

## Splash Proof Fan

IP68 LEO PRODUCTS

# 92×92×25 mm

San Ace 92W 9WL type △ cUL<sup>®</sup> us



DC

### General Specifications

- Material ..... Frame: Aluminum (Black coating), Impeller: Plastic (Flammability: UL 94V-1)
- Expected life ..... See the table below. (L10 life: 90% survival rate for continuous operation in indoor free air at 60°C, rated voltage)
- Motor protection function ..... Locked rotor burnout protection, Reverse polarity protection  
For details, please refer to p. 547.
- Dielectric strength ..... 50/60 Hz, 500 VAC, for 1 minute (between lead wire conductors and frame)
- Insulation resistance ..... 10 MΩ or more with a 500 VDC megger (between lead wire conductors and frame)
- Sound pressure level (SPL) ..... At 1 m away from the air inlet
- Storage temperature ..... -30 to +70°C (Non-condensing)
- Lead wire .....  Red  Black  Sensor  Yellow  Control  Brown  
(For models without PWM control function, there is no speed control wiring.)
- Mass ..... 170 g
- Ingress protection ..... IP68

### Specifications

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 [m³/min] [CFM]	Max. static pressure [Pa] [inchH₂O]	SPL [dB (A)]	Operating temperature [°C]	Expected life [h]
9WL0912P4J001	12	10.8 to 13.2	100	0.42	5.04	5000	2.2 77.7	105 0.42	44	-20 to +70	180000/60°C
			20	0.04	0.48	1200	0.52 18.4	6.04 0.024	11		
9WL0912P4G001	12	10.8 to 13.2	100	0.3	3.6	4400	1.93 68.2	81 0.33	40	-20 to +70	180000/60°C
			20	0.04	0.48	1000	0.43 15.1	4.18 0.016	8		
9WL0912P4S001	12	10.8 to 13.2	100	0.22	2.64	3850	1.69 59.7	62.1 0.25	37	-20 to +70	180000/60°C
			30	0.04	0.48	1400	0.61 21.5	8.21 0.032	13		
9WL0912P4H001	12	10.8 to 13.2	100	0.15	1.8	3150	1.38 48.7	41.6 0.17	32	-20 to +70	180000/60°C
			30	0.04	0.48	1100	0.48 16.9	5.07 0.02	9		
9WL0924P4J001	24	21.6 to 26.4	100	0.21	5.04	5000	2.2 77.7	105 0.42	44	-20 to +70	180000/60°C
			20	0.02	0.48	1100	0.48 16.9	5.07 0.02	9		
9WL0924P4S001	24	21.6 to 26.4	100	0.11	2.64	3850	1.69 59.7	62.1 0.25	37	-20 to +70	180000/60°C
			30	0.02	0.48	1300	0.57 20.1	7.08 0.028	12		
9WL0924P4H001	24	21.6 to 26.4	100	0.07	1.68	3150	1.38 48.7	41.6 0.17	32	-20 to +70	180000/60°C
			30	0.02	0.48	1000	0.43 15.1	4.18 0.016	8		

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

The following sensor and control options are available for selection.

Differs according to the model. Refer to the table on p. 579. **Without sensor** **Pulse sensor** **Lock sensor**

The models listed below have pulse sensors.

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 [°C]	Expected life [h]
9WL0912M4001	12	10.2 to 13.8	0.08	0.96	2400	1.05 37.1	24.1 0.097	24	-20 to +70	180000/60°C
9WL0924F4001	24	20.4 to 27.6	0.05	1.2	2800	1.22 43.1	32.8 0.13	29		
9WL0924M4001			0.04	0.96	2400	1.05 37.1	24.1 0.097	24		

The following sensor and control options are available for selection.

