



Noctua NF-F12 industrialPPC-3000 PWM

Product Specifications

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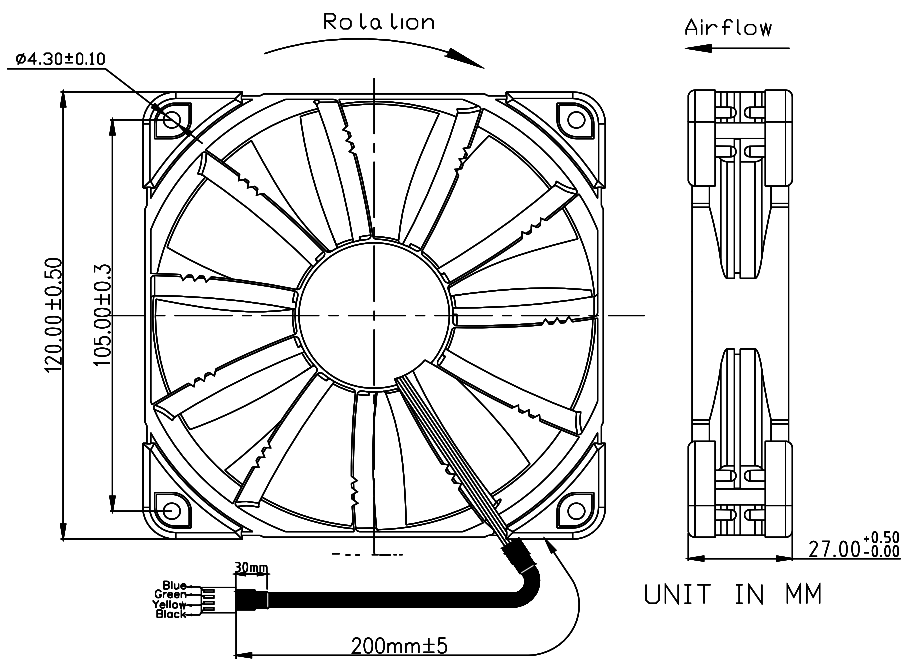


1. General Specifications

1.1. Mechanical Specifications

| | |
|-----------------------------------|------------------------|
| Format (without silicone corners) | 119x119x25mm (± 0.5mm) |
| Format (with silicone corners) | 120x120x27mm (± 0.5mm) |
| Wire Length | 200mm (± 10mm) |
| Weight | 175g (± 2g) |
| Rotational Direction | Counter-Clockwise |

1.2. Dimensions



1.3. Parts & Materials

| | |
|--------------|---------------------------------|
| Plastic Type | PA66 + 30% GF |
| Bearing | SS02 Bearing |
| Wire | UL 1007 / 26 AWG, Mesh-Sleeving |
| Connector | 2543-4PIN (or equal) |





1.4. Standards

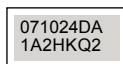
| | |
|-------------------------|---|
| Production Standards | Produced according to ISO9001 & ISO14001 |
| Safety Standards | CE (EN 55022, EN 55024, EN 60950-1, EN 61000-6-3, EN 61000-6-1) |
| Environmental Standards | RoHS according to EU directive 2011/65/EU |

1.5. Labels



Main Label

- Model Number
- Rated Voltage
- Rated Power Consumption
- Rated Current
- Environmental & Safety Standards



Side Label

- Production Date
- Reference Numbers

1.6. Environmental Specifications

| | |
|-------------------------|--|
| Operating Temperature | -40°C to +70°C |
| Operating Humidity | 15% to 90% |
| Storage Temperature | -40°C to +75°C |
| Storage Humidity | 15% to 90% |
| Protection Level - IP52 | Per IEC Standard 529; Protection against water drops falling vertically over a 15 range. |





2. Electrical Specifications

2.1. Wire Specifications

| | |
|--------|---------------|
| Black | GND |
| Yellow | Voltage (VCC) |
| Green | RPM Signal |
| Blue | PWM |

