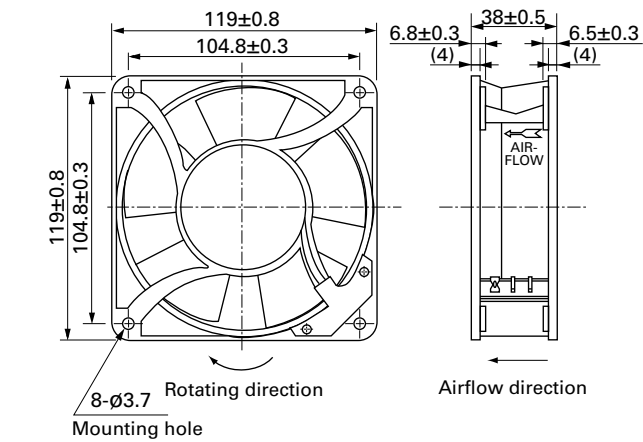
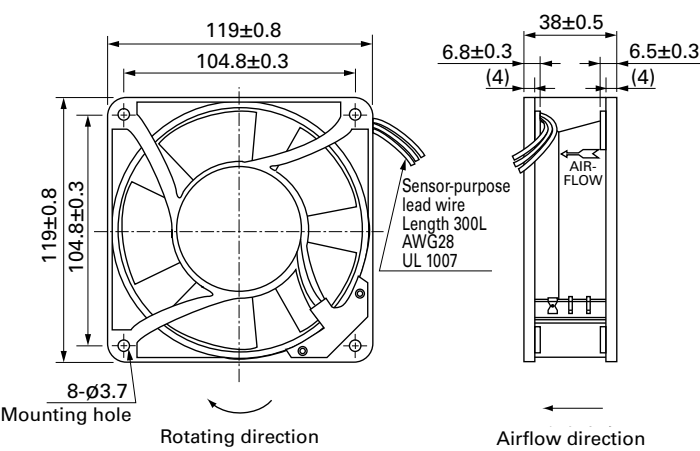


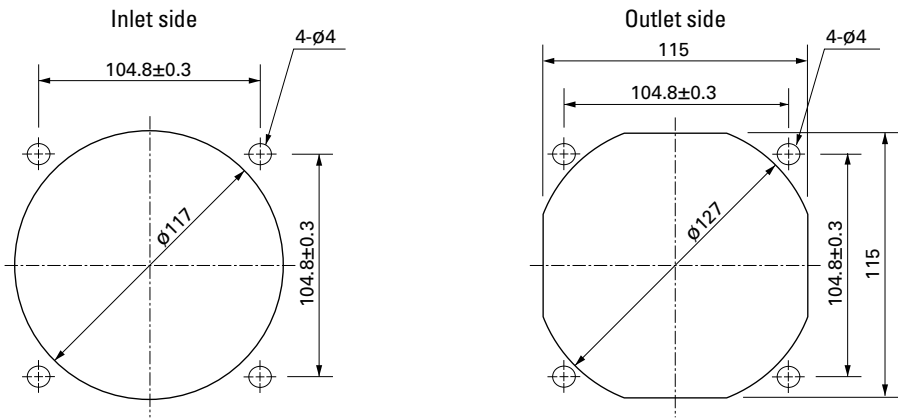
Standard



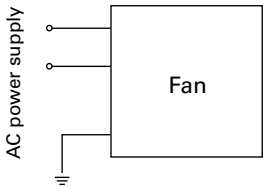
with Sensor When mounting the model with a sensor, please screw-mount through both flanges as it has a sensor box.



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

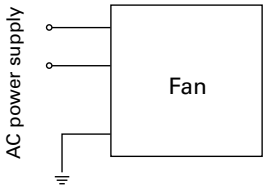


Standard

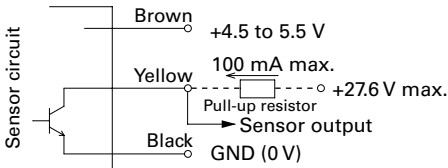


with Sensor

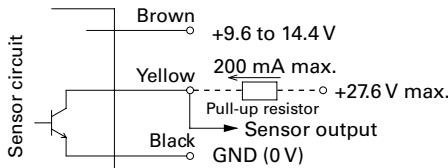
For fan power supply



For sensor circuit
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

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)

Filter kits page: p. 608
Model no.: 109-018

Screen kits page: p. 608
Model no.: 109-020

Plug cord page: p. 609 to 610
PSE compatible models
• Dedicated models for fans whose model numbers not ending with "UL"
Model no.: 489-006-L10, 489-006-L21, 489-006-L35
• Dedicated models for fans whose model numbers ending with "UL"
Model no.: 489-037-L10, 489-037-L21, 489-037-L35
UL/CSA certified models
Model no.: 489-007-L10, 489-007-L21

160×160×51 mm

San Ace 160  Only standard fans (without sensors) have acquired CSA certification.



