How to Read Specifications

DC Fan DC

	①	②	③	④	⑤	⑥		⑦		⑧	⑨	⑩
Model No.	Rated Voltage [V]	Operating Voltage Range [V]	Rated Current [A]	Rated Input [W]	Rated Speed [min⁻¹]	Max. Airflow [m³/min]	[CFM]	Max. Static Pressure [Pa]	[inchH₂O]	SPL [dB(A)]	Operating Temperature [℃]	Expected Life [h]
9GA0412G7001	12	7 to 13.8	0.17	2.04	13,100	0.36	12.7	192	0.77	42	−20 to +70	40,000/60℃ (70,000/40℃)

①Rated Voltage ····· This is the necessary voltage to drive the fan. 12VDC, 24VDC and 48VDC are available.
②Operating Voltage Range ··· The voltage range over which fan operation is guaranteed
③Rated Current ····· The current value during the fan's rated operation without load
④Rated Input ····· The input value during the fan's rated operation without load
⑤Rated Speed ····· The rotating speed during the fan's rated operation without load
⑥Max. Airflow ····· The maximum air volume that the fan can output during rated operation (according to the company's dual-chamber device).
The volume of air generated by the fan in a given time period
⑦Max. Static Pressure ····· The maximum static pressure value that the fan can output during rated operation (according to the company's dual-chamber device). The static pressure is the fan's force to propel air by overcoming the resistance of the device that uses the fan when it propels air.
⑧SPL ····· "SPL" is Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the method used to measure the noise level.
⑨Operating Temperature ····· The temperature range over which fan operation is guaranteed (Non- condensing)
⑩Expected Life ····· The fan's expected operating life when the fan operates continuously at the rated voltage at a temperature of 60˚C and at relative humidity of 90%. Expected life at 40℃ ambient is just reference value.
Please refer to the technical material section for the expected operating life.

DC Fan Common Specifications

Material ····· Frame,Impeller:Plastics / Frame:Aluminum,Impeller:Plastics
* For details, refer to the appropriate page.

Expected Life ····· Varies for each model (L10:Survival rate:90% at 60℃ ,rated voltage, and continuously run in a free air state)
* Splash proof fan: Varies for each model (Indoor, L10:Survival rate:90% at 60℃ ,rated voltage, and continuously run in a free air state)

Motor Protection ····· Burnout protection at locked rotor condition and Reverse polarity protection

Dielectric Strength ····· AC50/60Hz 500VAC 1minute(between lead conductor and frame)

Insulation Resistance ····· 10M Ω or more at 500VDC megger (between lead conductor and frame)

Sound Pressure Level(SPL) ·· Expressed as the value at 1m from air inlet side

Lead Wire ····· For details, refer to the appropriate page.

Overheating protection function

Protection Functions:
If the fan blades are restricted, an overcurrent occurs and leads to a rise in the fan coil temperature. This can result in reduced performance, damage, or a fire. To prevent this from occurring, SANYO DENKI's fans incorporate an overheating protection function. Refer to the catalog for the types of protection functions.

Burnout protection function at locked rotor condition

● Current cutoff system
If the fan blades are restricted, the coil current is cut off at regular cycles to prevent overheating of the coil. When the hindrance is removed, the fan restarts automatically.

Reverse polarity protection function

No problem about fan even if positive & negative lead are connected in reverse.
However, when wiring fans with sensors or PWM speed control function, connecting positive and negative leads in reverse may damage the fans.

How to Read Specifications

ACDC Fan AC

Model No.	① Rated Voltage [V]	② Operating Voltage Range [V]	③ Frequency [Hz]	④ Rated Current [A]	⑤ Rated Input [W]	⑥ Rated Speed [min⁻¹]	⑦ Max. Airflow [m³/min]	⑦ Max. Airflow [CFM]	⑧ Max. Static Pressure [Pa]	⑧ Max. Static Pressure [inchH₂O]	⑨ SPL [dB(A)]	⑩ Operating Temperature [℃]	⑪ Expected Life [h]
9AD0901H12	100 to 240	90 to 264	50/60	0.08	4.5	3,850	1.50	53.0	90	0.36	40	−20 to +75	60,000/60℃
9AD0901M12				0.06	3.0	3,100	1.18	41.7	56	0.22	33		

①Rated Voltage ····· This is the necessary voltage to drive the fan.
Single-phase 100 VAC to 240 VAC are also available.

②Operating Voltage Range ··· The voltage range over which fan operation is guaranteed. 50/60Hz compatible.

③Frequency ····· This is a frequency of alternating current(AC). The frequencies of 50Hz and 60Hz are existing in Japan.

④Rated Current ····· The current value during the fan's rated operation without load.

⑤Rated Input ····· The input value during the fan's rated operation without load.

⑥Rated Speed ····· The rotating speed during the fan's rated operation without load.

⑦Max. Airflow ····· The maximum air volume that the fan can output during rated operation (according to the company's dual-chamber device).
The volume of air generated by the fan in a given time period.

⑧Max. Static Pressure ····· The maximum static pressure value that the fan can output during rated operation (according to the company's dual-chamber device).
The static pressure is the fan's force to propel air by overcoming the resistance of the device that uses the fan when it propels air.

⑨SPL ····· "SPL" is Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the method used to measure the noise level.

⑩Operating Temperature ····· The temperature range over which fan operation is guaranteed (Non- condensing)

⑪Expected Life ····· The fan's expected operating life when the fan operates continuously at the rated voltage at a temperature of 60° C and at relative humidity of 90%.
Please refer to the technical material section for the expected operating life.