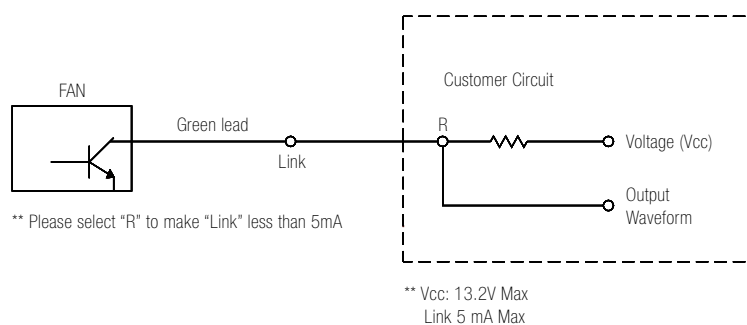
2.2. Motor Specifications

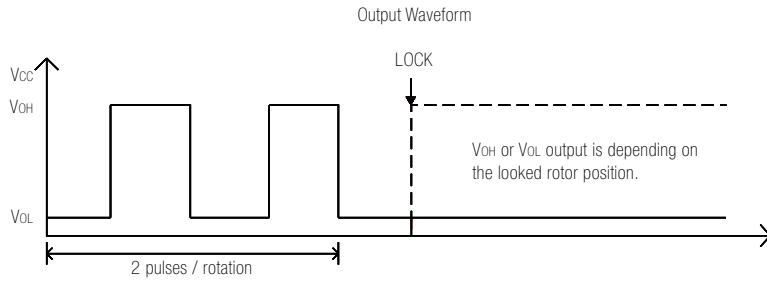
| | |
|-------------------------|---|
| Number of Poles / Slots | 4 / 6 |
| Rated Voltage | DC 12V |
| Operating Voltage | DC 5.5V ~ DC 13V |
| Starting Voltage | DC 5.5V |
| Rated Current | 0.3A ($\pm 10\%$) |
| Rated Power Consumption | 3.6W ($\pm 10\%$) |
| Locked Rotor Protection | Auto power off after locked at rated voltage for 1s, auto restart after 3s |
| Polarity Protection | Open circuit when Vcc & GND are exchanged Circuit won't be burned within 5 seconds when Vcc & GND are exchanged |

2.3. Insulation

| | |
|-----------------------|--|
| Insulation Resistance | 10 M Ω / between unshielded wire and frame at 500 VDC/min |
| Dielectric Strength | 5 mA Max. / measured between lead wire (+) and frame at 500 VAC/min |

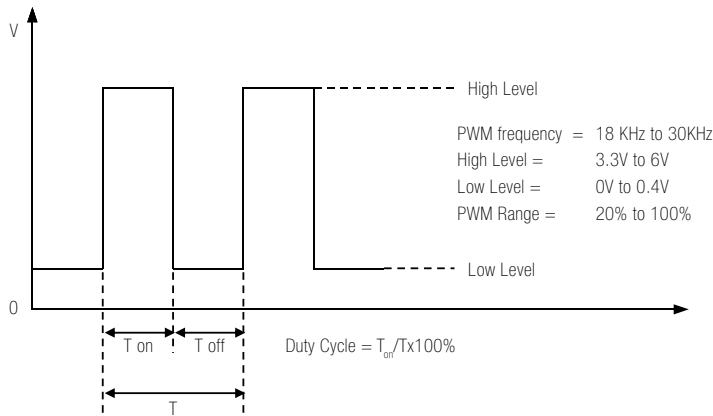
2.4. RPM Signal Specification





2.5. Speed Control System

PWM Control Input (W)

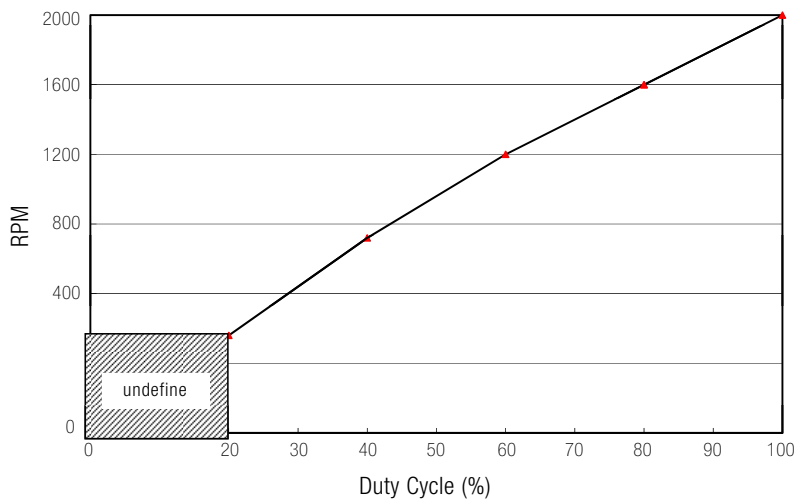


Control Mode: Pulse Width Modulation PWM

| | | | |
|----------------|-----------|----------|-------|
| Duty Cycle (%) | 0~20 | 20 | 100 |
| rpm | undefined | 700 | 3000 |
| | | ± 300rpm | ± 10% |

