San Ace 250*AD*

ACDC Fan

9ADW1TV type

Features

High Airflow and High Static Pressure

These fans deliver a maximum airflow of 26.5 m^3/min and a maximum static pressure of 650 Pa. They are ideal for air conditioning systems such as heat exchangers and fan filter units (FFU), which require high cooling performance, and for cooling inverters and telecom equipment cabinets, which have high mounting density so air flows with difficulty.

No DC Power Supply Required

With an embedded AC-DC converter, these fans can be driven by an AC power supply. This eliminates the need for a high-capacity DC power supply, reducing the overall costs.

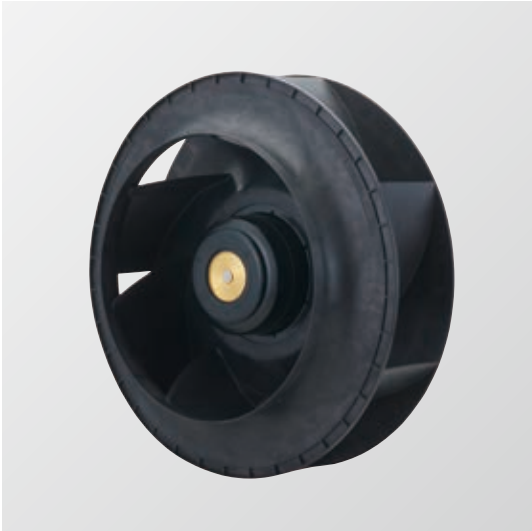
Low Noise and High Energy Efficiency

The PWM control function enables the control of fan speed, contributing to lowering noise and improving energy efficiency of devices.

Water and Dust Resistance

This fan has IP56-rated* water and dust protection. It maintains stable operation even in harsh environments.

* The degree of protection (IP code) is defined by IEC 60529 (International Electrotechnical Commission).
IP56:
- Protection against a level of dust that could hinder operation or impair safety
- Protection against powerful water jets



ø250 × 99 mm

Specifications

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

The models listed below **have pulse sensors with PWM control function.**

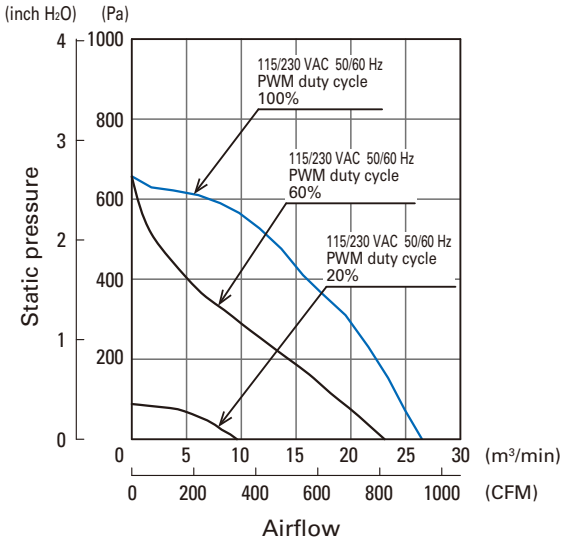
Model no.	Rated voltage [V]	Operating voltage range [V]	Frequency [Hz]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	Rated speed [min^{-1}]	Max. airflow [m^3/min]	[CFM]	Max. static pressure [Pa]	[inchH_2O]	SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9ADW1TV11P0G001	115	90 to 132	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 input frequency is 1 kHz; models without specifications at 0% PWM duty cycle have zero fan speed at 0%.

Common Specifications

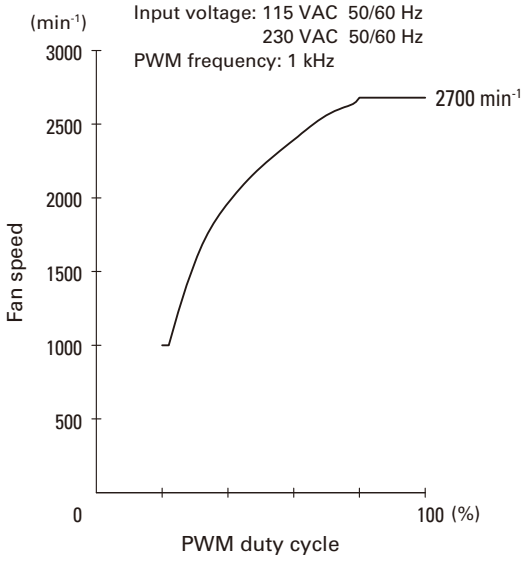
- ☐ Material ····· Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- ☐ Expected life ····· Refer to specifications
  (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
  Expected life at 40°C is for reference only.
- ☐ Motor protection function ····· Locked rotor burnout protection
- ☐ Dielectric strength ····· 50/60 Hz, 1500 VAC, for 1 minute (between lead wire conductors and motor case)
- ☐ Insulation resistance ····· 10 MΩ or more with a 500 VDC megger (between lead wire conductors and motor case)
- ☐ Sound pressure level (SPL) ····· At 1 m away from the air inlet
- ☐ Operating temperature ····· Refer to specifications (Non-condensing)
- ☐ 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

