

San Ace 60 ^{9HV type} High Static Pressure Fan

■ Features

High Static Pressure

The maximum static pressure increased by approximately 92% compared with our conventional DC fan, while maintaining equivalent maximum airflow performance. *

It is an ideal cooling solution especially for densely-packed equipment.

Suitable for 1.5 to 2U Devices

Measuring 60 mm square, this new fan is ideal for 1.5 to 2U sized equipment.

* : Our conventional DC fan is 60 x 60 x 38 mm "San Ace 60" 9GA type, Model No. 9GA0612P1S03.



60×60×38 mm

■ Specifications

The following nos. have **PWM controls, pulse sensors**. For ribless, append "1" to the model no.

Model No.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle (Note 1,2) [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9HV0612P1J001	12	10.8 to 12.6	100	2.7	32.4	21,700	1.88 66.4	1,750 7.00	68	-20 to +70	40,000 / 60°C
			20	0.17	2.04	5,300	0.43 15.2	102 0.41	34		

Note1: PWM frequency: 25 kHz Note2: Fan does not rotate when PWM duty cycle is 0%.

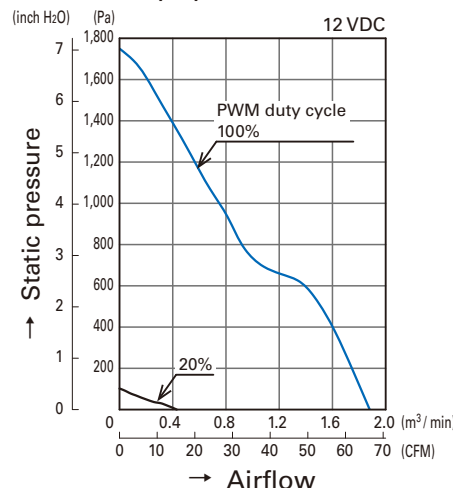
Available options: **Without Sensor** Please inquire as the availability of these options depends on the model. ⇒ **Lock sensor**

■ Common Specifications

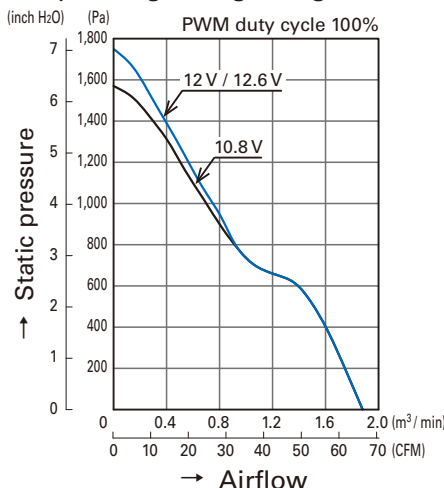
- Material Frame, Impeller: Plastics (Flammability: UL94V-0)
- Expected life Refer to specifications
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
- Motor protection system Current blocking function and reverse polarity protection
- Dielectric strength 50 / 60 Hz, 500 VAC, 1 minute (between lead conductor and frame)
- Sound pressure level (SPL) Expressed as the value at 1 m from air inlet side
- Operating temperature Refer to specifications (Non-condensing)
- Storage temperature -30°C to +70°C (Non-condensing)
- Lead wire ⊕ Red ⊖ Black Sensor: Yellow Control: Brown
- Mass 135 g

