

San Ace 150W

9W2T type

Splash Proof Centrifugal Fan

Features

Water and Dust Resistance

Its IP68-rated* water and dust protection ensures stable fan operation even in harsh environments.

High Airflow and High Static Pressure

This fan delivers a maximum airflow of 3.83 m³/min and a maximum static pressure of 390 Pa.

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.

* The degree of protection (IP code) is defined by IEC 60529 (International Electrotechnical Commission).

IP68:

- Completely protected against dust
- Protected against submersion in water



Ø150×35 mm

Specifications When the optional inlet nozzle (109-1081H) 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 ⁻¹]	Max. airflow [m ³ /min] [CFM]		Max. static pressure [Pa] [inchH ₂ O]		SPL [dB(A)]	Operating temperature [°C]	Expected life [h]
9W2TN24P1H001	24	20.4 to 27.6	100	0.64	15.4	3800	3.83	135	390	1.57	59	-20 to +70	40000/60°C (70000/40°C)
			20	0.16	3.84	1500	1.51	53	60.7	0.24	38		
9W2TN48P1H001	48	36 to 55.2	100	0.32	15.4	3800	3.83	135	390	1.57	59		
			20	0.08	3.84	1500	1.51	53	60.7	0.24	38		

* PWM frequency: 25 kHz. Fan does not rotate when PWM duty cycle is 0%.

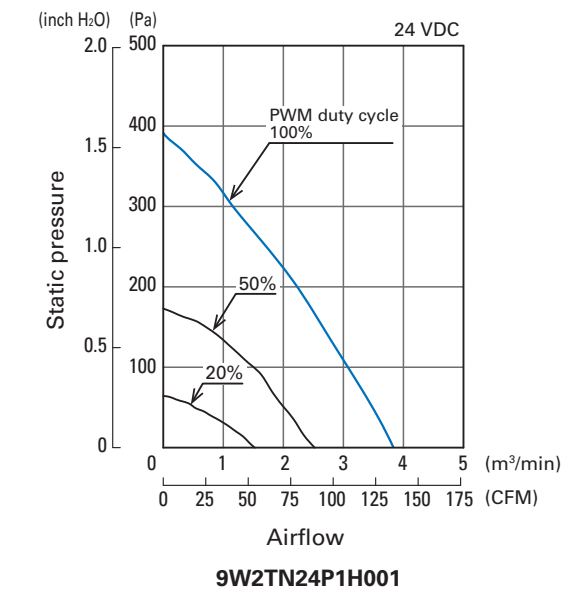
Max input is 22 W at rated voltage.

