

Antec

Signature

USER'S MANUAL

Antec Signature Series

SG-650 and SG-850 Power Supply

A New Level of Quality

The Signature Series is Antec's premium line of high-end performance power supplies. Combining cutting-edge technology, rigid testing, and impeccable style, the Signature series is the ultimate choice in power supplies. Some of the design features in this premium quality PSU have never been seen before in a consumer power supply. Every Signature series power supply has been personally tested by our engineers, and comes with a signed document guaranteeing its quality performance.

Standards and Features

The Signature Series Power Supply Unit (PSU) is compatible with ATX12V v2.3 and EPS12V v2.91 specifications. The Signature PSU features Universal Input, which automatically senses when you connect the power supply to any AC power source between 100 ~ 240V without having to worry about setting a voltage switch. This power supply also features Active PFC, which improves the power factor value of the power supply by altering the input current wave shape and thus helps transmission across the power grid.

Components and Design

Antec has selected only the best quality Japanese capacitors enhancing the unit's stability and increasing the MTBF of the Signature. The component choice has been expanded by the use of two double-layer circuit boards, which allow for heavier-duty components and more space between them for better airflow. The fan is a top-quality Japanese made PWM fan.

DC to DC

The Signature uses DC-to-DC conversion for the 5V and 3.3V rails. The DC-to-DC Voltage Regulation module is the most advanced design, usually found on high-end motherboards, to step down DC voltage. This module operates at 85% efficiency, as opposed to a traditional Magnetic Amplifiers that only operate at 75% efficiency. Another benefit is that the transient response time is almost 100 times faster, to provide unbeatably stable power output in response to changing loads.

System Protection

A variety of industrial-grade safety circuitry will help protect your computer: OVP (Over Voltage Protection), SCP (Short Circuit Protection), and OCP (Over Current Protection). Sometimes the PSU will “latch” into a protected state. This means that you will need to clear the fault and turn the power off to the PSU before it will function again. There are no user-replaceable fuses in your Signature Series PSU.

Special Quiet Computing™ PWM fan operation

Another innovation in your Signature is the introduction of pulse width modulation (PWM) fan technology. A PWM fan can spin much more slowly and be quieter than a voltage-controlled fan. The Signature uses a Japanese PWM fan that can spin as slow as 400 RPM or as fast as 4000 RPM, depending on load and ambient temperature. It should be nearly inaudible when your computer is idling, and the Signature will vary the fan speed depending on the load of your computer.

80 PLUS® Bronze Certification

80 PLUS® Certification is the latest independent standard in power supply efficiency. This means that the PSU will generate less heat so it stays cooler, runs more quietly, and lasts longer. The Signature series exceeds the basic 80 PLUS® standard and lowers your operating costs while protecting the environment.

SLI Certification

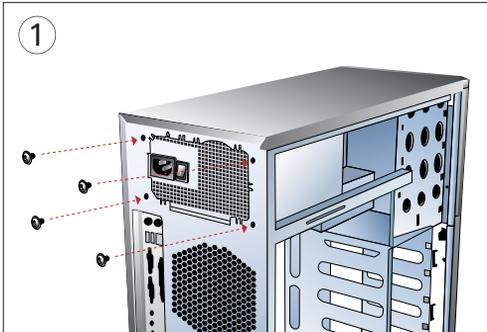
Signature power supplies have been SLI Certified by NVIDIA Corporation for use with pairs of high-end graphics cards for superior parallel graphics processing.

Advanced Hybrid Cable Management System

The Signature Series uses Advanced Hybrid Cable Management. Cables that are important or mandatory are connected directly to the PSU. There are also modular connectors on the back of the PSU to add additional cables as needed. Using only the power cables you need will reduce clutter and improve airflow inside your case. For the list of connected and optional cables, see the following table.

Table 1

Cable Quantity	Power Connectors	Part Name	Description
N/A		Power supply Direct cabling	24-pin (20 + 4) main connector
			4-Pin ATX 12V
			8-pin EPS 12V
			SG-650: 1 x 8-pin (6 + 2) PCI-E
			SG-850: 2 x 8-pin (6 + 2) PCI-E
			3 x Molex + 1 x Floppy
			3 x SATA
2		Molex connector w/ cable	Includes three Molex connectors
2		Serial ATA connector w/ cable	Includes three Serial ATA connectors
SG-650 x 1 cable		PCI Express connector w/ cable	Includes one PCI Express connector
SG-850 x 2 cable			

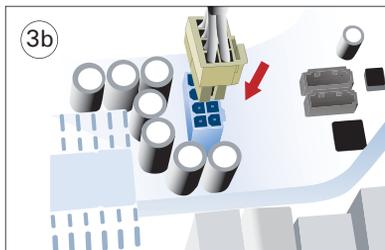
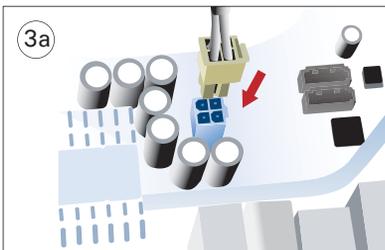


Installation:

- 1 Install the Signature PSU into your case with the four screws provided.
- 2 Connect the 24-pin Main Power Connector to your motherboard. If your motherboard uses a 20-pin connector, detach the 4-pin section on the 24-pin connector.

Note: The detachable 4-pin section cannot be used in place of a 4-pin +12V connector.





- 3 Connect the 8-pin or 4-pin connector for the CPU.

Note: Please also refer to your motherboard user guide for any special instructions.

- 4 Connect the cables from cable pack to the socket on the power supply as needed. If you are going to plug additional PCI-E cables into the PSU, they should go into the red sockets. If the red sockets are not being used for PCI-E, then they can be used for any other type of cable supplied in the pack that accompanied the PSU.
- 5 Connect the AC power cord to the power supply AC inlet and turn the switch to the “|” position.

Output — SG-650

Voltage	+ 3.3V	+ 5V	+ 12V ₁	+ 12V ₂	+ 12V ₃	-12V	+ 5VSB
Maximum Load	25A	25A	22A	22A	25A	0.5A	3A
Minimum Load	0A	0A	0A	0A	0A	0A	0A
Regulation	± 3%	± 3%	± 3%	± 3%	± 3%	± 7%	± 3%
Ripple & Noise (mV)	50	50	120	120	120	120	50
Combined max.	140W		516W (43A)			N/A	N/A
Total Power	650W continuous output @ 50°C						

Output — SG-850

Voltage	+ 3.3V	+ 5V	+ 12V ₁	+ 12V ₂	+ 12V ₃	+ 12V ₄	-12V	+ 5VSB
Maximum Load	25A	25A	22A	22A	25A	25A	0.5A	3A
Minimum Load	0A	0A	0A	0A	0A	0A	0A	0A
Regulation	± 3%	± 3%	± 3%	± 3%	± 3%	± 3%	± 6%	± 3%
Ripple & Noise (mV)	50	50	120	120	120	120	120	50
Combined max.	160W		780W (65A)				N/A	N/A
Total Power	850W continuous output @ 50°C							

Safety: UL/CUL, TUV, CE, CB, CCC, FCC Class B, C-Tick

Protections: Over Voltage Protection, Short Circuit Protection, Over Current Protection

MTBF: 100K Hours Min At Max. Load 230Vac And 25° Ambient Conditions.

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