



SILVERSTONE

Gemini Gold Series

GM600 2U Gold / SST-GM600-2UG V2

GM800 2U Gold / SST-GM800-2UG V2

GM1000 2U Gold / SST-GM1000-2UG V2

Endless power through redundancy

2U redundant form factor with 84mm(W) x 82mm(H) x 217mm(D)

Cybenetics Gold Certified

Active PFC (full range)

Hot swappable design

Convenient pull-out handle bars

Industry-leading reliability

Japanese electrolytic capacitors

SPECIFICATION

SilverStone Gemini Gold Series
GM600 2U Gold / SST-GM600-2UG V2
GM800 2U Gold / SST-GM800-2UG V2
GM1000 2U Gold / SST-GM1000-2UG V2

1+1 2U Redundant Switching Power Supply

Cybenetics Gold efficiency certified.

600W+600W

800W+800W

1000W+1000W

1. General Description

This specification defines the characteristic of 1+1 redundant power supply with Gold efficiency

2. Input Characteristic

2.1. Input connector

The input connector shall be an IEC60320 C14 inlet, rated for 15A/250Vac.

2.2. Input Voltage and Frequency

Minimum	Nominal	Maximum	Measure
90	100~240	264	Vac
47	50~60	63	Hz

2.3. Input Current and Inrush Current

Input Voltage	Max . Input Current	Inrush Current
115Vac	13A	30A
230Vac	6A	60A

2.4. Power Factor

The minimum power factor shall be 0.9 with 50% load and input 230Vac/50Hz.

3. Output Characteristic

3.1. DC Out put Characteristic

600W

Output Voltage	Min. Current	Max. Current	Regulation	Ripple & Noise
+3.3V	1A	25A	±5%	50mV
+5V	1A	25A	±5%	50mV
+12V	1A	50A	±5%	120mV
-12V	0A	0.8A	±5%	120mV
+5VSB	0.1A	3.5A	±5%	50mV

Note :

1. The combined power from +3.3V and +5V shall not exceed 170W
2. The max total power shall not exceed 600W.
3. Ripple and n oise bandwidth is set to 20MHz
4. Add a 0.1uF ceramic capacitor in p arallel with a 10uF tantalum capacitor at output connector terminals for ripple and noise measurement.

800W

Output Voltage	Min. Current	Max. Current	Regulation	Ripple & Noise
+3.3V	1A	25A	±5%	50mV
+5V	1A	25A	±5%	50mV
+12V	1A	66.5A	±5%	120mV
-12V	0A	0.8A	±5%	120mV
+5VSB	0.1A	3.5A	±5%	50mV

Note :

1. The combined power from +3.3V and +5V shall not exceed 170W
2. The max total power shall not exceed 800W
3. Ripple and noise bandwidth is set to 20MHz
4. Add a 0.1uF ceramic capacitor in parallel with a 10uF tantalum capacitor at output connector terminals for ripple and noise measurement.

1000W

Output Voltage	Min. Current	Max. Current	Regulation	Ripple & Noise
+3.3V	1A	25A	±5%	50mV
+5V	1A	25A	±5%	50mV
+12V	1A	83A	±5%	120mV
-12V	0A	0.8A	±5%	120mV
+5VSB	0.1A	3.5A	±5%	50mV

Note :

1. The combined power from +3.3V and +5V shall not exceed 170W
2. The max total power shall not exceed 1000W
3. Ripple and noise bandwidth is set to 20MHz
4. Add a 0.1uF ceramic capacitor in parallel with a 10uF tantalum capacitor at output connector terminals for ripple and noise measurement.

3.2. Hold up Time

The output voltages stay in regulation at least 18ms with 80% load after loss of AC input.

3.3. Rise Time

The output voltages rise from 10% to 90% with full load shall be in 5ms to 70ms.

3.4. Dynamic Loading

The output voltages shall remain in regulation for the step loading, and in the limits for the capacitive loading specified below :

Output	Step Load Size	Load Slew Rate	Capacitive Load
+3.3V	30% of max load	0.5A / μ sec	1000uF
+5V	30% of max load	0.5A / μ sec	1000uF
+12V	65% of max load	0.5A / μ sec	2200uF
+5VSB	25% of max load	0.5A / μ sec	1uF

3.5. PS_ON Remote on/off Control

The PS_ON signal is required to remotely turn on/off the power supply.

PSON is an active low TTL compatible signal that turns on the main power rails.

	<i>PSU On</i>	<i>PSU Off</i>
PSON Signal	LOW (0.8V max.)	HI (2V min.)

3.6. Power Good Signal

Power Good, also called PG or PWOK, is an active high TTL compatible signal.

PG signal is to indicate that all output voltages are in regulation and ready for use.