Common Specifications

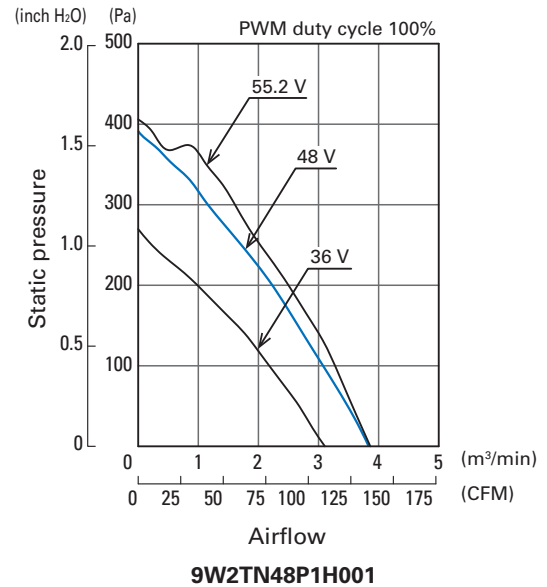
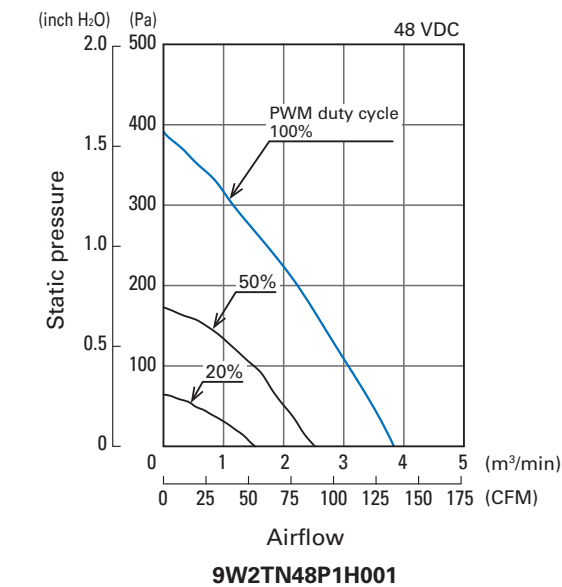
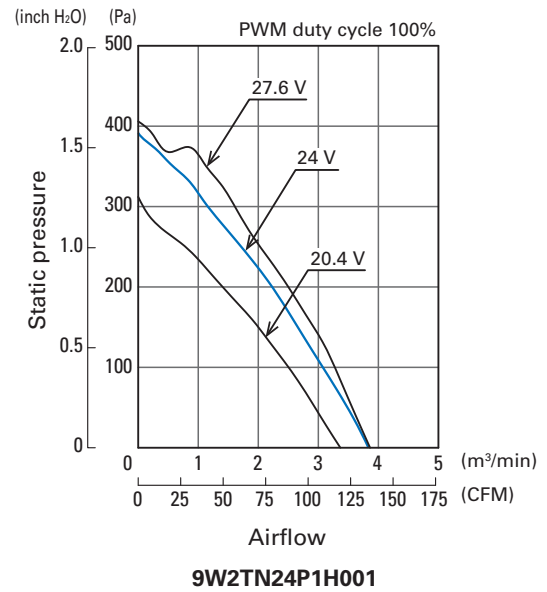
- ☐ Material Motor case: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-0)
- ☐ Expected life Refer to specifications
(L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
Expected life at 40°C is for reference only.
- ☐ Motor protection system 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. 360 g
- ☐ Ingress protection IP68

Airflow - Static Pressure Characteristics

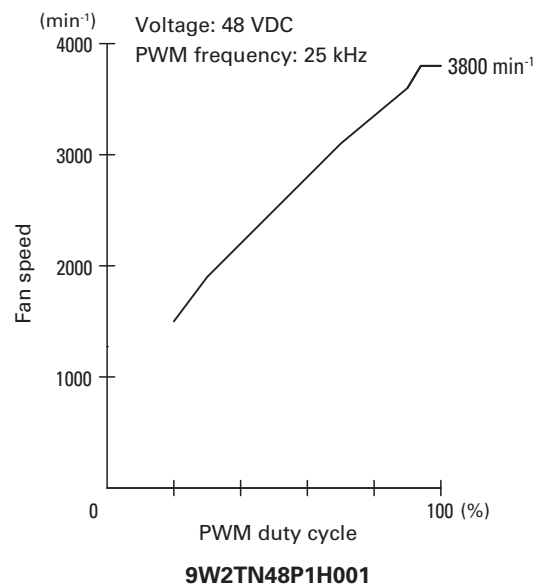
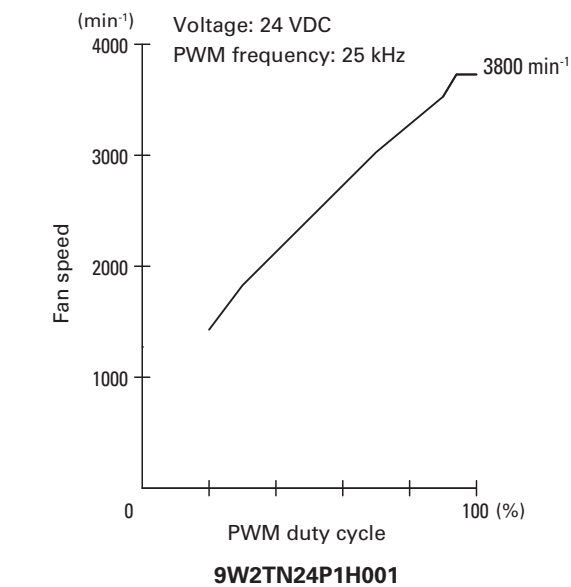
- PWM duty cycle