Airflow - Static Pressure Characteristics



9ADW1TV11P0G001
9ADW1TV23P0G001

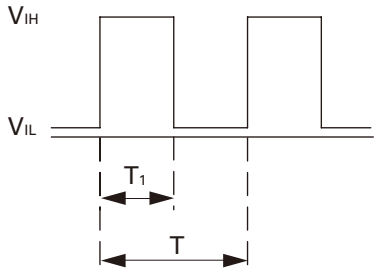
PWM Duty - Speed Characteristics Example



9ADW1TV11P0G001
9ADW1TV23P0G001

PWM Input Signal Example

Input signal waveform



V_{IH} = 2.8 to 10.5 V V_{IL} = 0 to 0.5 V

PWM duty cycle (%) = $\frac{T_1}{T} \times 100$ PWM frequency 1 (kHz) = $\frac{1}{T}$

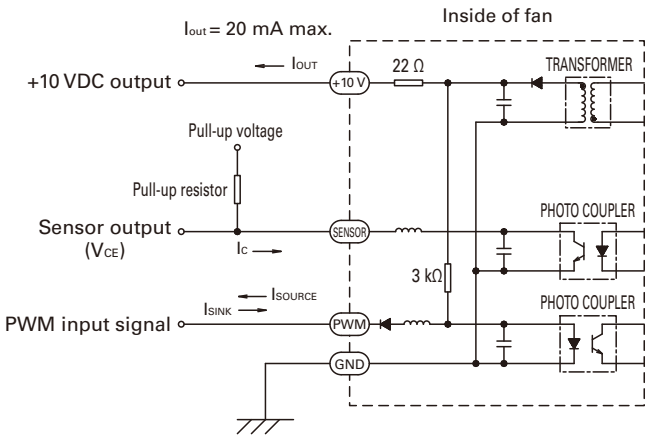
Current source (Isource) = 5 mA max. (when control voltage is 0 V)

Current sink (Isink) = 0.1 mA max. (when control voltage is 10 V)

Control terminal voltage = 11.5 V max. (when control terminal is open)

When the control terminal is open,
fan speed is the same as when PWM duty cycle is 100%.
Either TTL input, open collector or open drain can be used for
PWM control input signal.

Example of Connection Schematic

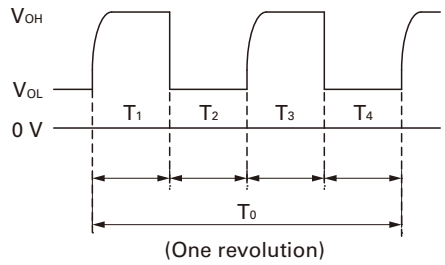


V_{CE} = +27.6 V max.
Ic = 10 mA max. [V_{OL}=V_{CE} (SAT)=1 V max.]
Pull-up resistor = 5 kΩ max.

Specifications for Pulse Sensors

Output circuit: Open collector
Output waveform

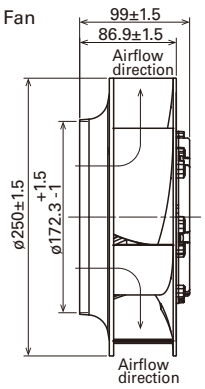
In case of steady running

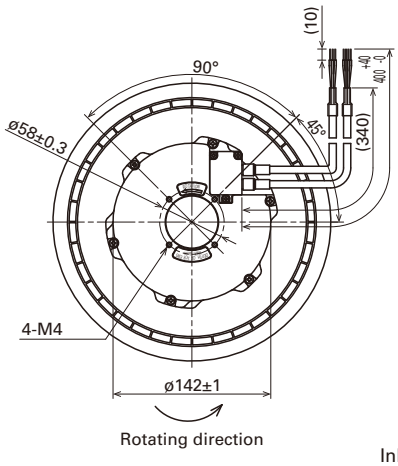


$T_{1\ to\ 4} \fallingdotseq (1/4)\ T_0$
T_0 = 60/4N (s)
N = Fan speed (min^{-1})

Dimensions (unit: mm)