■ Airflow - Static Pressure Characteristics

• PWM duty cycle

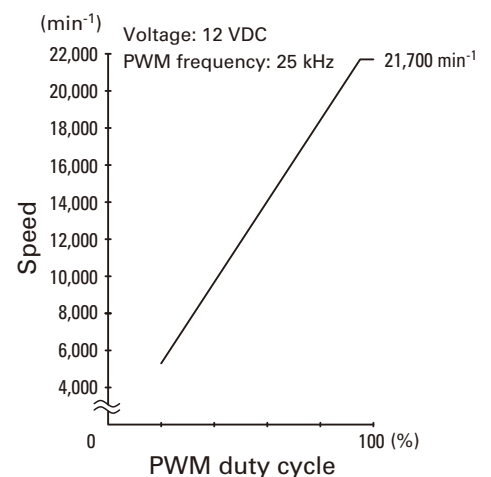


• Operating voltage range



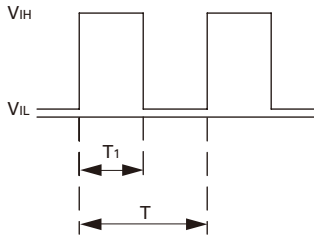
■ PWM Duty

- Speed Characteristics Example



PWM Input Signal Example

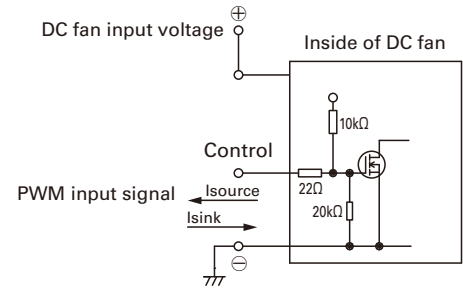
Input signal waveform



$V_{IH}=4.75\text{ V to }5.25\text{ V}$
 $V_{IL}=0\text{ V to }0.4\text{ V}$
 $\text{PWM duty cycle (\%)} = \frac{T_1}{T} \times 100$
 $\text{PWM frequency } 25\text{ (kHz)} = \frac{1}{T}$
 Source current (I_{source}): 5 mA max. at control voltage 0 V
 Sink current (I_{sink}): 5 mA max. at control voltage 5.25 V
 Control terminal voltage: 5.25 V max. (Open circuit)

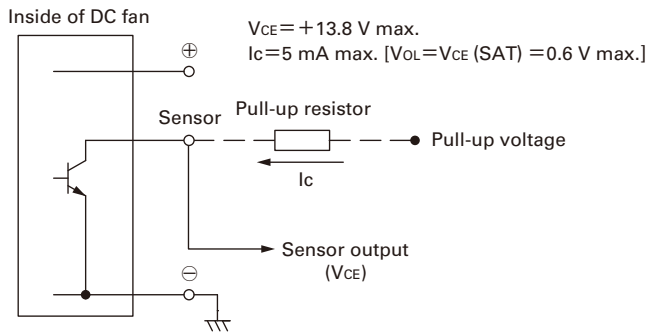
When the control lead wire is open,
 the fan speed is the same as the one
 at a PWM duty cycle of 100%.
 Either TTL input, open collector or open drain
 can be used for PWM control input signal.

Example of Connection Schematic

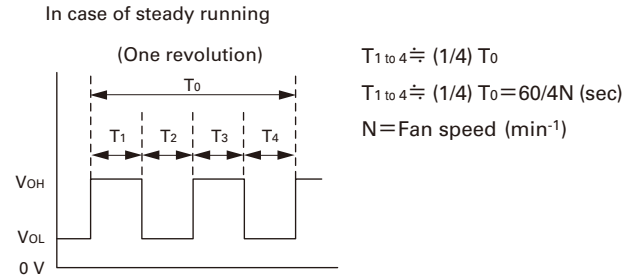


Specifications for Pulse Sensors

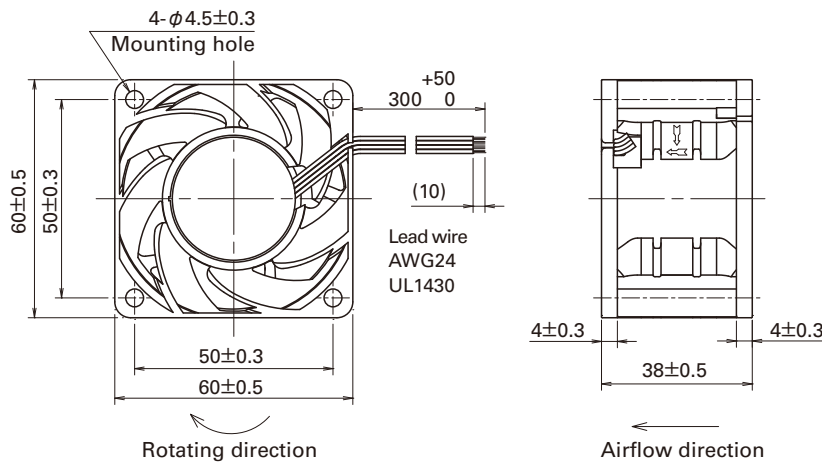
Output circuit: Open collector



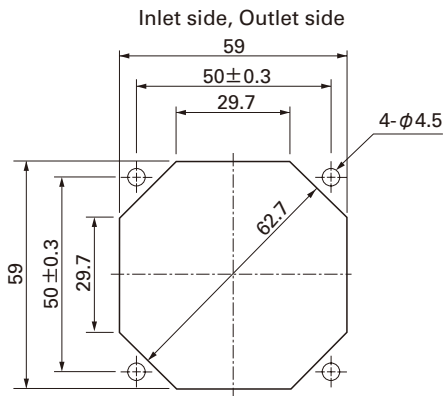
Output waveform (Need pull-up resistor)



Dimensions (unit: mm)



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



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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