General Specifications

- Material Frame: Aluminum, 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 Capacitor motor
- Motor protection function Locked rotor burnout protection, Reverse polarity protection
For details, please refer to p. 616.
- Dielectric strength 50/60 Hz, 1500 VAC, for 1 minute (between input terminal and frame)
- Dielectric strength (with sensor) 50/60 Hz 1500 VAC 1 minute (between AC input terminal and frame)
50/60 Hz 1000 VAC 1 minute (between lead wire conductors and frame)
- Insulation resistance 10 MΩ min. at 500 VDC
- Sound pressure level (SPL) A-weighted sound pressure level (SPL) at 1 m away from the air inlet.
- Operating voltage range Voltage of each model ±10%
- Storage temperature -30 to +70°C (Non-condensing)
- Sensor-Purpose lead wire ⊕Brown ⊖Black (Sensor) Yellow
- Mass 1100 g

Specifications

Standard

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109-601	100	50/60	37.5/33	0.43/0.35	0.72/0.7	2850/3350	7.2/8.5 254.4/300.4	156.8/166.6 0.63/0.669	56/60	-30 to +60	25000/60°C (56000/40°C)
109-604	115			0.39/0.31	0.62/0.61						
109-602	200			0.23/0.18	0.36/0.35						
109-603	230			0.21/0.16	0.32/0.31						

with Sensor

For sensor specifications, please refer to p. 622. Sensor specification differs depending on the fan's speed specification.

For a 5 V sensor power supply (ITEM-20), please append "-20" to the end of model number. E.g. 109-641-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109-641-30

Model no.	Rated voltage [V]	Frequency [Hz]	Input [W]	Current [A]	Locked rotor current [A]	Rated speed [min ⁻¹]	Max. airflow [m ³ /min] [CFM]	Max. static pressure [Pa] [inchH ₂ O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
109-641	100	50/60	37.5/33	0.43/0.35	0.72/0.7	2850/3350	7.2/8.5 254.4/300.4	156.8/166.6 0.63/0.669	56/60	-10 to +60	25000/60°C (56000/40°C)
109-644	115			0.39/0.31	0.62/0.61						
109-642	200			0.23/0.18	0.36/0.35						
109-643	230			0.21/0.16	0.32/0.31						

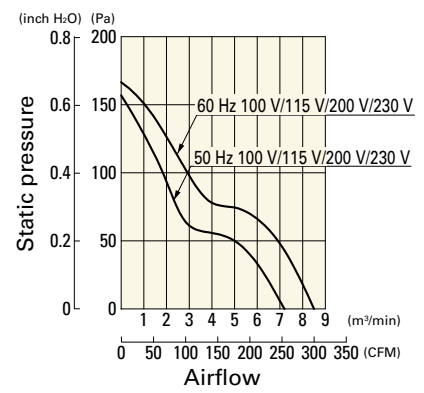
Set Models

A set of a fan, finger guard, plug cord, and screws. 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)
ST1-109-601	109-601	100 V		489-1652-L10	109-619E	M5×20 mm
ST1-109-604	109-604	115 V		489-1652-L10	109-619E	
ST1-109-602	109-602	200 V		489-1652-L10	109-619E	
ST1-109-603	109-603	230 V		489-1652-L10	109-619E	
ST1-109-641-20	109-641-20	100 V	○ (5 V)	489-1652-L10	109-619E	
ST1-109-641-30	109-641-30		○ (12 V)	489-1652-L10	109-619E	
ST1-109-644-20	109-644-20	115 V	○ (5 V)	489-1652-L10	109-619E	
ST1-109-644-30	109-644-30		○ (12 V)	489-1652-L10	109-619E	
ST1-109-642-20	109-642-20	200 V	○ (5 V)	489-1652-L10	109-619E	
ST1-109-642-30	109-642-30		○ (12 V)	489-1652-L10	109-619E	
ST1-109-643-20	109-643-20	230 V	○ (5 V)	489-1652-L10	109-619E	
ST1-109-643-30	109-643-30		○ (12 V)	489-1652-L10	109-619E	

