

40×40×20 mm

San Ace 40 9P_{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)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black or Blue Sensor Yellow
- Mass 45 g

Specifications

The models listed below **have ribs and a pulse sensor.**

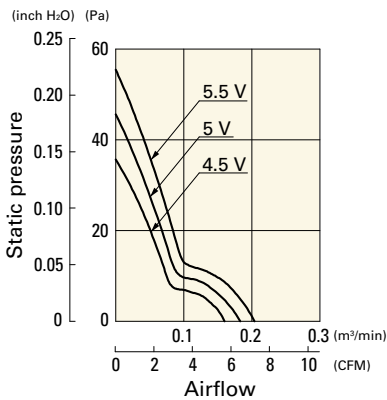
Model no.	Rated voltage [V]	Operating voltage range [V]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109P0405F601	5	4.5 to 5.5	0.25	1.25	6500	0.183 6.5	45.1 0.181	28	-20 to +70	60000/60°C (90000/40°C)
109P0405M601			0.12	0.6	5000	0.136 4.8	26.5 0.106	24		
109P0412F601	12	7 to 13.8	0.09	1.08	6500	0.183 6.5	45.1 0.181	28		
109P0412M601		8 to 13.8	0.06	0.72	5000	0.136 4.8	26.5 0.106	24		
109P0424F601	24	14 to 27.6	0.06	1.44	6500	0.183 6.5	45.1 0.181	28		
109P0424B601		20.4 to 27.6	0.06	1.44	5200	0.14 4.9	28.3 0.114	25		

Note: Sensor and control options are available for selection. Refer to the table on p. 645.

