



HG2/HP2/GSM/PSL



VER. 2.0

P/N : B700130044

產品使用手冊

電源供應器

User Manual

Switching Power Supply

2.0

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警告及安全說明

1. 請勿將任何金屬物品插入電源供應器（以下稱“產品”）外殼開口處，因可能有觸電之危險。
2. 避免將此產品置於高濕度或高灰塵量的環境。
3. 插拔 AC 電源線時，雙手保持乾燥；不可硬拉電源線，應緊抓住插頭再插拔。
4. 若 AC 電源線受損，請勿繼續使用產品。
5. 請勿放置任何物品於電源線上，並注意，不要將 AC 電源線放置在有人走動的區域。
6. 只有經過授權且受訓合格的技術人員，方可拆解產品外殼，以進行維修。
7. 使用此產品時，請保持良好通風，以利散熱，並避免其它物品干擾到產品散熱風向的流量。

附註一：爲了使用上安全的考量，AC 電源線之型式及其規格，必須合乎該使用國家的安檢規範。

附註二：本產品所提及之各註冊商標分屬各註冊公司所有，不再一一聲明。

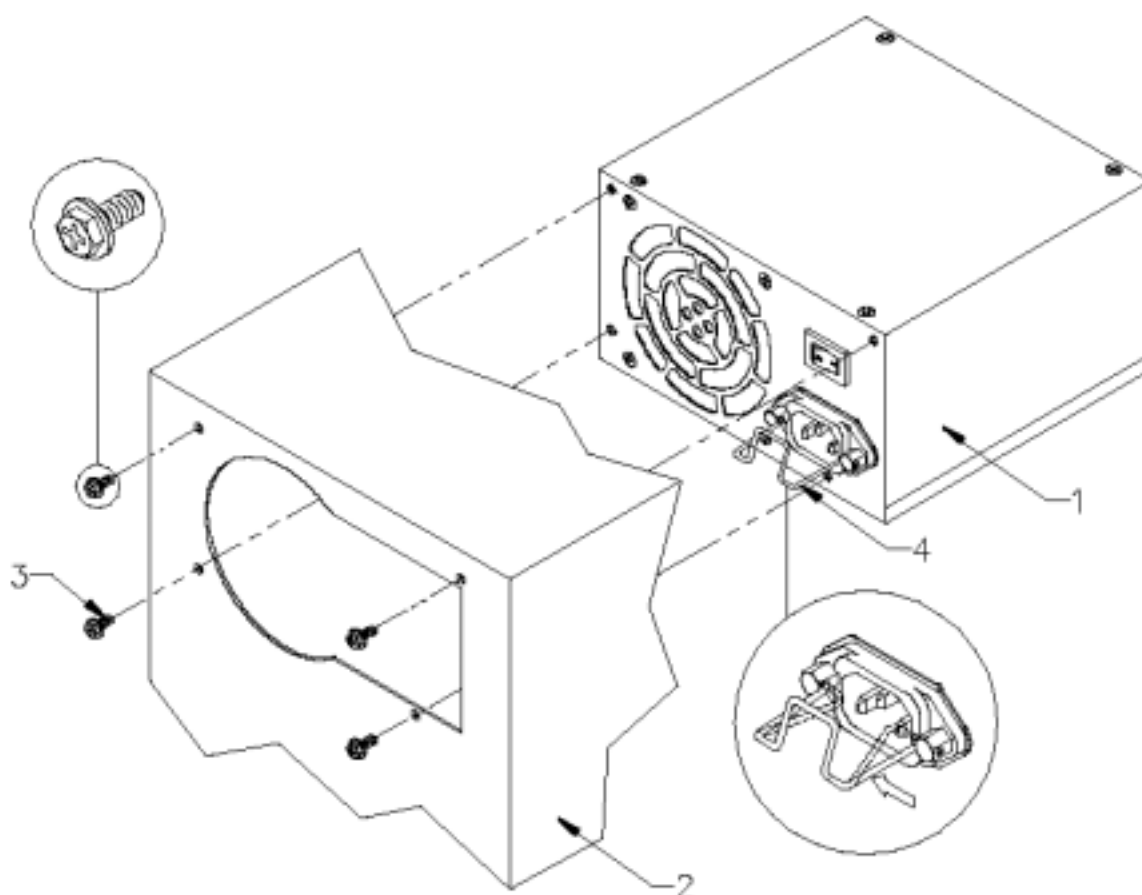
附註三：本公司擁有此產品修改的權利，日後如有更新，請以最新版本爲準，恕不另通知。

產品及附件

請確認是否包含以下各項物品，若有缺失，請連繫代理店。

1. 電源供應器本體。(請參考下圖)
2. 螺絲。
3. ATE (Auto Testing Equipment) 檢驗報告。
4. 使用手冊。
5. AC 電源線。
6. 電源線固定夾。
7. 支架和螺絲，供電源供應器前端固定使用。(PSL 機型)

附註：上述物品，皆經過本公司測試且認證核可。非經認可之附件，請勿使用於此產品。



本圖僅供參考，請以購買之實體為主。

註標 (1)，本體。

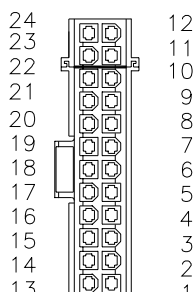
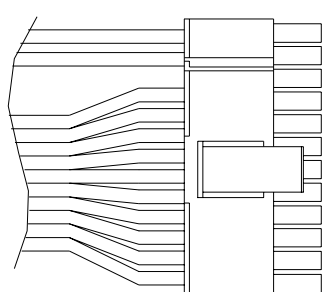
註標 (2)，機殼。為另外一項產品，並不屬於此產品所含之內容。

註標 (3)，螺絲。

註標 (4)，電源線固定夾。

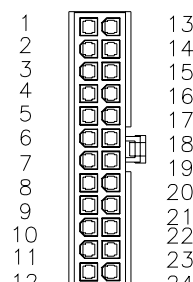
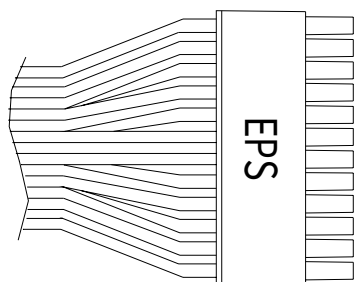
各接頭之腳定位及示意圖

確認各裝置（例如：主機板、硬碟機等）所需的接頭及腳定位（pin assignment），再插上正確的接頭。



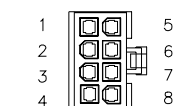
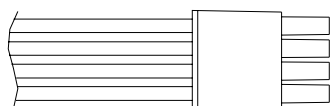
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	ORANGE	+3.3V	13	ORANGE	+3.3V
2	ORANGE	+3.3V	14	BLUE	-12V
3	BLACK	GND	15	BLACK	GND
4	RED	+5V	16	GREEN	PS-ON
5	BLACK	GND	17	BLACK	GND
6	RED	+5V	18	BLACK	GND
7	BLACK	GND	19	BLACK	GND
8	GREY	PWR-OK	20	Reserved (-5V in ATX)	N/C
9	PURPLE	+5VSB	21	RED	+5V
10	YELLOW	+12V	22	RED	+5V
11	YELLOW	+12V	23	RED	+5V
12	ORANGE	+3.3V	24	BLACK	GND

24PINS(20PINS+4PINS)
(For HG2 Type)



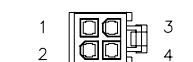
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	ORANGE	+3.3V	13	ORANGE	+3.3V
2	ORANGE	+3.3V	14	BLUE	-12V
3	BLACK	GND	15	BLACK	GND
4	RED	+5V	16	GREEN	PS-ON
5	BLACK	GND	17	BLACK	GND
6	RED	+5V	18	BLACK	GND
7	BLACK	GND	19	BLACK	GND
8	GREY	PWR-OK	20	Reserved (-5V in ATX)	N/C
9	PURPLE	+5VSB	21	RED	+5V
10	YELLOW	+12V	22	RED	+5V
11	YELLOW	+12V	23	RED	+5V
12	ORANGE	+3.3V	24	BLACK	GND

24PINS (EPS12V)



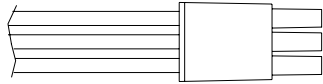
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	BLACK	GND	5	YELLOW	+12V
2	BLACK	GND	6	YELLOW	+12V
3	BLACK	GND	7	YELLOW	+12V
4	BLACK	GND	8	YELLOW	+12V

8PINS (EPS12V)



PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	BLACK	GND	3	YELLOW	+12V
2	BLACK	GND	4	YELLOW	+12V

4PINS (ATX12V, For P4)



1

2

3

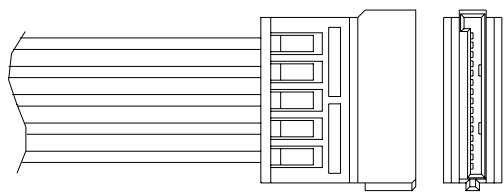
4

5

6

PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	YELLOW	+12V	4	BLACK	GND
2	YELLOW	+12V	5	BLACK	GND
3	YELLOW	+12V	6	BLACK	GND

6PINS (6I)
(For PCI Express,Option)