- Operating voltage range

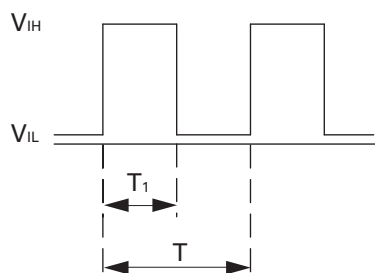


PWM Duty - Speed Characteristics Example



PWM Input Signal Example

Input signal waveform



$$V_{IH} = 4.75 \text{ to } 5.25 \text{ V} \quad V_{IL} = 0 \text{ to } 0.4 \text{ V}$$

$$\text{PWM duty cycle (\%)} = \frac{T_1}{T} \times 100 \quad \text{PWM frequency } 25 \text{ (kHz)} = \frac{1}{T}$$

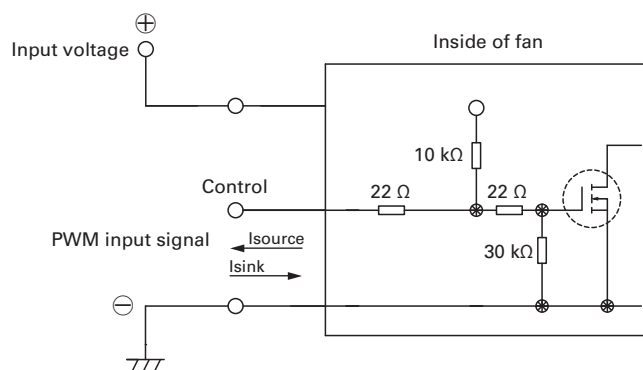
Current source (I_{source}) = 2 mA max. (when control voltage is 0 V)

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)

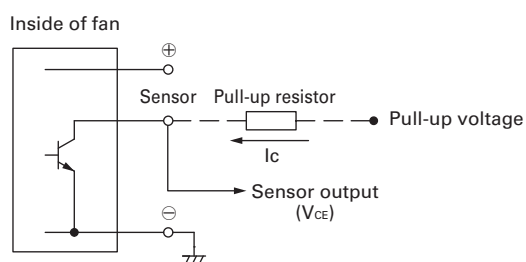
When the control terminal is open,
fan speed is the same as when PWM duty cycle is 100%.
Either TTL input, open collector or open drain can be used for
PWM control input signal.

Example of Connection Schematic



Specifications for Pulse Sensors

Output circuit: Open collector



Rated voltage 24 V fan

$V_{CE} = +30 \text{ V max.}$

$I_C = 10 \text{ mA max.}$ [$V_{OL} = V_{CE}(\text{SAT}) = 0.6 \text{ V max.}$]