1. Values on this table are all only for reference.
2. When 20% duty cycle are starting voltage must be same as rated voltage.

RPM v.s. Duty Cycle



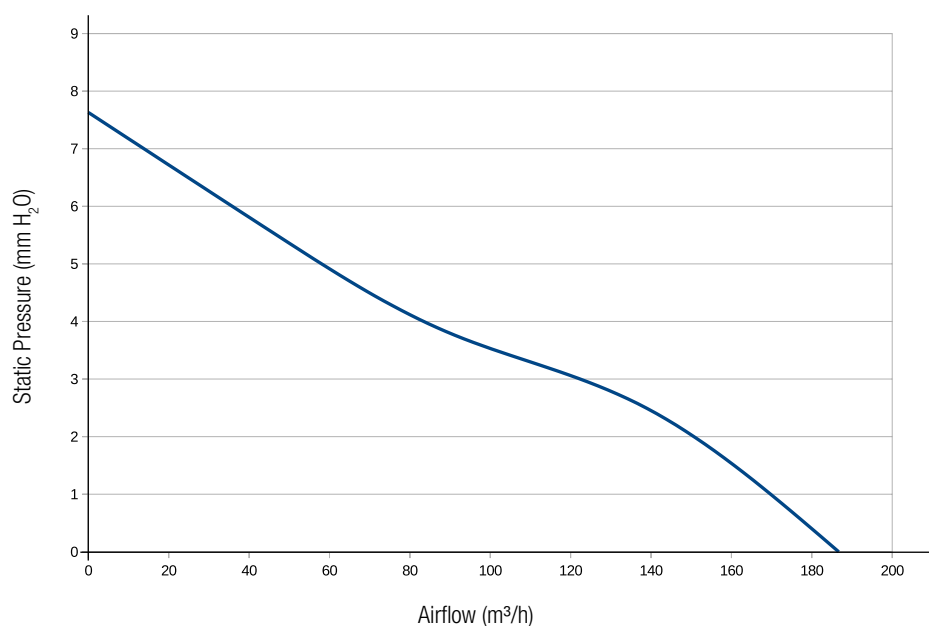
3. Performance Specifications



3.1. General Performance Specifications

| | |
|------------------|--------------------------|
| Rotational Speed | 3000 rpm |
| Airflow | 186.7 m ³ /h |
| Acoustical Noise | 43.5 dB(A) |
| Static Pressure | 7.63 mm H ₂ O |
| Tolerance | 10% |
| MTBF | > 150.000h |

3.2. Performance Curve



| | Airflow | Pressure |
|---|---------|----------|
| 1 | 186.7 | 0.0 |
| 2 | 139 | 2.49 |
| 3 | 91.2 | 3.76 |
| 4 | 74.3 | 5.48 |
| 5 | 5 | 7.63 |



4. Remarks



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Noctua doesn't take any responsibility if the product is used outside the specified parameters.

Specifications are obtained after 5 minutes of operation at 25°C and 65% humidity. The fan was mounted vertically in free air conditions.

Please note that excessive humidity can be harmful to the product and it should therefore be stored in cool, dry environments only. If the product was stored at less than 5°C for more than several hours, it should be stored at more than 20°C for at least 24 hours before use.

Handle the fan with care. Applying pressure or force upon the impeller or dropping the fan can result in damage. Take the necessary precautions (fan grills, etc.) to prevent injuries. Do not touch the fan blades during operation.

Please ensure the correct polarity. As the fan doesn't have a protection against reverse polarity, reverse connection can lead to damage.

Please make sure that the fan is properly mounted. Noctua cannot be held responsible for vibrations or other noises caused by improper installation.

If multiple fans are used in parallel, use a capacitor of at least 4.7 μ F to avoid unstable power.