1-3

4-6

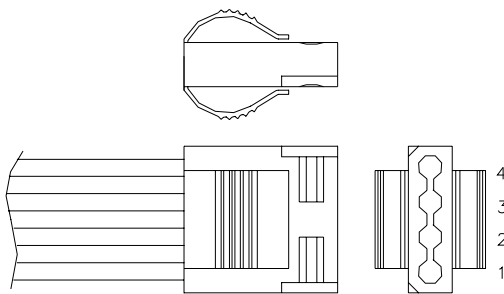
7-9

10-12

13-15

PIN NO.	COLOR	OUTPUT VOLTAGE
1-3	ORANGE	+3.3V
4-6	BLACK	GND
7-9	RED	+5V
10-12	BLACK	GND
13-15	YELLOW	+12V

15PINS (SERIAL ATA HD)



4

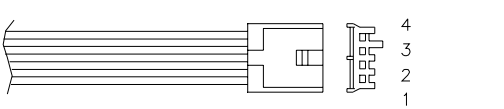
3

2

1

PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	YELLOW	+12V	3	BLACK	GND
2	BLACK	GND	4	RED	+5V

4PINS (HD/CD-ROM/RW)



4

3

2

1

PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	YELLOW	+12V	3	BLACK	GND
2	BLACK	GND	4	RED	+5V

4PINS (FLOPPY DISK)

規格書

請對照實際購買的產品型號。備註：僅 HG2 機種，在正常使用情形下，產品經 remote-off 遠端（即以系統面板上的 I/O）關機後，仍會轉動風扇，作二次散熱，直至主要零件降溫到適宜的溫度而停止。此為正常現象，亦是 HG2 機種之特點，可期增長零件壽命。

INPUT CHARACTERISTICS:

HG2-6400P(G1)

- VOLTAGE: 90 ~ 240 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 HZ.
- INPUT CURRENT: 8.0 A (RMS) FOR 115VAC, 4.0 A (RMS) FOR 230VAC.
- INRUSH CURRENT: 65A MAX. FOR 115 VAC, 125A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	3	35	± 5%	± 1%	50mV
12V	2	30	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	150mV
-12V	0	1	± 5%	± 1%	150mV
3.3V	1	28	± 5%	± 1%	50mV
+5VSB	0.1	2	± 5%	± 1%	50mV

REMARK: OUTPUT CURRENT OF +5V & +3.3V COMBINED SHOULD NOT EXCEED 45A.

SPECIFICATION:

- TEMPERATURE RANGE: OPERATING -10°C --- 45°C.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & NORMAL INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY : 3000VAC FOR 1 MIN.
PRIMARY TO FG : 2200VAC FOR 1 MIN.
- EFFICIENCY: 70% TYPICAL.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 130 +/- 20%.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.5V, 3.3V → 3.9V~ 4.3V, 12V → 13.6V ~ 15V.
- SHORT CIRCUIT PROTECTION: +5V, -5V, +12V, -12V, +3.3V.
- EMI NOISE FILTER: FCC CLASS B, CISPR22 CLASS B.
- SAFETY: MEET UL 60950, CSA C 22.2 NO. 60950, TUV EN-60950,
CCC GB4943-1995/GB9254-1998/GB17625.1-1998
ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
THE UNIT SHALL ACCEPT A LOGIC OPEN COLLECTOR LEVEL WHICH WILL DISABLE / ENABLE ALL OUTPUT VOLTAGES (EXCLUDE +5V STANDBY),
AS LOGIC LEVEL IS LOW, OUTPUT VOLTAGES WERE ENABLE,
AS LOGIC LEVEL IS HIGH, OUTPUT VOLTAGES WERE DISABLE
- ADVANCED THERMAL & ACOUSTICS CONTROL FEATURES..
- 3.3V / 5V REMOTE SENSING.
- COOLING: ONE 80mm DC BALL BEARING FAN.
- DIMENSION: 140 (D) x150 (W) x 86 (H) mm (PS/2).

規格書

請對照實際購買的產品型號。

INPUT CHARACTERISTICS:

HP2-6460P/6500P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 7.5/8.0 A FOR 115 VAC, 3.5/4.0 A FOR 230 VAC.
- INRUSH CURRENT: 65 A MAX. FOR 115 VAC, 125 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	2.5	40	± 5%	± 1%	60mV
12V	1	32/36	± 5%	± 1%	100mV
-5V	0	0.8	± 5%	± 1%	100mV
-12V	0	1	± 5%	± 1%	100mV
3.3V	1	30	± 5%	± 1%	60mV
+5VSB	0.1	2	± 5%	± 1%	60mV

REMARK: **TOTAL OUTPUT SHOULD NOT EXCEED 460W/500W FOR HP2-6460P/6500P.**

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY : 1800VAC FOR 60 SEC.
PRIMARY TO FG : 1800VAC FOR 60 SEC.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER CURRENT PROTECTION:
+5V → 44 A ~ 60A, + 3.3V → 33 A ~ 45 A, 12V → 35.2 A ~ 48.0 A.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.5V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6 V~ 15V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 1402C & CSA 950, TUV EN-60950.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- BUILT-IN ACTIVE POWER FACTOR CORRECTOR.
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 140 (D) mm (PS/2).

規格書

請對照實際購買的產品型號。

INPUT CHARACTERISTICS:

GSM-6550P/6600P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 9.0/10.0 A FOR 115 VAC, 4.5/5.0 A FOR 230 VAC.
- INRUSH CURRENT: 65 A MAX. FOR 115 VAC, 125 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	1	30	± 3%	± 1%	60mV
12V	1.5	40	± 3%	± 1%	100mV
-5V	0	0.8	± 5%	± 1%	100mV
-12V	0	0.8	± 5%	± 1%	100mV
3.3V	0	30	± 3%	± 1%	60mV
+5VSB	0	2	± 5%	± 1%	60mV

REMARK: +5V and +3.3V Max. Current: 50A

+12V TOTAL OUTPUT MAX. 40A.

TOTAL OUTPUT SHOULD NOT EXCEED 550W/600W FOR GSM-6550P/6600P.

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 50°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY: 1800VAC FOR 1 SEC.
PRIMARY TO FG: 1800VAC FOR 1 SEC.
- EFFICIENCY: 70% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER CURRENT PROTECTION:
+5V → 33 A ~ 45 A, + 3.3V → 33 A ~ 45 A, 12V → 44 A ~ 66A
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.2V, 3.3V → 3.7V ~ 4.1V, 12V → 13.3V ~ 14.3V
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 22.28 NO950-95, TÜV EN-60950.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- BUILT-IN ACTIVE POWER FACTOR CORRECTOR.
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 160 (D) mm (STRETCH PS/2, EPS12V).

規格書

請對照實際購買的產品型號。

INPUT CHARACTERISTICS:

PSL-6720P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 12.0 A FOR 115 VAC, 5.0 A FOR 230 VAC.
- INRUSH CURRENT: 75 A MAX. FOR 110 VAC, 150 A MAX. FOR 220 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT
	MIN.	MAX.	LOAD	LINE	RIPPLE & NOISE MAX.[P-P]
5V	0.5	45	± 5%	± 1%	60mV
12V	2	52	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	120mV
-12V	0	0.8	± 5%	± 1%	120mV
3.3V	0.5	30	± 5%	± 1%	60mV
+5VSB	0	3.5	± 5%	± 1%	60mV

+5V and +3.3V MAX. power: 230W Total power: 720W (MAX)

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 50°C, STORAGE -20°C --- 80°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 17 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTAND:
PRIMARY TO SECONDARY: 1800 VAC FOR 1 SEC.
PRIMARY TO FG: 1800 VAC FOR 1 SEC.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.3V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 1402C & CSA950, TÜV EN-60950, CB IEC-60950: 1999, CCC GB4943-2001, CCC GB9254-1998, CCC GB17625.1-2003
- POWER LINE TRANSIENT: EN61000-4-2(ESD) CRITERION B, ±4KV BY CONTACT, ±8KV BY AIR. EN61000-4-4(EFT) CRITERION B, ±1KV. EN61000-4-5(SURGE) CRITERION B, LINE-LINE±1KV.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- I²C FEATURES (OPTIONAL).
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 220 (D) mm (STRETCH PS/2).

規格書

請對照實際購買的產品型號。

INPUT CHARACTERISTICS:

PSL-6800P/PSL-6850P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 13.5 A FOR 115 VAC, 6.0 A FOR 230 VAC.
- INRUSH CURRENT: 75 A MAX. FOR 115 VAC, 150 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT
	MIN.	MAX.	LOAD	LINE	RIPPLE & NOISE MAX.[P-P]
5V	0.5	45	± 5%	± 1%	60mV
12V	2	60	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	120mV
-12V	0	0.8	± 5%	± 1%	120mV
3.3V	0.5	30	± 5%	± 1%	60mV
+5VSB	0	3.5	± 5%	± 1%	60mV

REMARK: +5V and +3.3V total power max: 250W.

TOTAL OUTPUT POWER SHOULD NOT EXCEED 700W FOR PSL-6701P.

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTAND:
INPUT / OUTPUT 1500 VAC FOR 1 MINUTE,
INPUT TO FRAME GROUND 1500 VAC FOR 1 MINUTE.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 160% MAX.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.2V, +3.3V → 3.7V ~ 4.1V, +12V → 13.3V ~ 14.3V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, TÜV TÜV EN-60950, CB CB IEC-60950:1999, CCC GB4943-2001, GB9254-1998, GB17625.1-2003.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- REMOTE SENSING ON 3.3 V DESIGN.
- I²C FEATURES (OPTIONAL).
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 220 (D) mm (STRETCH PS/2).

