San Ace 80*L* 9LG type

Long Life Fan

Features

High Static Pressure and High Airflow
This fan achieves a maximum static pressure of 1260 Pa and maximum airflow of 3.42 m^3/min,[1] representing about 7.1-times and 1.6-times improvements over our current model, respectively.[2]

Long Service Life
The fan operates continuously for 100,000 hours, or about 11 years.[3]

Low Power Consumption
Power consumption has been reduced by about 32%[1], [4] compared to the current model.[2]

Contribution to SDGs
Made with lead-free brass, this fan complies with the RoHS Directive.[5]
It is also certified as an Eco Product[6] for its use of environmentally friendly resources and technologies.

(1) For models 9LG0812P1G001, 9LG0824P1G001, and 9LG0848P1G001.
(2) Current model: 80 × 80 × 25 mm *San Ace 80L* 9LG type Long Life Fan (model no. 9LG0812P4J001).
(3) L10 expected life (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
(4) When operated to match the combined cooling performance of two current models (model no. 9LG0812P4J001).
(5) The RoHS (Restriction of Hazardous Substances) Directive restricts the use of certain hazardous substances in electrical and electronic equipment distributed within the European Union.
(6) Eco Products are eco-friendly products designed to reduce the environmental impact of the product and its packaging materials compared to our existing products or equivalent marketed products if not offered by us. Our products are assessed over the product's life cycle against our own eco-design requirements including product size, weight, power consumption, and CO_2 emissions, and those meeting our standards and higher standards qualify as Eco Products and Eco Products Plus, respectively.

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80 × 80 × 38 mm

Specifications

The models listed below **have a pulse sensor with PWM control.**

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min^{-1}]	Max. airflow [m^3/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH_2O]	SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9LG0812P1G001	12	10.8 to 13.2	100	2.8	33.6	15200	3.42	120	1260	5.04	71	-20 to +70	100000/60°C (135000/40°C)
			20	0.13	1.56	3600	0.84	29.6	73.3	0.293	42		
9LG0812P1H001			100	1.8	21.6	12700	2.86	101	880	3.52	68		
			20	0.13	1.56	3600	0.84	29.6	73.3	0.293	42		
9LG0824P1G001	24	21.6 to 26.4	100	1.4	33.6	15200	3.42	120	1260	5.04	71		
			20	0.09	2.16	3600	0.84	29.6	73.3	0.293	42		
9LG0824P1H001			100	0.90	21.6	12700	2.86	101	880	3.52	68		
			20	0.09	2.16	3600	0.84	29.6	73.3	0.293	42		
9LG0848P1G001	48	36 to 60	100	0.70	33.6	15200	3.42	120	1260	5.04	71		
			20	0.08	3.84	3600	0.84	29.6	73.3	0.293	42		
9LG0848P1H001			100	0.45	21.6	12700	2.86	101	880	3.52	68		
			20	0.08	3.84	3600	0.84	29.6	73.3	0.293	42		

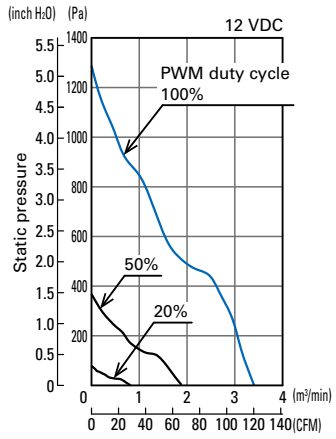
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Common Specifications

- ☐ Material ..... Frame: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-1)
- ☐ Expected life ..... Refer to specifications
  (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
  Expected life at 40°C is for reference only.
- ☐ Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection
- ☐ Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- ☐ Insulation resistance ..... 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- ☐ Sound pressure level (SPL) ..... A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- ☐ Operating temperature ..... Refer to specifications (Non-condensing)
- ☐ Storage temperature ..... -30 to +70°C (Non-condensing)
- ☐ Lead wire ..... ⊕ Red ⊖ Black Sensor Yellow Control Brown
- ☐ Mass ..... 240 g

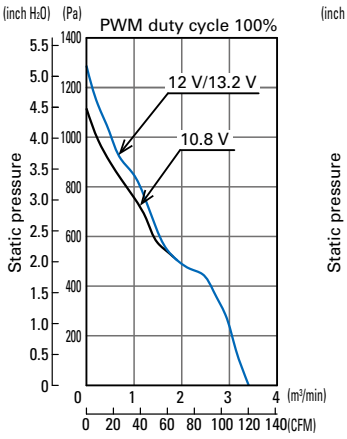
Airflow - Static Pressure Characteristics

