Thermalright TL-C12CW-X28-S X3

Thermalright TL-C12CW-X28-S X3 120mm PWM ARGB PC Fan User Manual

Model: TL-C12CW-X28-S X3 | Brand: Thermalright

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of your Thermalright TL-C12CW-X28-S X3 120mm PWM ARGB PC Fan. Please read this manual thoroughly before use to ensure optimal performance and safety.

Image 1.1: Thermalright TL-C12CW-X28-S X3 120mm ARGB Performance Fan showcasing its design and key features like 28mm thickness, ARGB support, S-FDB bearing, and PWM/ARGB sharing connectors.

The TL-C12CW-X28-S X3 is a high-performance 120mm fan designed for efficient cooling of PC cases, CPU

coolers, and liquid cooling radiators. It features Pulse Width Modulation (PWM) for automatic speed control and Addressable RGB (ARGB) lighting for customizable aesthetics.

2. Safety Information

- Always disconnect power from your computer before installing or removing any components.
- Handle the fan by its frame to avoid damaging the blades or wiring.
- Ensure all connections are secure and correctly oriented to prevent electrical damage.
- Do not attempt to disassemble the fan motor.
- Keep out of reach of children.

3. Package Contents

Verify that all items are present in the package:

- Thermalright TL-C12CW-X28-S X3 120mm Fan
- Mounting Screws
- User Manual (this document)

4. Specifications

Feature	Specification
Model	TL-C12CW-X28-S X3
Dimensions	120mm x 120mm x 28mm
Rotational Speed	1550 RPM ± 10% (Max)
Noise Level	≤ 25.4 dBA
Air Flow	73.3 CFM (Max)
Air Pressure	1.86 mm H2O
Power Connector	4-Pin PWM
Lighting Interface	5V 3-Pin ARGB
Current	0.25A
Bearing Type	S-FDB (Fluid Dynamic Bearing)
Material	Industrial-grade PBT+PC
Cable Length	55 cm

Image 4.1: The Thermalright TL-C12CW-X28-S X3 fan illustrating its 120mm x 120mm x 28mm dimensions.

5. Setup and Installation

Follow these steps to install your Thermalright TL-C12CW-X28-S X3 fan:

1. **Prepare Your System:** Power off your computer and disconnect it from the power source. Open your computer case to access the fan mounting locations.
2. **Mount the Fan:** Secure the fan to your desired location (PC case, CPU cooler, or radiator) using the provided mounting screws. Ensure the fan is oriented correctly for optimal airflow (intake or exhaust).

