NF-A20 PWM chromax.black.swap

Product specifications

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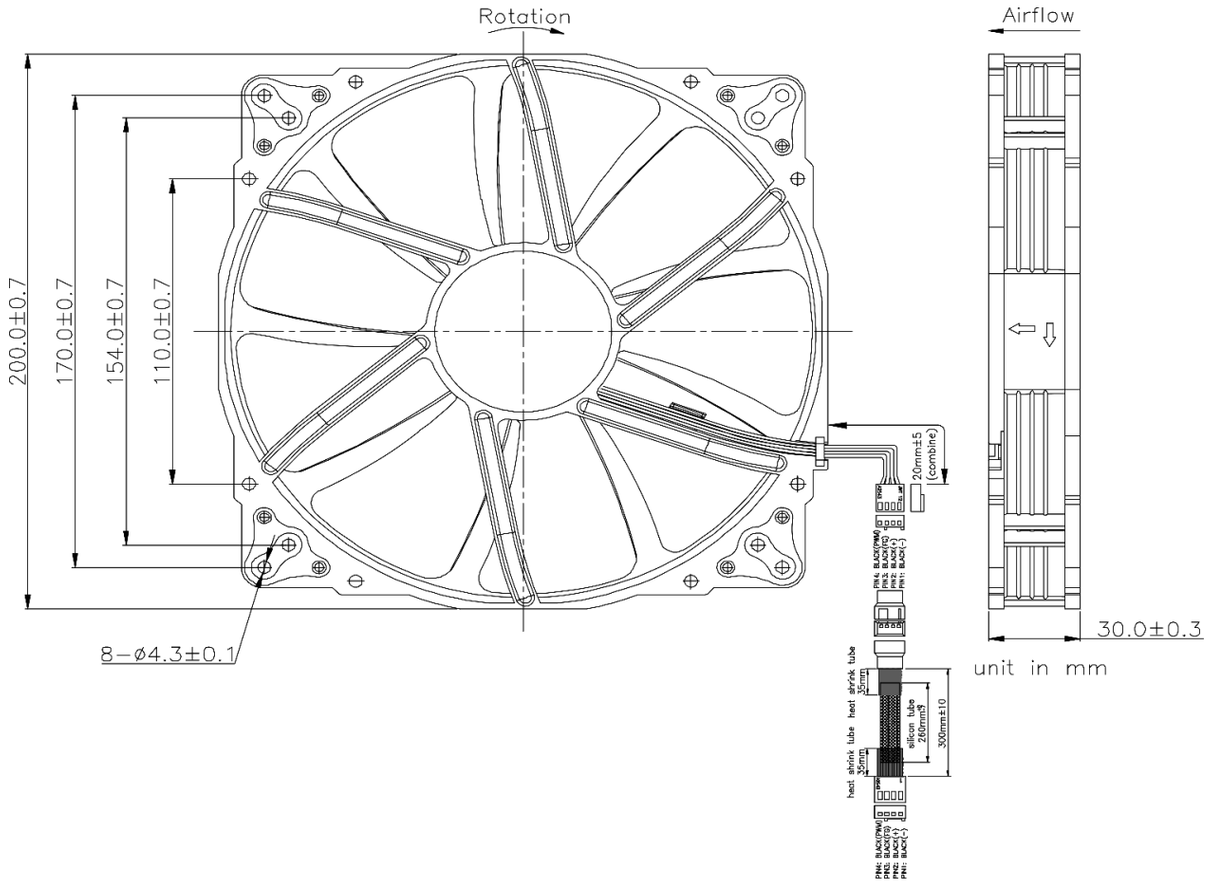
1. General specifications

1.1. Mechanical specifications

Dimensions (without AVP*)	200x200x32 mm
Dimensions (with AVP*)	200x200x32 mm
Wire length	200 mm
Weight	370g
Rotational direction	Counter-Clockwise

* AVP: Anti-vibration pads

1.2. Dimensions



1.3. Parts & materials

Plastic type - frame	PBT GF30
Plastic type - impeller	PP GF10
Bearing	SSO2
Wire	24 AWG
Connector type	A2543-4PIN (or equal)

