

# San Ace 175W 9W2T type

## Splash Proof Centrifugal Fan

### ■ Features

#### High Airflow and High Static Pressure

This fan delivers a maximum airflow of 17.3 m<sup>3</sup>/min and a maximum static pressure of 1,100 Pa.

Compared with the current model\*, the maximum airflow and maximum static pressure have increased to approximately 1.9 times and 3 times, respectively.

#### Water and Dust Resistance

Its IP56-rated\*\* water and dust protection ensures stable fan operation even in harsh environments.

#### High Energy Efficiency and Low Noise

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

\* Current model: *San Ace 175W9W1T* type  $\phi$ 175 x 69 mm Splash Proof Centrifugal Fan (model no.: 9W1TG48P0H61).

\*\* 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



**$\phi$ 175 x 69 mm**

### ■ Specifications When the optional inlet nozzle (109-1073H) is mounted.

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

Model no.	Rated voltage [V]	Operating voltage range [V]	PWM duty cycle* [%]	Rated current [A]	Rated input [W]	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]
9W2TGA48P0G001	48	36 to 72	100	3.85	184.8	5700	17.3 611	1100 4.42	80	-30 to +60	40000/60°C (70000/40°C)
			15	0.08	3.84	800	2.4 84.7	21.7 0.087	38		

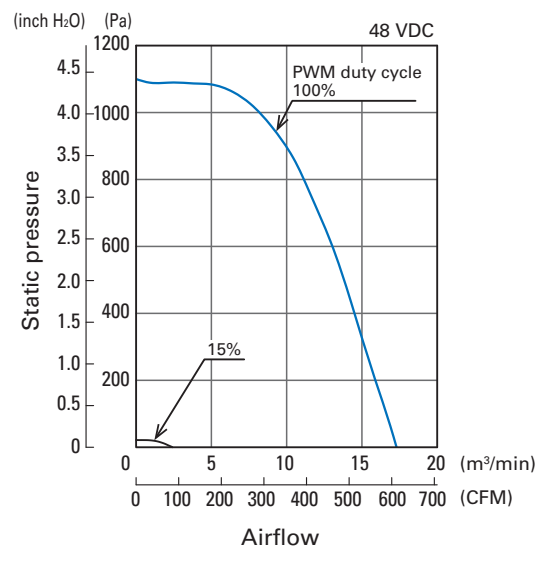
\* PWM frequency: 25 kHz. Fan does not rotate when PWM duty cycle is 0%.  
Max input is 330 W at rated voltage.

### ■ Common Specifications

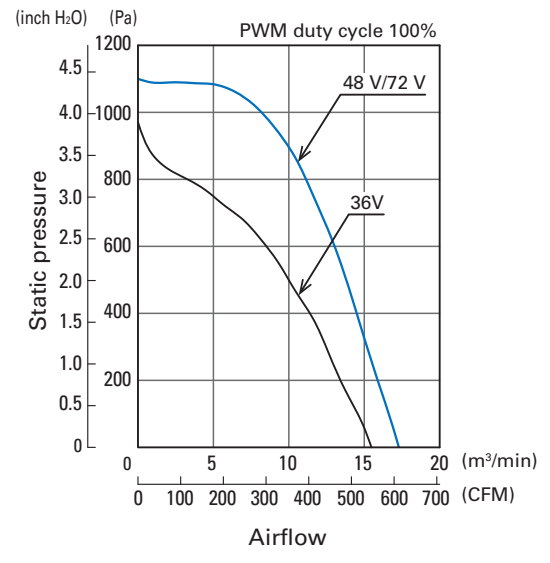
- Material ..... Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- Expected life ..... Refer to specifications  
(L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)  
Expected life at 40°C is for reference only.
- Motor protection system ..... Current blocking function and reverse polarity protection
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (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 ..... ⊕ Red ⊖ Black Sensor Yellow Control Brown
- Mass ..... Approx. 980 g
- Ingress protection ..... IP56