Below is for a representation of the timing characteristics of PG signal.

Power Good on delay time	100ms to 500ms
Power Good off delay time	1ms (min.)

4. Protection

4.1. Over Current Protection

<i>Output</i>	<i>Min.</i>	<i>Max.</i>	<i>Comment</i>
+3.3V	110%	150%	PSU shutdown
+5V	110%	150%	PSU shutdown
+12V	110%	150%	PSU shutdown

4.2. Over Voltage Protection

<i>Output</i>	<i>Min.</i>	<i>Max.</i>	<i>Comment</i>
+3.3V	3.9V	4.5V	PSU shutdown
+5V	5.7V	6.5V	PSU shutdown
+12V	13.3V	14.5V	PSU shutdown

4.3. Short Circuit Protection

<i>Output</i>	<i>Comment</i>
+3.3V	PSU shutdown
+5V	PSU shutdown
+12V	PSU shutdown

4.4. Over Temperature Protection

The power supply would be protected against over temperature condition by loss of cooling or excessive ambient temperature. The PSU will shutdown in an OTP condition.

5. Power System Signal Status

5.1. Buzzer Status

<i>Power Supply Condition</i>	<i>Buzzer Status</i>
No input power to PSU	OFF
Input present/ only standby output on	OFF
Power supply outputs ON and OK	OFF
Power supply failure	Beeping

5.2. LED Indicator

<i>Power Supply Condition</i>	<i>Module LED</i>
No input power to PSU	OFF
Input present/ only standby output on	Red
Power supply outputs ON and OK	Green
Power supply failure	Red

5.3. TTL Signal

<i>Power Supply Condition</i>	<i>Output Condition</i>	
	<i>Min.</i>	<i>Max.</i>
Normal (Power Supply ON)	3V	5.25V
Failure (Power Supply OFF)	0V	1V

6. Insulation

6.1. Dielectric Withstand Voltage

Primary to Ground	1500Vac (10mA) for 1 second
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6.2 . Leakage Current

Leakage current is 3.5mA maximum at 240Vac/50Hz.

7. EMC

CE 、 FCC ◦ (Class A)

8. Environmental Requirement

8.1. Temperature

Operating 0°C to + 45°C

Non Operating 20°C to +70°C

8.2. Humidity

Operating 20% to 90% non condensing

Non-Operating 5% to 95% non-condensing

8.3. Altitude

Operating : Up to 5000m.

8.4. Cooling Method

By DC fan.

9. Reliability

9.1. MTBF

Using MIL - HDBK 217F the calculated MTBF > 100,000 hours at 25°C

10. PMBus

10.1 PMBus communication

The PMBus serial bus communication devices for I2C data in the power supply shall be compatible with both SMBus 2.0 “high power” and I2C V_{dd} based power and drive.

This bus shall operate at 3.3V but tolerant of 5V signaling.

The SMBus pull-ups are located on the motherboard and may be connected to 3.3V or 5V.

Two pins are allocated on the power supply. One pin is the serial clock (SMBus_SCL).

The second pin is used

ed for serial data (SMBus_SDA). Both pins are bi directional and are used to form a serial bus. The device(s) in the power supply shall be located at an address(s) determined by addressing pins A0 and A1 on the power supply module.

The circuits inside the power supply shall derive their power from the 5VSB bus.

Device(s) shall be powered from the system side of the 5VSB device.

No pull-up resistors shall be on SCL or SDA inside the power supply.

There pull-up resistors should be located external to the power supply.

10.2 Power supply management interface

The device in the power supply shall derive its power off of the 5VSB output on the system side It shall be located at an address set by the A0 and A1 pins.

Refer to the PMBus specification posted on the www.powerSIG.org website for details on the power supply monitoring interface requirements.

I2C is a SMBus interface used to communicate power management information to the system.

10.3. Power supply management interface address

Device address locations

	M1	M2
Device Address	B0h	B2h

10.4 PMBus command code summary

PMBus version 1.2 specification shall be used for the communication with system.

