

規 格 書  
**Electrical Specification**

***ILLO***

**Issued Date :** 2001/11/14

**Model :** LSE9901B1260

**Description :** 12V 5.00A 60W AC ADAPTER.

**Customer Part No. :**

**LSE Part No. :**

**Customer Approval No. :**

力信興業股份有限公司  
**LI SHIN INTERNATIONAL ENTERPRISE CORP.**

桃園縣大園鄉三石村三和路 3 巷 7 號 ( 力信工業大樓 ).  
7 Lane 3, San Ho Rd, San-Shin Village, Ta-Yuan Hsing, Taoyuan Hsien, Taiwan, R.O.C.  
Tel : ( 03 ) 3831513 ( Rep.) Fax : ( 03 ) 3835738

\* Please return one copy to us after approved. 煩請寄還一份待貴公司承認後.

## Document Title : 12V 60W AC to DC Adapter Specification.

### 1.0 Description.

This product is a AC to DC power transfer device, it can provide for a 60W single dc output with constant voltage source.

### 2.0 Electrical.

#### 2.1 Input Voltage(AC~).

- a. From 100 - 240Vac Nominal.
- b. From 90 - 265Vac Maximum.

#### 2.2 Input Frequency.

From 47- 63Hz.

#### 2.3 Input Current.

- a. 1.50A max at 90Vac.
- b. 0.75A max at 265Vac.

#### 2.4 Inrush Current.

- a. 100A max at cold-start and 25°C, dc output full-loading and 220Vac input.
- b. 50A max at cold-start and 25°C, dc output full-loading and 110Vac input.

#### 2.5 Hold-Up time.

9 msec minimum at dc output full loading and 115Vac 50/60Hz input.

#### 2.6 Input wattage at output no-loading condition.

Less than 2.0Watt at rated input voltage and frequency condition.

#### 2.7 Efficiency.

80% minimum at dc output full loading and nominal AC input voltage range.

#### 2.8 Safety Test.

- a. Leakage current less than 0.50mA at 254Vac, 50Hz.
- b. Hi-Pot test : 3000Vac, 10mA, 2 Sec between Primary to Secondary circuit and Chassic.
- c. Insulation : at dc 500Vdc IR shall  $\geq 100M\Omega$  between primary to secondary.
- d. Grounding test : at ac 2-8V, 30A GR shall  $\leq 0.1\Omega$  from AC inlet ground to output dc plug ground.

#### 2.9 Output Voltage and Current (DC) with all atolerance.

Vout	12.00V	Iout	5.00A max
Range	11.40 - 12.60V		

## Document Title : 12V 60W AC to DC Adapter Specification.

### 2.10 Ripple and Noise.

Less than 150mVp-p, tested by dc loading side parallel with a 10uF/EC and 0.1uF/Ceramic Capacitors and Measured Band-Width with DC-20MHz.

### 2.11 Over-Shoot and under-shoot.

Less than 5% of nominal Voltage value.

### 2.12 Protection.

- a. SCP : For short circuited protection and with auto-recovery function.
- b. OVP : Over-voltage protection with dc output voltage clamped, range : 13.5-15.5Vdc.
- c. OCP : Over-Current Protection , Range : 5.20 - 6.00A on nominal AC input.

### 2.13 LED Indication.

Green light for Nominal operation.

Blank or Flash for SCP mode.

### 2.14 Rise time.

The output voltage should rise from 0 volt and settle within regulation in less than 30msec from apply of AC input voltage .

### 2.15 Output voltage Temperature Coeffieence.

Less than 0.2%/C.

### 2.16 Output Transient Response.

Dynamic loading condition.

dc output	I1 ( A )	I2 ( A )	dVmax (V)	Test-max	dI/dT
12.0	0.00	1.25	+/- 0.9V	10 msec	>=50mA/usec
12.0	1.25	2.50	+/- 0.9V	10 msec	>=50mA/usec
12.0	2.50	5.00	+/- 0.9V	10 msec	>=50mA/usec

## 3.0 Environment.

### 3.1 Temperature.

- a. Operation : 0 to 45 °C
- b. Storage : -20 to 70 °C

### 3.2 Humidity

- a. Operation : 20 to 80%
- b. Storage : 10 to 90%

### 3.3 Altitude.

From sea level to 10,000Ft (operation) and 40,000Ft (Non operation).