PWM duty cycle



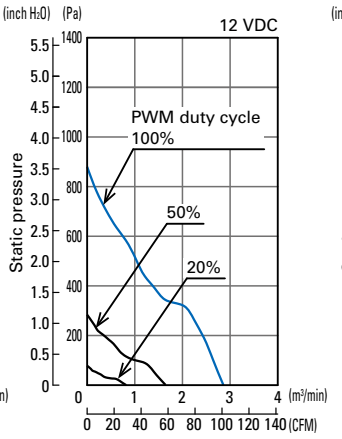
9LG0812P1G001

Operating voltage range



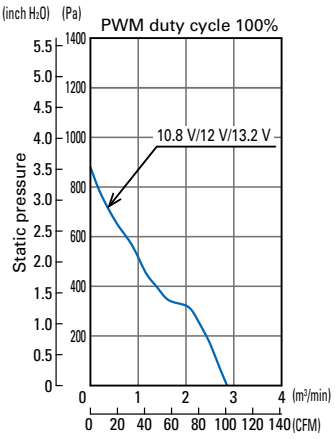
9LG0812P1G001

PWM duty cycle



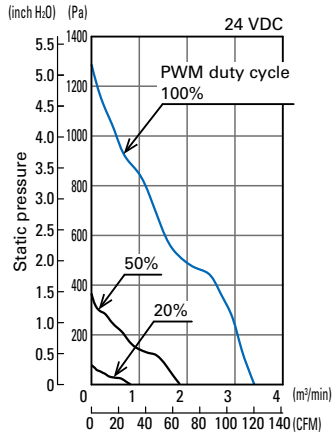
9LG0812P1H001

Operating voltage range



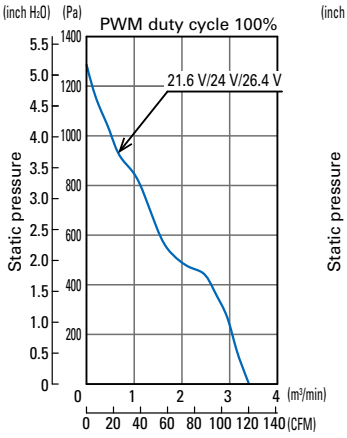
9LG0812P1H001

PWM duty cycle



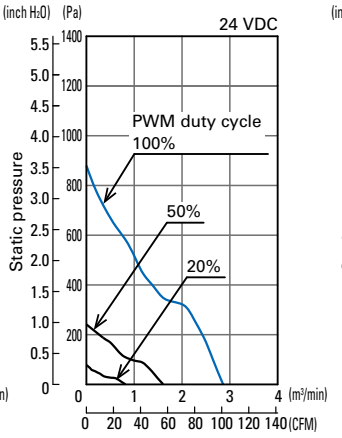
9LG0824P1G001

Operating voltage range



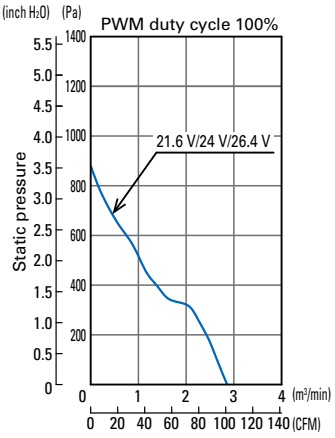
9LG0824P1G001

PWM duty cycle



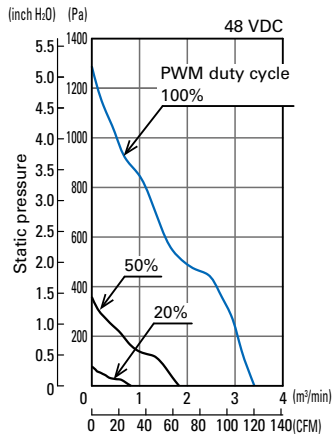
9LG0824P1H001

Operating voltage range



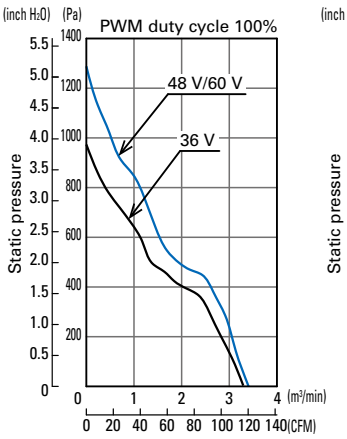
9LG0824P1H001

PWM duty cycle



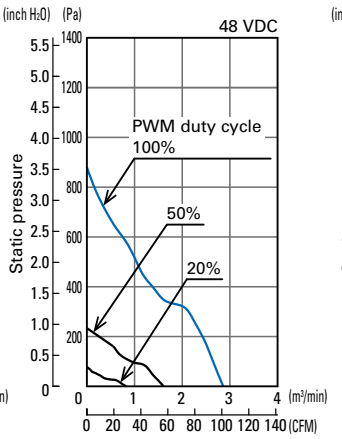
9LG0848P1G001

Operating voltage range



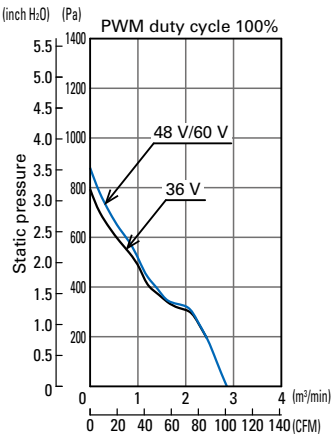
9LG0848P1G001

PWM duty cycle



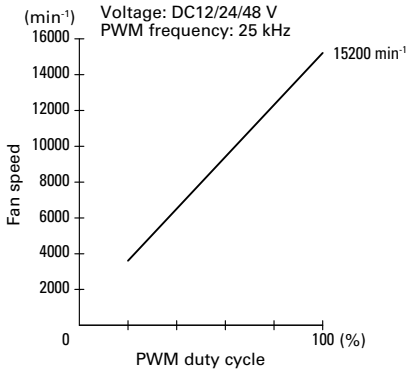