使用程序

1. 卸下本體上的螺絲。
 - 注意：(1) 請勿卸錯，例如風扇的螺絲。(2) 若要用新螺絲替代，請用正確的規格。
2. 參照第 3 頁之圖示，用螺絲將產品鎖住於機殼內。務須鎖緊，不可有晃動現象。
3. 插入各個 DC 接頭前，請確實檢查主機板、硬碟機等接頭型式及其接腳定位，再正確地連結各裝置。
 - 例如，主機板 24 pin DC 接頭插座至少分成完全相異的 AMD Athlon MP 及 Intel Xeon 兩大類，插錯不同接腳定位接頭，可能造成該裝置嚴重損壞而無法修復。(各產品規格日後如有更新，請以最新規格檢測，不另通知。)
 - 其它裝置，亦同此原則類推。
4. 計算出系統所需的各組 DC 電流數，並檢查產品規格書，確認各組 DC 電流數應高於最低系統負載要求並低於最大輸出容許值。
5. 插上產品的電源線。
 - 若購買機種，則有 I/O 開關，請按下此鈕於 I (即 ON) 位置。
 - 此手冊所列之機種皆附主動式電源功率矯正之功能 (ACTIVE PFC)，為廣域式輸入電壓之設計，可接受 100Vac 至 240Vac 等全球各國家通用的市電電壓，不需做 115V/230V 切換，也沒有因輸入錯誤的電壓而燒壞變壓器等疑慮，即可達到隨插即用的功效。
6. 此時即可以 remote-on 之方式來開機。

故障排除與維護

現象	對策
無電源？	● 插上系統端（例如主機板）之接頭後，檢查電源線兩端插頭確實連結市電（牆壁 AC 交流電之插孔）及電源供應器之插座。 ● Power 有 I/O 開關，按下此鈕於 I（即 ON）位置。此外，產品需以 remote-on 遠端開啓之方式來開機，即以系統面板上的 I/O 開機。 ● 產品有最低負載之限制（minimum load），參考規格表，檢查確實有足夠的 AC 輸入功率來啓動產品，使產品能正常運作。 ● 檢查產品所能提供各組 DC 輸出的安培數，足夠啓動系統所需的能量。例如：系統端需要 12V/20A，但產品端只能供應 12V/16A，則不敷所需。 ● 剛開始有電源，風扇轉動數下後，即無電源輸出。此可能為與系統搭配上之相容性問題，或者，插錯接頭（腳定位），造成“短路”，此非產品本身問題。例如：（1）用在 Intel Xeon 主機板之 24P 主接頭，不可錯插在 AMD Athlon MP 主機板的插座，因其兩種腳定位不相同。（2）軟碟機所用之小 4P 接頭，插空了一支腳，小 4P 接頭兩端的腳定位不相符合。【解決方式】把所有接頭皆拔除，逐一插上接頭並檢查該裝置正常運作後，再連接下一個裝置，以此類推。 ● 產品可能因“過電流”，或“過電壓”，或“過負載”，啓動自我保護功能，而處於鎖機狀態。拔除電源線，關掉產品約 20 秒鐘或更久，釋放餘電，即可再插上電源線，開機，啓動。
有電源，但螢幕無畫面？	● 檢查 VGA/AGP 顯示卡確實插入介面卡槽，妥當地連接 VGA 接頭於顯示卡及螢幕。 ● 某些主機板要求“成對”的記憶體，例如 Tyan #S2665，必須一次至少插入兩支記憶體，或四支等數量，才會啓動系統，顯示畫面。

技術服務

本產品提供下列數種方法，以期使用戶能得到快速且完善的服務。

1. 全天候連線服務的網站 www.zippy.com.tw，提供各產品的詳細規範。
2. 專人回覆的電子信箱 powersales@zippy.com.tw。
3. RMA 維修。將產品送去店家維修（“送修”）前，請先備妥：(i) 購買證明，(ii) 產品序號 “SER. NO. : ”（請參考產品的標籤貼紙，如下圖之註解）、產品料號 “P/N : ” 及機種 “MODEL : ”，(iii) 簡易描述產品所發生的狀況。備註：RMA 維修的條款，以及維修時可能發生的相關費用，請與店家連繫。



方框之註解：(1) 機種 HP2-6460P，(2) 序號 T3240001，(3) 料號 2000370018。其內容會因機種而不同。

4. 若有其它技術問題，非本手冊或網站所能備載的範圍，可連絡專人服務的電子信箱。
5. 另外，本公司尚有更多各式各樣的產品，可從上述的網頁、電子信箱等管道，取得資訊。

維修與保固

- 保固期以購買日起算。非天災人禍，在正常使用下未拆保固封條而故障者，享有三年免費維修服務之保固，超過三年者，酌收材料更換費用。
- 當發生保固維修，需明示其購買證明或保證書，保留"購買證明"如收據等或"保證書"且需註明購買日期及加蓋店章。
- 當以下任一情形發生時，則不適用此保固條款：
 - 保固貼紙已有撕開或裂損等。
 - 自行更換零件，或未經授權而修改電路、電器功能等。
 - 超出產品規格書範圍外之不當使用。
 - 在惡劣的環境下使用，致使產品生命其加速縮減而無法更換零件再使用，如硫化、鹽害、等。

謝謝您使用本產品，期待本產品為您提供物超所值的效益，歡迎您指定購買本產品。



Safety and Warnings

IMPORTANT INFORMATION ON SAFETY AND PROPER OPERATION OF THE POWER SUPPLY.

<< Read the information carefully before using it. >>

1. Only authorized technician or service center is allowed to open the power supply for product services.
2. Never alter the power supply cord or plug. Improper modification can result in severe electrical shock.
3. Connect power supply only to designated power sources. Do not place any other materials into the inlet of the power supply other than the power cord.
4. Do not plug or unplug the power cord with wet hands.
5. To avoid power cord damage, remove the power cord from the wall outlet by grabbing the plug instead of the cord.
6. Make sure the power cord is properly routed so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
7. To avoid electrical shock, unplug the unit from the power source before attempting any cleaning.

Note1: For safety purposes, power cord must comply with the requirements of the National Safety Code.

Note2: All relevant registered trademarks are strictly the property of their respective companies.

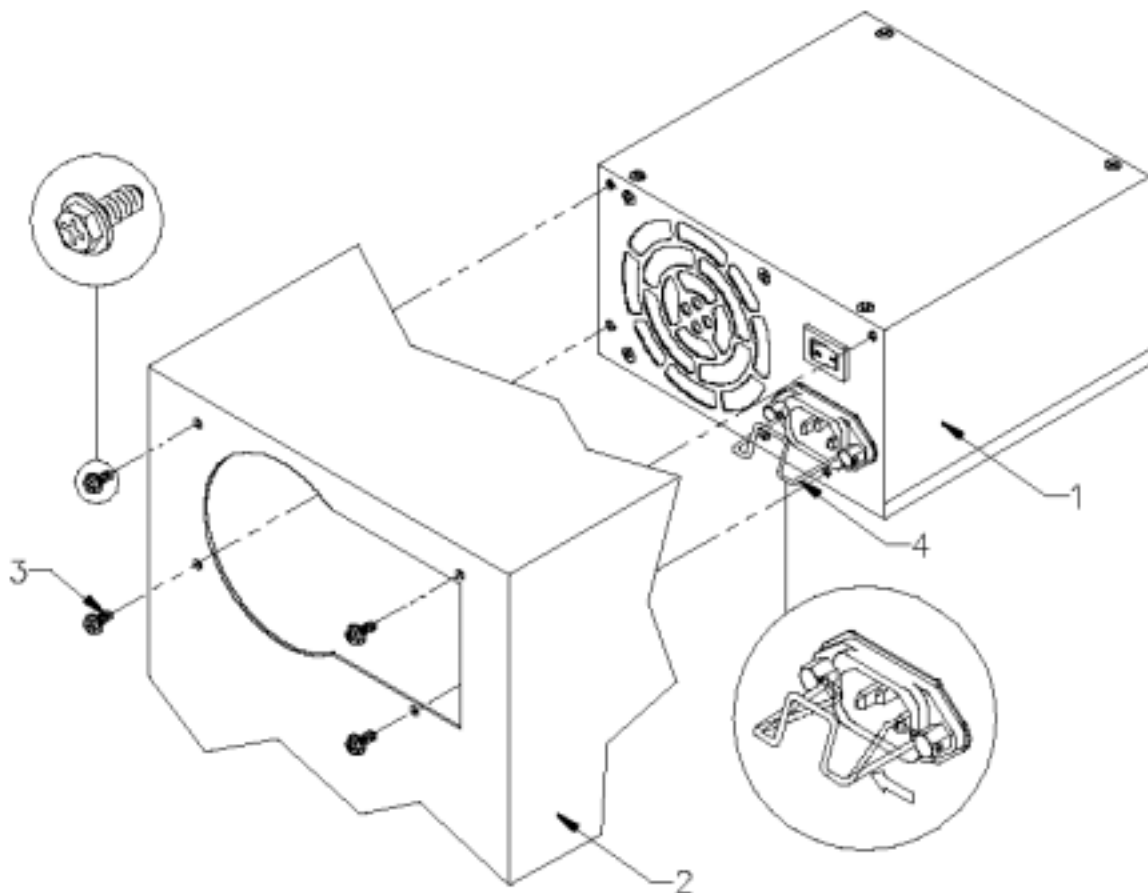
Note3: No further notice will be given for any revision of the product, either modification or a newer version.

Product and Accessories

Please contact your local dealers if any of the following product or accessory is missing from the package.