## Document Title : 12V 60W AC to DC Adapter Specification.

### 4.0 Safety & EMI requirement.

#### 4.1 Safety

Included Limited Power Source.

Safety referring Standards		File Records
UL	1950	E193430
CUL	1950	E193430
TUV/GS	EN 60950	AL 991137190002
Nemko	EN 60950	P99102910
Demko	EN 60950	00-00605
Fimko	EN 60950	FI 14490
Semko	IEC 60950 / EN 60950	0004063/01-02
T-MARK	DENTORI	91-57756
PSE	J60950/J55022	JD 2-50006286
CB TEST	IEC 60950	8389
CCIB	GB4943/95,GB9254/98	2000PS0939
Australia		V00436
IRAM	IEC60950	DC-E-L27-001.2

#### 4.2 EMS

Test Item	Test Specification	IEC Standards
ESD	Contact 8KV	61000-4-2
ESD	Air 15KV	61000-4-2
RF	FR:26MHz-1.0GHz, Field Strength : 3V/M	61000-4-3
EFT	2KV on AC power line.	61000-4-4
SURGE	1KV (L-L) & 2KV (L-PE)	61000-4-5
CS	3V/M	61000-4-6
DIPS	0% 250Cy, 40% 5 Cy, 70% .5Cycle	61000-4-11

#### 4.3 EMI for both Conduction & Radiation.

Referring Standards	Specification
FCC	Part 15, class B
CISPR	Part 22, class B
VCCI	Level 2.
BSMI	檢磁4882A180
C-TICK	N136

### 5.0 Reliability.

#### 5.1 Life.

Average life expectancy of 5 years.

#### 5.2 M.T.B.F.

80,000 Power On Hours at 25°C

**Document Title : 12V 60W AC to DC Adapter Specification.**

5.3 Temperature Rise.

Less than 40°C at nominal AC input / DC output full loading and environment temperature 25+/-1°C on Top/Bottom of plastic case.

5.4 Burn-in.

100% Burn-In with 80~100% loading & 35~45°C Environment temperature , Initial sample verification for 72 hours , pilot run for 24 hours and mass production for 4 hours.

5.5 Vibration Test.

- a. Non operation vibration with shipping container shall be 2G'S peak, 5-50Hz, 4G'S peak 50-500Hz, after test no abnormally to be found.
- b. Operation vibration shall be 0.5G'S peak, 10-60Hz, 3 plans, after test no abnormally to be noted.

5.6 Drop-Test.

Test height 110cm, after drop test no function abnormally to be noted.

**6.0 Mechanical.**




6.1 Plastic Case : Case with UL PC+ABS GE C2950 material

6.2 Physical Size : 110.00mm( L ) × 63.00mm ( W ) × 31.50mm ( H ).

6.3 Output cable with UL 1185 , 18AWG wires and two pins right angle dc jack type connector.

6.4 Weight about 250g.

END.....

