



# 120×120×25 mm

**San Ace 120** 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)
- Motor structure ..... Shaded coil motor
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 547.
- 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 or more with a 500 VDC megger
- 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 ..... 370 g/390 g (with Sensor)

## Specifications

### Standard

| Model no.       | Rated voltage [V] | Frequency [Hz] | Input [W] | Current [A] | Locked rotor current [A] | Rated speed [min <sup>-1</sup> ] | Max. airflow [m <sup>3</sup> /min] [CFM] | Max. static pressure [Pa] [inchH <sub>2</sub> O] | SPL [dB (A)] | Operating temperature [°C] | Expected life [h] |
|-----------------|-------------------|----------------|-----------|-------------|--------------------------|----------------------------------|--|--|--------------|----------------------------|-------------------|
| <b>109S085</b>  | 100               | 50/60          | 13.5/12   | 0.16/0.14   | 0.19/0.17                | 2500/2900                        | 1.95/2.3 68.9/81.3                       | 48 /51.9 0.193/0.216                             | 38/41        | -30 to +60                 | 25000/60°C        |
| <b>109S084</b>  | 115               |                |           | 0.14/0.12   | 0.16/0.15                |                                  |  |  |              |                            |                   |
| <b>109S088</b>  | 200               |                |           | 0.08/0.07   | 0.1 /0.09                |                                  |  |  |              |                            |                   |
| <b>109S087</b>  | 230               |                |           | 0.07/0.06   | 0.08/0.07                |                                  |  |  |              |                            |                   |
| <b>109S081</b>  | 100               | 9.5/8.5        | 0.11      | 0.11/0.1    | 2200/2350                | 1.7 /1.8 60.1/63.6               | 29.4/26.5 0.118/0.106                    | 34/35  |              |                            |                   |
| <b>109S083</b>  | 115               |                |           | 0.1         |                          |                                  |  |  | 0.1 /0.09    |                            |                   |
| <b>109S082</b>  | 200               |                |           | 0.07        |                          |                                  |  |  | 0.07/0.06    |                            |                   |
| <b>109S089</b>  | 230               |                |           | 0.06        |                          |                                  |  |  | 0.06/0.05    |                            |                   |
| <b>109S086*</b> | 100               | 12/10          | 0.14/0.12 | 0.15/0.13   | 1400/1600                | 1.1 /1.25 38.9/44.2              | 14.7/18.6 0.059/0.075                    | 24/27  |              |                            |                   |

\* These are low-speed models.

### with Sensor

For sensor specifications, please refer to p. 550. 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. 109S485-20

For a 12 V sensor power supply (ITEM-30), please append "-30" to the end of model number. E.g. 109S485-30

| Model no.       | Rated voltage [V] | Frequency [Hz] | Input [W] | Current [A] | Locked rotor current [A] | Rated speed [min <sup>-1</sup> ] | Max. airflow [m <sup>3</sup> /min] [CFM] | Max. static pressure [Pa] [inchH <sub>2</sub> O] | SPL [dB (A)] | Operating temperature [°C] | Expected life [h] |
|-----------------|-------------------|----------------|-----------|-------------|--------------------------|----------------------------------|--|--|--------------|----------------------------|-------------------|
| <b>109S485</b>  | 100               | 50/60          | 13.5/12   | 0.16/0.14   | 0.19/0.17                | 2500/2900                        | 1.95/2.3 68.9/81.3                       | 48 /51.9 0.193/0.216                             | 38/41        | -10 to +60                 | 25000/60°C        |
| <b>109S484</b>  | 115               |                |           | 0.14/0.12   | 0.16/0.15                |                                  |  |  |              |                            |                   |
| <b>109S488</b>  | 200               |                |           | 0.08/0.07   | 0.1 /0.09                |                                  |  |  |              |                            |                   |
| <b>109S487</b>  | 230               |                |           | 0.07/0.06   | 0.08/0.07                |                                  |  |  |              |                            |                   |
| <b>109S486*</b> | 100               | 12/10          | 0.14/0.12 | 0.15/0.13   | 1400/1600                | 1.1 /1.25 38.9/44.2              | 14.7/18.6 0.059/0.075                    | 24/27  |              |                            |                   |

\* These are low-speed models.

## Set Models

Fan, finger guard, plug cord, screws, etc. can be purchased in one package. For details, please refer to p. 594.