1. Power Supply Unit. (Refer to the Figure)
2. Screws.
 - To prevent missing screws during shipment, screws were installed on the power supply. When install power supply into computer, remove those four screws first, please do not remove fan or case screws. All four screws should be installed and fasten.
3. ATE (Auto Testing Equipment) report.
4. User manual.
5. AC power cord.
6. Power cord holder.
7. Bracket and screws, for front end mounting of power supply.(PSL Type)

Remark: All items listed above have been tested and approved; unauthorized accessories should not be used on this product.



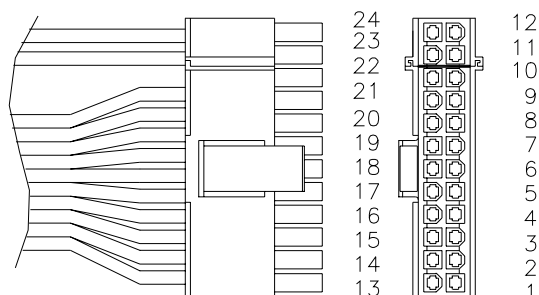
Note: The above figure is just a sample; please refer to the actual product.

Remark:

1. I/O switch on rear panel.
2. The computer case shown above is not part of the power supply.
3. Screws and its specifications.
4. Power cord holder

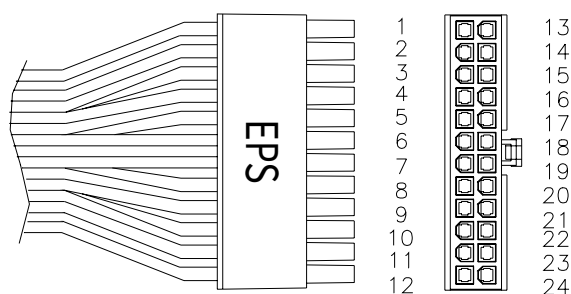
Pin Assignment

Always check the socket and pin assignment (for devices such as motherboard, Hard Disk etc.) before connecting the two heads.



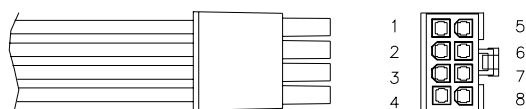
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	ORANGE	+3.3V	13	ORANGE	+3.3V
2	ORANGE	+3.3V	14	BLUE	-12V
3	BLACK	GND	15	BLACK	GND
4	RED	+5V	16	GREEN	PS-ON
5	BLACK	GND	17	BLACK	GND
6	RED	+5V	18	BLACK	GND
7	BLACK	GND	19	BLACK	GND
8	GREY	PWR-OK	20	Reserved (-5V in ATX)	N/C
9	PURPLE	+5VSB	21	RED	+5V
10	YELLOW	+12V	22	RED	+5V
11	YELLOW	+12V	23	RED	+5V
12	ORANGE	+3.3V	24	BLACK	GND

24PINS(20PINS+4PINS)
(For HG2 Type)



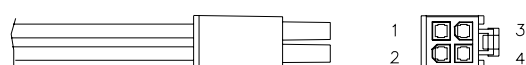
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	ORANGE	+3.3V	13	ORANGE	+3.3V
2	ORANGE	+3.3V	14	BLUE	-12V
3	BLACK	GND	15	BLACK	GND
4	RED	+5V	16	GREEN	PS-ON
5	BLACK	GND	17	BLACK	GND
6	RED	+5V	18	BLACK	GND
7	BLACK	GND	19	BLACK	GND
8	GREY	PWR-OK	20	Reserved (-5V in ATX)	N/C
9	PURPLE	+5VSB	21	RED	+5V
10	YELLOW	+12V	22	RED	+5V
11	YELLOW	+12V	23	RED	+5V
12	ORANGE	+3.3V	24	BLACK	GND

24PINS (EPS12V)



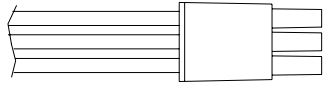
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	BLACK	GND	5	YELLOW	+12V
2	BLACK	GND	6	YELLOW	+12V
3	BLACK	GND	7	YELLOW	+12V
4	BLACK	GND	8	YELLOW	+12V

8PINS (EPS12V)



PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	BLACK	GND	3	YELLOW	+12V
2	BLACK	GND	4	YELLOW	+12V

4PINS (ATX12V, For P4)



1

2

3

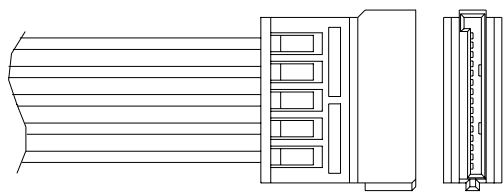
4

5

6

PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	YELLOW	+12V	4	BLACK	GND
2	YELLOW	+12V	5	BLACK	GND
3	YELLOW	+12V	6	BLACK	GND

6PINS (6I)
(For PCI Express,Option)



1-3

4-6

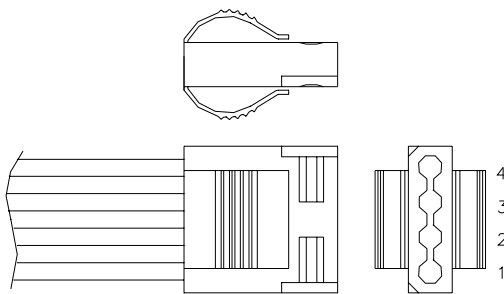
7-9

10-12

13-15

PIN NO.	COLOR	OUTPUT VOLTAGE
1-3	ORANGE	+3.3V
4-6	BLACK	GND
7-9	RED	+5V
10-12	BLACK	GND
13-15	YELLOW	+12V

15PINS (SERIAL ATA HD)



4

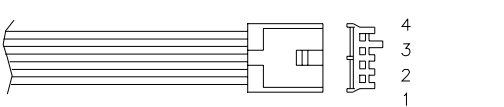
3

2

1

PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	YELLOW	+12V	3	BLACK	GND
2	BLACK	GND	4	RED	+5V

4PINS (HD/CD-ROM/RW)



4

3

2

1

PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	YELLOW	+12V	3	BLACK	GND
2	BLACK	GND	4	RED	+5V

4PINS (FLOPPY DISK)

Specifications

Please refer to the specifications according to the actual product purchased.

Note: The new feature, “Prolonged Cooling” after power supply is remote-off only available on model HG2. Under normal conditions, when power supply is at “Remote-off” mode, cooling fan will remain in operation for the secondary heat dissipation, and will come to stop at a much lower temperature. This will prolong the life of the power supply.

INPUT CHARACTERISTICS:

HG2-6400P(G1)

- VOLTAGE: 90 ~ 240 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 HZ.
- INPUT CURRENT: 8.0 A (RMS) FOR 115VAC, 4.0 A (RMS) FOR 230VAC.
- INRUSH CURRENT: 65A MAX. FOR 115 VAC, 125A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	3	35	± 5%	± 1%	50mV
12V	2	30	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	150mV
-12V	0	1	± 5%	± 1%	150mV
3.3V	1	28	± 5%	± 1%	50mV
+5VSB	0.1	2	± 5%	± 1%	50mV

REMARK: OUTPUT CURRENT OF +5V & +3.3V COMBINED SHOULD NOT EXCEED 45A.

SPECIFICATION:

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & NORMAL INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY : 3000VAC FOR 1 MIN.
PRIMARY TO FG : 2200VAC FOR 1 MIN.
- EFFICIENCY: 70% TYPICAL.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 130 +/- 20%.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.5V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- SHORT CIRCUIT PROTECTION: +5V, -5V, +12V, -12V, +3.3V.
- EMI NOISE FILTER: FCC CLASS B, CISPR22 CLASS B.
- SAFETY: MEET UL 60950, CSA C 22.2 NO. 60950, TUV EN-60950,
CCC GB4943-1995/GB9254-1998/GB17625.1-1998
ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
THE UNIT SHALL ACCEPT A LOGIC OPEN COLLECTOR LEVEL WHICH WILL DISABLE / ENABLE ALL OUTPUT VOLTAGES (EXCLUDE +5V STANDBY),
AS LOGIC LEVEL IS LOW, OUTPUT VOLTAGES WERE ENABLE,
AS LOGIC LEVEL IS HIGH, OUTPUT VOLTAGES WERE DISABLE
- ADVANCED THERMAL & ACOUSTICS CONTROL FEATURES..
- 3.3V / 5V REMOTE SENSING.
- COOLING: ONE 80mm DC BALL BEARING FAN.
- DIMENSION: 140 (D) x150 (W) x 86 (H) mm (PS/2).

Specifications

Please refer to the specifications according to the actual product purchased.

INPUT CHARACTERISTICS:

HP2-6460P/6500P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 7.5/8.0 A FOR 115 VAC, 3.5/4.0 A FOR 230 VAC.
- INRUSH CURRENT: 65 A MAX. FOR 115 VAC, 125 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	2.5	40	± 5%	± 1%	60mV
12V	1	32/36	± 5%	± 1%	100mV
-5V	0	0.8	± 5%	± 1%	100mV
-12V	0	1	± 5%	± 1%	100mV
3.3V	1	30	± 5%	± 1%	60mV
+5VSB	0.1	2	± 5%	± 1%	60mV

REMARK: **TOTAL OUTPUT SHOULD NOT EXCEED 460W/500W FOR HP2-6460P/6500P.**

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY : 1800VAC FOR 60 SEC.
- PRIMARY TO FG : 1800VAC FOR 60 SEC.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER CURRENT PROTECTION:
+5V → 44 A ~ 60 A, + 3.3V → 33 A ~ 45 A, 12V → 35.2 A ~ 48.0 A.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.5V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 1402C & CSA 950, TUV EN-60950.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- BUILT-IN ACTIVE POWER FACTOR CORRECTOR.
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 140 (D) mm (PS/2).

