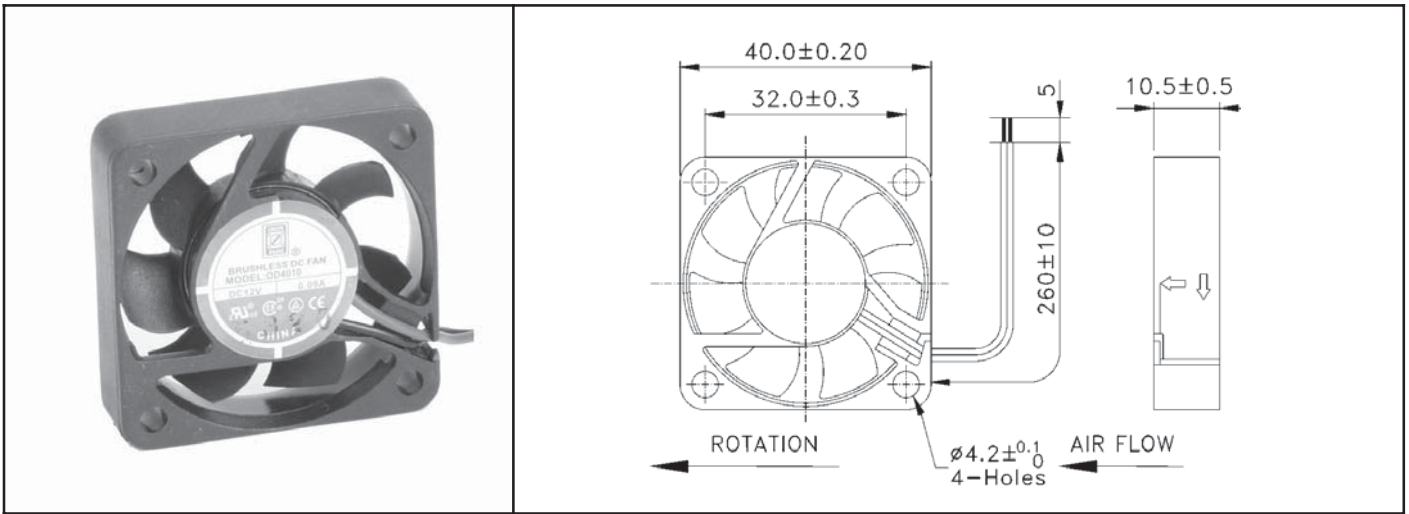


OD4010 Series



DC Fan - 5, 12, 24V
40x10mm (1.58"x 0.39")



Frame & Impeller	PBT, UL94V-O plastic	Available Options: Tachometer Alarm Thermal control Sleeve bearing IP55 Life Expectancy (L10) Ball - 60,000 hrs (45C) Sleeve - 30,000 hrs (45C) Operating Temperature Ball: -20 ~ 80C	
Connection	2x Lead wires 26AWG		
Motor	Brushless DC, auto restart, impedance and polarity protected		
Bearing System	Ball bearing		
Insulation Resistance	10M ohm between leadwire and frame (500VDC)		
Dielectric Strength	1 second at 500 VAC, max leakage - 500 MicroAmp		
Storage Temperature	-30C ~ +90C		

Model Number	Speed (RPM)	Airflow (CFM)	Noise (dB)	Volts DC	Voltage Range (VDC)	Amps	Max. Static Pressure (\"H2O)
OD4010-05HB	6000	7	25	5	4 ~ 7	0.16	0.10
OD4010-05MB	4800	6	20	5	4 ~ 7	0.11	0.08
OD4010-05LB	4200	5	14	5	4 ~ 7	0.07	0.06
OD4010-12HB	6000	7	25	12	7 ~ 14	0.09	0.10
OD4010-12MB	4800	6	20	12	7 ~ 14	0.06	0.08
OD4010-12LB	4200	5	14	12	7 ~ 14	0.06	0.06
OD4010-24HB	6000	7	25	24	10 ~ 27	0.06	0.10
OD4010-24MB	4800	6	20	24	10 ~ 27	0.04	0.08
OD4010-24LB	4200	5	14	24	10 ~ 27	0.03	0.06

Special Function Info

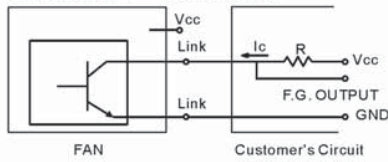


Function

Frequency Generator

Generates a square wave out frequency equal to 2 periods per revolution for 4 poles fan and informs the user of the fan's running speed.

