



# SURE STAR COMPUTER CO., LTD

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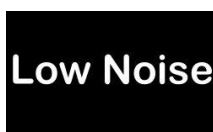
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## Model Name: SS-1U40ES

(400W power supply for 1U Single **Efficiency  $\geq 86\%$** )



### 1. Specification

1.1.AC Input Voltage Range: 100VAC ~ 240VAC,  $\pm 10\%$ , 47 to 63 Hz.

1.2.INPUT CURRENT:8.0 A ( RMS ) FOR 115VAC /4.0 A ( RMS ) FOR 230VAC.

1.3. Input Power Factor: The minimum power factor at full load shall be 0.98/115V 60 Hz and 0.95/230V 50 Hz.

1.4. Inrush current: 35A MAX. FOR 115 VAC / 55A MAX. FOR 230 VAC.

1.5.DC Output: 400W maximum.

	Output-1	Output-2	Output-3	Output-4	Output-5
Output Voltage	+5V DC	+12V DC	-12V DC	+3.3V DC	+5VSB
Output Current (Max.)	25A	32A	0.8A	25A	3.5A
Output Current (Min.)	0.5A	2A	0A	0.5A	0.1A
Ripple/Noise Max.(P-P):	60mV	120mV	120mV	60mV	60mV
Line Regulation:	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$	$\pm 1\%$
Load Regulation:	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$

#### Note:

1. Noise Test – Noise bandwidth is from DC to 20 MHz.

2. Ripple frequencies greater than 1MHz shall be attenuated by the measurement System.

3. Add 0.1uF/10uF capacitor at output connector terminals for ripple and noise measurements.

4. The combined total power from 5V & 3.3V shall not exceed 160W.

### 1.6. PS-ON

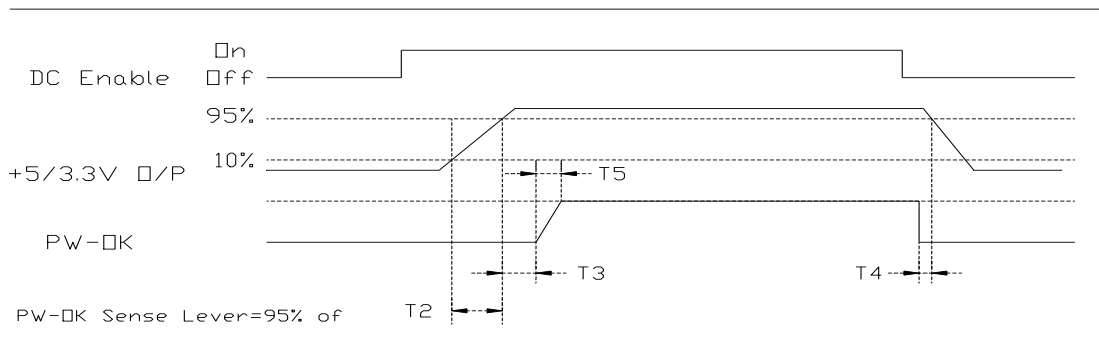
#### Remote On/Off Control:

When PS-ON is pulled to TTL Low, the DC output is to be enabled.

When PS-OFF is pulled to TTL high, the DC output is to be disabled.

### 1.7. PW-OK

PW-OK is power good signal and should be asserted high by the power supply to indicate that +5VDC and +3.3VDC output are above the under voltage thresholds of the power supply TTL compatible signal out with 100ms to 500ms.