<i>Command code</i>	<i>Command Name</i>	<i>SMBus Transaction Type</i>	<i>Number of Data Bytes</i>
19H	CAPABILITY	READ BYTE	1
1AH	QUERY	READ BYTE	1
20H	VOUT_MODE	READ BYTE	1
88H	READ_ACV_IN	READ WORD	2
89H	READ_ACI_IN	READ WORD	2
8BH	READ_VOUT	READ WORD	2
8CH	READ_IOUT	READ WORD	2
8DH	READ_TEMPERATURE_1	READ WORD	2
90H	READ_FAN1_SPEED	READ WORD	2
91H	READ_FAN2_SPEED	READ WORD	2
96H	READ_POUT	READ WORD	2
97H	READ_PIN	READ WORD	2
98H	PMBus_VERSION	READ BYTE	1

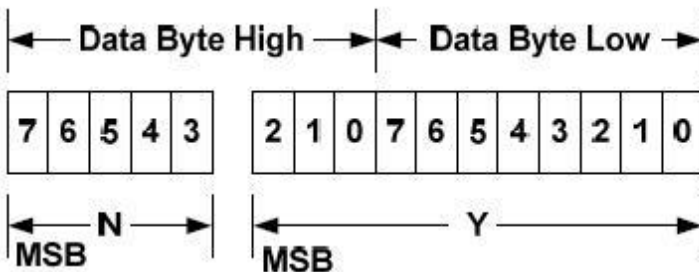
(Data Byte Type ASCII Code or HEX Code)

10.5 Data format

The Linear Data Format is a two byte value with:

An 11 bit, two's complement mantissa and A 5 bit, two's complement exponent (scaling factor).

The format of the two data bytes is shown below.



The relation between Y, N and the “real world” value is:

$$X = Y \cdot 2^N$$

Where, as described above:

X is the “real world” value;

Y is an 11 bit, two's complement integer; and

N is a 5 bit, two's complement integer.

Devices that use the Linear format must accept and be able to process any value of N

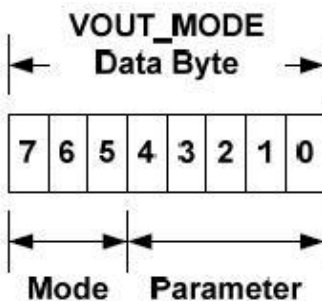
10.6 VOUT_MODE command

The data byte for the VOUT_MODE command is one byte that consists of a three bit Mode and a five bit Parameter as shown below.

The three bit Mode sets whether the device uses the Linear, VID or Direct modes for output voltage related commands. The five bit Parameter provides more information about the selected mode, such as which manufacturer's VID codes are being used. Sending the VOUT_MODE command with the address set for writing sets the Mode and Parameter into the PMBus device, if it accepts changes to these values.

PMBus devices may have the Mode and Parameter set at the time of manufacture and may not permit the user to change these values.

In this case, if a host sends a VOUT_MODE command for a write to a PMBus device, the device shall reject the VOUT_MODE command, declare a communication fault for invalid data, and respond as described in PMBus Revision 1.2 specification part ii section 10.2.2



If a device accepts the VOUT_MODE command, the Mode and Parameter are retained until changed with another VOUT_MODE command or until the bias power is removed.

Sending the VOUT_MODE command using the SMBus Read Byte protocol returns one byte with the Mode and Parameter as shown in Figure 5.

The table below shows the permitted values and format of the VOUT_MODE data byte. More information on the VOUT_MODE command is used with output voltage related commands is given below in Section 8.3.

Mode	Bits [7:5]	Bits [4:0] (Parameter)
Linear	000b	Five bit two's complement exponent for the mantissa delivered as the data bytes for an output voltage related command.

10.7 Data bytes for output voltage commands

There are several commands that either set or adjust the output voltage, or a related parameter, of a device that supports the PMBus protocol.

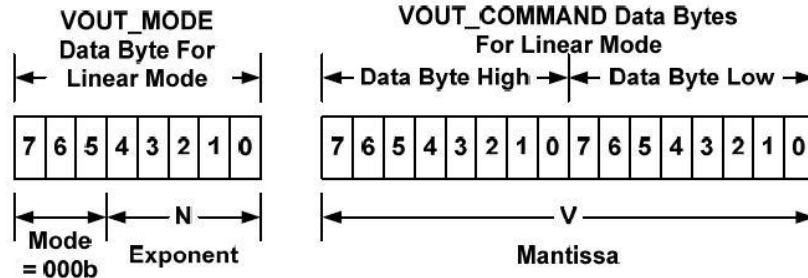
Examples VOUT_COMMAND which causes the device to set its output voltage to the commanded value;

All output voltage related commands use two data bytes.

The contents of those data bytes depend on the voltage data format in use (set by the VOUT_MODE command) and are described below.

Linear Mode:

The data bytes for the VOUT_MODE and VOUT_COMMAND when using the Linear voltage data format are shown in Figure 6. Note that the VOUT_MODE command is sent separately from output voltage related commands and only when the output voltage format changes. VOUT_MODE is not sent every time an output voltage command is sent.



The Mode bits are set to 000b.

The Voltage, in volts, is calculated from the equation:

$$\text{Voltage} = V \cdot 2^N$$

Where, as described above:

Voltage is the parameter of interest;

V is a 16 bit unsigned binary integer; and

N is a 5 bit two's complement binary integer.

