San Ace 120*GP* 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 [m³/min]	Max. airflow [CFM]	Max. static pressure [Pa]	Max. static pressure [inchH₂O]	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%.

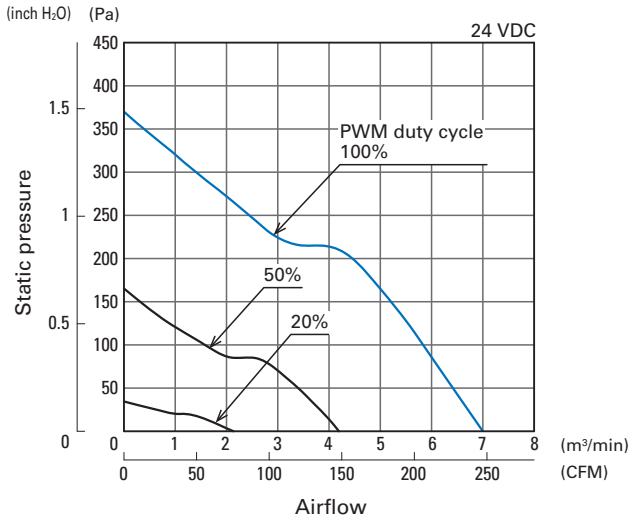
Models with the following sensor specifications are also available as options: Without sensor Lock sensor

Common Specifications

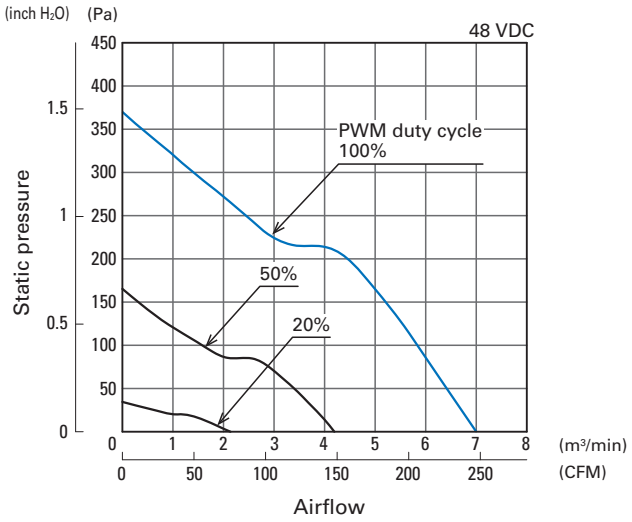
- ☐ Material ····· Frame: Aluminum (Black coating), Impeller: Plastics (Flammability: UL 94V-1)
- ☐ Expected life ····· Refer to specifications
  (L10: Survival rate: 90% at 60°C, rated voltage, and continuously run in a free air state)
  Expected life at 40°C ambient is just reference value.
- ☐ Motor 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

