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› Thermaltake Toughpower GF3 1200W ATX 3.0 Power Supply User Manual

Thermaltake PS-TPD-1200FNFAGU-4

Thermaltake Toughpower GF3 1200W ATX 3.0 Power Supply User Manual

Model: PS-TPD-1200FNFAGU-4

INTRODUCTION

This manual provides essential information for the installation, operation, and maintenance of your Thermaltake Toughpower GF3 1200W ATX 3.0 Power Supply. Please read this manual thoroughly before installation and retain it for future reference.



TOUGHPower GF3 1200W GOLD - TT PREMIUM EDITION

Designed with a native PCIe 12+4pin connector, the Toughpower GF3 series is compatible with Intel's ATX 3.0 specification and is built for next-gen PCIe 5.0 graphics cards.

Image: The Thermaltake Toughpower GF3 1200W power supply and its retail packaging, showcasing its primary features and certifications.

The Toughpower GF3 series is designed to meet Intel's ATX 3.0 specification and is built for next-generation PCIe 5.0 graphics cards, capable of delivering up to 600W of power via its native 12+4pin connector. It features 80 PLUS Gold efficiency and a fully modular design for optimized cable management.

SETUP AND INSTALLATION

Safety Precautions

- Ensure the power supply is disconnected from the AC power outlet before installation or maintenance.
- Do not open the power supply casing; it contains high voltage components.
- Install the power supply in a well-ventilated area.
- Use only the modular cables provided with this power supply.

Installation Steps

1. **Mounting the PSU:** Secure the power supply into your PC case using the provided screws. Ensure the fan is oriented correctly for optimal airflow (typically fan facing down if a bottom mount, or up if a top mount, depending on case design).
2. **Connecting Main Power:** Connect the 24-pin ATX main power cable to your motherboard.
3. **Connecting CPU Power:** Connect the 8-pin (4+4-pin) EPS/ATX 12V CPU power cable(s) to your motherboard.
4. **Connecting Graphics Card Power (PCIe 5.0):** For next-generation graphics cards, use the native 12VHPWR (12+4pin) connector. Ensure it is fully seated. For other graphics cards, use the 6+2pin PCIe connectors.



MADE TO COMPLY WITH THE LATEST GRAPHICS CARDS

Toughpower GF3 Gold comes with a 16pin connector to offer powerful and stable performance allowing the PSU to run next-generation GPUs naturally. Please follow the recommended power requirements from the GPU manufactures before using the 12VHPWR cable

Image: A detailed view of the 12VHPWR 16-pin connector, indicating its readiness for PCIe Gen 5.0 graphics cards.

5. **Connecting Peripherals:** Connect SATA power cables to your storage drives (SSDs, HDDs) and peripheral cables to other components as needed.
6. **Cable Management:** Utilize the fully modular, low-profile flat cables to manage wiring efficiently, improving airflow and aesthetics within your PC case.
7. **Power On:** Once all connections are secure, connect the AC power cord to the power supply and a wall outlet. Flip the power switch on the PSU to the 'ON' position.

FULLY COMPATIBLE WITH INTEL PSDG ATX 3.0 SPECIFICATIONS

Toughpower GF3 series is fully compatible with Intel ATX 3.0 Specifications which supports up to 200% power excursion, reaches 70% low load efficiency and complies with required power supply timing standards. The GF3 series can sustain up to 3x GPU power excursion and 2x total power excursion.

