



92x92x38 mm

DC Axial Fans

FD9238 48B80PT (IP68)

PN: 200339



Specifications

Supply Voltage	VDC	48
Operating Voltage	VDC	35.0 ~ 57.0
Start-up Voltage	VDC	35.0
Current	A	0.49 (max. 0.74)
Power	W	23.52 (max. 35.52)
Speed	RPM	8000 ± 10%
Airflow	CFM	170.7 (min. 153.63)
Pressure	mmH2O	38.26 (min. 30.99)
Sound Level	dBA	63.3 (max. 69.6)
Operating Temp.	°C	-10 ~ +70
Optional Function	-	PWM, FG
Protection Level	-	IP 68

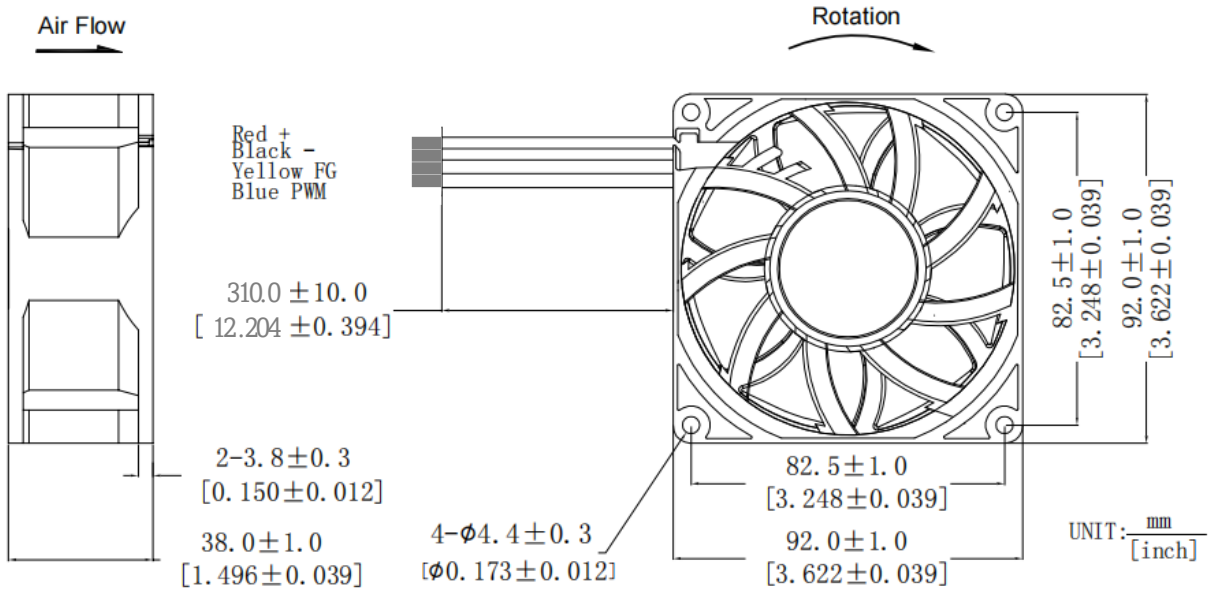
*: above specifications are subject to change without prior notice.

Technical Data		
Dimensions	mm	92x92x38
Impeller Material	-	PBT Black (UL94V-0)
Housing Material	-	PBT Black (UL94V-0)
Weight	g	190
Rotation Direction	-	Clockwise (from label side)
Bearing	-	Ball
Life	hrs.	70000 (@40 °C 15% ~ 65%RH)
Lead Wire	-	Red(+), Black(-), Blue(PWM), Yellow(FG) UL1007#24AWG ,310±10 mm