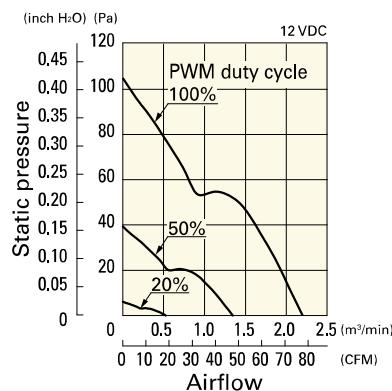
Available for all models. **Without sensor**

Differs according to the model. Refer to the table on p. 579. **Lock sensor**

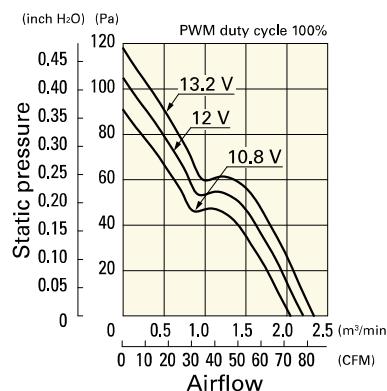
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9WL0912P4J001** With pulse sensor with PWM control function

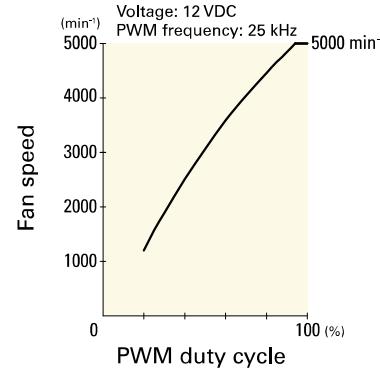
### PWM duty cycle



### Operating voltage range

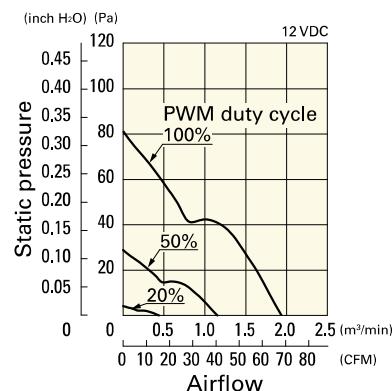


### PWM duty - Speed characteristics example

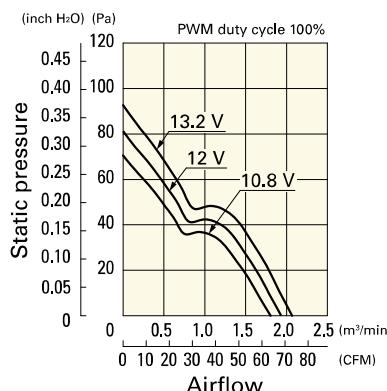


**9WL0912P4G001** With pulse sensor with PWM control function

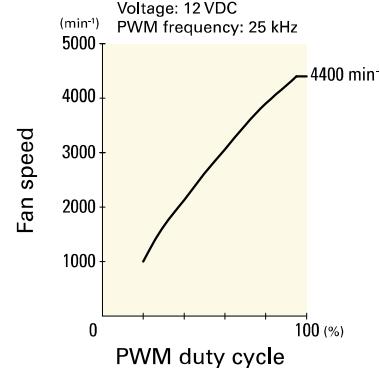
### PWM duty cycle



### Operating voltage range

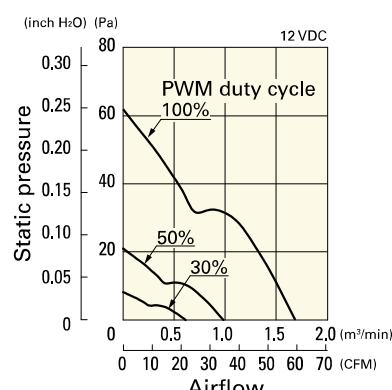