Approve By	Check By	Prepared By
		

# *CONTENTS*

---

1

**Electrical Specification**

---

2

**Circuit Diagram**

---

3

**Mechanical Drawing**

---

4

**PCB Layout Diagram**

---

5

**Bill Of Materials**

---

6

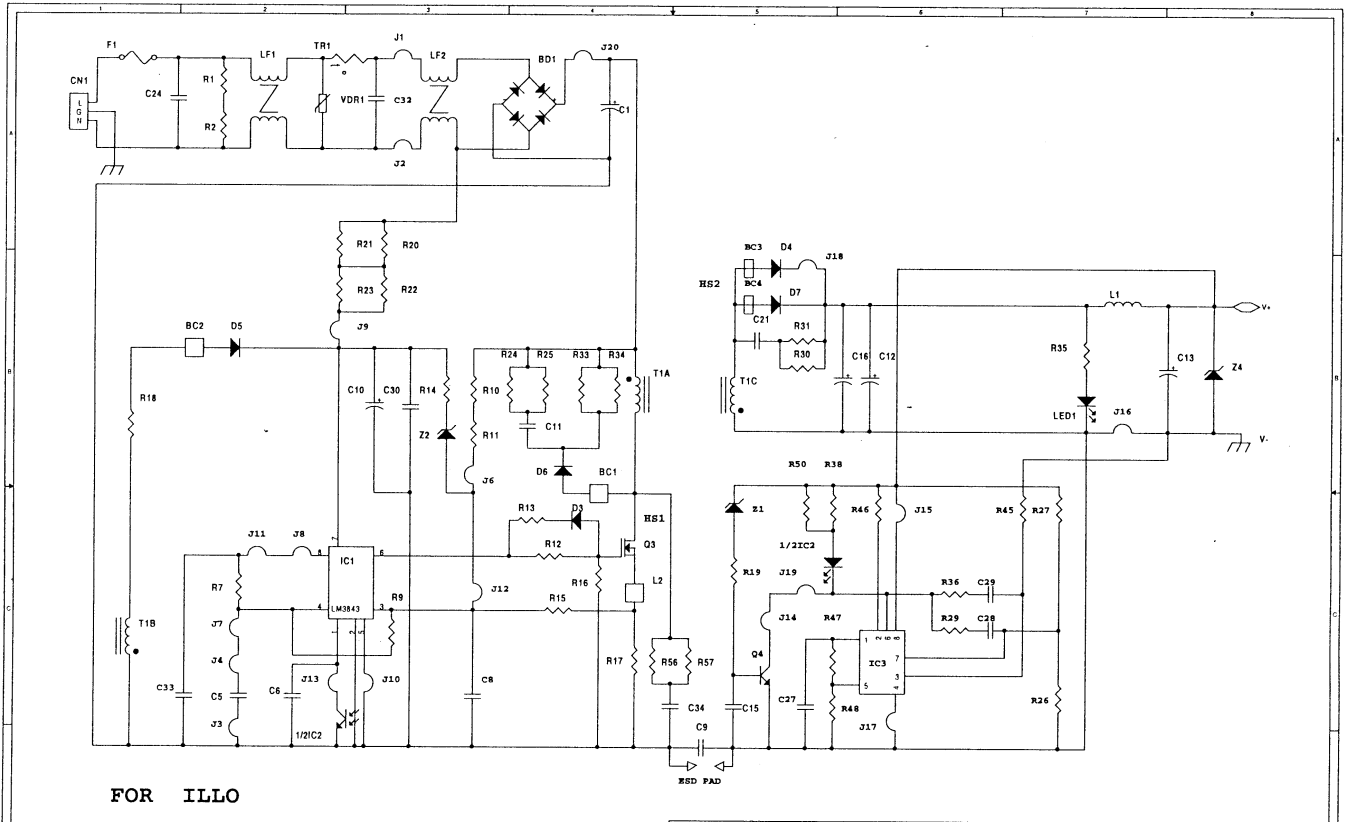
**Safety License**

---

7

**Test Report**

---

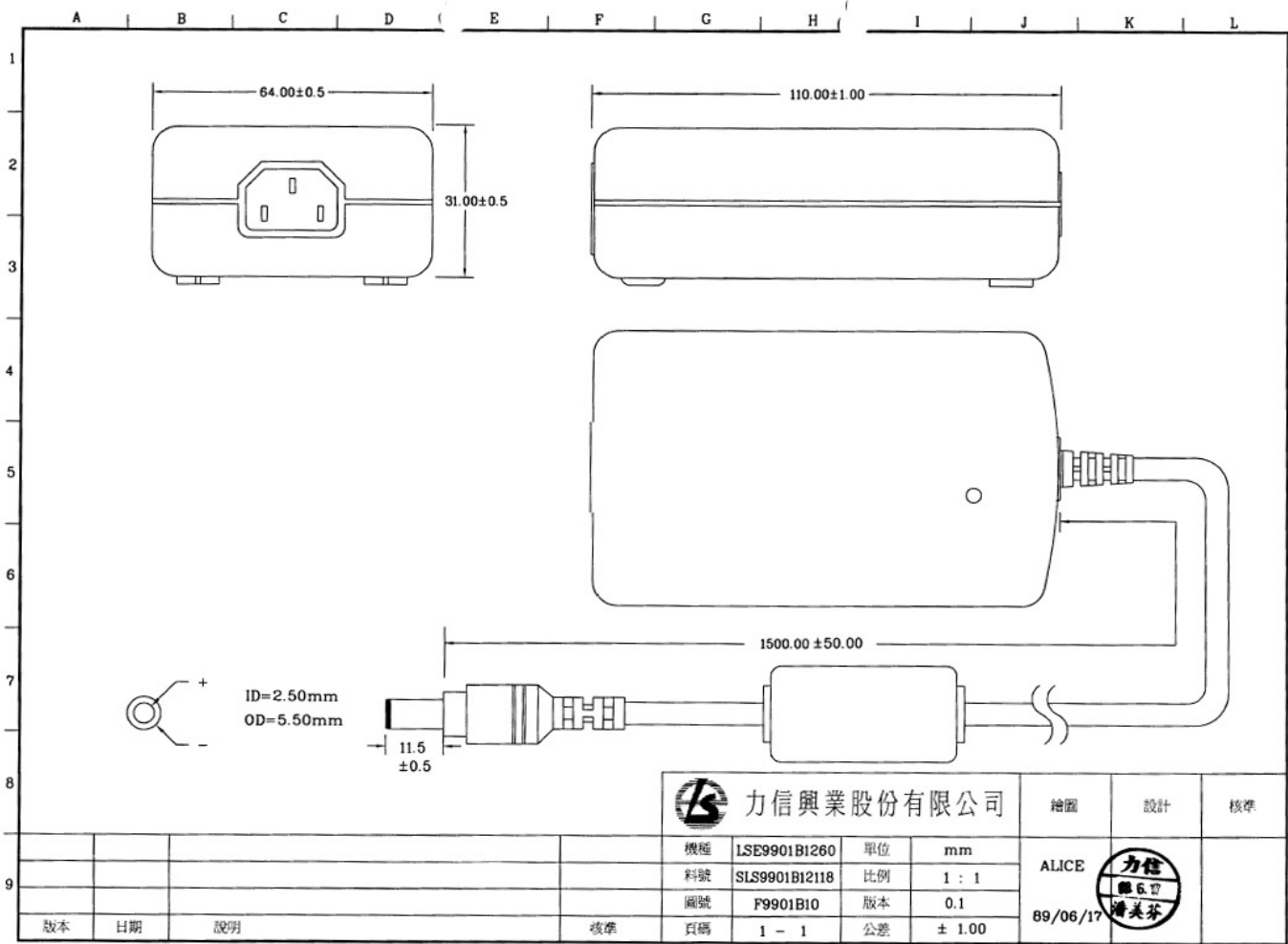


FOR ILLO

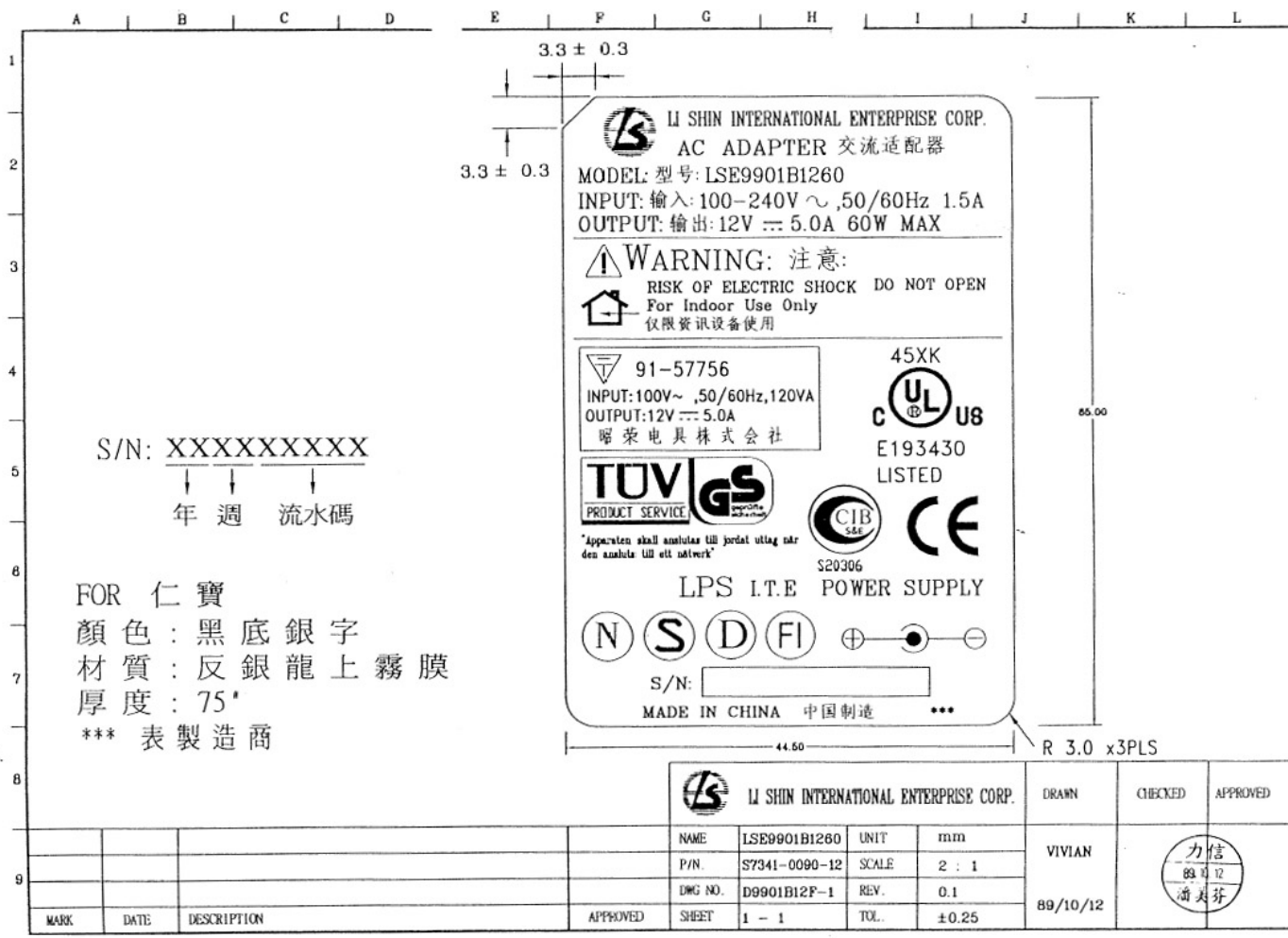
LI SHIN INTERNATIONAL ENTERPRISE CORP.

REV.	DATE	DESCRIPTION	APPROVED	SHEET	1 OF 1	TOL	DRAWN	CHECKED	APPROVED	DATE
