

BRUSHLESS DC AXIAL FANS

INTELLIGENT MOTION SERIES



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TECHNOLOGIES INC.



Today's high technology industries require cooling products that have low power consumption and reduce high heat generation. Brushless DC Axial fans with Intelligent Motion Controls are made for applications that require high performance cooling and protection from harsh weather conditions in outdoor and extreme environments.

RUGGED DESIGN FOR EFFECTIVE COOLING

The Intelligent Motion series Brushless DC Axial fans ensure effective cooling via innovative multi-blade impeller designs that improve airflow performance. They also include IP51, IP54, IP56, or IP67 levels of dust and moisture protection for applications that are used in moderate to very harsh environmental conditions.

INTELLIGENT MOTION CONTROL

The Intelligent Motion series Brushless DC Axial fans include full-wave in-board circuit designs with multiple features that create air movement "intelligence". By using controls that are programmable, voltage fluctuations from power supplies are reduced, protection is enhanced, and optimum performance is ensured.

Intelligent Motion Controls improve operating efficiency and are ideal for green applications. Additional benefits include the following:

- Improved system performance
- Improved system reliability and life expectancy
- Fully programmable features enable greater control and functionality
- Multi-alarm connections to run many fans at once

Intelligent Motion Controls include tachometer, rotation detection, life detection, pulse width modulation, automatic temperature control, current limit control, constant speed control, multiple alarm connections, and others. Various controls can also be programmed for custom output.

FEATURES & SPECIFICATIONS

- Sizes from 25mm to 172mm
- 5V, 12V, 24V, 48V, or custom nominal voltages
- Dual Ball Bearings
- Auto Restart
- Locked Rotor Protection
- IP51, IP54, IP56, and up to IP67 Dust & Moisture Protection
- Operating Temp -10°C to +70°C
- Operating Life 70,000 hours
- RoHS Compliant
- UL, cUL, CE

APPLICATIONS

HVAC
Compact Electronics
Medical Devices
Industrial Automation
Aerospace & Defense
Automotive Products

The Intelligent Motion series Brushless DC Axial Fans are well suited for applications that require high performance, maximum environmental protection, and customized control from a compact cooling device.

For additional information or for assistance with your application, contact us at sales@pelonistech.com.

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	LENGTH	WIDTH	HEIGHT		(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		
2510-5	25 (0.98)	25 (0.98)	10 (0.39)	5,12	1.4~2.9	0.04~0.08	1.98~8.00	0.08~0.32	18~31	3
3010-5	30 (1.18)	30 (1.18)	10 (0.39)	5,12	3~4	0.07~0.12	2.19~5.82	0.09~0.23	18~29	4
4010-5	40 (1.57)	40 (1.57)	10 (0.39)	5,12,24	4~9	0.12~0.25	1.65~6.91	0.06~0.27	13~32	5
4010-7	40 (1.57)	40 (1.57)	10 (0.39)	5,12,24	4~8	0.11~0.23	1.73~6.75	0.07~0.27	19~37	6
4015-5	40 (1.57)	40 (1.57)	15 (0.59)	5,12,24	6~14	0.18~0.39	2.99~14.45	0.12~0.57	20~40	7
4020-5	40 (1.57)	40 (1.57)	20 (0.79)	5,12,24	5~19	0.14~0.52	1.58~22.27	0.06~0.88	11~45	8
4020-7	40 (1.57)	40 (1.57)	20 (0.79)	5,12,24	5~11	0.14~0.31	2.40~8.68	0.09~0.34	21~39	9
4028-5	40 (1.57)	40 (1.57)	28 (1.10)	12,24	12~27	0.35~0.77	15.62~75.61	0.61~2.98	40~61	10
4028-7	40 (1.57)	40 (1.57)	28 (1.10)	12,24	8~25	0.23~0.70	3.69~33.22	0.15~1.31	32~61	11
5010-7	50 (1.97)	50 (1.97)	10 (0.39)	5,12,24	9~18	0.26~0.51	2.08~8.30	0.08~0.33	25~40	12
5015-7	50 (1.97)	50 (1.97)	15 (0.59)	5,12,24	12~23	0.34~0.65	2.16~9.25	0.09~0.36	22~42	13
6010-11	60 (2.36)	60 (2.36)	10 (0.39)	5,12,24	16~20	0.44~0.56	1.87~3.06	0.07~0.12	30~35	14
6015-9	60 (2.36)	60 (2.36)	15 (0.59)	5,12,24,48	14~23	0.40~0.66	2.01~5.57	0.08~0.22	24~37	15-16
6020-7	60 (2.36)	60 (2.36)	20 (0.79)	5,12,24,48	14~33	0.39~0.94	2.76~15.39	0.11~0.61	25~47	17-18
6025-5	60 (2.36)	60 (2.36)	25 (0.98)	5,12,24,48	18~38	0.50~1.08	3.03~13.89	0.12~0.55	26~46	19-20
6025-7	60 (2.36)	60 (2.36)	25 (0.98)	5,12,24,48	15~29	0.44~0.83	3.57~12.43	0.14~0.49	28~44	21-22
6026-7	60 (2.36)	60 (2.36)	25 (0.98)	12,24,48	27~47	0.78~1.34	7.53~22.55	0.30~0.89	41~54	23
6038-5	60 (2.36)	60 (2.36)	38 (1.50)	12,24,48	39~67	1.10~1.89	14.82~43.54	0.58~1.71	47~62	24
7025-7	70 (2.76)	70 (2.76)	25 (0.98)	5,12,24,48	24~44	0.68~1.25	2.20~7.37	0.09~0.29	26~42	25-26
8015-7	80 (3.15)	80 (3.15)	15 (0.59)	5,12,24,48	26~44	0.74~1.23	1.81~5.02	0.07~0.20	27~40	27-28
8025-7	80 (3.15)	80 (3.15)	25 (0.98)	5,12,24,48	29~58	0.82~1.64	1.92~7.69	0.08~0.30	24~41	29-30
8026-7	80 (3.15)	80 (3.15)	25 (0.98)	5,12,24,48	32~72	0.89~2.03	1.95~10.09	0.08~0.40	24~45	31-32
8038-5	80 (3.15)	80 (3.15)	38 (1.50)	5,12,24,48	59~136	1.67~3.85	19.31~102.15	0.76~4.02	47~68	33
8038-7	80 (3.15)	80 (3.15)	38 (1.50)	5,12,24,48	56~141	1.59~3.98	8.89~55.58	0.35~2.19	43~66	34
9225-7	92 (3.62)	92 (3.62)	25 (0.98)	5,12,24,48	41~82	1.16~2.32	2.25~8.98	0.09~0.35	28~46	35-36
9226-7	92 (3.62)	92 (3.62)	25 (0.98)	5,12,24,48	49~107	1.37~3.02	2.33~11.23	0.09~0.44	28~50	37-38
9232-7	92 (3.62)	92 (3.62)	32 (1.26)	5,12,24,48	52~87	1.47~2.47	4.11~11.61	0.16~0.46	32~45	39-40
9238-7	92 (3.62)	92 (3.62)	38 (1.50)	12,24,48	72~164	2.03~4.63	6.63~34.65	0.26~1.36	43~65	41
1225-7	120 (4.72)	120 (4.72)	25 (0.98)	5,12,24,48	78~177	2.21~5.00	5.25~24.80	0.21~0.98	37~58	42-43