## Airflow - Static Pressure Characteristics

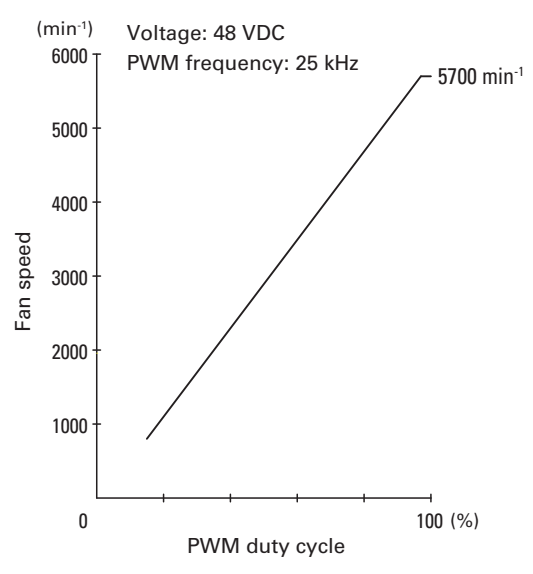
- PWM duty cycle



- Operating voltage range

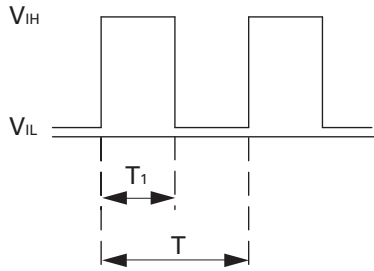


## PWM Duty - Speed Characteristics Example



### PWM Input Signal Example

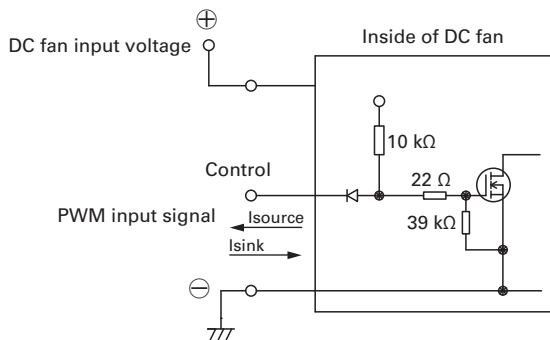
Input signal waveform



$V_{IH} = 4.75 \text{ to } 5.25 \text{ V}$     $V_{IL} = 0 \text{ to } 0.4 \text{ V}$   
 PWM duty cycle (%) =  $\frac{T_1}{T} \times 100$    PWM frequency 25 (kHz) =  $\frac{1}{T}$   
 Current source ( $I_{source}$ ) = 1 mA max. (when control voltage is 0 V)  
 Current sink ( $I_{sink}$ ) = 1 mA max. (when control voltage is 5.25 V)  
 Control terminal voltage = 5.25 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.

