

ACDC Fan

This fan works while internally converting AC power into DC power, providing the superior performance of a DC fan with the flexibility of AC input.

Model Numbering System Not every combination of the following codes or characters is available. Contact us for an available combination.

9AD	09	01	H	1	2	
Type name	Frame size	Voltage	Speed code	Frame thickness	Sensor specifications	Frame form

Fans with PWM control

9AD	12	01	P	4	H	001	
Type name	Frame size	Voltage	PWM control	Frame thickness	Speed code	Individual customer's spec (2 to 3 digits)	Frame form

Type name	9AD9ADA9ADAW9ADW			
Frame size (mm)	09 92×92	12 120×120	16 160×160	57 ø172×150 (sidecut)
Voltage (V)	01 100 to 240			
Speed code	H	M	etc.	
Frame thickness (mm)	1 38	4 25	5 51	
Sensor specifications	001, 003, T03 With a pulse sensor		002, 2, T02 Without a sensor	
	H, H001, HT01 With a low-speed sensor			
Frame form	Nil Plastic frame: Ribbed frame		1 Plastic frame: Ribless frame	

Centrifugal Fan

9ADT	S	11	P	0	G	001
Type name	Impeller size	Voltage	PWM control	Thickness	Speed code	Individual customer's spec

Bracket-mounted Splash Proof Centrifugal Fan

9ADB1T	S	11	P	0	G	001
Type name	Impeller size	Voltage	PWM control	Thickness	Speed code	Individual customer's spec

Type name	9ADT 9ADW1T 9ADB1T 9ADB1W1T			
Impeller size (mm)	S			
	ø225			
Voltage (V)	11	23		
	115	230		
Thickness (mm)	0			
	69 _{min.}			
Speed code	G	H	etc.	

How to Read Specifications (ACDC fan) The following is a sample. See respective product pages for detailed information.

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]
9AD0901H12	100 to 240	90 to 264	50/60	0.08	4.5	3850	1.5 53.0	90 0.36	40	-20 to +75	60000/60°C (90000/40°C)
9AD0901M12				0.06	3.0	3100	1.18 41.7	56 0.22	33		

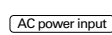
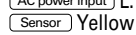
Rated voltage	.....	This is the necessary voltage to drive the fan. Single-phase 100 to 240 VAC are also available.
Operating voltage range	.....	The voltage range over which fan operation is guaranteed.
Frequency	.....	This is a frequency of alternating current (AC). The frequencies of 50 Hz and 60 Hz are existing in Japan.
Rated current	.....	The current when the fan is operating at rated voltage (at free air).
Rated input	.....	The power value when the fan is operating at rated voltage (at free air).
Rated speed	.....	The speed when the fan is operating at rated voltage (at free air).
Max. airflow	.....	The airflow at 0 Pa static pressure when the fan is operating at rated voltage. (Measured using the double chamber method)
Max. static pressure	.....	The static pressure at 0 m ³ /min airflow when the fan is operating at rated voltage. (Measured using the double chamber method)
SPL	.....	A-weighted sound pressure level (SPL) when the fan operates at the rated speed. For the measurement method, see the Technical Materials section in the catalog.
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. Expected life at 40°C is for reference only. For more information, please refer to the technical material section.

92x92x25 mm

San Ace 92AD 9AD type    cUL certification is pending for the following models.
9AD0901H4002, 9AD0901M4002, 9AD0901L4002,
9AD0901H4H001, 9AD0901M4H001, 9AD0901L4H001



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
For details, please refer to p. 616.
- 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.
- Storage temperature -30 to +70°C (Non-condensing)
- Lead wire  L: Orange N: Gray
 Yellow  Brown  Black (For models without sensors, there is no sensor or control wiring.)
- Mass 160 g

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

Please ensure appropriate insulation within the final product because of functional insulation between input leads wire (L, N) and other lead wire conductors.
To display CE mark/UKCA mark on system, refer to p. 621.

Specifications

The models listed below **have ribs and no 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		Max. static pressure		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		Max. static pressure		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 a pulse sensor with PWM control**. 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		Max. static pressure		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		

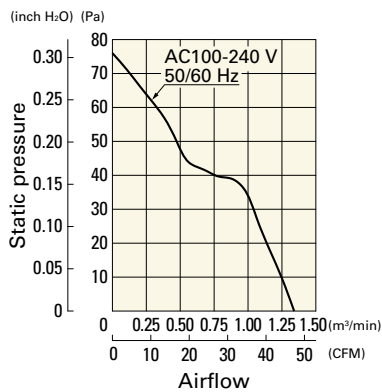
(1) PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 0% duty cycle.

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

9AD0901G4002

No sensor

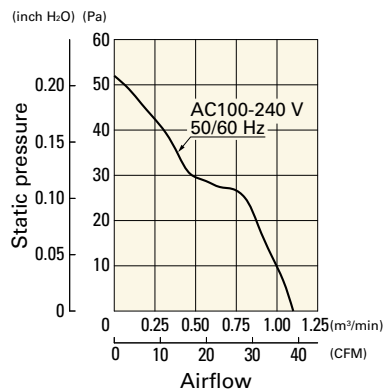
Operating voltage range



9AD0901H4002

No sensor

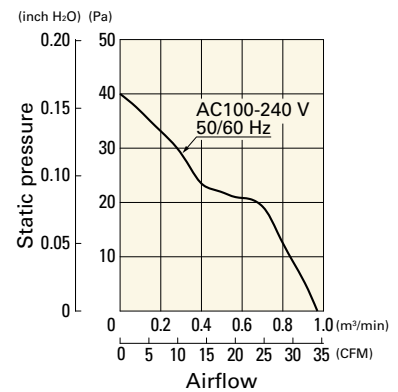
Operating voltage range



9AD0901M4002

No sensor

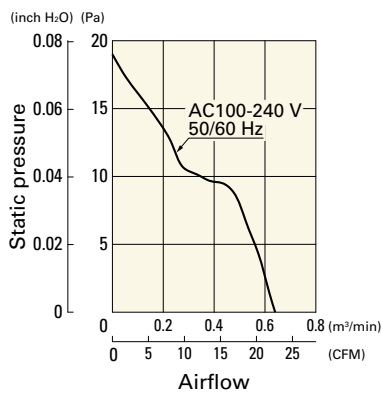
Operating voltage range



9AD0901L4002

No sensor

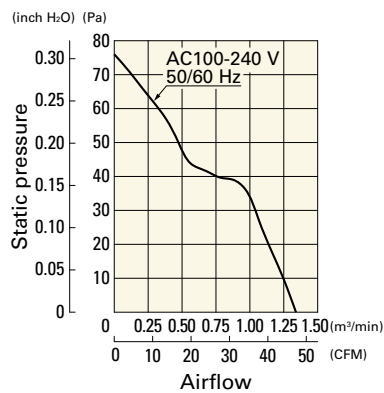
Operating voltage range



9AD0901G4H001

With low-speed sensor

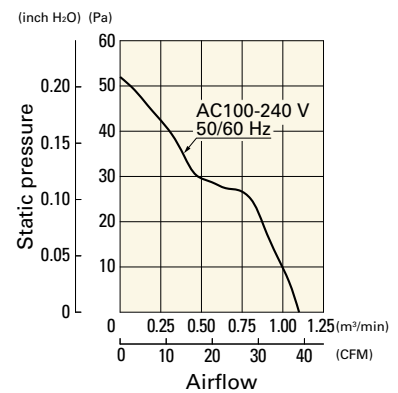
Operating voltage range



9AD0901H4H001

With low-speed sensor

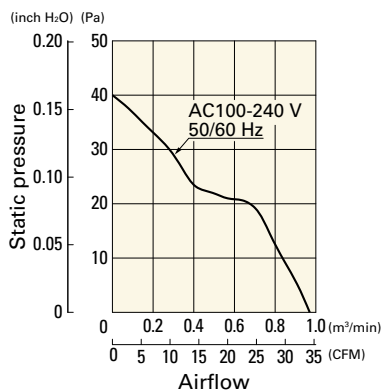
Operating voltage range



9AD0901M4H001

With low-speed sensor

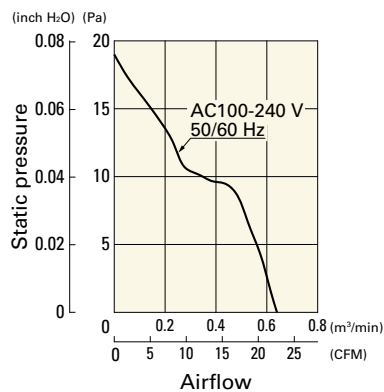
Operating voltage range



9AD0901L4H001

With low-speed sensor

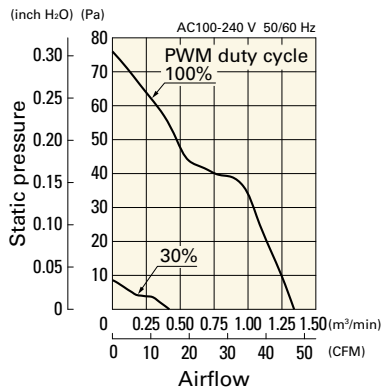
Operating voltage range



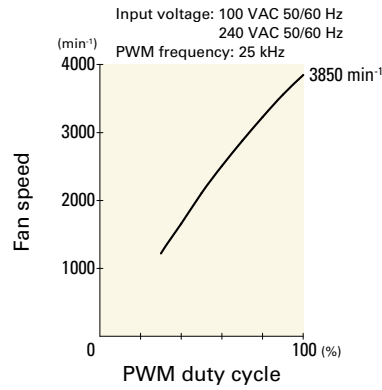
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9AD0901P4G001 With pulse sensor with PWM control

PWM duty cycle

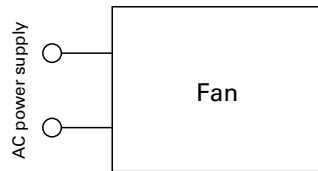


PWM duty - Speed characteristics example

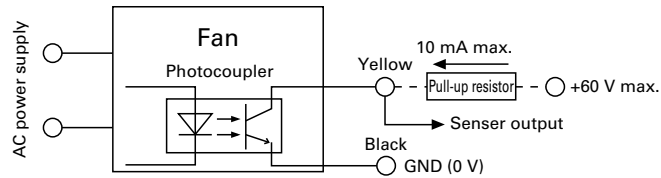


Connection Schematic

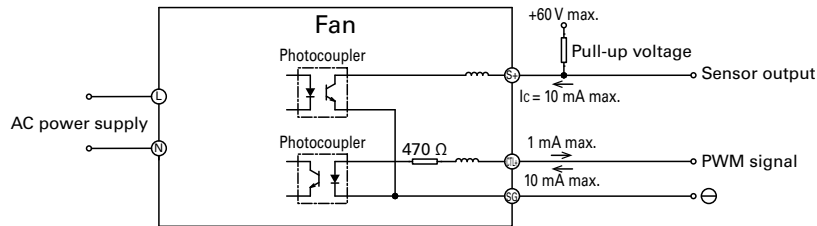
without Sensor



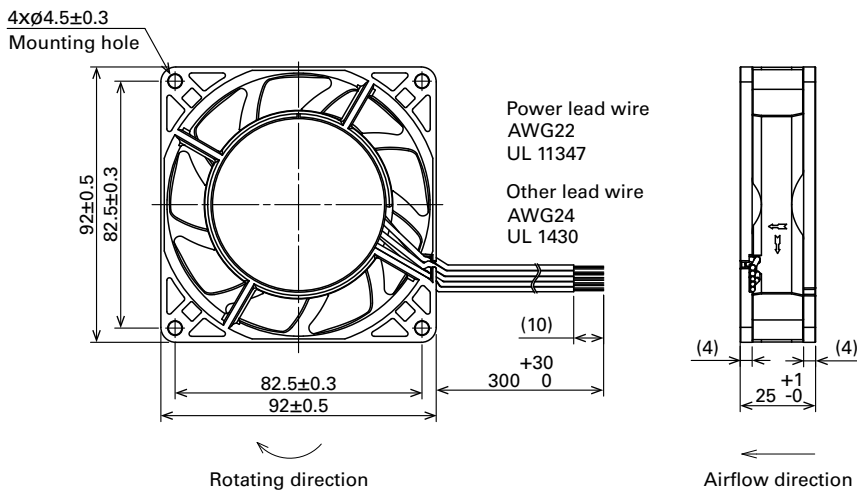
with Low-speed sensor



with PWM control and pulse sensor

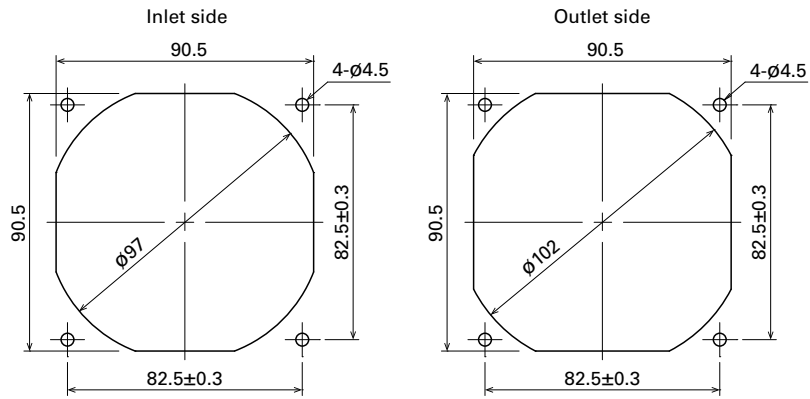


Dimensions (unit: mm) (Ribbed frame with pulse sensor with PWM control)



ACDC Fan 92 mm sq. ACDC

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



■ Options

Finger guards

page: p. 598

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

Resin finger guards

page: p. 605

Model no.: 109-1001G

Resin filter kits

page: p. 606

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

92×92×38 mm

San Ace 92AD 9AD 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 structure Brushless DC motor
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 4000 VAC, for 1 minute (between input terminal and frame)
50/60 Hz, 2500 VAC, for 1 second (between input terminal and sensor output)
- 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 +75°C (Non-condensing)
- Mass 250 g

Do not solder wires directly to AC input terminals.

Specifications

The models listed below **have ribs and no 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]
9AD0901H12	100 to 240	90 to 264	50/60	0.08	4.5	3850	1.5 53.0	90 0.36	40	-20 to +75	60000/60°C (90000/40°C)
9AD0901M12				0.06	3.0	3100	1.18 41.7	56 0.22	33		

* 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]
9AD0901H1H	100 to 240	90 to 264	50/60	0.08	4.5	3850	1.5 53.0	90 0.36	40	-20 to +75	60000/60°C (90000/40°C)
9AD0901M1H				0.06	3.0	3100	1.18 41.7	56 0.22	33		

* Rated current ratings are the values at 100 V.

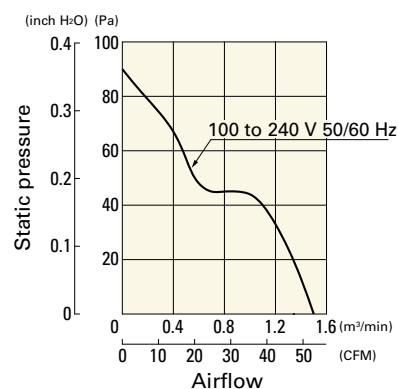
Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 674.

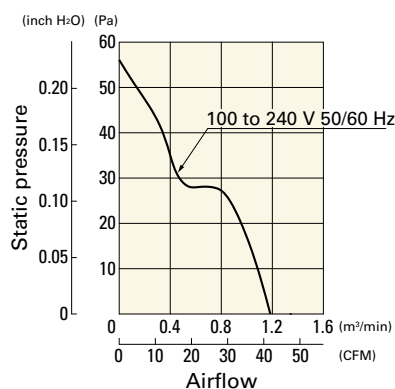
Order no.	Set items					
	Fan (1 pc)	Voltage	Low-speed sensor	Plug cord (1 pc)	Finger guard (1 pc)	Screws with hex nuts (4 pairs)
ST1-9AD0901H12	9AD0901H12	100 to 240 V		489-1635-L10	109-099E	M4×55 mm
ST1-9AD0901M12	9AD0901M12			489-1635-L10	109-099E	
ST1-9AD0901H1H	9AD0901H1H		○	489-1635-L10	109-099E	
ST1-9AD0901M1H	9AD0901M1H		○	489-1635-L10	109-099E	

Airflow - Static Pressure Characteristics

9AD0901H12, 9AD0901H1H

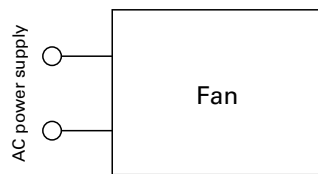


9AD0901M12, 9AD0901M1H

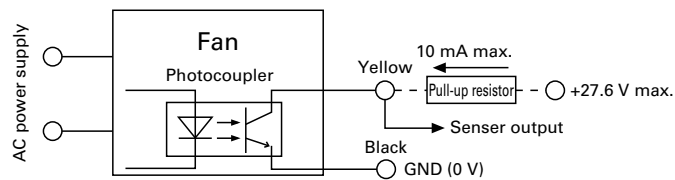


Connection Schematic

without Sensor

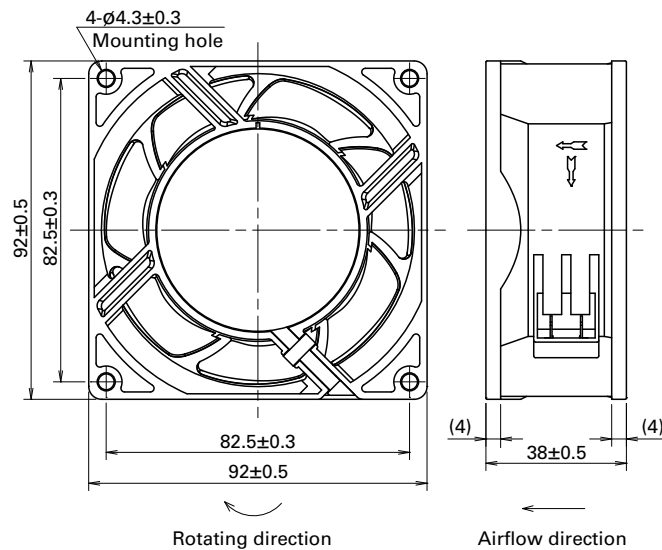


with Low-speed sensor

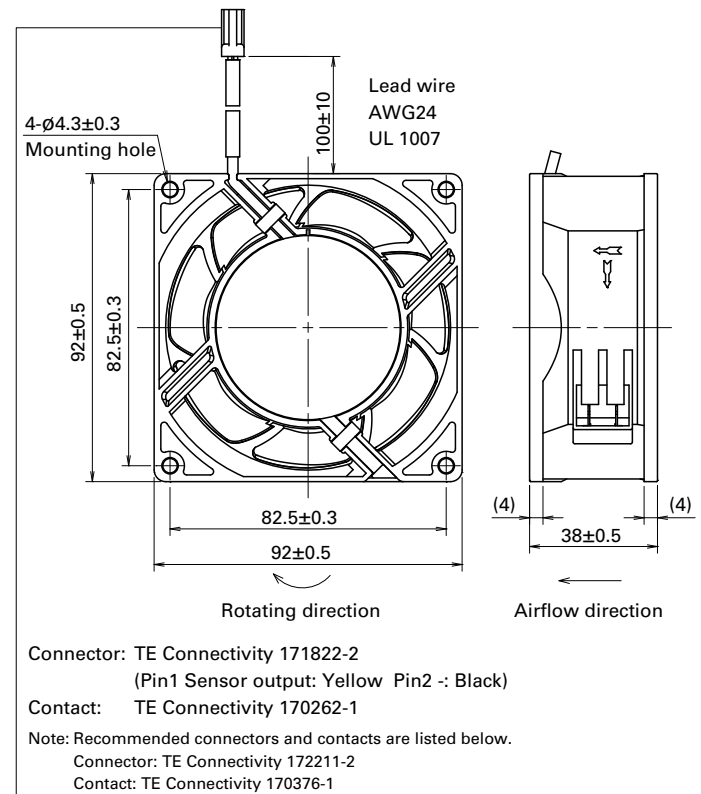


Dimensions (unit: mm) (With ribs)

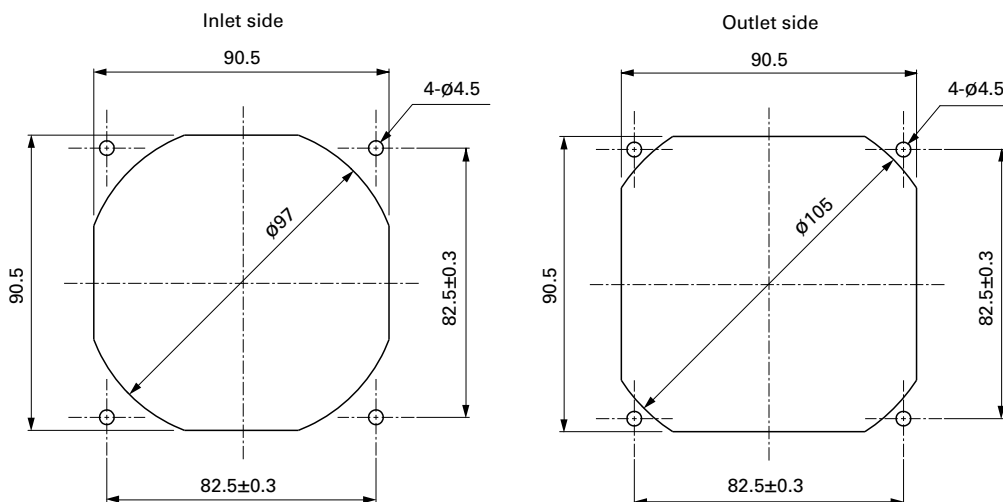
without Sensor



with Low-speed sensor



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



Options			
Finger guards	page: p. 598	Resin finger guards	page: p. 605
Model no.: 109-099E, 109-099H		Model no.: 109-1001G	
Resin filter kits	page: p. 606	Plug cord	page: p. 611
Model no.: 109-1001F13 (13PPI), 109-1001F20 (20PPI), 109-1001F30 (30PPI), 109-1001F40 (40PPI)		Model no.: 489-1635-L10, 489-1635-L21	
Sensor extension wiring harness	page: p. 611		
Model no.: 489-1636			



120×120×25 mm

San Ace 120AD 9AD 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
For details, please refer to p. 616.
- 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.
- 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 180 g

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

Please ensure appropriate insulation within the final product because of functional insulation between input leads wire (L, N) and other lead wire conductors. To display CE mark/UKCA mark on system, refer to p. 621.