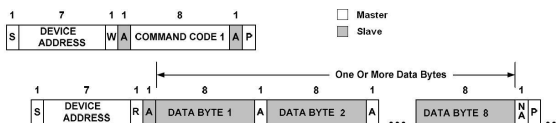
10.8. Example Data

Command code	Command Name	Value Example	Meaning
19H	CAPABILITY	20H	
1AH	QUERY	B0H	
20H	VOUT_MODE	1CH	N= -4
88H	READ_ACV_IN	00H,DCH	220V
89H	READ_ACI_IN	E0H,07H	0.4375 A
8BH	READ_VOUT	0CH,10H	12.06V
8CH	READ_IOUT	DBH,02H	44.03A
8DH	READ_TEMPERATURE_1	00H,22H	34°C
90H	READ_FAN_SPEED_1	30H,FEH	16256 rpm
91H	READ_FAN_SPEED_2	00H,00H	Reserved
96H	READ_POUT	F8H,65H	537.25 W
97H	READ_PIN	FCH,A8H	696.00 W
98H	PMBus_REVISION	22H	PMBus 1.2

Note 1: Data byte type ASCII Code or HEX Code.

Note 2: The reading accuracy is within ±5%.

10.9. PMBus command protocol



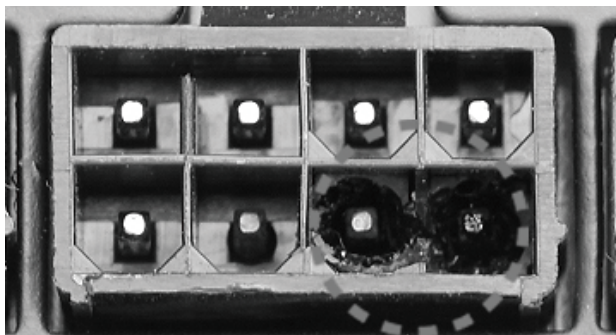
Command Protocol Without PEC

PMBus command protocol for the two steps (Figure 8.2.3-1). The first step is master device sends Device Address and Command Code1 to slave device. The Command Code 1 is set what kind data will receive on master device. The second step is the master device will receive one or more DATA BYTE coming slave device.

11. Mechanical Drawing and Output Wire

11 .1. Outline (bracket optional) W82 x H84 x D217mm.

12. Power supply connector overuse definition



EN Power supply connector overuse definition

A single PCIe 8pin cable and connector's maximum current rating is 12.5A, which is 150W (+12V x 12.5A). So SilverStone's warranty will not cover damages or malfunction resulting from the use of a graphics card or expansion card with a single PCIe 8pin connector that exceeds standard 225W total power draw (150W from PCIe 8pin connector + 75W from PCIe motherboard slot). Similarly, a graphics card or expansion card with dual PCIe 8pin connectors that exceed 375W total power draw (300W from two PCIe 8pin connectors + 75W from PCIe motherboard slot) will also not be covered under warranty.

Peripheral (molex) or SATA connector's maximum current rating is 5A, which is 60W (+12V x 5A) or 25W (+5V x 5A). Please ensure connected devices are operating under these limits. SilverStone's warranty will not cover damages or malfunction resulting from usages exceeding these connectors and their associated cables.

24pin motherboard connector's maximum current rating for its dual +12V metal pins are 5A each, which totals 120W (+12V x 5A x 2). Please ensure +12V drawing devices connected to the motherboard are operating under these limits. SilverStone's warranty will not cover damages or malfunction resulting from usages exceeding these connectors and their associated cables.

DE Definition einer Überlastung des Netzanschlusses

Die maximale Stromstärke eines einzelnen 8-poligen PCIe-Kabels und Anschlusses beträgt 12,5 A, was 150 W (+12 V x 12,5 A) entspricht. Daher deckt die SilverStone-Garantie keine Schäden oder Fehlfunktionen durch den Einsatz einer Grafikkarte oder Erweiterungskarte mit einem einzigen 8-poligen PCIe-Anschluss ab, die die Standardleistungsaufnahme von insgesamt 225 W übersteigt (150 W vom 8-poligen PCIe-Anschluss + 75 W vom PCIe-Motherboard-Steckplatz). Ebenso wird die Verwendung einer Grafikkarte oder Erweiterungskarte mit zwei 8-poligen PCIe-Anschlüssen, die eine Leistungsaufnahme von insgesamt 375 W übersteigt (300 W von den beiden 8-poligen PCIe-Anschlüssen + 75 W vom PCIe-Motherboard-Steckplatz) nicht durch die Garantie abgedeckt.