1.4. Standards

Production standards	Produced according to ISO9001 & ISO14001
Safety standards	EN55032, EN55035, EN62368-1
Enviromental standards	RoHS according to EU directive 2011/65/EU-RoHS and amendment 2015/863
UL listed (E356416)	Yes

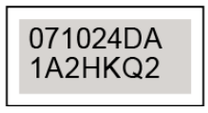
1.5. Flammability

Plastic housing and frame	UL 94 V-0
Printed Circuit Board (PCB)	UL 796, UL 94 V-0
Cable	UL 1061
Mesh sleeving	UL 1441 VW-1, E203950
Heat shrink tubing	UL 224 VW-1, E203950
Connector	UL 94 V-0

1.6. Labels

Main label

- Model number
- Rated voltage
- Rated power consumption
- Rated current
- Enviromental & safety standards



Side label (printed in white)

- Production date
- Internal reference numbers

1.7. Environmental specifications

Operating temperature	-10°C to +70°C
Operating humidity	15% to 90%
Storage temperature	-20°C to +75°C
Storage humidity	15% to 90%
Protection level	IP50

2. Electrical specifications

2.1. Wire specifications

Pin 1	Black: Ground (GND)
Pin 2	Black: Voltage (Vcc)
Pin 3	Black: RPM Signal
Pin 4	Black: PWM Signal

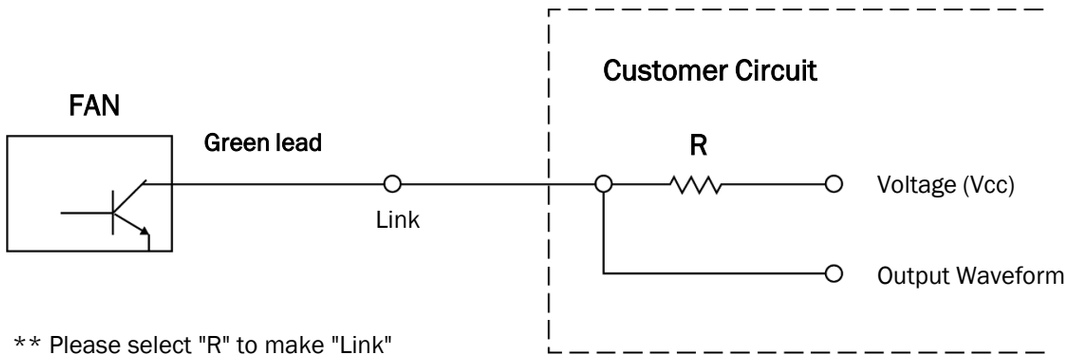
2.2. Motor specifications

Number of poles / slots / phases	4/4/1
Rated voltage	12V DC
Operating voltage	11.0V - 13.2V DC
Starting voltage	11.0V DC
Rated current	0.08A (+/-10%)
Rated power consumption	0.96W (+/-10%)
Locked rotor protection	Auto power off after locked at rated voltage for 1 sec. After auto power off, the circuit attempts to restart in 2 to 6 sec.
Polarity protection	Open circuit when Vcc & GND are exchanged. Circuit won't be burned within 5 sec when Vcc & GND are exchanged.

2.3. Insulation

Insulation resistance	10 MΩ / between unshielded wire and frame at 500 VDC/min
Dielectric strength	5 mA max. / measured between lead wire (+) and frame at 500 VAC/min