CONTENTS

SERIES	SIZE mm (in)			VOLTAGE (V)	AIRFLOW (P)		PRESSURE (Q)		NOISE (dBA)	PAGE
	LENGTH	WIDTH	HEIGHT		(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		
1232-5	120 (4.72)	120 (4.72)	32 (1.26)	12,24,48	107~240	3.04~6.79	6.27~31.22	0.25~1.23	42~65	44-45
1232-7	120 (4.72)	120 (4.72)	32 (1.26)	5,12,24,48	81~179	2.29~5.06	6.26~27.61	0.25~1.09	37~60	46-47
1238-5	120 (4.72)	120 (4.72)	38 (1.50)	12,24,48	190~237	5.39~6.71	21.13~31.47	0.83~1.24	58~65	48
1238-7	120 (4.72)	120 (4.72)	38 (1.50)	5,12,24,48	104~232	2.96~6.56	7.26~34.17	0.29~1.35	40~65	49-50
1238-11 PL	120 (4.72)	120 (4.72)	38 (1.50)	12,24,48	142~257	4.02~7.29	10.80~35.48	0.42~1.40	51~67	51
1238-11 AL	120 (4.72)	120 (4.72)	38 (1.50)	12,24,48	166~278	4.69~7.86	15.11~42.43	0.59~1.67	57~70	52
1725-13	172 (6.77)	150 (5.91)	25 (0.98)	12,24,48	163~272	4.62~7.71	7.29~20.25	0.29~0.65	51~64	53
1751-3	172 (6.77)	150 (5.91)	51 (2.00)	12,24,48	241~414	6.84~11.72	17.18~50.48	0.68~1.99	57~70	54
1751-5	172 (6.77)	150 (5.91)	51 (2.00)	12,24,48	180~374	5.10~10.60	8.83~38.21	0.35~1.50	49~68	55
1751-7	172 (6.77)	150 (5.91)	51 (2.00)	12,24,48	194~323	5.49~9.15	7.79~21.64	0.31~0.85	46~59	56

INTELLIGENT MOTION CONTROLS

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SELECTION OF A COOLING FAN

The following should be considered when selecting a cooling fan:

1. Determine the amount of heat generated inside the equipment.
2. From the equipment manufacturer's data, find the maximum permissible equipment temperature.
3. Calculate the air volume necessary from the equation.
4. Select the fan from the performance curves shown in the specification sheets.

The volume of airflow required to cool the equipment can be determined if the internal heat dissipation and the total allowable temperature rise are known.

The basic heat transfer equation is: $Q = Cp \times W \times \Delta T$

Where:

Q = Amount of heat transferred

Cp = Specific heat of air

ΔT = Temperature rise within the cabinet

W = Mass flow = CFM x D

(Where: D = Air Density and CFM is cubic feet/min)

By substitution, we obtain:

$$\text{Airflow in CFM} = \frac{Q}{Cp \times D \times \Delta T}$$

Then, we get the following equations:

$$\text{Airflow in CFM} = \frac{3.16 \times P}{Tf} = \frac{1.76 \times P}{Tc}$$

$$\text{Airflow in m}^3/\text{min} = \frac{0.09 \times P}{Tf} = \frac{0.05 \times P}{Tc}$$

P: Internal power dissipation in watts

Tf: Allowable temperature rise in °F

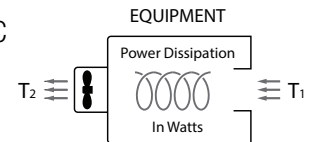
Tc: Allowable temperature rise in °C

T: T2-T1

T1: Incoming airflow temperature

T2: Outgoing airflow temperature

1 m³/min = 35.315 CFM (Cubic Feet/Min)



COOLING OF HEAT GENERATION EQUIPMENT

Example 1: If internal power dissipation is 1500W and T is 50°F:

$$\text{Airflow in CFM} = \frac{3.16 \times 1500}{50} = 94.8 \text{ CFM (or } 2.68 \text{ m}^3/\text{min)}$$

Example 2: If internal power dissipation is 1000W and T is 20°C:

$$\text{Airflow in m}^3/\text{min} = \frac{0.05 \times 1000}{20} = 2.5 \text{ m}^3/\text{min (or } 88.3 \text{ CFM)}$$

DESCRIPTION OF FAN SERIES

The available Brushless DC Axial Fan models are available in three groups that all include the Auto Restart control feature.

