

# Project Parts and Assessment Information

## Sensors

### Fan Motor (with Sensor)

5 Volt DC 40mm Brushless Tube-axial Fan



**Specifications**

Voltage: 5 volts DC  
Size (W x H x D): 40 mm X 40 mm X 10 mm  
Air flow: 5 CFM  
Bearing type: Ball  
Current: 110 mA  
Power: 0.55 watts  
Noise: 22 dBA

**DataSheet**

<https://www.jameco.com/Jameco/Products/ProdDS/2258814.pdf>

**Pin Description (3-wire):**

VCC (Red): 5V  
GND (Black): GND  
Tach (White/Blue): open drain/collector output

**Notes for Operation**

The fan will run at full rated speed when 5V is applied across VCC and GND, current permitting. To run the fan at reduced speeds, use Pulse-Width Modulation (PWM).

"The tach signal, when driven by a DC voltage, has a square-wave output closely resembling the "ideal tach" in Figure 1. It is always valid, since power is continuously applied to the fan.

With low-frequency PWM, however, the tach signal is valid only when power is applied to the fan—that is, during the on phase of the pulse. When the PWM drive is switched to the off phase, the fan’s internal tach signal-generation circuitry is also off. Because the tach output is typically from an open drain[/collector], it will float high when the PWM drive is off, as shown in Figure 1. Thus, while the ideal tach is representative of the actual speed of the fan, the PWM drive in effect "chops" the tach signal output and may produce erroneous readings.

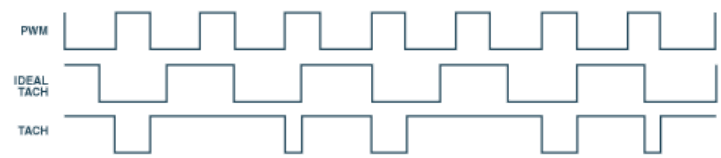


Figure 1. Tachometer-output waveform in 3-wire fans—ideal, and under PWM control.

In order to be sure of a correct fan speed reading under PWM control, it is necessary to periodically switch the fan on long enough to get a complete tach cycle." (Quote from <https://www.analog.com/media/en/analog-dialogue/volume-38/number-1/articles/how-to-control-fan-speed.pdf> )

## BRUSHLESS AXIAL COOLING FANS

Customer	:		Ref: (RoHS)
Adda Model No	:	AD0405MB-G76	P.S: (T)
Samples attached	:	Piece(s),	
Safety Approval	:	UL,CUL,TUV,CE	TUV:EN 60950-1:2006+A11+A1+A12 UL:UL507 CE:EN 61000-6-1:2007 EN 61000-6-3:2007
<u>Specifications</u>			
ITEM	SPECIFICATION / CONDITION		
DIMENSIONS	:	40x40x10	mm
BEARING TYPE	:	BALL	
RATED VOLTAGE	:	5.0	VDC
OPERATING VOLTAGE RANGE	:	4.5	VDC — 5.5 VDC
START-UP VOLTAGE	:	4.0	VDC , NORMAL
REAL CURRENT	:	0.08	Amp
REAL POWER	:	0.40	Watt
RATED CURRENT	:	0.11	Amp + 10 %MAX
RATED POWER	:	0.55	Watt
RATED SPEED	:	4800	RPM ± 15 %
(IN FREE AIR AT RATED VOLTAGE)			
AIR FLOW	:	5.000	CFM (min.: 4.250 CFM)
AIR FLOW	:	0.141	CMM (min.: 0.119 CMM)
(IN FREE AIR AT RATED VOLTAGE)			
STATIC AIR PRESSURE	:	0.078	Inch H <sub>2</sub> O (min.: 0.056 Inch H <sub>2</sub> O)
STATIC AIR PRESSURE	:	1.981	mm H <sub>2</sub> O (min.: 1.431 mm H <sub>2</sub> O)
(IN FREE AIR AT RATED VOLTAGE)			
NOISE LEVEL	:	22.0	dB (A) (max.: 26.0 dB(A))
MOTOR PROTECTION	:	BY	IMPEDANCE
POLARITY PROTECTION	:	NO	
CONNECTION LEAD TYPE	:	WIRE, AWG#	26
LIFE EXPECTANCY	:	70000	Hours at 40°C / 65% RH
NET WEIGHT	:	17	Gram.
PACKING	:	700	pcs. Per Export Carton.
<p>Unless otherwise stated, the relative humidity is 65%, and the temperature is 25°C for the standard testing. Should you have any doubt, please refer to the environmental conditions specified in the acknowledgement document.</p>			
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