



ORION FANS

Standard and Custom Cooling Solutions with JIT Delivery Worldwide

ORION. We'll make you a fan.

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Shipping Stock Policy Approvals Aquariums How to read a data sheet

How to read a DC Part Number: Description - DC Part Number: 120x38mm, 12VDC, high speed, terminal-type, ball bearing fan with a SVTTL tachometer output:

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" = Series Number ... Series numbers designate frame sizes. "1238" will always refer to a 120x38mm fan. (See tables below for fan series listed by size)	[blank]=Frame Construction ... A blank here indicates standard UL94V-0 Thermoplastic construction. Sometimes a "PT" appears here on older models indicating standard thermoplastic. "AP" indicates diecast AL, Painted 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) Also Available by special order "HH" (extra high speed) and "LL" (extra low speed)	"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 bearing 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 SVTTL tach o/p.

How to read an AC Part Number: Description - AC Part Number: 120x38mm, 220VAC, high speed, ball bearing, terminal-type fan with a metal impeller:

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" = Series Number ... Series 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)	"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 and "SS" - sealed sleeve	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 rather than Thermoplastic which is standard on this model

Life Expectancy

Static Pressure

Airflow (CFM)

Noise (dB)

Voltage

Speed (RPM)

Bearings

Testing

Special Functions

Part Numbers

AC Series Numbers	Fan Size (mm)	Fan Size (inches)	DC Series Numbers	Fan Size (mm)	Fan Size (inches)
OA60	60x30	2.36"x1.20"	OD2510	25x10	1.0"x0.39"
OA825	80x25	3.15"x1.00"	OD3010	30x10	1.18"x0.39"
OA80	80x38	3.15"x1.50"	OD4010	40x10	1.57"x0.39"
OA92	92x25	3.62"x1.00"	OD4018	40x18	1.57"x0.71"
OA938	92x38	3.62"x1.50"	OD4020	40x20	1.57"x0.79"
OA125	120x25	4.7"x1.0"	OD4028	40x28	1.57"x1.10"
OA109, OA4715	120x38	4.7"x1.5"	OD5210	52x10	2.05"x0.39"
OA119	127x38	5.0"x1.5"	OD6010	60x10	2.36"x0.39"
OA172SAPL	172x150x38	6.7"x5.9"x1.5"	OD6015	60x15	2.36"x0.59"
OA172AP	172x51	6.7"x2.0" -round	OD6020	60x20	2.36"x0.79"
OA172SAP, OA5920	172x150x51	6.7"x5.9"x2.0"	OD6025	60x25	2.36"x1.0"
OA180APL	178x65	7.0"x2.6"	OD8015	80x15	3.15"x0.59"
OA180AP	178x89	7.0"x3.5"	OD8025	80x25	3.15"x1.0"
OA254	254x89	10"x3.5" -round	OD8032	80x32	3.15"x1.25"
			OD9220	92x20	3.62"x0.79"
			OD9225	92x25	3.62"x1.0"
			OD1225	120x25	4.7"x1.0"
			OD1232	120x32	4.7"x1.25"
			OD1238	120x38	4.7"x1.5"
			OD127	127x38	5.0"x1.5"
			OD172SAPL	172x150x38	6.7"x5.9"x1.5"
			OD172SAP	172x150x51	6.7"x5.9"x2.0"
			OD254	254x89	10"x3.5"

Representation

Distributors

RoHS Compliant

ISO9001/2000



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Add these codes to the end of your ORION FANS part number to specify custom fan functions.

Special Function Code	
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

* Tachometer and Alarm functions are available as "5VTTL" or as "open collector". If you need an "open collector" type please add the letter "a" after the Special Function Code". e.g. "01a"

[Life Expectancy](#)
[Static Pressure](#)
[Airflow \(CFM\)](#)
[Noise \(dB\)](#)
[Voltage](#)
[Speed \(RPM\)](#)
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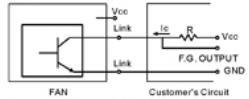
Circuit diagrams are provided for reference only. Not all applications work the same way. Please consult with your designer(s) to verify compatibility of these functions with your project.

Click anywhere on the image below to download the full size pdf.

Function

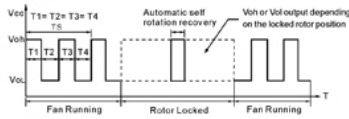
- **Frequency Generator**
Generates a square wave out frequency equal to 2 periods per revolution for 4 poles fan and informs the user of the fan's running speed.

● **Application 1**



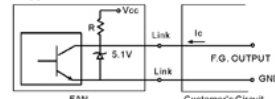
Vcc=From + 5 To +28 VDC (Generally using + 12 or + 24VDC)
Ic=5 mA max.
R=V/I (Output "R" value calculation)

● **Output Waveform**



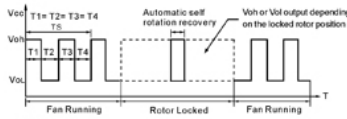
- ◆ N=R.P.M
- ◆ Ts=60/N (Sec)
- ◆ Output Level
Voh=Vcc ± 10%
Vol=0 - 0.6V
Ic=5 mA max.

● **Application 2**



Vcc=From + 5 To +28 VDC (Generally using + 12 or + 24VDC)
Ic= 5 mA max.
R (type) = 10K

● **Output Waveform**

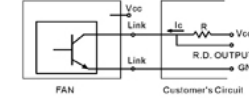


- ◆ N=R.P.M
- ◆ Ts=60/N (Sec)
- ◆ Output Level
Voh= 5.0V ± 0.5V
Vol=0 - 0.6V
Ic=5 mA max.

■ **Rotation detector**

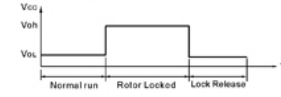
Detects whether the fan is running or has stopped by generation a high or low output signal.

● **Application 1**



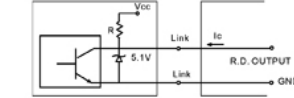
Vcc=From + 5 To +28 VDC (Generally using + 12 or + 24VDC)
Ic=2 mA max.
R=V/I (Output "R" value calculation)

● **Output Waveform**



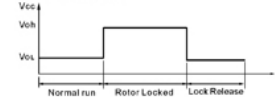
- ◆ Output Level
Voh=Vcc ± 10%
Vol=0 - 0.6V
Icc=5 mA max.

● **Application 2**



Vcc=From + 5 To +28 VDC (Generally using + 12 or + 24VDC)
Ic= 5 mA max.
R (type) = 10K

● **Output Waveform**



- ◆ Output Level
Voh= 5.0V ± 0.5V
Vol=0 - 0.6V
Icc=5 mA max.

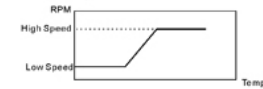
■ **Temperature Control**

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

● **Application**



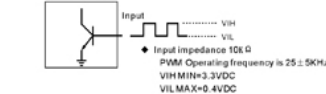
● **RPM Temperature curve**



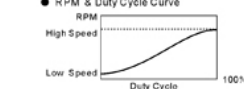
■ **Pulse width modulation**

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

● **Application**



● **RPM & Duty Cycle Curve**



Representation Distributors

RoHS Compliant ISO9001/2000