

San Ace 92AD

9AD type

ACDC Fan

Features

High Static Pressure and High Airflow

This fan delivers a maximum static pressure of 76 Pa,⁽¹⁾ achieving about a 55% increase compared to our current model.⁽²⁾

The fan has a maximum airflow of 1.34 m³/min,⁽¹⁾ delivering a 21% improvement over the current model.⁽²⁾

Long Service Life

The expected life has increased by 2.4 times compared with the current model.⁽²⁾

Low Power Consumption

Power consumption has been reduced by about 68%⁽¹⁾ compared with the current model.⁽²⁾

Contribution to SDGs

Made with lead-free brass, this fan complies with the RoHS Directive.⁽³⁾

It is also certified as an Eco Product Plus⁽⁴⁾ for its use of environmentally friendly resources and technologies.

(1) For models 9AD0901G4002, 9AD0901G4H001, and 9AD0901P4G001.

(2) Current model: 92 × 92 × 25 mm San Ace 92 AC Fan (model: 109S092) at a frequency of 60 Hz.

(3) The RoHS (Restriction of Hazardous Substances) Directive restricts the use of certain hazardous substances in electrical and electronic equipment distributed within the European Union.

(4) 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 CO₂ emissions, and those meeting our standards and higher standards qualify as Eco Products and Eco Products Plus, respectively.



cUL certification is pending for the following models.

9AD0901H4002, 9AD0901M4002, 9AD0901L4002, 9AD0901H4H001, 9AD0901M4H001, 9AD0901L4H001

92 × 92 × 25 mm

Specifications

The models listed below **have ribs and no sensors**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	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]
9AD0901G4002	100 to 240	90 to 264	50/60	0.06	3.2	3850	1.34 47.3	76 0.305	43	-20 to +70	60000/60°C (90000/40°C)
9AD0901H4002				0.04	2.3	3200	1.10 38.8	52 0.208	38		
9AD0901M4002				0.03	1.7	2800	0.97 34.2	40 0.160	34		
9AD0901L4002				0.02	1.1	1900	0.64 22.6	19 0.076	24		

* Rated current ratings are the values at 100 V.

The models listed below **have ribs and a low-speed sensor**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	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]
9AD0901G4H001	100 to 240	90 to 264	50/60	0.06	3.2	3850	1.34 47.3	76 0.305	43	-20 to +70	60000/60°C (90000/40°C)
9AD0901H4H001				0.04	2.3	3200	1.10 38.8	52 0.208	38		
9AD0901M4H001				0.03	1.7	2800	0.97 34.2	40 0.160	34		
9AD0901L4H001				0.02	1.1	1900	0.64 22.6	19 0.076	24		

* Rated current ratings are the values at 100 V.

The models listed below **have ribs and pulse sensors with PWM control function**. For models without ribs, append "1" to the end of model numbers.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle ⁽¹⁾ [%]	Rated current ⁽²⁾ [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]
9AD0901P4G001	100 to 240	90 to 264	50/60	100	0.06	3.2	3850	1.34 47.3	76 0.305	43	-20 to +70	60000/60°C (90000/40°C)
				30	0.02	0.7	1200	0.42 14.8	8.6 0.034	13		

(1) 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 0% duty cycle.

(2) Rated current ratings are the values at 100 V.