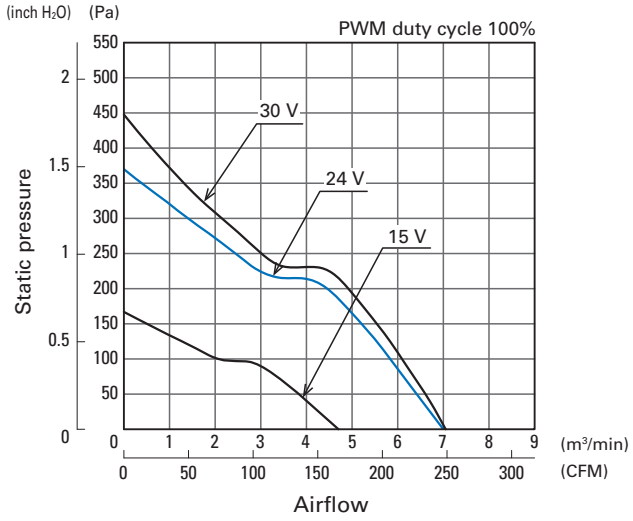


9GP1224P1G001

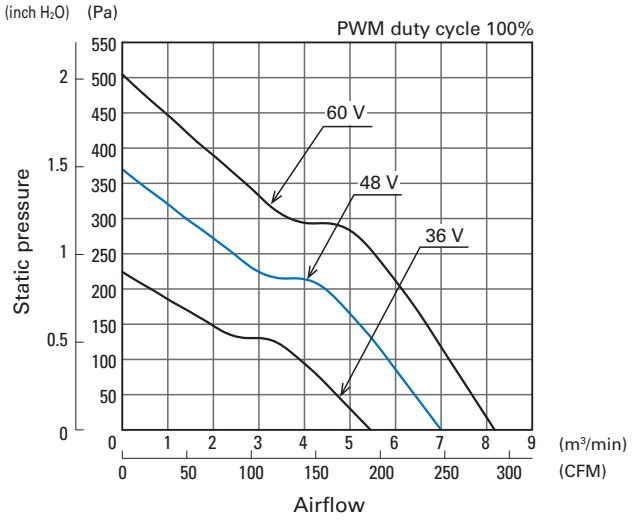


9GP1248P1G001

・Operating voltage range

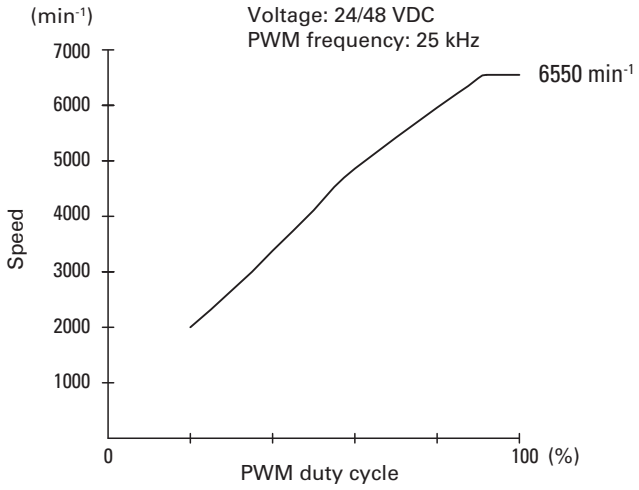


9GP1224P1G001



9GP1248P1G001

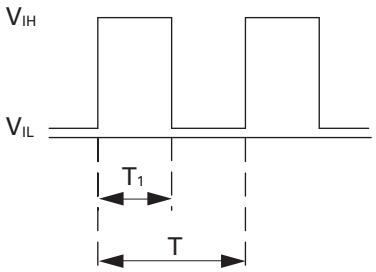
PWM Duty - Speed Characteristics Example



9GP1224P1G001
9GP1248P1G001

PWM Input Signal Example

Input signal waveform



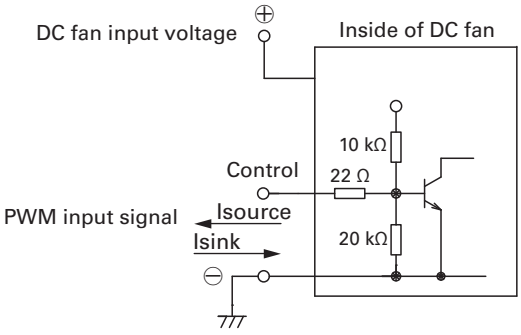
V_{IH} = 4.75 to 5.25 V V_{IL} = 0 to 0.4 V

PWM duty cycle (%) = $\frac{T1}{T} \times 100$ PWM frequency 25 (kHz) = $\frac{1}{T}$

Current source (Isource) = 1 mA max. (when control voltage is 0 V)
Current sink (Isink) = 1 mA max. (when control voltage is 5.25 V)
Control terminal voltage = 5.25 V max. (when control terminal is open)

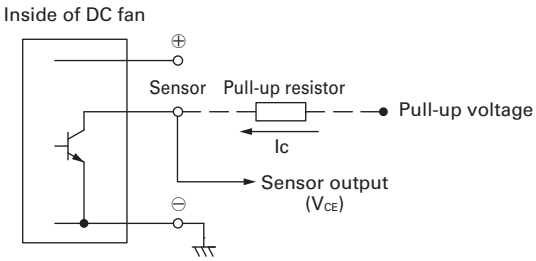
When the control terminal is open,
fan speed is the same as when PWM duty cycle is 100%.
Either TTL input, open collector or open drain can be used for
PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector



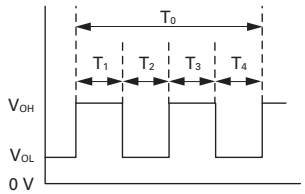
Rated voltage 24 V fan
V_{CE}=+30 V max.
Ic=10 mA max. [V_{OL}=V_{CE} (SAT)=0.6 V max.]

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

Output waveform (Need pull-up resistor)

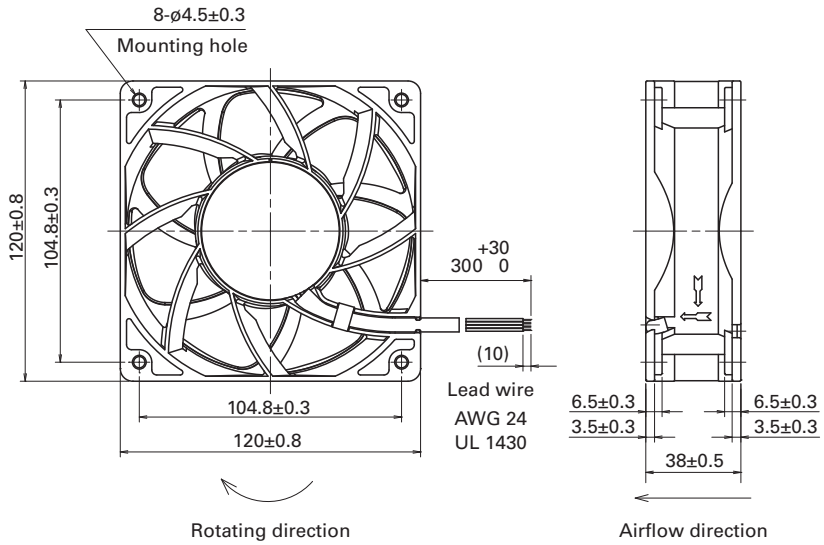
In case of steady running

(One revolution)



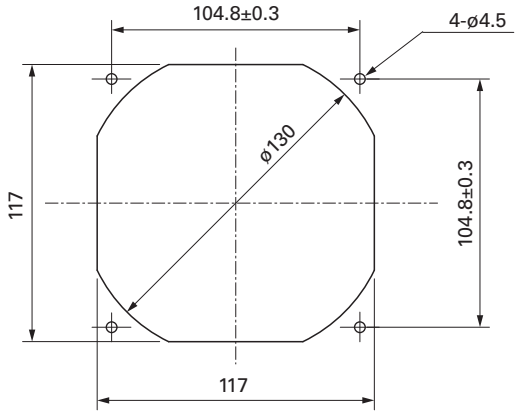
$T_{1\ to\ 4} \fallingdotseq$ (1/4) T_0
$T_{1\ to\ 4} \fallingdotseq$ (1/4) T_0=60/4N (s)
N=Fan speed (min^{-1})

Dimensions (unit: mm)



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

Inlet side, Outlet side



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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