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## Wathai 120mm 12V 4Pin

# Wathai 120mm x 32mm Dual Ball Brushless Blower Fan 12V 4-Pin PWM User Manual

Model: 120mm 12V 4Pin

## 1. INTRODUCTION

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This manual provides essential information for the proper installation, operation, and maintenance of your Wathai 120mm x 32mm Dual Ball Brushless Blower Fan. This fan is designed for efficient cooling in various electronic applications, offering high airflow and reliable performance. Please read this manual thoroughly before use to ensure optimal functionality and longevity of the product.

## 2. PRODUCT OVERVIEW

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The Wathai 120mm x 32mm Blower Fan is a high-performance cooling solution featuring dual ball bearings for extended lifespan and a 4-pin PWM connector for precise speed control. It is engineered to provide direct cooling to components that may not receive adequate airflow from standard case fans.



Figure 2.1: Front view of the Wathai 120mm x 32mm Dual Ball Brushless Blower Fan, showing the air outlet, fan blades, and 4-pin connector.

### Key Features:

- **Dual Ball Bearings:** Ensures a long operational lifespan of up to 50,000 hours, suitable for continuous use.
- **High Airflow:** Delivers up to 36 CFM for effective cooling of electronic components.
- **PWM Control:** 4-pin connector allows for precise fan speed adjustment via Pulse Width Modulation.
- **Compact Design:** Measures 120 x 120 x 32 mm, fitting into spaces designed for standard 120mm case fans.
- **Versatile Application:** Ideal for cooling computer cases, amplifiers, hard drive slots, electronic motherboards, and server rooms.

### 3. SPECIFICATIONS

Detailed technical specifications for the Wathai 120mm x 32mm Blower Fan:

# SPECIFICATIONS

	20%	50%	70%	100%
Speed	1300PRM	2300PRM	2600PRM	3000PRM
Power	1.2W	3.6W	5.2W	8.0W
Air flow	15.0CFM	27.0CFM	31.8CFM	36.2CFM
Noise	22dBA	39dBA	47dBA	52dBA

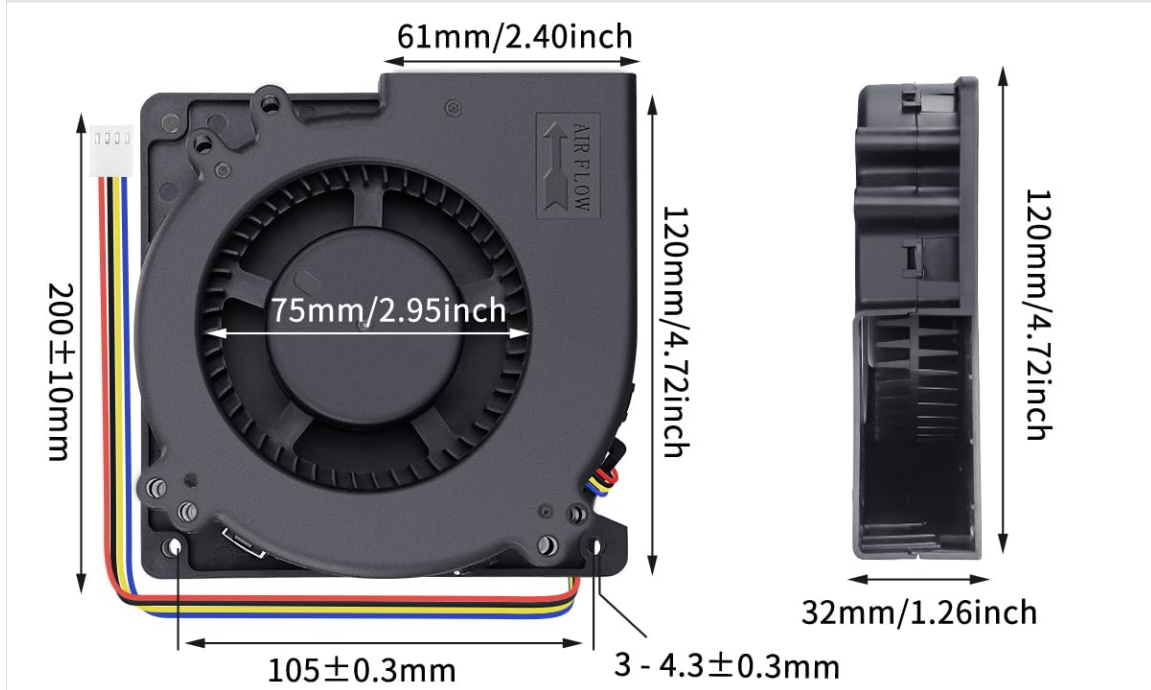


Figure 3.1: Diagram illustrating the dimensions and performance characteristics of the Wathai blower fan at various PWM percentages.

