

IP55 Protected/Tacho Output Brushless DC Fan

09225SE

NMB

General Specifications

Motor Type:

DC Brushless Motor

Motor Protection:

Auto Restart / Polarity Protection (Motor withstands reverse connection for positive and negative leads.)

Insulation Resistance:

10M Ω or over with a DC 500V Megger

Dielectric Withstand Voltage:

AC 700V 1sec or 500V 1min

Allowable Ambient Temperature Range:

-10°C ~ + 70°C (Operating)

-40°C ~ + 70°C (Storage)

(non-condensing environment)

Installation:

Fans to be installed with leadwire pointing downward to avoid water ingress to the motor.



Features

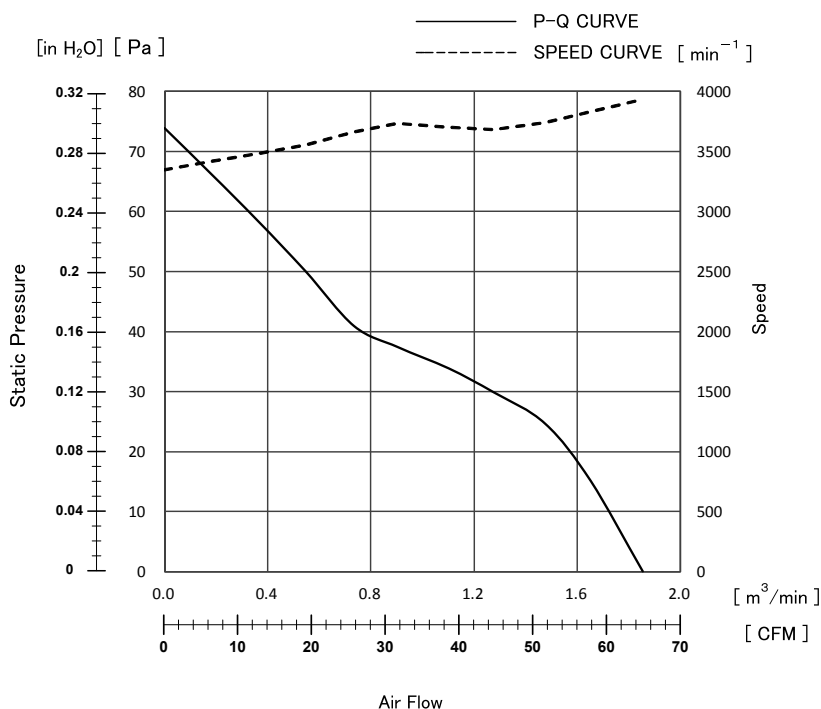
- Meets IP55 rating and below per IEC 60529 standard
- Long life and high reliability with NMB rust resistant precision ball bearings
- Open Drain Tacho Signal output for fan speed