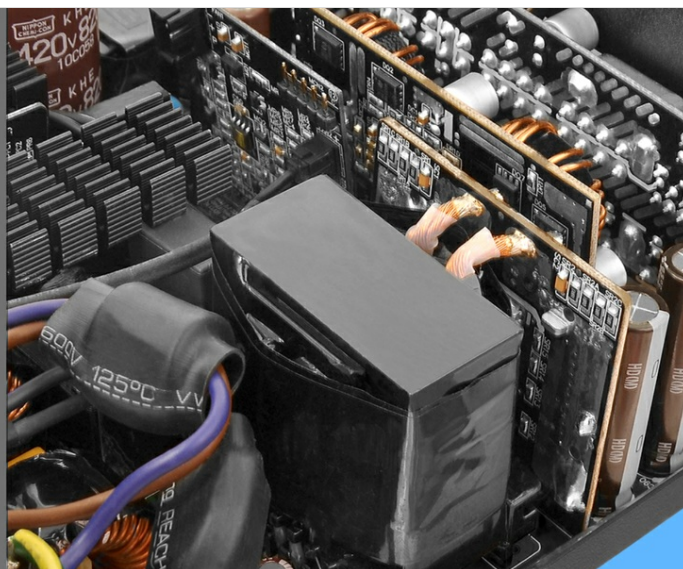
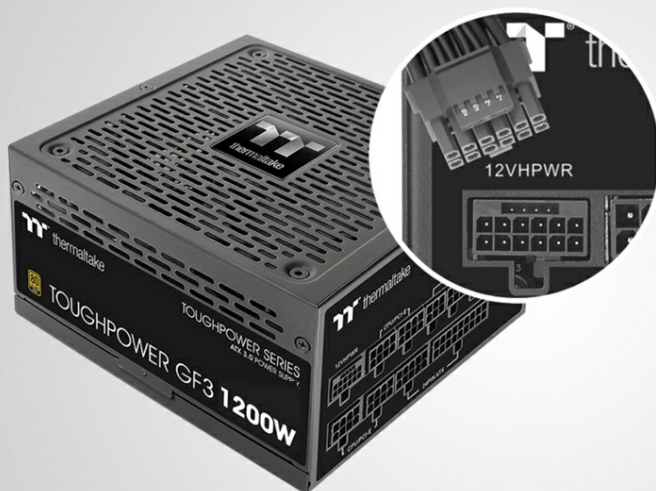


Image: This power supply is fully compatible with Intel ATX 3.0 specifications, supporting up to 200% power excursion and 70% low load efficiency.



PCIe GEN 5.0 READY

Toughpower GF3 Gold comes with a 16pin connector to offer powerful and stable performance allowing the PSU to run next-generation GPUs naturally.

Please follow the recommended power requirements from the GPU manufacturers before using the 12VHPWR cable.



Image: The Toughpower GF3 Gold features a 16-pin connector for powerful and stable performance with next-generation GPUs.

OPERATING INSTRUCTIONS

Smart Zero Fan Operation

The Toughpower GF3 1200W features a Smart Zero Fan mode. In this mode, the 13.5cm fluid bearing fan will not spin until the power supply load exceeds 30%. This minimizes noise during low-load operations. You can toggle this feature using the switch located on the power supply unit.



ULTRA QUIET SMART ZERO FAN

Designed with our Smart Zero Fan, the fan will not spin until the load exceeds 30% of the power supply, minimizing the fan noise.

Image: The Smart Zero Fan switch, allowing users to enable or disable the fan's zero RPM mode at low loads.

ULTRA QUIET SMART ZERO FAN

Designed with our Smart Zero Fan, the fan will not spin until the load exceeds 30% of the power supply, minimizing the fan noise.



Image: The Smart Zero Fan feature ensures the fan remains off until the PSU load exceeds 30%, reducing operational noise.

Efficiency and Stability

This power supply is 80 PLUS Gold certified, indicating high energy efficiency (up to 90% at 115Vac input). It features extremely strict voltage regulation ($<3\%$ for +12V and +5V) and a low ripple noise design ($<30\text{mV}$) to ensure stable and clean power delivery to all components.



Image: The Toughpower GF3 series offers extremely strict voltage regulation, maintaining output within 3% for major rails, surpassing Intel's standard.