Der maximale Nennstrom von Peripherie- (Molex) oder SATA-Anschluss beträgt 5 A, was 60 W (+12 V x 5 A) oder 25 W (+5 V x 5 A) entspricht. Bitte achten Sie darauf, dass verbundene Geräte unter diesen Grenzwerten arbeiten. Die Garantie von SilverStone deckt keine Schäden oder Fehlfunktionen aufgrund einer Nutzung ab, die diese Anschlüsse und ihre zugehörigen Kabel übersteigt.

Der maximale Nennstrom des 24-poligen Motherboard-Anschlusses für seine dualen +12-V-Metallkontakte beträgt jeweils 5 A, was insgesamt 120 W (+12 V x 5 A x 2) ergibt. Bitte stellen Sie sicher, dass mit dem Motherboard verbundene +12-V-Geräte unter diesen Grenzwerten arbeiten. SilverStones Garantie deckt keine Schäden oder Fehlfunktionen aufgrund einer Nutzung jenseits der Angaben dieser Anschlüsse und ihrer zugehörigen Kabel ab.

FR Définition de l'utilisation excessive du connecteur d'alimentation électrique

Le courant nominal maximum d'un câble et d'un connecteur PCIe 8 broches unique est de 12,5 A, ce qui correspond à 150 W (+12 V x 12,5 A). La garantie de SilverStone ne couvre donc pas les dommages ou les dysfonctionnements résultant de l'utilisation d'une carte graphique ou d'une carte d'extension avec un connecteur PCIe 8 broches unique qui dépasse une consommation énergétique totale de 225 W standard (150 W provenant du connecteur PCIe 8 broches + 75 W provenant de l'emplacement de la carte mère PCIe). De même, une carte graphique ou une carte d'extension avec deux connecteurs PCIe 8 broches qui dépasse une consommation énergétique totale de 375 W (300 W provenant des deux connecteurs PCIe 8 broches + 75 W provenant de l'emplacement de la carte mère PCIe) ne sera également pas couverte dans le cadre de la garantie.

Le courant nominal maximum d'un périphérique (Molex) ou d'un connecteur SATA est de 5 A, ce qui correspond à 60 W (+12 V x 5 A) ou 25 W (+5 V x 5 A). Veuillez vous assurer que les appareils connectés fonctionnent dans ces limites. La garantie de SilverStone ne couvre pas les dommages ou les dysfonctionnements résultant d'utilisations dépassant ces connecteurs et leurs câbles associés.

Le courant nominal maximal des connecteurs 24 broches de la carte mère pour ses doubles broches métalliques +12 V est de 5 A chacun, ce qui représente au total 120 W (+12 V x 5 A x 2). Veuillez vous assurer que les dispositifs de tension +12 V connectés à la carte mère fonctionnent dans ces limites. La garantie de SilverStone ne couvre pas les dommages ou les dysfonctionnements résultant d'utilisations dépassant la capacité de ces connecteurs et de leurs câbles associés.

IT Definizione di uso eccessivo del connettore di alimentazione

La corrente massima di un singolo cavo PCIe a 8 pin e del connettore è 12,5 A, corrispondente a 150 W (+12 V x 12,5 A). Pertanto, la garanzia di SilverStone non copre danni o malfunzionamenti derivanti dall'utilizzo di una scheda grafica o una scheda di espansione con un singolo connettore PCIe a 8 pin che supera l'assorbimento totale di 225 W (150 W da connettore PCIe a 8 pin + 75 W da slot PCIe). Analogamente, la garanzia non copre anche una scheda grafica o una scheda di espansione con doppi connettori PCIe a 8 pin che superano l'assorbimento totale di 375 W (300 W da doppi connettori PCIe a 8 pin + 75 W dalla scheda madre PCIe).

La corrente massima del connettore periferico (molex) o SATA è 5 A, corrispondente a 60 W (+12 V x 5 A) o 25 W (+5 V x 5 A). Assicurarsi che i dispositivi collegati funzionino entro questi limiti. La garanzia di SilverStone non copre danni o malfunzionamenti derivanti da uso eccessivo di questi connettori e dei relativi cavi.

La corrente massima del connettore a 24 pin per scheda madre per i suoi due pin di metallo a +12 V è di 5 A ciascuno, per un totale di 120 W (+12 V x 5 A x 2). Assicurarsi che i dispositivi a +12 V collegati alla scheda madre funzionino con questi limiti. La garanzia di SilverStone non copre danni o malfunzionamenti derivanti da uso eccessivo di questi connettori e dei relativi cavi.

