

PWM and Tach Output Centrifugal DC Fan

F225H

NMB

General Specifications

Motor Type:

DC Brushless Three Phase Motor

Motor Protection:

Overload Protection/ Locked Rotor Protection / Polarity Protection (Motor withstands reverse connection for positive and negative leads.)

Insulation Resistance:

10MΩ or over with a DC 500V Megger

Dielectric Withstand Voltage:

AC 500V 1min

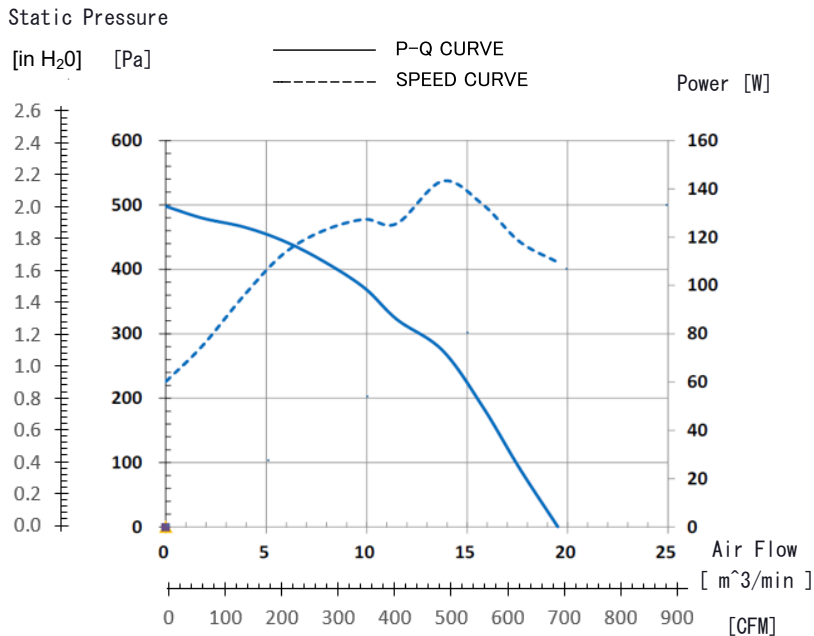
Allowable Ambient Temperature Range:

-30°C ~ + 70°C (Operating)
-40°C ~ + 80°C (Storage)
(non-condensing environment)



**For reference only. Please see fan outline for details*

Characteristic Curves



Features

- High performance centrifugal fan with four wires and PWM with tach signal
- Efficient motor technology, high torque, and aerodynamic impeller design
- Energy saving, low vibration, and increased life expectancy
- Outfitted with NMB precision machined ball bearings for long life
- High pressure and air flow that can be used in servers, data centers, or telecommunications

Life Expectancy L10

70,000 Hours at 40°C

**Fan life expectation is based on free air operation at 40°C, rated voltage, and indoor benign lab environment*

**1: Values in Free Air*

Specifications

MODEL	Rating Voltage	Operating Voltage	Current		Input Power		Speed Inlet/Outlet	Max. Air Flow		Max. Static Pressure		Noise	Mass
	(V)	(V)	Avg (A)*1	Max (A)*1	Avg (W)*1	Max (W)*1		(CFM)	(m³/min)	(in H ₂ O)	(Pa)	(dB)*1	(kg)
F225H1-092-D0720	48	36 to 72	2.0	3.3	96	158.4	2650	689	19.5	2.0	498	70	1.8

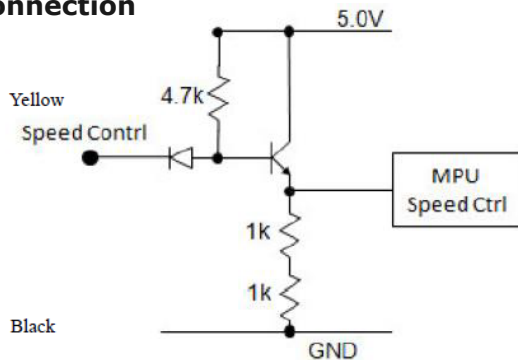
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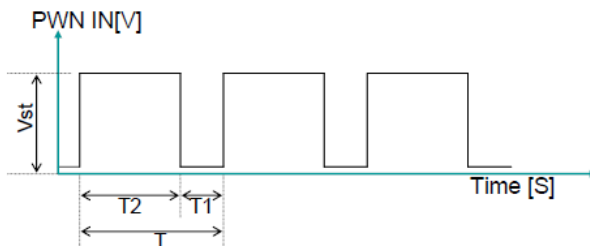
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PWM Specifications

