

APW7-12-1800 PSU Series

User Guide

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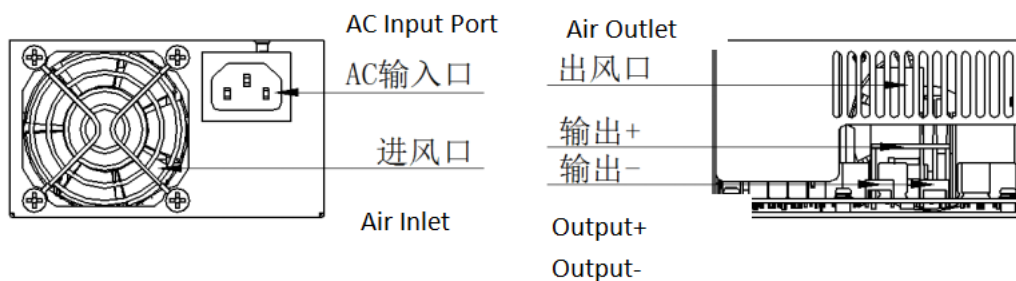
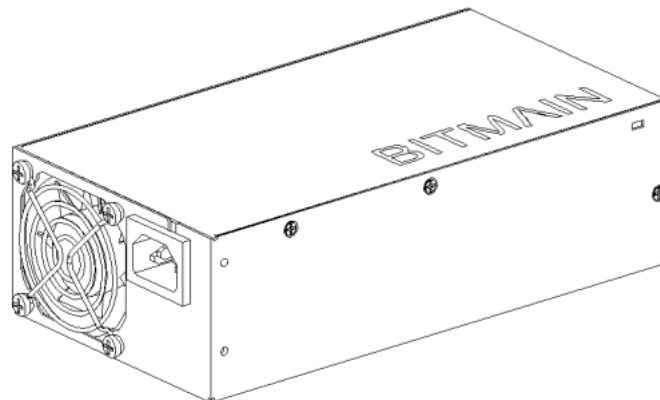
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APW7 Performance Properties and Range of Use

APW7 -12-1800 series PSU is a high efficiency DC PSU with the features of one-phase AC input and one-phase DC 12V output. It can meet the common DC load within 12V 1800W and it is especially suitable for the conditions where the PSU demands are stricter, for example, servers and mining machines. Properties are as follows:

- ◆ 100-140V /200-240V Wide voltage input, power factor is > 0.99 (fully loaded)
- ◆ Up to 95% efficiency (excluding output current leakage)
- ◆ Output ripple $< 1\%$.
- ◆ Under-voltage, short circuit, over-power and overheat protection with automatic fault detection and recovery, automatic recovery after fault removal.
- ◆ High quality components are selected to ensure the stability and reliability of the PSU and ensure that it can work at fully loaded status in high temperature environments up to 60 degrees Celsius.
- ◆ Small size and high power density.

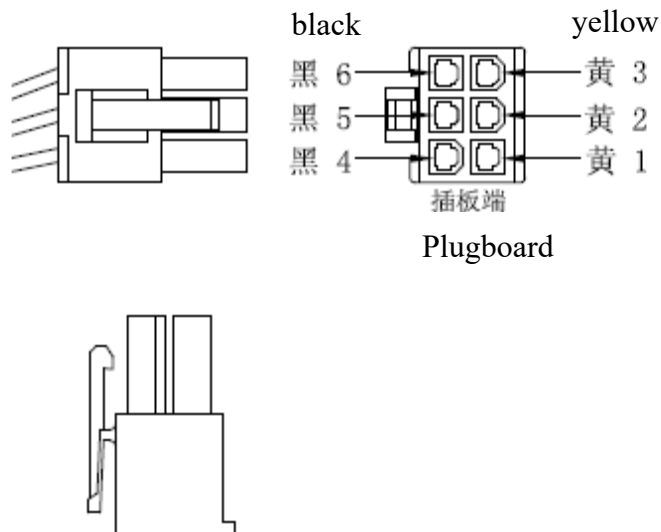
APW7 Exterior Design Introduction



The type of AC input terminal on the power panel is C14, it must be used with the C13 interface's AC input cable.

The PSU is equipped with an output cable, with each standard output cable containing 10 PCIE output terminals with a length of 380mm. It is also customizable according to the actual needs of customers.

