



RGB 850W POWER SUPPLY USER MANUAL



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Introduction

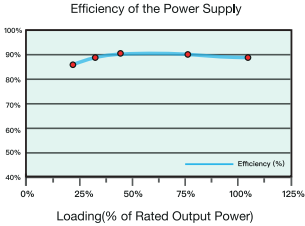
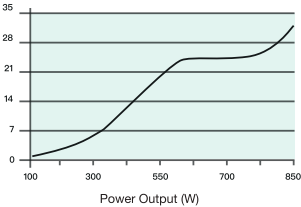
REDRAGON high performance RGB power supply is a very impressive product, offering incredible experience to all ambitious gamers who crave power and stability. It can be up to 90% or above efficiency on +12v rail and less than 0.5W standby power consuming. REDRAGON is the weapon helping you to be the No.1 player.

80 PLUS GOLD

AC Input	100-240Vac, 50-60Hz, 10A Max					
DC Output	+5V	+3.3V	+12V	-12V	+5VSB	
Current	20A	20A	70A	0.3A	2.5A	
Max. Output Wattage	100W		840W	3.6W	12.5W	
850w						

RGB VERSION

The 850W RGB power supply complies with Intel ATX 12V 2.3 & EPS 12V standards. It can reach up to 90% power efficiency and deliver up to 850W of power with a single +12V rail, which meets 80 PLUS Gold Certification.



Active PFC

Adjust the current waveform to compensate for the phase difference between current and voltage. Active PFC can achieve a higher power factor.



Main Capacitor

Enhance the life of the power supply with high-quality capacitors, low resistance and excellent high efficiency.



Power Stabilization Scheme

Protect itself and other hardware through the LLC+DC-DC circuit scheme.



Low Noise Colorful RGB Fan

Achieve a perfect balance between in-game performance and silence with excellent heat dissipation and noise reduction.



100-240V Full Voltage

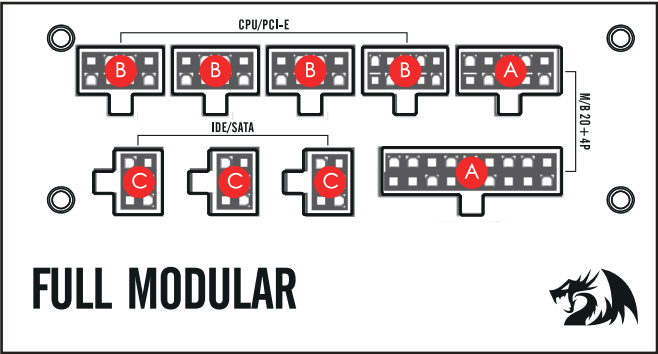
Provide sufficient and stable power for the CPU.



Durable Flat Cables

Durable flat cables give you neat and tidy cable management.

Full Modular Connector Guideline



A / M/B 18+10 PIN



B / CPU(8PIN)



B / PCI-E(8PIN)



C / SATA(6PIN)



C / IDE(4PIN)

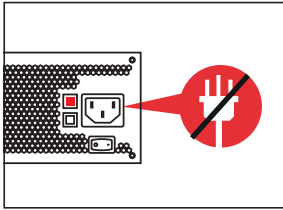
Installing Your New Power Supply

Step 1: Removing your existing power supply

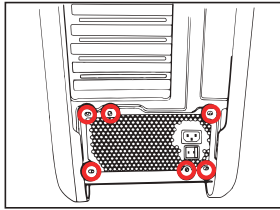
If you are building a new system, skip to **Step 2**

1. Disconnect the attached AC power cords.
2. Disconnect all the power cables from your video card, motherboard and all other peripherals.
3. Before uninstalling your existing power supply, please follow the directions in your chassis manual.
4. Proceed to **Step 2**.

