

SUNON®



*All products are **RoHS** compliant.

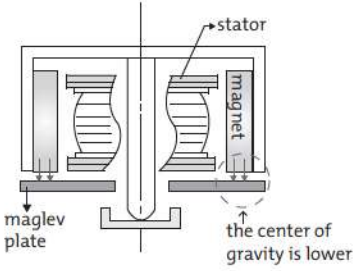
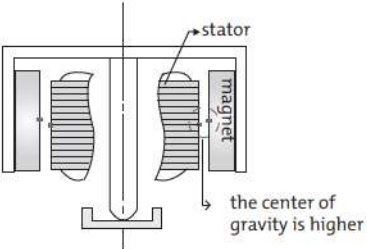
DC Brushless Fan & Blower

MagLev®

about Sunon MagLev

The Sunon patented MagLev design is based on magnetic principles and forces that not only propel the fan but also ensure stable rotation over its entire 360 degrees of movement. Utilizing the attraction of the magnetic levitation force, MagLev eliminates the wobbling and shaking problems of traditional motor fans. With this new technology, the MagLev fan propeller is suspended in air during rotation so that the shaft and bearing do not come into direct contact with each other to create friction. These features result in a fan with **low acoustic noise level, high-temperature endurance, and longer lifespan.**

Comparison between MagLev and General Motor Fans

(A) Sunon MagLev Fan	(B) General Fan
 <p>Possesses 3 important factors: the maglev plate, the magnet and the stator</p> <p>The resulting interaction between the maglev plate and the magnet pulls the rotor downward along the entire 360-degree surface. Due to the lower center of gravity, the rotor runs in a more stable consistent orbit.</p>	 <p>2 factors: the magnet and the stator</p> <p>The general fan utilizes a deviating magnetic center to attract the rotor downward. This technology causes the rotor to vibrate violently, due to the lack of a consistent orbit as well as a deviation of the magnetic center.</p>

SUNON MagLev prevents the defects of conventional fans

	Deficiencies of Traditional Motors	Sunon MagLev Solution
Sleeve Bearing	<ul style="list-style-type: none"> ● Weight of rotor is entirely loaded on to the shaft. Abrasive rotation between shaft and bearing will result in an irregular and rough surface on the inner surface of bearing bore. The fan motor rotation becomes uneven and in turn, causes operational noise and shortens fan life. ● The oil ring and mylar washer not only results in added friction area but also blocks the heated air, which, if not released before solidification, would become nitride particles that clog up in the gap between shaft and bearing bore, then causing a much slower rotation of rotor and noise. 	<ul style="list-style-type: none"> ● The entire weight of the rotor is completely attracted by the magnetic force in any mounted position, keeping the motor rotating evenly at a fixed point in a consistent distance from the inner surface of the bearing. No more traditional rubs and noise will occur. ● The oil rings, the washers are no longer used in MagLev structure. ● For customized use, MagLev design allows an operating temperature higher than 70°C.
Ball Bearing	<ul style="list-style-type: none"> ● When the fan motor is operating, the steel balls inside will generate a higher rotational noise than that of a sleeve bearing. ● The construction of Ball bearings is quite weak and unable to absorb external impact. The bearings can be easily damaged, causing louder rotational noise. 	

Fan 3rd Wire Signal

Fan with switching driving circuit designed for rpm measurement:

These fan motors have three lead wires:

+:Red,

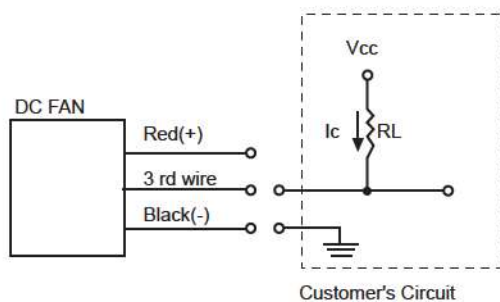
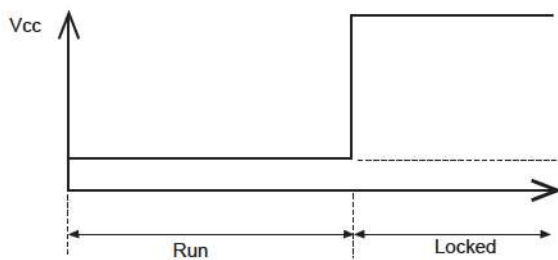
-:Black,

output signal for 3rd wire:

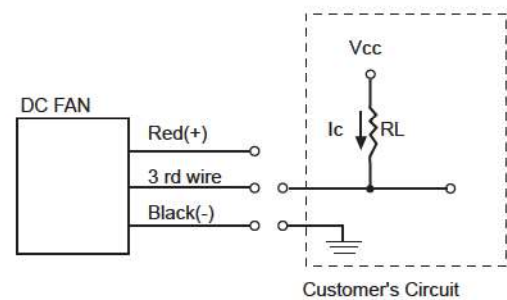
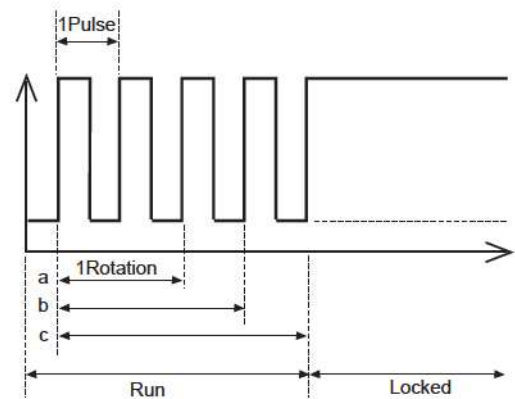
F Type : Yellow

R Type : White

● R Type (Rotation Detector)



● F Type (Frequency Generator)



The relationship between rotation & output pulses signal from 3rd wire are as follows:

(a) 1 Rotation=2 Pulses(4 poles' motor)

(b) 1 Rotation=3 Pulses(6 poles' motor)

(c) 1 Rotation=4 Pulses(8 poles' motor)

Notice:

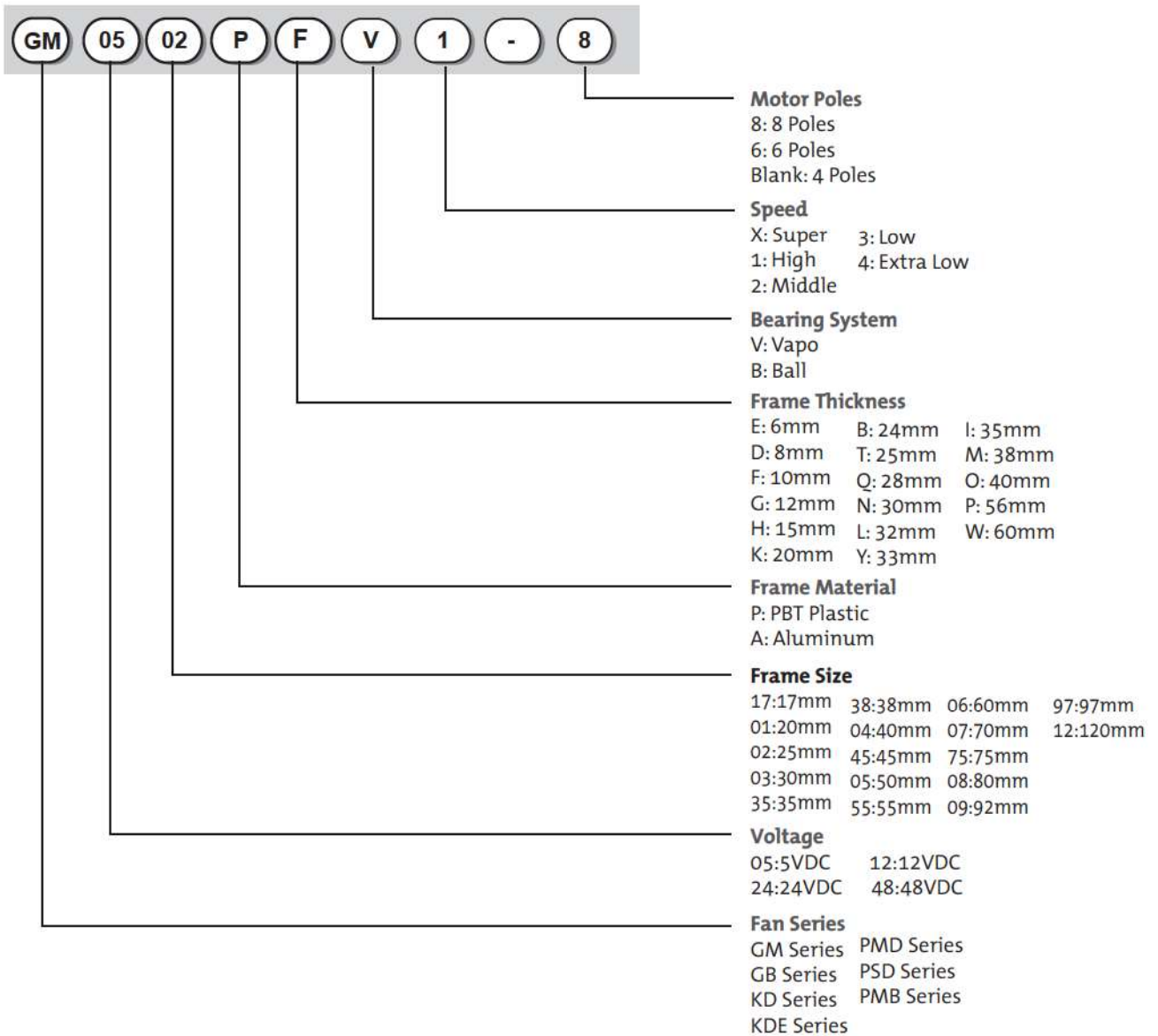
For 8 poles' motor: normally,

1Rotation=4 pulses, if frequency divided

circuit is implemented in this motor then

1Rotation=2 pulses.

SUNON DC Fan & Blower Model Numbering System



P/N

Example: PMD1206PTVX P/N:U.GN

- 11/13 Motor model
- MS MagLev Design
- (2) Two ball bearing
- G Big hub
- (9) 9 Blades
- N Smaller hub
- A Auto restart
- F 3rd wire with frequency generation waveform
- R 3rd wire with rotation detector waveform
- U Upgrade
- GN RoHS compliance
- X UV Glue
- Z Specific RPM

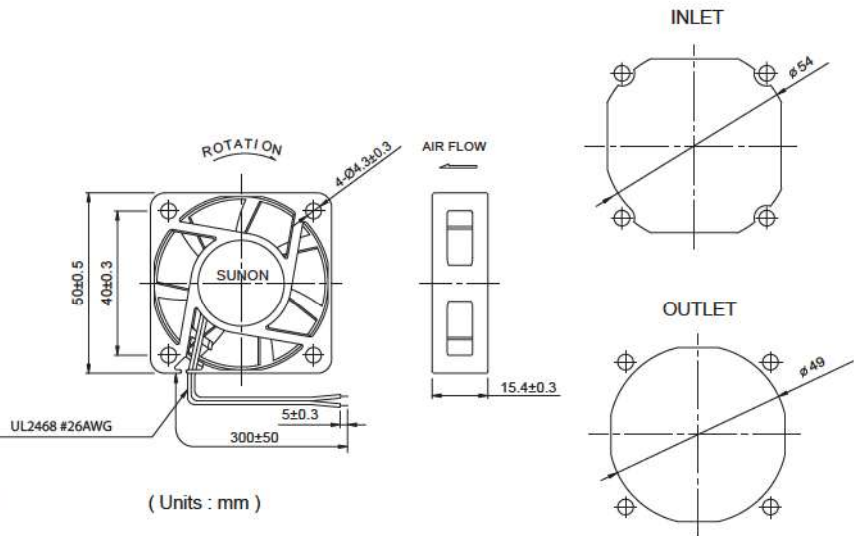
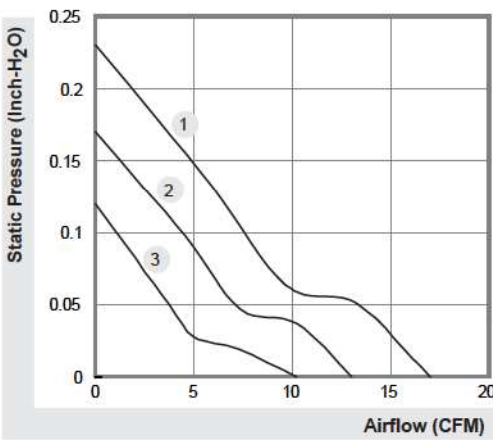
50x50x15 mm