Fan





Power lead wire
AWG 20
UL 1430

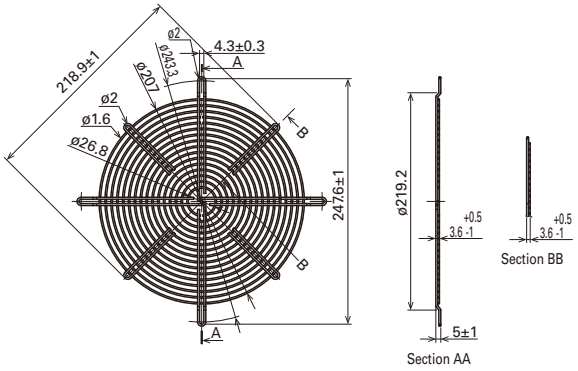
Other lead wire
AWG 24
UL 1430

Finger guards

Model no.: 109-1152
Surface treatment: Nickel-chrome plating (silver) Mass: 140 g

Model no.: 109-1152H
Surface treatment:Cation electropainting (black) Mass: 140 g

For use in environments subject to water splashes,
cation electroplating models are recommended.

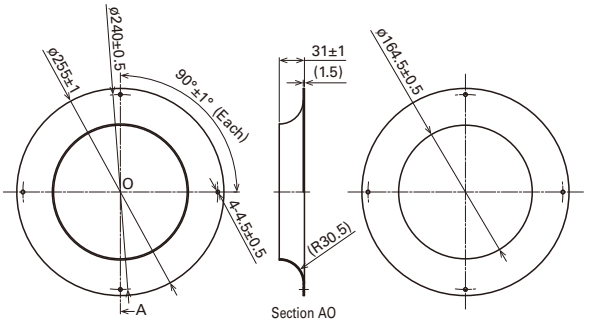


Inlet nozzle

Model no.: 109-1151
Material: Steel sheet Surface treatment:Nickel-chrome plating (silver) Mass: 440 g

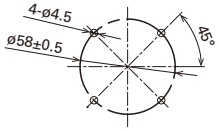
Model no.: 109-1151H
Material: Steel sheet Surface treatment: Cation electropainting (black) Mass: 440 g

For use in environments subject to water splashes,
cation electroplating models are recommended.

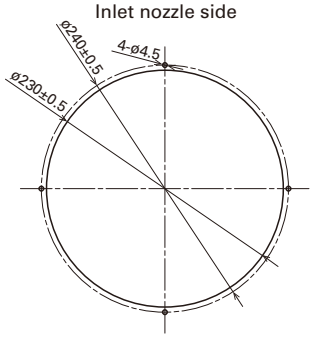


Reference Dimensions of Mounting Holes and Vent Opening (unit: mm)

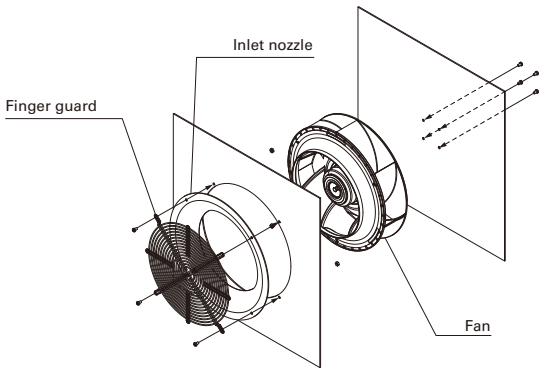
Fan side

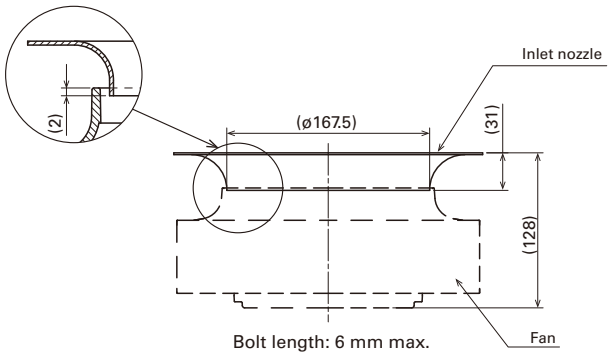


Inlet nozzle side



Reference Diagram for Mounting





Bolt length: 6 mm max.

Notice

- Please read the "Safety Precautions" on our website before using the product.
- The products shown in this catalog are subject to Japanese Export Control Law. Diversion contrary to the law of exporting country is prohibited.
- For protecting fan bearings against electrolytic corrosion near strong electromagnetic noise sources, we provide effective countermeasures such as Electrolytic Corrosion Proof Fans and EMC guards. Contact us for details.

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CATALOG No. C1116B001 '21.4