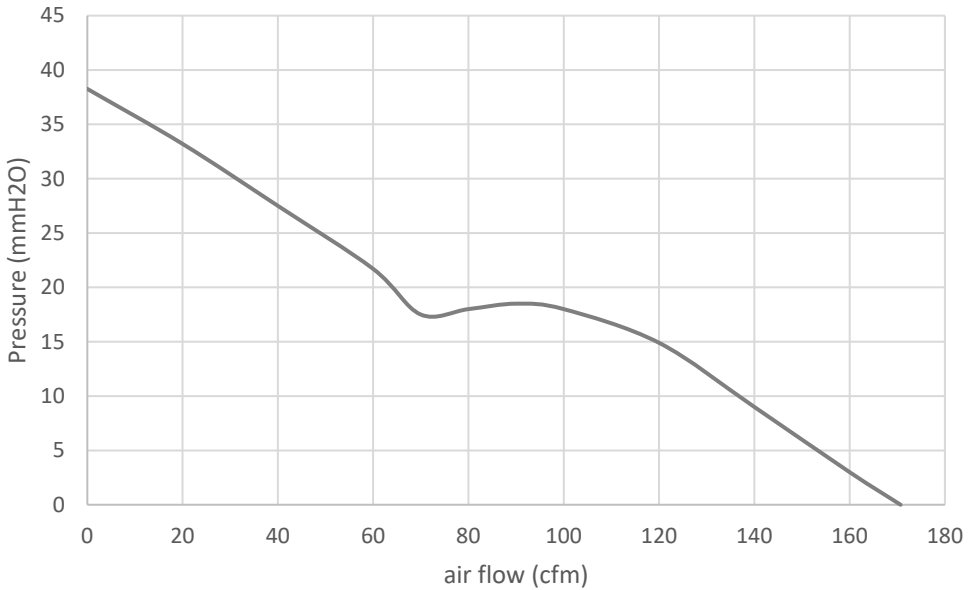
Environmental		
Operating Temp.	°C	-10 ~ +70
Storage Temp.	°C	-40 ~ +85
Humidity	%RH	15 ~ 90
Storage Humidity	%RH	15 ~ 90

Electrical		
Insulation Resistance	Ohm	Min. 10M between unshielded wire and frame at 500 VDC/min.
Dielectric Strength	-	Withstand 500 VAC 1 minute 1mA between housing and both lead wires.
Polarity Protection	-	Open circuit when Vcc and GND are exchanged.
Locked Rotor Protection	-	Auto power off after locked at rated voltage for 1-3 sec, then circuit attempt to restart in 2 to 6 sec, There is no damage after 72 hrs locking.

Dimensions Drawing



Performance



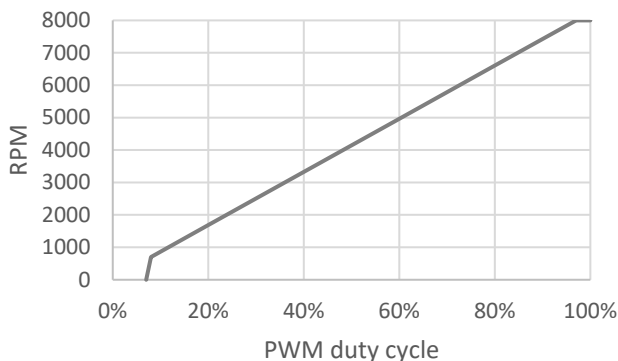
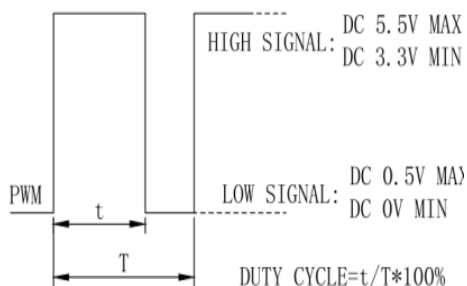
PWM & FG

PWM speed control:

Input PWM frequency range: **1Khz-30Khz**

0%-7% 0RPM, @8% 700RPM, 8% - 97%, linear increase, @97%-100% 8000RPM

When PWM wire is disconnected, the fan will run at full speed.

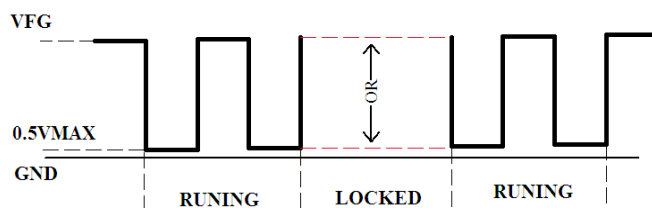
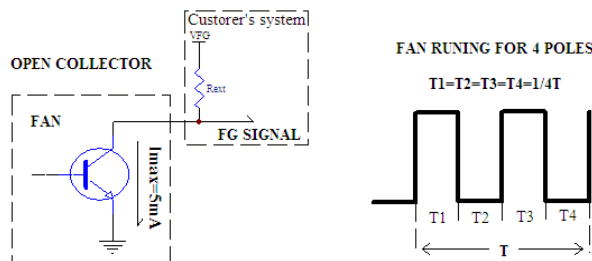


FG Signal:

When fan is running, the switch of rotor N, S can make exchange of high and low level. We can measure fan's rotation speed via the signal of variational frequency.

$$V_{FG} = 19 V_{max} \quad R_{ext}(\min) = V_{FG}/I_{max} \quad I_{max} = 5 \text{ mA} \quad V_{ce} = 0.5 V_{max}$$

$$RPM = F * 120/4 = 30F$$



Connector Wiring Code

Color	Function
Red	+ V
Yellow	FG Signal
Blue	PWM Control
Black	GND