STANDARD: C and R series fans:

- C series uses a two-coil complementary drive offering low cost with limited control features including FG, RD, and RD_b. This series ranges from sizes 40mm to 92mm.
- R series uses a two-coil complementary drive for higher power applications and offering low cost with additional control features including FG, RD, RD_b and CL (current limiting function). This series ranges from sizes 60mm to 120mm.

HIGH PERFORMANCE: D and G series fans:

- D series uses a single-coil differential drive with higher efficiency and additional control features (depending on the specific model) including FG, RD, RD_b for sizes 25×10 to 60×10mm and large models with the complete control features range in sizes from 60×15 to 92×25mm. The complete range of control features consists of AS, FG, RD, RD_b, LD, IR, CL, (V,P,R,I,T) PWM (V: voltage signal input, P: PWM input, R: variable resistance input, I: current signal input, and T: NTC thermistor input).
- G series uses a single-coil differential drive with higher efficiency and for higher power demanding applications offering the basic control features of FG, RD, RD_b, CL. This is a medium cost series that ranges from sizes 92×32mm to 172×51mm.

MULTI-FUNCTION EXTRA HIGH PERFORMANCE: K and P series fans:

- P series use a single-coil differential drive with higher efficiency performance and for higher power demanding applications offering the complete line of control features. This series ranges from sizes 92×32 to 172×51mm.
- K series use a single-coil differential drive with the highest efficiency and the maximum airflow performance. This series includes the complete line of control features and with Airflow and Pressure higher than the P series and ranges from sizes 80×38 to 172×25mm.

START VOLTAGE/OPERATING VOLTAGE RANGE

The start voltage depends on:

1. The minimum voltage required to maintain sufficient BIAS to operate the control circuit of the fan.
2. The minimum voltage must be higher than the trigger voltage of the output drivers.

Example:

If the MCU used works at 5V/10mA, the supply voltage must be higher than 5V, plus about 3 volts required for the regulator, i.e. 8V. Lower operating voltage may allow the fan to run but this does not mean that the fan can necessarily meet all the specifications.

The minimum voltage of operation should be set 15%-20% lower than the rated voltage. The maximum voltage of operation can be controlled by the CS function at low cost of efficiency, but at the additional cost of power which is equal to:

(Max operating Voltage - Rated Voltage) × BIAS current

As a rule:

- For Small operating voltage range: The operating voltage range is $\pm 20\%$ of the rated voltage.
- For Upper wide operating voltage range: The max operating voltage can be set up to $-5\% + 50\%$ of the rated voltage.
- For Lower wide range: The max operating voltage can be set at $-50\% + 10\%$ of the rated voltage.

On single function fans (without PWM restrictions), the fan ranges offered, and in order to minimize power losses, are:

- Fans rated at 12V have operating voltage range from 7V to 14V.
- Fans rated at 24V have operating Voltage range from 15V to 27V.
- Fans rated at 48V have operating Voltage range from 36V to 57V.

NOTE: Other wider voltage ranges may be offered at the customer's request.

INTELLIGENT FAN SPEED CONTROLS

It is often necessary for the application of the fan to be able to vary the fan speed for one or more of the following reasons:

1. To **reduce the fan noise** and meet the cooling and noise requirement of the application.
2. To **increase the life of the fan** by minimizing the fan speed at times when reduced airflow is sufficient for the application.
3. To **automatically increase or decrease the fan speed according to the ambient temperature** in order to maintain the safe operating temperature of the target equipment.
4. To **run the fan at multiple pre selected fan speeds** for cooling in an automated system process, etc.

FAN SPEED CONTROL METHODS

The common ways that control information is transferred to the fan VIA input wire are:

1. By *VOLTAGE* signal – (V)
2. By *CURRENT* signal – (I)
3. By *RESISTOR* reacting to *TEMPERATURE* (Thermistor) – (T)
4. By *PASSIVE RESISTOR* variable manually – (R)
5. By external *PWM* signal – (P) (pulse width modulated signal) which is very common and is generated by computer according to its software instructions.

Brushless DC Axial Fans with Intelligent Motion Controls can accept any of the above control input methods, then convert this input information to their own internal PWM signal that controls the fan speed. Therefore, the fan is controlled internally by its own PWM signal, but for the purpose of association with the input method, we name each control method starting with the excitation used (V, I, P, T, R) as follows: a) VPWM, b) IPWM, c) PPWM, d) TPWM and e) RPWM.

The RPM vs Control signal (or method) graphs shown in the "Intelligent Motion Controls" section are simply examples of typical application requests with basically ONE limitation. This limitation deals with the minimum speed a fan can operate and which is generally 20% (for most fans) of its maximum speed. Note that some smaller fans can achieve lower minimum speeds down to 12% of their rated speed.

The fan speed can have a POSITIVE SLOPE of change (i.e. the speed can be increasing as the input voltage signal increases) or it can have a NEGATIVE SLOPE of change (i.e. the speed can be decreasing as the input voltage signal increases). Note that negative slope is not available with TPWM because the temperature sensing element is NTC (negative temperature coefficient).

The GAIN of the slope (how fast or how slow the required change of the fan speed is) or the restriction of the maximum speed if required, can be controlled by the CS function.

Typical inputs are: 0~5VDC for VPWM, 4~20 mA for IPWM, 0~100% modulation for PPWM, 104J NTC type for TPWM, and 10K~100K variable resistor for RPWM.