Parameter	Value
Dimensions	120 x 120 x 32 mm (4.72 x 4.72 x 1.26 inches)
Rated Voltage	12V DC
Power	8W
Airflow	36 ±10% CFM
Speed	3000 RPM (Maximum)
Noise Level	36 dB (Typical, up to 52 dBA at 100% speed)
Bearing Type	Dual Ball Bearing
Lifespan	Up to 50,000 hours
Connector Type	4-Pin PWM
Material	Copper (Internal components)

## 4. SETUP AND INSTALLATION

Follow these steps to properly install your Wathai blower fan:

1. **Identify Mounting Location:** Choose a location within your system or project that requires direct cooling. The fan is designed to fit standard 120mm fan mounts.
2. **Secure the Fan:** Mount the fan securely using appropriate screws or fasteners. Ensure the airflow direction (indicated by an arrow on the fan housing) is aligned with your cooling needs.
3. **Connect the 4-Pin Cable:** Locate a compatible 4-pin fan header on your motherboard or power supply. The 4-pin connector allows for PWM speed control.

### 4PIN FUNCTIONAL FAN

Yellow(FG) : Signal line for measuring speed

Blue(PWM) : Pulse width modulation signal to control the fan speed

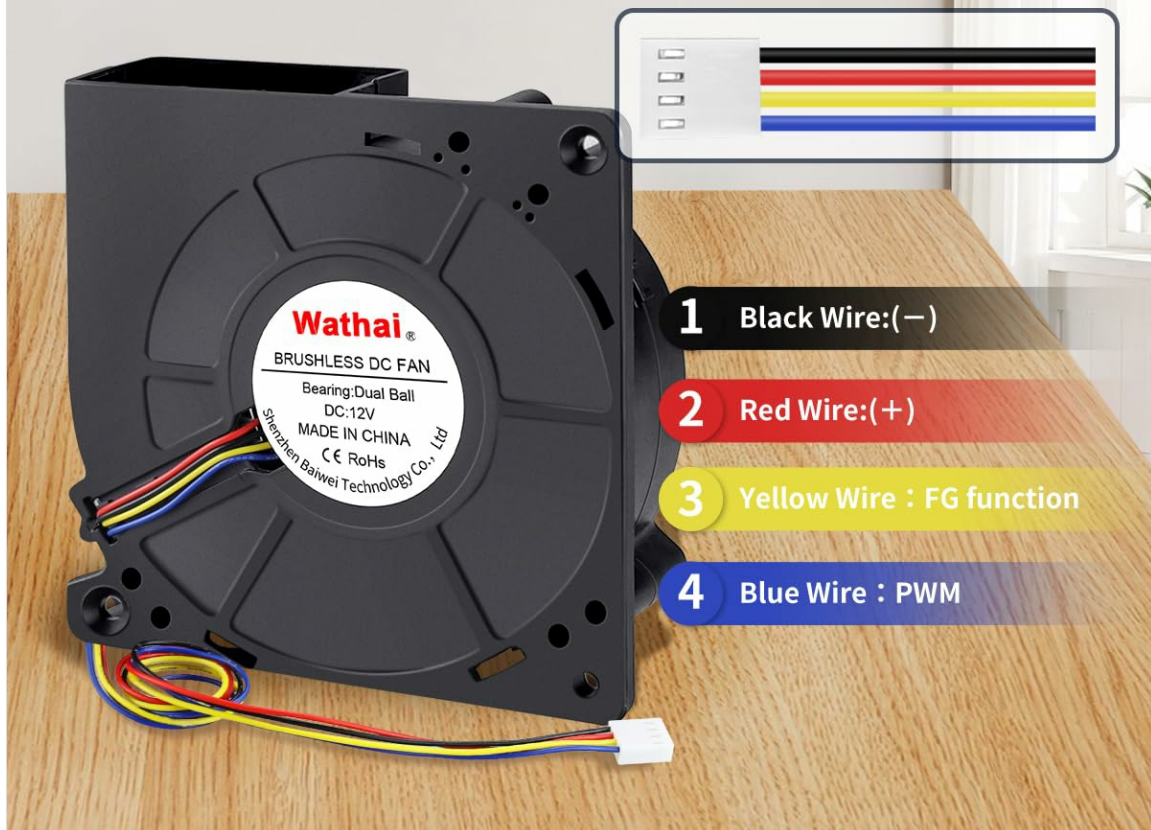


Figure 4.1: Diagram explaining the function of each wire in the 4-pin connector: Black (-) for Ground, Red (+) for 12V Power, Yellow (FG) for Speed Sensor Feedback, and Blue (PWM) for Speed Control.