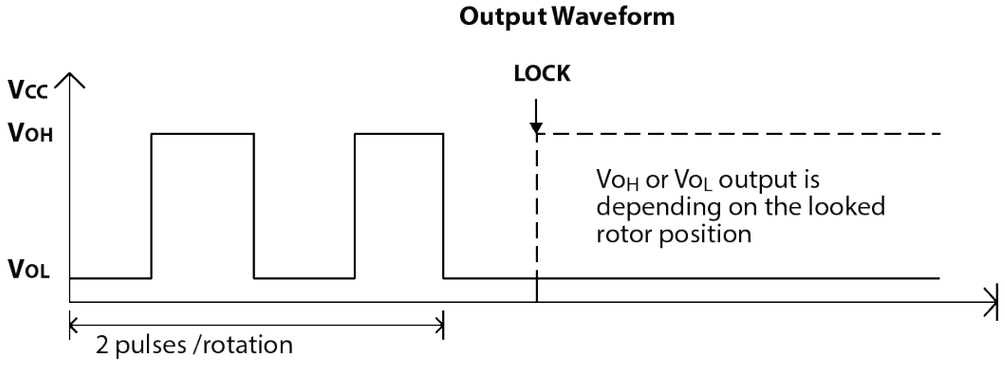
2.4. RPM signal specification



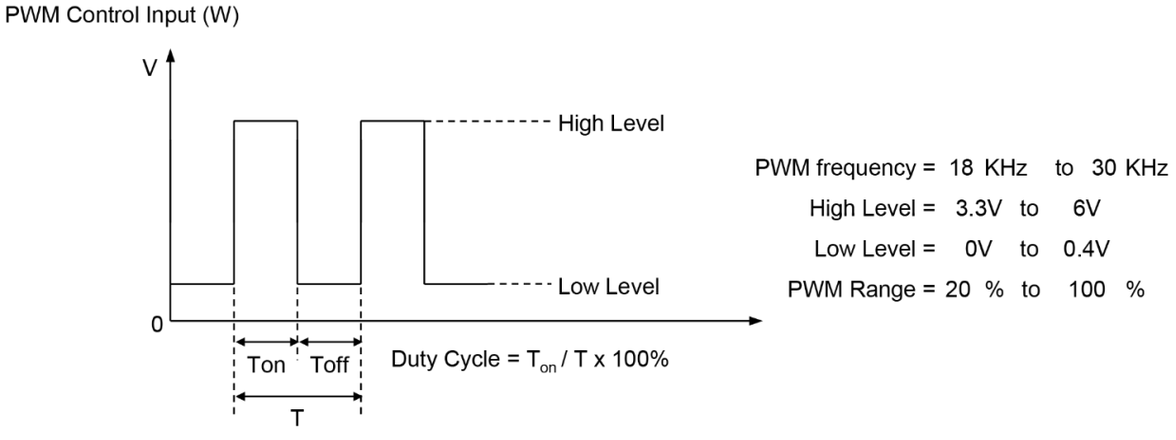
** Please select "R" to make "Link"

