



120×120×38 mm

San Ace 120AD 9AD type

General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-1)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in free air at 60°C, rated voltage)
- Motor structure Brushless DC motor
- Motor protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 529.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame, and between sensor output and frame)
- Insulation resistance..... 10 MΩ or more with a 500 VDC megger
- Sound pressure level (SPL) At 1 m away from the air inlet
- Storage temperature -30 to +75°C (Non-condensing)
- Mass 290 g

Do not solder wires directly to AC input terminals.

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]
9AD1201H12	100 to 240	90 to 264	50/60	0.08	4.4	3250	3.0 106	84 0.34	42	-20 to +75	60000/60°C

The models listed below **have ribs and low-speed 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]
9AD1201H1H	100 to 240	90 to 264	50/60	0.08	4.4	3250	3.0 106	84 0.34	42	-20 to +75	60000/60°C

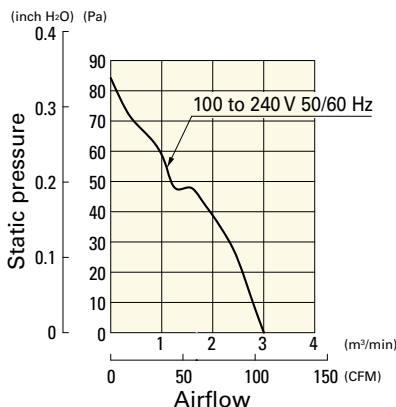
Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 574.

Order no.	Set items					
	Fan	Voltage	Low-speed sensor	Plug cord	Finger guards	Mounting screws
ST1-9AD1201H12	9AD1201H12	100 to	○	489-1635-L10	109-019E	M4×55 mm (4 screws)
ST1-9AD1201H1H	9AD1201H1H	240 V		489-1635-L10	109-019E	

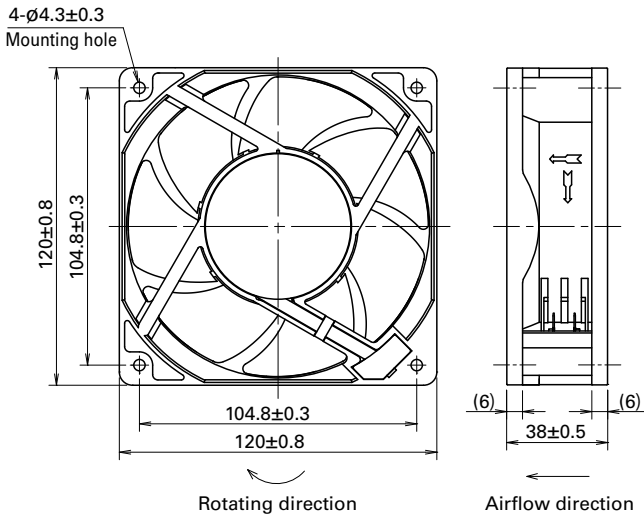
Airflow - Static Pressure Characteristics