### PWM duty - Speed characteristics example

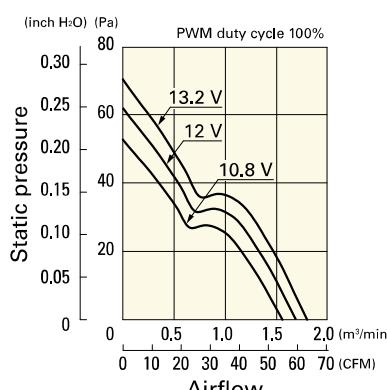


**9WL0912P4S001** With pulse sensor with PWM control function

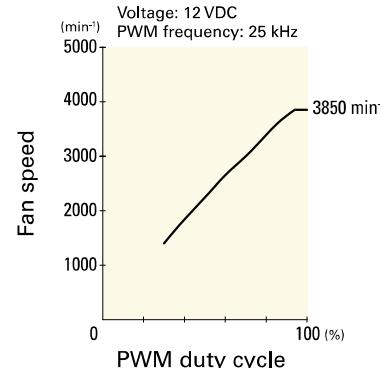
### PWM duty cycle



### Operating voltage range

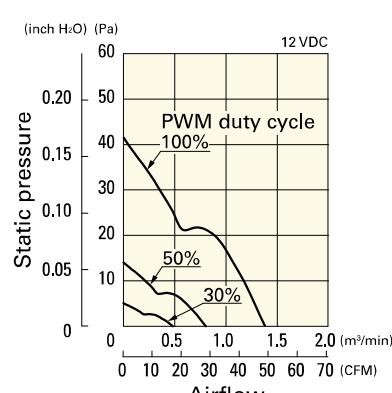


### PWM duty - Speed characteristics example

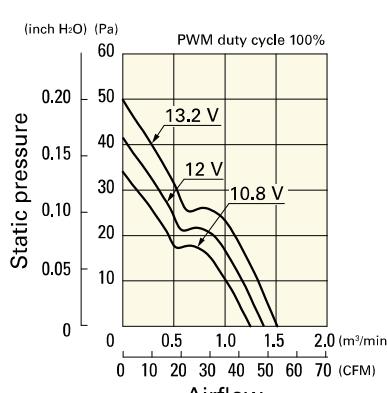


**9WL0912P4H001** With pulse sensor with PWM control function

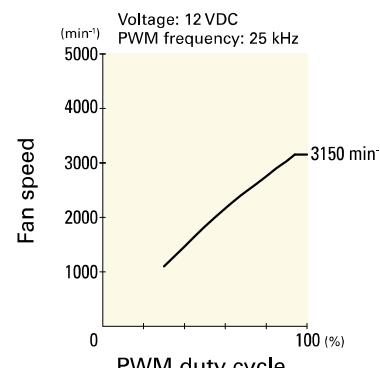
### PWM duty cycle



### Operating voltage range



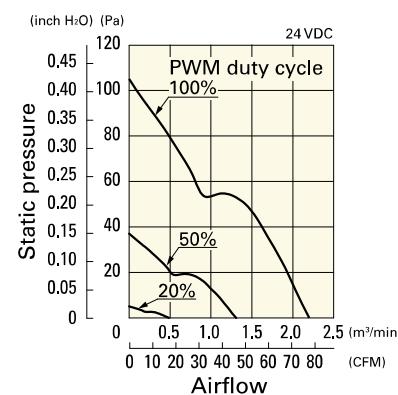
### PWM duty - Speed characteristics example



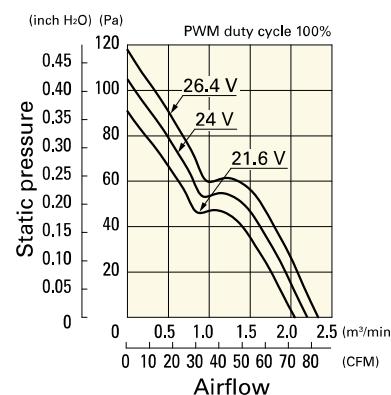
## Airflow - Static Pressure Characteristics / PWM Duty - Speed Characteristics Example