The PCIE output terminal diagram is shown below:



The output cable consists of two colors: the 12V positive terminal is yellow; the negative terminal is black

6PIN PCIE Positive and Negative Output Terminals:

Positive: Yellow 1, Yellow 2, Yellow 3

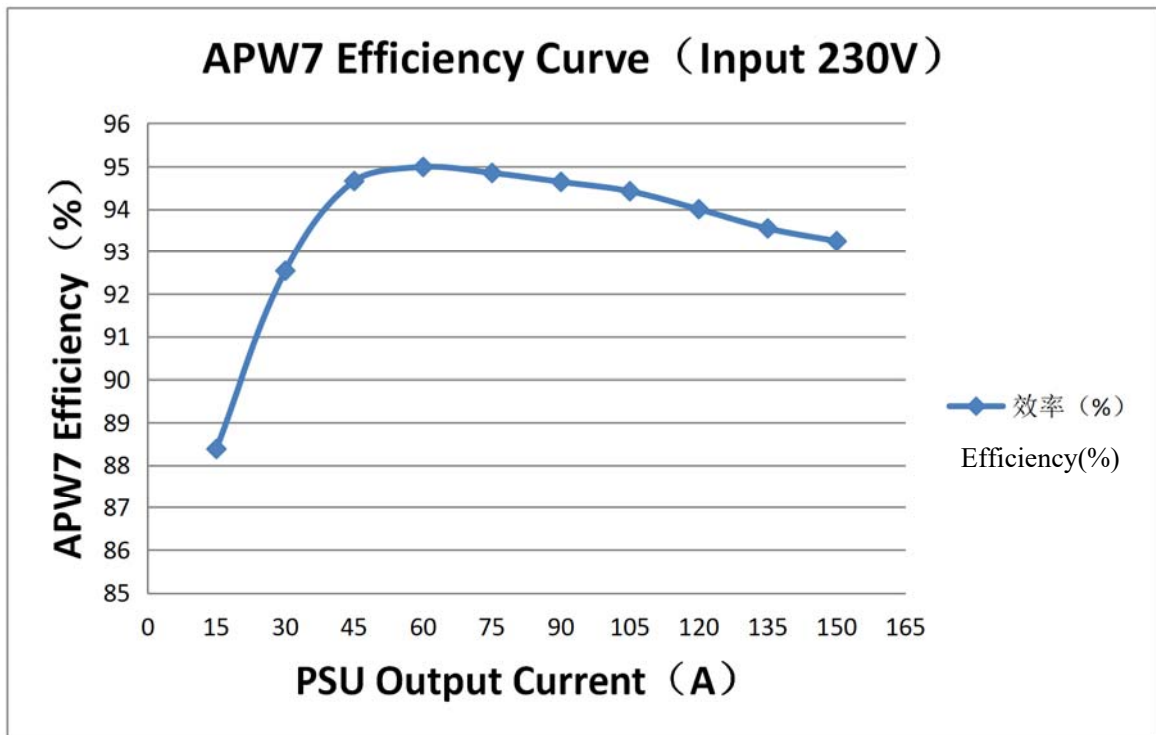
Negative: Black 4, Black 5, Black 6

APW7 Specifications:

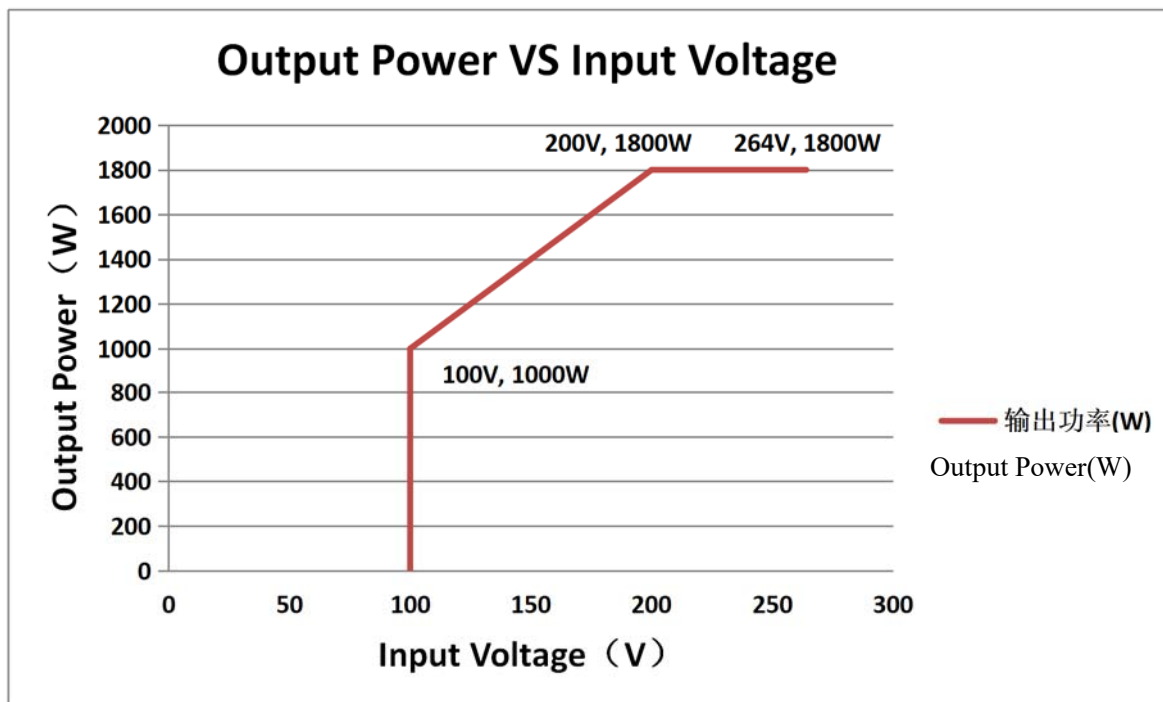
| | | |
|--------|-------------------------------|------------|
| Output | DC Voltage | 12.0V |
| | Rated Current(200-240V input) | 150A |
| | Rated Power (200-240V input) | 1800W |
| | Rated Current(100-140V input) | 67A |
| | Rated Power (100-140V input) | 800W |
| | Ripple & Noise | <1% |
| | Voltage Accuracy | 12.0-12.5V |
| | Line Regulation | <1% |