Airflow - Static Pressure Characteristics

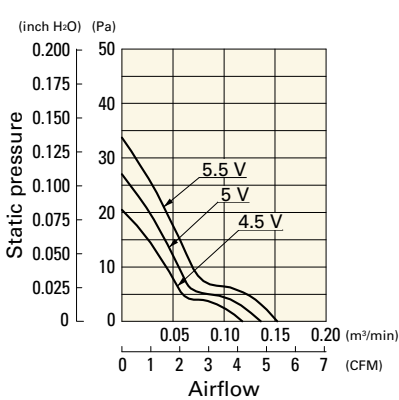
109P0405F601 With pulse sensor

Operating voltage range



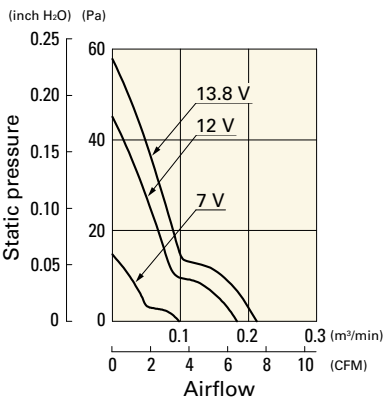
109P0405M601 With pulse sensor

Operating voltage range



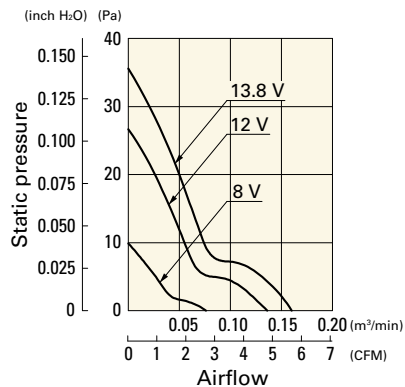
109P0412F601 With pulse sensor

Operating voltage range



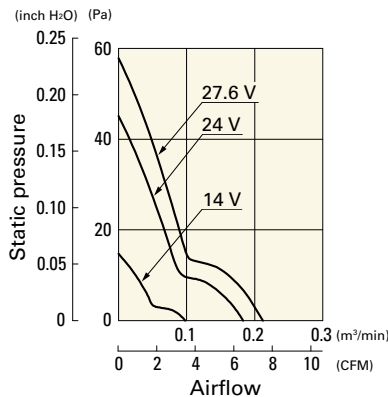
109P0412M601 With pulse sensor

Operating voltage range



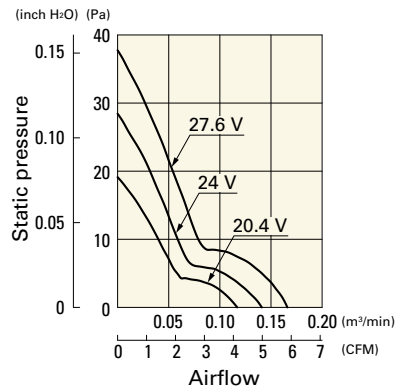
109P0424F601 With pulse sensor

Operating voltage range

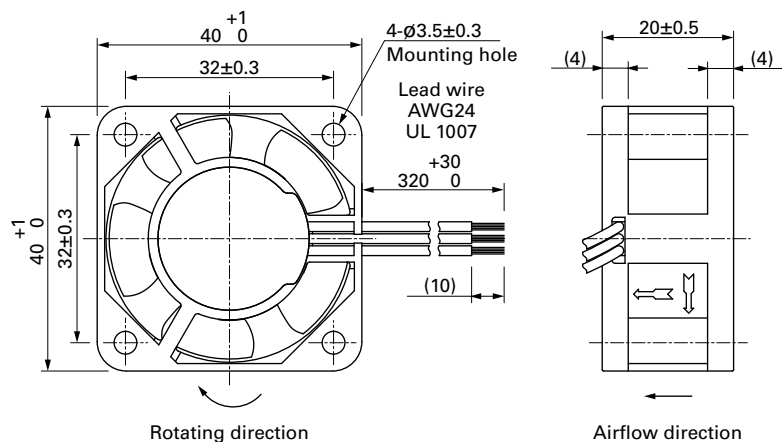


109P0424B601 With pulse sensor

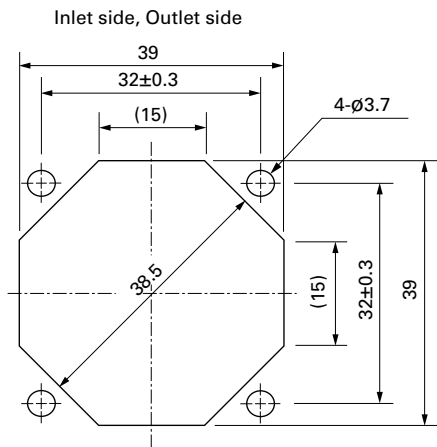
Operating voltage range



Dimensions (unit: mm)



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



Options

Finger guards page: p. 598

Model no.: 109-059, 109-059H

40x40x28 mm

San Ace 40 9HVA type  



General Specifications

- Material Frame: Plastic (Flammability: UL 94V-0), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (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, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black ☐Sensor ☐Yellow ☐Control ☐Brown
- Mass 57 g

Specifications

The models listed below **have ribs and a pulse sensor with PWM control.**

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]
9HVA0412P3J001	12	10.2 to 13.8	100	2.6	31.2	38000	1.05 37.1	2300 9.24	71	-20 to +70	30000/60°C (53000/40°C)
			20	0.12	1.4	8000	0.22 7.8	101 0.41	34		
9HVA0424P3G001	24	21.6 to 26.4	100	0.88	21.1	33000	0.92 32.5	1650 6.63	68		
			20	0.05	1.2	6750	0.18 6.4	74 0.30	31		

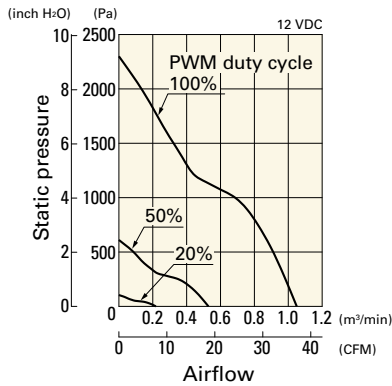
* PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

Note: Sensor and control options are available for selection. Refer to the table on p. 653.

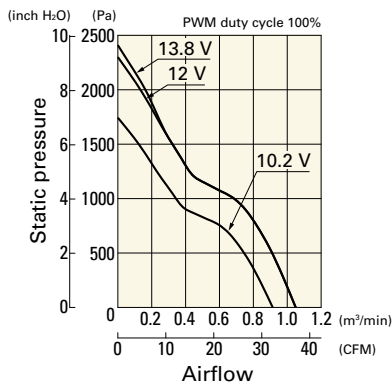
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HVA0412P3J001 With pulse sensor with PWM control

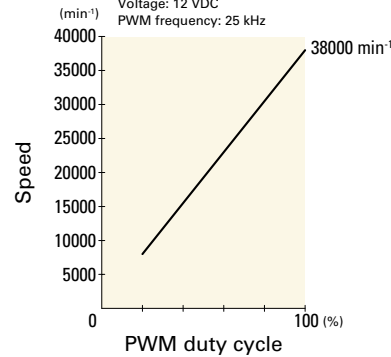
PWM duty cycle



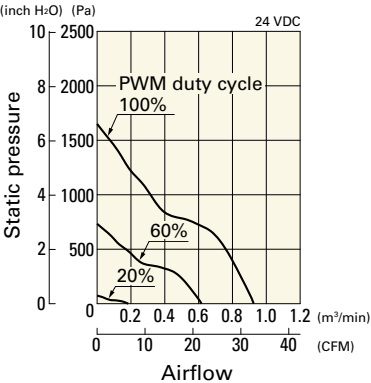
Operating voltage range



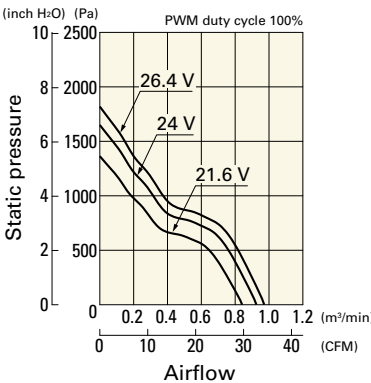
PWM duty - Speed characteristics example