# CAN BE USE FOR MOTHERBOARDS

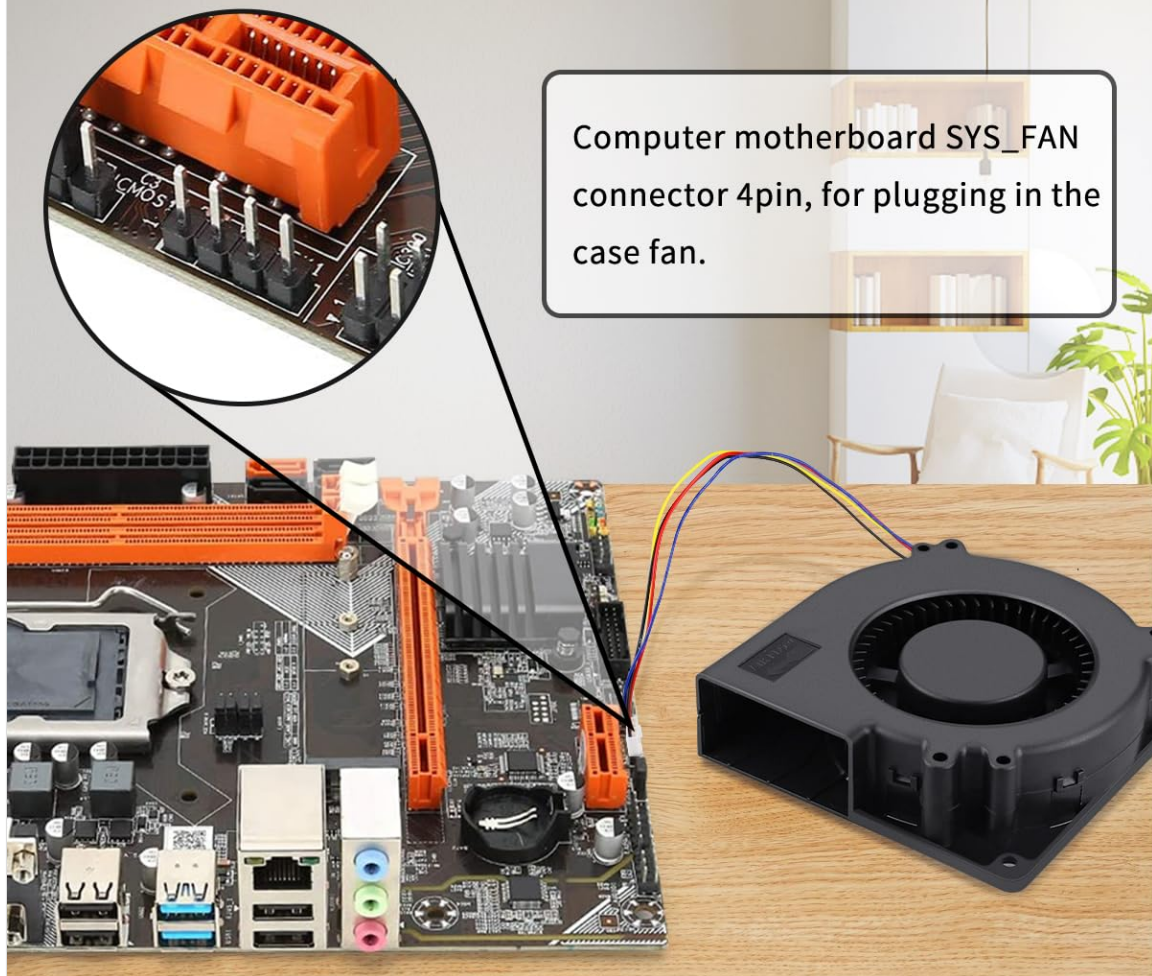


Figure 4.2: Example of connecting the 4-pin fan connector to a computer motherboard's SYS\_FAN header.

## Wiring Details:

- **Black Wire:** Ground (-)
- **Red Wire:** 12V Power (+)
- **Yellow Wire:** FG (Sensor Signal Feedback for speed monitoring)
- **Blue Wire:** PWM (Pulse Width Modulation for fan speed control)

## 5. OPERATING INSTRUCTIONS

The Wathai blower fan operates by drawing air from one side and expelling it from the other, providing focused airflow. Its 4-pin PWM functionality allows for dynamic speed adjustment based on system requirements or manual control.

### PWM Speed Control:

The fan speed is controlled by the voltage signal on the blue PWM pin. When connected to a compatible 4-pin fan header on a motherboard or fan controller, the system can automatically adjust the fan speed based on temperature readings. This allows for efficient cooling when needed and quieter operation during lighter loads.

# CENTRALIZED SUPPLY WIND

Fan can sit vertical on three sides. Allows the fans to be laid flat or stand upright.



Figure 5.1: Illustration of the fan's centralized air supply, highlighting its maximum speed of 3000 RPM, airflow of 36.2 CFM, and noise level of 52 dBA.

## Applications:

This blower fan is suitable for a wide range of cooling applications:

- Computer cases and gaming PCs
- Amplifiers and audio/video electronics
- Hard drive slots and storage systems
- Electronic motherboards and components
- Server rooms and network equipment
- DIY projects requiring focused airflow

# APPLICATION

Small and powerful, for DIY inflatable ,to cool amplifier, Car seats, computer case, Hard drive slots , electronic motherboards, server room and other audio video electronics.



Figure 5.2: Visual examples of the blower fan's applications, including cooling an amplifier, hard drive slots, car seats, motherboards, and for DIY inflatables.