9LG0848P1H001

Operating voltage range

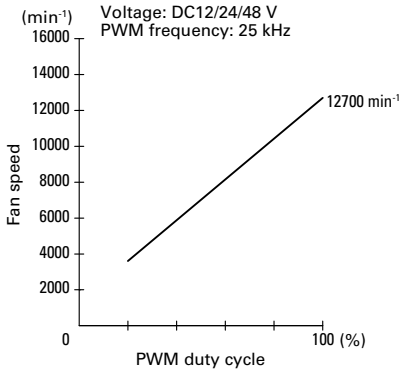


9LG0848P1H001

PWM Duty - Speed Characteristics Example



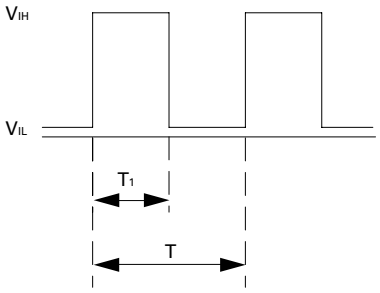
9LG0812P1G001
9LG0824P1G001
9LG0848P1G001



9LG0812P1H001
9LG0824P1H001
9LG0848P1H001

PWM Input Signal Example

Input signal waveform



V_{IH} = 4.75 to 5.25 V V_{IL} = 0 to 0.4 V

PWM duty cycle (%) = $\frac{T_1}{T} \times 100$ PWM frequency 25 (kHz) = $\frac{1}{T}$

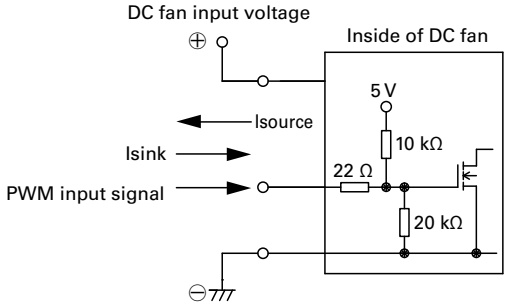
Current source (Isource) = 1.0 mA max. (when control voltage is 0 V)
Current sink (Isink) = 1.0 mA max. (when control voltage is 5.25 V)

When the PWM control terminal is open,
the fan speed is the same as the speed at 100% PWM duty cycle.

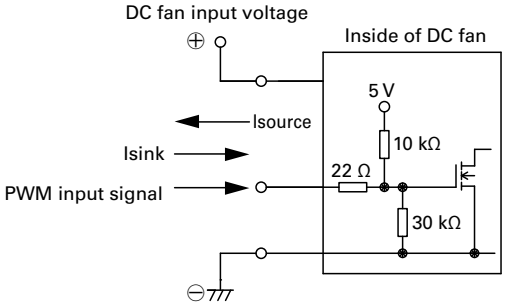
The PWM signal can be used with open collector or drain input.