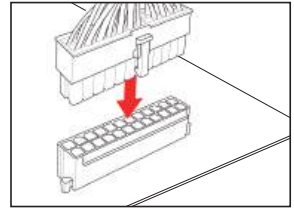
Step 2: Installing the REDDRAGON 850W RGB power supply



1. Make sure the attached AC power cable is not connected.

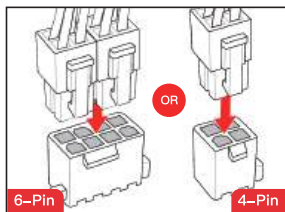


2. Follow the directions in your chassis manual and install the power supply with the screws.



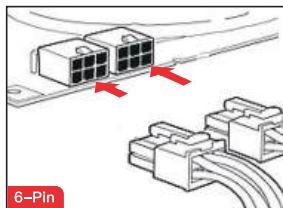
3. The main 24-pin power cable has a detachable 4-pin mechanism in order to support either a 24-pin or a 20-pin socket on the motherboard.

- A. If your motherboard has a 24-pin socket, you may connect the 24-pin main power cable from the power supply directly to your motherboard.
- B. If your motherboard has a 20-pin socket, you must detach the 4-pin cable from the 24-pin connector, and then plug the 20-pin cable onto your motherboard without connecting the 4-pin connector.



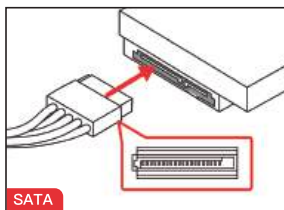
4. Connect the 8-pin +12V (EPS12V) cable to the motherboard.

- A. If your motherboard has an 8-pin +12V socket, connect the 8-pin cable directly to your motherboard.
- B. If your motherboard has a 4-pin socket, detach the 4-pin from the 8-pin cable, and then plug this 4-pin cable directly to your motherboard.



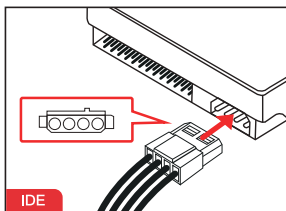
5. Connect the peripheral cables, PCI-Express cables.

- A. Connect the peripherals cables to your hard drive and CD-ROM/DVD-ROM power sockets.
- B. Connect the PCI-Express cables to the power sockets of your PCI-Express video cards if required.
- C. Connect the peripheral cables to any peripherals requiring a small 4-pin connector.

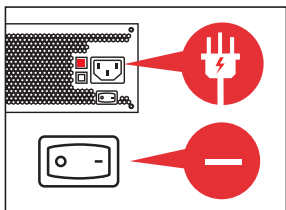


6. Connect the SATA cables.

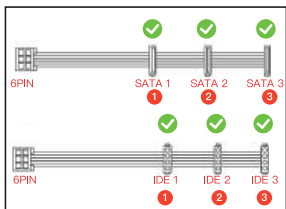
- A. Connect the SATA cables to your SATA SSD or hard drive's power sockets.
- B. Make sure all the cables are tightly connected. Be sure to save any unused modular cables for future component additions.



7. Connect the peripheral “Molex” IDE 4-pin connectors for fans, pumps, 3.5” hard drive, legacy components and other devices/ adapters.



8. Connect the AC power cord to the power supply and turn it on by pushing the switch to the ON position (marked with “I”).



Reminder

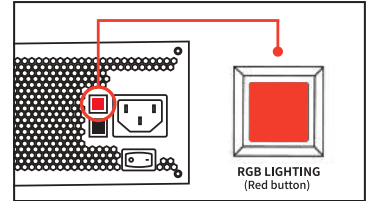
- A. SATA cables (1 to 3) have 3 female connectors—SATA1, SATA2, SATA3.
- B. IDE cables (1 to 3) have 3 female connectors—IDE1, IDE2, IDE3.

Please use the appropriate connector according to the distance of your devices from the power supply.

RGB Lighting

1. RGB mode switch button on the back of the power supply.
2. Short press to turn on the light or switch the light mode.
3. Long press 1.5 seconds to turn off the light.

Note: This power supply is equipped with **Memory Function**. If the light is powered OFF, it will remember the mode you last use.



27 different lighting modes. Long press LED Off

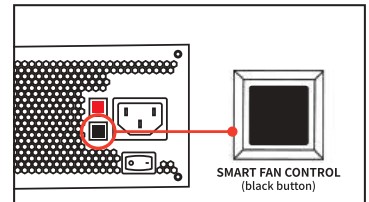
1. Smart fan control switch button is on the back of the power supply.
2. Press the button to ↓ to turn off the smart fan control function. When not pressed, the button is ↑ and it will turn on the smart fan control function.