0.2	09/16/00	增加 R14,Z2,R56,R57,C34,C30,BC3,BC4,删除C14		DWG NO.		REV.	0.2			
0.1	9/10/99									

259901B1208 →18  
 B1218 418  
 R12218







S/N: XXXXXXXXXXXX  
 ↓ ↓ ↓  
 年 週 流水碼

FOR 仁寶  
 顏色: 黑底銀字  
 材質: 反銀龍上霧膜  
 厚度: 75"  
 \*\*\* 表製造商

LI SHIN INTERNATIONAL ENTERPRISE CORP.  
 AC ADAPTER 交流适配器  
 MODEL: 型号: LSE9901B1260  
 INPUT: 输入: 100-240V ~, 50/60Hz 1.5A  
 OUTPUT: 输出: 12V --- 5.0A 60W MAX

**WARNING: 注意:**  
 RISK OF ELECTRIC SHOCK DO NOT OPEN  
 For Indoor Use Only  
 仅限资讯设备使用

91-57756  
 INPUT: 100V~ ,50/60Hz,120VA  
 OUTPUT: 12V --- 5.0A  
 曜荣电具株式会社

45XK  
 UL US  
 E193430  
 LISTED

TUV GS  
 PRODUCT SERVICE

CIB  
 S20306


CE

LPS I.T.E POWER SUPPLY

N S D FI ⊕ ⊖

S/N: [ ]

MADE IN CHINA 中国制造 \*\*\*

LI SHIN INTERNATIONAL ENTERPRISE CORP.				DRAWN	CHECKED	APPROVED	
NAME	LSE9901B1260	UNIT	mm	VIVIAN		89/10/12	
P/N	S7341-0090-12	SCALE	2 : 1				
DWG NO.	D9901B12F-1	REV.	0.1				
MARK	DATE	DESCRIPTION	APPROVED	SHEET	1 - 1	TOL.	±0.25