Application 1 - Open Collector

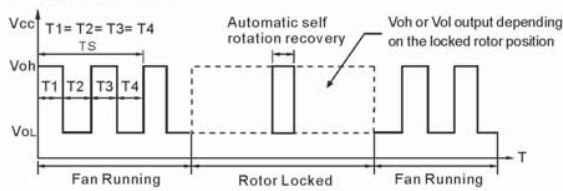


V_{cc} =From +5 To +28 VDC Do not exceed fan supply voltage

I_c =5 mA max.

$R=V/I$ (Output "R" value calculation)

Output Waveform

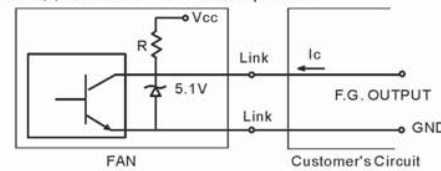


◆ $N=R.P.M$

◆ $T_s=60/N$ (Sec)

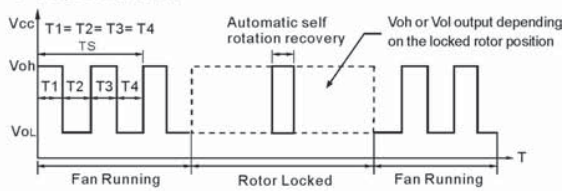
◆ Output Level
 $V_{oh}=V_{cc} \pm 10\%$
 $V_{ol}=0 \sim 0.6V$
 $I_c=5$ mA max.

Application 2 - TTL Compatible



$I_c=5$ mA max.

Output Waveform



◆ $N=R.P.M$

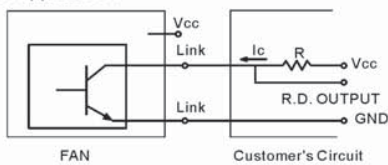
◆ $T_s=60/N$ (Sec)

◆ Output Level
 $V_{oh}=5.0V \pm 0.5V$
 $V_{ol}=0 \sim 0.6V$
 $I_c=5$ mA max.

Rotation detector

Detects whether the fan is running or has stopped by generation a high or low output signal.

Application 1

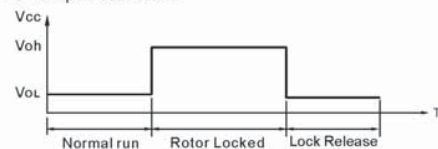


V_{cc} =From +5 To +28 VDC (Generally using +12 or +24VDC)

$I_c=2$ mA max.

$R=V/I$ (Output "R" value calculation)

Output Waveform



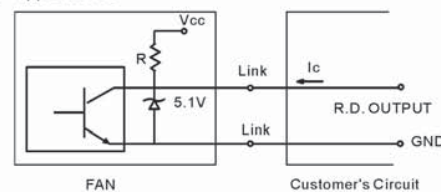
◆ Output Level

$V_{oh}=V_{cc} \pm 10\%$

$V_{ol}=0 \sim 0.6V$

$I_{cc}=5$ mA max.

Application 2

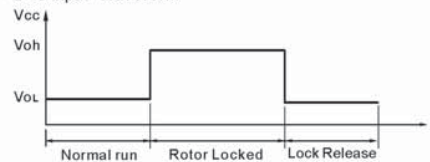


V_{cc} = From +5 To +28 VDC (Generally using +12 or +24VDC)

$I_c=5$ mA max.

R (type) = 10K

Output Waveform



◆ Output Level

$V_{oh}=5.0V \pm 0.5V$

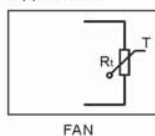
$V_{ol}=0 \sim 0.6V$

$I_{cc}=5$ mA max.

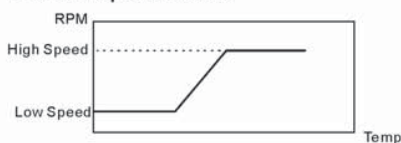
Temperature Control

Controls the fan speed via an thermistor which changes with the temperature of the task area where the thermistor is located.