9AD1201H12, 9AD1201H1H

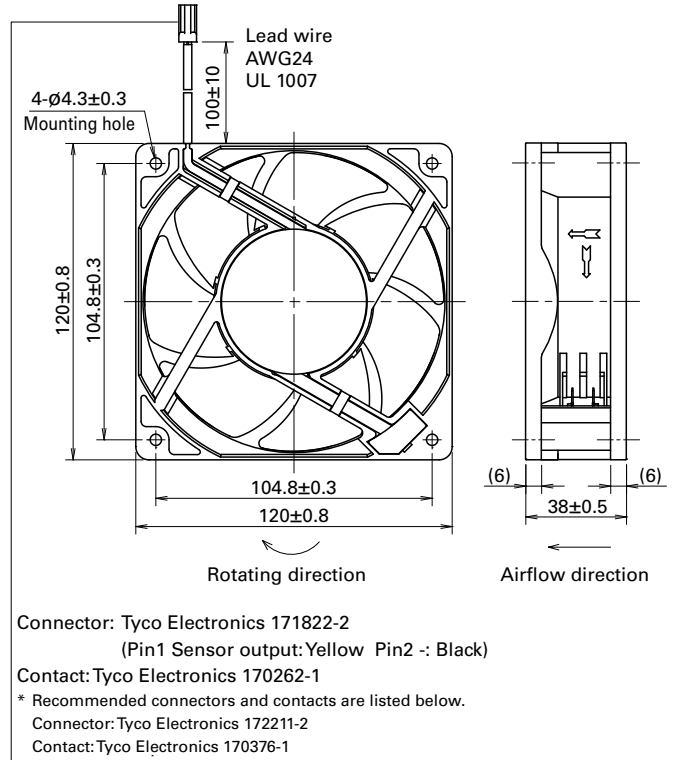


Dimensions (unit: mm) (With ribs)