**9WL0924P4J001** With pulse sensor with PWM control function

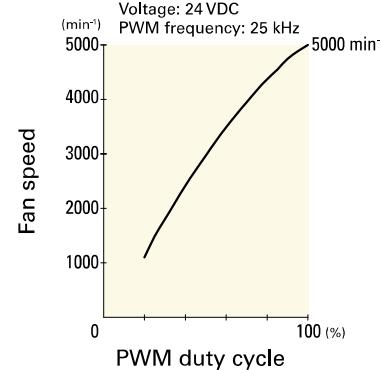
### PWM duty cycle



### Operating voltage range

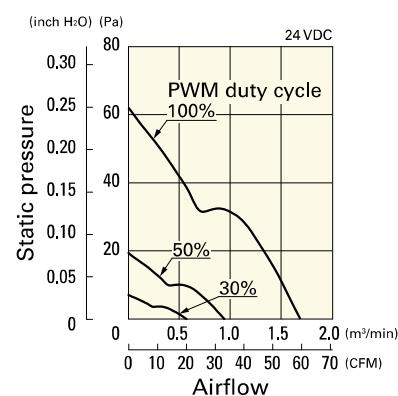


### PWM duty - Speed characteristics example

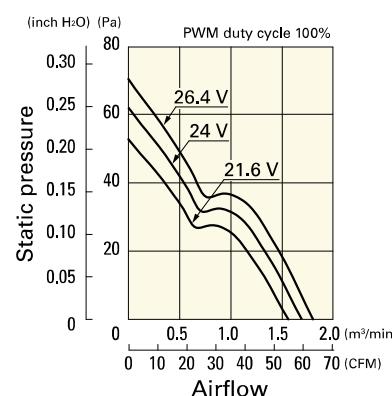


**9WL0924P4S001** With pulse sensor with PWM control function

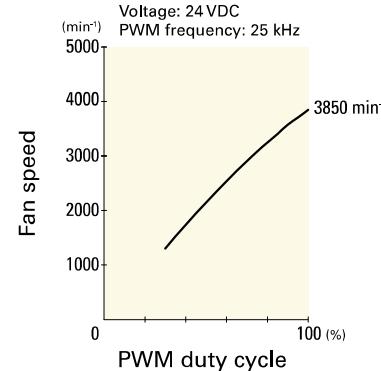
### PWM duty cycle



### Operating voltage range

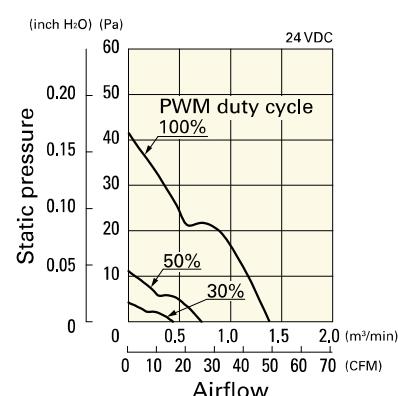


### PWM duty - Speed characteristics example

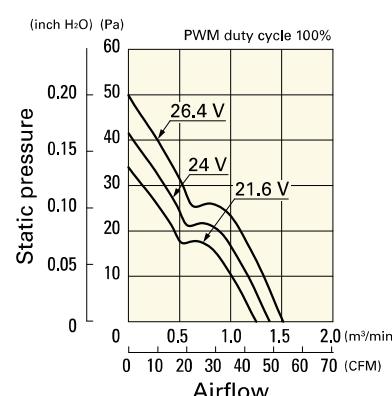


**9WL0924P4H001** With pulse sensor with PWM control function

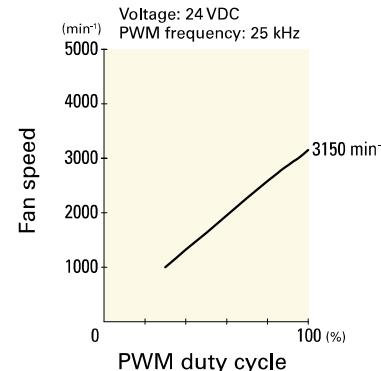
