# 4314/17V DC Axial Fan



Axial fan for DC operation driven by an electronically commutated external rotor motor with temperature dependent speed control.
A highly integrated , specially programmed micro-controller implements motor commutation and speed control.

## Features

- Electronic protection against overload, reverse polarity and rotor locking.

- Electrical connection via 4 leads AWG 24 L=310mm
  - *-Red: +Ub*
  - *-Black: GND*
  - *-Violet: Vario/NTC*
  - *-Yellow: Alarm*

- Temperature-dependent speed control via connected NTC sensor positioned by customer.
Temperature control range 30°C ... 50°C

- When temperature sensor is disconnected/interrupted, the fan runs at max. speed available at operating conditions.

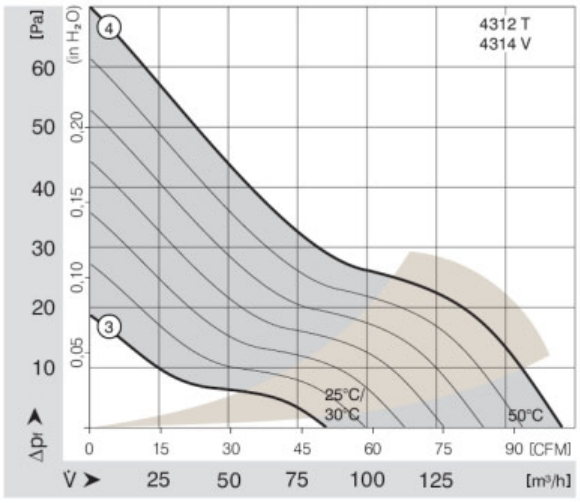
- The fan's electronic circuit incorporates two different locked rotor protection systems:

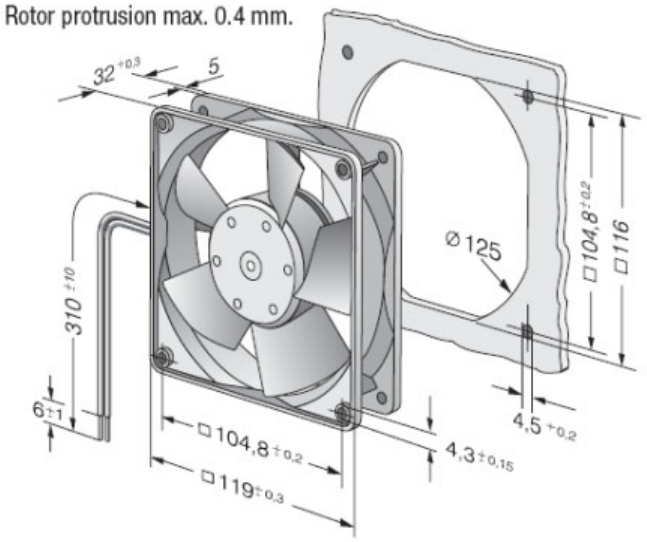
1. Cycled switch-off of the power stages (t=2,5s), followed by a restart process (t=0.8s).
2. Additional protection by PTC resistor.

## General Data

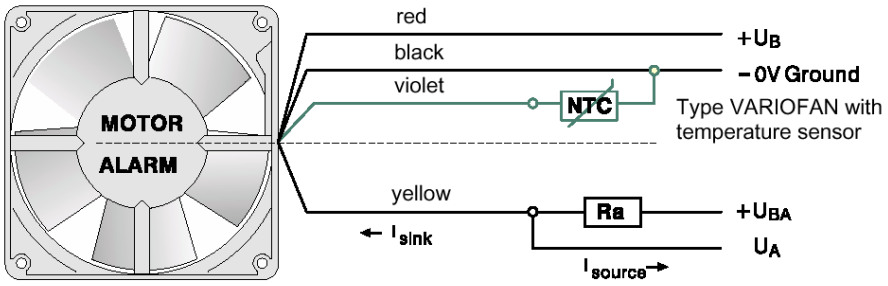
| | | | |
|---|---|---|---|
| Nominal Voltage | V DC | | 24 |
| Voltage range | V DC | | 21 – 27 |
| Temperature | °C | 30 | 50 |
| Speed | rpm | 1400 | 2800 |
| Max. flow rate | $m^3/h$ | 85 | 170 |
| Max. flow rate | CFM | 50.0 | 100.1 |
| Noise free air | dB(A) | 29 | 45 |
| Noise in opt. Operating range | Bels | 4.2 | 5.8 |
| Current consumption | mA | 125 | 225 |
| Power consumption | W | 3.0 | 5.4 |
| Permanent ambient temperature at max. voltage | °C | | -20 ... +65 |
| Service life (75 °C) | h | | 37.500 |
| Service life (40 °C) | h | | 70.000 |
| Fan housing / impeller | | | PBTP / PA |
| Bearing system | | | Ball bearings |
| Mass | kg | | 0.220 |

All data are average figures at nominal voltage. Subject to technical change.

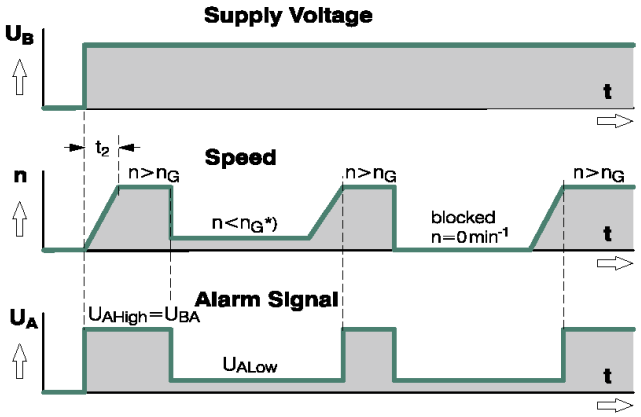


## Electrical connection




$$R_a = \frac{U_{BA} - U_{ALOW}}{I_{SINK}}$$




$t_2$ = Alarm signal suppression during start-up
* n < speed limit $n_G$ by braking or blocking.

| Alarm signal-data | Alarm output-voltage $U_{A\,Low}$ | Condition: | Condition: $I_{sink}$ = | Alarm output-voltage $U_{A\,High}$ | Condition: | Condition: $I_{source}$ = | Alarm operating-voltage $U_{BA\,max.}$ | Max. permissible Sink current | Alarm delay-time $t_2$ | Condition: | Speed limit $n_G$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | V DC | | mA | V DC | | mA | V DC | mA | S | | min$^{-1}$ |
| 4314/17 V VARIOFAN | ≤0.4 | n < nG | 2 | 60 | n > nG | 0 | ≤60 | 20 | ≤15 | * | 1150 ± 100 |