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### Cooler Master MPX-6501-AMAAB-US

# Cooler Master MasterWatt 650 Bronze Power Supply User Manual

Model: MPX-6501-AMAAB-US | Brand: Cooler Master

## 1. PRODUCT OVERVIEW

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The Cooler Master Watt Bronze 650W is a modular 80 Plus Bronze certified Power Supply Unit (PSU) designed for computer systems. It features a semi-fanless mode, ensuring silent operation under low power loads. The fan remains idle when the system load is below 15%, providing zero noise. As power demand increases, the fan gradually activates, offering efficient cooling with minimal acoustic output. This PSU incorporates DC-to-DC topology for stable voltage delivery and is equipped with 16 AWG PCIe cables to enhance efficiency and support modern graphics cards.

### Key Features:

- 650W semi-modular ATX power supply
- Semi-fanless operation up to 15% load for quiet performance
- 80 PLUS Bronze certified for energy efficiency
- Temperature-controlled 120mm fan with dustproof LDB bearing for durability and quiet cooling
- DC-to-DC circuit design ensures stable voltage output
- Thicker 16AWG PCIe cables for improved efficiency and compatibility with high-power graphics cards



Figure 1.1: The Cooler Master MasterWatt 650 Bronze Power Supply shown alongside its retail packaging.



Figure 1.2: Top view of the MasterWatt 650 Bronze Power Supply, displaying the Cooler Master logo and model designation.



Figure 1.3: An internal view of the power supply, highlighting the 120mm fan and the arrangement of internal components.



Figure 1.4: Diagram illustrating the Dual Forward and DC-to-DC circuit design, which enhances reliability and stability of the +3.3V and +5V outputs.

## 2. WHAT'S IN THE BOX

Upon opening the package, verify that all the following items are included:

- Cooler Master MasterWatt 650 Bronze Power Supply Unit
- Modular Cable Set (various types for different components)
- Mounting Screws
- User Manual (this document)
- AC Power Cord (region specific)



## SEMI-FANLESS TECHNOLOGY

innovative semi-fanless mode, allows the 120mm LDB fan to operate noise-free in normal PC loads under 15% output for a quiet cooling.

Figure 2.1: The complete set of modular cables provided with the power supply, allowing for flexible system building.

### 3. SETUP AND INSTALLATION

Before beginning installation, ensure your computer system is powered off and disconnected from the main power outlet. It is recommended to wear an anti-static wrist strap to prevent electrostatic discharge (ESD) damage to components.

#### 3.1 Physical Installation:

1. Open your computer case and locate the power supply mounting bay.
2. Carefully slide the Cooler Master MasterWatt 650 Bronze PSU into the bay, ensuring the fan faces the correct direction for optimal airflow (typically facing downwards if your case has a bottom vent, or upwards if not).
3. Secure the PSU to the case using the provided mounting screws.



Figure 3.1: An angled view of the power supply, highlighting the modular cable connection ports on the side.



Figure 3.2: A detailed close-up of the modular cable ports, indicating connections for 8P PCI-E and 5P HDD/SATA cables.

## 3.2 Cable Management:

The MasterWatt 650 Bronze is a semi-modular power supply, allowing you to connect only the cables you need, which helps improve airflow and cable management within your PC case.

1. Connect the 24-pin ATX motherboard power cable and the 4+4-pin CPU power cable (EPS 12V) to their respective ports on your motherboard. These cables are permanently attached to the PSU.
2. Identify the necessary modular cables for your components (e.g., PCIe for graphics cards, SATA for SSDs/HDDs, Peripheral for fans/accessories).
3. Plug the required modular cables into the corresponding ports on the PSU. Ensure a firm connection.
4. Route the cables neatly through your case's cable management channels and connect them to your components.
5. Once all connections are made, close your computer case.



Figure 3.3: The rear panel of the power supply, featuring the AC power input and the main power switch.

## 4. OPERATING INSTRUCTIONS

After successful installation, connect the AC power cord to the PSU's input and then to a wall outlet or surge protector. Ensure the power switch on the back of the PSU is in the "On" (I) position before powering on your computer.

### 4.1 Semi-Fanless Operation:

The MasterWatt 650 Bronze features a semi-fanless mode. This means the 120mm fan will not spin when the power supply load is below 15% (approximately 97.5W). This design ensures silent operation during light tasks such as web browsing or word processing. As the system load increases, the fan will gradually begin to spin, providing necessary cooling to maintain optimal operating temperatures. The fan speed will adjust dynamically based on the power demand and internal temperature.



Figure 4.1: Illustration of the semi-fanless technology, showing how the fan remains off under low loads for quiet operation.

## 5. MAINTENANCE

The Cooler Master MasterWatt 650 Bronze PSU is designed for reliable, long-term operation with minimal maintenance. However, periodic checks can help ensure its longevity and performance.

- **Dust Removal:** Over time, dust can accumulate inside the PSU and on its fan blades, potentially affecting cooling efficiency. Periodically, and with the system powered off and unplugged, use compressed air to gently clear dust from the fan grille and exhaust vents. Do not open the PSU casing.
- **Airflow:** Ensure that the air intake and exhaust vents of the PSU are not obstructed by cables or other components within the PC case. Good airflow is crucial for efficient cooling.
- **Cable Connections:** Occasionally check that all modular cables are securely seated in their respective ports on both the PSU and your components.

## 6. TROUBLESHOOTING

If you encounter issues with your Cooler Master MasterWatt 650 Bronze Power Supply, refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
System does not power on.	PSU power switch is off. AC power cord is loose or disconnected. Faulty wall outlet or power strip. Loose internal power connections.	Ensure PSU switch is in "On" (I) position. Check AC power cord connection at both PSU and wall outlet. Try a different wall outlet or power strip. Verify all internal power cables (24-pin ATX, CPU, PCIe, SATA) are securely connected.
PSU fan is not spinning.	System load is below 15% (semi-fanless mode). Fan obstruction or malfunction.	This is normal behavior for semi-fanless mode. The fan will activate under higher loads. If the fan does not spin under heavy load, ensure no obstructions. If problem persists, contact support.
System crashes or reboots under load.	Insufficient power delivery. Overheating.	Ensure your system's power requirements do not exceed 650W. Check for proper airflow within the case and ensure PSU vents are clear. Verify all power connections are secure.

If the issue persists after following these steps, please contact Cooler Master customer support for further assistance.

## 7. SPECIFICATIONS

Feature	Detail
Brand	Cooler Master
Model Name	MasterWatt 650 Bronze
Item Model Number	MPX-6501-AMAAB-US
Wattage	650 Watts
80 PLUS Certification	Bronze
Form Factor	ATX
Cooling Method	Air (120mm fan)
Dimensions (LxWxH)	5.51 x 5.9 x 3.38 inches (140 x 150 x 86 mm)
Item Weight	5.29 pounds (2.4 kg)
Modular Type	Semi-Modular

Feature	Detail
DC-to-DC Topology	Yes
PCIe Cables	16AWG

## 8. WARRANTY AND SUPPORT

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The Cooler Master MasterWatt 650 Bronze Power Supply comes with a **5-year warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. For technical support, warranty claims, or additional information, please visit the official Cooler Master support website:

[Cooler Master Support](#)

Please retain your proof of purchase for warranty purposes.