## 6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your blower fan.

- **Cleaning:** Periodically inspect the fan blades and housing for dust accumulation. Use compressed air or a soft brush to gently remove dust. Ensure the fan is powered off and disconnected before cleaning.
- **Inspection:** Check for any obstructions around the fan's intake and exhaust ports. Ensure cables are not interfering with fan operation.
- **Bearing Care:** The dual ball bearings are designed for long-term, maintenance-free operation. Avoid applying lubricants unless specifically instructed by the manufacturer.

## 7. TROUBLESHOOTING

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

- **Fan Not Spinning:**

- Ensure the 4-pin connector is securely plugged into a powered fan header.
  - Verify that the power supply is functioning correctly.
  - Check BIOS/UEFI settings or fan control software to ensure the fan is enabled and not set to 0 RPM at low temperatures.
- **Excessive Noise:**
    - Inspect for any obstructions (cables, debris) hitting the fan blades.
    - Ensure the fan is securely mounted and not vibrating against the chassis.
    - If using PWM, adjust the fan speed to a lower percentage to reduce noise, if cooling requirements allow.
  - **Insufficient Airflow:**
    - Check for dust buildup on fan blades or in the housing and clean as described in the Maintenance section.
    - Verify the fan's airflow direction is appropriate for your cooling setup.
    - Ensure the fan is operating at an adequate speed via PWM control.

## 8. WARRANTY AND SUPPORT

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The Wathai 120mm x 32mm Dual Ball Brushless Blower Fan comes with a one-year quality assurance warranty. If the product experiences any quality problems within one year of purchase, it will be replaced.

### Contact Support:

For warranty claims, technical assistance, or further inquiries, please contact Wathai customer support through the retailer where the product was purchased or visit the official Wathai brand store online.

**Wathai Brand Store:** [Visit Wathai Store on Amazon](#)