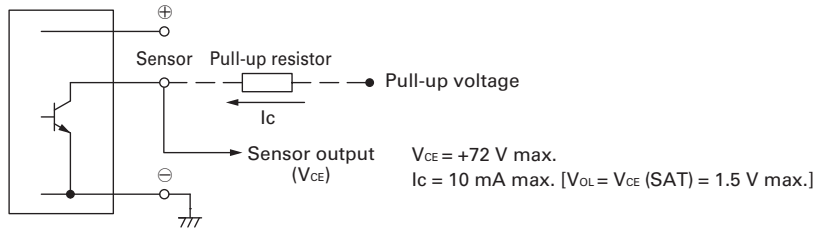
### Example of Connection Schematic



### Specifications for Pulse Sensors

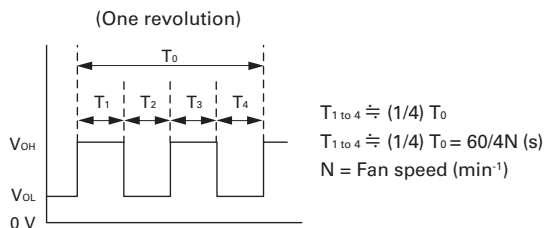
Output circuit: Open collector

Inside of DC fan

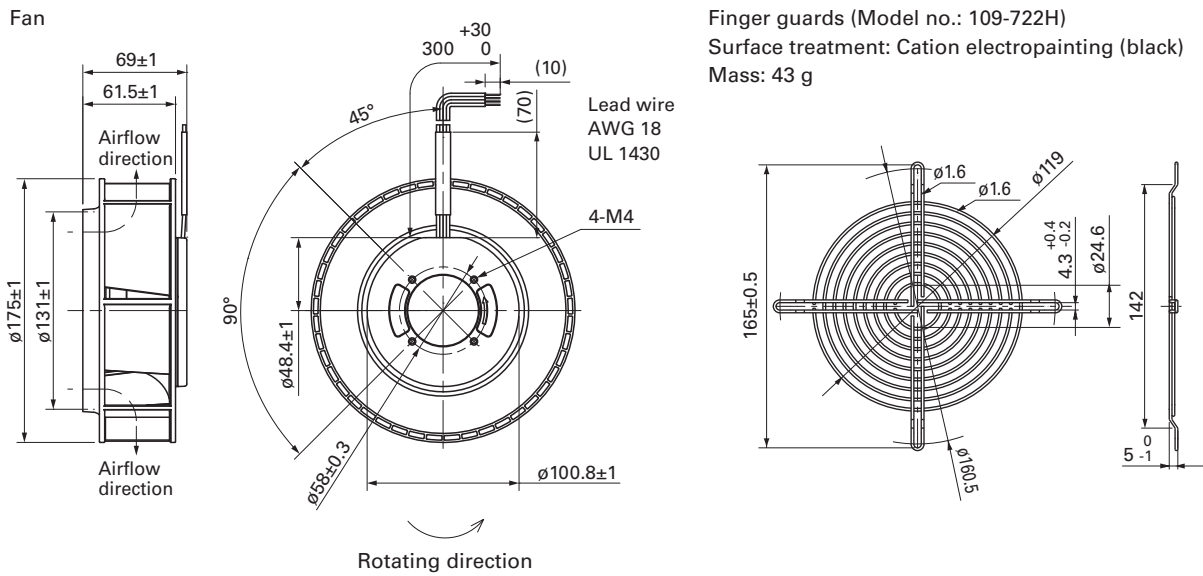


Output waveform (Need pull-up resistor)

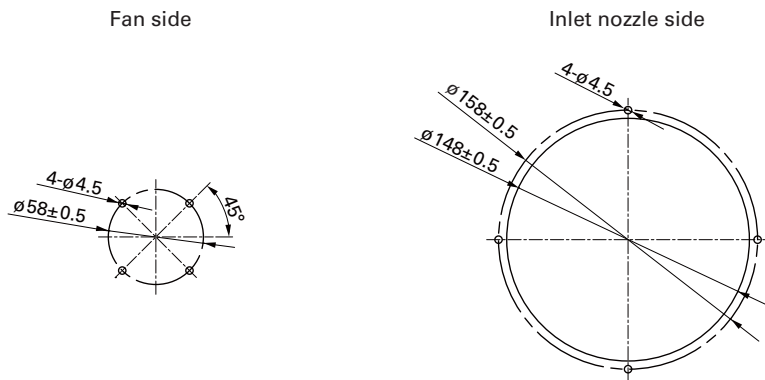
In case of steady running



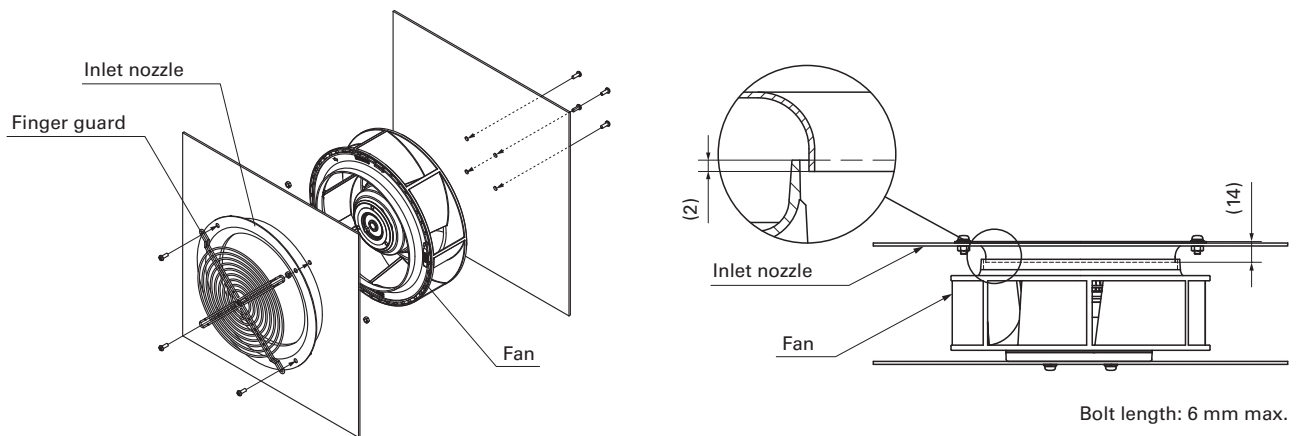
## Dimensions (unit: mm)



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



## Reference Diagram for Mounting



## 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.

**SANYO DENKI CO.,LTD.** 3-33-1 Minami-Otsuka, Toshima-ku, Tokyo 170-8451, Japan TEL: +81 3 5927 1020

<https://www.sanyodenki.com>

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