| | | |
|-------------|--------------------------|-----------------------------|
| | Load Regulation | <1% |
| | Setup Time | <2S |
| | Short Circuit Protection | >10mS |
| Input | Voltage Range | 100-140 /200-240V AC |
| | Frequency Range | 50/60Hz |
| | Power Factor | >0.99(full load) |
| | Leakage Current | <1.5mA (220V 50Hz) |
| Protection | Low-voltage Input | 80-89V AC |
| | Output Short Circuit | Yes |
| | Output Overcurrent | 150-200A |
| | Overheat Protection | Yes |
| Environment | Operating Temperature | -20-60°C |
| | Operating Humidity | 20%-90%RH(non---condensing) |
| | Altitude | < 2000m |
| Structure | Dimensions | 206*110*62mm |
| | Weight | 2.0kg |
| | Cooling System | forced---air cooling |
| | Noise | 43DB |

APW7 Efficiency Curve (Output current leakage is not included.)



APW7 Output Power VS Input Voltage Derating Curve



Precautions for Use:

1. Before using the PSU, please ensure that your local voltage and power outlets are compatible with the requirements of the product. Output voltage from the power socket should meet the product's voltage requirement. The leading-out terminal model, polarity and quantity must also be in accordance with the product requirements stipulated in this guide.
2. Please ensure that the PSU appears to be in good shape and has not suffered any damage in transit. If the exterior of the PSU appears damaged, do not use it.
3. Make sure that the ground electrode of PSU is properly grounded to ensure the electricity safety and EMI reduction.
4. As different countries have different power outputs, we do not supply an AC input cable with our PSUs. Customers should purchase an AC input cable output that is compatible with the local power grid plug. The type number of the cable end interface to be connected with the power panel is C13, and the sectional area of copper conductor for cables should not be less than 1 square millimeter.
5. The PSU must be installed in an dust-free environment with good and unobstructed air circulation. Any items blocking the air flow of the PSU is prohibited and under no circumstances should the PSU be installed in an enclosed place. Installation also should not be done in environment where there is high condensation or high level of salt content and humidity in the air.
6. The correct way to use the PSU is to connect the output wire terminal, and then connect the input cable after the load and PSU output terminals are connected. Either connecting or disconnecting the output terminals are forbidden when the PSU is powered on. Voltaic arcs generated by excessive DC can damage DC output terminals and pose a fire hazard.
7. Maintaining a good working environment and derating can greatly prolong the lifespan of PSU. It is generally recommended that the load power not exceed 90% of the rated power of the PSU and the temperature not exceed 50 degrees Celsius. It should be used in a dust-free, non-polluted area where there is low humidity and low salt content in the air. The derating method will also allow the PSU to work at a higher efficiency point, which can help in electricity savings.