Specifications

The models listed below **have ribs and no 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]
9AD1201H4002	100 to 240	90 to 264	50/60	0.06	3.4	3000	2.35 83	62 0.249	40	-20 to +70	60000/60°C (90000/40°C)
9AD1201M4002				0.04	1.6	2250	1.76 62	35 0.140	34		
9AD1201L4002				0.03	1.1	1800	1.41 49	22 0.088	26		

* 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]
9AD1201H4H001	100 to 240	90 to 264	50/60	0.06	3.4	3000	2.35 83	62 0.249	40	-20 to +70	60000/60°C (90000/40°C)
9AD1201M4H001				0.04	1.6	2250	1.76 62	35 0.140	34		
9AD1201L4H001				0.03	1.1	1800	1.41 49	22 0.088	26		

* Rated current ratings are the values at 100 V.

The models listed below **have ribs and a pulse sensor with PWM control**. 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]
9AD1201P4H001	100 to 240	90 to 264	50/60	100	0.06	3.4	3000	2.35 83	62 0.249	40	-20 to +70	60000/60°C (90000/40°C)
				30	0.02	0.7	900	0.7 24.7	6.6 0.03	14		

(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.

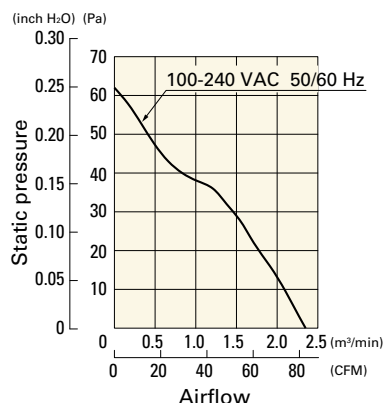
(2) Rated current ratings are the values at 100 V.

Airflow - Static Pressure Characteristics

9AD1201H4002

No sensor

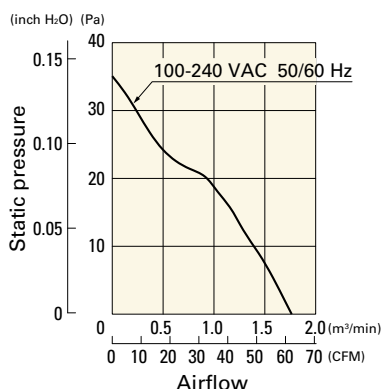
Operating voltage range



9AD1201M4002

No sensor

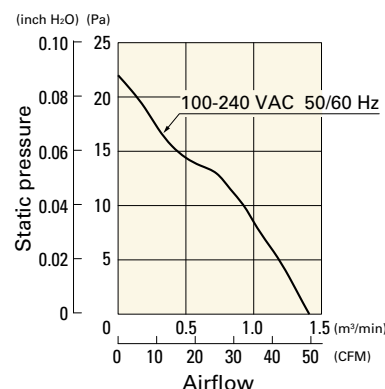
Operating voltage range



9AD1201L4002

No sensor

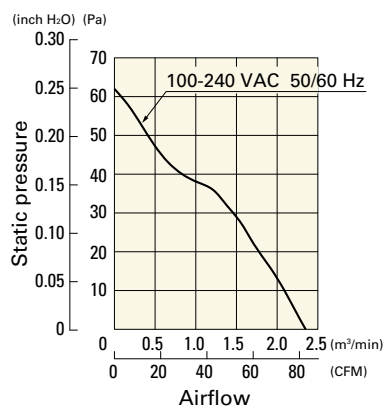
Operating voltage range



9AD1201H4H001

With low-speed sensor

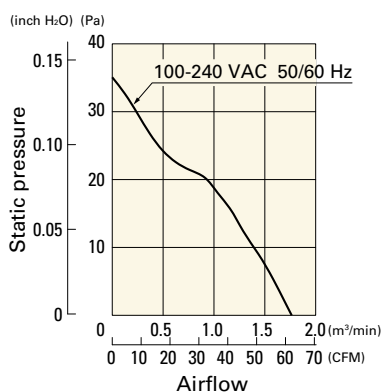
Operating voltage range



9AD1201M4H001

With low-speed sensor

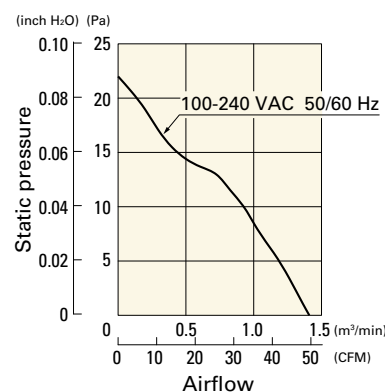
Operating voltage range



9AD1201L4H001

With low-speed sensor

Operating voltage range

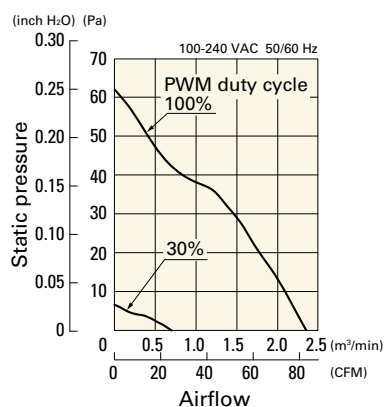


Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

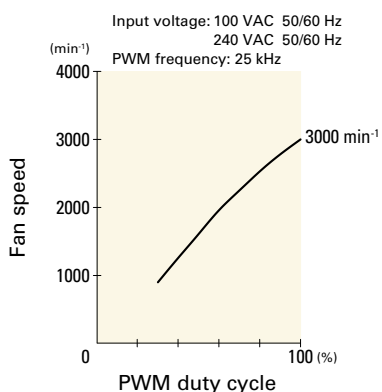
9AD1201P4H001

With pulse sensor with PWM control

PWM duty cycle

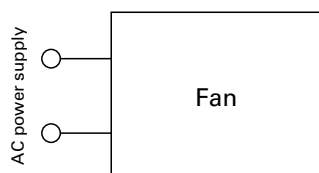


PWM duty - Speed characteristics example

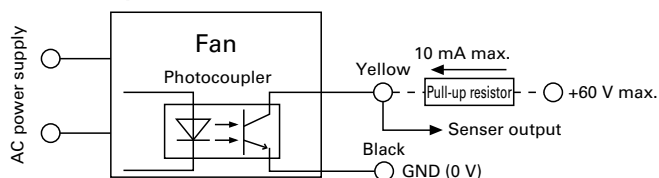


Connection Schematic

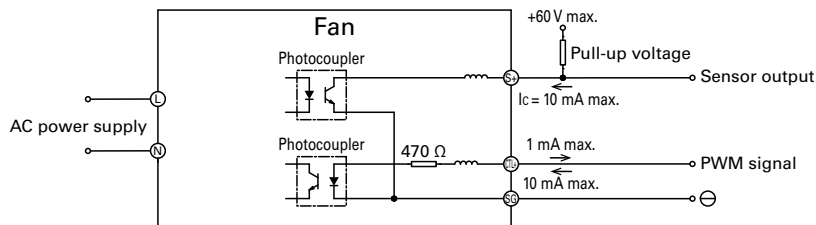
without Sensor



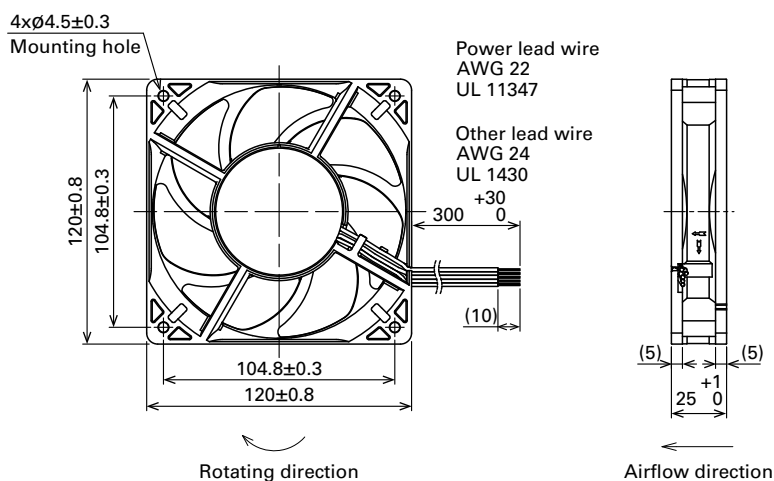
with Low-speed sensor



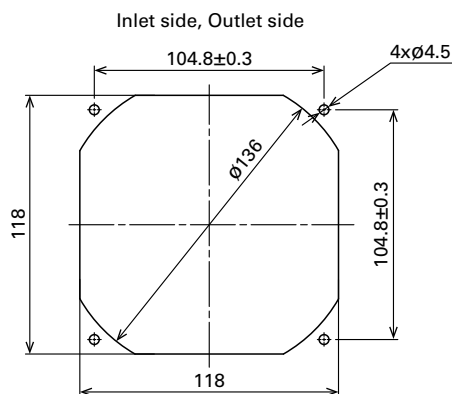
with PWM control and pulse sensor



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



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



Options

Finger guards

page: p. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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

120×120×38 mm

San Ace 120AD 9ADA 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
For details, please refer to p. 616.
- 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)
- 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 AC power input L: Orange N: Gray
Sensor Yellow Control Brown GND Black
- Mass 340 g

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

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

Specifications

The models listed below **have ribs and no 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]
9ADA1201G1002	100 to 240	90 to 264	50/60	0.17	9.0	4400	3.9 138	170 0.683	52	-20 to +70	40000/60°C (70000/40°C) 60000/60°C (90000/40°C)
9ADA1201H1002				0.13	6.6	3800	3.36 119	128 0.514	48		

* 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]
9ADA1201G1H001	100 to 240	90 to 264	50/60	0.17	9.0	4400	3.9 138	170 0.683	52	-20 to +70	40000/60°C (70000/40°C)

* Rated current ratings are the values at 100 V.

The models listed below **have ribs and a pulse sensor with PWM control**. 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]
9ADA1201P1G001	100 to 240	90 to 264	50/60	100	0.17	9.0	4400	3.9 138	170 0.683	52	-20 to +70	40000/60°C (70000/40°C)
				20	0.04	1.4	1050	0.93 32.8	15 0.06	25		

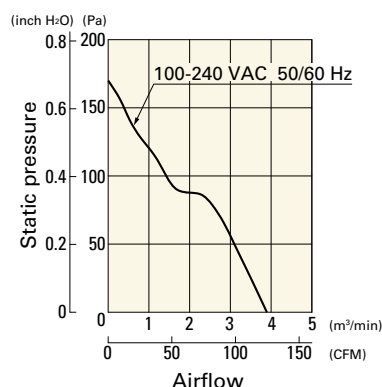
(1) PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 0% duty cycle.

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

Airflow - Static Pressure Characteristics

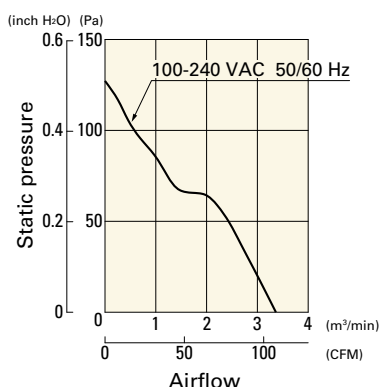
9ADA1201G1002 No sensor

Operating voltage range



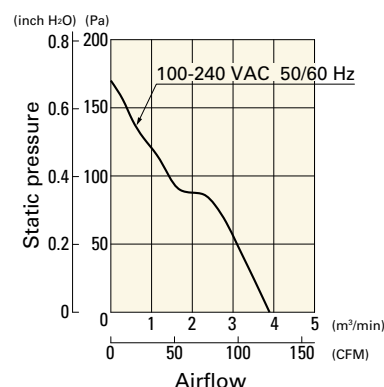
9ADA1201H1002 No sensor

Operating voltage range



9ADA1201G1H001 With low-speed sensor

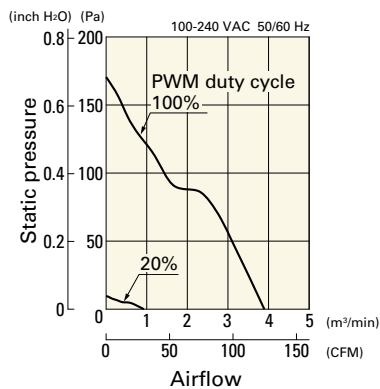
Operating voltage range



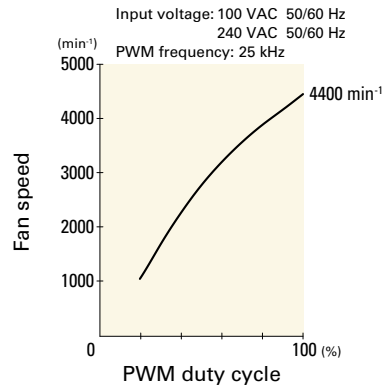
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADA1201P1G001 With pulse sensor with PWM control

PWM duty cycle

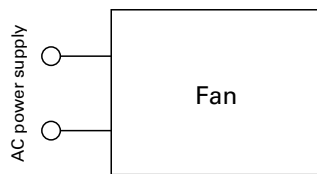


PWM duty - Speed characteristics example

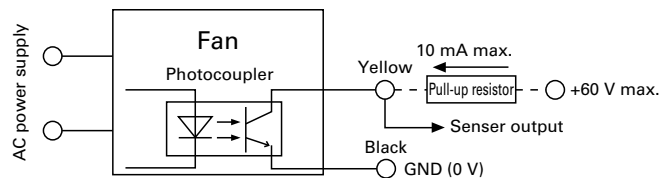


Connection Schematic

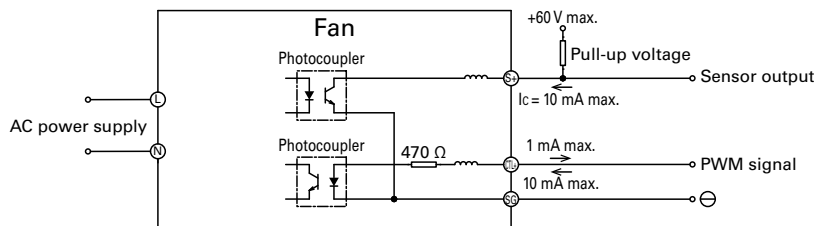
without Sensor



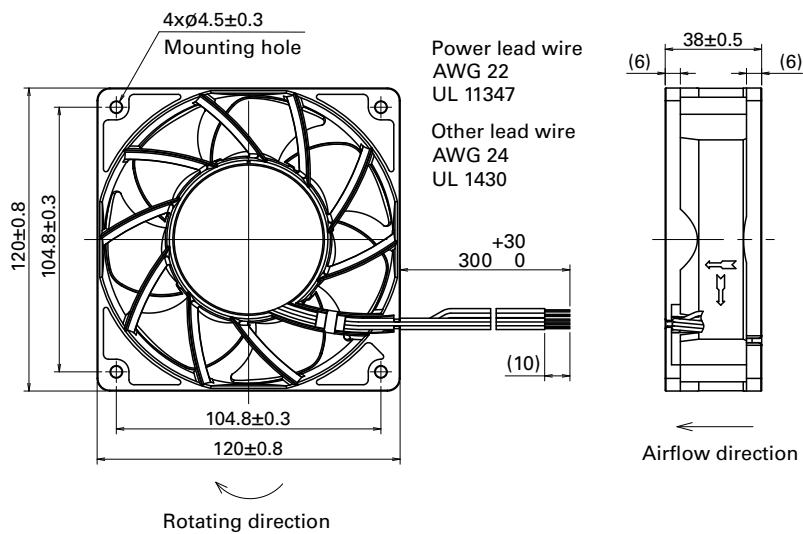
with Low-speed sensor



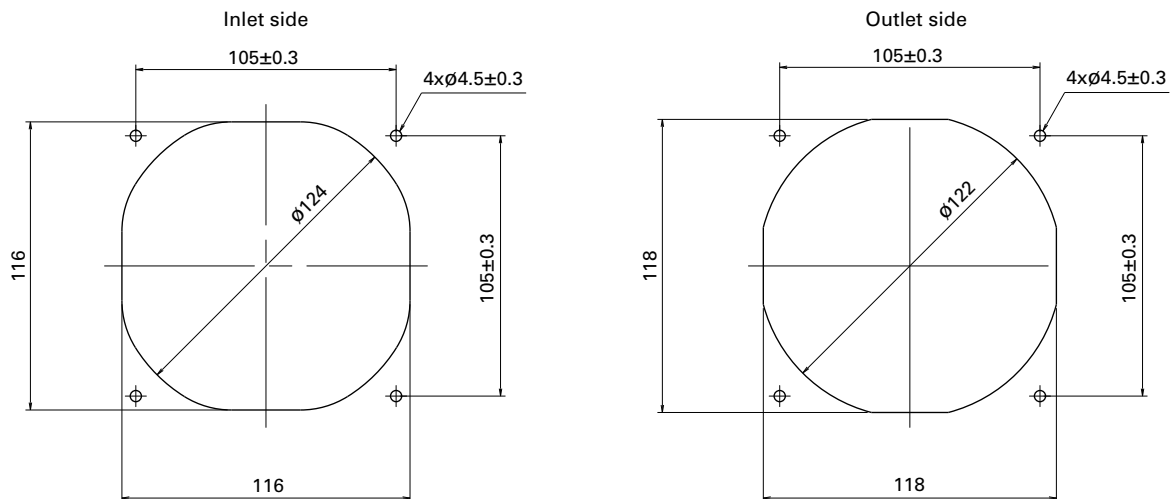
with PWM control and pulse sensor



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



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



Options

Finger guards

page: p. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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



120×120×38 mm

San Ace 120AD 9ADAW 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 indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- 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)
- 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 AC power input L: Orange N: Gray
Sensor Yellow Control Brown GND Black
- Mass 420 g
- Ingress protection IP68 For more information on IP rating, refer to p. 625.

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

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

Specifications

The models listed below **have ribs and no 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 [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADAW1201H1002	100 to 240	90 to 264	50/60	0.13	6.6	3800	3.36 119	128 0.514	48	-20 to +70	60000/60°C (90000/40°C)

* 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 [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADAW1201H1H001	100 to 240	90 to 264	50/60	0.13	6.6	3800	3.36 119	128 0.514	48	-20 to +70	60000/60°C (90000/40°C)

* Rated current ratings are the values at 100 V.

The models listed below **have ribs and a pulse sensor with PWM control**. 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 [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADAW1201P1H001	100 to 240	90 to 264	50/60	100	0.13	6.6	3800	3.36 119	128 0.514	48	-20 to +70	60000/60°C (90000/40°C)
				25	0.04	1.4	1050	0.93 32.8	15 0.06	25		

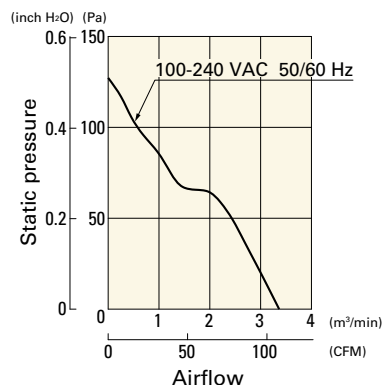
(1) PWM frequency is 25 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 0% duty cycle.