ES Definición de uso excesivo del conector de la Fuente de alimentación

La corriente máxima de un solo cable PCIe de 8 pines es 12,5 A, lo que son 150W (+12V x 12,5A). Por tanto, la garantía de SilverStone no cubrirá daños o fallos provocados por el uso de una tarjeta gráfica o de expansión con un único conector PCIe de 8 pines que exceda el total estándar de 225W (150W del conector PCIe de 8 pines + 75W del zócalo PCIe de la placa base). De igual modo, una tarjeta gráfica o de expansión con conectores duales PCIe de 8 pines que superen 375W de potencia (300W de los dos conectores PCIe de 8 pines + 75W del zócalo de la placa base) tampoco será cubierta por la garantía.

La corriente máxima del conector de periféricos (molex) o SATA es 5A, que son 60W (+12V x 5A) o 25W (+5V x 5A). Por favor, asegúrese de que los dispositivos conectados funcionan dentro de estos límites. La garantía de SilverStone no cubrirá daños o fallos a resultados de un uso excesivo de estos conectores y sus cables asociados.

La corriente máxima del conector de 24 pines de la placa base para sus pines de metal duales de +12V es de 5A cada uno, para un total de 120W (+12V x 5A x 2). Por favor, asegúrese de que los dispositivos de +12V conectados a la placa base funcionan dentro de estos límites. La garantía de SilverStone no cubrirá daños o averías a resultados de un uso excesivo para estos conectores y sus cables asociados.

RU

Определение чрезмерной нагрузки на коннектор блока питания

Один кабель и коннектор PCIe 8pin поддерживает ток 12.5А, что равно 150Вт (+12В x 12.5А). Таким образом, гарантийные обязательства SilverStone не будут действовать если вы используете видеокарту или другую карту расширения с одним коннектором PCIe 8pin, которые превышает стандартную общую потребляемую мощность 225Вт (150Вт через коннектор PCIe 8pin + 75Вт через слот PCIe материнской платы). Аналогично, видеокарта или другая карта расширения с двумя коннекторами PCIe 8pin, которые превышают общую потребляемую мощность 375Вт (300Вт через коннектор PCIe 8pin + 75Вт через слот PCIe материнской платы), также не будут покрываться гарантией.

Максимальный номинальный ток периферийного (molex) или SATA разъёма составляет 5А, что равно 60Вт (+12В x 5А) или 25Вт (+5В x 5А). Пожалуйста, убедитесь, что подключенные устройства работают в этих пределах. Гарантия SilverStone не будет распространяться на неисправности, возникающие в результате использования этих коннекторов или подключаемых к ним кабелей.

Максимальный номинальный ток 24pin коннектора материнской платы для его двойных металлических контактов +12В составляет 5А на каждый, что равно 120Вт (+12В x 5А x 2). Пожалуйста, убедитесь, что устройства, подключенные к линии +12В, работают в этих пределах. Гарантия SilverStone не будет распространяться на неисправности, возникающие в результате использования этих коннекторов или подключаемых к ним кабелей.

KR

전원 공급 커넥터 과용 정의

단일한 PCIe 8핀 케이블 및 커넥터의 최대 전류 정격은 12.5A로서 전력으로 환산하면 150W(+12V x 12.5A)입니다. SilverStone의 보증에서는 표준 225W의 총 소비 전력 (PCIe 8핀 커넥터의 150W와 PCIe 메인보드 슬롯의 75W의 합)을 초과하는 단일 PCIe 8핀 커넥터 탑재 그래픽 카드나 확장 카드를 사용하여 발생하는 손상 또는 오작동을 보상하지 않습니다. 이와 마찬가지로 375W의 총 소비 전력(PCIe 8핀 커넥터 2개의 300W와 PCIe 메인보드 슬롯의 75W의 합)을 초과하는 듀얼 PCIe 8핀 커넥터 탑재 그래픽 카드나 확장 카드를 사용해도 보증에서 보상해 주지 않습니다.

주변장치(molex) 또는 SATA 커넥터의 최대 전류 정격은 5A로서 전력으로 환산하면 60W(+12V x 5A) 또는 25W(+5V x 5A)입니다. 연결된 장치들은 이러한 제한 하에서만 작동시켜야 합니다. SilverStone의 보증에서는 이러한 커넥터 및 이와 연결되는 케이블의 정격을 초과하여 사용함으로써 발생하는 손상이나 오작동을 보상하지 않습니다.

듀얼 +12V 금속 핀에 사용되는 24핀 메인보드 커넥터의 정격 전류는 5A이며, 각각 합계가 120W (+12V x 5A x 2)입니다. 메인보드에 연결된 +12V 장치가 해당 한계 미만으로 작동되도록 하십시오. SilverStone은 이 커넥터나 관련 케이블의 한계를 초과해서 사용함으로써 발생하는 손상이나 고장에 대해서 보장하지 않습니다.