Précautions d'utilisation:

1. Avant d'acheter l'alimentation, confirmez d'abord que la tension du réseau local répond aux exigences de l'alimentation locale, que la tension de sortie de l'alimentation et les spécifications de puissance peuvent répondre aux exigences des produits de charge, que le modèle de borne de sortie de l'alimentation, les polarités et la quantité sont conformes aux exigences de la charge.
2. Après avoir ouvert l'emballage d'alimentation, confirmez que l'apparence de l'alimentation est normale, sinon, il est interdit de mettre sous tension pour l'utilisation.
3. Le fil de mise à terre de l'alimentation électrique doit être mis à la terre de manière fiable pour assurer la sécurité de l'utilisation et réduire les interférences électromagnétiques.
4. En tenant compte des différences concernant les normes des prises d'alimentation dans différents pays, l'alimentation standard n'est pas équipée d'un câble d'entrée AC. Veuillez acheter le câble d'entrée AC compatible avec la prise du réseau électrique local vous-même. Le type d'interface du câble apparié au panneau d'alimentation est C13, la section du conducteur en cuivre de câble ne doit pas être inférieure à 1mm².
5. Il faut installer l'alimentation dans un endroit avec bonne circulation d'air mais sans poussière. Il est interdit d'affecter la buse d'alimentation à cause des objets étrangers ou d'installer l'alimentation dans un espace confiné. Il est interdit d'installer cette alimentation dans un environnement où il existe le brouillard salin et la condensation.
6. Pour l'installation normale d'alimentation, il faut connecter d'abord la borne de sortie, et après la connexion correcte entre la charge et la borne de sortie de l'alimentation, connectez le câble d'entrée CA. Il est interdit de connecter et déconnecter la borne de sortie lors de la mise sous tension. L'arc électrique généré par un courant CC CA trop grand endommagerait la borne de sortie CC, voire provoquera un risque d'incendie.
7. Il faut garder un bon environnement de travail et le déclassement pour prolonger considérablement la durée de vie de l'alimentation. Généralement, il est recommandé que la puissance de charge ne dépasse pas 90% de la puissance nominale de l'alimentation, qu'elle est utilisée dans un environnement inférieur à 50°C, sans poussière, sans acide-alcali ou pulvérisation de sel. Le déclassement peut également assurer le travail de l'alimentation plus efficacement pour économiser une partie de frais d'électricité.

Trouble Shooting:

| # | Issue | Reason | Troubleshooting |
|---|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Fan won't run, and no 12V output. | AC Input is abnormal. | <ol style="list-style-type: none"> 1. Make sure the AC input wire has a good connection and the plugs are connected firmly and correctly. 2. Make sure the power system is working well and the voltage is normal. |
| 2 | Fan is running, but there is no 12V output. | <ol style="list-style-type: none"> 1. Voltage is lower than required. 2. PSU is in short circuit protection. | <ol style="list-style-type: none"> 1. Check if the voltage is above 100V with a multimeter to make sure the PSU is switched on correctly. 2. Check if there is a short circuit output. |
| 3 | Intermittent work of PSU | <ol style="list-style-type: none"> 1. Output overload 2. Input voltage is lower than required 3. Over-heat protection | <ol style="list-style-type: none"> 1. Check if the load is overloaded. 2. Check if the input voltage is lower than required or there is insufficient wattage. 3. <ol style="list-style-type: none"> A. Check if the fan is working. B. Check if the ventilation fan is blocked. C. Check if there is dust build-up inside the PSU due to prolonged use. |
| 4 | Output is normal, but the fan is not working | <ol style="list-style-type: none"> 1. Fan is blocked. 2. Fan is broken. | <ol style="list-style-type: none"> 1. Check that the fan is clear of blockages. 2. Fan needs to be replaced. |
| 5 | Others | Unknown | Contact customer service if problems persist after troubleshooting. |

Regulation:**FCC Notice (FOR FCC CERTIFIED MODELS):**

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.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

EU WEEE: Disposal of Waste Equipment by Users in Private Household in the European Union

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

台灣 ROHS:

設備名稱： ， 型號：

| 單元 | 有害物質 | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|---------------|---------------|---------------------|
| | 鉛 (Pb) | 汞 (Hg) | 鎘 (Cd) | 六價鉻 (Cr+6) | 多溴聯苯 (PBB) | 多溴二苯 醚 (PBDE) |
| 外殼 | ○ | ○ | ○ | ○ | ○ | ○ |
| 電路板組件 | — | ○ | ○ | ○ | ○ | ○ |
| 其他線材 | — | ○ | ○ | ○ | ○ | ○ |
| 備考 1. “超出 0.1 wt %” 及 “超出 0.01 wt %” 係指限用物質之百分比含量超出百分比含量基準值。 備考 2. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。 備考 3. “—” 係指該項限用物質為排除項目 | | | | | | |