

MINI CROSS FLOW FANS (BLOWERS)



General Specifications:

Life Expectancy(L10)	>65,000hours@40°C
Brushless DC Motor	CE/UL/CUL/TÜV
Bearing System	Triple Ball Bearings
Operation Temperature	-10°C ~ +70°C
Storage Temperature	-20°C ~ +75°C
Material	UL94V-0/PBT GF Filled
Lead Type	UL157/AWG#28
Lead Length	160mm+/-5
Weight	0.5 oz~1.3 oz.
RoHS/REACH	Yes

Model	Voltage (V)	Current (A)	Power (W)	Nominal Speed (RPM)	Air Flow (CFM)	Noise (dBA)	Pressure (in.-H ₂ O)	Ball Bearings	Weight (Grams)
CFR1B12X	12	0.1	1.2	11,500	6.8	36	0.23	Full	18
CFR2B12X	12	0.11	1.32	9,500	10.9	35	0.20	Full	24
CFR3B12X	12	0.12	1.44	8,500	13.9	34	0.17	Full	28
CFR4B12X	12	0.13	1.56	7,500	16.4	32	0.16	Full	32
CFR5B12X	12	0.14	1.68	6,500	23.2	30	0.14	Full	36
CFR1B12H	12	0.07	0.84	8,000	3.8	28	0.18	Full	14
CFR2B12H	12	0.08	0.96	7,000	5.5	25	0.14	Full	20
CFR3B12H	12	0.09	1.08	5,500	8.0	23	0.12	Full	26
CFR1B5X	5	0.22	1.1	11,500	6.8	36	0.23	Full	18
CFR2B5X	5	0.24	1.2	9,500	10.9	35	0.20	Full	24
CFR3B5X	5	0.26	1.3	8,500	13.9	34	0.17	Full	28
CFR4B5X	5	0.28	1.4	7,500	16.4	32	0.16	Full	32
CFR5B5X	5	0.29	1.45	6,500	23.2	30	0.14	Full	36
CFR1B5H	5	0.18	0.9	8,000	3.8	28	0.18	Full	14
CFR2B5H	5	0.19	0.95	7,000	5.5	25	0.14	Full	20
CFR3B5H	5	0.20	1.00	5,500	8.0	23	0.12	Full	26

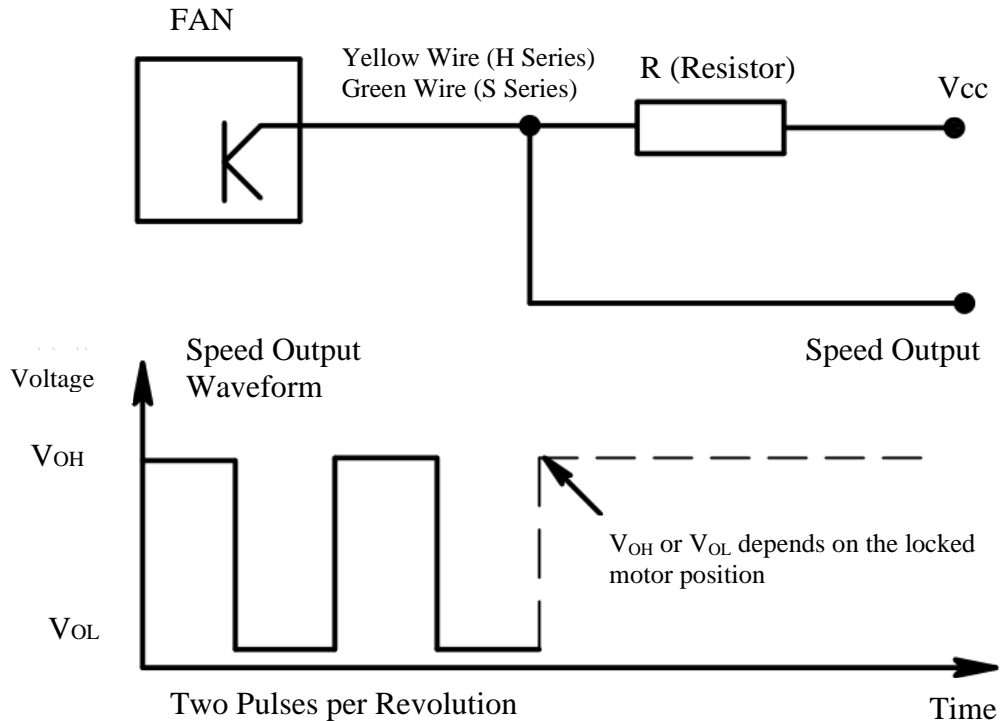
Specifications subject to change without notice