### Timing of PS-ON, PW-OK, and Germane Voltage Rails

Although there is no requirement to meet specific timing parameters, The following signal timings are recommended:

$$2\text{ms} \leq T2 \leq 200\text{ms}$$

$$100\text{ms} \leq T3 \leq 500\text{ms}$$

$$T4 > 1\text{ms}$$

$$T5 \leq 10\text{ms}$$

1.8 Efficiency: TYPICAL >86% AT 115VAC , FULL LOAD.

1.9 Hold-Up Time: 16ms at maximum load & normal input voltage.

## 2. PROTECTIONS

### 2.1. OVER-VOLTAGE PROTECTION

<b>OUTPUT</b>	<b>Min</b>	<b>Max</b>
<b>+3.3V</b>	<b>3.7V</b>	<b>4.1V</b>
<b>+5V</b>	<b>5.7V</b>	<b>6.5V</b>
<b>+12V</b>	<b>13.1V</b>	<b>14.5V</b>

### 2.2. SHORT CIRCUIT PROTECTION

A short circuit placed between the DC Return and the output shall cause No damage and the power supply shall shutdown.

### 2.3. OVER POWER PROTECTION

The power supply shall shut down when output power exceeds 110% to 160% of full load and require a power on cycle be performed by the operate

### 2.4 NO LOAD OPERATION

No parts shall be damaged on the power supply.

## 3. ENVIRONMENT TEMPERATURE

3.1. Operation Temperature: 0°C to 45°C

3.2. Cooling: ONE 40mm DC FANS.

3.3. Storage Temperature:-20°C to 70°C

3.4. Humidity: 5 to 90% non-condensing.

## 4. Mean Time Between Failure(MTBF)

Using MIL - HDBK -217F the calculated MTBF=100,000 hours at 25°C 75% loading.

## 5. SAFETY:

UL 60950-1, 2<sup>ND</sup> Edition, CSA C 22.2 No. 60950-1-07, 2<sup>nd</sup> Edition, 2007-03

TUV EN60950-1: 2006+A11+A1+A12

CB IEC60950-1: 2005

BSMI CNS14336-1, CNS13438

## 6. EMI NOISE FILTER:

EN55022:2006+A1:2007, EN55024:1998+A1:2001+A2:2003

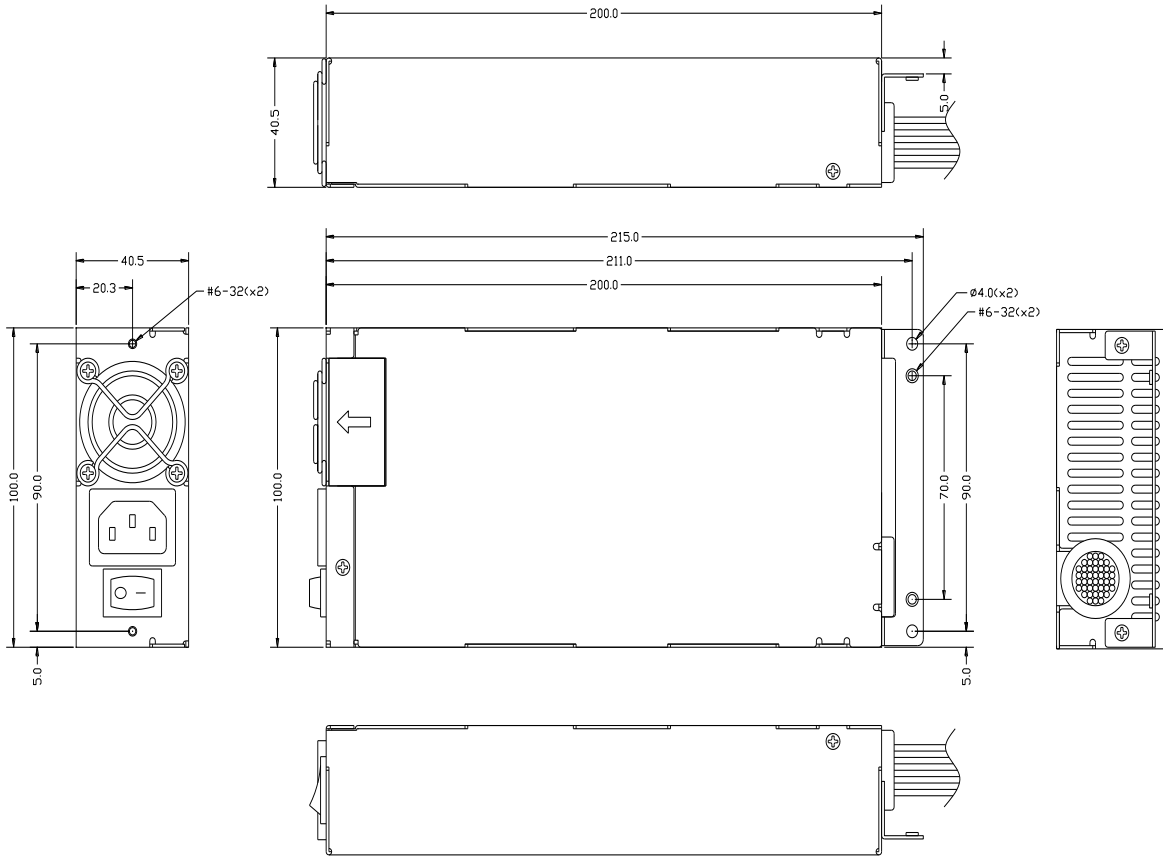
EN61000-3-2: 2006+A2:2009 EN61000-3-3: 2008, IEC61000-4-2,-3,-4,-5,-6,-8,-11