JP

電力供給コネクタの使用限度超過に関する説明

単一のPCIe 8ピンケーブルおよびコネクタの最大定格電流は12.5Aで150W (+12V x 12.5A)となります。それで定格225W合計電力消費(PCIe 8ピンコネクタからの150W + PCIeマザーボードスロットからの75W)を超える、単一PCIe 8ピンコネクタ装備のグラフィックスカードまたは拡張カード使用によって生じた損傷や故障の場合、SilverStoneの製品保証は適用外となります。同様に、375W合計電力消費(2基のPCIe 8ピンコネクタからの300W + PCIeマザーボードスロットからの75W)を超える、デュアルPCIe 8ピンコネクタ装備のグラフィックスカードまたは拡張カード使用によって生じた損傷や故障の場合も、製品保証適用外となります。

周辺用 (molex)またはSATAコネクタの最大定格電流は5Aで、60W (+12V x 5A)または25W (+5V x 5A)となります。接続された装置がこれら限度以内で動作することを確認してください。これらコネクタおよび関連ケーブルの定格を超える使用法で生じた損傷や故障については、SilverStone製品保証対象外となりますのでご注意ください。

24ピンマザーボードコネクタのデュアル+12V金属製ピンに対する最大定格電流はそれぞれ5Aなので合計は120W (+12V x 5A x 2)となります。接続される+12V入力のデバイスが、これら上限以内で動作することをご確認ください。これらコネクタおよび関連ケーブルでの限界を超えた使用で生じた損傷または故障は、SilverStoneによる製品保証対象外となります。

CN

电源供应器接头过度使用定义

单条PCIe 8pin电源线与接头的最大额定电流为12.5A，瓦特数150W (+ 12V x 12.5A)。因此，银欣的电源保固不包括用于单条PCIe 8pin接头之显卡/扩充卡，在超过标准225W总功耗范围所造成的损坏或故障 (150W 的PCIe 8pin接头+ 75W的主板PCIe插槽)。以此类推，若具备双PCIe 8pin接头的显卡/扩充卡，负载一但超过375W总功耗，视同不属保固范围内 (300W来自两个PCIe 8pin接头 + 75W的主板PCIe插槽)。

大4pin (molex) 或SATA接头的最大额定电流为5A，即60W (+ 12V x 5A) 或25W (+ 5V x 5A)。请确保连接的设备皆低于此限制下运行。

银欣不保固超出电源供应器接头及其相关线材之使用负载上限所造成的损坏或故障。

24pin主板接头的双+12V金属针脚最大额定电流为5A，即120W (+ 12V x 5A x 2)。请确保连接的+12V设备皆低于此限制下运行。

银欣不保固超出电源供应器接头及其相关线材之使用负载上限所造成的损坏或故障。

TW

電源供應器接頭過度使用定義

單條PCIe 8pin電源線與接頭的最大額定電流為12.5A，瓦特數150W (+ 12V x 12.5A)。因此，銀欣的電源保固不包括用於單條PCIe 8pin接頭之顯卡/擴充卡，在超過標準225W總功耗範圍所造成的損壞或故障 (150W 的PCIe 8pin接頭+ 75W的主機板PCIe插槽)。以此類推，若具備雙PCIe 8pin接頭的顯卡/擴充卡，負載一但超過375W總功耗，視同不屬保固範圍內 (300W來自兩個PCIe 8pin接頭 + 75W的主機板PCIe插槽)。

大4pin (molex) 或SATA接頭的最大額定電流為5A，即60W (+ 12V x 5A) 或25W (+ 5V x 5A)。請確保連接的設備皆低於此限制下運行。

銀欣不保固超出電源供應器接頭及其相關線材之使用負載上限所造成的損壞或故障。

24pin主機板接頭的雙+12V金屬針腳最大額定電流為5A，即120W (+ 12V x 5A x 2)。請確保連接的+12V設備皆低於此限制下運行。

銀欣不保固超出電源供應器接頭及其相關線材之使用負載上限所造成的損壞或故障。

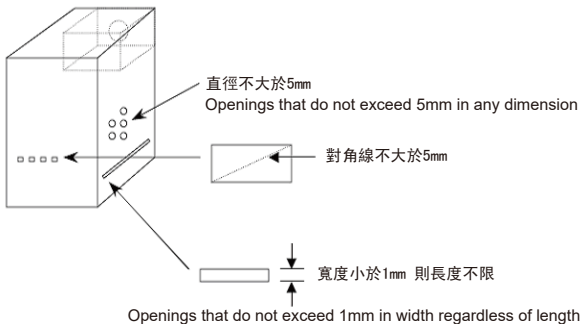
สำหรับตัวเชื่อมต่อและสายพื่อ PCIe 8 พินสามารถรองรับกระแสได้สูงสุด 12.5 แอมป์หรือมากขึ้นถึง 150 วัตต์