10.2~17 CFM



MAGLeV by SUNON	P/N	Bearing	Rating Voltage (VDC)	Power Current (AMP)	Power Consumption (WATTS)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H ₂ O)	Noise (dBA)	Weight (g)	Curve	
												● VAPO
	KDE0505PHV2	MS.A.GN.C1500	●	5	0.146	0.8	4700	13.0	0.17	29	39	2
	KDE0505PHV3	MS.A.GN.C1500	●	5	0.09	0.5	3700	10.2	0.12	22	39	3
	KDE1205PHV1	MS.A.GN.C1500	●	12	0.087	1.0	5800	17.0	0.23	33	38	1
	KDE1205PHV2	MS.A.GN.C1500	●	12	0.054	0.7	4700	13.0	0.17	29	38	2
	KDE1205PHV3	MS.A.GN.C1500	●	12	0.035	0.5	3700	10.2	0.12	22	38	3
	KDE2405PHV1	MS.A.GN.C1500	●	24	0.063	1.5	5800	17.0	0.23	33	39	1
	KDE2405PHV2	MS.A.GN.C1500	●	24	0.042	1.0	4700	13.0	0.17	29	39	2

Model	P/N	2BALL Sleeve	(VDC)	(AMP)	(WATTS)	(RPM)	(CFM)	(Inch-H ₂ O)	(dBA)	(g)	Curve
KD0505PHB2	(2).GN.C1500	⊙	5	0.161	0.8	4700	13.0	0.17	30	39	2
KD0505PHB3	(2).GN.C1500	⊙	5	0.102	0.5	3700	10.2	0.12	23	39	3
KD1205PHB1	(2).GN.C1500	⊙	12	0.127	1.5	5800	17.0	0.23	33	38	1
KD1205PHB2	(2).GN.C1500	⊙	12	0.081	1.0	4700	13.0	0.17	29	38	2
KD1205PHB3	(2).GN.C1500	⊙	12	0.055	0.7	3700	10.2	0.12	22	38	3
KD2405PHB1	(2).GN.C1500	⊙	24	0.08	1.9	5800	17.0	0.23	33	39	1
KD2405PHB2	(2).GN.C1500	⊙	24	0.054	1.3	4700	13.0	0.17	29	39	2
KD0505PHS2	GN.C1500	○	5	0.169	0.9	4700	13.0	0.17	29	39	2
KD0505PHS3	GN.C1500	○	5	0.105	0.5	3700	10.2	0.12	22	39	3
KD1205PHS1	GN.C1500	○	12	0.129	1.6	5800	17.0	0.23	34	38	1
KD1205PHS2	GN.C1500	○	12	0.078	0.9	4700	13.0	0.17	30	38	2
KD1205PHS3	GN.C1500	○	12	0.055	0.7	3700	10.2	0.12	23	38	3
KD2405PHS1	GN.C1500	○	24	0.076	1.8	5800	17.0	0.23	34	39	1
KD2405PHS2	GN.C1500	○	24	0.053	1.3	4700	13.0	0.17	30	39	2



*All model could be customized. Please contact with Sunon Sales.
 *Specifications are subject to change without notice. Please Visit SUNON web site at <http://www.sunon.com> for update information.