Specifications

Please refer to the specifications according to the actual product purchased.

INPUT CHARACTERISTICS:

GSM-6550P/6600P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 9.0/10.0 A FOR 115 VAC, 4.5/5.0 A FOR 230 VAC.
- INRUSH CURRENT: 65 A MAX. FOR 115 VAC, 125 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	1	30	± 3%	± 1%	60mV
12V	1.5	40	± 3%	± 1%	100mV
-5V	0	0.8	± 5%	± 1%	100mV
-12V	0	0.8	± 5%	± 1%	100mV
3.3V	0	30	± 3%	± 1%	60mV
+5VSB	0	2	± 5%	± 1%	60mV

REMARK: +5V and +3.3V Max. Current: 50A

+12V TOTAL OUTPUT MAX. 40A.

TOTAL OUTPUT SHOULD NOT EXCEED 550W/600W FOR GSM-6550P/6600P.

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 50°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY: 1800VAC FOR 1 SEC.
PRIMARY TO FG: 1800VAC FOR 1 SEC.
- EFFICIENCY: 70% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER CURRENT PROTECTION:
+5V → 33 A ~ 45 A, + 3.3V → 33 A ~ 45 A, 12V → 44 A ~ 66A
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.2V, 3.3V → 3.7V ~ 4.1V, 12V → 13.3V ~ 14.3V
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 22.28 NO950-95, TÜV EN-60950.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- BUILT-IN ACTIVE POWER FACTOR CORRECTOR.
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 160 (D) mm (STRETCH PS/2, EPS12V).

Specifications

Please refer to the specifications according to the actual product purchased.

INPUT CHARACTERISTICS:

PSL-6720P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 12.0 A FOR 115 VAC, 5.0 A FOR 230 VAC.
- INRUSH CURRENT: 75 A MAX. FOR 110 VAC, 150 A MAX. FOR 220 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	0.5	45	± 5%	± 1%	60mV
12V	2	52	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	120mV
-12V	0	0.8	± 5%	± 1%	120mV
3.3V	0.5	30	± 5%	± 1%	60mV
+5VSB	0	3.5	± 5%	± 1%	60mV

+5V and +3.3V MAX. power: 230W Total power: 720W (MAX)

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 50°C, STORAGE -20°C --- 80°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 17 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTAND:
PRIMARY TO SECONDARY: 1800 VAC FOR 1 SEC.
PRIMARY TO FG: 1800 VAC FOR 1 SEC.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.3V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 1402C & CSA950, TÜV EN-60950, CB IEC-60950: 1999, CCC GB4943-2001, CCC GB9254-1998, CCC GB17625.1-2003
- POWER LINE TRANSIENT: EN61000-4-2(ESD) CRITERION B, ±4KV BY CONTACT, ±8KV BY AIR.
EN61000-4-4(EFT) CRITERION B, ±1KV. EN61000-4-5(SURGE) CRITERION B, LINE-LINE±1KV.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- I²C FEATURES (OPTIONAL).
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 220 (D) mm (STRETCH PS/2).

Specifications

Please refer to the specifications according to the actual product purchased.

INPUT CHARACTERISTICS:

PSL-6800P/PSL-6850P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 13.5 A FOR 115 VAC, 6.0 A FOR 230 VAC.
- INRUSH CURRENT: 75 A MAX. FOR 115 VAC, 150 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	0.5	45	± 5%	± 1%	60mV
12V	2	60	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	120mV
-12V	0	0.8	± 5%	± 1%	120mV
3.3V	0.5	30	± 5%	± 1%	60mV
+5VSB	0	3.5	± 5%	± 1%	60mV

REMARK: +5V and +3.3V total power max: 250W.

TOTAL OUTPUT POWER SHOULD NOT EXCEED 700W FOR PSL-6701P.

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTAND:
INPUT / OUTPUT 1500 VAC FOR 1 MINUTE,
INPUT TO FRAME GROUND 1500 VAC FOR 1 MINUTE.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 160% MAX.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.2V, +3.3V → 3.7V ~ 4.1V, +12V → 13.3V ~ 14.3V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, TÜV TÜV EN-60950, CB CB IEC-60950:1999, CCC GB4943-2001, GB9254-1998, GB17625.1-2003.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- REMOTE SENSING ON 3.3 V DESIGN.
- I²C FEATURES (OPTIONAL).
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 220 (D) mm (STRETCH PS/2).

Operational Procedure

1. When removing four attached screws to install this product, please make sure not removing fan or case screws by mistake.
2. Tighten four screws onto the computer case and double check for stability. (Please refer to the figure on page 4).
3. Before connecting the units, make sure you verify connector and pin assignment for devices such as motherboard, hard disk etc. For example, the pin assignments of 24-pin and 8-pin connector on AMD Athlon MP Motherboard are totally different than Intel Xeon motherboard. Severe damages may occur by wrong connection.
4. Check product specifications and calculate actual current requirements of each DC voltage. Make sure these requirements fall within the minimum and maximum range of power supply. If the current requirements are below the minimum load spec., the power supply may not start up. If the current requirements are over the maximum load spec., our over protection circuitry will latch and shutdown the power supply.
5. Plug in power cord to the inlet of power supply.
 - Only HG2 models have line power I/O rocker switch. Please set the switch to “I” or “ON” to turn on line power. For other models, just plug the power cord into the electrical outlet directly.
 - Active Power Factor Correction (PFC) function is available for all power supply models listed in this manual. The PFC function ensures maximum efficiency of power usage to preserve energy and lower your electrical bills. It also automatically adapts to a very wide range of AC line voltage: 100V to 240V AC. (There are no manual switches for you to select AC input). This unique design ensures you can use our power supplies anywhere in the world.
6. You can start up the power supply remotely by using “Remote on”.

Troubleshooting & Maintenance

SYMPTOM	COUNTERMEASURE
No power?	● After plug main connector, such as 24-pin or 20-pin and aux. connectors if needed, to motherboard socket, make sure AC power cord gets AC line source that is on wall outlet, to this product power supply. If AC power cord gets AC line source through power bar or UPS, turn on these devices first. ● If product model is HG2, set I/O switch of power supply panel to “I” or “ON”. Other models HP2, PSM and PSL don't have line power I/O rocker switch. ● Boot system from computer case I/O. ● Check product specifications and calculate actual current requirements of each DC voltage. Make sure these requirements fall within the minimum and maximum range of power supply. (i) If the current requirements are below the minimum load spec., the power supply may not start up. Increase load. (ii) If the current requirements are over the maximum load spec., our over protection circuitry will latch and shutdown the power supply. Reduce load or use larger capacity power supply. ● There may be a system incompatibility or wrong connector pin out or connection, when power supply its fan has spin for while then shutdown. For example, (i) Use wrong pin assignments of 24-pin and 8-pin connectors e.g. For AMD Athlon MP Motherboard connectors are totally different than Intel Xeon motherboard. Severe damages may occur by plugging wrong connection. (ii) Plug wrong pin position on small 4-pin floppy drive connector to cause connection displacement. [Action] Remove all connectors at all first, then one-by-one to plug in one connector at a time and verify the operation of each device and system function. When no problem, proceed next device. ● The power supply could be latched by self-protection function (e.g. “over voltage”, “over current”, “overload”). Remove the power cord, wait for 20 seconds or more to discharge its electricity, then plug in the power cord again, try to restart the computer.
Power is on, but no monitor display?	● Check if video card is seated properly; check the video cable connection. ● Verify system and motherboard requirements. For example, some motherboards require RAM in pairs to work properly, such as Tyan #S2665.

Technical Support

To best serve our customers, there are several services available to suite your needs:

- For detailed products specification: please visit www.zippy.com
- For technical enquiries: please send e-mail to powersales@zippy.com
- For RMA service: please prepare following items before calling RMA department,
 - Proof of purchase (original dated receipt)
 - Product serial number (SER. NO.) (Refer to the label on product and diagram below)
 - Product part number (P/N)
 - Product model
 - Detailed description of problems

Note:

Different distributors or resellers have their specific RMA terms and conditions; please contact them for detailed information.

Locations of relevant information:

e.g. (1) Model **HP2-6460P**, (2) S/N **T32400001**, (3) P/N **2000370018**.

Actual contents may not be the same for different models.



- Please feel free to contact us via e-mail should you encounter any technical problems beyond the scope of this user manual.
- We carry more than 120 standing high quality power supply models and over six hundred various sub-models. Please visit www.zippy.com for more detailed information.

Maintenance and Warranty

- Product warranty commence from the date of purchase. If it is mal-functioning under normal use, without natural disaster or being destroyed by human and if the warranty seal is not broken, the warranty will be three years free of maintenance charge. If it is over three years, there will be charge for the material cost.
- When repairing within warranty time, the purchasing receipt or warranty document must be demonstrated. The purchasing receipt and warranty document must be preserved and stamp the purchasing date and store.
- If any of the following occasion happened, the warranty will not apply:
 - The warranty seal is torn or broken.
 - Change the parts by oneself or modify the circuit or function without authorization.
 - Mis-use beyond the specification.
- Use in the hazardous environment due to harm of vulcanization or salt which can shorten the life cycle of the product and cause the product unusable by changing parts.



