

San Ace 120GP 9GP type

G Proof Fan

■ Features

Highly Resistant to G-Forces

This fan can withstand G-forces of 75 G for 1000 hours.*

Low Noise and High Energy Efficiency

The PWM control function enables the external control of fan speed, contributing to lower noise and higher energy efficiency of devices.

* Measured with our G-force testing machine. G = Acceleration of gravity = 9.8 m/s²



120×120×38 mm

■ Specifications

The following nos. **have PWM controls, pulse sensors.**

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] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9GP1224P1G001	24	15 to 30	100	1.60	38.4	6550	7.0 247	370 1.48	62	-20 to +70	40000/60°C (70000/40°C)
			20	0.12	2.88	2000	2.13 75.2	34.4 0.13	36		
9GP1248P1G001	48	36 to 60	100	0.80	38.4	6550	7.0 247	370 1.48	62		
			20	0.08	3.84	2000	2.13 75.2	34.4 0.13	36		

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

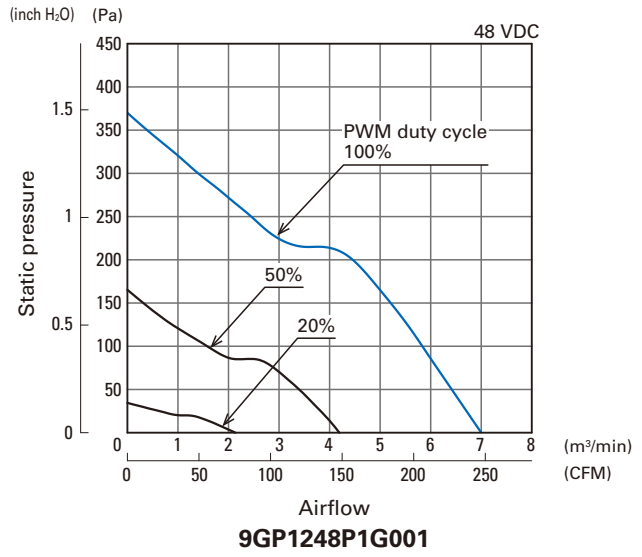
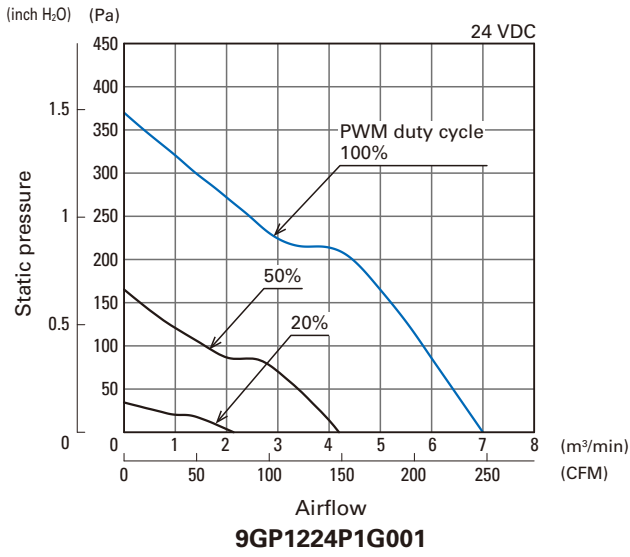
Models with the following sensor specifications are also available as options: Without sensor Lock sensor