2510-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

25 x 25 x 10mm

(0.98 x 0.98 x 0.39in)

5V, 12V

1.39~2.92 CFM (0.04~0.08 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1061 (+) Red; (-) Black, AWG 30, 240±10mm

Operating Temperature: -10°C ~ +70°C

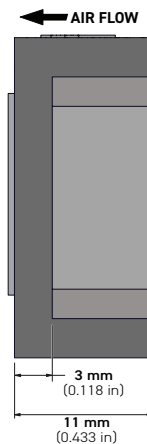
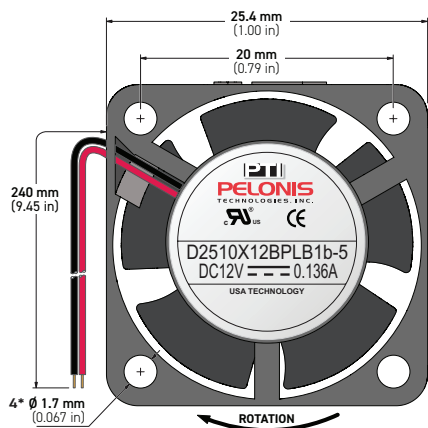
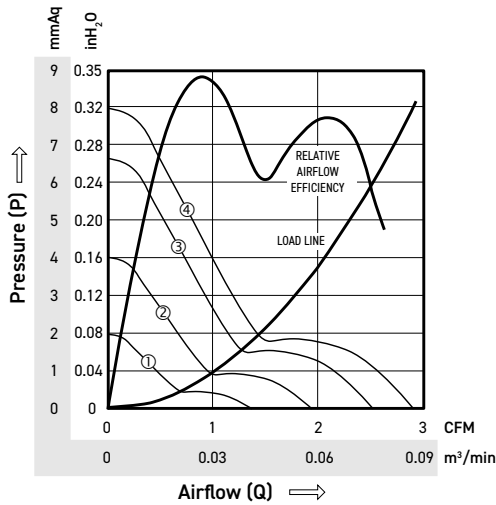
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
D2510H05BPLB1b-5	③	5	4~6	0.260	0.220	1.10	13000	2.60	0.07	6.67	0.26	30.54	1b: AS IP51	2a: FG
D2510M05BPLB1b-5	②	5	4~6	0.190	0.190	0.95	10000	2.02	0.06	4.05	0.16	24.21		
D2510L05BPLB1b-5	①	5	4~6	0.140	0.140	0.70	7000	1.39	0.04	1.98	0.08	18.14		
D2510X12BPLB1b-5	④	12	7~14	0.136	0.130	1.56	15000	2.92	0.08	8.00	0.32	34.19		
D2510H12BPLB1b-5	③	12	7~14	0.090	0.090	1.08	13000	2.60	0.07	6.67	0.26	30.54		
D2510M12BPLB1b-5	②	12	7~14	0.070	0.070	0.84	10000	2.02	0.06	4.05	0.16	24.21		
D2510L12BPLB1b-5	①	12	7~14	0.060	0.060	0.72	7000	1.39	0.04	1.98	0.08	18.14		





3010-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

30 x 30 x 10mm

(1.18 x 1.18 x 0.39in)

5V, 12V

2.65~4.23 CFM (0.07~0.12 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1061 (+) Red; (-) Black, AWG 28, 240±10mm

Operating Temperature: -10°C ~ +70°C

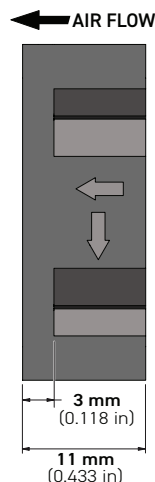
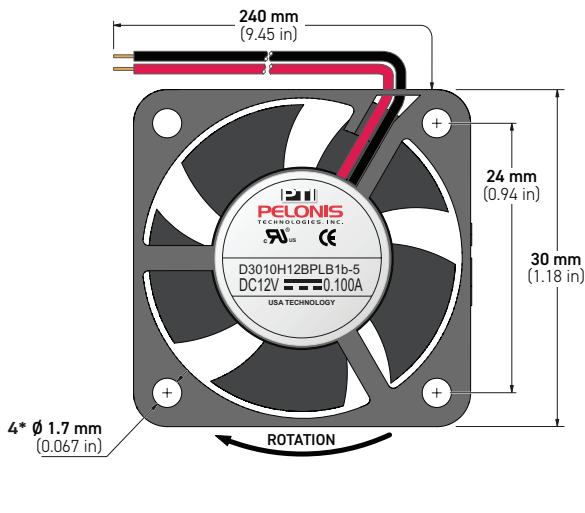
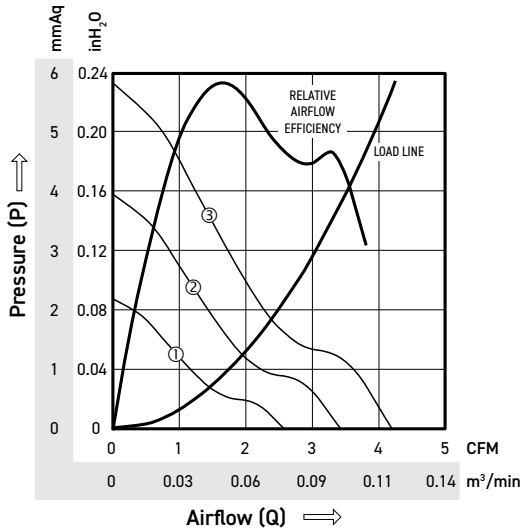
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
D3010H05BPLB1b-5	③	5	4~6	0.200	0.190	1.08	10000	4.23	0.12	5.82	0.23	28.53	1b: AS IP51	2a: FG
D3010M05BPLB1b-5	②	5	4~6	0.170	0.150	0.84	8000	3.47	0.10	3.95	0.16	24.16		
D3010L05BPLB1b-5	①	5	4~6	0.130	0.100	0.48	6000	2.65	0.07	2.19	0.09	17.68		
D3010H12BPLB1b-5	③	12	7~14	0.100	0.090	1.08	10000	4.23	0.12	5.82	0.23	28.53		
D3010M12BPLB1b-5	②	12	7~14	0.090	0.070	0.84	8000	3.47	0.10	3.95	0.16	24.16		
D3010L12BPLB1b-5	①	12	7~14	0.050	0.040	0.48	6000	2.65	0.07	2.19	0.09	17.68		





4010-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 10mm

(1.57 x 1.57 x 0.39in)