Application



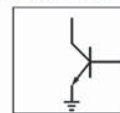
RPM Temperature curve



Pulse width modulation

Controls the fan speed automatically via an external input Pulse Width Modulation signal.

Application



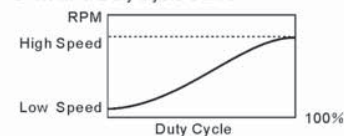
◆ Input impedance 10K Ω

PWM Operating frequency is 25 \pm 5KHz

$V_{IH} MIN=3.3VDC$

$V_{IL} MAX=0.4VDC$

RPM & Duty Cycle Curve



ORION AC & DC FANS



Part Number Construction [General Information]

Building an AC Part Number: OA109AP-22-1TB-18. (Note: Many AC fans are available with sensor functions by special order.)

OA	109	AP	22	1	T	B	18
OA = Orion AC ... Orion AC fan part numbers will generally begin with "OA" (Orion AC) or "OAB" (Orion AC Blower)	"109" = Model Number ... Model numbers designate frame sizes. In this case "109" will always refer to a 120X38mm fan.	AP = Frame Construction ... Frames are available as "AP" (Aluminum Painted), "AN" (Aluminum Natural Sanded), SAP - Stackable aluminum painted SAPL - stackable aluminum painted, low profile	"22" = Voltage ... Standard AC voltages are "11" (115VAC), "22" (230VAC), "11/22" or "1/2" (115/230 dual VAC)	"1" = Speed ... AC Fans are generally available as "1" (high speed), "2" (medium speed), "3" (low speed)	"T" = Termination ... AC Fans are available (except as noted) with power connection terminals (T) or with 12" Lead wires (W)	B = Bearing Type ... Standard bearing types are "B" (ball bearing) and "S" (sleeve bearing) Sometimes followed by XC indicating high performance	18 = Special Function Code ... A suffix after the bearing designator usually indicates a specific modification to the fan. In this case "18" indicates a metal impeller which is different from the Thermoplastic impeller which comes standard on this model

Building a DC Part Number: OD1238-12HTB01 (Note: some models will include a "C" or an "XC" in the part number)

OD	1238	-	12	H	T	B	01
OD = Orion DC ... Orion DC fan part numbers will generally begin with "OD" (Orion DC) or "ODB" (Orion DC Blower)	"1238" = Model Number ... Model numbers designate frame sizes. In this case "1238" will always refer to a 120X38mm fan.	[blank] = Frame Construction ... PT or blank - Thermoplastic construction. AP - diecast aluminum black SAP - stackable diecast aluminum black	"12" = Voltage ... Standard DC voltages are "05" (5VDC), "12" (12VDC), "24" (24VDC), "48" (48VDC)	"H" = Speed ... DC Fans are generally available as "H" (high speed), "M" (medium speed), "L" (low speed) "HH" (extra high speed) and "LL" (extra low speed) "V" (vaneaxial) "XC" high performance	"T" = Termination ... DC Fans are available (except as noted) with power connection terminals (T) or with 12" Lead wires [blank]	B = Bearing Type ... Standard bearing types are "B" (ball bearing) and "S" (sleeve) and "SS" (sealed sleeve)	01 = Special Function Code ... A suffix after the bearing designator usually indicates a specific modification to the fan. In this case "01" indicates a 5VTTL tach o/p *

[none]	Standard
01	Tachometer Output 5VTTL*
02	Alarm Output 5VTTL *
03	Thermistor Speed Control (hub)
04	Thermistor Speed Control (wire)
05	PWM Input
06	Dual Speed
07	Temperature Sensor
08	Tachometer* + Alarm*
09	Tachometer* + Thermistor
10	Tachometer* + PWM
11	Tachometer* + Temperature Sensor
12	Alarm* + Thermistor
13	Alarm* + PWM
14	Alarm* + Temperature Sensor
15	Tachometer* + Alarm* + PWM
16	Tachometer* + Alarm* + Thermistor
17	Extra Long Lead Wires
18	Metal Impeller
19	High Temperature
20	Conformal Coating
21	Customized
55	IP-55

* To specify "open collector" instead of 5VTTL please add the letter "a" after the "Special Function Code".

Additional suffixes consisting of both numbers and letters may be applied for multiple fan modifications .

Special function codes will not appear on the fan label unless specified by the customer.