■ Common Specifications

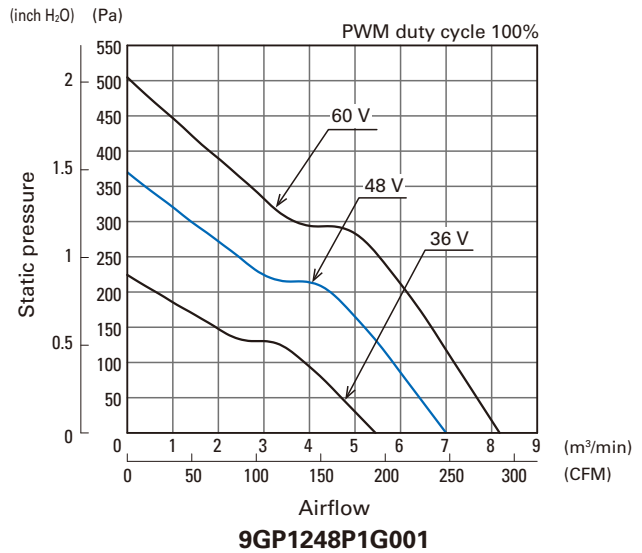
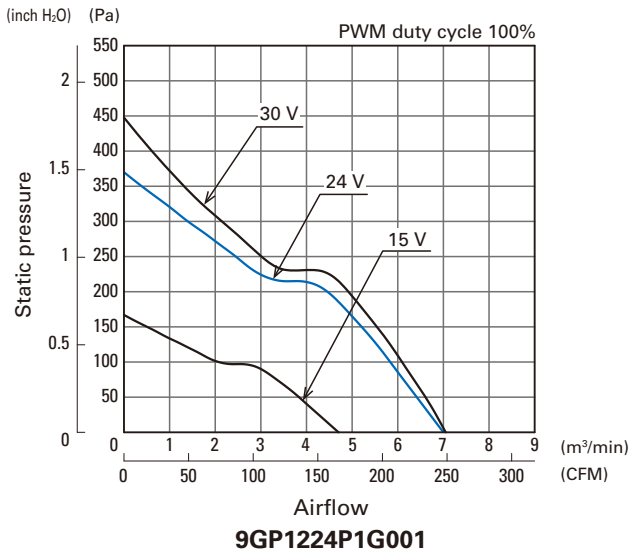
- Material Frame: Aluminum (Black coating), Impeller: Plastics (Flammability: UL 94V-1)
- Expected life Refer to specifications
(L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
Expected life at 40°C ambient is just reference value.
- Motor protection system Current 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 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor: Yellow Control: Brown
- Mass Approx. 440 g
- G-force tolerance 75 G for 1000 hours (Measured with our G-force testing machine)

Airflow - Static Pressure Characteristics

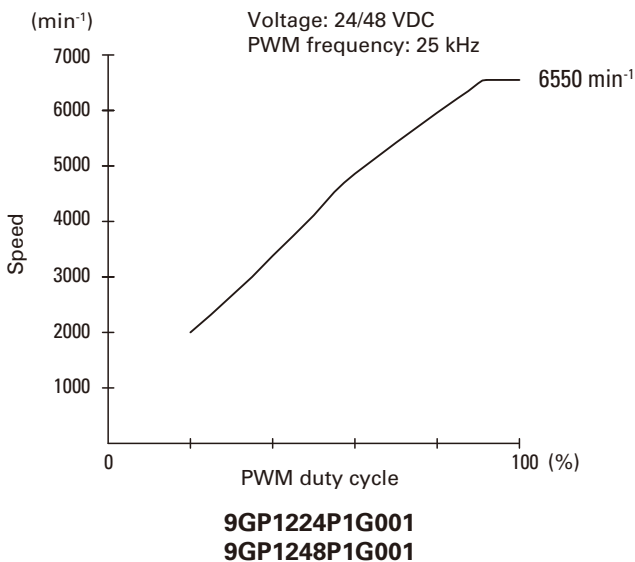
- PWM duty cycle



- Operating voltage range

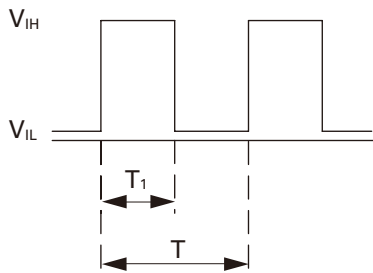


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

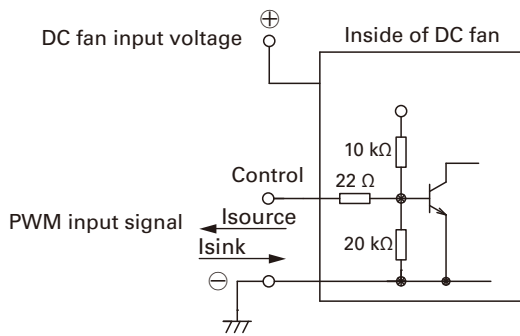
Input signal waveform



$V_{IH} = 4.75 \text{ V}$ to 5.25 V $V_{IL} = 0$ to 0.4 V
 PWM duty cycle (%) = $\frac{T_1}{T} \times 100$ PWM frequency $25 \text{ (kHz)} = \frac{1}{T}$
 Current source (I_{source}) = 1 mA max. (when control voltage is 0 V)
 Current sink (I_{sink}) = 1 mA max. (when control voltage is 5.25 V)
 Control terminal voltage = 5.25 V max. (when control terminal is open)