Connection



Speed control signal definition



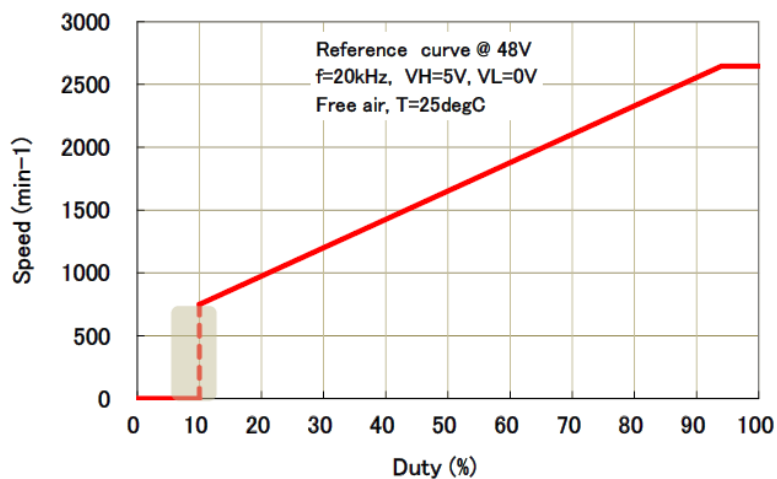
$$\text{Duty Rate} = (T_1/T) \times 100 [\%]$$

$$V_{st} = 5 [V]$$

$$\text{Frequency} = 300 [Hz] \text{ to } 50 [kHz]$$

If the SC signal is open circuit, the fan will rotate SCDuty=100% speed.

PWM Characteristic Curve

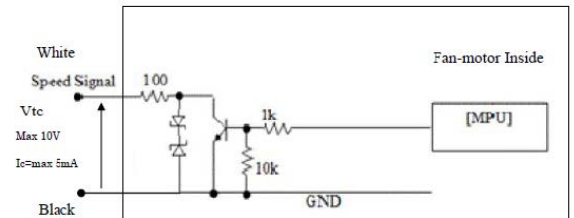


Start up duty: min 20%

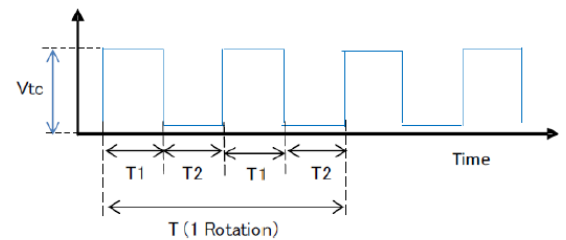
PWM Curve at free air and rated voltage.

TACHO Specifications

Connection



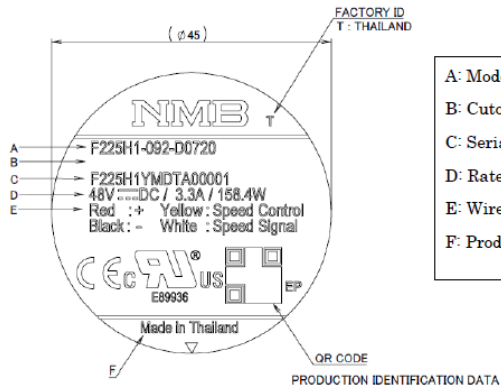
Speed signal



Pulse output / 1 Rotation, $T_1 = T_2 (50\% \pm 10\% \text{ Duty})$

Outlines

(Name Plate)



Materials

Sleeve Tube: PVC TUBE AH-6 AWG2

Impeller: Plastic (PA66 94V-0)

Bearing: Steel Ball Bearing

Lead Wire: UL1430 AWG18 for Red, Black, White, and Yellow

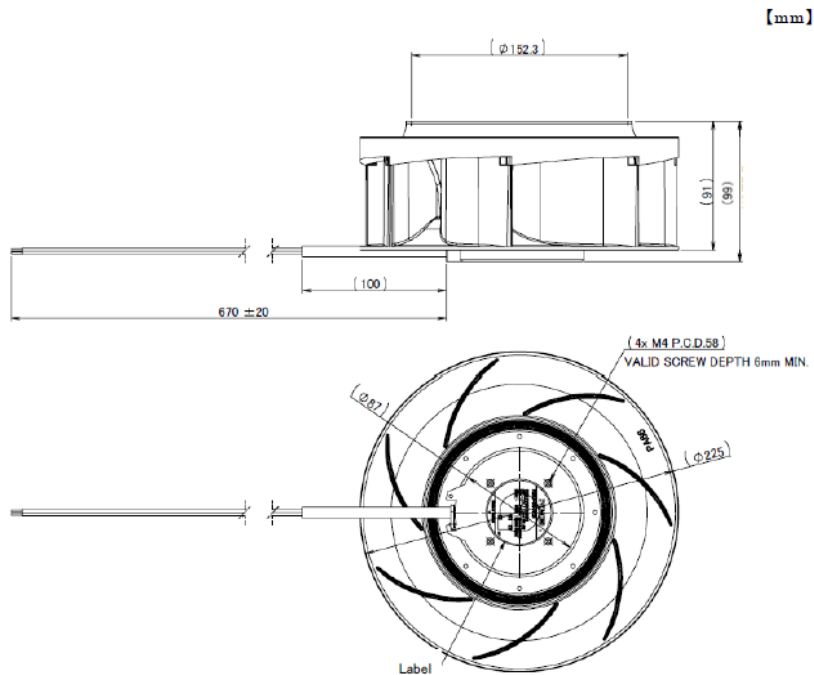
(+)/Red

(-)/Black

(TACH)/White

(PWM)/Yellow

(Outline)



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