San Ace 120L 9LG type
High Airflow Long Life Fan

■ Features

Long Life
The San Ace 120L 9LG type has an expected life of 180,000 hours (approximately 20 years), 1.8 times that of our conventional long life fan,* making this fan ideal for equipment that must operate without maintenance for extended periods.

High Airflow and High Static Pressure
The maximum airflow of the San Ace 120L 9LG type is approximately 1.8 times and the maximum static pressure is approximately 3 times higher than that of our conventional long life fan.*

Note: Specification of Model No. 9LG1224P1S001. Our conventional long life fan is 120 x 120 x 38 mm “San Ace 120L”, Model No. 9LB1224S101.

120 x 120 x 38 mm

■ Specifications

The following nos. have PWM controls, pulse sensors.

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Note1: PWM Frequency: 26 kHz
Note2: Fans do not rotate when PWM duty cycle is 0%.

Available options: Without Sensor, Pulse Sensor

Please inquire as to the availability of these functions depends on the model: 

□ Material ........................................... Frame: Aluminum, Impeller: Plastics (Flammability: UL94V-1)
□ Expected Life ................................ Refer to specifications
□ Motor Protection System ........................ Current blocking function and reverse polarity protection
□ Dielectric Strength ............................. 50 / 60 Hz, 500 VAC, 1 minute (between lead conductor and frame)
□ Sound Pressure Level (SPL) .................... Express as the value at 1 m from air inlet side
□ Operating Temperature ........................ Refer to specifications (Non-condensing)
□ Storage Temperature ........................... -30 ℃ to +70 ℃ (Non-condensing)
□ Lead Wire ...................................... ©Red ©Black Sensor: Yellow Control: Brown
□ Mass .............................................. Approx. 420 g
Airflow - Static Pressure Characteristics

- **PWM Duty Cycle**
  - 9LG1212P1G001
  - 9LG1212P1S001
  - 9LG1212P1H001

- **Operating Voltage Range**
  - 9LG1224P1G001
  - 9LG1224P1S001
  - 9LG1224P1H001

- **PWM Duty Cycle**
  - 9LG1224P1G001
  - 9LG1224P1S001
  - 9LG1224P1H001

- **Operating Voltage Range**
  - 9LG1224P1G001
  - 9LG1224P1S001
  - 9LG1224P1H001
### Airflow - Static Pressure Characteristics

- **PWM Duty Cycle**
  - Voltage: DC 48 V
  - PWM Duty Cycle: 100%
  - Static pressure vs. Speed (min⁻¹)
  - Static pressure vs. PWM Duty Cycle (%)

- **Operating Voltage Range**
  - Voltage: DC 12 V / 24 V / 48 V
  - PWM Duty Cycle: 100%
  - Static pressure vs. Speed (min⁻¹)
  - Static pressure vs. PWM Duty Cycle (%)

### PWM Duty - Speed Characteristics Example

- Voltage: DC 12 V / 24 V / 48 V
- PWM Frequency: 25 kHz
- Speed (min⁻¹) vs. PWM Duty Cycle (%)

### PWM Input Signal Example

- Input Signal Waveform
- \( V_{IL} \) and \( V_{IH} \)

Source Current (I(source)) : 1 mA Max. at control voltage 0 V
Sink Current (I(sink)) : 1 mA Max. at control voltage 5.25 V
Control Terminal Voltage: 5.25 V Max. (Open Circuit)

When the control lead wire is open, the fan speed is the same as the one at a PWM duty cycle of 100%.
Either TTL input, open collector or open drain can be used for PWM control input signal.

- \( V_s = 4.75 \text{ V to } 5.25 \text{ V} \)
- \( V_s = 0 \text{ V to } 0.4 \text{ V} \)
- PWM Duty Cycle (%) = \( \frac{T_1}{T} \times 100 \)
- PWM Frequency 25 (kHz) = \( \frac{1}{T} \)
Example of Connection Schematic

Specifications for Pulse Sensors

Output circuit: Open collector

Rated Voltage 12 V, 24 V Fan

\[ V_{OC} = +30 \text{ V MAX.} \]

\[ I_c = 10 \text{ mA MAX.} \quad (V_{OC} = V_{CC} = 0.6 \text{ V MAX.}) \]

Rated Voltage 48 V Fan

\[ V_{OC} = +60 \text{ V MAX.} \]

\[ I_c = 10 \text{ mA MAX.} \quad (V_{OC} = V_{CC} = 0.6 \text{ V MAX.}) \]

Output Waveform (Need pull-up resistor)

In case of steady running

\[ T_1 = 4 \times (1/4) \text{ To} \]

\[ T_1 = 4 \times (1/4) \text{ To} = 60/4N (\text{sec}) \]

\[ N = \text{Fan speed (min}^{-1}) \]

Dimensions (unit : mm)

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

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Sanyo Denki:
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