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Noctua NF-A4x20 FLX

Noctua NF-A4x20 FLX 40x20mm 12V Quiet Fan Instruction Manual

Model: NF-A4x20 FLX

1. INTRODUCTION

The Noctua NF-A4x20 FLX is a premium-quality, highly optimized quiet fan designed for various applications requiring a 40x20mm fan. This fan incorporates advanced aerodynamic design features, including Flow Acceleration Channels and Noctua's AAO (Advanced Acoustic Optimisation) frame, to deliver superior quiet cooling performance. The FLX version offers flexible speed settings via Low-Noise Adaptors and includes an OmniJoin™ Adaptor Set for broad compatibility.

2. PRODUCT OVERVIEW AND FEATURES

The NF-A4x20 FLX fan is engineered for quiet operation and efficient airflow in compact spaces. Its design focuses on minimizing noise while maximizing cooling potential.



Figure 2.1: Front view of the Noctua NF-A4x20 FLX fan, highlighting its unique color scheme and blade design.

- **Premium Quiet Fan:** 40x40x20 mm, 12V, 3-pin Molex connector, offering 5000/4400/3700 RPM speed settings.
- **Advanced Acoustic Optimisation (AAO) Frame:** Features an AAO frame and Flow Acceleration Channels for superior quiet cooling performance.
- **Versatile Application:** Ideal for 1U applications, network equipment (routers, switches, NAS), storage devices, DVRs, and other compact electronics.
- **Flexible Speed Settings:** The FLX version includes Low-Noise Adaptors to fine-tune the fan for optimal airflow or near-silent operation.
- **SSO2 Bearing:** Equipped with Noctua's second-generation self-stabilizing oil-pressure bearing for excellent long-term stability and quiet operation.



Figure 2.2: Close-up view of the fan blades, illustrating the Flow Acceleration Channels designed to improve airflow efficiency and reduce noise.

3. PACKAGE CONTENTS

Verify that all items listed below are present in your package:



Figure 3.1: The complete package contents of the Noctua NF-A4x20 FLX fan.

- NF-A4x20 FLX Premium Quiet Fan
- Low-Noise Adaptor (L.N.A.) for 4400 RPM
- Ultra-Low-Noise Adaptor (U.L.N.A.) for 3700 RPM
- 3:2 Pin Adaptor
- OmniJoin™ Adaptor Set
- NA-RC10 Low-Noise Adaptor
- NA-RC12 Ultra-Low-Noise Adaptor
- NA-RC13 3:2 Pin Adaptor
- NA-RC14 OmniJoin Adaptor Set
- NA-AV3 Anti-Vibration Mounts
- Fan Screws
- Extension Cable

4. INSTALLATION AND SETUP

Follow these steps to properly install your Noctua NF-A4x20 FLX fan:

1. **Prepare Mounting Location:** Identify the desired mounting location for the fan. Ensure there is sufficient

space for the 40x20mm fan and proper airflow.

2. **Mount the Fan:** Use the provided fan screws or anti-vibration mounts (NA-AV3) to secure the fan to your device or chassis. The anti-vibration mounts help reduce noise transmission.
3. **Connect Power:** The fan features a 3-pin power connector. Connect this to a compatible 3-pin fan header on your motherboard or power supply.



Figure 4.1: The 3-pin power connector of the NF-A4x20 FLX fan.

4. **Utilize Low-Noise Adaptors (Optional):** To reduce the fan speed and noise level, connect one of the supplied Low-Noise Adaptors (L.N.A. or U.L.N.A.) between the fan's 3-pin connector and the fan header.
 - L.N.A. (NA-RC10): Reduces speed to 4400 RPM.
 - U.L.N.A. (NA-RC12): Reduces speed to 3700 RPM.
5. **OmniJoin™ Adaptor Set:** If your device uses a proprietary fan header, use the OmniJoin™ Adaptor Set (NA-RC14) to connect the fan. This set allows you to adapt the fan's standard 3-pin connector to various proprietary pin-outs. Refer to the OmniJoin™ instructions for specific wiring details.
6. **Extension Cable:** Use the provided extension cable if the fan's cable is not long enough to reach the desired fan header.

5. OPERATION

Once installed and connected, the Noctua NF-A4x20 FLX fan will operate automatically when power is supplied to the fan header. The fan's speed will depend on whether a Low-Noise Adaptor is used:

- **Without Adaptor:** The fan operates at its maximum speed of 5000 RPM.

- **With L.N.A. (NA-RC10):** The fan operates at 4400 RPM.
- **With U.L.N.A. (NA-RC12):** The fan operates at 3700 RPM.

Select the appropriate adaptor based on your preference for airflow versus noise level. Higher RPMs provide more airflow and cooling, while lower RPMs result in quieter operation.