## 7. DIMENSION

L 200 x W 100 x H 40.5 mm

SS-1U52ES  
SS-1U46ES  
SS-1U40ES

REVISIONS			
REV	DESCRIPTION	SIGN	DATE
1.0			11/23/09



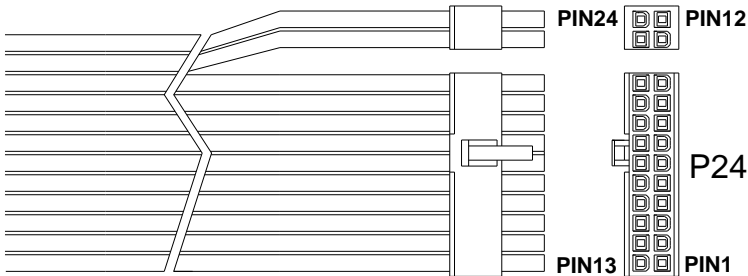
公差: TOLERANCES:	材料規格 MATERIAL	SPPC T1.0 鍍銀	單位 UNITS	mm	
XXX± 0.05 XX± 0.05 X± 0.1	批准者 APPROVE BY:	檢核者 CHECK BY:	繪圖者 DRAW BY:	圖號 DRAW NO:	
投影法 PROJECTION:				第幾 SHEET	共幾 OF
第三角法			JACKY	日期 DATE	2009.11.23
				料號 PART NO	SS-1UXXES

## 8. PINOUTS OF CONNECTORS

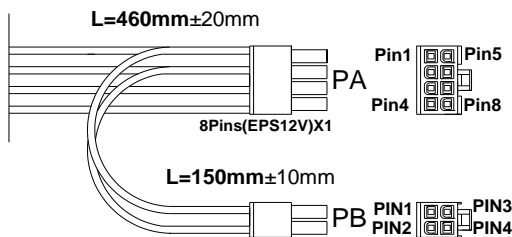
- ATX or EPS (20+4)Pin x 1 ,
- M8P +12V Power Connector x 1 ,
- M4P +12V Power Connector x 1 ,
- H.D.D. x 6 ,
- Floppy x 1
- SATA x 2.