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

Airflow - Static Pressure Characteristics

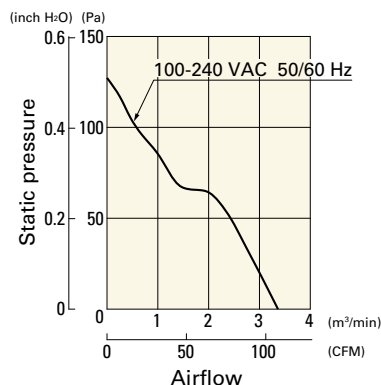
9ADAW1201H1002 No sensor

Operating voltage range



9ADAW1201H1H001 With low-speed sensor

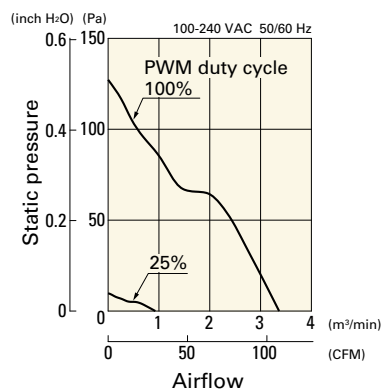
Operating voltage range



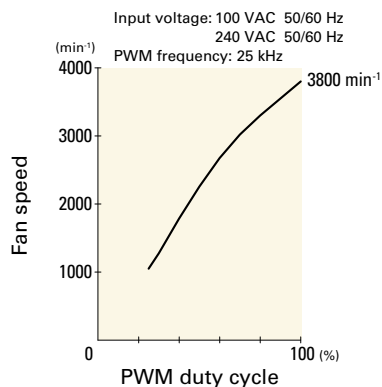
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADAW1201P1H001 With pulse sensor with PWM control

PWM duty cycle

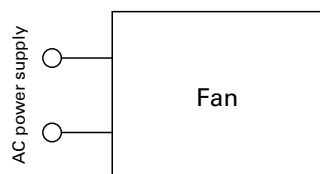


PWM duty - Speed characteristics example

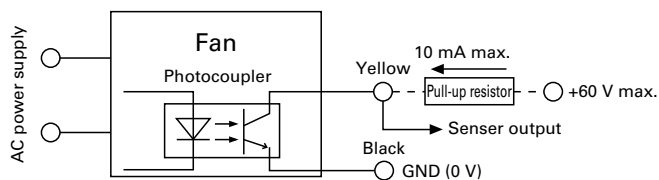


Connection Schematic

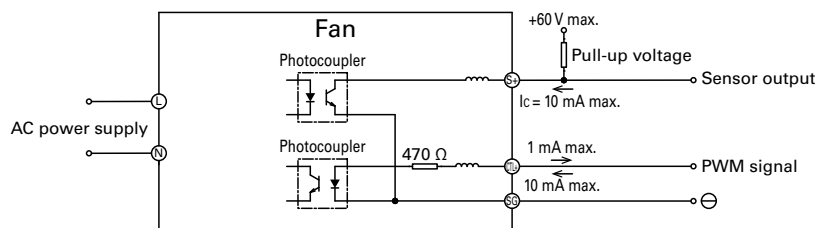
without Sensor



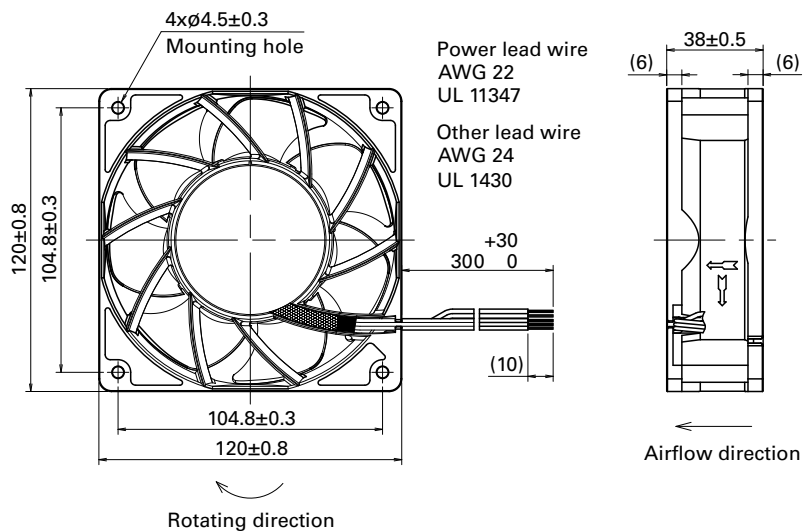
with Low-speed sensor



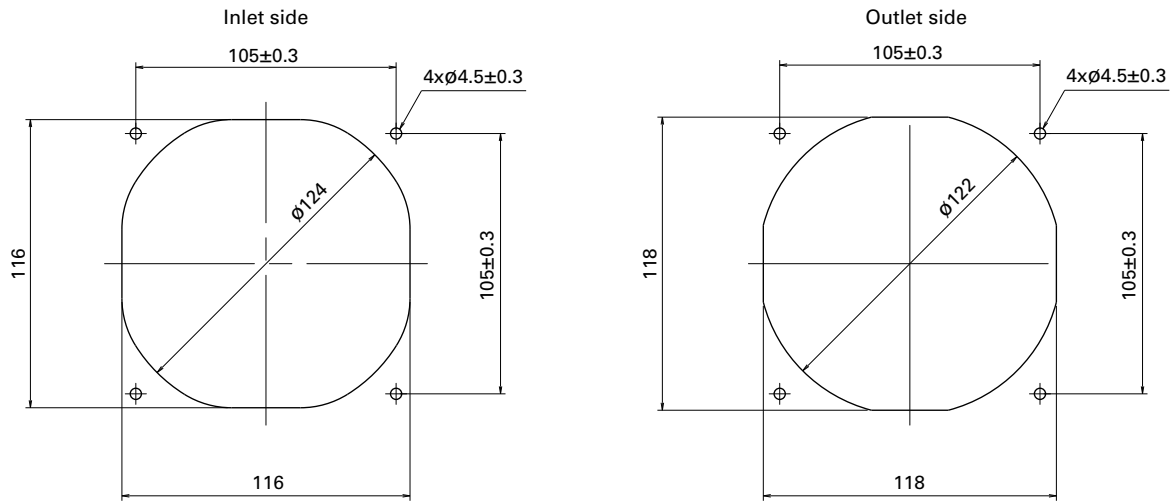
with PWM control and pulse sensor



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



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



Options

Finger guards

page: p. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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



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)
Expected life at 40°C is for reference only.
- Motor structure Brushless DC motor
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 4000 VAC, for 1 minute (between input terminal and frame)
50/60 Hz, 2500 VAC, for 1 second (between input terminal and sensor output)
- 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 +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 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]
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 (90000/40°C)

* 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]
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 (90000/40°C)

* Rated current ratings are the values at 100 V.

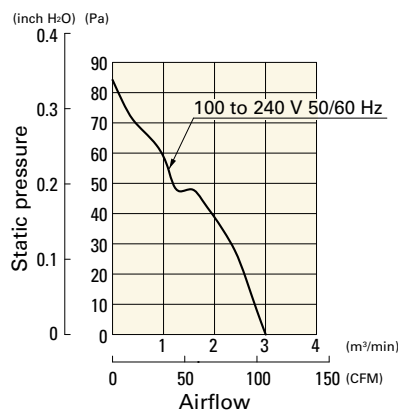
Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 674.

Order no.	Set items					
	Fan (1 pc)	Voltage	Low-speed sensor	Plug cord (1 pc)	Finger guard (1 pc)	Screws with hex nuts (4 pairs)
ST1-9AD1201H12	9AD1201H12	100 to 240 V		489-1635-L10	109-019E	M4×55 mm
ST1-9AD1201H1H	9AD1201H1H		○	489-1635-L10	109-019E	

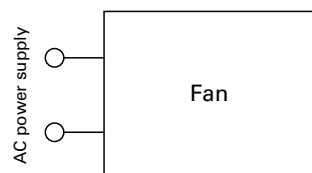
Airflow - Static Pressure Characteristics

9AD1201H12, 9AD1201H1H

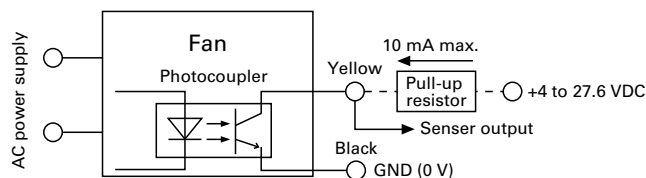


Connection Schematic

without Sensor

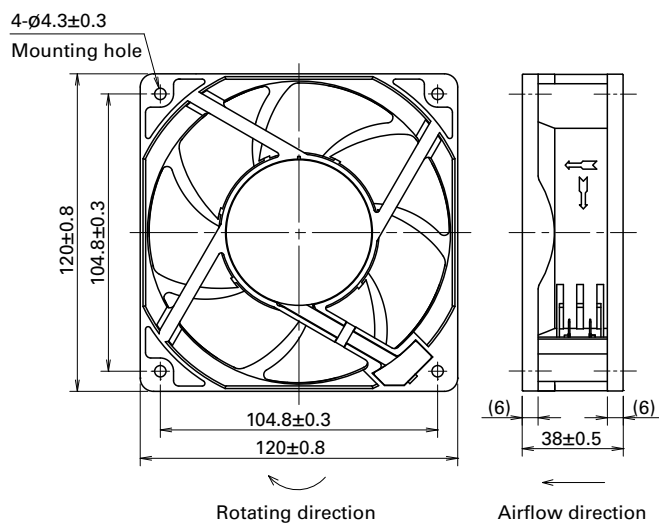


with Low-speed sensor

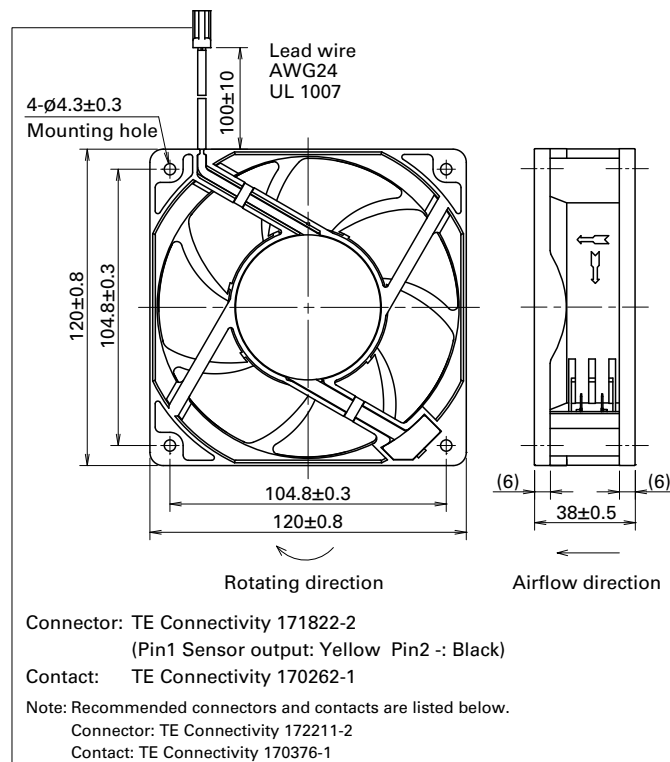


Dimensions (unit: mm) (With ribs)

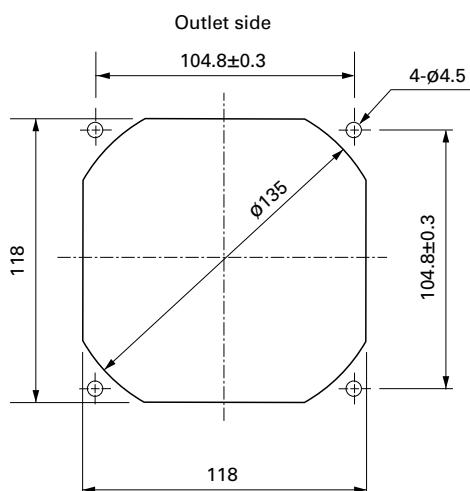
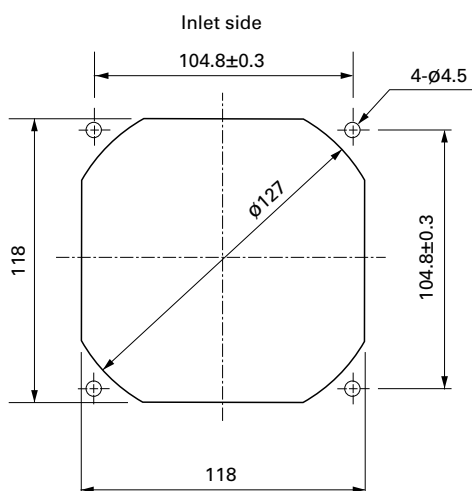
without Sensor



with Low-speed sensor



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



Options

Finger guards

page: p. 599

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

Resin finger guards

page: p. 605

Model no.: 109-1000G

Resin filter kits

page: p. 606

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

Plug cord

page: p. 611

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

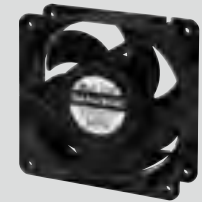
Sensor extension wiring harness

page: p. 611

Model no.: 489-1636

ACDC

ACDC Fan 120 mm sq.



160×160×51 mm

San Ace 160AD 9AD type   

General Specifications

- Material Frame: Aluminum (Black coating), 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
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals and frame)
- Insulation resistance 10 MΩ min. at 500 VDC
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals 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  L: Orange N: Gray
 Yellow  Brown  Black
- Mass 880 g

To display CE mark/UKCA mark on system, refer to p. 621.

Specifications

The models listed below **have no sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD1601H5002 ⁽¹⁾	100 to 240	90 to 264	50/60	0.46	22	4150	8.2 290	167 0.66	58	-20 to +70	40000/60°C (70000/40°C)
9AD1601H5T02 ⁽²⁾				0.46	22	4150	8.2 290	167 0.66	58		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

The models listed below **have a low-speed sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD1601H5H001 ⁽¹⁾	100 to 240	90 to 264	50/60	0.46	22	4150	8.2 290	167 0.66	58	-20 to +70	40000/60°C (70000/40°C)
9AD1601H5HT01 ⁽²⁾				0.46	22	4150	8.2 290	167 0.66	58		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle ⁽³⁾ [%]	Rated current ⁽⁴⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD1601P5H003⁽¹⁾	100 to 240	90 to 264	50/60	100	0.46	22	4150	8.2 290	167 0.66	58	-20 to +70	40000/60°C (70000/40°C)
0				0.10	4.0	1500	3.07 108	44 0.17	31			
9AD1601P5HT03⁽²⁾				100	0.46	22	4150	8.2 290	167 0.66	58		
				0	0.10	4.0	1500	3.07 108	44 0.17	31		

(1) Lead wire model (2) Terminal model

(3) 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.

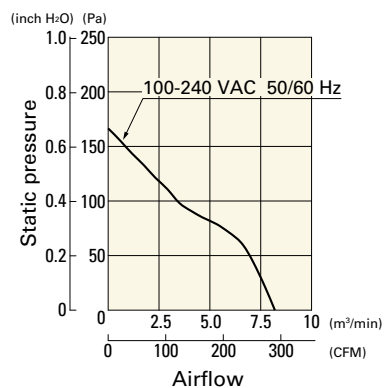
(4) Rated current ratings are the values at 100 V.

Airflow - Static Pressure Characteristics

9AD1601H5002, 9AD1601H5T02

No sensor

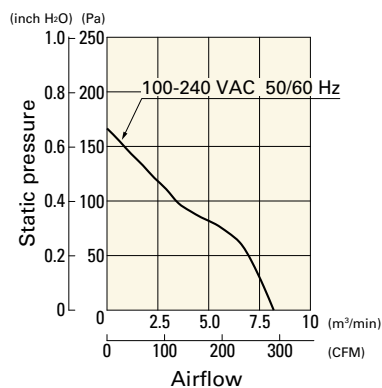
Operating voltage range



9AD1601H5H001, 9AD1601H5HT01

With low-speed sensor

Operating voltage range

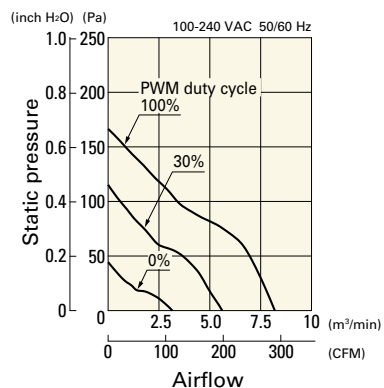


Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

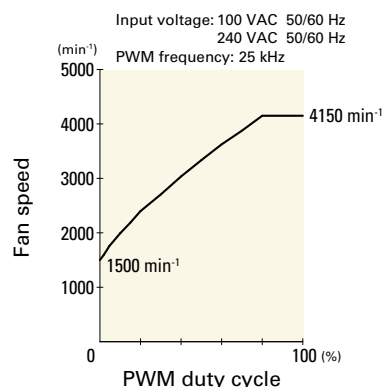
9AD1601P5H003, 9AD1601P5HT03

With pulse sensor with PWM control

PWM duty cycle

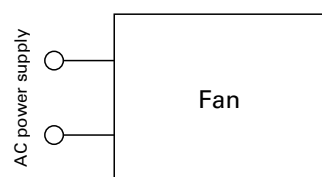


PWM duty - Speed characteristics example

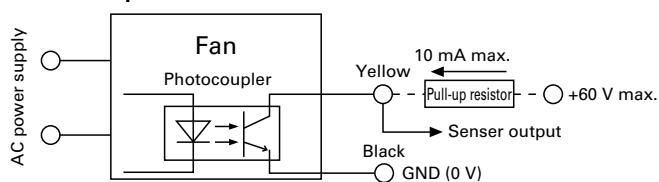


Connection Schematic

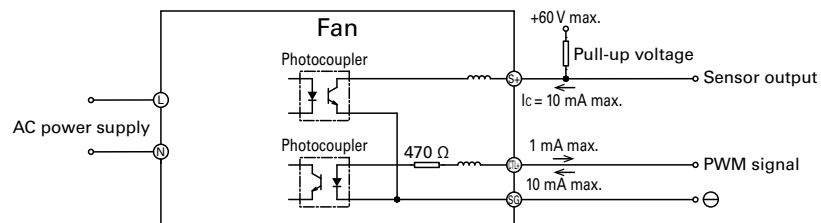
without Sensor



with Low-speed sensor

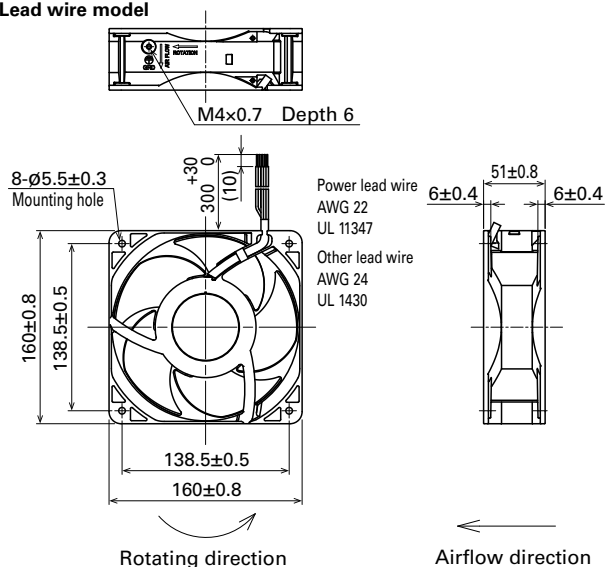


with PWM control and pulse sensor

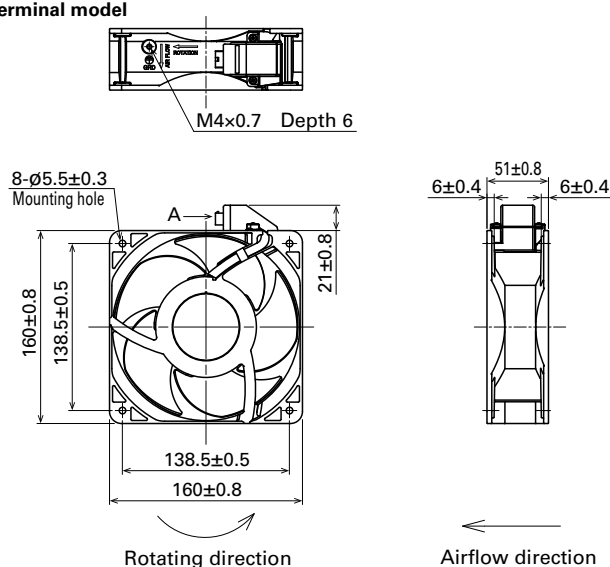


Dimensions (unit: mm) (With pulse sensor with PWM control)

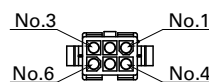
Lead wire model



Terminal model



A Connector contact

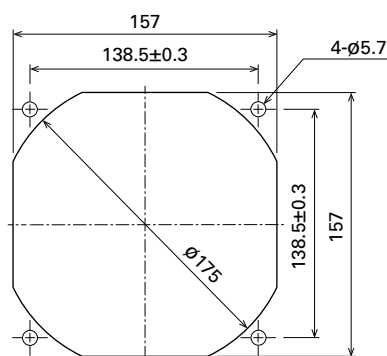


Pin assignment
Connector (Model no.: TE Connectivity: 1-172160-9)

Pin No.	Function	Type
1	L	AC
2	No connection	-
3	N	AC
4	PWM	DC
5	GND	DC
6	Sensor	DC

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

Inlet side, Outlet side



Options

Finger guards

page: p. 599

Model no.: 109-619E, 109-619H

Terminal model wiring harness

page: p. 611

Compatible with a fan without sensor.