Mechanical Specifications (mm)

Color	H-Series	X-Series
Black	Ground(-)	Ground(-)
Red	Voltage(+)	n/a
Yellow	Speed Output	Voltage(+)
Green	n/a	Speed Output
Blue	n/a	PWM Speed Control

Model	X (mm)	Y(mm)	Z(mm) +/-0.5mm	
			H Series	X Series
CFR1B	37	25.4	6.75	11.5
CFR2B	62	50.8	6.75	11.5
CFR3B	87.7	76.2	6.75	11.5
CFR4B	113.5	101.6	N/A	11.5
CFR5B	139.2	127	N/A	11.5

Speed Sensor/ Tachometer Connection



For H series, select R to make the current less than 10mA.

For example, when $V_{cc} = 5V$, $R=500$ Ohms, the current is 10mA. So, the final R should be great than 500 ohms, say 2K.

For X series, select R to make the current less than 5mA.

For example, when $V_{cc} = 12V$, $R=2400$ Ohms, the current is 5mA. So, the final R should be great than 2.4K ohms, say 3K.

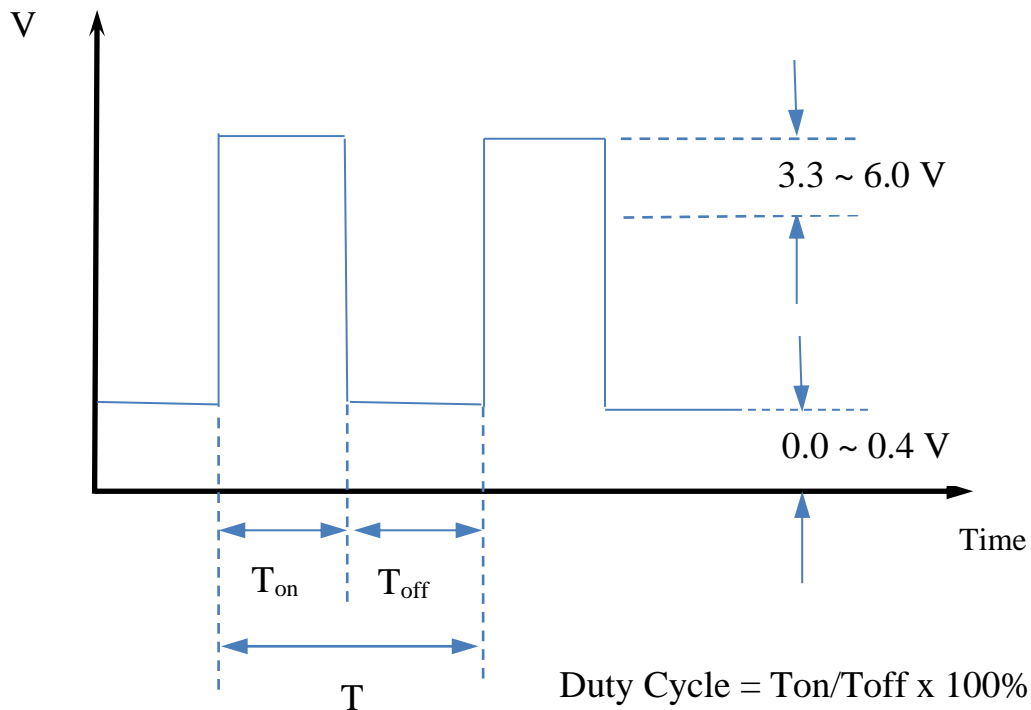
Maximum V_{cc} is 13.2V for 12V fans.

Maximum V_{cc} is 5.5V for 5V fans.

PWM Speed Control Guide

PWM frequency: 18~30KHz

Duty Cycle: 0~40% is not used. 40~100% controls speed linearly up to maximum speed.

