

AFC1512DG

Generic AFC1512DG DC 12V 1.80A Cooling Fan User Manual

Model: AFC1512DG

1. PRODUCT OVERVIEW

The Generic AFC1512DG is a high-performance DC 12V cooling fan designed for various applications requiring efficient airflow. This fan features a robust construction and a 4-wire power interface for precise control and monitoring.

Key Features:

- **Model Number:** AFC1512DG
- **Voltage:** DC 12V
- **Current:** 1.80A (nominal)
- **Dimensions:** 150 x 150 x 50mm
- **Rated Speed:** 3800 RPM
- **Power Interface:** 4-Pin (Red: +, Black: -, Blue: Signal)
- **Bearing Type:** Maintenance-free double ball bearings
- **Motor Protection:** Overload, off-stage, and lock-in protection

2. SETUP AND INSTALLATION

Proper installation ensures optimal performance and longevity of your cooling fan. Follow these steps carefully:

1. **Safety First:** Ensure the power supply is disconnected before handling or installing the fan.
2. **Mounting:** Secure the fan in the desired location using appropriate screws or mounting hardware. Ensure the fan is stable and free from obstructions.
3. **Airflow Direction:** Observe the airflow direction indicators on the fan frame. The wind is discharged from the bracket and rotates counterclockwise facing the rotor. Position the fan to achieve the desired airflow

pattern (intake or exhaust).

4. **Electrical Connection:** Connect the 4-pin power interface to a compatible 12V DC power source.
 - **Red Wire:** Positive (+) 12V DC
 - **Black Wire:** Negative (-) Ground
 - **Blue Wire:** Signal (for RPM monitoring or control, if supported by your system)
 - **Yellow Wire:** (Often a tachometer signal or PWM control, depending on specific implementation. Refer to your system's motherboard or controller manual for exact function.)

Ensure connections are firm and correctly polarized to prevent damage.

5. **Initial Power-Up:** After installation, reconnect the power supply and observe the fan's operation. It should spin smoothly without unusual noises.

3. OPERATING INSTRUCTIONS

The AFC1512DG fan is designed for continuous operation within its specified voltage and temperature ranges.

- **Voltage Range:** Operate the fan within DC 8.0V to 14.0V. Operating outside this range may damage the fan or reduce its lifespan.
- **Temperature Range:** The fan is designed to operate effectively in temperatures from -10 °C to 70 °C.
- **Airflow:** The fan provides a maximum air volume of 440.0 m³/h and a wind pressure of 123 Pa, ensuring efficient cooling.
- **Noise Level:** Under normal operating conditions, the noise indicator is 56.5 dB(A).

For systems supporting PWM control or RPM monitoring via the signal wire, refer to your system's documentation for configuration.

4. MAINTENANCE

Regular maintenance helps ensure the fan's optimal performance and extends its lifespan.

- **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 before cleaning.
- **Inspection:** Check for any physical damage to the fan blades, frame, or wiring. Ensure all mounting screws are secure.
- **Bearing:** This fan uses maintenance-free double ball bearings, requiring no lubrication.
- **Environmental Conditions:** Avoid exposing the fan to excessive moisture, corrosive environments, or extreme temperatures outside the specified range.

5. TROUBLESHOOTING

If you encounter issues with your AFC1512DG cooling fan, refer to the following common troubleshooting steps:

- **Fan Not Spinning:**
 - Check power connections: Ensure the 4-pin connector is securely attached and correctly polarized (Red to +, Black to -).
 - Verify power supply: Confirm that the 12V DC power supply is active and providing the correct voltage.

- Inspect for obstructions: Ensure nothing is physically blocking the fan blades.
- Test with another power source: If possible, test the fan with a known working 12V DC power source.
- **Excessive Noise or Vibration:**
 - Check mounting: Ensure the fan is securely mounted and not vibrating against its housing or other components.
 - Clean fan blades: Dust buildup can cause imbalance and noise. Clean the blades as described in the Maintenance section.
 - Inspect for damage: Look for any bent or broken fan blades. A damaged fan should be replaced.
- **Insufficient Airflow:**
 - Check airflow direction: Ensure the fan is oriented correctly for the desired airflow (intake or exhaust).
 - Clear obstructions: Remove any objects blocking the fan's intake or exhaust paths.
 - Clean fan: Dust and debris can restrict airflow.

If problems persist after following these steps, contact customer support.

6. SPECIFICATIONS

Model Number	AFC1512DG
Brand	Generic
Dimensions (L x W x H)	150 x 150 x 50 mm (5.91" x 5.91" x 1.97")
Rated Voltage	DC 12V
Voltage Range	DC 8.0V - 14.0V
Input Power (Nominal Current)	1.80A
Rated Speed	3800 RPM
Maximum Air Volume	440.0 m ³ /h
Wind Pressure	123 Pa
Noise Level	56.5 dB(A)
Temperature Range	-10 °C to 70 °C
Expected Life (L10 at 25 °C)	50,000 hours
Bearing Construction	Maintenance-free double ball bearings
Power Interface	4-Pin
Material	Glass fiber reinforced plastic, PBT shell, PA blade
Motor Protection	Overload protection, off-stage protection, lock-in protection

7. PRODUCT VISUALS



Figure 1: Front view of the AFC1512DG cooling fan, highlighting the seven fan blades and the central hub. This view shows the intake side of the fan.



Figure 2: Rear view of the AFC1512DG cooling fan, displaying the product label with model number AFC1512DG, DC 12V, 1.80A specifications, and the 4-wire connector. This view shows the exhaust side and electrical connection point.

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Video 1: Demonstration of the AFC1512DG DC 12V 1.80A cooling fan, showing its physical characteristics, the 4-wire connector, and a brief test of its operation. This video provides a visual guide to the fan's components and basic functionality.

8. WARRANTY AND SUPPORT

This product is typically covered by a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty details, duration, and terms, please refer to the documentation provided at the time of purchase or contact your retailer.

If you encounter any issues or require technical assistance, please contact the seller or manufacturer's customer support. When contacting support, please have your product model number (AFC1512DG) and purchase information readily available.