Model no.: 489-1648, 489-1651

Compatible with a fan with low-speed sensor,
and a fan with pulse sensor and PWM control.

Model no.: 489-1647, 489-1650



160×160×51 mm

San Ace 160AD 9ADW type   

General Specifications

- Material Frame: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals and frame)
- Insulation resistance 10 MΩ min. at 500 VDC
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals 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  L: Orange N: Gray
 Yellow  Brown  Black
- Mass 940 g
- Ingress protection IP56 (Excluding the connectors of terminal models)
For more information on IP rating, refer to p. 625.

To display CE mark/UKCA mark on system, refer to p. 621.

Specifications

The models listed below **have no sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW1601H5002 ⁽¹⁾	100 to 240	90 to 264	50/60	0.46	22	4150	8.2 290	167 0.66	58	-20 to +70	40000/60°C (70000/40°C)
9ADW1601H5T02 ⁽²⁾				0.46	22	4150	8.2 290	167 0.66	58		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

The models listed below **have a low-speed sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW1601H5H001 ⁽¹⁾	100 to 240	90 to 264	50/60	0.46	22	4150	8.2 290	167 0.66	58	-20 to +70	40000/60°C (70000/40°C)
9ADW1601H5HT01 ⁽²⁾				0.46	22	4150	8.2 290	167 0.66	58		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle ⁽³⁾ [%]	Rated current ⁽⁴⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW1601P5H003 ⁽¹⁾	100 to 240	90 to 264	50/60	100	0.46	22	4150	8.2 290	167 0.66	58	-20 to +70	40000/60°C (70000/40°C)
0				0.10	4.0	1500	3.07 108	44 0.17	31			
9ADW1601P5HT03 ⁽²⁾				100	0.46	22	4150	8.2 290	167 0.66	58		
				0	0.10	4.0	1500	3.07 108	44 0.17	31		

(1) Lead wire model (2) Terminal model

(3) 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.

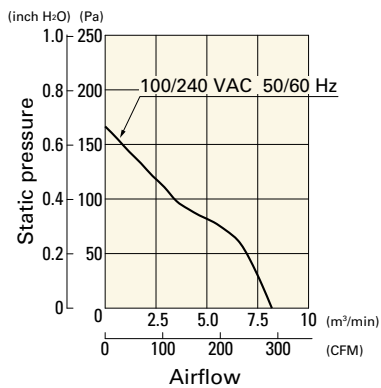
(4) Rated current ratings are the values at 100 V.

Airflow - Static Pressure Characteristics

9ADW1601H5002, 9ADW1601H5T02

No sensor

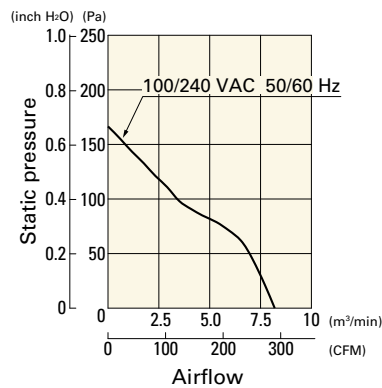
Operating voltage range



9ADW1601H5H001, 9ADW1601H5HT01

With low-speed sensor

Operating voltage range

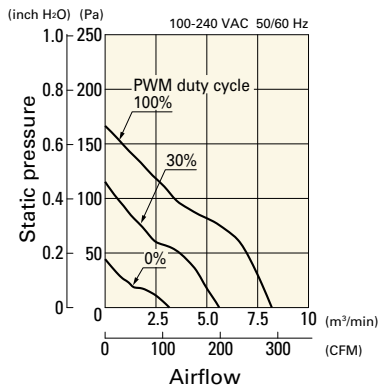


Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

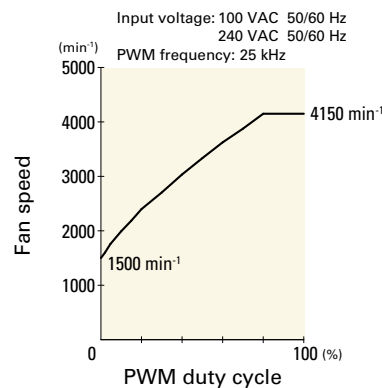
9ADW1601P5H003, 9ADW1601P5HT03

With pulse sensor with PWM control

PWM duty cycle

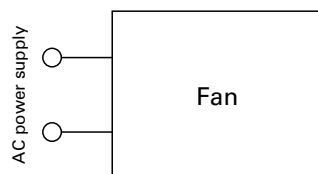


PWM duty - Speed characteristics example

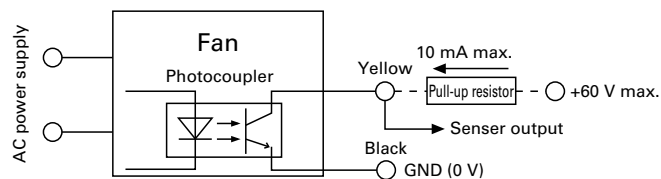


Connection Schematic

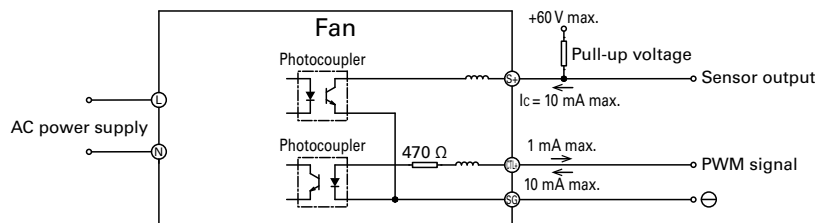
without Sensor



with Low-speed sensor

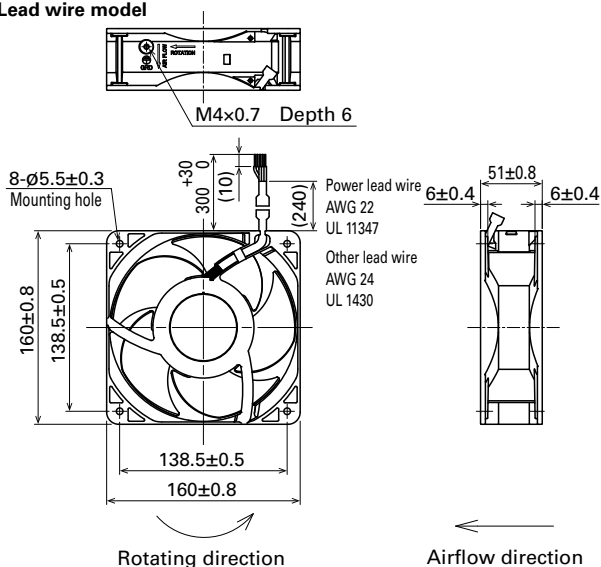


with PWM control and pulse sensor

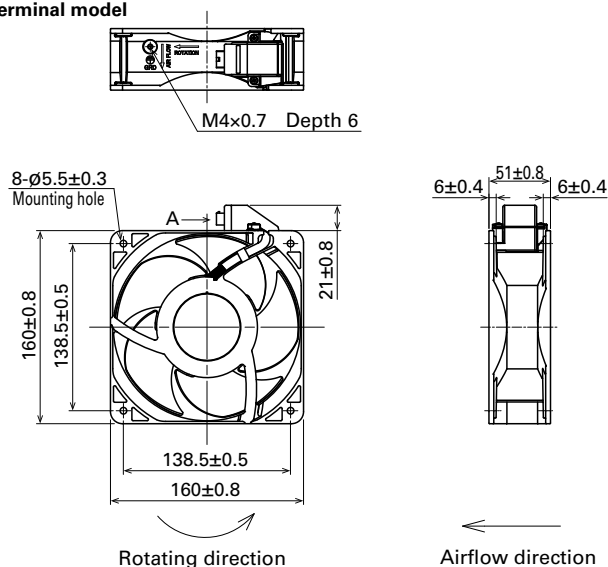


Dimensions (unit: mm) (With pulse sensor with PWM control)

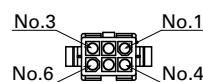
Lead wire model



Terminal model



A Connector contact



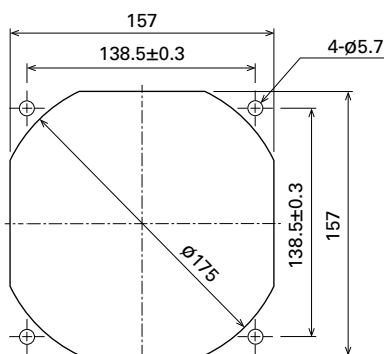
Pin assignment

Connector (Model no.: TE Connectivity: 1-172160-9)

Pin No.	Function	Type
1	L	AC
2	No connection	-
3	N	AC
4	PWM	DC
5	GND	DC
6	Sensor	DC

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

Inlet side, Outlet side



Options

Finger guards

page: p. 599

Model no.: 109-619E, 109-619H

Terminal model wiring harness

page: p. 611

Compatible with a fan without sensor.

Model no.: 489-1648, 489-1651

Compatible with a fan with low-speed sensor, and a fan with pulse sensor and PWM control.

Model no.: 489-1647, 489-1650

Ø172×150×51 mm

San Ace 172AD 9AD type   

Sidecut type



General Specifications

- Material Frame: Aluminum (Black coating), 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
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals and frame)
- Insulation resistance 10 MΩ min. at 500 VDC
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals 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  L: Orange N: Gray
 Yellow  Brown  Black
- Mass 750 g

To display CE mark/UKCA mark on system, refer to p. 621.

Specifications

The models listed below **have no sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH₂O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD5701H5002⁽¹⁾	100 to 240	90 to 264	50/60	0.3	17	3800	6.7	236	195	0.78	54	-20 to +70	40000/60°C (70000/40°C)
9AD5701H5T02⁽²⁾				0.3	17	3800	6.7	236	195	0.78	54		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

The models listed below **have a low-speed sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH₂O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9AD5701H5H001⁽¹⁾	100 to 240	90 to 264	50/60	0.3	17	3800	6.7	236	195	0.78	54	-20 to +70	40000/60°C (70000/40°C)
9AD5701H5HT01⁽²⁾				0.3	17	3800	6.7	236	195	0.78	54		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle ⁽³⁾ [%]	Rated current ⁽⁴⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]			
9AD5701P5H003⁽¹⁾	100 to 240	90 to 264	50/60	100	0.3	17	3800	6.7	236	195	0.78	54	-20 to +70	40000/60°C (70000/40°C)			
				0	0.08	3.2	1500	2.64	93	40	0.16	31					
9AD5701P5HT03⁽²⁾				100	0.3	17	3800	6.7	236	195	0.78	54					
				0	0.08	3.2	1500	2.64	93	40	0.16	31					

(1) Lead wire model (2) Terminal model

(3) 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.

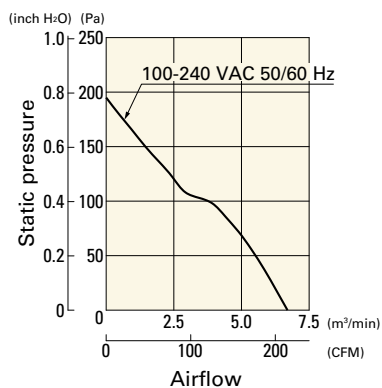
(4) Rated current ratings are the values at 100 V.

Airflow - Static Pressure Characteristics

9AD5701H5002, 9AD5701H5T02

No sensor

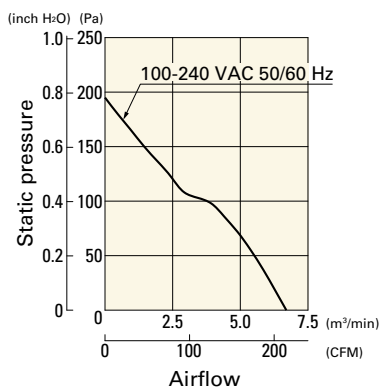
Operating voltage range



9AD5701H5H001, 9AD5701H5HT01

With low-speed sensor

Operating voltage range

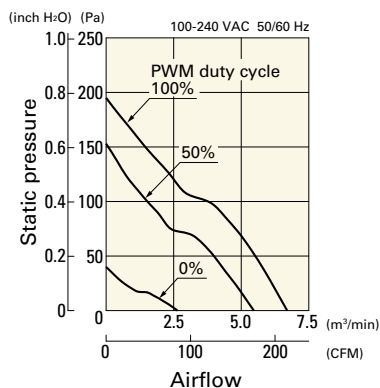


Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

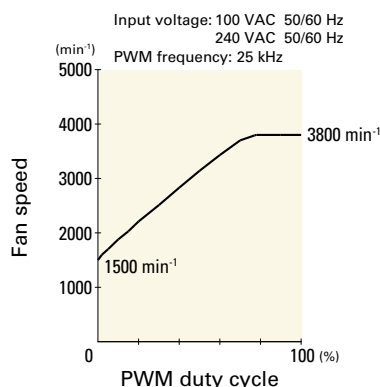
9AD5701P5H003, 9AD5701P5HT03

With pulse sensor with PWM control

PWM duty cycle

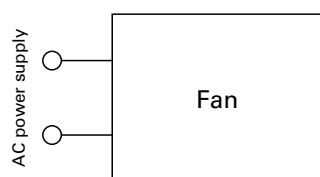


PWM duty - Speed characteristics example

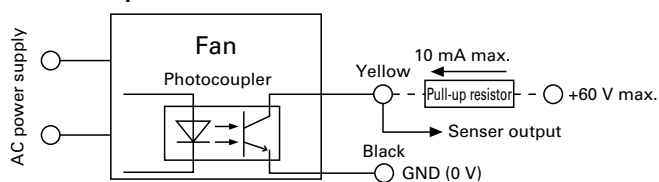


Connection Schematic

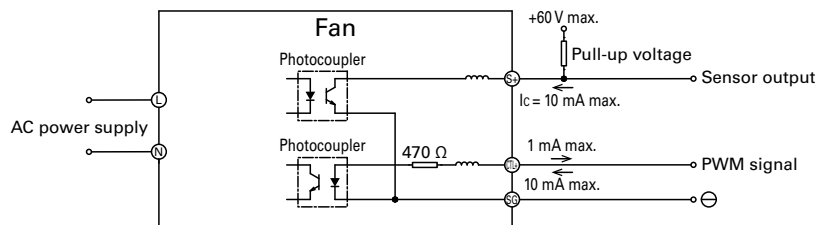
without Sensor



with Low-speed sensor

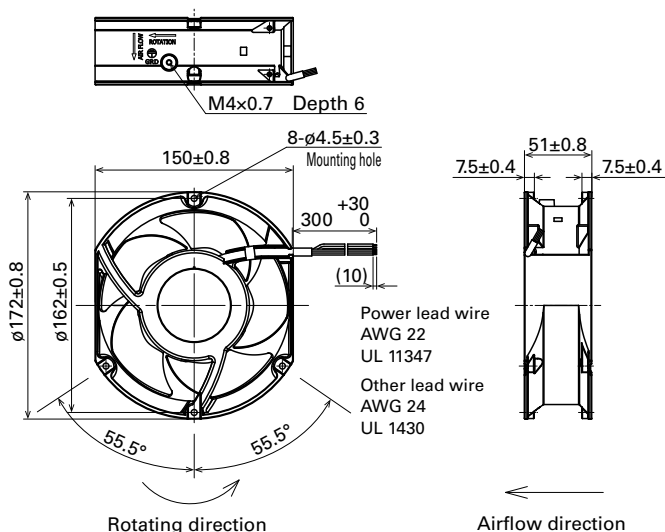


with PWM control and pulse sensor

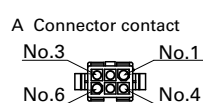
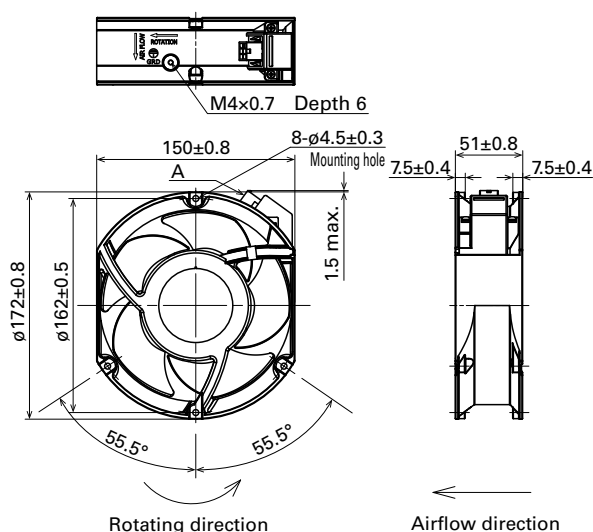


■ Dimensions (unit: mm) (With pulse sensor with PWM control)

Lead wire model



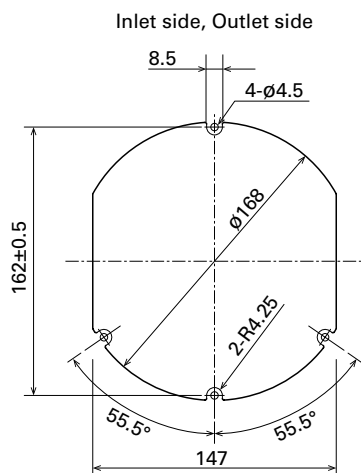
Terminal model



Pin assignment
Connector (Model no.: TE Connectivity: 1-172160-9)

Pin No.	Function	Type
1	L	AC
2	No connection	-
3	N	AC
4	PWM	DC
5	GND	DC
6	Sensor	DC

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



■ Options

Finger guards

page: p. 600

Model no.: 109-1155, 109-1155H

Terminal model wiring harness

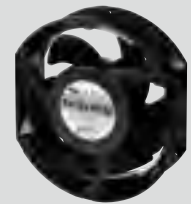
page: p. 611

Compatible with a fan without sensor.

Model no.: 489-1648, 489-1651

Compatible with a fan with low-speed sensor,
and a fan with pulse sensor and PWM control.

Model no.: 489-1647, 489-1650



Ø172×150×51 mm

San Ace 172AD 9ADW type

Sidecut type

General Specifications

- Material Frame: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals and frame)
- Insulation resistance 10 MΩ min. at 500 VDC
(Lead wire model: between lead wire conductors and frame, terminal model: between terminals 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 L: Orange N: Gray
 Yellow Brown Black
- Mass 810 g
- Ingress protection IP56 (Excluding the connectors of terminal models)
For more information on IP rating, refer to p. 625.

To display CE mark/UKCA mark on system, refer to p. 621.

Specifications

The models listed below **have no sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH₂O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW5701H5002 ⁽¹⁾	100 to 240	90 to 264	50/60	0.3	17	3800	6.7	236	195	0.78	54	-20 to +70	40000/60°C (70000/40°C)
9ADW5701H5T02 ⁽²⁾				0.3	17	3800	6.7	236	195	0.78	54		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

The models listed below **have a low-speed sensor**.

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH₂O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW5701H5H001 ⁽¹⁾	100 to 240	90 to 264	50/60	0.3	17	3800	6.7	236	195	0.78	54	-20 to +70	40000/60°C (70000/40°C)
9ADW5701H5HT01 ⁽²⁾				0.3	17	3800	6.7	236	195	0.78	54		

(1) Lead wire model (2) Terminal model (3) Rated current ratings are the values at 100 V.

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle ⁽³⁾ [%]	Rated current ⁽¹⁾ [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]			
9ADW5701P5H003 ⁽¹⁾	100 to 240	90 to 264	50/60	100	0.3	17	3800	6.7	236	195	0.78	54	-20 to +70	40000/60°C (70000/40°C)			
				0	0.08	3.2	1500	2.64	93	40	0.16	31					
9ADW5701P5HT03 ⁽²⁾				100	0.3	17	3800	6.7	236	195	0.78	54					
				0	0.08	3.2	1500	2.64	93	40	0.16	31					

(1) Lead wire model (2) Terminal model

(3) 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.

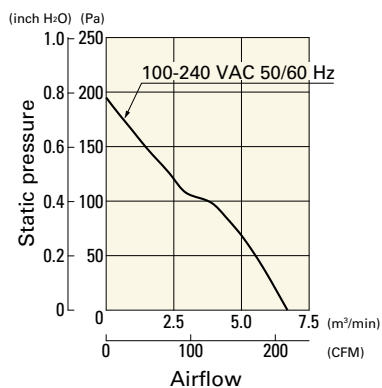
(4) Rated current ratings are the values at 100 V.