警告及安全說明

1. 請勿將任何金屬物品插入電源供應器（以下稱 “ 產品 ”）外殼開口處，因可能有觸電之危險。
2. 避免將此產品置於高濕度或高灰塵量的環境。
3. 插拔 AC 電源線時，雙手保持乾燥；不可硬拉電源線，應緊抓住插頭再插拔。
4. 若 AC 電源線受損，請勿繼續使用產品。
5. 請勿放置任何物品於電源線上，並注意，不要將 AC 電源線放置在有人走動的區域。
6. 只有經過授權且受訓合格的技術人員，方可拆解產品外殼，以進行維修。
7. 使用此產品時，請保持良好通風，以利散熱，並避免其它物品干擾到產品散熱風向的流量。

附註一：為了使用上安全的考量，AC 電源線之型式及其規格，必須合乎該使用國家的安檢規範。

附註二：本產品所提及之各註冊商標分屬各註冊公司所有，不再一一聲明。

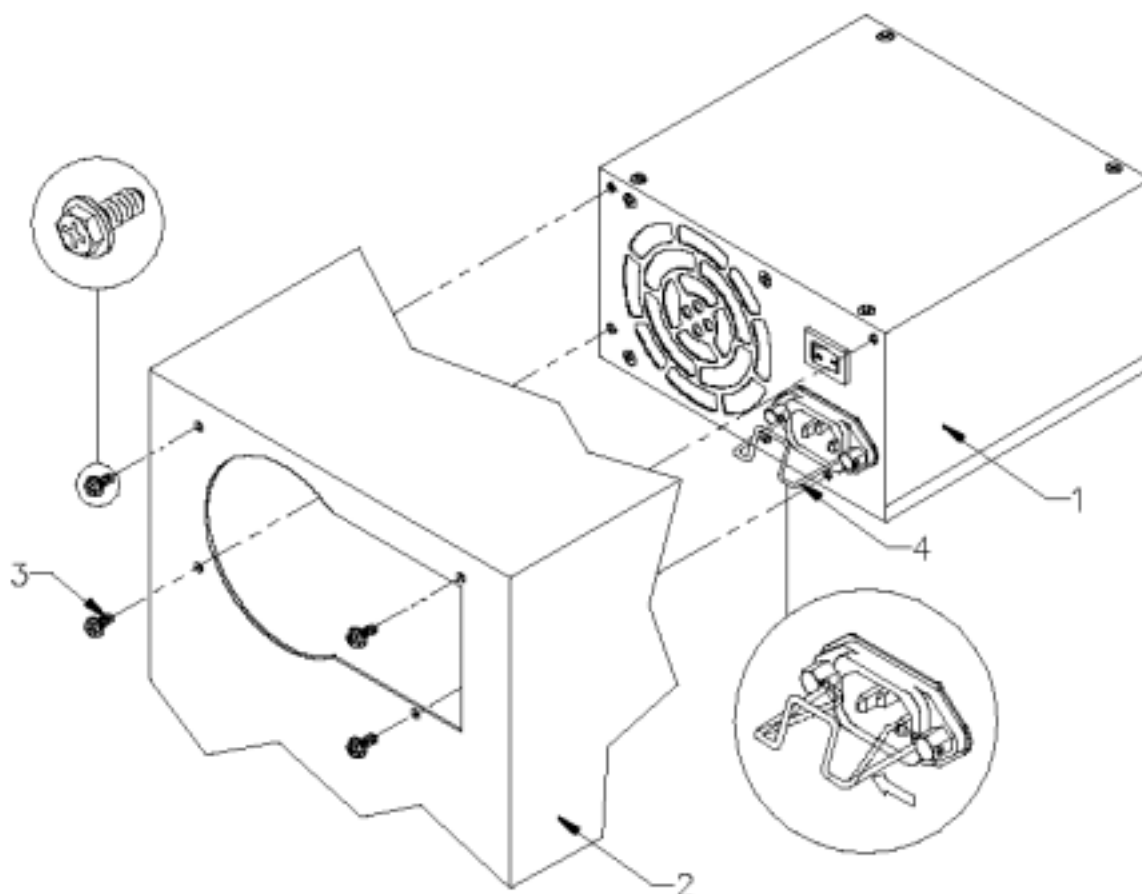
附註三：本公司擁有此產品修改的權利，日後如有更新，請以最新版本為準，恕不另通知。

产品及附件

请确认是否包含以下各项物品，若有缺失，请连系代理店。

1. 电源供应器本体。(请参考下图)
2. 螺丝。
 - 为避免遗失，螺丝已被固定在本体上。注意：请用从本体卸下的螺丝，来锁定产品与机壳，以图标的箭头方向锁上螺丝，以防滑牙。
3. ATE (Auto Testing Equipment) 检验报告。
4. 使用手册。
5. AC 电源线。
6. 电源线固定夹。
7. 支架和螺丝，供电源供应器前端固定使用。(PSL 机型)

附注：上述物品，皆经过本公司测试且认证核可。非经认可之附件，请勿使用于此产品。



本图仅供参考，请以购买之实体为主。

注标 (1)，本体。

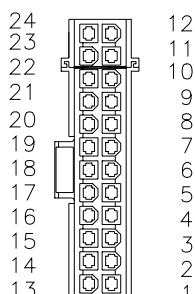
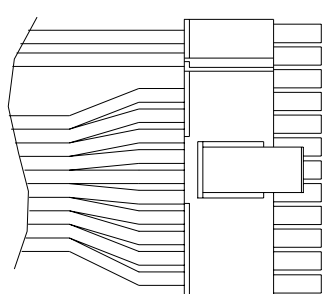
注标 (2)，机壳。为另外一项产品，并不属于此产品所含之内容。

注标 (3)，螺丝及其尺寸。

注标 (4)，电源线固定夹。

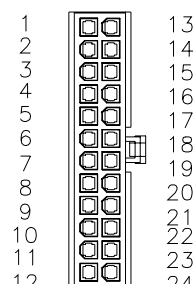
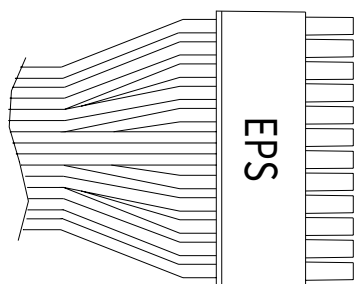
各接头之脚定位及示意图

确认各装置（例如：主机板、硬盘机等）所需的接头及脚定位（pin assignment），再插上正确的接头。



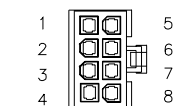
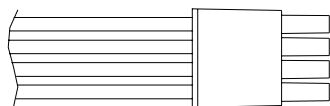
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	ORANGE	+3.3V	13	ORANGE	+3.3V
2	ORANGE	+3.3V	14	BLUE	-12V
3	BLACK	GND	15	BLACK	GND
4	RED	+5V	16	GREEN	PS-ON
5	BLACK	GND	17	BLACK	GND
6	RED	+5V	18	BLACK	GND
7	BLACK	GND	19	BLACK	GND
8	GREY	PWR-OK	20	Reserved (-5V in ATX)	N/C
9	PURPLE	+5VSB	21	RED	+5V
10	YELLOW	+12V	22	RED	+5V
11	YELLOW	+12V	23	RED	+5V
12	ORANGE	+3.3V	24	BLACK	GND

24PINS(20PINS+4PINS)
(For HG2 Type)



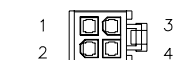
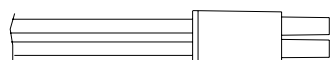
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	ORANGE	+3.3V	13	ORANGE	+3.3V
2	ORANGE	+3.3V	14	BLUE	-12V
3	BLACK	GND	15	BLACK	GND
4	RED	+5V	16	GREEN	PS-ON
5	BLACK	GND	17	BLACK	GND
6	RED	+5V	18	BLACK	GND
7	BLACK	GND	19	BLACK	GND
8	GREY	PWR-OK	20	Reserved (-5V in ATX)	N/C
9	PURPLE	+5VSB	21	RED	+5V
10	YELLOW	+12V	22	RED	+5V
11	YELLOW	+12V	23	RED	+5V
12	ORANGE	+3.3V	24	BLACK	GND

24PINS (EPS12V)



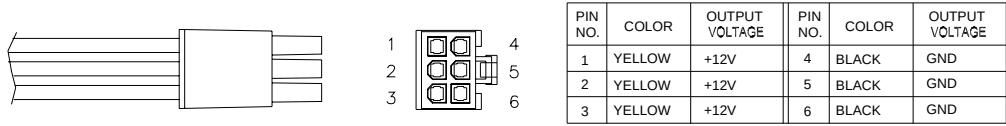
PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	BLACK	GND	5	YELLOW	+12V
2	BLACK	GND	6	YELLOW	+12V
3	BLACK	GND	7	YELLOW	+12V
4	BLACK	GND	8	YELLOW	+12V

8PINS (EPS12V)