5V, 12V, 24V

4.31~8.81 CFM (0.12~0.25 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

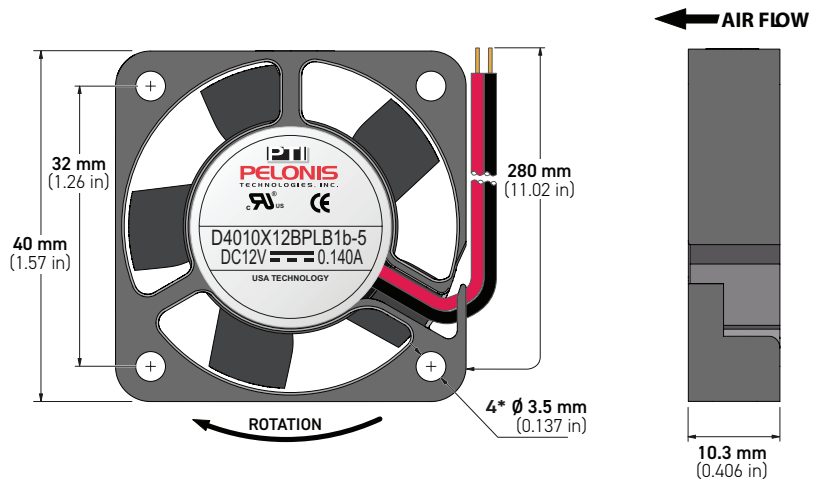
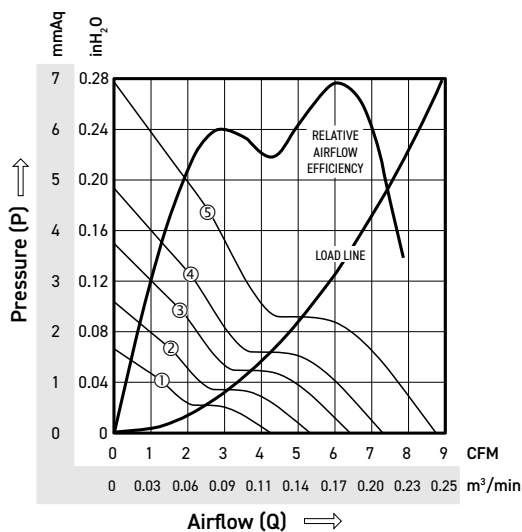
Operating Life: 70,000 hours

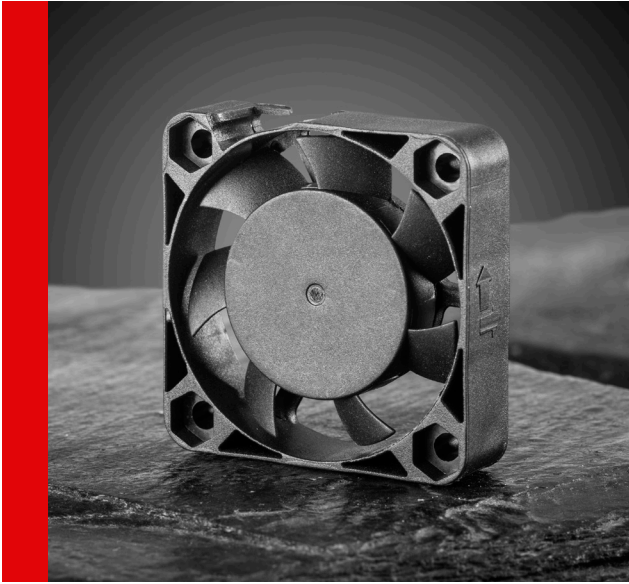
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
D4010Y05BPLP1b-5	⑤	5	4~6	0.400	0.320	1.60	9000	8.81	0.25	6.91	0.27	32.00	1b: AS IP51	2a: FG 2b: RD
D4010X05BPLP1b-5	④	5	4~6	0.280	0.220	1.10	7500	7.34	0.21	4.80	0.19	27.20		
D4010H05BPLP1b-5	③	5	4~6	0.200	0.150	0.75	6600	6.46	0.18	3.72	0.15	23.90		
D4010M05BPLP1b-5	②	5	4~6	0.130	0.100	0.50	5500	5.38	0.15	2.58	0.10	19.20		
D4010L05BPLP1b-5	①	5	4~6	0.100	0.080	0.40	4400	4.31	0.12	1.65	0.06	13.30		
D4010Y12BPLP1b-5	⑤	12	7~14	0.180	0.140	1.68	9000	8.81	0.25	6.91	0.27	32.00		
D4010X12BPLP1b-5	④	12	7~14	0.140	0.100	1.20	7500	7.34	0.21	4.80	0.19	27.20		
D4010H12BPLP1b-5	③	12	7~14	0.130	0.090	1.08	6600	6.46	0.18	3.72	0.15	23.90		
D4010M12BPLP1b-5	②	12	7~14	0.060	0.050	0.60	5500	5.38	0.15	2.58	0.10	19.20		
D4010L12BPLP1b-5	①	12	7~14	0.040	0.032	0.38	4400	4.31	0.12	1.65	0.06	13.30		
D4010Y24BPLP1b-5	⑤	24	15~27	0.130	0.070	1.68	9000	8.81	0.25	6.91	0.27	32.00		
D4010X24BPLP1b-5	④	24	15~27	0.060	0.050	1.20	7500	7.34	0.21	4.80	0.19	27.20		
D4010Y05BPLP1b-5	③	24	15~27	0.050	0.040	0.96	6600	6.46	0.18	3.72	0.15	23.90		





4010-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 10mm

(1.57 x 1.57 x 0.39in)