SMART FAN CONTROL



Smart Fan Control
Stop <60°C< Start

SMART FAN CONTROL



Power Supply DC Output

DC voltage regulation

Parameter	Range	Min	Nom.	Max	Unit
+3.3V	±3%	+3.2	+3.3	+3.4	Volts
+5V	±3%	+4.85	+5.0	+5.15	Volts
+12V	±3%	+11.64	+12.0	+12.36	Volts
-12V	±10%	-10.8	-12.0	-13.2	Volts
+5VSb	±5%	+4.75	+5.0	+5.25	Volts

**All the data tested by laboratory

Load Range

Parameter	Min	Nom.	Max	Peak	Unit
+3.3V	0	–	20		Amps
+5V	0	–	20		Amps
+12V	0	–	70A		Amps
-12V	0	–	0.3		Amps
+5VSb	0	–	2.5		Amps

**All the data tested by laboratory

- (1) The maximum combined load on +5V and +3.3V outputs should not exceed 100W.
- (2) The maximum combined load on +12V outputs should not exceed 849.6W (70.8A).
- (3) The maximum continuous average DC outputs power should not exceed 850W.
- (4) The peak 900W DC outputs power should last no more than 12s.

Power Supply DC Output Ripple & Noise

Ripple Regulation

At the connectors with a 0.1uF ceramic capacitor and a 10uF electrolytic capacitor to simulate system loading. Ripple shall be measured under any condition of line voltage, output load, line frequency, operation temperature.

Parameter	Ripple&Noise	Unit
+3.3V	50	mVp-p
+5V	50	mVp-p
+12V	100	mVp-p
-12V	120	mVp-p
+5VSb	50	mVp-p

**All the data tested by laboratory

Overshoot

Any overshoot at turn on or turn off shall be less than 10% of the nominal voltage value.

Efficiency

Power supply efficiency typical, 90%/50% Loading at normal AC main voltage.

Remote on/off control

When the logic level "PS-ON" is low, the DC outputs are to be enabled. When the logic level is high or open collector, the DC outputs are to be disabled.

Voltage		Over Current Limit (Iout limit)
+12V	500W/550	45A minimum; 75A maximum
	600W/650W	55A minimum; 85A maximum
	700W/750W	60A minimum; 95A maximum
	800W/850W	70A minimum; 100A maximum
+5V	17A minimum; 45A maximum	
+3.3V	17A minimum; 45A maximum	

**All the data tested by laboratory

DC Voltage Regulation

The over voltage sense circuitry and reference shall reside in packages that are separate and distinct from the regulator control circuitry and reference. No single point fault shall be able to cause a sustained over voltage condition on any or all outputs. The supply shall provide latch-mode over voltage protection as defined in Table.

Output	Minimum		Maximum	Unit
+12 VDC	13.4	14	15.6	Volts
+5 VDC	5.74	6.3	7.0	Volts
+3.3 VDC	3.76	4	4.5	Volts

**All the data tested by laboratory

Safety Function

OCP (Over-current Protection)

If the load on the individual circuits exceeds the specified limit, the power supply is automatically switched off.

UVP (Under-voltage Protection)

This safeguard is triggered if the voltage on the circuits drops below a certain limit. The power supply is automatically switched off in this case.

OVP (Over-voltage Protection)

The over-voltage safeguard is triggered if the voltage in the circuits is too high; the power supply is deactivated.

SCP (Short-circuit Safeguard)

The fuse protecting the power supply's secondary circuits prevents physical defects of the power supply and the components connected to it.

OTP (Temperature Safeguard)

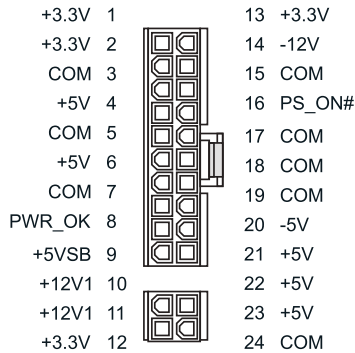
In the case of excessive heat build-up in the power supply, the power supply immediately and automatically switches off. You cannot switch it back on until it has cooled down. Please ensure that the PC has sufficient cooling.

OPP (Over-load Protection)

This safeguard is triggered if the total output of the power supply exceeds the specified maximum load. This can happen if the output of the power supply is insufficient for the system (incorrectly dimensioned).