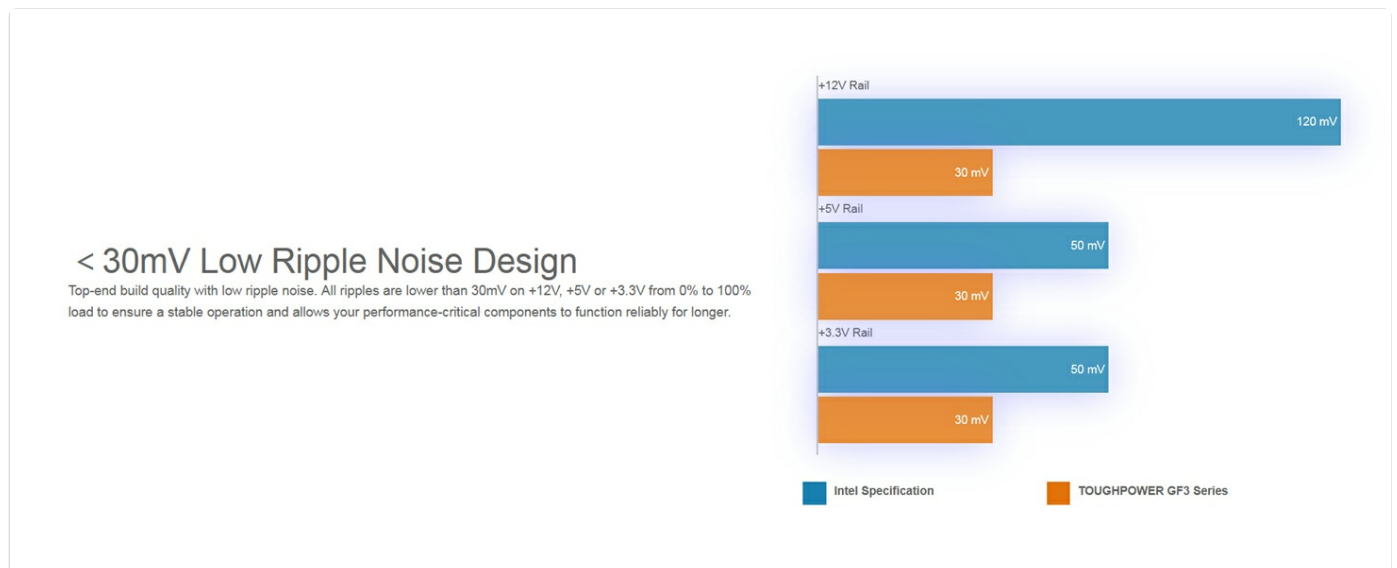


Image: The power supply features a low ripple noise design, keeping ripples below 30mV on +12V, +5V, and +3.3V rails for stable operation.

MAINTENANCE

The Thermaltake Toughpower GF3 1200W power supply is designed for long-term reliability with minimal maintenance. However, following these guidelines can help ensure optimal performance:

- **Keep Clean:** Periodically inspect the power supply's fan and ventilation grilles for dust accumulation. Use compressed air to gently clear any dust, ensuring proper airflow.
- **Ensure Airflow:** Make sure that the power supply's intake and exhaust vents are not obstructed by cables or other components within the PC case.

- **Cable Integrity:** Regularly check all modular cable connections to ensure they are securely seated.



FLUID DYNAMIC BEARING FAN
Featuring a 135mm fluid bearing fan to guarantee superior cooling performance.

Image: The 135mm fluid dynamic bearing fan provides superior cooling performance and contributes to the unit's longevity.