Airflow - Static Pressure Characteristics

9ADW5701H5002, 9ADW5701H5T02

No sensor

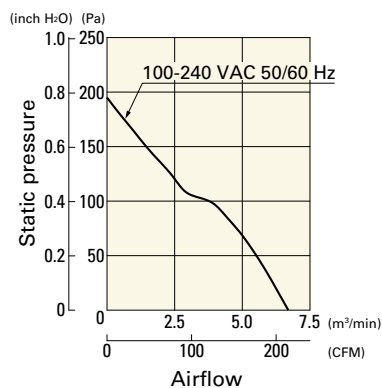
Operating voltage range



9ADW5701H5H001, 9ADW5701H5HT01

With low-speed sensor

Operating voltage range

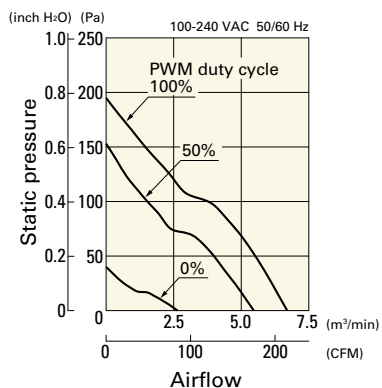


Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

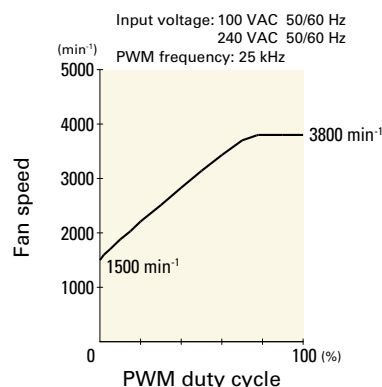
9ADW5701P5H003, 9ADW5701P5HT03

With pulse sensor with PWM control

PWM duty cycle

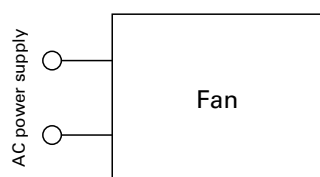


PWM duty - Speed characteristics example

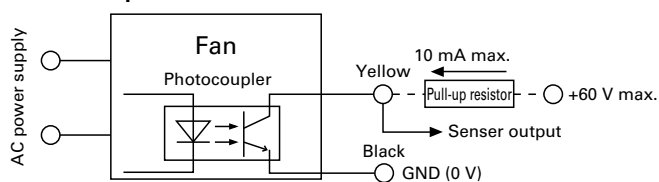


Connection Schematic

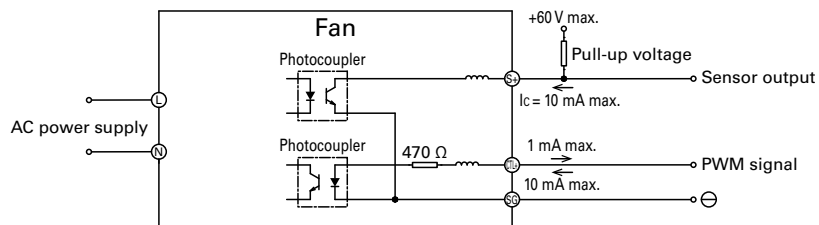
without Sensor



with Low-speed sensor

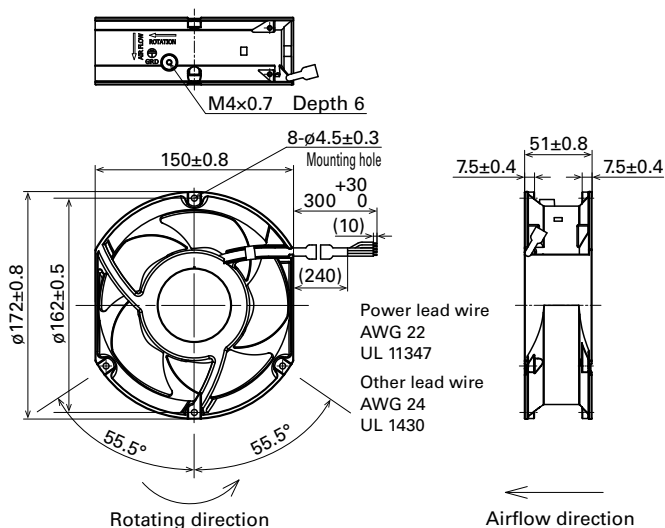


with PWM control and pulse sensor

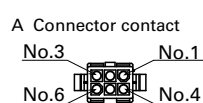
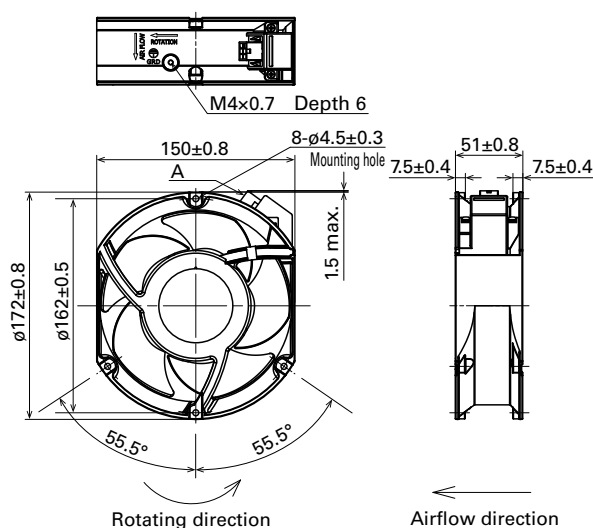


Dimensions (unit: mm) (With pulse sensor with PWM control)

Lead wire model



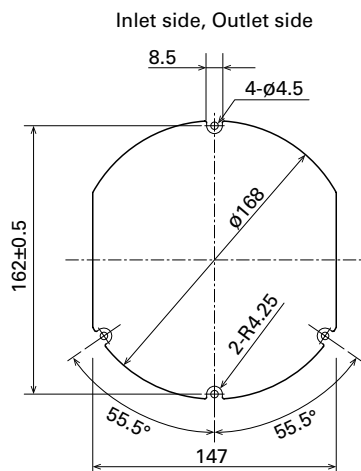
Terminal model



Pin assignment
Connector (Model no.: TE Connectivity: 1-172160-9)

Pin No.	Function	Type
1	L	AC
2	No connection	-
3	N	AC
4	PWM	DC
5	GND	DC
6	Sensor	DC

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



Options

Finger guards

page: p. 600

Model no.: 109-1155, 109-1155H

Terminal model wiring harness

page: p. 611

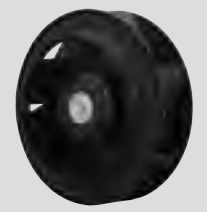
Compatible with a fan without sensor.

Model no.: 489-1648, 489-1651

Compatible with a fan with low-speed sensor, and a fan with pulse sensor and PWM control.

Model no.: 489-1647, 489-1650

Ø190×88 mm


San Ace 190AD 9ADTU type

General Specifications

- Material Motor case: Aluminum (Black coating), 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
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 L: Orange N: Gray Yellow / Green
 Red Yellow Brown
- Mass 1600 g

Specifications

When the optional inlet nozzle (109-1073) is mounted.

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

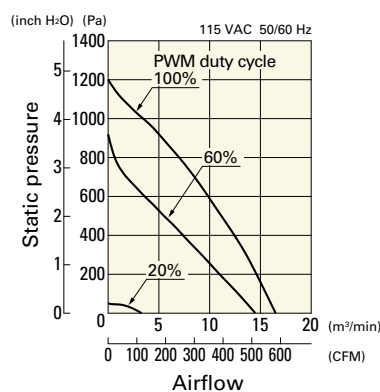
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADTU11P0G001	115	90 to 132	50/60	100	2.5	150	4800	16.5	583	1200	4.82	72	-25 to +60	40000/60°C (70000/40°C)
9ADTU23P0G001	230	180 to 264		20	0.3	10	1000	3.3	116	52	0.21	43		
				100	1.3	150	4800	16.5	583	1200	4.82	72		
				20	0.2	10	1000	3.3	116	52	0.21	43		

* PWM frequency is 1 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.

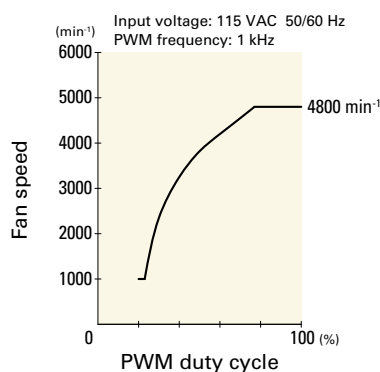
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADTU11P0G001 With pulse sensor with PWM control

PWM duty cycle



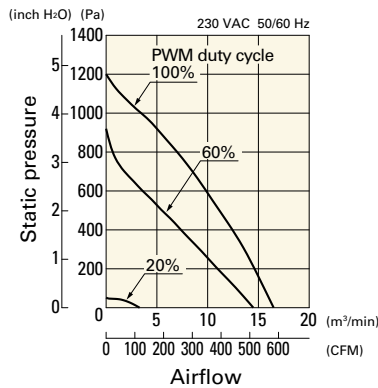
PWM duty - Speed characteristics example



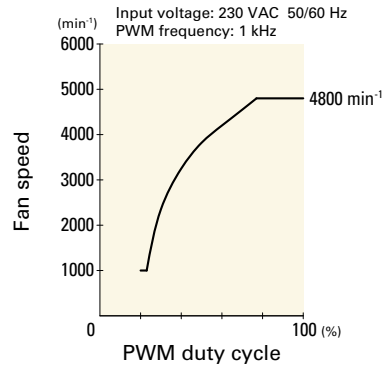
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADTU23P0G001 With pulse sensor with PWM control

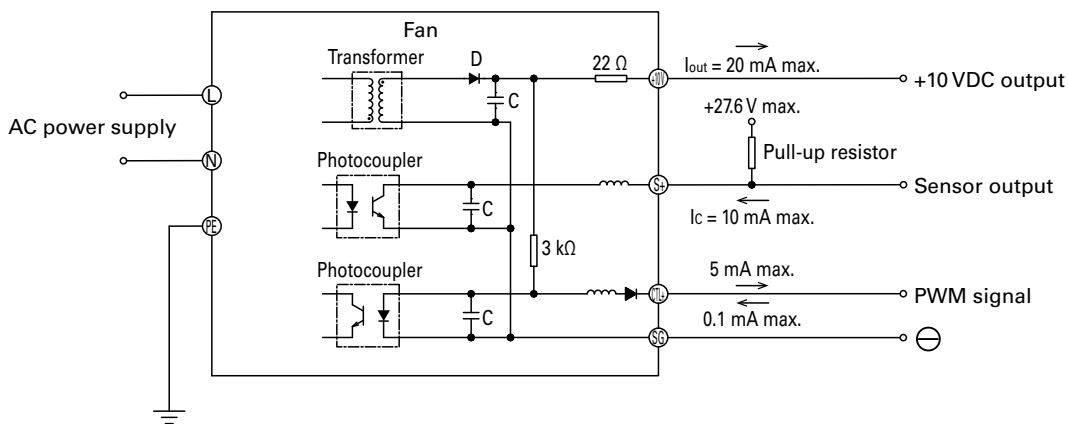
PWM duty cycle



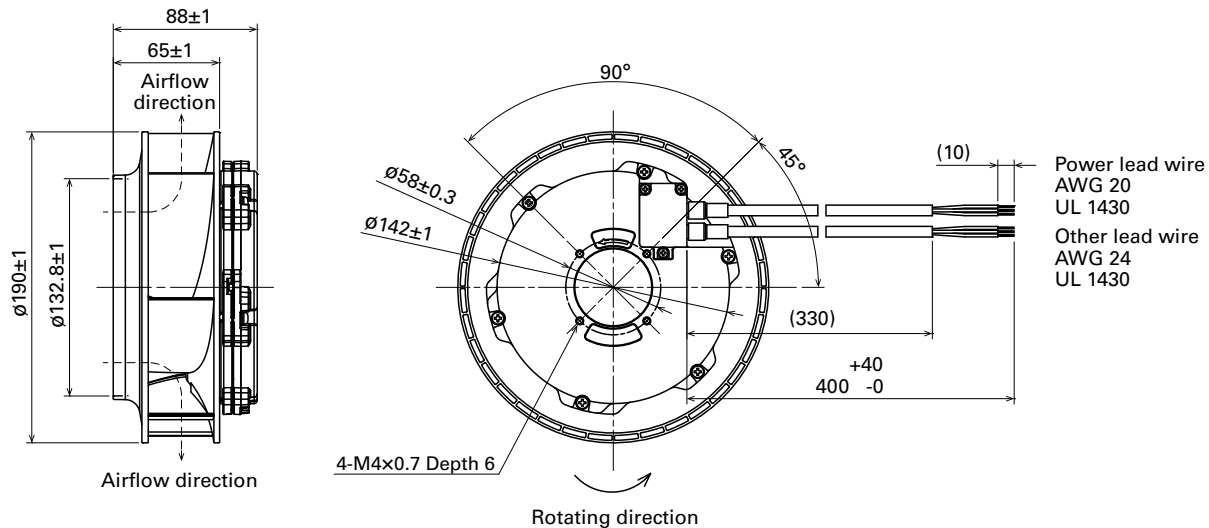
PWM duty - Speed characteristics example



Connection Schematic

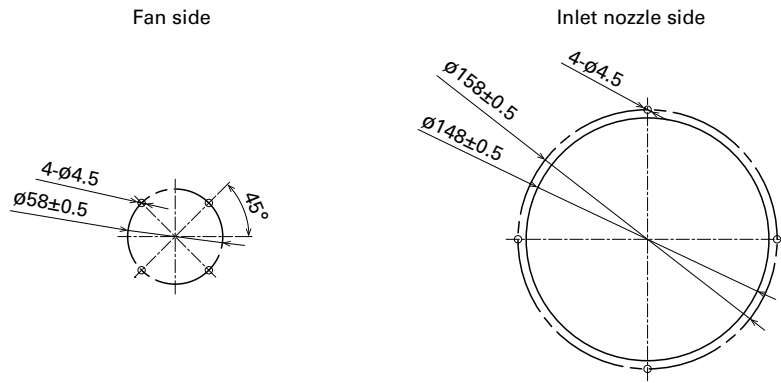


Dimensions (unit: mm)

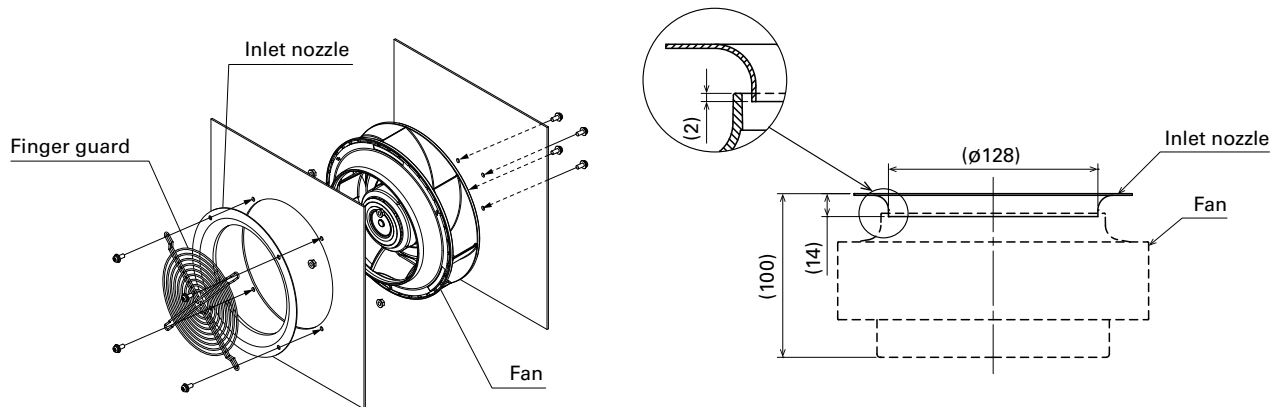


ACDC Fan ø190 mm

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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 599

Model no.: 109-722, 109-722H

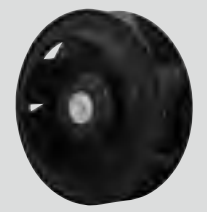
Inlet nozzle

page: p. 603

Model no.: 109-1073, 109-1073H

Ø190×88 mm

San Ace 190AD 9ADW1TU type



General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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

AC power input	L: Orange	N: Gray	Ground	Yellow / Green
+10 VDC output	Red	Black	Sensor	Yellow
			Control	Brown
- Mass 1700 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1073H) is mounted.

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

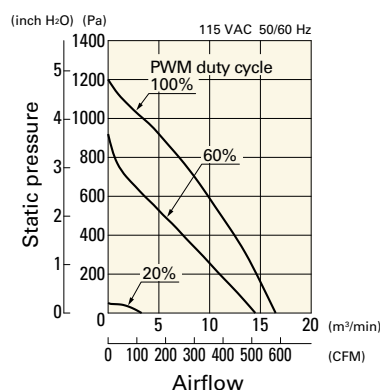
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW1TU11P0G001	115	90 to 132	50/60	100	2.5	150	4800	16.5 583	1200 4.82	72	-25 to +60	40000/60°C (70000/40°C)
				20	0.3	10	1000	3.3 116	52 0.21	43		
9ADW1TU23P0G001	230	180 to 264		100	1.3	150	4800	16.5 583	1200 4.82	72		
						20	0.2	10	1000	3.3 116			52 0.21	43

* PWM frequency is 1 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.

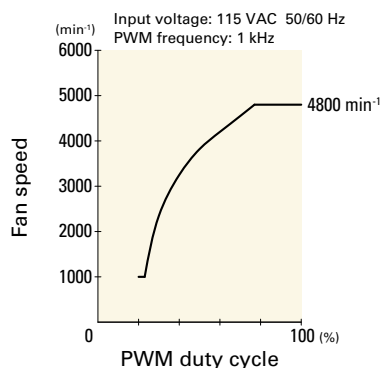
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADW1TU11P0G001 With pulse sensor with PWM control

PWM duty cycle



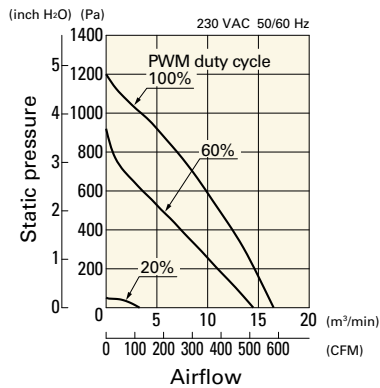
PWM duty - Speed characteristics example



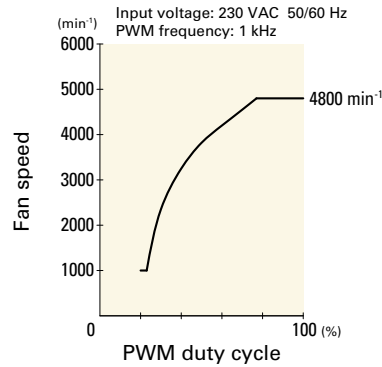
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADW1TU23P0G001 With pulse sensor with PWM control