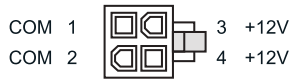
DC Conector

20+4PIN



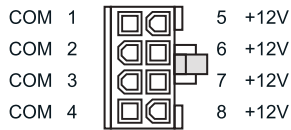
PIN	Description	PIN	Description
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	COM	15	COM
4	+5V	16	PS_ON#
5	COM	17	COM
6	+5V	18	COM
7	COM	19	COM
8	PWR_OK	20	-5V
9	+5VSB	21	+5V
10	+12V1	22	+5V
11	+12V1	23	+5V
12	+3.3V	24	COM

+12VP4



PIN	Description
1	COM
2	COM
3	+12VDC
4	+12VDC

+12VP8(4+4)



PIN	Description	PIN	Description
1	COM	5	+12V
2	COM	6	+12V
3	COM	7	+12V
4	COM	8	+12V

**All the data tested by laboratory

PCI-E P6

+12V	1		5	COM
+12V	2		6	COM
+12V	3		7	COM

PIN	Description	PIN	Description
1	+12V	4	COM
2	+12V	5	COM
3	+12V	6	COM

PCI-E -P8(6+2)

+12V	1		5	COM
+12V	2		6	Sense 0
+12V	3		7	COM
Sense 1	4		8	COM

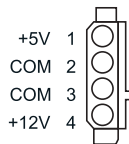
PIN	Description	PIN	Description
1	+12V	5	COM
2	+12V	6	Sense 0
3	+12V	7	COM
4	Sense 1	8	COM

SATA

+3.3V	
+3.3V	
+3.3V	
COM	
COM	
COM	
+5V	
+5V	
+5V	
COM	
COM	
COM	
+12V	
+12V	
+12V	

PIN	Description
1	+3.3V
2	COM
3	+5V
4	COM
5	+12V

**All the data tested by laboratory



PIN	Description
1	+5V
2	COM
3	COM
4	+12V

**All the data tested by laboratory

Safety Information

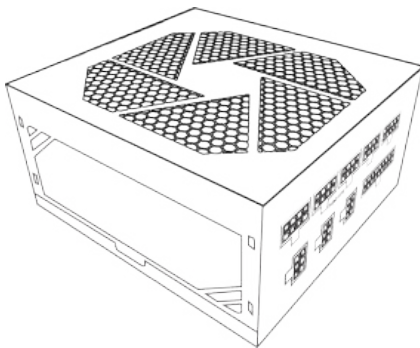
1. Please read and follow all the information contained in these instructions carefully prior to installation. The power supply is only guaranteed to function properly if the instructions are followed thus providing you with maximum satisfaction with this product.
2. Do not unplug the AC power cord when the power supply is in use. This may damage your components.
3. Do not place the power supply in high humidity or temperature environment.
4. The power supply should be powered by the source indicated on the rating label.
5. Please use only genuine REDDRAGON modular cables with REDDRAGON Cable Management power supply models. Third-party cables (e.g. cables of older power supply unit series) might not be compatible and could cause serious damage to your system and power supply. The warranty is voided with the use of third-party cables.
6. All warranty and guarantees will be voided, if failure to comply with any of the warnings and cautions covered in this manual.
7. High voltages exist in the power supply. Do not open the power supply case unless you are an authorized service technician or electrician. This may void the warranty. The electronic components inside the case generate a high voltage that is dangerous to humans. Even after disconnecting the power supply from the network, some parts still have high voltages. For this reason, a power supply adapter should only be opened by an authorized technician.
8. Never handle the power supply with wet or damp hands when in operation.
9. Never insert objects into the power supply's apertures/fans.
10. Note that the power supply is designed for use indoors in conditions without high levels of moisture in the ambient air. Using the power supply outdoors will lead to serious damage.
11. Never work on the power supply while it is connected to the mains. In this case, always set the power switch to "0" and if necessary, disconnect the power plug.