ACDC Fan Common Specifications

Material ····· Frame, Impeller: Plastics * For details, refer to the appropriate page.

Expected Life ····· Varies for each model
(L10:Survival rate:90% at 60℃ , rated voltage,and continuously run in a free air state)

Motor Construction ····· Brushless DC motor

Motor Protection System ·· Burnout protection at locked rotor condition

Dielectric Strength ····· 50/60Hz 1500VAC 1minute
(between input terminal and frame, and between sensor output and frame)

Insulation Resistance ····· 10M Ω or more at 500VDC megger (between lead conductor and frame)

Sound Pressure Level(SPL) ·· Expressed as the value at 1m from air inlet side

Operating Voltage Range ·· Varies depending on models.

Lead Wire ····· For details, refer to the appropriate page.

Overheating protection function

Protection Functions

If the fan blades are restricted, an overcurrent occurs and leads to a rise in the fan coil temperature. This can result in reduced performance, damage, or a fire. To prevent this from occurring, SANYO DENKI's fans incorporate an overheating protection function.

Burnout protection function at locked rotor condition

● Current cutoff system (ACDC fan only)
If the fan blades are restricted, the coil current is cut off at regular cycles to prevent overheating of the coil. When the hindrance is removed, the fan restarts automatically.

How to Read Specifications

AC Fan AC

Model No.	① Rated Voltage [V]	② Frequency [Hz]	③ Input [W]	④ Current [A]	⑤ Locked Rotor Current [A]	⑥ Rated Speed [min⁻¹]	⑦ Max. Airflow [m³/min]	⑦ Max. Airflow [CFM]	⑧ Max. Static Pressure [Pa]	⑧ Max. Static Pressure [inchH₂O]	⑨ SPL [dB(A)]	⑩ Operating Temperature [℃]	⑪ Expected Life [h]
109-180	100	50/60	5/4	0.06/0.05	0.07/0.06	2,250/2,700	0.27/0.33	9.5/11.7	11.8/18.6	0.047/0.075	24/26	−30 to +70	25,000
109-183	115				0.06/0.05								

①Rated Voltage ····· This is the necessary voltage to drive the fan.
Single-phase 100VAC, 115VAC, 200VAC and 230VAC are also available.

②Frequency ····· This is a frequency of alternating current(AC). The frequencies of 50Hz and 60Hz are existing in Japan.
Performance of AC fan varies depending on the frequency.
Example: Rated speed 2,250/2,700 = 50Hz → 2,250, 60Hz → 2,700

③Input ····· The input value during the fan's rated operation without load.

④Current ····· The current value during the fan's rated operation without load.

⑤Locked Rotor Current ····· This is a current when rotor of motor that applies rated voltage is locked.

⑥Rated Speed ····· The rotating speed during the fan's rated operation without load.

⑦Max. Airflow ····· The maximum air volume that the fan can output during rated operation
(according to the company's dual-chamber device).
The volume of air generated by the fan in a given time period.

⑧Max. Static Pressure ····· The maximum static pressure value that the fan can output during rated operation
(according to the company's dual-chamber device).
The static pressure is the fan's force to propel air by overcoming the resistance of the device that uses the fan when it propels air.

⑨SPL ····· "SPL" is Sound Pressure Level. The noise level during the fan's rated operation.
Please refer to the technical material section for the method used to measure the noise level.

⑩Operating Temperature ····· The temperature range over which fan operation is guaranteed (Non- condensing)

⑪Expected Life ····· The fan's expected operating life when the fan operates continuously at the rated voltage at a temperature of 60˚C and at relative humidity of 90%.
Please refer to the technical material section for the expected operating life.

AC Fan Common Specifications

Material ····· Frame:Aluminum,Impeller:Plastics

Expected Life ····· Varies for each model
(L10:Survival rate:90% at 60℃ ,rated voltage,and continuously run in a free air state)

Motor Construction ····· Shaded coil motor (60mm sq. 80mm sq. 92mm sq. 120mm sq.)
Capacitor motor (160mm sq. φ172mm)

Motor Protection System ·· Burnout protection at locked rotor condition

Dielectric Strength ····· 50/60Hz 1500VAC 1minute
(between input terminal and frame or between lead conductor and frame *For details, refer to the appropriate page.)

Insulation Resistance ····· 10MΩ or more at 500VDC megger

Sound Pressure Level(SPL) ·· Expressed as the value at 1m from air inlet side

Operating Voltage Range ·· Voltage of each model ± 10%

Lead Wire ····· For details, refer to the appropriate page.

Overheating protection function AC

Protection Functions

If the fan blades are restricted, an overcurrent occurs and leads to a rise in the fan coil temperature. This can result in reduced performance, damage, or a fire. To prevent this from occurring, SANYO DENKI's fans incorporate an overheating protection function.

Burnout protection function at locked rotor condition

- Impedance protection (60mm sq. 80mm sq. 92mm sq. 120mm sq.)
  This system is used for shading coil-type fans. When the blades are restricted, the current is reduced by the impedance of the coil itself to prevent a temperature rise in the coil. However, if the applied voltage exceeds the specification range, an overcurrent can occur and result in overheating, and so care needs to be taken.
- Thermal protection (160mm sq. φ172mm)
  This system is used for condenser phase-type fans. A temperature sensor is incorporated in the coil so that if the temperature exceeds the specification temperature, the current is cut off to prevent overheating of the coil.