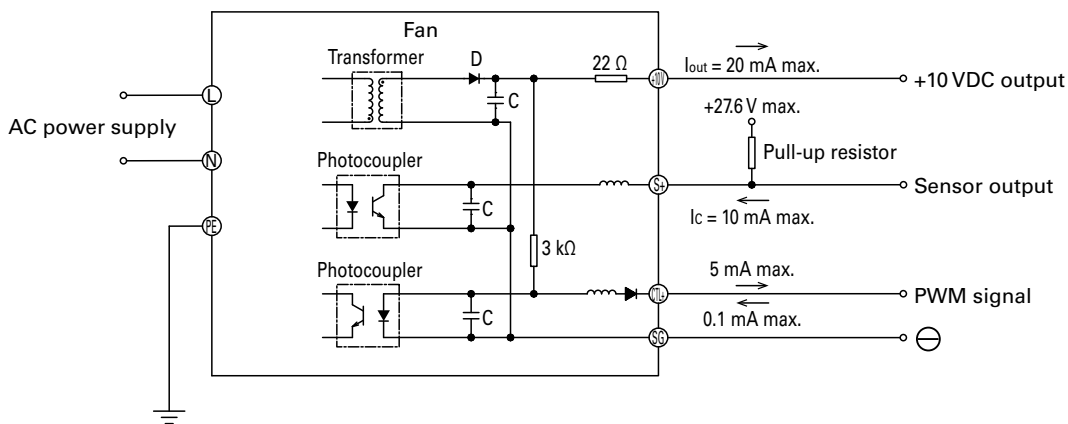
PWM duty cycle



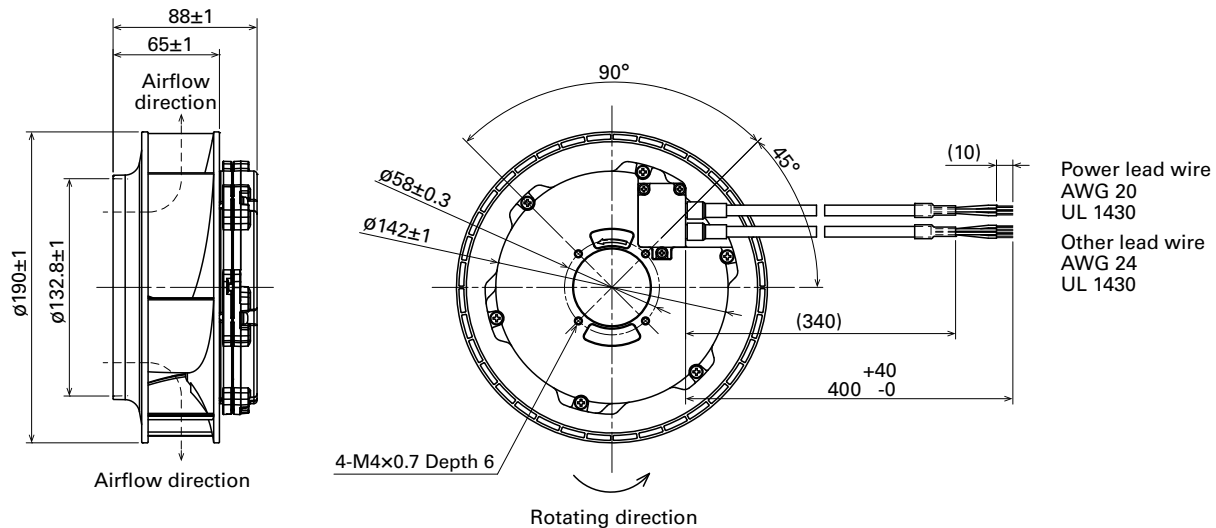
PWM duty - Speed characteristics example



Connection Schematic

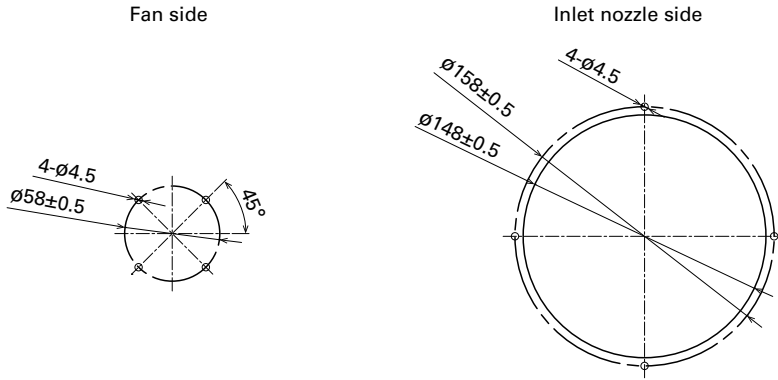


Dimensions (unit: mm)

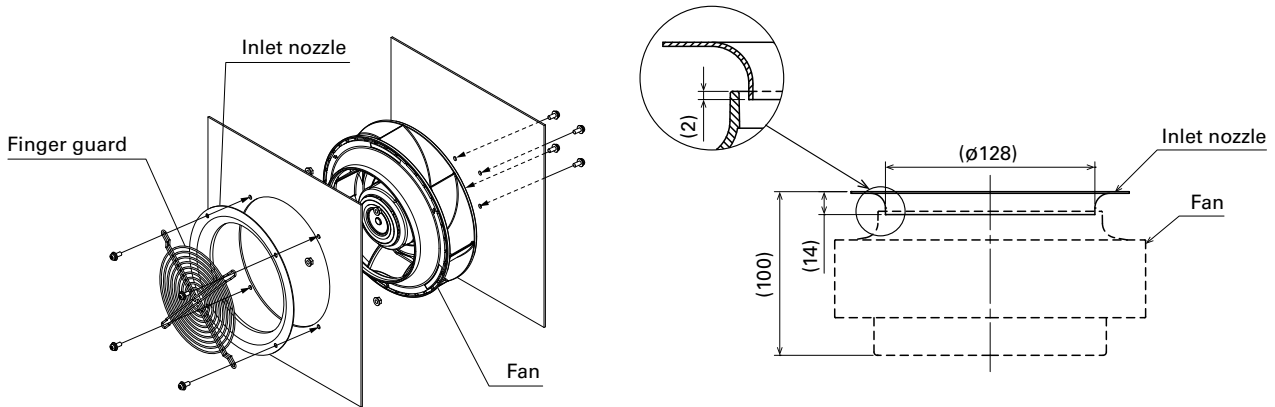


ACDC Fan ø190 mm

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



■ Reference Diagram for Mounting (unit: mm)

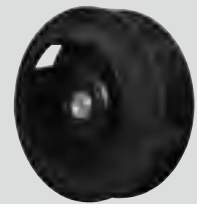


■ Options

Finger guards
Model no.: 109-722, 109-722H
page: p. 599

Inlet nozzle
Model no.: 109-1073, 109-1073H
page: p. 603

Ø225x99 mm


San Ace 225AD 9ADTS type

General Specifications

- Material Motor case: Aluminum (Black coating), 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
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 L: Orange N: Gray Yellow / Green
 Red Yellow Brown
- Mass 1800 g

Specifications When the optional inlet nozzle (109-1134) is mounted.

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

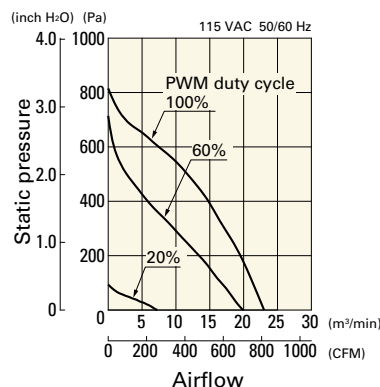
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADTS11P0G001	115	90 to 132	50/60	100	2.23	155	3200	23.0	812	815	3.27	74	-20 to +60	40000/60°C (70000/40°C)
				20	0.3	10	1000	7.1	252	80	0.32	50		
9ADTS11P0F001				100	1.11	70	2450	17.6	621	480	1.93	68		
				20	0.3	10	1000	7.1	252	80	0.32	50		
9ADTS23P0G001	230	180 to 264		100	1.17	155	3200	23.0	812	815	3.27	74		
				20	0.2	10	1000	7.1	252	80	0.32	50		
9ADTS23P0F001				100	0.64	70	2450	17.6	621	480	1.93	68		
				20	0.2	10	1000	7.1	252	80	0.32	50		

* PWM frequency is 1 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.

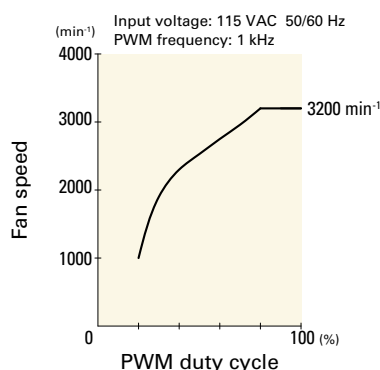
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADTS11P0G001 With pulse sensor with PWM control

PWM duty cycle



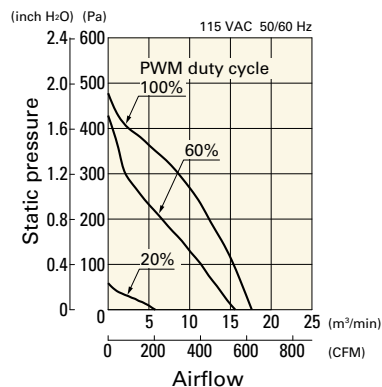
PWM duty - Speed characteristics example



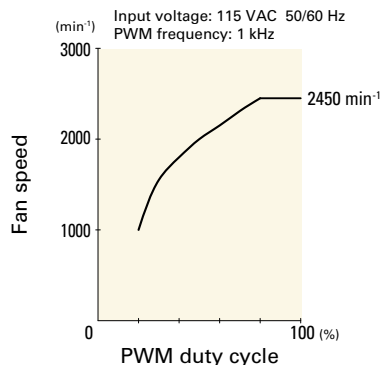
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADTS11P0F001 With pulse sensor with PWM control

PWM duty cycle

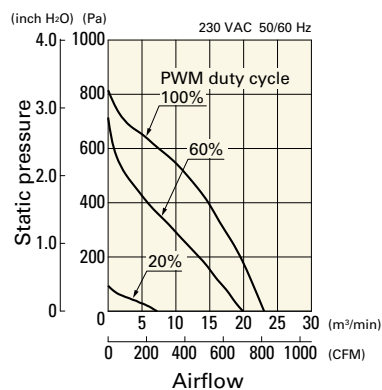


PWM duty - Speed characteristics example

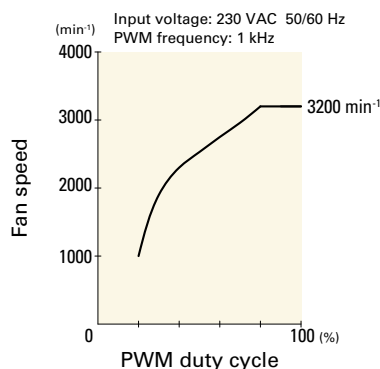


9ADTS23P0G001 With pulse sensor with PWM control

PWM duty cycle

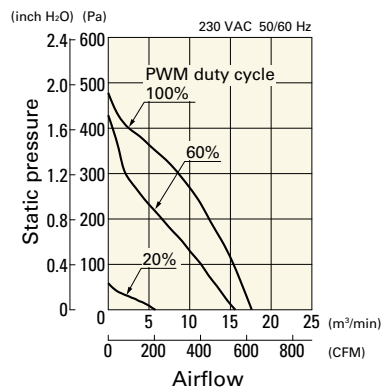


PWM duty - Speed characteristics example

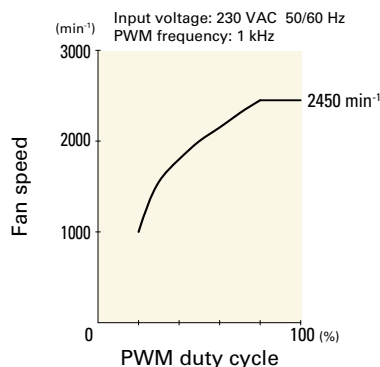


9ADTS23P0F001 With pulse sensor with PWM control

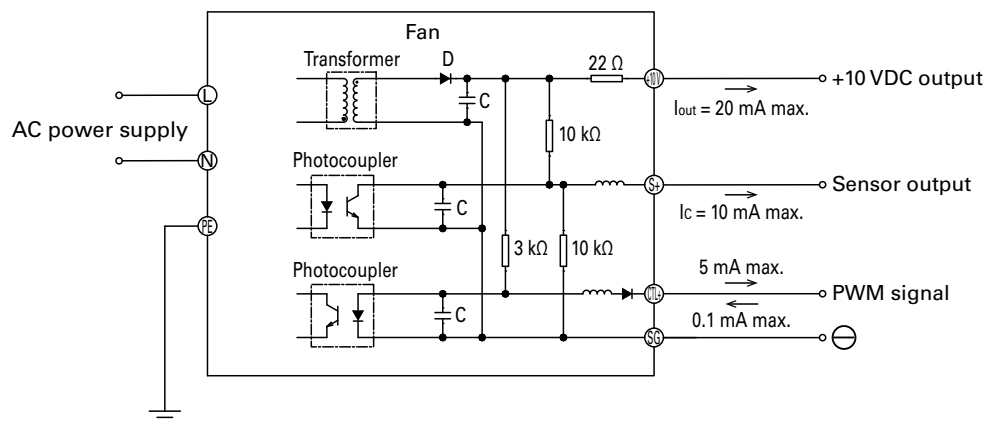
PWM duty cycle



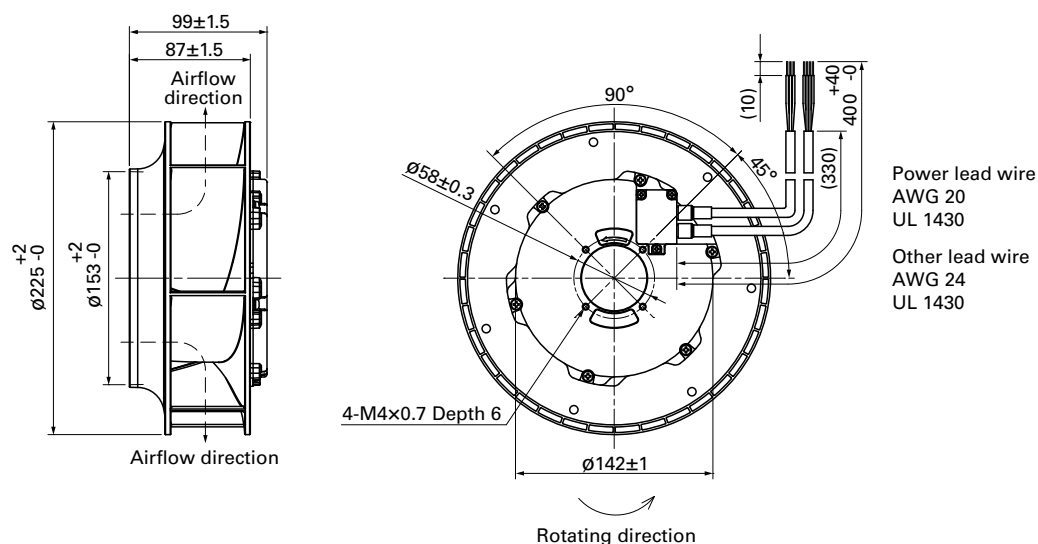
PWM duty - Speed characteristics example



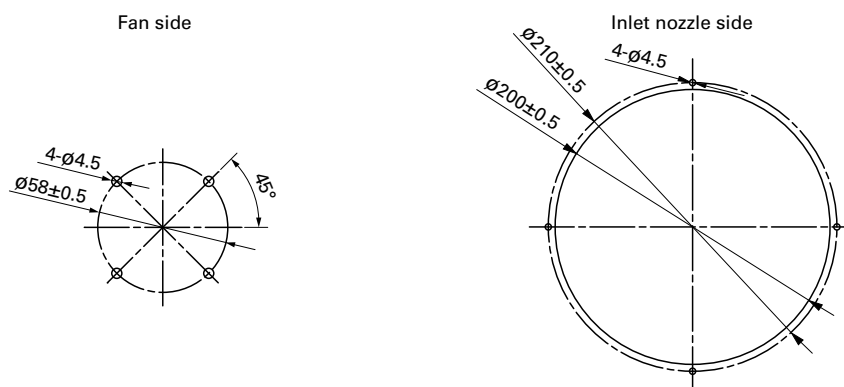
Connection Schematic



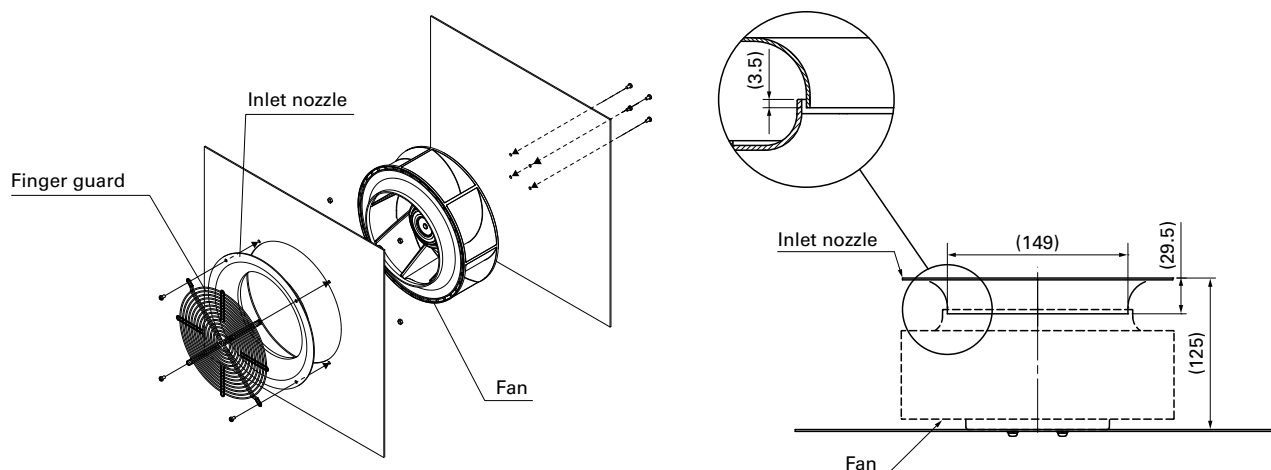
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 601

Model no.: 109-1137, 109-1137H

Inlet nozzle

page: p. 603

Model no.: 109-1134, 109-1134H

Ø225×99 mm

San Ace 225AD 9ADW1TS type



General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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

AC power input	L: Orange	N: Gray	Ground	Yellow / Green
+10 VDC output	Red	Black	Sensor	Yellow
			Control	Brown
- Mass 1900 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1134H) is mounted.

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW1TS11P0H001	115	90 to 132	50/60	100	2.06	140	3100	22.3 787	760 3.05	73	-20 to +60	40000/60°C (70000/40°C)
				20	0.3	11	1000	7.1 252	80 0.32	50		
9ADW1TS11P0M001				100	1.08	61	2350	16.9 597	440 1.77	67		
				20	0.3	11	1000	7.1 252	80 0.32	50		
9ADW1TS23P0H001	230	180 to 264		100	1.06	140	3100	22.3 787	760 3.05	73		
				20	0.2	11	1000	7.1 252	80 0.32	50		
				100	0.57	61	2350	16.9 597	440 1.77	67		
9ADW1TS23P0M001					20	0.2	11	1000	7.1 252	80 0.32			50

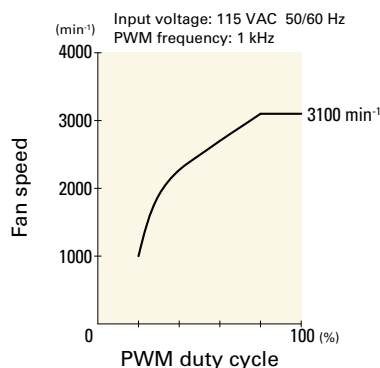
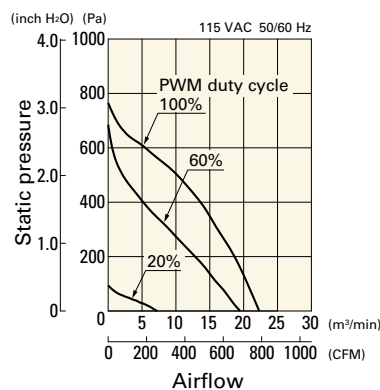
* PWM frequency is 1 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

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

9ADW1TS11P0H001 With pulse sensor with PWM control

PWM duty cycle

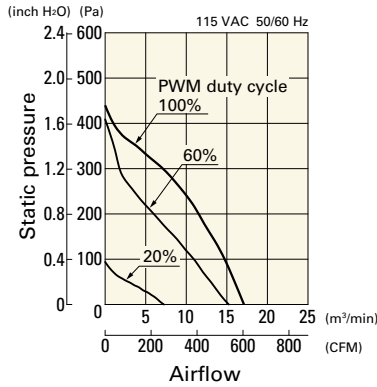
PWM duty - Speed characteristics example



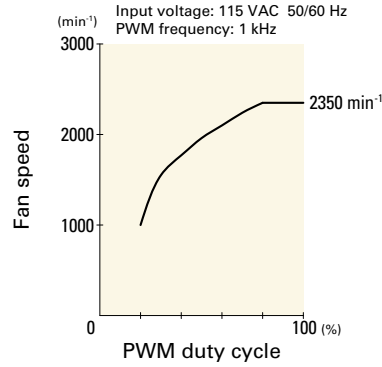
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADW1TS11P0M001 With pulse sensor with PWM control