5V, 12V, 24V

3.87~8.03 CFM (0.11~0.23 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

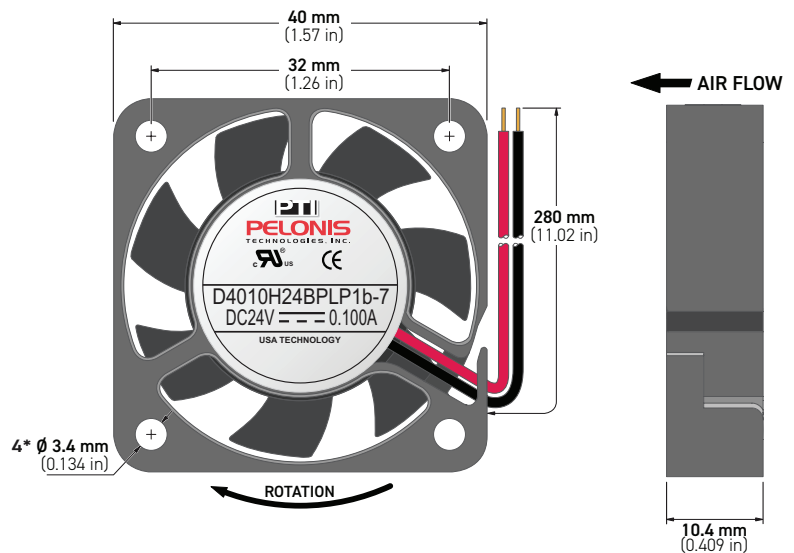
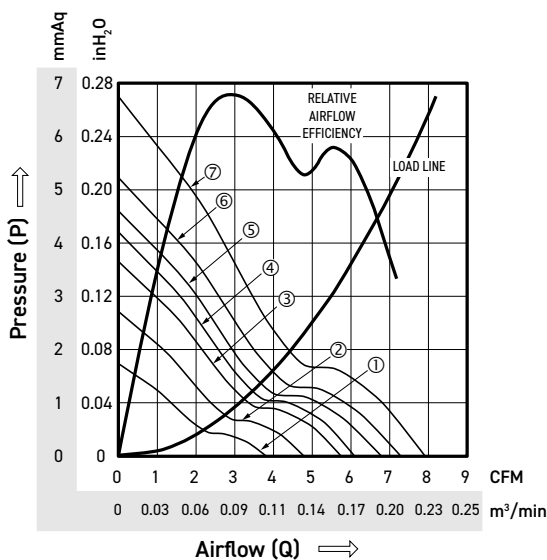
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
C4010Y05BPLP1b-7	⑦	5	4~6	0.303	0.280	1.40	9000	8.03	0.23	6.75	0.27	36.81	1b: AS IP51	2a: FG 2b: RD
C4010X05BPLP1b-7	⑤	5	4~6	0.199	0.190	0.95	7500	6.91	0.20	4.60	0.18	32.07		
C4010H05BPLP1b-7	③	5	4~6	0.170	0.150	0.75	6600	5.80	0.16	3.66	0.14	28.29		
C4010M05BPLP1b-7	②	5	4~6	0.100	0.100	0.50	5500	4.82	0.14	2.69	0.11	24.17		
C4010L05BPLP1b-7	①	5	4~6	0.060	0.060	0.30	4400	3.87	0.11	1.73	0.07	19.39		
C4010Y12BPLP1b-7	⑦	12	7~14	0.143	0.140	1.68	9000	8.03	0.23	6.75	0.27	36.81	1b: AS IP51	2a: FG 2b: RD 3c: PPWM
C4010X12BPLP1b-7	⑤	12	7~14	0.110	0.090	1.08	7500	6.91	0.20	4.60	0.18	32.07		
C4010H12BPLP1b-7	③	12	7~14	0.094	0.062	0.74	6600	5.80	0.16	3.66	0.14	28.29		
C4010M12BPLP1b-7	②	12	7~14	0.080	0.051	0.61	5500	4.82	0.14	2.69	0.11	24.17		
C4010L12BPLP1b-7	①	12	7~14	0.070	0.032	0.38	4400	3.87	0.11	1.73	0.07	19.39		
C4010H24BPLP1b-7	⑦	24	15~27	0.100	0.060	1.44	9000	8.03	0.23	6.75	0.27	36.81	1b: AS IP51	2a: FG 2b: RD 3c: PPWM
C4010M24BPLP1b-7	⑥	24	15~27	0.080	0.054	1.30	8000	7.37	0.21	5.23	0.21	34.97		
C4010L24BPLP1b-7	④	24	15~27	0.060	0.040	0.96	7000	6.13	0.17	4.22	0.17	30.44		
D4010H12BPLP1b-7	③	12	7~14	0.110	0.062	0.74	6600	5.80	0.16	3.66	0.14	28.29		
D4010M12BPLP1b-7	②	12	7~14	0.080	0.051	0.61	5500	4.82	0.14	2.69	0.11	24.17		
D4010L12BPLP1b-7	①	12	7~14	0.070	0.032	0.38	4400	3.87	0.11	1.73	0.07	19.39	1b: AS IP51	2a: FG 2b: RD 3c: PPWM
D4010H24BPLP1b-7	⑦	24	15~27	0.100	0.060	1.44	9000	8.03	0.23	6.75	0.27	36.81		
D4010M24BPLP1b-7	⑥	24	15~27	0.080	0.054	1.30	8000	7.37	0.21	5.23	0.21	34.97		
D4010L24BPLP1b-7	④	24	15~27	0.060	0.040	0.96	7000	6.13	0.17	4.22	0.17	30.44		





4015-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 15mm

(1.57 x 1.57 x 0.59in)