TROUBLESHOOTING

If you encounter issues with your power supply, consider the following common troubleshooting steps:

- **No Power:** Ensure the AC power cord is securely connected to both the power supply and the wall outlet. Verify the power switch on the PSU is in the 'ON' position. Check the wall outlet with another device.
- **System Instability/Crashes:** Ensure all modular cables are correctly and firmly connected to both the power supply and the respective components (motherboard, CPU, GPU, drives). Overclocking or faulty components can also cause instability.
- **Fan Not Spinning:** If the Smart Zero Fan feature is enabled, the fan will not spin until the load exceeds 30%. This is normal operation. If the load is above 30% and the fan is still not spinning, try disabling the Smart Zero Fan feature via the switch.
- **Protection Features:** The power supply includes multiple protection mechanisms (OCP, OVP, UVP, OPP, SCP, OTP) that will shut down the unit to prevent damage. If the PSU shuts down unexpectedly, it may indicate an issue with a component drawing too much power or a short circuit. Disconnect all components and test them individually if possible.

Protection Mechanisms

- **OCP (Over Current Protection):** Protects against excessive current on output rails.
- **OVP (Over Voltage Protection):** Protects against excessive voltage on output rails.
- **UVP (Under Voltage Protection):** Protects against insufficient voltage on output rails.
- **OPP (Over Power Protection):** Protects against total power draw exceeding the unit's capacity.
- **SCP (Short Circuit Protection):** Protects against short circuits on output rails.
- **OTP (Over Temperature Protection):** Protects against excessive internal temperatures.

SPECIFICATIONS

Below are the detailed specifications for the Thermaltake Toughpower GF3 1200W Power Supply:

Feature	Specification
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Feature	Specification
Model	TPD-1200AH3FCG (PS-TPD-1200FNFAGU-4)
Max. Output Capacity	1200W
Color	Black
Dimension (W / H / D)	150mm(W) x 86mm(H) x 180mm(D)
Weight	1.88 KG (4.14 pounds)
PFC (Power Factor Correction)	Active PFC
Power Good Signal	100-150 msec
Hold Up Time	> 17msec at 100% of full load
Input Current	15.0A / 7.0A
Input Frequency Range	50-60Hz
Input Voltage	100 – 240V~
Operating Temperature	0°C to + 50°C
Operating Humidity	20% to 90%, non-condensing
Storage Temperature	-20°C to + 70°C
Storage Humidity	20% to 90%, non-condensing
Cooling System	13.5cm fluid bearing fan
Efficiency	Meet 80 PLUS® Gold at 115Vac input
MTBF	100,000 hrs minimum
Safety Approval	CE/UKCA/cTUVus/TÜV/FCC/IC/BSMI/EAC/CB/BIS/KCC
PCI-E 6+2PIN	PCIe 6+2pin X 4
PCI-E 12+4PIN	PCIe 12+4pin X 1 (600W)
Protections	OCP, OVP, UVP, OPP, SCP, OTP

Cable Configuration



Wattage	Connector Type	Connector Quantity per cable	Cable Quantity	Cable Length
Toughpower GF3 1350W	Main Power (24Pin)		1	600mm
	ATX 12V (8/4+4Pin)		1	700mm
	PCIe (6+2Pin)		2	500mm + 150mm
	PCIe (12+4Pin)		1	500mm
	SATA		3	500mm + 150mm + 150mm
	Peripheral		1	500mm + 150mm + 150mm
	Floppy Adapter		1	100mm

FULLY MODULAR LOW-PROFILE FLAT CABLE

Offers cable selection for users while powering the system at an advantageous voltage. Low-profile flat black cable makes cable management easier, reduces clutter and increases airflow inside the chassis.

Image: Overview of the fully modular low-profile flat cables, detailing connector types, quantities, and lengths for efficient cable management.

WARRANTY AND SUPPORT

Warranty Information

The Thermaltake Toughpower GF3 1200W Power Supply comes with a **10-year warranty**. Please refer to the official Thermaltake website or your purchase documentation for full warranty terms and conditions.

Further Assistance

For additional support, technical inquiries, or to download the official user manual PDF, please visit the Thermaltake official website or refer to the provided document link:

[Download Official User Manual \(PDF\)](#)

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Email

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

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