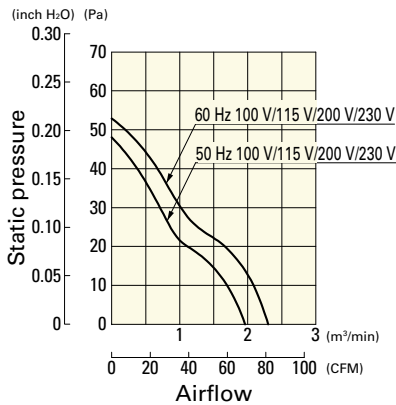
| Order no.      | Set items  |         |                  |             |               |                     |
|----------------|------------|---------|------------------|-------------|---------------|---------------------|
|                | Fan        | Voltage | Low-speed sensor | Plug cord*  | Finger guards | Mounting screws     |
| ST1-109S085    | 109S085    | 100 V   |                  | 489-016-L10 | 109-019E      | M3×40 mm (4 screws) |
| ST1-109S084    | 109S084    | 115 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S088    | 109S088    | 200 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S087    | 109S087    | 230 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S081    | 109S081    | 100 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S083    | 109S083    | 115 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S082    | 109S082    | 200 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S089    | 109S089    | 230 V   |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S086    | 109S086    |         |                  | 489-016-L10 | 109-019E      |                     |
| ST1-109S485-20 | 109S485-20 | 100 V   | ○ (5 V)          | 489-016-L10 | 109-019E      |                     |
| ST1-109S485-30 | 109S485-30 |         | ○ (12 V)         | 489-016-L10 | 109-019E      |                     |
| ST1-109S484-20 | 109S484-20 | 115 V   | ○ (5 V)          | 489-016-L10 | 109-019E      |                     |
| ST1-109S484-30 | 109S484-30 |         | ○ (12 V)         | 489-016-L10 | 109-019E      |                     |
| ST1-109S488-20 | 109S488-20 | 200 V   | ○ (5 V)          | 489-016-L10 | 109-019E      |                     |
| ST1-109S488-30 | 109S488-30 |         | ○ (12 V)         | 489-016-L10 | 109-019E      |                     |
| ST1-109S487-20 | 109S487-20 | 230 V   | ○ (5 V)          | 489-016-L10 | 109-019E      |                     |
| ST1-109S487-30 | 109S487-30 |         | ○ (12 V)         | 489-016-L10 | 109-019E      |                     |
| ST1-109S486-20 | 109S486-20 | 100 V   | ○ (5 V)          | 489-016-L10 | 109-019E      |                     |
| ST1-109S486-30 | 109S486-30 |         | ○ (12 V)         | 489-016-L10 | 109-019E      |                     |

\* PSE compatible.

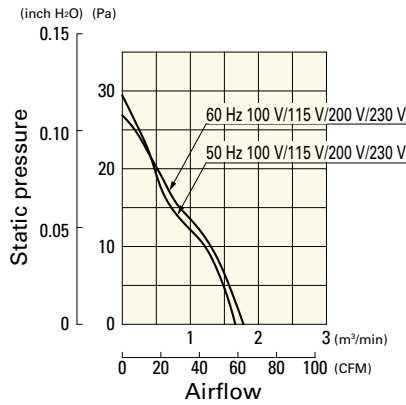
## Airflow - Static Pressure Characteristics

### Standard

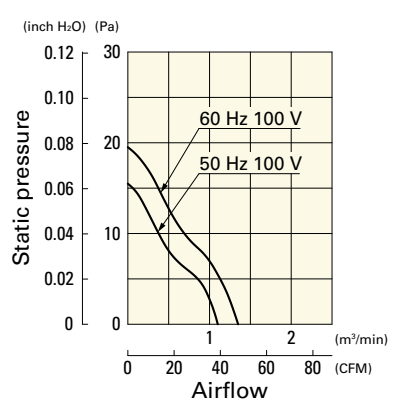
#### 109S085, 109S084, 109S088, 109S087



#### 109S081, 109S083, 109S082, 109S089

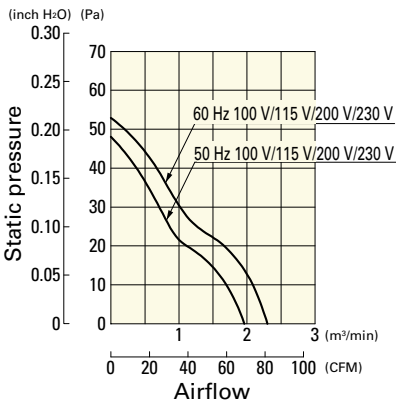


#### 109S086

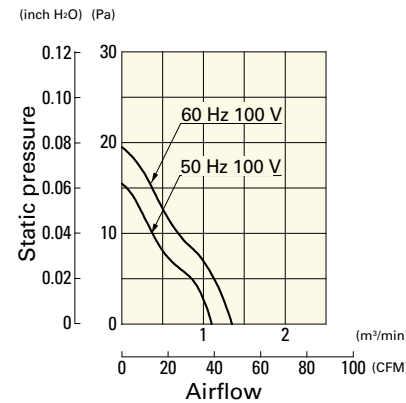


### with Sensor

#### 109S485, 109S484, 109S488, 109S487



#### 109S486



**Dimensions (unit: mm)**

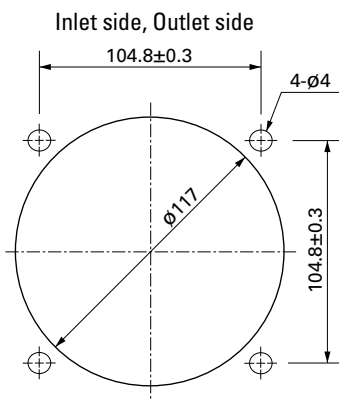
**Standard**



**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)**



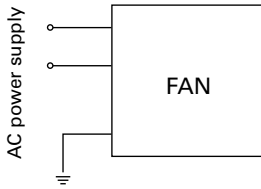
## Wiring Diagram

### Standard

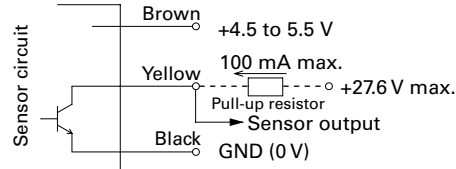


### with Sensor

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. 533

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

### Resin finger guards

page: p. 539

Model no.: 109-1000G

### Resin filter kits

page: p. 540

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

### Plug cord

page: pp. 542 to 543

Model no.: 489-016-L10, 489-016-L21, 489-047-L10,  
489-047-L21

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)  
Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)