Within 1~5 mA ** 13.2V Max

If you need higher pull-up voltage, please contact Noctua. 5mA Max



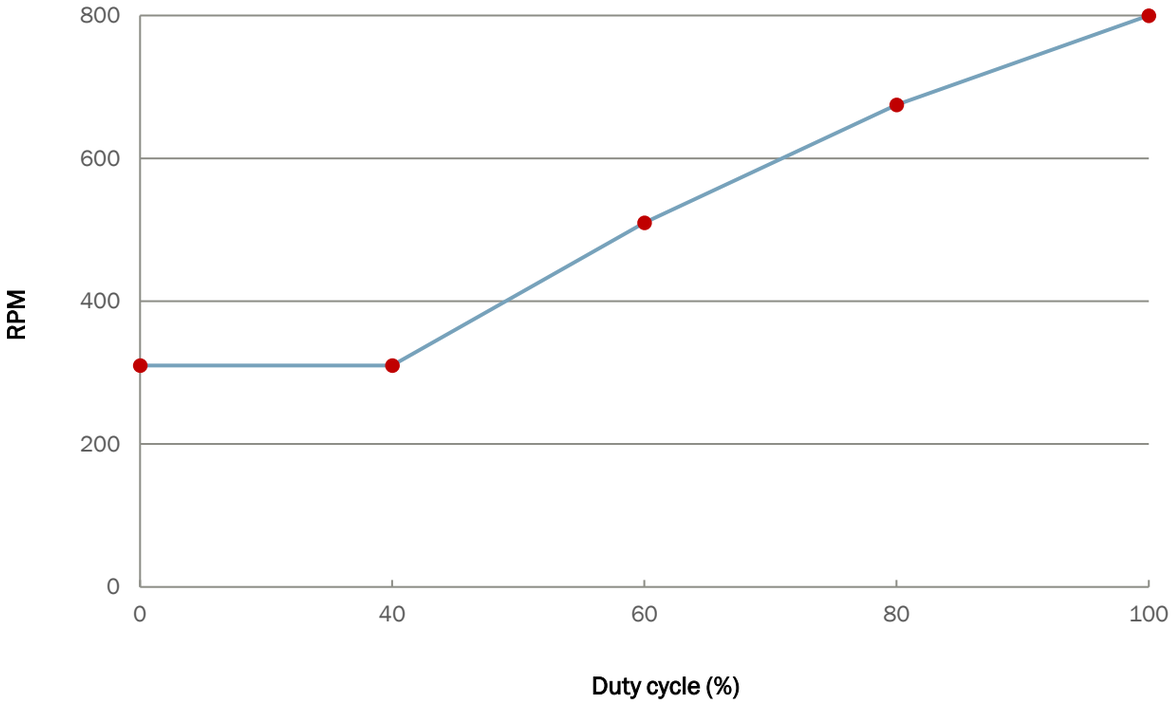
2.5. PWM duty cycle operating points



Fan starts at 0% PWM duty cycle.

The starting voltage must be the same as the rated voltage.

Duty cycle (%)	RPM	Tolerance
0	310	+/- 10%
40	310	+/- 10%
60	510	+/- 10%
80	675	+/- 10%
100	800	+/- 10%



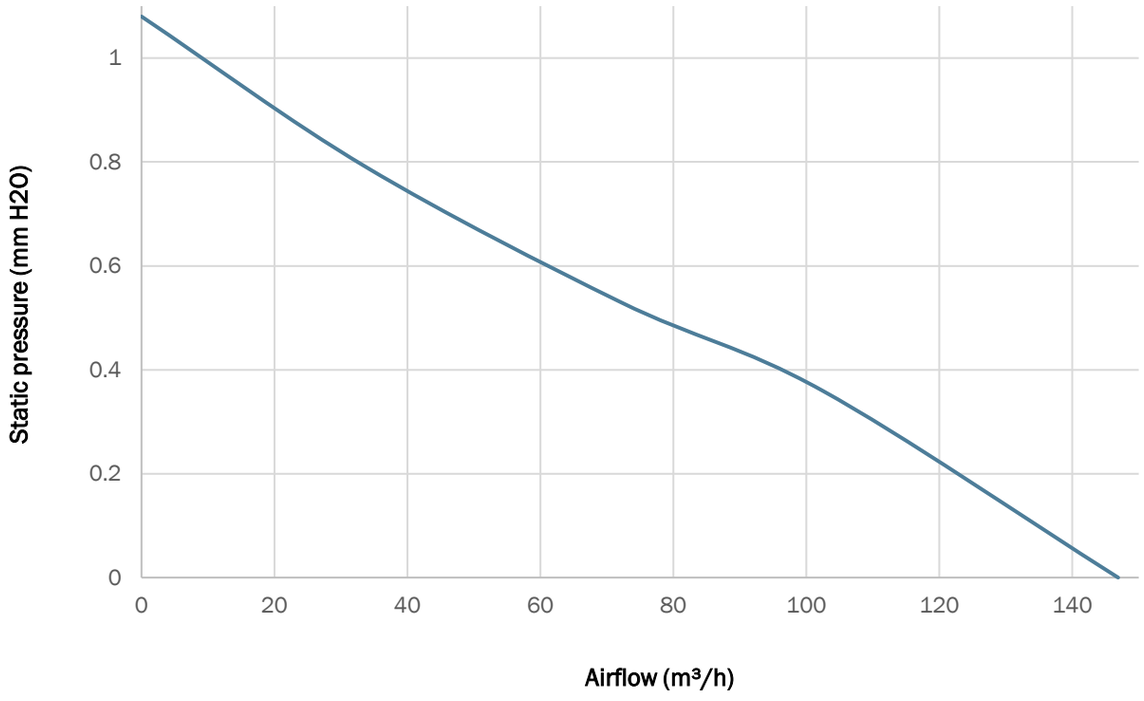
3. Performance specifications

3.1. General performance specifications (+/- 10%)

Rotational speed	800 rpm
Airflow	146.9 m³/h
Acoustical noise	18.1 dB(A)
Static pressure	1.08 mm H2O
MTTF (at 40°C)	> 150,000 h

3.2 Performance curve

	Airflow [m³/h]	Pressure [mm H2O]
1	146.90	0.00
2	102.40	0.36
3	72.10	0.53
4	33.80	0.79
5	0.00	1.08



4. Remarks

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or consequential damages arising from such use, even if advised of the possibility of such damages.

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.