

6454/2 TDHPU

ebmpapst 6454/2 TDHPU Axial Fan User Manual

Model: 6454/2 TDHPU

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your ebmpapst 6454/2 TDHPU Axial Fan. Please read this manual thoroughly before installation and use, and retain it for future reference. This fan is designed for industrial applications requiring reliable airflow and cooling.

2. SAFETY INSTRUCTIONS

Observe the following safety precautions to prevent injury and damage to the product:

- Ensure the power supply matches the fan's voltage requirements (24V DC).
- Disconnect power before installation, maintenance, or cleaning.
- Do not operate the fan if any part is damaged.
- Keep fingers and foreign objects away from rotating blades.
- Install the fan in a well-ventilated area, free from obstructions.
- This fan is designed for specific applications; do not use it for purposes other than intended.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x ebmpapst 6454/2 TDHPU Axial Cooling Fan

4. PRODUCT OVERVIEW

The ebmpapst 6454/2 TDHPU is a high-performance DC brushless axial fan featuring a durable metal housing and a 4-wire configuration for precise control. It is engineered for efficient air cooling in various industrial and electronic systems.



Figure 1: Top view of the ebmpapst 6454/2 TDHPU Axial Fan, displaying the product label with model number, voltage, current, and power specifications.



Figure 2: Close-up view of the fan's label, detailing specifications such as 24V DC, 1.65A, 40W, and serial number information.



Figure 3: Front view of the axial fan blades, showing the robust construction and design optimized for airflow.

5. SPECIFICATIONS

Feature	Specification
Model Number	6454/2 TDHPU
Voltage	24V DC
Current	1.65A
Power	40W
Rotational Speed	4500 RPM
Air Flow Capacity	283.6 Cubic Feet Per Minute
Dimensions (L x W x H)	172mm x 150mm x 51mm (approx. 15L x 5.1W x 17.2H Centimeters)
Noise Level	48 dB
Material	Metal Housing
Wiring	4-Wire (for speed and performance control)

Feature	Specification
Cooling Method	Air
Weight	450 g

6. SETUP AND INSTALLATION

Follow these steps for proper installation:

- Preparation:** Ensure the mounting surface is clean, flat, and capable of supporting the fan's weight. Verify that the power supply is off.
- Mounting:** Secure the fan to the desired location using appropriate screws or fasteners through the mounting holes on the fan's frame. Ensure the fan is firmly attached to prevent vibration.
- Wiring:** Connect the 4-wire connector to the corresponding power and control interface.
 - Typically, two wires are for power (positive and negative), and the remaining two are for speed control (PWM) and tachometer feedback. Refer to your system's wiring diagram for specific connections.
 - Ensure correct polarity for DC power connections.
- Airflow Direction:** Position the fan to ensure optimal airflow for cooling. Axial fans typically draw air from one side and expel it from the other.
- Final Check:** Double-check all connections and mounting security before applying power.

7. OPERATING INSTRUCTIONS

Once installed and wired correctly:

- Power On:** Apply 24V DC power to the fan. The fan should begin to rotate.
- Speed Control (4-Wire):** If your system supports PWM (Pulse Width Modulation) control, you can adjust the fan speed via the control signal. The tachometer wire provides feedback on the fan's rotational speed.
- Monitoring:** Observe the fan's operation for any unusual noises or vibrations. Ensure consistent airflow.

8. MAINTENANCE

Regular maintenance ensures optimal performance and longevity:

- Cleaning:** Periodically clean dust and debris from the fan blades and housing. Use a soft brush or compressed air. **Always disconnect power before cleaning.**
- Inspection:** Check for any signs of wear, damage, or loose connections. Ensure mounting screws remain tight.
- Lubrication:** This fan features a DC brushless motor and typically does not require lubrication. Do not attempt to lubricate internal components.

9. TROUBLESHOOTING

Refer to the table below for common issues and their solutions:

Problem	Possible Cause	Solution
Fan does not start	No power, incorrect wiring, faulty power supply.	Check power connections, verify voltage, ensure correct wiring polarity. Test power supply.
Fan runs slowly or inconsistently	Insufficient voltage, obstruction, faulty speed control signal.	Verify 24V DC supply. Clear any obstructions. Check PWM signal if applicable.
Excessive noise or vibration	Loose mounting, damaged blades, foreign object, worn bearings.	Tighten mounting screws. Inspect blades for damage. Remove foreign objects. If bearings are worn, fan replacement may be necessary.
No airflow	Fan not spinning, blocked intake/exhaust.	Refer to "Fan does not start" solutions. Clear any blockages around the fan.

10. WARRANTY AND SUPPORT

For warranty information or technical support, please contact your retailer or the manufacturer, A.K ENTERPRISES. Keep your purchase receipt as proof of purchase.

Manufacturer: A.K ENTERPRISES

Packer: Lighting Hub