Common Specifications

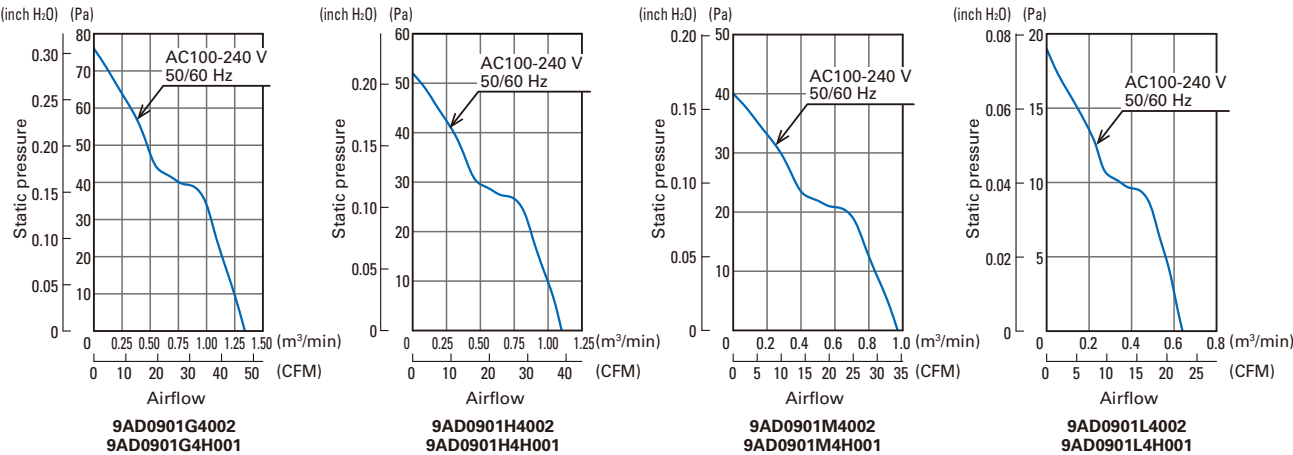
- ☐ Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- ☐ Expected life Refer to specifications
(L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- ☐ Motor protection function Locked rotor burnout protection
- ☐ Dielectric strength 50/60 Hz, 2500 VAC, for 1 second (between lead wire conductors and frame)
50/60 Hz, 1500 VAC, for 1 minute (between input lead wire (L,N) conductors and other lead wire conductors)
- ☐ Insulation resistance 10 MΩ min. at 500 VDC
(between lead wire conductors and frame, between input lead wire (L,N) conductors and other lead wire conductors)
- ☐ 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 AC power input L: Orange N: Gray
Sensor Yellow Control Brown GND Black
(For models without sensors, there is no sensor or control wiring.)
- ☐ Mass 160 g

Note 1: Take safety measures not to touch this product (including lead wires) while the power is on.

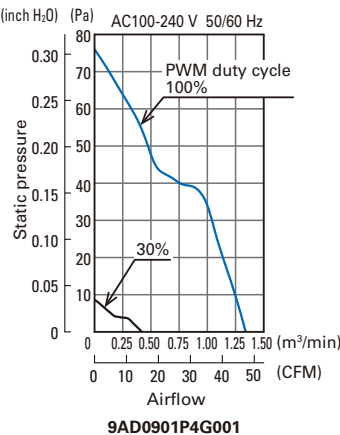
Note 2: Please ensure appropriate insulation within the final product because of functional insulation between input leads wire (L,N) and other lead wire conductors.

Airflow - Static Pressure Characteristics

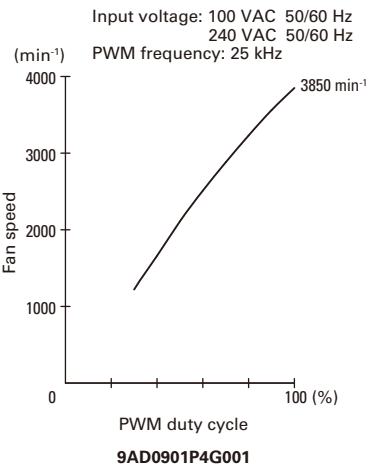
Operating voltage range



PWM duty cycle

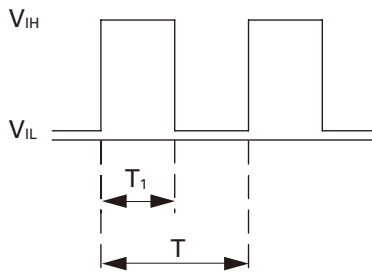


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

Input signal waveform



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

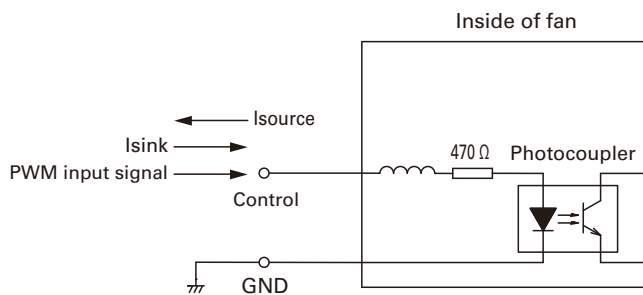
PWM duty cycle (%) = $\frac{T_1}{T} \times 100$ PWM frequency 25 (kHz) = $\frac{1}{T}$

Current source (I_{source}) = 1.0 mA max. (when control voltage is 0 V)