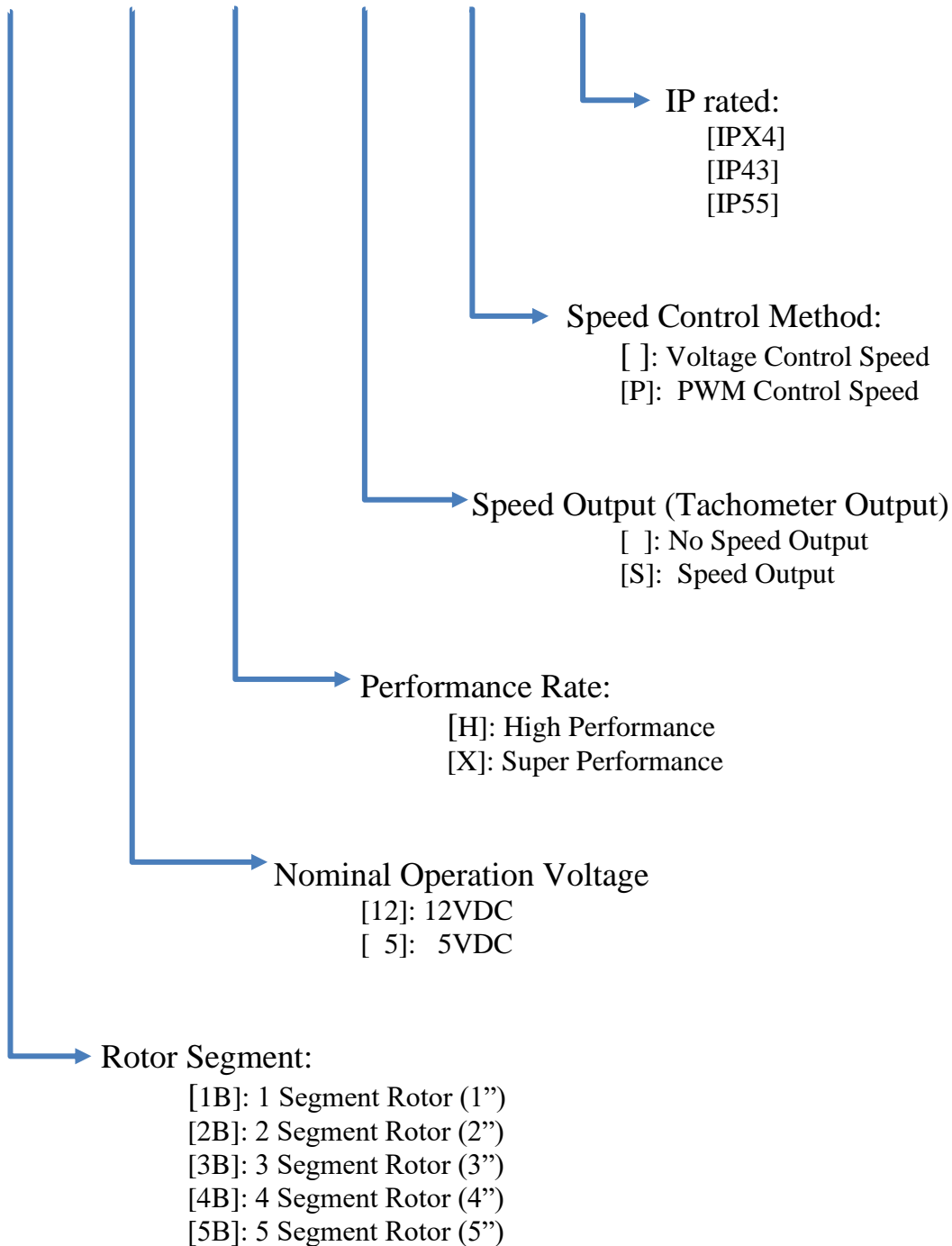


Voltage Speed Control Guide

Speed of both X and H series also can be controlled by regulated voltage with speed signal feedback. For example, the speed of 12V and 5V fan can be controlled by an IC, such as MAX6650, or similar one.

Model Numbering System:

CFR [3B] [12] [H] – [] – [] – []



For example, CFR3B12X-S-P-IPX4 is 12VDC and has speed output, PWM control speed and IPX4 rated.

For example, CFR5B5X-S-IP43 is 5VDC and has speed output, voltage control speed and IP43 rated.