Life Expectancy L10

40,000 Hours at 60°C

**Fan life expectancy is based on free air operation at 60°C, rated voltage, and indoor benign lab environment*

Characteristic Curves



*1: Values in Free Air

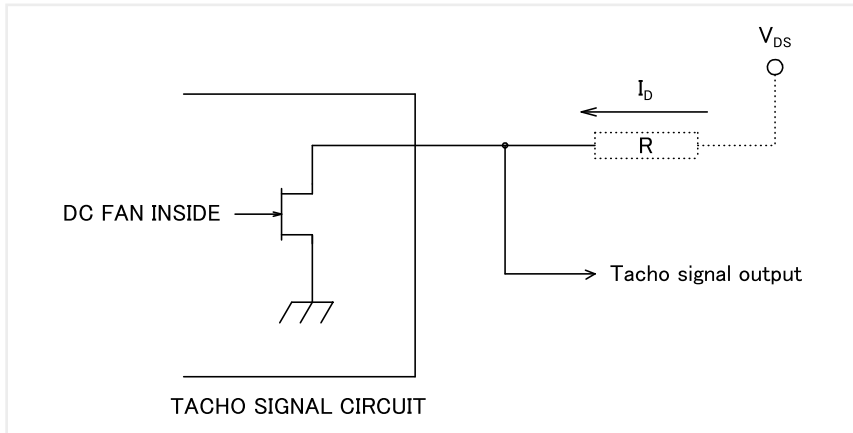
Specifications

MODEL	Rating Voltage	Operating Voltage	Current		Input Power		Speed	Max. Air Flow		Max. Static Pressure		Noise	Mass
	(V)	(V)	Avg	Max	Avg	Max		(CFM)	(m ³ /min)	(in H ₂ O)	(Pa)		
	(V)	(V)	(A)*1	(A)*1	(W)*1	(W)*1		(min ⁻¹)*1	(CFM)	(m ³ /min)	(in H ₂ O)	(Pa)	
09225SE-12Q-FT-DW	12	7.0-13.8	0.25	0.34	3.00	4.08	3900	65.0	1.84	0.293	73	40.0	102
09225SE-24Q-FT-DW	24	12.0-27.6	0.13	0.34	3.12	8.16	3900	65.0	1.84	0.293	73	40.0	102

TACHO Specifications**Tachometer Signal**

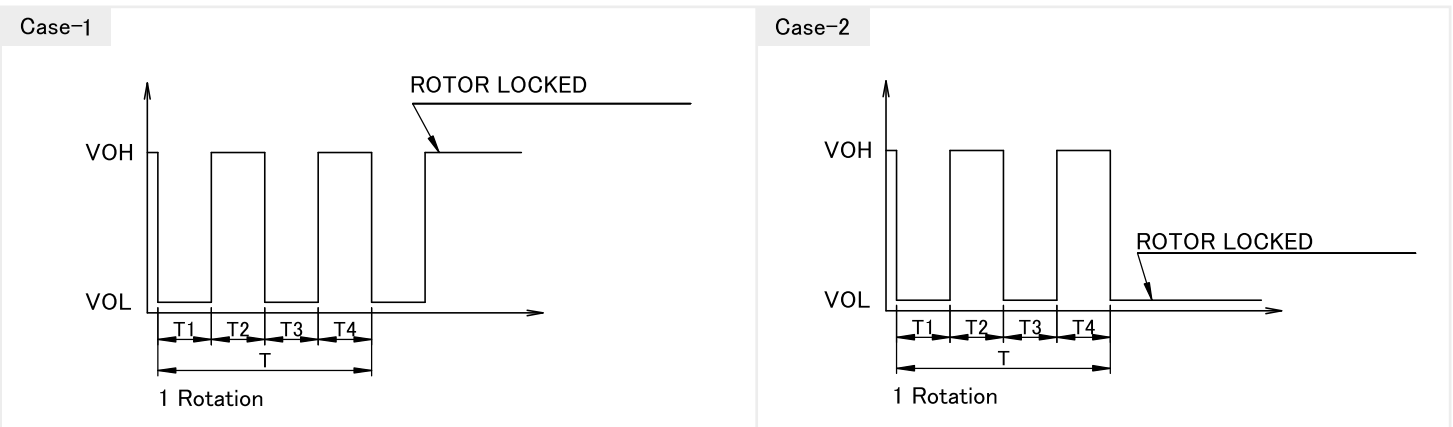
1. Output Circuit: Open Drain

2. Specification

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$ $V_{DS} \text{ max: } +15\text{V}$ $I_D \text{ max: } 5\text{mA} [V_{DS}(\text{sat}) \text{ max}=0.5\text{V}]$ 

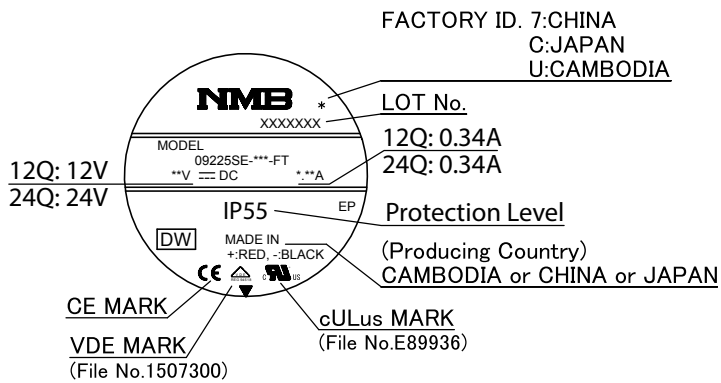
3. Output Waveform: At Rated Voltage

Output Signal Voltage

1) When the rotor is locked at V_{OH} position of signal, signal keeps V_{OH} position.2) When the rotor is locked at V_{OL} position of signal, signal keeps V_{OL} position.3) $T = T_1 + T_2 + T_3 + T_4 = 60/m = 1 \text{ rotation}$ m: Fan Speed (min^{-1})Tacho Duty Cycle = $50\% \pm 10\%$