### PWM duty cycle



### Operating voltage range

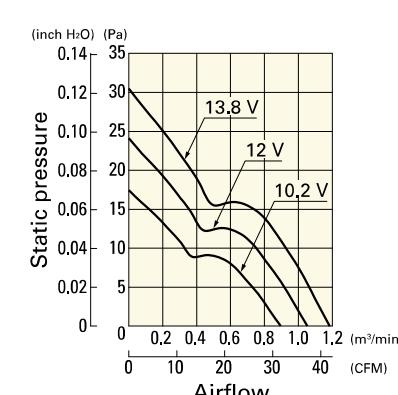


### PWM duty - Speed characteristics example



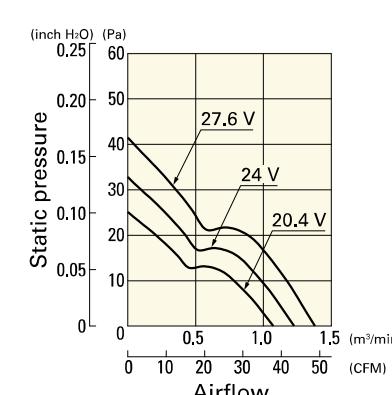
**9WL0912M4001** With pulse sensor

### Operating voltage range



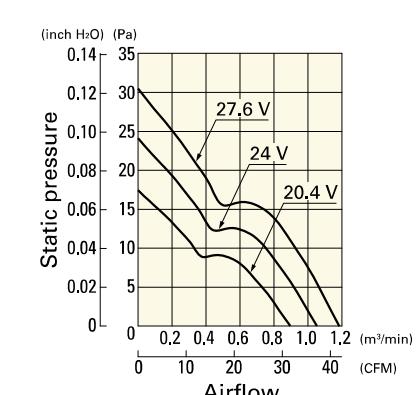
**9WL0924F4001** With pulse sensor

### Operating voltage range

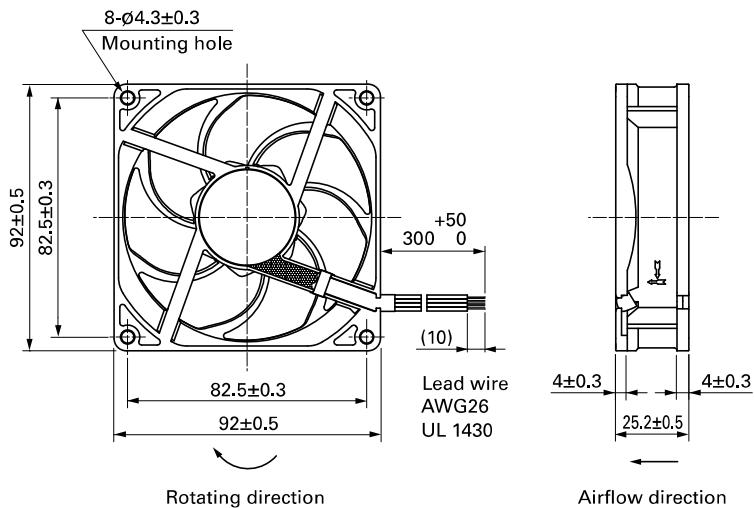


**9WL0924M4001** With pulse sensor

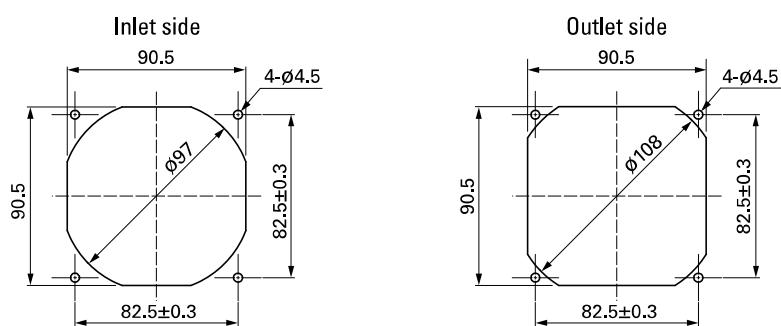
### Operating voltage range



## Dimensions (unit: mm)



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



## Options

Finger guards

page: p. 532

Model no.: 109-099E, 109-099H, 109-099C

Resin finger guards

page: p. 539

Model no.: 109-1001G