

Thermalright TL-C12C X5

Thermalright TL-C12C X5 CPU Fan Instruction Manual

Model: TL-C12C X5

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of your Thermalright TL-C12C X5 CPU Fan. Please read these instructions carefully before use to ensure optimal performance and longevity of the product.

2. PRODUCT OVERVIEW

The Thermalright TL-C12C X5 is a high-performance 120mm cooling fan designed for computer cases and CPU coolers. It features intelligent PWM control for automatic speed adjustment based on temperature, ensuring efficient cooling with minimal noise.



120MM classic performance fan

The ideal cooling fans for your PC provide optimal airflow to keep components cool at low to medium speeds. With up to 66.17CFM of airflow at peak 1550 RPM, TL-C12C Series fans deliver the perfect balance between low noise, strong static pressure, and high airflow without compromising performance.

Image 2.1: Overview of the Thermalright TL-C12C X5 fans, emphasizing their 120mm balanced performance design.

Key Features:

- **High Performance Cooling:** Automatic speed control via 4-pin PWM interface, with a maximum speed of 1550 RPM.
- **Quality S-FDB Bearings:** Fluid Dynamic Bearings (FDB) ensure minimal noise and extended fan lifespan by stabilizing the fan blade in motion.
- **Silent Operation:** Noise level of ≤ 25.6 dBA.
- **Intelligent Temperature Control:** PWM function adjusts fan speed automatically based on motherboard temperature. DC mode is available for fixed speed control.
- **Durable Construction:** Fan blades and frame are made from industrial-grade PBT and PC polymers.
- **Vibration Absorption:** Soft-touch silicone rubber pads on each corner reduce noise and vibration.
- **Versatile Application:** Suitable for chassis heat dissipation, air-cooled CPU coolers, and liquid cooling radiators.

Unparalleled COOLING performance

The TL-C12C is a PWM controlled fan which is designed to perform at a maximum operating speed of up to 1550 PWM allowing unparalleled cooling performance.



Image 2.2: Detail of the fan's soft-touch corner pads and S-FDB bearing for vibration absorption and stability.



BUILD TOUGH, THINK ERGONOMIC

Both fan blades and frame are made with industrial grade PBT combined PC polymers, ensuring strength and stability in computer use cases. Each corner of the fan has silicone rubber pad pre-installed for noise and vibration damping.

Image 2.3: The fan's robust construction using industrial-grade PBT+PC material.

LONG LASTING S-FDB BEARING

Fan Motor equipped with high durability S-FDB (Fluid Dynamic Bearing) bearing, proving low-friction and low-noise operation. For a long service life span in your PC build. Thermalright fan with S-FDB bearing is maintenance-free, please do not disassemble.

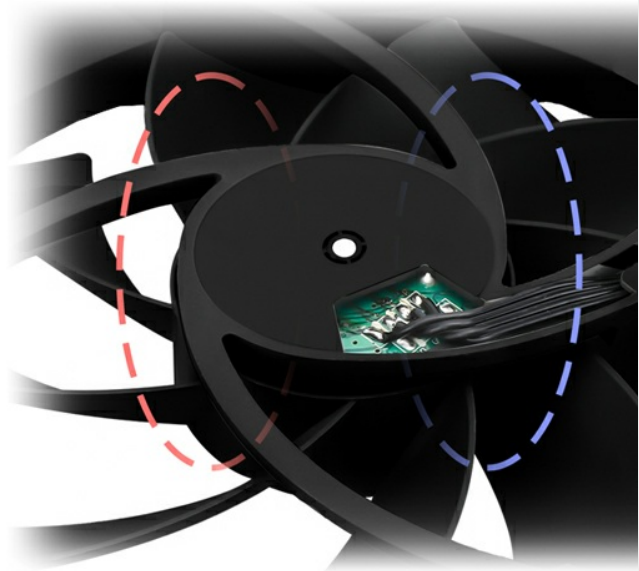


Image 2.4: Examples of the fan's versatile cooling applications in a PC system.

3. SETUP

3.1 Airflow Direction

It is crucial to install the fan with the correct airflow direction for optimal cooling. The blade side of the fan typically indicates air intake, while the frame side indicates air exhaust. Ensure the fan is oriented to push air in the desired direction within your case or through your cooler.

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Video 3.1: This video demonstrates how to identify the blade side intake and frame side exhaust on the Thermalright TL-C12C X5 fan, and how to install it according to case airflow direction.

3.2 Connecting the Fan

The TL-C12C X5 fan uses a 4-pin PWM connector for power and speed control. Connect the fan cable to an available 4-pin fan header on your motherboard. For multiple fans, you can daisy-chain them using the provided cables for synchronized speed control.

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Video 3.2: This video illustrates the PWM signal sync wiring, showing how to connect 4-pin PWM connectors to synchronize fan speed for multiple Thermalright TL-C12C X5 fans.

4. OPERATING INSTRUCTIONS

4.1 PWM Temperature Control

Once connected to a 4-pin PWM header on your motherboard, the fan will automatically adjust its speed based on the system's temperature. This intelligent control ensures efficient cooling when needed and quieter operation during lighter loads.

4.2 DC Mode (Optional)

If you prefer a fixed fan speed rather than automatic adjustment, you can configure the fan to operate in DC mode through your motherboard's BIOS settings or fan control software. Refer to your motherboard manual for specific instructions on switching fan control modes.

5. MAINTENANCE

The Thermalright TL-C12C X5 fan is equipped with a durable S-FDB (Fluid Dynamic Bearing) which is designed to be maintenance-free. To ensure the longevity and optimal performance of the fan, **do not attempt to disassemble it**. Regular cleaning of dust from the fan blades and frame is recommended to maintain airflow efficiency.

6. TROUBLESHOOTING

If you encounter issues with your fan, consider the following:

- **Fan not spinning:** Ensure the 4-pin PWM connector is securely attached to the motherboard header. Check BIOS settings to confirm the fan header is enabled and configured correctly.
- **Excessive noise:** Verify that the fan is securely mounted and not vibrating against the case or other components. Ensure no cables are obstructing the fan blades.
- **Poor cooling performance:** Check the fan's airflow direction to ensure it is pushing air effectively. Clean any dust buildup on the fan blades or radiator fins.

For further assistance, please refer to the support section.

7. SPECIFICATIONS

Feature	Specification
Model	TL-C12C X5
Dimensions (L x W x H)	120mm x 120mm x 25mm (4.72"L x 0.98"W x 4.72"H)
Rotational Speed	1550 RPM $\pm$ 10% (Max)
Noise Level	$\leq$ 25.6 dBA
Air Flow Capacity	66.17 CFM
Air Pressure	1.53 mm H2O
Power Connector	4-Pin PWM
Voltage	12 Volts
Current	0.20 A
Wattage	2.4 Watts
Bearing Type	S-FDB (Fluid Dynamic Bearing)
Material	Plastic, Rubber (PBT+PC)

Feature	Specification
Cable Length	Up to 55cm

8. WARRANTY AND SUPPORT

Specific warranty information for the Thermalright TL-C12C X5 CPU Fan is typically provided with your purchase documentation or can be found on the official Thermalright website. For technical support, product inquiries, or warranty claims, please visit the Thermalright official website or contact their customer service directly.

You can visit the Thermalright Store on Amazon for more information:[Thermalright Store](#)