PWM duty cycle

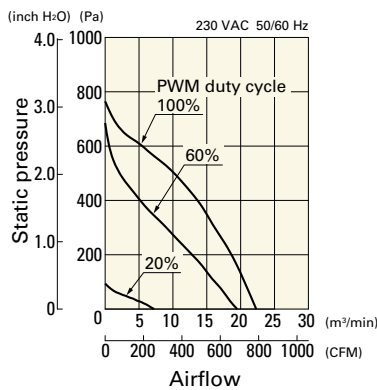


PWM duty - Speed characteristics example

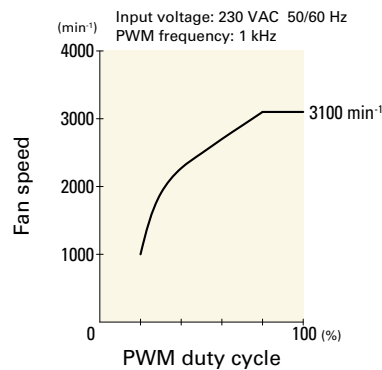


9ADW1TS23P0H001 With pulse sensor with PWM control

PWM duty cycle

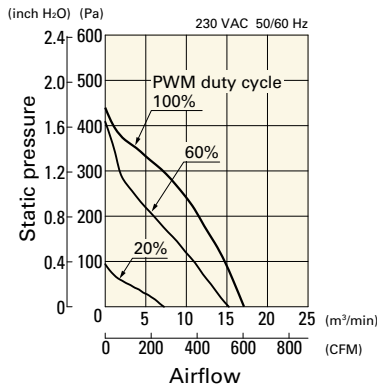


PWM duty - Speed characteristics example

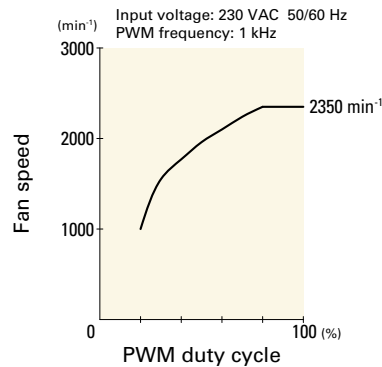


9ADW1TS23P0M001 With pulse sensor with PWM control

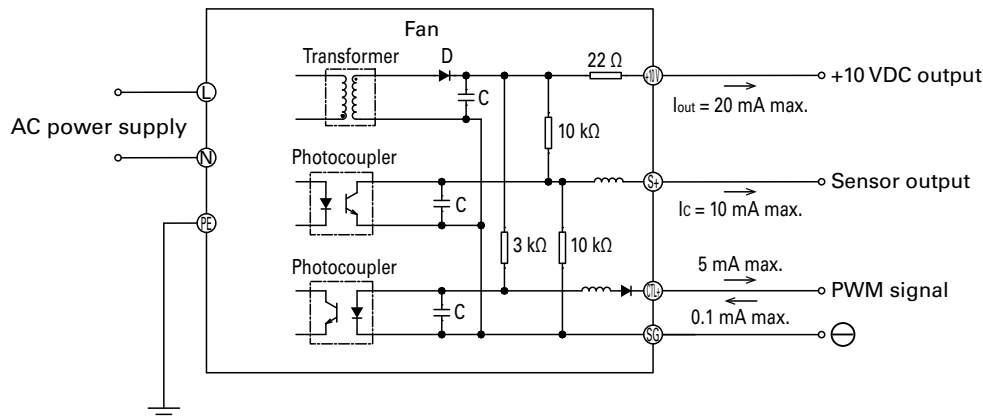
PWM duty cycle



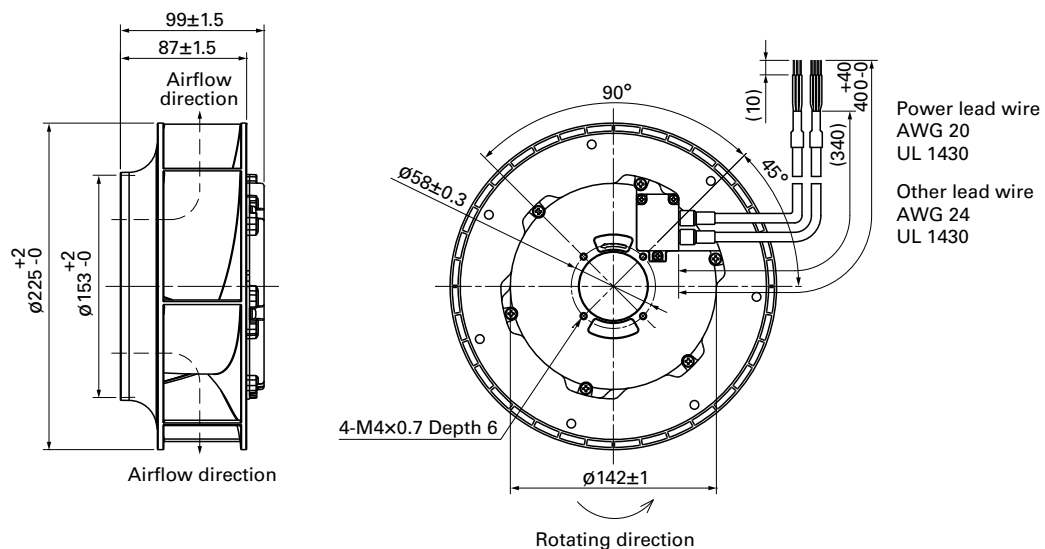
PWM duty - Speed characteristics example



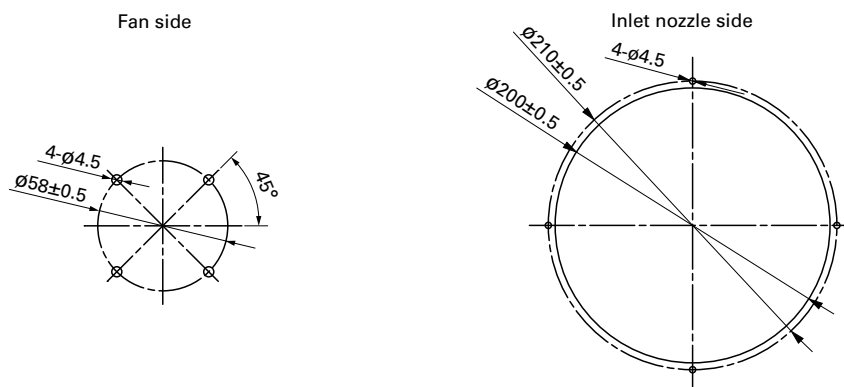
Connection Schematic



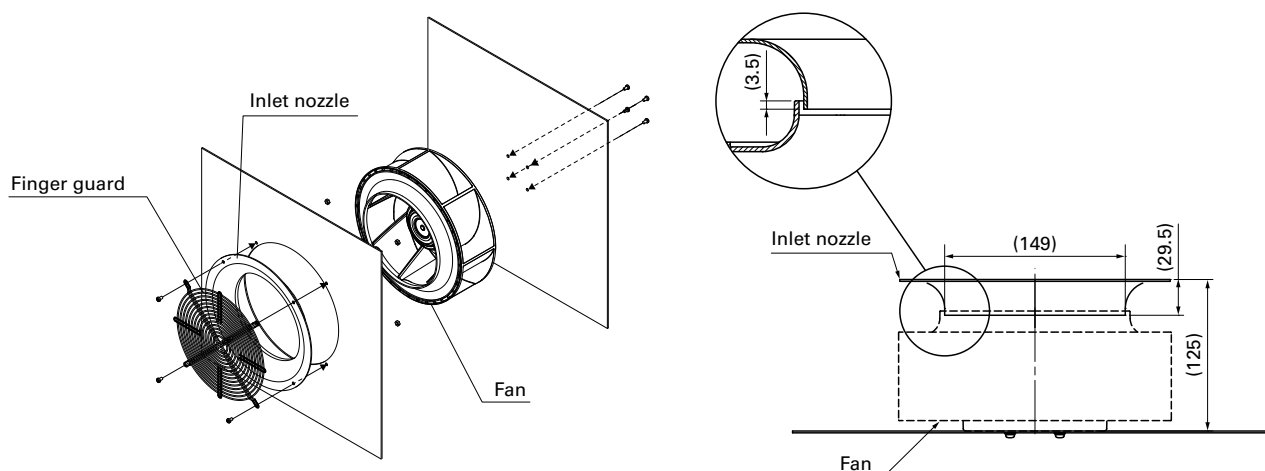
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 601

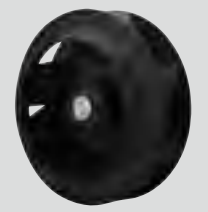
Model no.: 109-1137, 109-1137H

Inlet nozzle

page: p. 603

Model no.: 109-1134, 109-1134H

Ø250×99 mm


San Ace 250AD 9ADTV type

General Specifications

- Material Motor case: Aluminum (Black coating), 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
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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 L: Orange N: Gray Yellow / Green
 Red Yellow Brown
- Mass 1920 g

Specifications When the optional inlet nozzle (109-1151) is mounted.

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

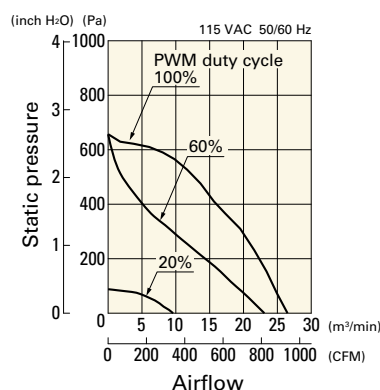
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADTV11P0G001	115	90 to 132	50/60	100	2.3	140	2700	26.5	936	650	2.61	71	-25 to +60	40000/60°C (70000/40°C)
		20		0.3	10	1000	9.6	339	88	0.35	57			
9ADTV23P0G001	230	180 to 264		100	1.2	140	2700	26.5	936	650	2.61	71		
				20	0.2	10	1000	9.6	339	88	0.35	57		

* PWM frequency is 1 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.

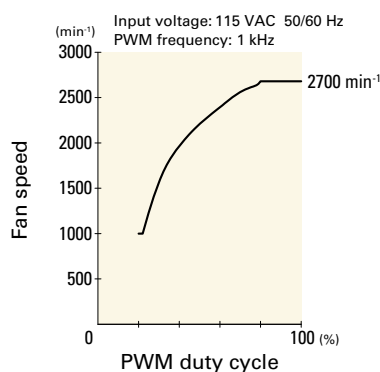
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADTV11P0G001 With pulse sensor with PWM control

PWM duty cycle



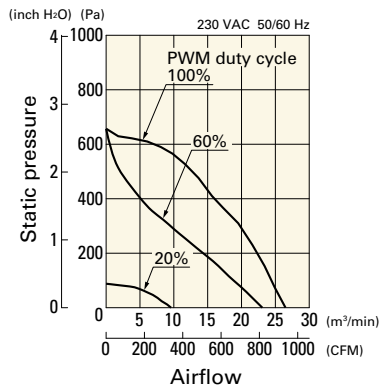
PWM duty - Speed characteristics example



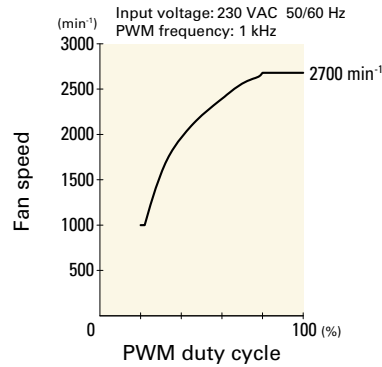
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADTV23P0G001 With pulse sensor with PWM control

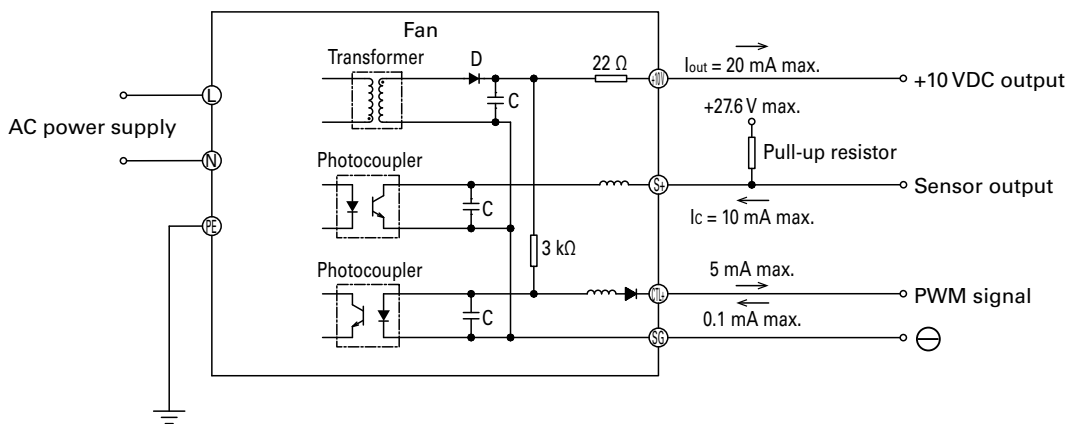
PWM duty cycle



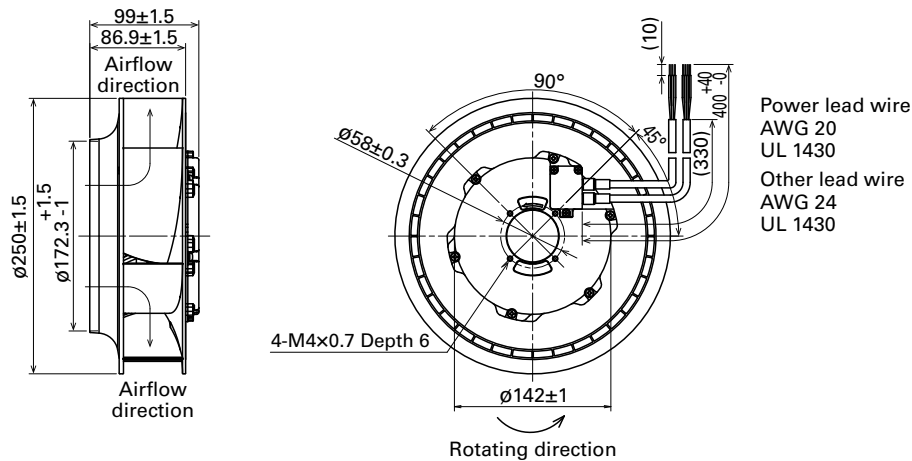
PWM duty - Speed characteristics example



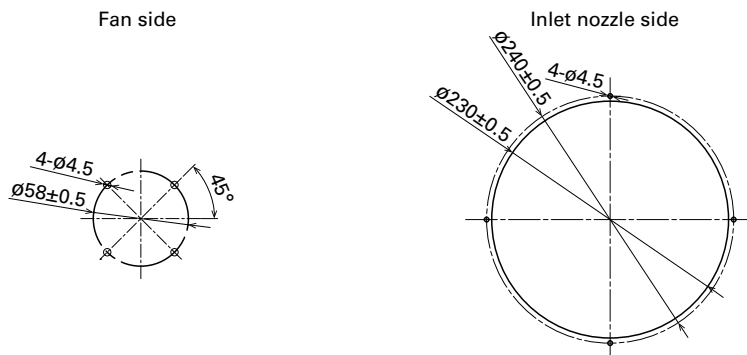
Connection Schematic



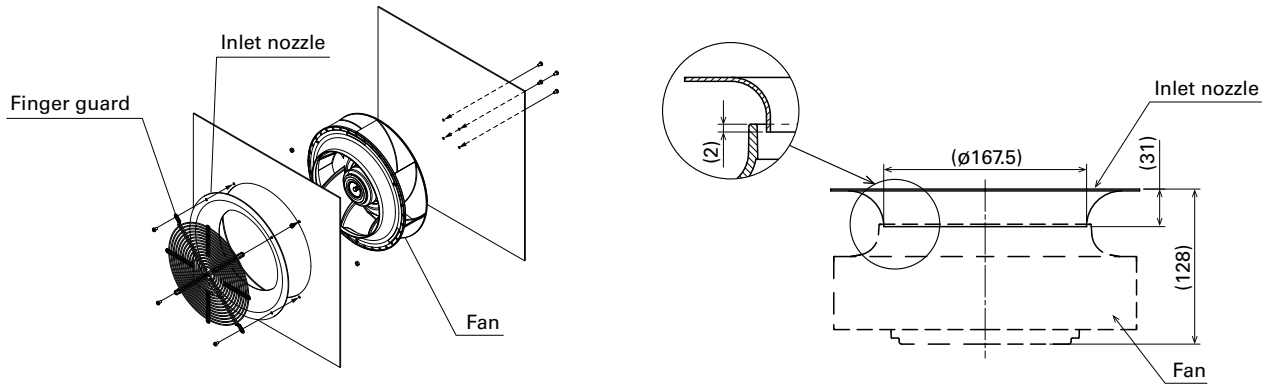
Dimensions (unit: mm)



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



Reference Diagram for Mounting (unit: mm)



Options

Finger guards

page: p. 602

Model no.: 109-1152, 109-1152H

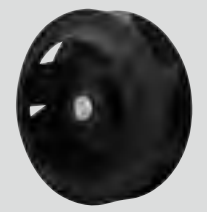
Inlet nozzle

page: p. 603

Model no.: 109-1151, 109-1151H

Ø250×99 mm

San Ace 250AD 9ADW1TV type



General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and motor case)
- 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

AC power input	L: Orange	N: Gray	Ground	Yellow / Green
+10 VDC output	Red	Black	Sensor	Yellow
			Control	Brown
- Mass 2020 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications When the optional inlet nozzle (109-1151H) is mounted.

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

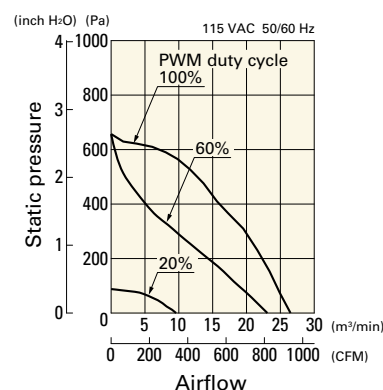
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADW1TV11P0G001	115	90 to 132	50/60	100	2.3	140	2700	26.5 936	650 2.61	71	-25 to +60	40000/60°C (70000/40°C)
		20		0.3	10	1000	9.6 339	88 0.35	57			
9ADW1TV23P0G001	230	180 to 264		100	1.2	140	2700	26.5 936	650 2.61	71		
				20	0.2	10	1000	9.6 339	88 0.35	57		

* PWM frequency is 1 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.

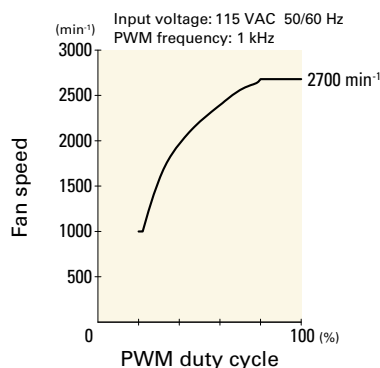
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADW1TV11P0G001 With pulse sensor with PWM control

PWM duty cycle



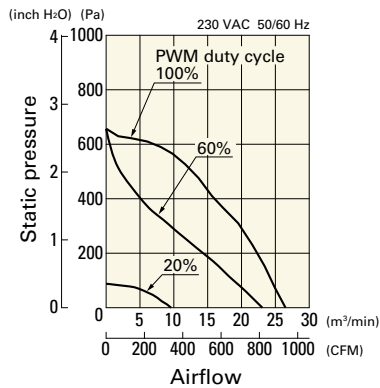
PWM duty - Speed characteristics example



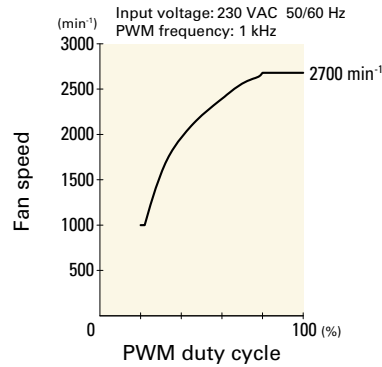
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADW1TV23P0G001 With pulse sensor with PWM control

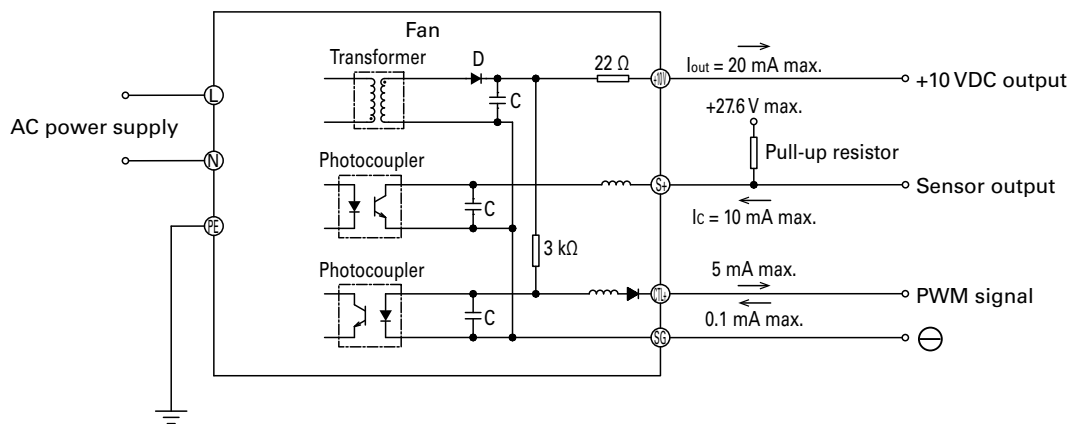
PWM duty cycle



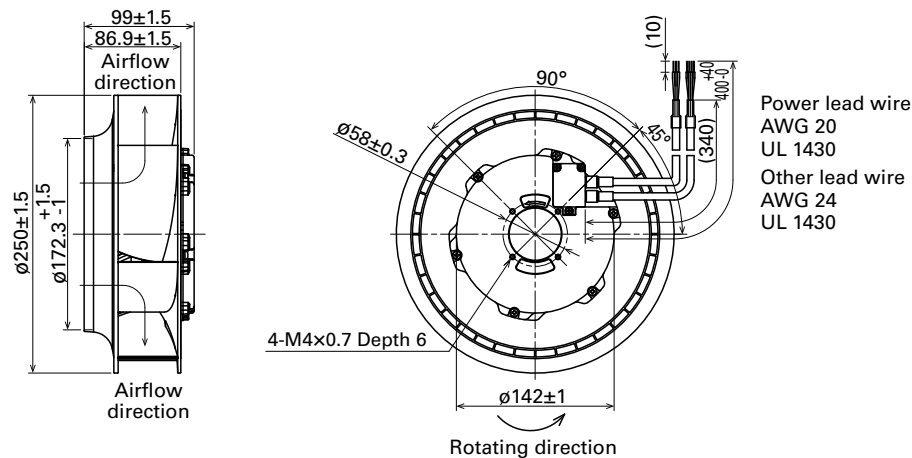
PWM duty - Speed characteristics example