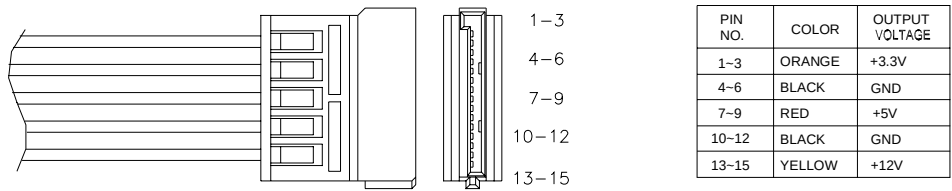


PIN NO.	COLOR	OUTPUT VOLTAGE	PIN NO.	COLOR	OUTPUT VOLTAGE
1	BLACK	GND	3	YELLOW	+12V
2	BLACK	GND	4	YELLOW	+12V

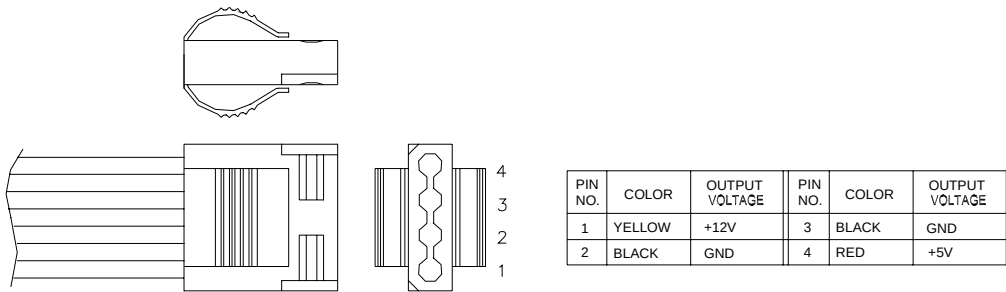
4PINS (ATX12V, For P4)



6PINS (6I)
(For PCI Express,Option)



15PINS (SERIAL ATA HD)



4PINS (HD/CD-ROM/RW)



4PINS (FLOPPY DISK)

规格书

请对照实际购买的产品型号。备注：仅 HG2 机种，在正常使用情形下，产品经 remote-off 远程（即以系统面板上的 I/O）关机后，仍会转动风扇，作二次散热，直至主要零件降温到适宜的温度而停止。此为正常现象，亦是 HG2 机种之特点，可期增长零件寿命。

INPUT CHARACTERISTICS:

HG2-6400P(G1)

- VOLTAGE: 90 ~ 240 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 HZ.
- INPUT CURRENT: 8.0 A (RMS) FOR 115VAC, 4.0 A (RMS) FOR 230VAC.
- INRUSH CURRENT: 65A MAX. FOR 115 VAC, 125A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	3	35	± 5%	± 1%	50mV
12V	2	30	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	150mV
-12V	0	1	± 5%	± 1%	150mV
3.3V	1	28	± 5%	± 1%	50mV
+5VSB	0.1	2	± 5%	± 1%	50mV

REMARK: OUTPUT CURRENT OF +5V & +3.3V COMBINED SHOULD NOT EXCEED 45A.

SPECIFICATION:

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & NORMAL INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY : 3000VAC FOR 1 MIN.
PRIMARY TO FG : 2200VAC FOR 1 MIN.
- EFFICIENCY: 70% TYPICAL.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 130 +/- 20%.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.5V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- SHORT CIRCUIT PROTECTION: +5V, -5V, +12V, -12V, +3.3V.
- EMI NOISE FILTER: FCC CLASS B, CISPR22 CLASS B.
- SAFETY: MEET UL 60950, CSA C 22.2 NO. 60950, TUV EN-60950,
CCC GB4943-1995/GB9254-1998/GB17625.1-1998
ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
THE UNIT SHALL ACCEPT A LOGIC OPEN COLLECTOR LEVEL WHICH WILL DISABLE / ENABLE ALL OUTPUT VOLTAGES (EXCLUDE +5V STANDBY),
AS LOGIC LEVEL IS LOW, OUTPUT VOLTAGES WERE ENABLE,
AS LOGIC LEVEL IS HIGH, OUTPUT VOLTAGES WERE DISABLE
- ADVANCED THERMAL & ACOUSTICS CONTROL FEATURES..
- 3.3V / 5V REMOTE SENSING.
- COOLING: ONE 80mm DC BALL BEARING FAN.
- DIMENSION: 140 (D) x150 (W) x 86 (H) mm (PS/2).

规格书

请对照实际购买的产品型号。

INPUT CHARACTERISTICS:

HP2-6460P/6500P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 7.5/8.0 A FOR 115 VAC, 3.5/4.0 A FOR 230 VAC.
- INRUSH CURRENT: 65 A MAX. FOR 115 VAC, 125 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	2.5	40	± 5%	± 1%	60mV
12V	1	32/36	± 5%	± 1%	100mV
-5V	0	0.8	± 5%	± 1%	100mV
-12V	0	1	± 5%	± 1%	100mV
3.3V	1	30	± 5%	± 1%	60mV
+5VSB	0.1	2	± 5%	± 1%	60mV

REMARK: **TOTAL OUTPUT SHOULD NOT EXCEED 460W/500W FOR HP2-6460P/6500P.**

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY : 1800VAC FOR 60 SEC.
PRIMARY TO FG : 1800VAC FOR 60 SEC.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER CURRENT PROTECTION:
+5V → 44 A ~ 60 A, + 3.3V → 33 A ~ 45 A, 12V → 35.2 A ~ 48.0 A.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.5V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 1402C & CSA 950, TUV EN-60950.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- BUILT-IN ACTIVE POWER FACTOR CORRECTOR.
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 140 (D) mm (PS/2).

规格书

请对照实际购买的产品型号。

INPUT CHARACTERISTICS:

GSM-6550P/6600P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 9.0/10.0 A FOR 115 VAC, 4.5/5.0 A FOR 230 VAC.
- INRUSH CURRENT: 65 A MAX. FOR 115 VAC, 125 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT
	MIN.	MAX.	LOAD	LINE	RIPPLE & NOISE MAX.[P-P]
5V	1	30	± 3%	± 1%	60mV
12V	1.5	40	± 3%	± 1%	100mV
-5V	0	0.8	± 5%	± 1%	100mV
-12V	0	0.8	± 5%	± 1%	100mV
3.3V	0	30	± 3%	± 1%	60mV
+5VSB	0	2	± 5%	± 1%	60mV

REMARK: +5V and +3.3V Max. Current: 50A

+12V TOTAL OUTPUT MAX. 40A.

TOTAL OUTPUT SHOULD NOT EXCEED 550W/600W FOR GSM-6550P/6600P.

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 50°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTANDING VOLTAGE:
PRIMARY TO SECONDARY: 1800VAC FOR 1 SEC.
PRIMARY TO FG: 1800VAC FOR 1 SEC.
- EFFICIENCY: 70% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER CURRENT PROTECTION:
+5V → 33 A ~ 45 A, + 3.3V → 33 A ~ 45 A, 12V → 44 A ~ 66A
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.2V, 3.3V → 3.7V ~ 4.1V, 12V → 13.3V ~ 14.3V
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 22.28 NO950-95, TÜV EN-60950.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- BUILT-IN ACTIVE POWER FACTOR CORRECTOR.
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 160 (D) mm (STRETCH PS/2, EPS12V).

规格书

请对照实际购买的产品型号。

INPUT CHARACTERISTICS:

PSL-6720P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 12.0 A FOR 115 VAC, 5.0 A FOR 230 VAC.
- INRUSH CURRENT: 75 A MAX. FOR 110 VAC, 150 A MAX. FOR 220 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT RIPPLE & NOISE MAX.[P-P]
	MIN.	MAX.	LOAD	LINE	
5V	0.5	45	± 5%	± 1%	60mV
12V	2	52	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	120mV
-12V	0	0.8	± 5%	± 1%	120mV
3.3V	0.5	30	± 5%	± 1%	60mV
+5VSB	0	3.5	± 5%	± 1%	60mV

+5V and +3.3V MAX. power: 230W Total power: 720W (MAX)

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 50°C, STORAGE -20°C --- 80°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 17 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTAND: PRIMARY TO SECONDARY: 1800 VAC FOR 1 SEC.
PRIMARY TO FG: 1800 VAC FOR 1 SEC.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 150% MAX.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.3V, 3.3V → 3.9V ~ 4.3V, 12V → 13.6V ~ 15V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, CSA 1402C & CSA950, TÜV EN-60950, CB IEC-60950: 1999, CCC GB4943-2001, CCC GB9254-1998, CCC GB17625.1-2003
- POWER LINE TRANSIENT: EN61000-4-2(ESD) CRITERION B, ±4KV BY CONTACT, ±8KV BY AIR.
EN61000-4-4(EFT) CRITERION B, ±1KV. EN61000-4-5(SURGE) CRITERION B, LINE-LINE±1KV.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- I²C FEATURES (OPTIONAL).
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 220 (D) mm (STRETCH PS/2).

规格书

请对照实际购买的产品型号。

INPUT CHARACTERISTICS:

PSL-6800P/PSL-6850P(G1)

- VOLTAGE: 90 ~ 264 VAC FULL RANGE.
- FREQUENCY: 47 ~ 63 Hz.
- INPUT CURRENT: 13.5 A FOR 115 VAC, 6.0 A FOR 230 VAC.
- INRUSH CURRENT: 75 A MAX. FOR 115 VAC, 150 A MAX. FOR 230 VAC.

OUTPUT CHARACTERISTICS:

OUTPUT VOLTAGE	OUTPUT CURRENT(A)		REGULATION		OUTPUT
	MIN.	MAX.	LOAD	LINE	RIPPLE & NOISE MAX.[P-P]
5V	0.5	45	± 5%	± 1%	60mV
12V	2	60	± 5%	± 1%	120mV
-5V	0	0.8	± 5%	± 1%	120mV
-12V	0	0.8	± 5%	± 1%	120mV
3.3V	0.5	30	± 5%	± 1%	60mV
+5VSB	0	3.5	± 5%	± 1%	60mV

REMARK: +5V and +3.3V total power max: 250W.