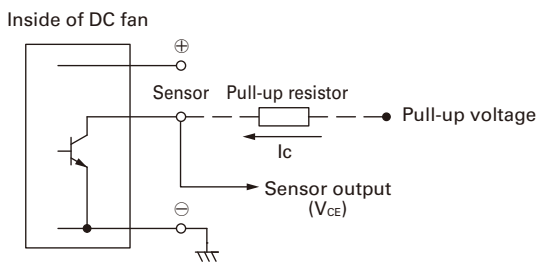
When the control terminal is open,
 fan speed is the same as when PWM duty cycle is 100%.
 Either TTL input, open collector or open drain can be used for
 PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

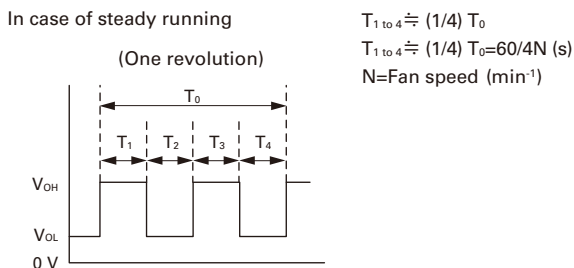
Output circuit: Open collector



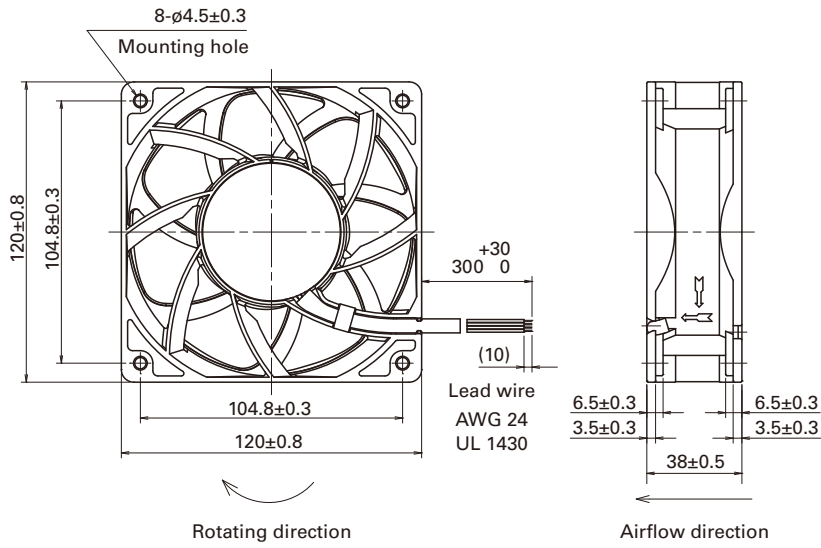
Rated voltage 24 V fan
 $V_{CE} = +30 \text{ V}$ max.
 $I_C = 10 \text{ mA}$ max. [$V_{OL} = V_{CE} \text{ (SAT)} = 0.6 \text{ V}$ max.]

Rated voltage 48 V fan
 $V_{CE} = +60 \text{ V}$ max.
 $I_C = 10 \text{ mA}$ max. [$V_{OL} = V_{CE} \text{ (SAT)} = 0.6 \text{ V}$ max.]

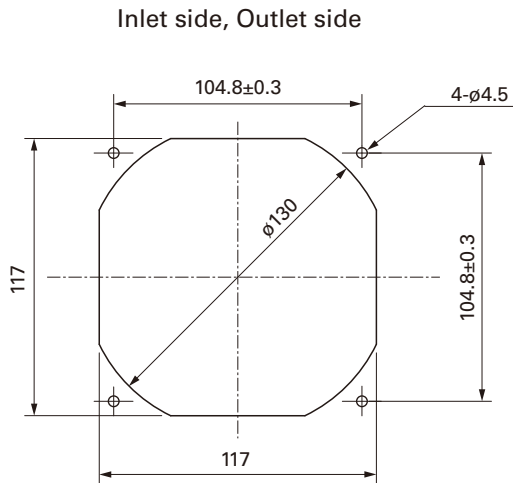
Output waveform (Need pull-up resistor)



■ 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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