40x40x10mm Cooling Fan –Installation Guide & Product Manual

Product Info

Product Name: 4010 cooling fan

Model: 4010-cooling-fan

Batch Number: 20251207/27

MANUFACTURER & EU REPRESENTATIVE INFO

Manufacturer: Zhuhai Yimeitong Technology co., ltd

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Warnings & Important Notes

- All product dimensions are measured manually, please allow a tolerance of ±0.5 mm.
- Due to lighting effects, shooting angles and different monitor displays, the actual product color may be slightly different from the pictures shown. Please refer to the actual item.
- Please read and fully understand the product manual before use.
- This product is for adult use only and designed for 3D printer maintenance.
- Keep the product out of reach of children under 3 years old.

Instructions

Product Name: 40×40×10mm Hydraulic Bearing Cooling Fan

Specifications:

- Size: 40×40×10mm (40mm square, 10mm thick)
- Voltage: 12V / 24V DC (dual-voltage compatible – check your printer supply)
- Connection: XH2.54 2-pin red/black wires (red = +, black = -)
- Features: Hydraulic bearing, brushless motor, strong airflow, low noise

Function: Provides active cooling for hotends, mainboards, electronics enclosures, and drivers to prevent overheating and ensure stable printing.

🛍 Key Features

1. **Strong Wind & Low Noise**: Optimized blade design delivers high airflow while operating at minimal decibels for a quiet printing environment.

2. **Durable Hydraulic Bearing**: Reduces friction and wear compared to standard sleeves, extending the fan's lifespan and ensuring stable rotation.
3. **Universal Compatibility**: Works with both 12V and 24V printer power supplies, making it suitable for nearly all FDM 3D printers.
4. **Easy Installation**: Standard 4-hole mounting pattern (40mm spacing) allows for direct replacement of stock fans without modifications.

⚠Pre-Installation Safety & Preparation
1. **Power Off Completely**:
    - Turn off the printer and **unplug the power cord** from the wall outlet. Do not rely on the internal power button.
2. **Cool Down**:
    - Wait for the hotend and electronics to cool to **≤40°C** (room temperature) to prevent burns or heat damage.
3. **Voltage Confirmation**:
    - Check your printer's power supply label. Ensure the fan matches (12V or 24V). While this fan is dual-compatible, using the wrong voltage will burn it out.
4. **Tools Needed**:
    - A small Phillips or flathead screwdriver (or 2.0mm hex key) for mounting screws.
    - A clean cloth.

🛠 Step-by-Step Installation Guide

Step 1: Remove the Old Fan
1. Locate the existing fan (usually on the hotend heatsink, electronics enclosure, or mainboard).
2. Disconnect the fan's wire connector from the control board or power supply.
3. Use a screwdriver to remove the mounting screws holding the fan in place.
4. Pull the old fan out and set it aside.

Step 2: Install the New 40x10mm Fan
1. **Position the Fan**: Align the new fan with the mounting holes on the printer frame or heatsink.
2. **Secure Mounting**: Insert the mounting screws and tighten them **firmly but not over-tightened**. Over-tightening can crack the plastic fan frame.
3. **Wire Connection**:
    - Plug the red wire into the **positive (+)** terminal and the black wire into the **negative (-)** terminal on the printer's control board (or fan port).
    - *Note*: The polarity is usually marked on the board (FAN, +, -). If the fan spins backwards, swap the red and black wires (only if the connector is not permanently crimped).

Step 3: Test & Verify

1. Reconnect the printer’s power and turn it on.
2. Activate the fan (preheat the hotend or enable the part cooling fan).
3. Confirm the fan spins smoothly and quietly (no grinding, wobbling, or high-pitched whine).
4. Check the airflow direction: Ensure it blows **away from sensitive electronics** or **onto the hotend heatsink** as intended.

❗ Quick Troubleshooting

Issue	Possible Cause	Solution
Fan does not spin / No power	Wires are disconnected; polarity is wrong	Re-seat the connector; swap red/black wires (if possible) to reverse polarity
Fan is noisy / Wobbling	Bearings are dirty/damaged; blades are bent	Clean the blades; replace the fan if noise persists
Fan spins backwards	Polarity is reversed	Swap the red (+) and black (-) wires on the connector
Overheating still occurs	Fan is mounted backwards; airflow is blocked	Flip the fan to blow in the correct direction; clear dust from the fan grille

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📌 Maintenance & Usage Tips

- **Clean Regularly**: Dust buildup reduces airflow. Wipe the fan blades with a dry cloth every few months.
- **Avoid Oil**: Do not add oil to the hydraulic bearing—this can attract dust and cause failure.
- **Replacement**: Replace the fan if it becomes noisy, stops spinning, or wobbles excessively.
- **Enclosure Use**: This fan is ideal for building enclosures to maintain stable internal temperatures and prevent print warping.

📞 Support

For installation issues or product defects, contact us via AliExpress inbox. Our support team responds within 24 hours.
Technical Support: service@5aplusreprap.com