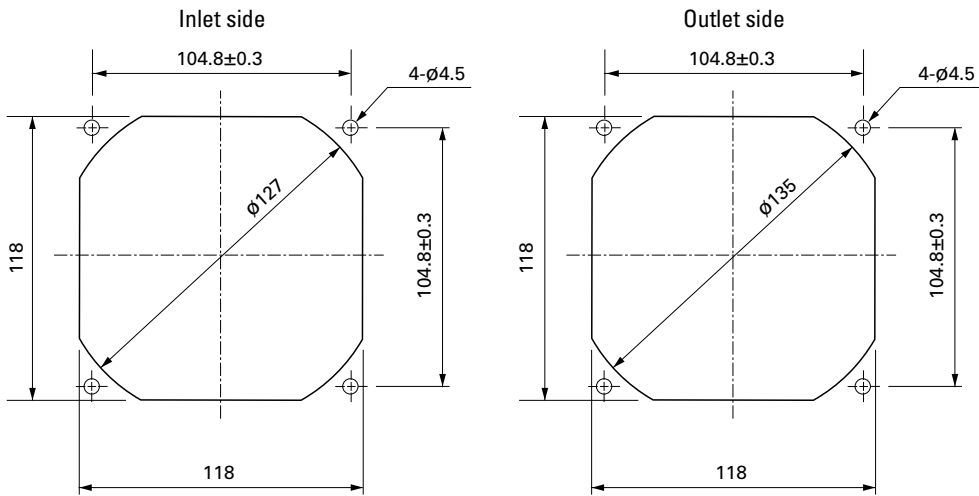
without Sensor



with Low-speed sensor

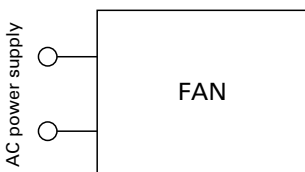


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

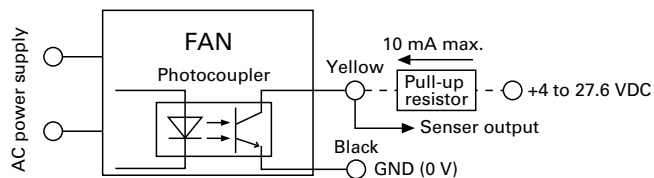


Wiring Diagram

without Sensor



with Low-speed sensor

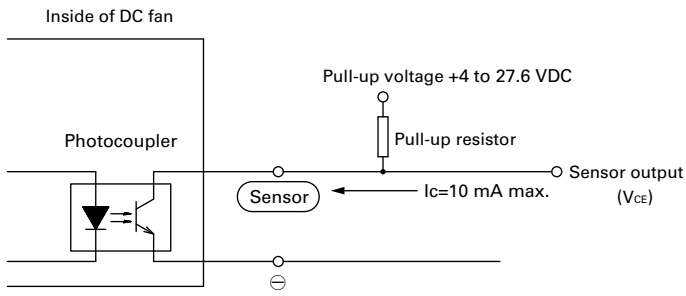


Specifications for Low-speed Sensors

Model No.: 9AD1201H1H

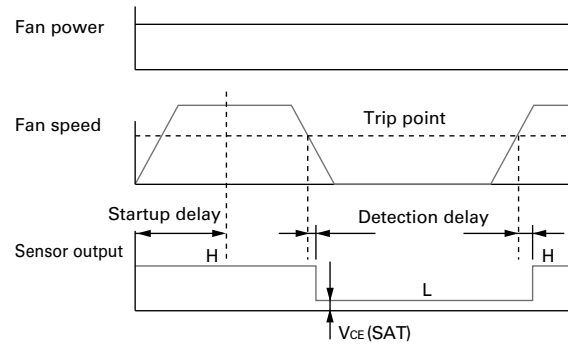
Output circuit: Open collector

$V_{CE} = +27.6$ VDC max.
 $I_C = 10$ mA max. [$V_{CE(SAT)} = 1.0$ V max.]

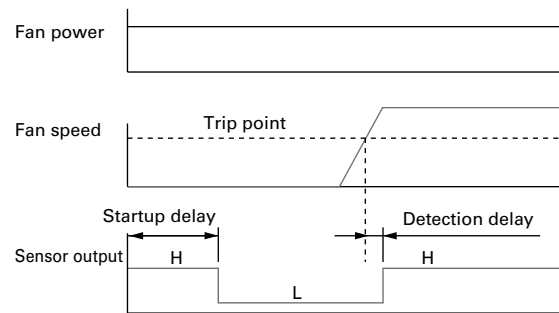


Sensor scheme

Example 1: when steady running



Example 2: when the rotor is locked when the fan motor is turned on and released after the start-up delay time.



Startup delay: 18 ± 3 s
 Detection delay: 3 s max.
 Trip point: 1700 min^{-1}

Options

Finger guards page: p. 514

Model no.: 109-019C, 109-019H, 109-019E, 109-019K

Resin filter kits page: p. 521

Model no.: 109-1000F13 (13PPI), 109-1000F20 (20PPI),
 109-1000F30 (30PPI), 109-1000F40 (40PPI)

Wiring harness for sensor page: p. 524

Model no.: 489-1636

Resin finger guards page: p. 520

Model no.: 109-1000G

Plug cord page: p. 524

Model no.: 489-1635-L10, 489-1635-L21

AC Fan

The cooling fan operates at 100 to 230 VAC.

■ How to Read Specifications (AC fan)

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	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]
109-180	100	50/60	5/4	0.06/0.05	0.07/0.06	2250/2700	0.27/0.33 9.5/11.7	11.8/18.6 0.047/0.075	24/26	-30 to +70	25000/60°C
109-183	115				0.06/0.05						

- Rated voltage This is the necessary voltage to drive the fan. Single-phase 100, 115, 200 and 230 VAC are also available.
- Frequency This is a frequency of alternating current (AC). The frequencies of 50 Hz and 60 Hz are existing in Japan.
Performance of AC fan varies depending on the frequency. Example: Rated speed 2250/2700 = 50 Hz → 2250, 60 Hz → 2700
- Input The power value when the fan is operating at rated voltage (at free air).
- Current The current when the fan is operating at rated voltage (at free air).
- Locked rotor current This is a current when rotor of motor that applies rated voltage is locked.
- Rated speed The speed when the fan is operating at rated voltage (at free air).
- Max. airflow The maximum airflow that the fan can generate during rated operation (measured with our double chamber measuring device).
Airflow is the volume of air generated by the fan per unit of time.
- Max. static pressure The maximum static pressure value that the fan can produce during rated operation (measured with our double chamber measuring device).
Static pressure indicates a fan's ability to move air against resistance due to the internal structure of the device to which the fan is installed.
- SPL SPL stands for Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the measurement method.
- Operating temperature The temperature range over which fan operation is guaranteed (Non- condensing).
- Expected life Service life hours that 90% of bearings will survive without failing when continuously operated at the rated voltage and 60°C temperature. For more information, please refer to the technical material section.