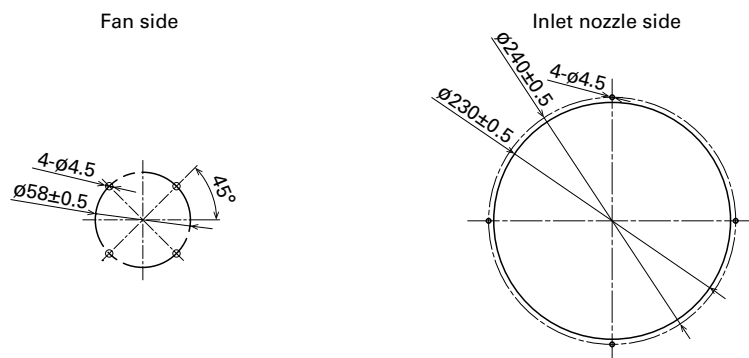
Connection Schematic



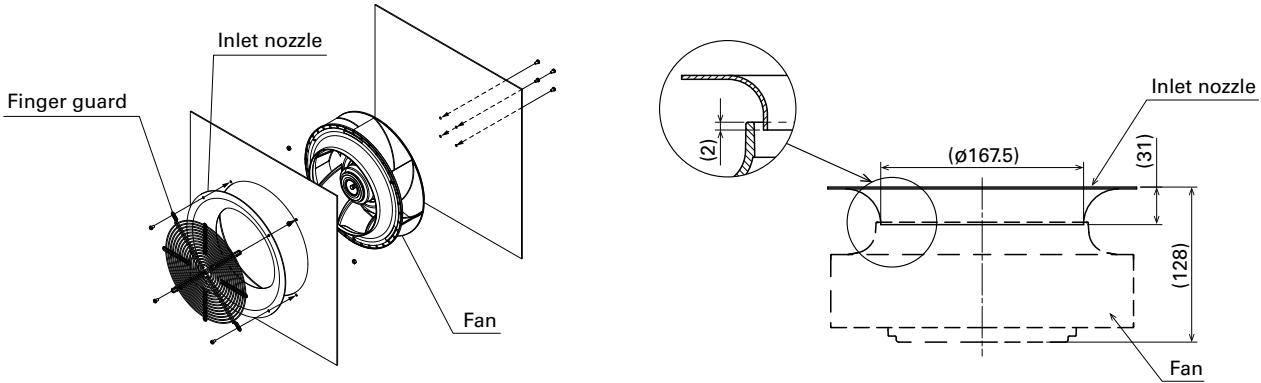
Dimensions (unit: mm)



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



■ Reference Diagram for Mounting (unit: mm)



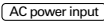
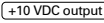
■ Options

Finger guards page: p. 602
Model no.: 109-1152, 109-1152H

Inlet nozzle page: p. 603
Model no.: 109-1151, 109-1151H

270×270×119 mm**San Ace 225AD 9ADB1TS** type   

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
Bracket: Aluminum (Black coating), Plastic (Flammability: UL94V-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
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and bracket)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and bracket)
- 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  L: Orange N: Gray  Yellow / Green
 Red   Yellow  Brown
- Mass 2500 g

Specifications

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

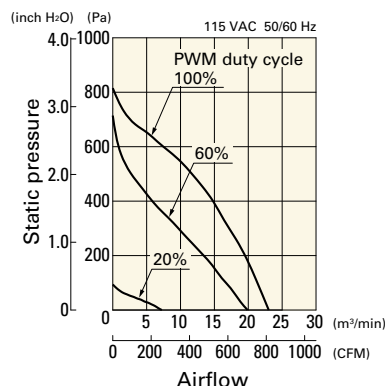
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADB1TS11P0G001	115	90 to 132	50/60	100	2.23	155	3200	23.0 812	815 3.27	74	-20 to +60	40000/60°C (70000/40°C)
				20	0.3	10	1000	7.1 252	80 0.32	50		
9ADB1TS11P0F001				100	1.11	70	2450	17.6 621	480 1.93	68		
				20	0.3	10	1000	7.1 252	80 0.32	50		
9ADB1TS23P0G001	230	180 to 264		100	1.17	155	3200	23.0 812	815 3.27	74		
				20	0.2	10	1000	7.1 252	80 0.32	50		
9ADB1TS23P0F001				100	0.64	70	2450	17.6 621	480 1.93	68		
				20	0.2	10	1000	7.1 252	80 0.32	50		

* PWM frequency is 1 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.

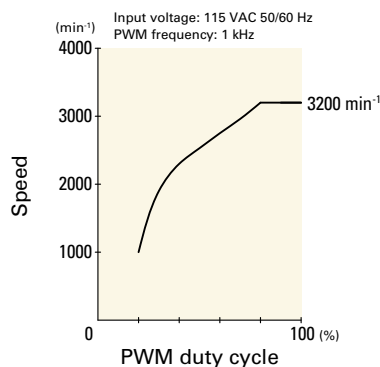
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADB1TS11P0G001 With pulse sensor with PWM control

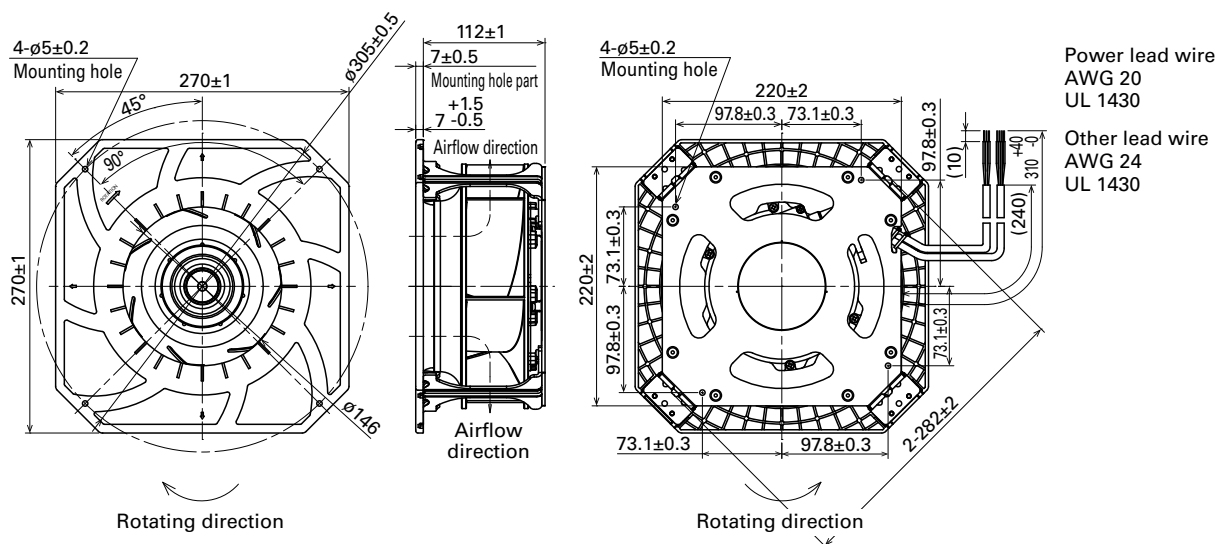
PWM duty cycle



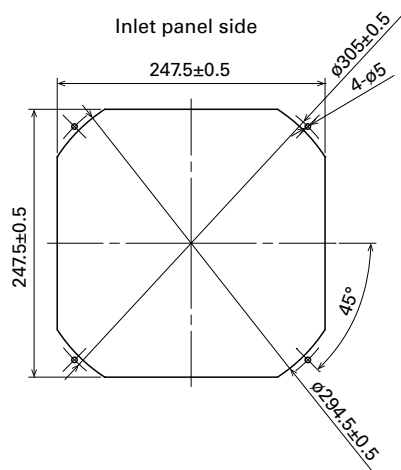
PWM duty - Speed characteristics example



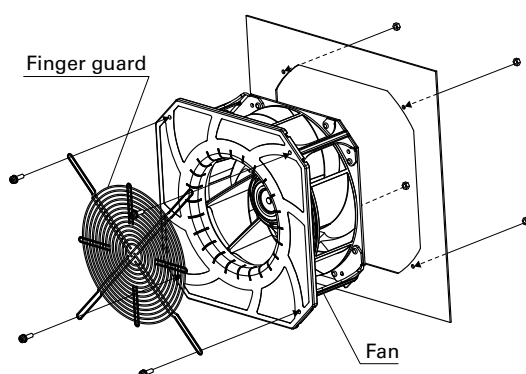
Dimensions (unit: mm)



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



Reference Diagram for Mounting



Options

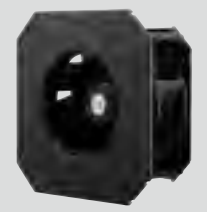
Finger guards

page: p. 602

Model no.: 109-1146, 109-1146H

270×270×119 mm

IP56



San Ace 225AD 9ADB1W1TS type

General Specifications

- Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
Bracket: Aluminum (Black coating), Plastic (Flammability: UL94V-0)
- Expected life See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- Motor protection function Locked rotor burnout protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and bracket)
- Insulation resistance 10 MΩ min. at 500 VDC (between lead wire conductors and bracket)
- 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 L: Orange N: Gray Yellow / Green
 Red Black Yellow Brown
- Mass 2600 g
- Ingress protection IP56 For more information on IP rating, refer to p. 625.

Specifications

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

Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min ⁻¹]	Max. airflow [m³/min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9ADB1W1TS11P0H001	115	90 to 132	50/60	100	2.06	140	3100	22.3 787	760 3.05	73	-20 to +60	40000/60°C (70000/40°C)
				20	0.3	11	1000	7.1 252	80 0.32	50		
9ADB1W1TS11P0M001				100	1.08	61	2350	16.9 597	440 1.77	67		
				20	0.3	11	1000	7.1 252	80 0.32	50		
9ADB1W1TS23P0H001	230	180 to 264		100	1.06	140	3100	22.3 787	760 3.05	73		
				20	0.2	11	1000	7.1 252	80 0.32	50		
9ADB1W1TS23P0M001				100	0.57	61	2350	16.9 597	440 1.77	67		
				20	0.2	11	1000	7.1 252	80 0.32	50		

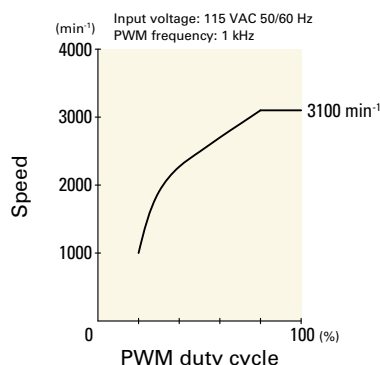
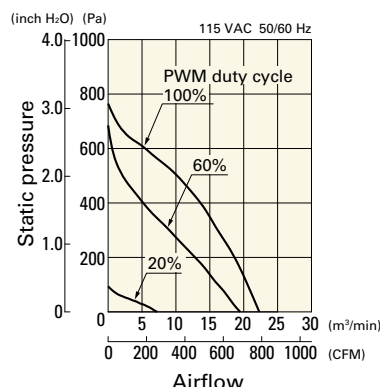
* PWM frequency is 1 kHz. Models without ratings for 0% PWM duty cycle have zero speed at 0%. When control terminal is open, speed is the same as at 100% duty cycle.

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

9ADB1W1TS11P0H001 With pulse sensor with PWM control

PWM duty cycle

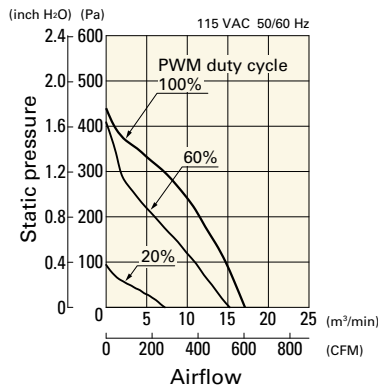
PWM duty - Speed characteristics example



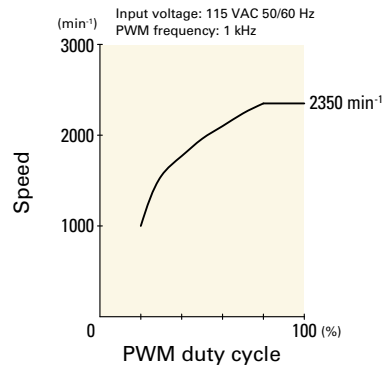
Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

9ADB1W1TS11P0M001 With pulse sensor with PWM control

PWM duty cycle

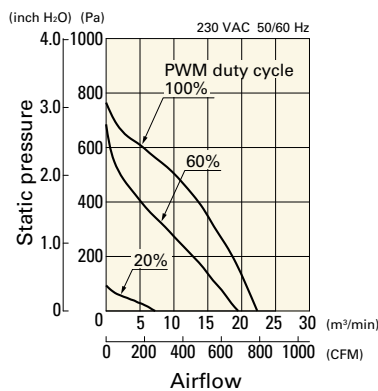


PWM duty - Speed characteristics example

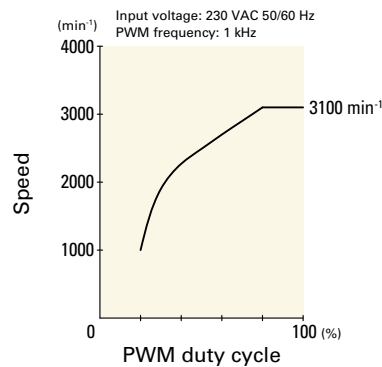


9ADB1W1TS23P0H001 With pulse sensor with PWM control

PWM duty cycle

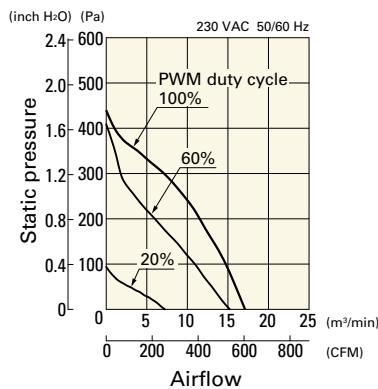


PWM duty - Speed characteristics example

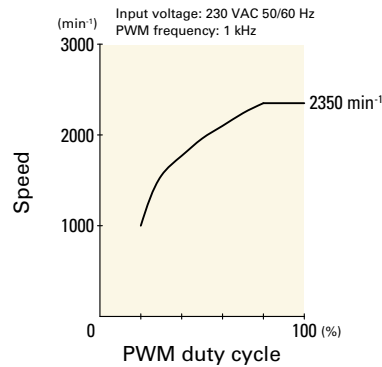


9ADB1W1TS23P0M001 With pulse sensor with PWM control

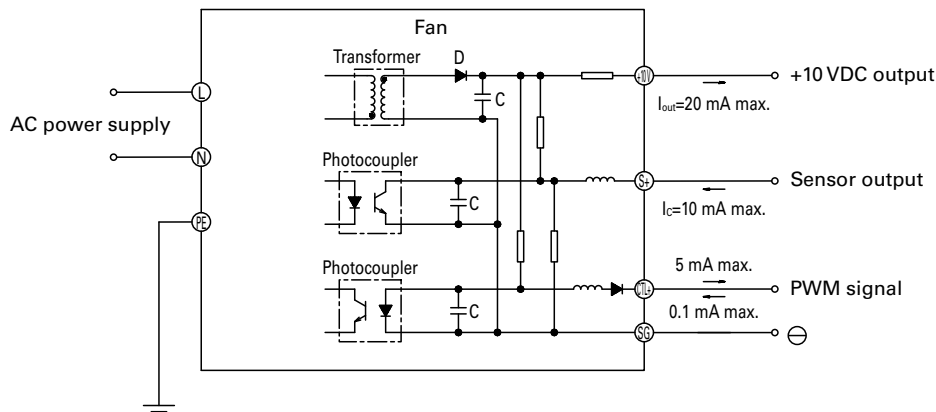
PWM duty cycle



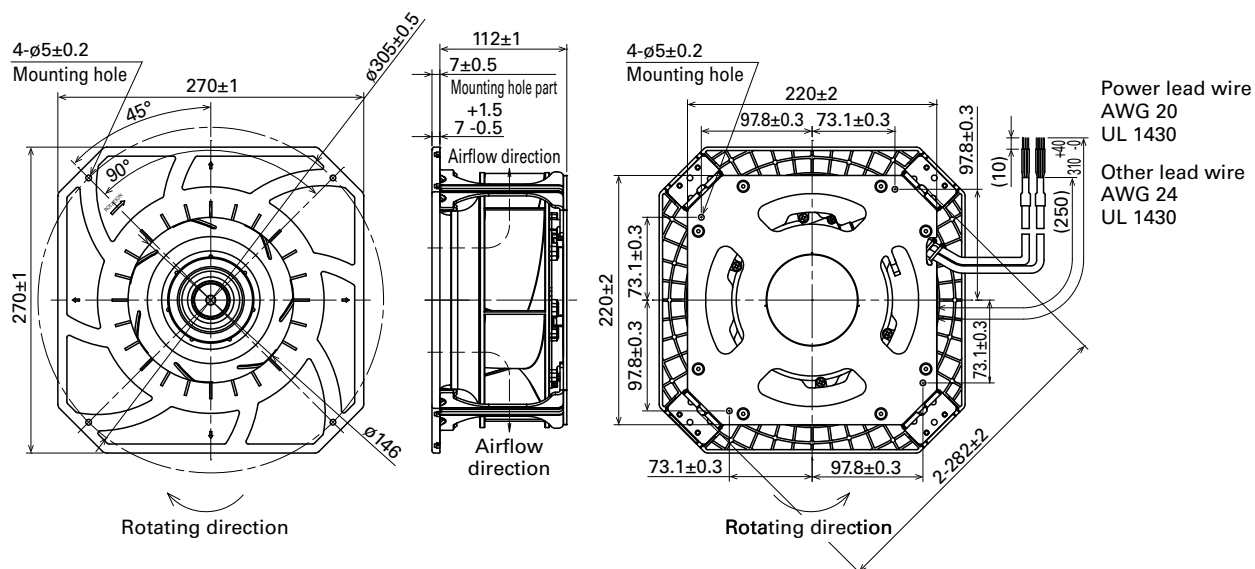
PWM duty - Speed characteristics example



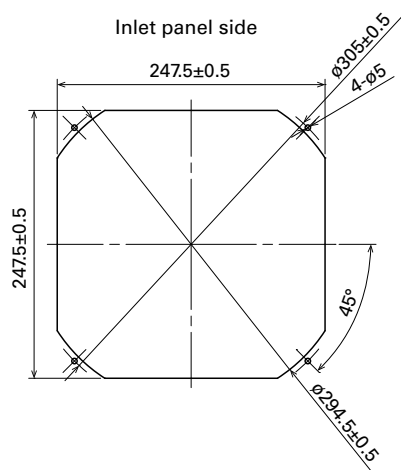
Connection Schematic



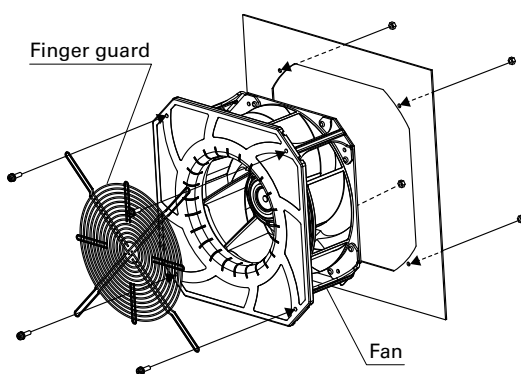
Dimensions (unit: mm)



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



Reference Diagram for Mounting



Options

Finger guards

page: p. 602

Model no.: 109-1146, 109-1146H