Below cable length start from Outer cage:

L=450mm±20mm

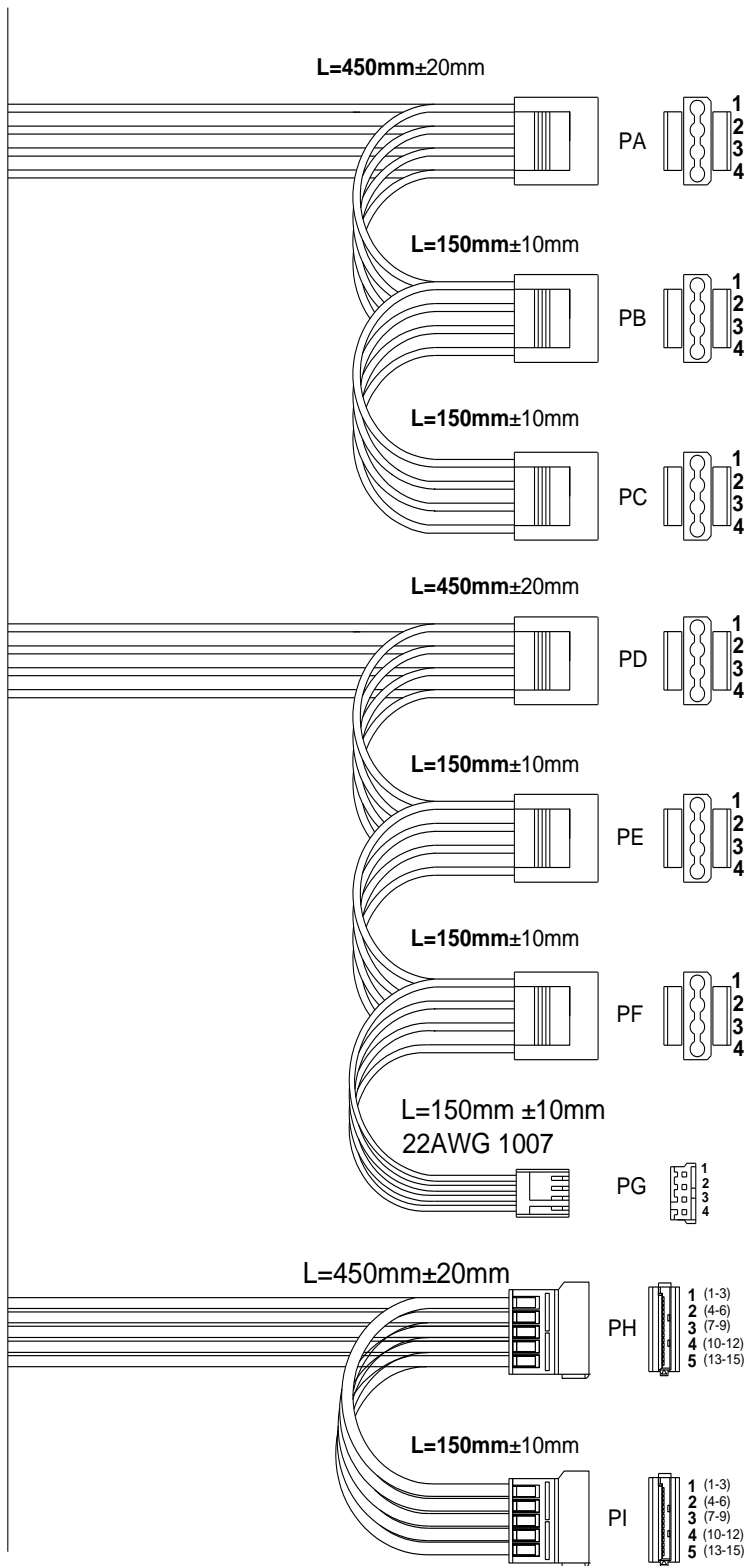


24Pins(EPS12V) Connector HOUSING: MOLEX 39-01-2240 or equivalent TERMINAL: MOLEX 39-00-0039 or equivalent						
Housing	Pin No.	WIRE COLOR	LENGTH	Pin No.	WIRE COLOR	LENGTH
P24	1	ORANGE(+3.3V)	450mm/18AWG	13	ORANGE(+3.3V)	450mm/18AWG
	2	ORANGE(+3.3V)	450mm/18AWG	14	ORANGE(+3.3Vs)	450mm/22AWG
	3	BLACK(GND)	450mm/18AWG	15	BLUE(-12V)	450mm/18AWG
	4	RED(+5V)	450mm/18AWG	16	GREEN(PS-ON)	450mm/20AWG
	5	BLACK(GND)	450mm/18AWG	17	BLACK(GND)	450mm/18AWG
	6	RED(+5V)	450mm/18AWG	18	BLACK(GND)	450mm/18AWG
	7	BLACK(GND)	450mm/18AWG	19	BLACK(GND)	450mm/18AWG
	8	GRAY(PG)	450mm/20AWG	20	NC	
	9	PURPLE(+5VSB)	450mm/18AWG	21	RED(+5V)	450mm/18AWG
	10	YELLOW(+12V)	450mm/18AWG	22	RED(+5V)	450mm/18AWG
	11	YELLOW(+12V)	450mm/18AWG	23	RED(+5V)	450mm/18AWG
	12	ORANGE(+3.3V)	450mm/18AWG	24	BLACK(GND)	450mm/18AWG



Housing	Pin	WIRE COLOR	LENGTH	Pin	WIRE COLOR	LENGTH
PA	1	Black/Black	460mm/18AWG	5	Yellow/Yellow	460mm/18AWG
	2	Black/Black		6	Yellow/Yellow	
	3	Black		7	Yellow	
	4	Black		8	Yellow	
PB	1	Black	150mm/18AWG	3	Yellow	150mm/18AWG
	2	Black	150mm/18AWG	4	Yellow	150mm/18AWG

Connector HOUSING: MOLEX 39-01-0280 or equivalent  
Connector HOUSING: MOLEX 39-01-0240 or equivalent



Housing	Pin No.	WIRE COLOR	LENGTH	Pin No.	WIRE COLOR	LENGTH