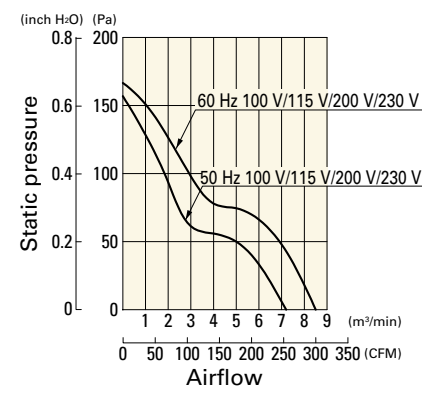
Standard

109-601, 109-604, 109-602, 109-603



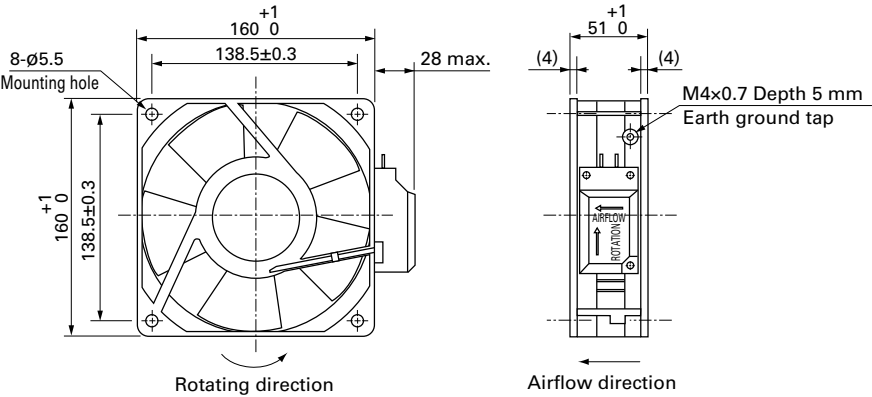
with Sensor

109-641, 109-644, 109-642, 109-643

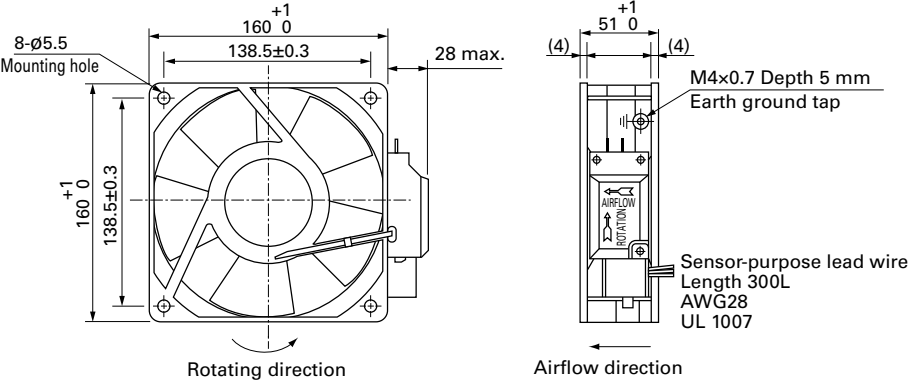


Dimensions (unit: mm)

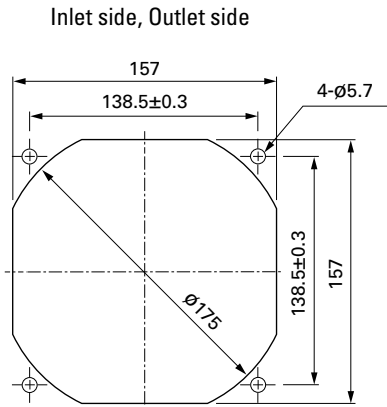
Standard



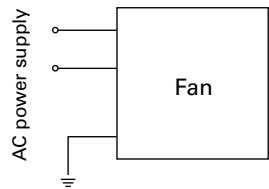
with Sensor



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

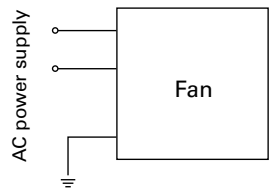


Standard

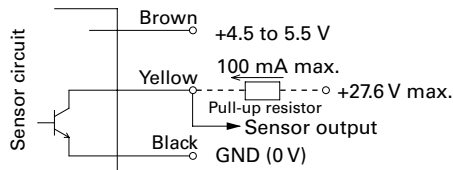


with Sensor

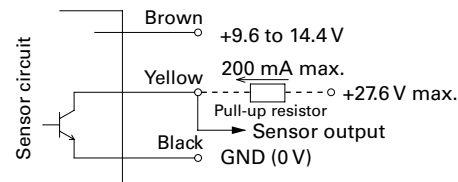
For fan power supply



For sensor circuit
5 V (ITEM-20)



12 V (ITEM-30)



GND (Black) should be shared in case that power supply for sensor circuit (Brown) and that for sensor pull-up (Yellow) are separated.

Options

Finger guards	page: p. 599	Plug cord	page: p. 609 to 610
Model no.: 109-619E, 109-619H		PSE compatible models Model no.: 489-1619-L10, 489-1619-L21 UL/CSA certified models Model no.: 489-084-L10, 489-084-L21 PSE compatible, UL/CSA [c-UL] certified models Model no.: 489-1652-L10, 489-1652-L21	