Current sink (I_{sink}) = 10 mA max. (when control voltage is 5.25 V)

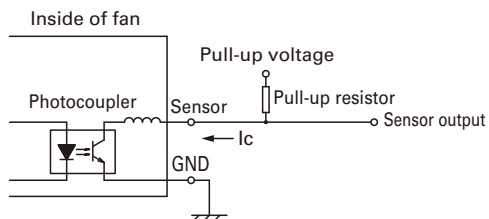
When the PWM control terminal is open,
the fan speed is the same as the speed at 0% PWM duty cycle.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector

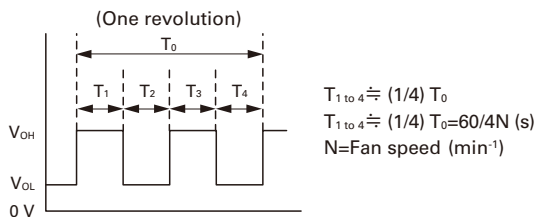


$V_{CE} = +60 \text{ V max.}$

$I_c = 10 \text{ mA max.}$ [$V_{OL} = V_{CE}(\text{SAT}) = 1.2 \text{ V max.}$]

Output waveform (Need pull-up resistor)

In case of steady running

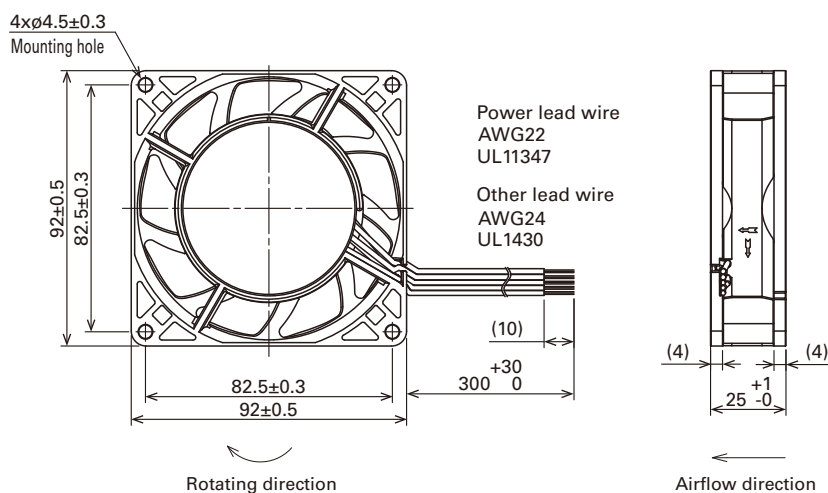


$T_1 \text{ to } T_4 \doteq (1/4) T_0$

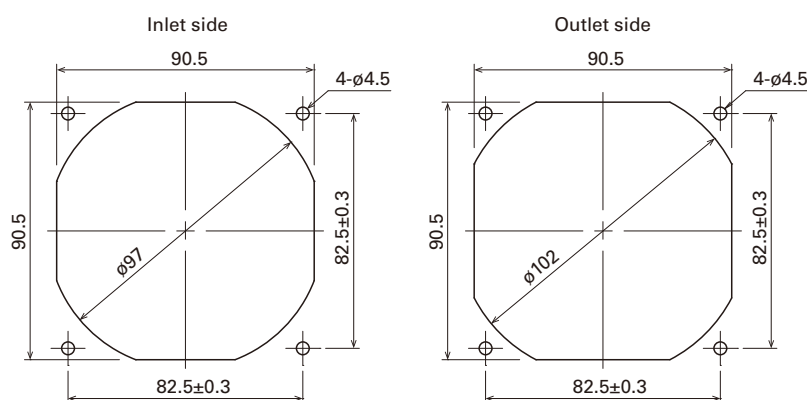
$T_1 \text{ to } T_4 \doteq (1/4) T_0 = 60/4 \text{ N (s)}$

$N = \text{Fan speed (min}^{-1}\text{)}$

■ Dimensions (unit: mm) (Ribbed frame with pulse sensor with PWM control function)



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



■ Options

Finger guards

Model no.: 109-099E, 109-099H

Resin finger guards

Model no.: 109-1001G

Resin filter kits

Model no.: 109-1001F13 (13 PPI), 109-1001F20 (20 PPI)
109-1001F30 (30 PPI), 109-1001F40 (40 PPI)

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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