(+12V x 12.5A) ดังนั้นการรับรึกษาจากทาง SilverStone จะไม่ครอบคลุมถึงความเสียหายหรือความผิดปกติซึ่งเกิดขึ้นกับกราฟิการ์เนื่องจากการขยายความยาวที่ใช้ใช้งาน ตัวเชื่อมต่อ PCIe 8 พิน ซึ่งนี้มีการใช้พลังงานรวมกันขึ้นกับว่ามาตรฐานที่กำหนดคือ 225 วัตต์ (150 วัตต์ จาก PCIe 8 พิน + 75 วัตต์ จากสล็อต PCIe uu บนบอร์ด) จึงรวมถึงกราฟิการ์หรือการขยายความยาวที่ใช้กับตัวพื่อ PCIe 8 พินจำนวน 2 ชุดซึ่งมีการใช้พลังงานทั้งสิ้น 375 วัตต์ (300 วัตต์ จากตัว PCIe 8 พิน 2 ชุด + 75 วัตต์ จากสล็อต PCIe บนบอร์ด) ซึ่งไม่ครอบคลุมเช่นกัน

ภายใต้การรับรึกษา ตัวเชื่อมต่อ Peripheral หรือ Molex 4 พินหรือ SATA ไม่สามารถรองรับกระแสได้สูงสุด 5 แอมป์หรือมากขึ้นถึง 60 วัตต์ (+12V x 5A) หรือ (+5V + 5A) กรุณาทำความเข้าใจอุปกรณ์ที่ใช้งานมีการใช้พลังงานไม่ต่ำกว่าขีดจำกัดที่รองรับ ตัวนี้การรับรึกษาจากทาง SilverStone จะไม่ครอบคลุมถึงความเสียหายหรือความผิดปกติจากอุปกรณ์ที่เชื่อมต่อใช้งานจากตัวสายเชื่อมต่อซึ่งมีการใช้พลังงานเกินกว่าขีดจำกัด

กรณีใช้พลังงานสูงสุดของตัวต่อบนบอร์ด 24 พิน สำหรับการรับ: +12V (ต่อละอินพุต 5A ซึ่งรวมทั้งหมดเป็น 120W (+12V x 5A x 2) ไม่ครอบคลุมอินพุตที่ไว้ว่าอุปกรณ์อื่นด้วยพลังงาน +12V ที่เชื่อมต่อกับบนบอร์ดสามารถทำงานภายใต้ขีดจำกัดเหล่านี้ได้ การรับรึกษาของ SilverStone ไม่ครอบคลุมความเสียหาย หรือการเสียบที่บนพลาการ์ที่ทับซ้อนกันตัวต่อของตัวต่อสายเคเบิลที่ใช้เชื่อมต่อเหล่านี้

1. 為了保護使用者及防火的目的，安裝此交換式電源供應器時，必須安裝於符合下列各項要求的外殼中，並且安裝妥善後，才可接上電源。
 - 1-1. 外殼材質須為防火外殼。外壳材质須为防火外壳。
 - 1-2. 外殼的上方及側邊之圓形開孔，最大內徑不可大於5mm。
 - 1-3. 外殼的上方及側邊之長條型開孔，對角線距離不可大於5mm；若寬度小於1mm，則長度不受限制。
 - 1-4. 外殼底部不可有開孔。外壳底部不可有开孔。



2. 本產品輸出含有危險能量，為避免操作時發生危險，須於裝入系統機殼並將所有設備安裝妥當後才可開啟電源。
3. 本產品之電源輸出非屬電力限制型電源，請連接使用具防火外殼之周邊，以避免火災危險發生。

BSMI ROHS 資訊

<http://www.silverstonetek.com/downloads/PSU/RSD.pdf>

开关电源供应器 有毒有害物质/元素及其化学含量表

部件名称	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
外壳	○	○	○	○	○	○
接头	○	○	○	○	○	○
风扇	○	○	○	○	○	○
电子卡	○	○	○	○	○	○
线材	○	○	○	○	○	○
螺丝	○	○	○	○	○	○
包材	○	○	○	○	○	○

本表格依据SJ/T 11364的规定编制

○：表示该有毒有害物质在该部件所有均质材料中的含量均在GB/T 26572 规定的限量要求以下。

×：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572 规定的限量要求。



产品合格证

检验员：检01
生产日期：见产品条码

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

※付属の電源コードは当該製品専用です。他の機器に使用しないでください。

the power supply is only suitable for Information Technology & Audio/Video equipment.

Please refer to SilverStone website for latest specifications updates.

SilverStone Technology Co., Ltd.

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