TOTAL OUTPUT POWER SHOULD NOT EXCEED 700W FOR PSL-6701P.

*** WHEN PERFORMING CROSS REGULATION TEST, IT IS REQUESTED TO SET THE HIGHER OUTPUT CHANNEL AT 90% MAXIMUM AND THE LOWER OUTPUT CHANNELS AT 20% MINIMUM OF RATED SPEC.

- TEMPERATURE RANGE: OPERATING 0°C --- 40°C, STORAGE -20°C --- 70°C.
- HUMIDITY: 10 ~ 90 % RH.
- HOLD UP TIME: 16 ms MINIMUM AT FULL LOAD & 90 VAC INPUT VOLTAGE.
- DIELECTRIC WITHSTAND: INPUT / OUTPUT 1500 VAC FOR 1 MINUTE,
INPUT TO FRAME GROUND 1500 VAC FOR 1 MINUTE.
- EFFICIENCY: 71% TYPICAL, AT FULL LOAD, 115VAC.
- POWER GOOD SIGNAL: ON DELAY 100 ms TO 500 ms, OFF DELAY 1 ms.
- OVER LOAD PROTECTION: 110 ~ 160% MAX.
- OVER VOLTAGE PROTECTION:
+5V → 5.7V ~ 6.2V, +3.3V → 3.7V ~ 4.1V, +12V → 13.3 V~ 14.3V.
- EMI: MEET FCC CLASS B, CISPR22 CLASS B.
- SAFETY: UL 60950, TÜV TÜV EN-60950, CB CB IEC-60950:1999, CCC GB4943-2001, GB9254-1998, GB17625.1-2003.
- ACTIVE POWER FACTOR CORRECTION MEET IEC-1000-3-2 CLASS D
- REMOTE ON / OFF CONTROL.
- SHORT CIRCUIT PROTECTION: SHUTDOWN AND LATCH.
- REMOTE SENSING ON 3.3 V DESIGN.
- I²C FEATURES (OPTIONAL).
- COOLING: ONE 80 mm DC BALL BEARING FAN.
- DIMENSION: 86(H) X 150(W) X 220 (D) mm (STRETCH PS/2).

使用程序

1. 卸下本体上的螺丝。
 - 注意：(1) 请勿卸错，例如风扇的螺丝。(2) 若要用新螺丝替代，请用正确的规格。
2. 参照第 3 页之图标，用螺丝将产品锁住于机壳内。务须锁紧，不可有晃动现象。
3. 插入各个 DC 接头前，请确实检查主机板、硬盘机等接头型式及其接脚定位，再正确地连结各装置。
 - 例如，主机板 24 pin DC 接头插座至少分成完全相异的 AMD Athlon MP 及 Intel Xeon 两大类，插错不同接脚定位接头，可能造成该装置严重损坏而无法修复。(各产品规格日后如有更新，请以最新规格检测，不另通知。)
 - 其它装置，亦同此原则类推。
4. 计算出系统所需的各组 DC 电流数，并检查产品规格书，确认各组 DC 电流数应高于最低系统负载要求并低于最大输出容许值。
5. 插上产品的电源线。
 - 若购买机种，则有 I/O 开关，请按下此钮于 I（即 ON）位置。
 - 此手册所列之机种皆附主动式电源功率矫正之功能（ACTIVE PFC），为广域式输入电压之设计，可接受 100Vac 至 240Vac 等全球各国家通用的市电电压，不需做 115V/230V 切换，也没有因输入错误的电压而烧坏变压器等疑虑，即可达到随插即用的功效。
6. 此时即可以 remote-on 之方式来开机。

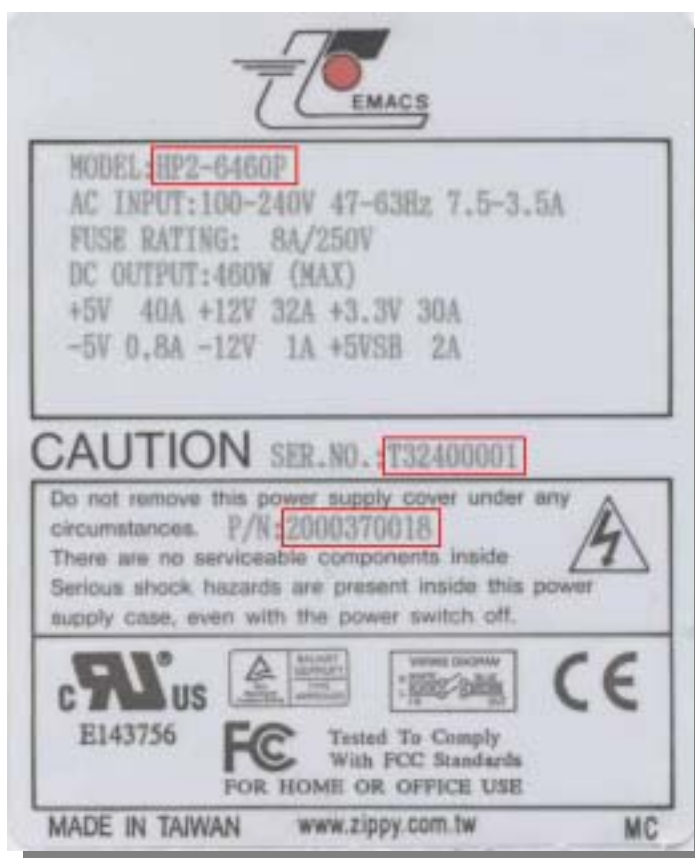
故障排除与维护

现象	对策
无电源？	● 插上系统端（例如主机板）之接头后，检查电源线两端插头确实连结市电（墙壁 AC 交流电之插孔）及电源供应器之插座。 ● Power 有 I/O 开关，按下此钮于 I（即 ON）位置。此外，产品需以 remote-on 远程开启之方式来开机，即以系统面板上的 I/O 开机。 ● 产品有最低负载之限制（minimum load），参考规格表，检查确实有足够的 AC 输入功率来激活产品，使产品能正常运作。 ● 检查产品所能提供各组 DC 输出的安培数，足够激活系统所需的能量。例如：系统端需要 12V/20A，但产品端只能供应 12V/16A，则不敷所需。 ● 刚开始有电源，风扇转动数下后，即无电源输出。此可能为与系统搭配上之兼容性问题，或者，插错接头（脚定位），造成“短路”，此非产品本身问题。例如：(1) 用在 Intel Xeon 主机板之 24P 主接头，不可错插在 AMD Athlon MP 主机板的插座，因其两种脚定位不相同。(2) 软盘机所用之小 4P 接头，插空了一支脚，小 4P 接头两端的脚定位不相符合。【解决方式】把所有接头皆拔除，逐一插上接头并检查该装置正常运作后，再连接下一个装置，以此类推。 ● 产品可能因“过电流”，或“过电压”，或“过负载”，激活自我保护功能，而处于锁机状态。拔除电源线，关掉产品约 20 秒钟或更久，释放余电，即可再插上电源线，开机，激活。
有电源，但屏幕无画面？	● 检查 VGA/AGP 显示卡确实插入适配卡槽，妥当地连接 VGA 接头于显示卡及屏幕。 ● 某些主机板要求“成对”的内存，例如 Tyan #S2665，必须一次至少插入两支内存，或四支等数量，才会激活系统，显示画面。

技术服务

本产品提供下列数种方法，以期使用户能得到快速且完善的服务。

- 全天候联机服务的网站 www.zippy.com.tw，提供各产品的详细规范。
- 专人回复的电子信箱 powersales@zippy.com.tw。
- RMA 维修。将产品送去店家维修（“送修”）前，请先备妥：(i) 购买证明，(ii) 产品序号 “SER. NO. : ”（请参考产品的卷标贴纸，如下图之批注）、产品料号 “P/N : ” 及机种 “MODEL : ”，(iii) 简易描述产品所发生的状况。备注：RMA 维修的条款，以及维修时可能发生的相关费用，请与店家连系。



方框之批注：(1) 机种 HP2-6460P，(2) 序号 T32400001，(3) 料号 2000370018。其内容会因机种而不同。

- 若有其它技术问题，非本手册或网站所能备载的范围，可连络专人服务的电子信箱。
- 另外，本公司尚有更多各式各样的产品，可从上述的网页、电子信箱等管道，取得信息。

维修与保固

- 保固期以购买日起算。非天灾人祸，在正常使用下未拆保固封条而故障者，享有三年免费维修服务之保固，超过三年者，酌收材料更换费用。
- 当发生保固维修，需明示其购买证明或保证书，保留"购买证明"如收据等或"保证书"且需注明购买日期及加盖店章。
- 当以下任一情形发生时，则不适用此保固条款：
 - 保固贴纸已有撕开或裂损等。
 - 自行更换零件，或未经授权而修改电路、电器功能等。
 - 超出产品规格书范围外之不当使用。
 - 在恶劣的环境下使用，致使产品生命其加速缩减而无法更换零件再使用，使硫化、盐害、等。

谢谢您使用本产品，期待本产品为您提供物超所值的效益，欢迎您指定购买本产品。

電源供應器保證書/电源供应器保证书 /Power Supply Guaranty Card

產品機種/ 产品機種/ Model Name	
產品序號/ 产品序号/ Serial Number	
產品料號/ 产品料号/ Part Number	
購買日期/ 购买日期/ Purchasing Date	
經銷商確認章/ 经销商确认章/ Signature 未蓋店章無效/ 未盖店章无效/ Invalidation Without Signature	

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