Outlines

(Name Plate)



Materials

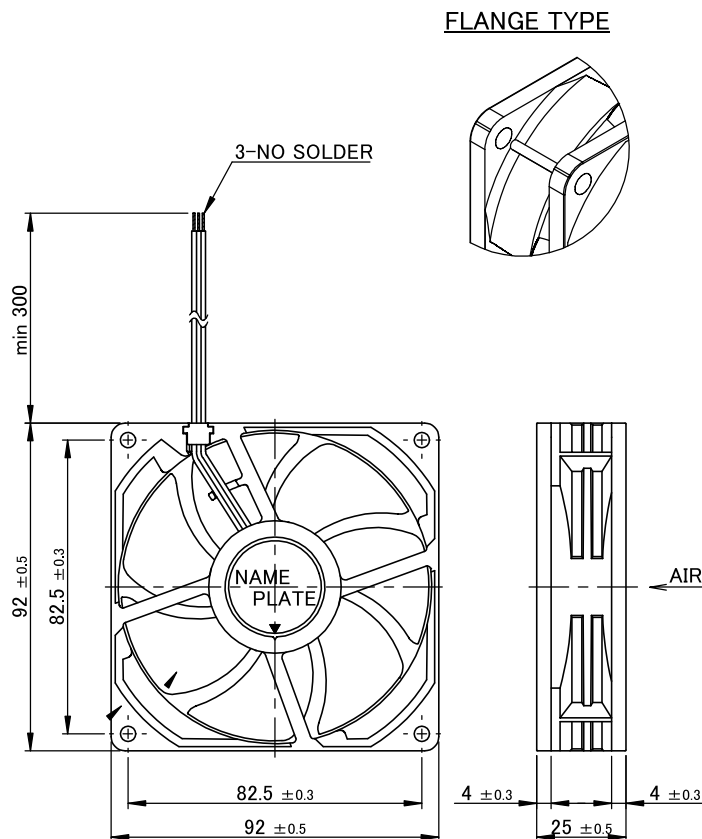
Casing: Plastic (Black UL94V-0)

Impeller: Plastic (Black UL94V-0)

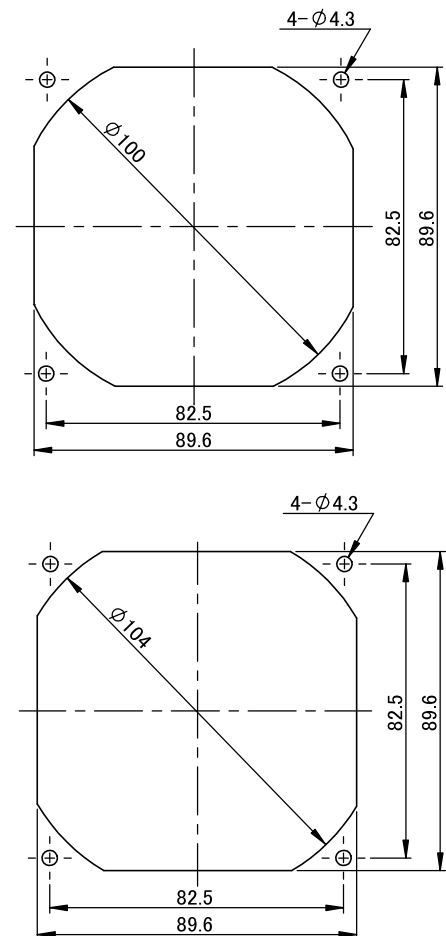
Bearing: Ball Bearing

Lead Wire: (+): Red (-) Black
Tacho: White

(Outline)



(Panel Out-line)



*Install the fans with rotor impeller facing up or in vertical position to avoid water accumulation in the rotor cup.

*IP protection does not provide long term reliability guarantee.

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