5V, 12V, 24V

6.30~13.85 CFM (0.18~0.39 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

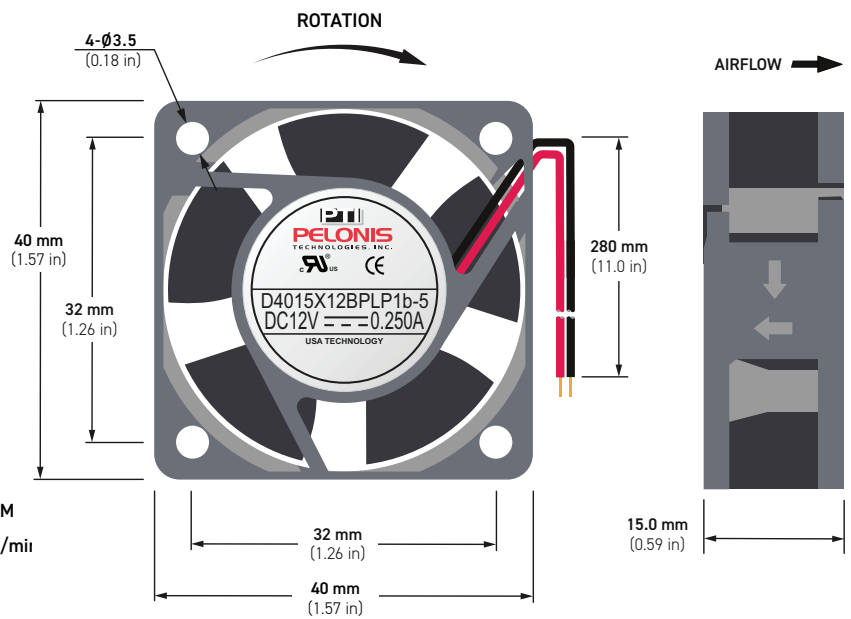
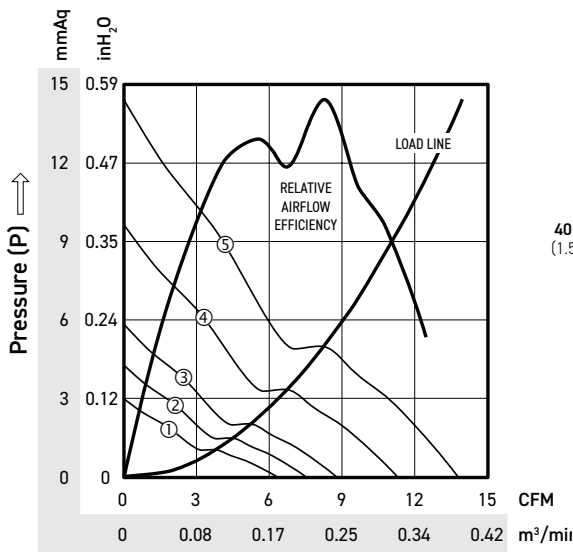
Operating Life: 70,000 hours

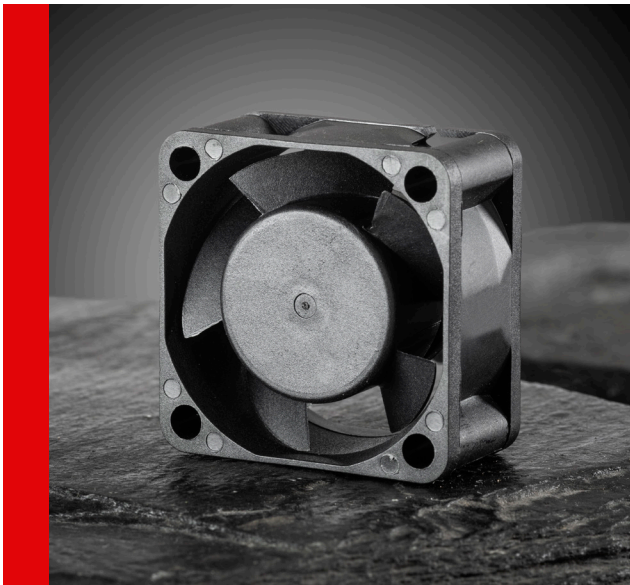
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
D4015X05BPLP1b-5	④	5	4~6	0.450	0.400	2.00	9000	11.33	0.32	9.67	0.38	34.90	1b: AS IP51	2a: FG 2b: RD
D4015H05BPLP1b-5	③	5	4~6	0.370	0.250	1.25	7000	8.81	0.25	5.85	0.23	28.30		
D4015M05BPLP1b-5	②	5	4~6	0.250	0.180	0.90	6000	7.55	0.21	4.30	0.17	24.30		
D4015L05BPLP1b-5	①	5	4~6	0.210	0.150	0.75	5000	6.30	0.18	2.99	0.12	19.60		
D4015Y12BPLB1b-5	⑤	12	7~14	0.290	0.230	2.76	11000	13.85	0.39	14.45	0.57	40.10		
D4015X12BPLP1b-5	④	12	7~14	0.250	0.190	2.28	9000	11.33	0.32	9.67	0.38	34.90		
D4015H12BPLP1b-5	③	12	7~14	0.170	0.110	1.32	7000	8.81	0.25	5.85	0.23	28.30		
D4015M12BPLP1b-5	②	12	7~14	0.150	0.090	1.08	6000	7.55	0.21	4.30	0.17	24.30		
D4015L12BPLP1b-5	①	12	7~14	0.120	0.065	0.78	5000	6.30	0.18	2.99	0.12	19.60		
D4015Y24BPLB1b-5	⑤	24	15~27	0.170	0.130	3.12	11000	13.85	0.39	14.45	0.57	40.10		
D4015X24BPLP1b-5	④	24	15~27	0.120	0.090	2.16	9000	11.33	0.32	9.67	0.38	34.90		
D4015Y05BPLP1b-5	③	24	15~27	0.100	0.055	1.32	7000	8.81	0.25	5.85	0.23	28.30		





4020-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 20mm

(1.57 x 1.57 x 0.79in)