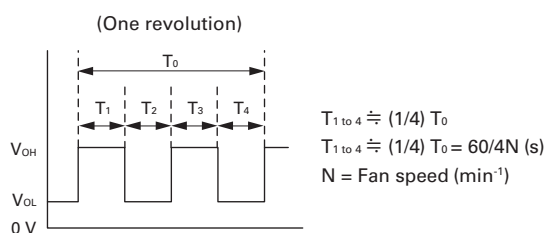
Rated voltage 48 V fan

$V_{CE} = +60 \text{ V max.}$

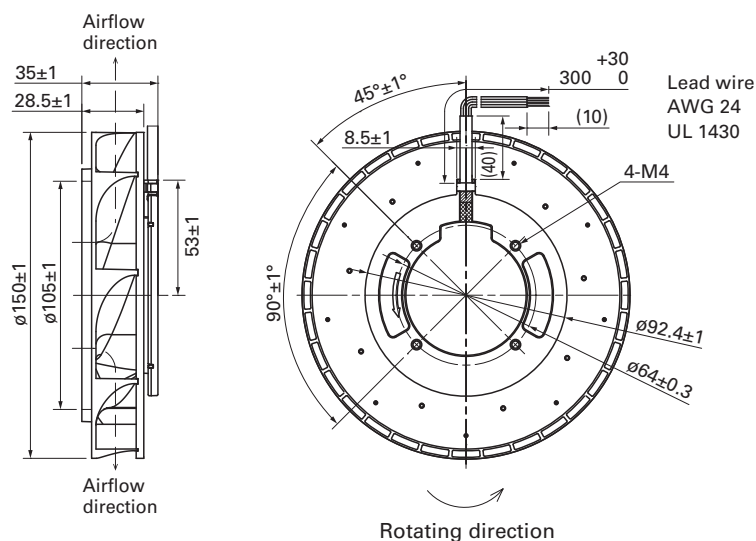
$I_C = 10 \text{ mA max.}$ [$V_{OL} = V_{CE}(\text{SAT}) = 0.6 \text{ V max.}$]

Output waveform (Need pull-up resistor)

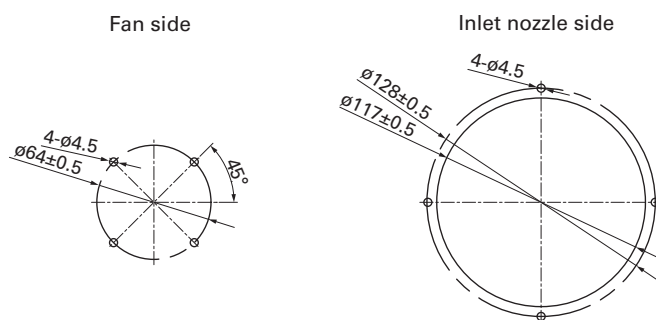
In case of steady running



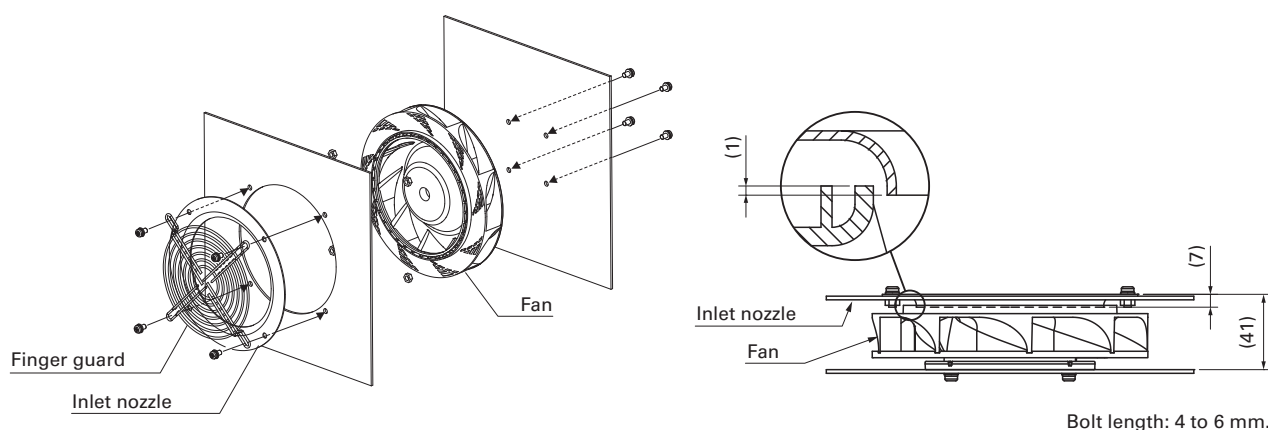
■ Dimensions (unit: mm)



■ 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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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.