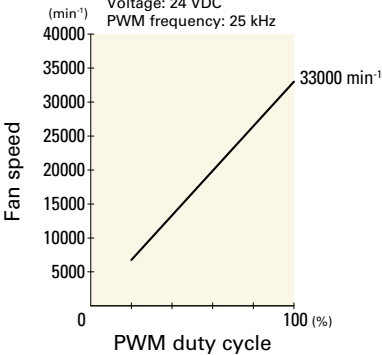
PWM duty cycle



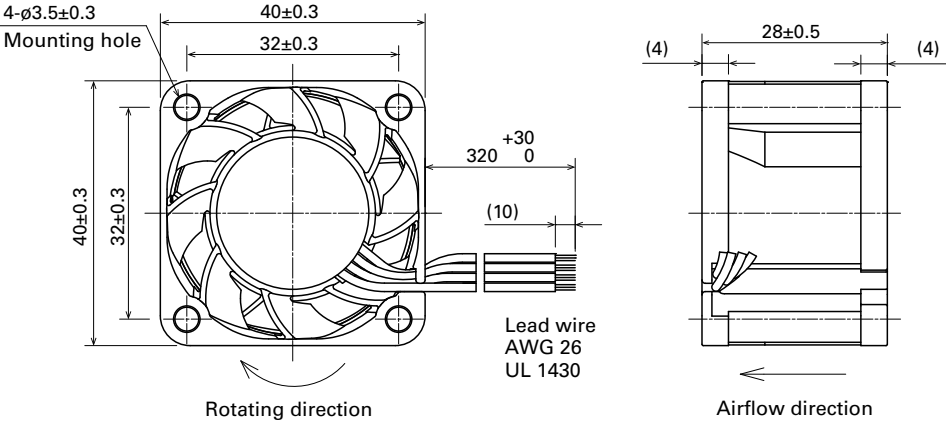
Operating voltage range



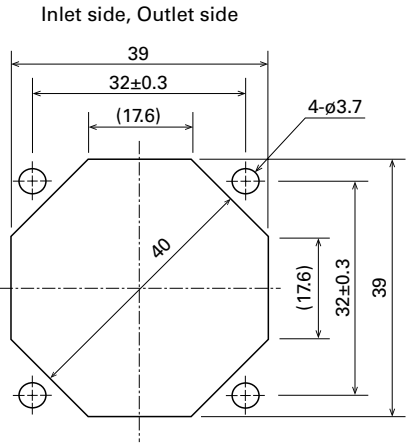
PWM duty - Speed characteristics example



Dimensions (unit: mm)



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



Options

Finger guards

page: p. 598

Model no.: 109-059, 109-059H

40×40×28 mm

San Ace 40 9HV type 



General Specifications

- Material Frame: Aluminum, Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (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, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and frame)
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire ⊕Red ⊖Black Sensor Yellow Control Brown
- Mass 60 g

Specifications

The models listed below **have a pulse sensor with PWM control.**

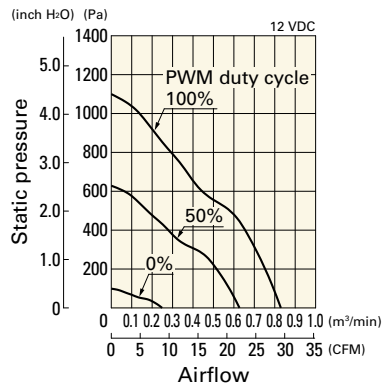
Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9HV0412P3K001	12	10.8 to 12.6	100	1.52	18.3	25000	0.83 29.3	1100 4.42	65	-20 to +60	40000/60°C (70000/40°C)
			0	0.2	2.4	7500	0.25 8.8	99 0.4	37		

* 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 100% duty cycle.

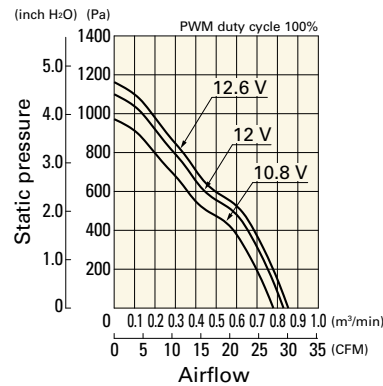
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9HV0412P3K001 With pulse sensor with PWM control

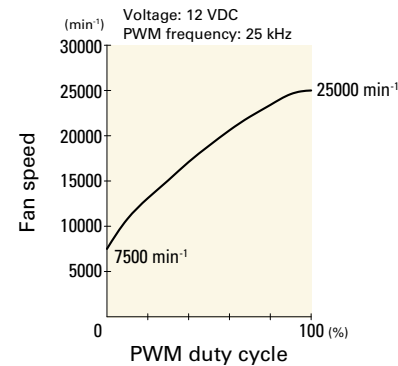
PWM duty cycle



Operating voltage range



PWM duty - Speed characteristics example



Dimensions (unit: mm)