12. In the event of a short circuit in the device, unplug the mains cable and do not use the device. Make sure that your PC is not located directly next to a heating system or any other source of heat.
13. Opening the device voids your warranty.
14. Need help with parts, assembly, technical support, or warranty?
Please contact us: **cs@redragonzone.com**
For more technical support and product info,
please visit: **www.redragonzone.com**

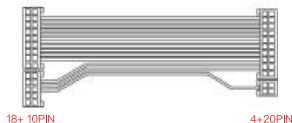
Safety Certificate

	cTUVus approval for the North American Market. Compliance with the Canadian national standards adopted by the Standards Council of Canada (SCC) and US national standards.
	The CB Scheme is an international program for exchange and acceptance of product safety test results among participating laboratories and certification organizations around the world.
	The FCC mark is a voluntary mark employed on electronic products manufactured or sold in the United States which indicates that the electromagnetic radiation from the device is below the limits specified by the Federal Communications Commission.
	The CE mark means that the manufacturer takes responsibility for the compliance of a product with all applicable European health, safety, performance and environmental requirements.
	RoHS (Reduction of Hazardous Substances) is to reduce the environmental effect and health impact of electronics. The legislation's primary purpose is to make electronics manufacturing safer at every stage of an electronic device's life cycle.

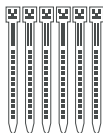
What's in the Box



PSU x 1



24Pin x 1



Cable ties x 6



Screws x 4



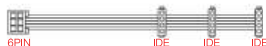
Power cable x 1



8PIN (6+2)&(6+2) x 2



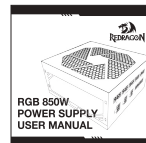
8Pin (4+4) x 2



IDE x 1



SATA x 2



User manual x 1

Warranty

36 Months Warranty

Per the terms and conditions of this limited warranty as given below, warrants its new products to be free of defects resulting from faulty materials and faulty manufacturing for the length of the warranty period.

I.APPLICABILITY

This non-transferable warranty is applicable to newly purchased, previously unopened REDRAGON! Proof of purchase is required for warranty service, so should be retained.

II.WARRANTY PERIOD

For eligible products, parts and labor are warranted for the applicable warranty period from the date of purchase. The applicable warranty period varies by product model, and is identified in your user documentation, on the product package, or as listed below. Should any of these warranty periods differ, the longest specified warranty period will apply.

III.EXCLUSIONS

The following are not covered by the warranty:

1. Normal wear and tear.
2. Any product which has been modified without permission from REDRAGON! Or on which the serial Number or warranty sticker has been defaced, modified, or removed.
3. Damage, deterioration or malfunction resulting from:
 - Accident, abuse, misuse or improper use, neglect, connection to an improper voltage source, Unauthorized product modification, or failure to follow instructions included with the product.
 - Fire, water, lightning, or other acts of nature.
 - Repair or attempted repair by anyone not authorized by REDRAGON!
 - Shipping or transport damage (claims must be made with the carrier).
 - Any other cause which does not relate to a defect in materials or manufacturing workmanship.

4. Cartons, cases, batteries, cabinets, tapes, accessories or other consumables used with this product.
5. Does not warrant that this product will meet your requirements. It is your responsibility to determine the Suitability of this product for your purpose.
6. Removal or installation charges.
7. Shipping charges.
8. Any incidental charges.

IV.EXCLUSION OF DAMAGES

REDRAGON's sole obligation and liability under this warranty is limited to the repair of a defective product at its option. REDRAGON shall not, in any event, be liable for any special, incidental, indirect, or consequential damages whatsoever, including but not limited to loss of profits, revenue, or data (whether direct or indirect), damages resulting from interruption of service and loss of business, or for liability in tort relating to this product or resulting from its use or possession, even if REDRAGON, has been advised previously of the possibility of such damages.

V.LIMITATIONS OF IMPLIED WARRANTIES

There are no other warranties, expressed or implied, including but not limited to those of merchantability or fitness for a particular purpose. The duration of implied warranties is limited to the warranty length specified in Paragraph II.

VI.LOCAL LAW AND YOUR WARRANTY

This warranty gives you specific legal rights. You may also have other rights granted under local law. These rights may vary.

VII.NO OTHER WARRANTY

REDRAGON, employee, dealer, or other agent is authorized to make any modification, extension, or addition to this warranty.

After-Sales Service

Need help with parts, assembly, technical support, or warranty?

Please contact us: **cs@redragonzone.com**

For more technical support and product info,
please visit: **www.redragonzone.com**