Note that when using an open collector or drain input,
or inputting a different voltage or frequency,
the speed relative to the PWM duty cycle may differ from this specification.

Example of Connection Schematic



Rated voltage 12 V fan

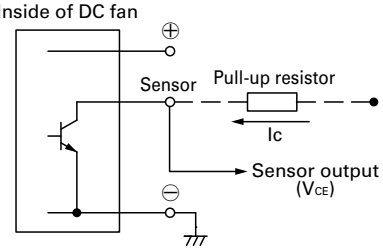


Rated voltage 24/48 V fan

Specifications for Pulse Sensors

Output circuit: Open collector

Inside of DC fan



Rated voltage 12 V fan
V_{CE} = +13.2 V max.
Ic=5 mA max. [V_{OL}=V_{CE} (SAT)=0.6 V max.]

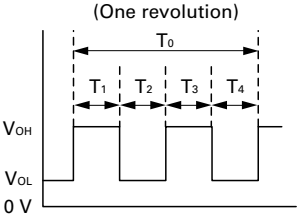
Rated voltage 24 V fan
V_{CE} = +26.4 V max.
Ic=5 mA max. [V_{OL}=V_{CE} (SAT)=0.6 V max.]

Rated voltage 48 V fan
V_{CE} = +60 V max.
Ic=5 mA max. [V_{OL}=V_{CE} (SAT)=0.6 V max.]

Output waveform (Need pull-up resistor)

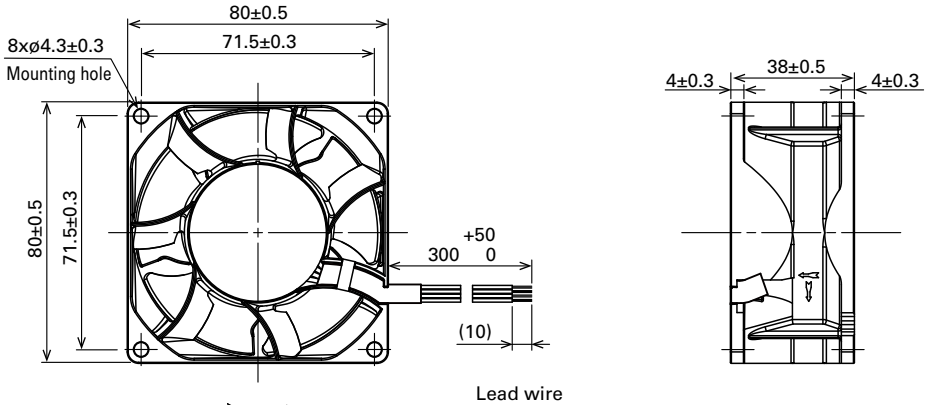
In case of steady running

(One revolution)

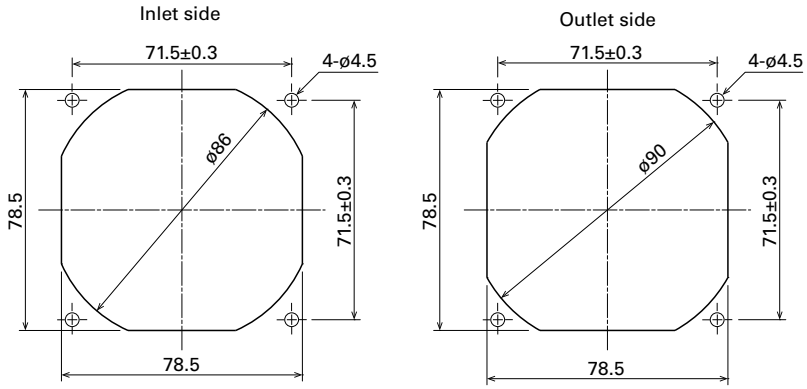


$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0$
$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0 = 60/4N$ (s)
N=Fan speed (min-1)

Dimensions (unit: mm)



Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)



Options

Finger guards

Model no.: 109-049E, 109-049H

Resin finger guards

Model no.: 109-1002G

Resin filter kits

Model no.: 109-1002F13 (13PPI), 109-1002F20 (20PPI),
109-1002F30 (30PPI), 109-1002F40 (40PPI)

Notice

- Please read the "Safety Precautions" on our website before using the product.
- The products shown in this catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
- For protecting fan bearings against electrolytic corrosion near strong electromagnetic noise sources, we provide effective countermeasures such as Electrolytic Corrosion Proof Fans and EMC guards. Contact us for details.

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