  
**DoE LEVEL VI** : 87.5% Min.  
**D. NO Load Power Consumption** :  
**DoE LEVEL VI** : 0.5 W max.  
**E. Testing Dequpiment** :  
**1. AC Power Source** : "EXTECH " 6620  
**2. Electronic Load** : " CHROMA " 63202  
**3. Power Meter** : " YOKOGAWA " WT-210  
**4. Digital Meter** : " FLUKE " 179  
**F. AC Input Voltage** : 115 Vac/60 Hz

Reported Quantity	Load Conditions				
	100% * I <sub>0</sub>	75% * I <sub>0</sub>	50% * I <sub>0</sub>	25% * I <sub>0</sub>	0% * I <sub>0</sub>
Rms Output Current(mA)	12500mA	9375mA	6250mA	3125mA	0mA
Rms Output Voltage(V)	23.772V	23.866V	23.960V	24.054V	24.146V
Active Output Power(W)	297.15W	223.74W	149.75W	75.17W	0.00W
Rms Input Voltage(V)	115V	115V	115V	115V	115V
Rms Input Current(A)	2.860A	2.119A	1.406A	0.734A	0.040A
Rms Input Power(W)	327.29W	245.09W	163.30W	82.07W	0.31W
Voltage T.H.D.(%)	0.34	0.33	0.29	0.26	0.25
True Power Factor	0.997	0.998	0.997	0.970	0.042
Power Consumed by UUT(W)	30.14W	21.35W	13.55W	6.90W	0.31W
Efficiency	90.79%	91.29%	91.70%	91.59%	*
Average Efficiency	91.34%				*

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

Reported Quantity	Load Conditions				
	100% * I <sub>0</sub>	75% * I <sub>0</sub>	50% * I <sub>0</sub>	25% * I <sub>0</sub>	0% * I <sub>0</sub>
Rms Output Current(mA)	12500mA	9375mA	6250mA	3125mA	0mA
Rms Output Voltage(V)	23.772V	23.866V	23.960V	24.054V	24.146V
Active Output Power(W)	297.15W	223.74W	149.75W	75.17W	0.00W
Rms Input Voltage(V)	230V	230V	230V	230V	230V
Rms Input Current(A)	1.438A	1.080A	0.734A	0.414A	0.048A
Rms Input Power(W)	319.76W	240.92W	160.36W	81.58W	0.34W
Voltage T.H.D.(%)	0.32	0.30	0.30	0.29	0.23
True Power Factor	0.968	0.963	0.945	0.856	0.047
Power Consumed by UUT(W)	22.61W	17.18W	10.61W	6.41W	0.34W
Efficiency	92.93%	92.87%	93.38%	92.14%	*
Average Efficiency	92.83%				*

Tester : *Satoshi*