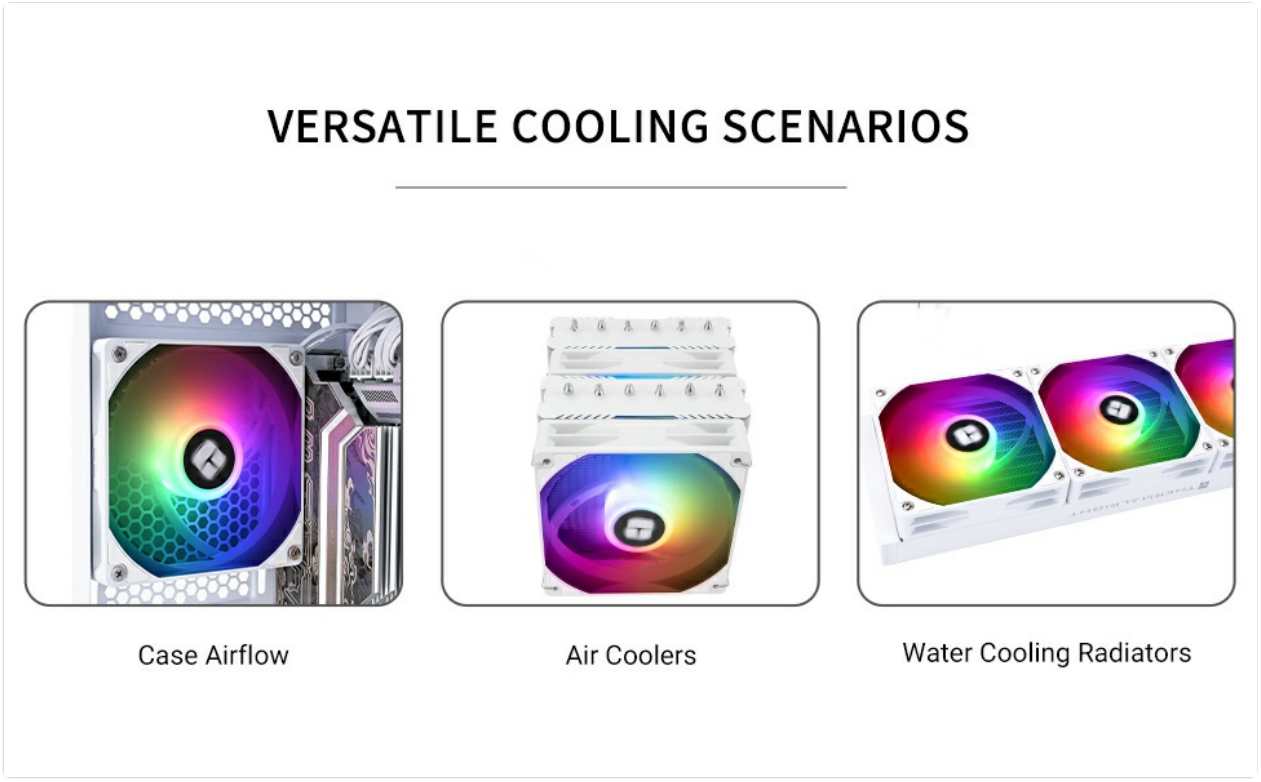

Image 5.1: Examples of versatile cooling scenarios including case airflow, air coolers, and water cooling radiators where the fan can be installed.

3. **Connect the PWM Cable:** Locate the 4-pin PWM fan header on your motherboard. Connect the fan's 4-pin PWM cable to this header. This allows your motherboard to control the fan speed based on system temperature.

Image 5.2: The Thermalright TL-C12CW-X28-S X3 fan highlighting its airflow design and the PWM fan speed sync connector for motherboard control.

4. **Connect the ARGB Cable:** Locate a 5V 3-pin ARGB header on your motherboard. Connect the fan's 5V 3-pin ARGB cable to this header. **Important:** Ensure you connect to a 5V 3-pin ARGB header, not a 12V 4-pin RGB header, as this can damage the fan's lighting.

5. **Daisy-Chaining (Optional):** If installing multiple ARGB fans, you can daisy-chain them using the provided ARGB sharing connectors. **Note:** Do not connect more than 6 ARGB fans of the same specification in series to a single header to prevent overloading.
6. **Final Check:** Ensure all cables are properly routed and secured, and that no cables interfere with moving parts. Close your computer case.

6. Operating Instructions

Once installed, the Thermalright TL-C12CW-X28-S X3 fan operates as follows:

- **Fan Speed Control:** The 4-pin PWM connection allows your motherboard to automatically adjust the fan speed (up to 1550 RPM) based on CPU or system temperature. This ensures efficient cooling while minimizing noise when full performance is not required.
- **ARGB Lighting Control:** The 5V 3-pin ARGB lighting can be controlled via your motherboard's RGB software (e.g., ASUS Aura Sync, MSI Mystic Light Sync, Gigabyte RGB Fusion, ASRock Polychrome Sync). Refer to your motherboard manual for specific instructions on controlling ARGB effects.

Image 6.1: The TL-C12CW-X28-S X3 fan demonstrating its ARGB lighting capabilities and highlighting its cooling performance with PWM control.

7. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your fan:

- **Cleaning:** Periodically clean the fan blades and frame to remove dust buildup. Use a soft brush or compressed air. Ensure the fan is powered off before cleaning.
- **Bearing:** The fan is equipped with a durable S-FDB (Fluid Dynamic Bearing) which is designed for long life and low noise operation. This bearing type is maintenance-free and does not require lubrication. Do not attempt to disassemble the fan motor.
- **Vibration Absorption:** The fan features dual-side soft-touch rubber pads on each corner to absorb

vibrations and reduce noise. Ensure these pads are intact.

Image 7.1: Detailed view of the Thermalright TL-C12CW-X28-S X3 fan's S-FDB (Fluid Dynamic Bearing) for long-lasting, low-friction, and low-noise operation.

8. Troubleshooting

If you encounter issues with your fan, refer to the following common problems and solutions:

- **Fan Not Spinning:**
  - Ensure the 4-pin PWM cable is securely connected to the motherboard fan header.
  - Check your motherboard's BIOS/UEFI settings to ensure the fan header is enabled and configured correctly.
  - Verify that your power supply is functioning correctly.
- **No ARGB Lighting:**
  - Confirm the 5V 3-pin ARGB cable is correctly connected to a compatible motherboard header.
  - Ensure you are using a 5V 3-pin ARGB header, not a 12V 4-pin RGB header.
  - Check your motherboard's ARGB software to ensure lighting effects are enabled and configured.
  - If daisy-chaining, ensure the total number of connected fans does not exceed the motherboard header's capacity (typically 6 fans of this specification).
- **Excessive Noise:**
  - Check for any cables or obstructions interfering with the fan blades.
  - Ensure the fan is securely mounted and the rubber pads are properly seated to reduce vibration.
  - Clean any dust buildup on the fan blades.
  - If the noise persists and sounds like a bearing issue, contact customer support.

9. Warranty and Support

Thermalright products are manufactured to high-quality standards. For warranty information, please refer to the warranty card included with your product or visit the official Thermalright website. If you require technical assistance or have questions not covered in this manual, please contact Thermalright customer support through their official channels.