6. SPECIFICATIONS

Specification	Value
Product Dimensions	0.79"L x 1.57"W x 1.57"H (40x40x20mm)
Brand	Noctua
Power Connector Type	3-Pin
Voltage	12 Volts
Cooling Method	Air
Compatible Devices	Desktop (and other devices requiring 40x20mm fans)
Noise Level (Max)	14.9 Decibels
Material	Fibre-glass reinforced PBT
Maximum Rotational Speed	5000 RPM
Item Weight	50 Grams

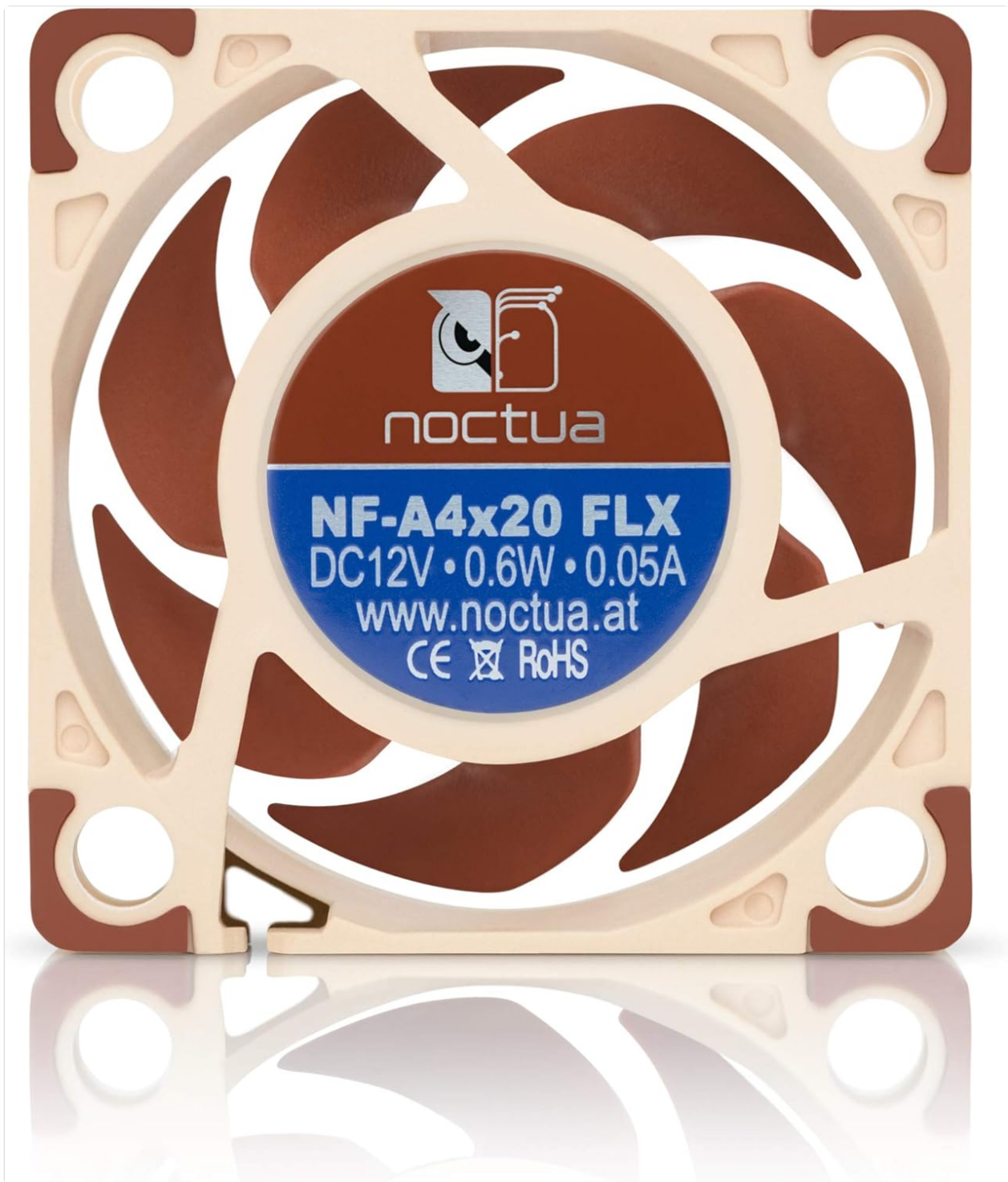


Figure 6.1: Rear view of the fan, displaying the model number, voltage, and power ratings.

7. TROUBLESHOOTING

If you encounter issues with your Noctua NF-A4x20 FLX fan, consider the following:

- **Fan Not Spinning:**
 - Ensure the 3-pin connector is securely plugged into the fan header.
 - Verify that the fan header on your motherboard or device is supplying power.
 - Check for any obstructions preventing the fan blades from rotating.

- **Excessive Noise:**
 - Ensure the fan is securely mounted and not vibrating against other components.

- Consider using the provided anti-vibration mounts.
 - If not already in use, try connecting a Low-Noise Adaptor (L.N.A. or U.L.N.A.) to reduce fan speed.
 - Clean any dust accumulation on the fan blades or frame.
- **Insufficient Cooling:**
 - Ensure the fan is oriented correctly to push or pull air in the desired direction.
 - Remove any Low-Noise Adaptors to allow the fan to operate at maximum speed.
 - Check for airflow obstructions around the fan or within the device.

8. MAINTENANCE

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

- **Dust Removal:** Periodically clean the fan blades and frame to remove dust buildup. Use compressed air or a soft brush. Ensure the fan is powered off before cleaning.
- **Inspection:** Occasionally inspect the fan for any signs of wear, damage, or loose connections.

9. WARRANTY AND SUPPORT

Noctua products are known for their reliability and come with a manufacturer's warranty. For detailed warranty information, technical support, or further assistance, please refer to the official Noctua website or contact their customer service directly. Keep your proof of purchase for warranty claims.