PA	1	Yellow / Yellow	450mm/18AWG	3	Black / Black	450mm/18AWG
	2	Black / Black	450mm/18AWG	4	Red / Red	450mm/18AWG
PB	1	Yellow / Yellow	150mm/18AWG	3	Black / Black	150mm/18AWG
	2	Black / Black	150mm/18AWG	4	Red / Red	150mm/18AWG
PC	1	Yellow	150mm/18AWG	3	Black	150mm/18AWG
	2	Black	150mm/18AWG	4	Red	150mm/18AWG

Connector Housing: H.D.D. for easy plug

Housing	Pin No.	WIRE COLOR	LENGTH	Pin No.	WIRE COLOR	LENGTH
PD	1	Yellow / Yellow	450mm/18AWG	3	Black / Black	450mm/18AWG
	2	Black / Black	450mm/18AWG	4	Red / Red	450mm/18AWG
PE	1	Yellow / Yellow	150mm/18AWG	3	Black / Black	150mm/18AWG
	2	Black / Black	150mm/18AWG	4	Red / Red	150mm/18AWG
PF	1	Yellow / Yellow	150mm/18AWG	3	Black / Black	150mm/18AWG
	2	Black / Black	150mm/18AWG	4	Red / Red	150mm/18AWG
PG	1	Yellow	150mm/22AWG	3	Black	150mm/22AWG
	2	Black	150mm/22AWG	4	Red	150mm/22AWG

Connector Housing: H.D.D. for easy plug

Housing	Pin No.	WIRE COLOR	LENGTH
PH	1	Orange / Orange	450mm/18AWG
	2	Black / Black	450mm/18AWG
	3	Red / Red	450mm/18AWG
	4	Black / Black	450mm/18AWG
	5	Yellow / Yellow	450mm/18AWG
PI	1	Orange	150mm/18AWG
	2	Black	150mm/18AWG
	3	Red	150mm/18AWG
	4	Black	150mm/18AWG
	5	Yellow	150mm/18AWG

HOUSING: MOLEX 675820000 or equivalent  
 TERMINAL: MOLEX 675810000 or equivalent

**Note: Specification and wiring diagram subject to change without notice.**

Dec. 25, 2012