5V, 12V, 24V

4.94~18.53 CFM (0.14~0.52 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

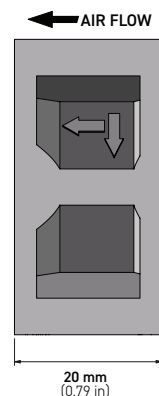
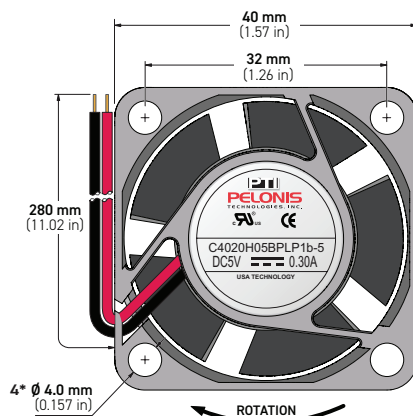
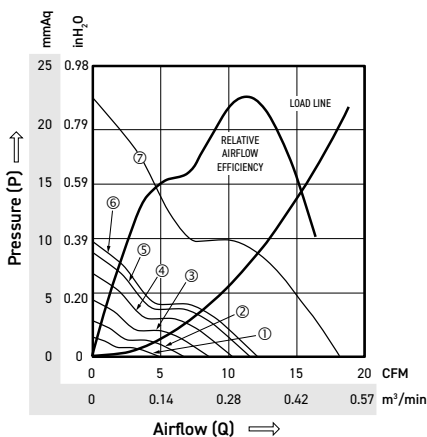
Locked Rotor Protection

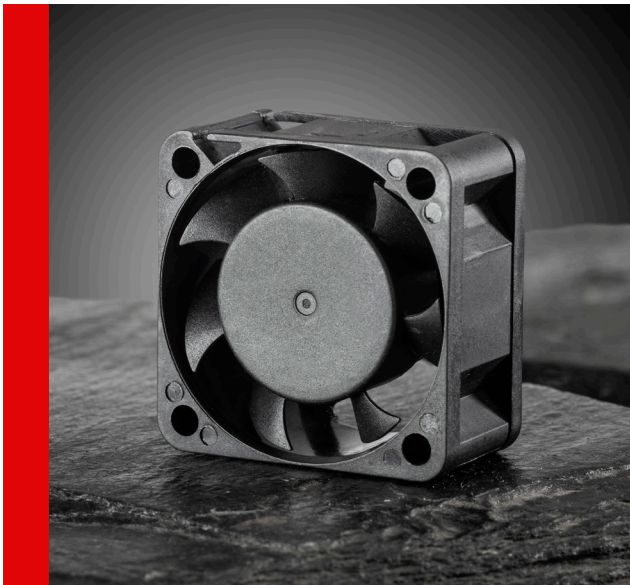
UL, CE, RoHS

CONTROL FEATURES

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH₂O)	Noise (dBA)
C4020Y05BPLP1b-5	⑤	5	4~6	0.420	0.410	2.05	9500	11.73	0.33	8.93	0.35	33.50
C4020X05BPLP1b-5	④	5	4~6	0.390	0.380	1.90	8500	10.50	0.30	7.15	0.28	30.60
C4020H05BPLP1b-5	③	5	4~6	0.300	0.250	1.25	7000	8.65	0.24	4.85	0.19	25.20
C4020M05BPLP1b-5	②	5	4~6	0.180	0.170	0.85	5500	6.79	0.19	2.99	0.12	19.30
C4020L05BPLP1b-5	①	5	4~6	0.130	0.120	0.60	4000	4.94	0.14	1.58	0.06	11.00
C4020Z12BPLB1b-5	⑦	12	7~14	0.420	0.370	4.44	15000	18.53	0.52	22.27	0.88	45.40
C4020Y12BPLP1b-5	⑥	12	7~14	0.220	0.210	2.52	10000	12.35	0.35	9.90	0.39	34.80
C4020X12BPLP1b-5	④	12	7~14	0.160	0.160	1.92	8500	10.50	0.30	7.15	0.28	30.60
C4020H12BPLP1b-5	③	12	7~14	0.120	0.120	1.44	7000	8.65	0.24	4.85	0.19	25.20
C4020M12BPLP1b-5	②	12	7~14	0.070	0.070	0.84	5500	6.79	0.19	2.99	0.12	19.30
C4020L12BPLP1b-5	①	12	7~14	0.050	0.050	0.60	4000	4.94	0.14	1.58	0.06	11.00
C4020Z24BPLP1b-5	⑦	24	15~27	0.210	0.180	4.32	15000	18.53	0.52	22.27	0.88	45.40
C4020Y24BPLP1b-5	⑥	24	15~27	0.110	0.110	2.64	10000	12.35	0.35	9.90	0.39	34.80
C4020X24BPLP1b-5	④	24	15~27	0.080	0.080	1.92	8500	10.50	0.30	7.15	0.28	30.60
C4020H24BPLP1b-5	③	24	15~27	0.060	0.060	1.44	7000	8.65	0.24	4.85	0.19	25.20
D4020Y05BPLP1b-5	⑤	5	4~6	0.420	0.410	2.05	9500	11.73	0.33	8.93	0.35	33.50
D4020X05BPLP1b-5	④	5	4~6	0.390	0.380	1.90	8500	10.50	0.30	7.15	0.28	30.60
D4020H05BPLP1b-5	③	5	4~6	0.300	0.250	1.25	7000	8.65	0.24	4.85	0.19	25.20
D4020M05BPLP1b-5	②	5	4~6	0.180	0.170	0.85	5500	6.79	0.19	2.99	0.12	19.30
D4020L05BPLP1b-5	①	5	4~6	0.130	0.120	0.60	4000	4.94	0.14	1.58	0.06	11.00
D4020Z12BPLB1b-5	⑦	12	7~14	0.420	0.370	4.44	15000	18.53	0.52	22.27	0.88	45.40
D4020Y12BPLP1b-5	⑥	12	7~14	0.220	0.210	2.52	10000	12.35	0.35	9.90	0.39	34.80
D4020X12BPLP1b-5	④	12	7~14	0.160	0.160	1.92	8500	10.50	0.30	7.15	0.28	30.60
D4020H12BPLP1b-5	③	12	7~14	0.120	0.120	1.44	7000	8.65	0.24	4.85	0.19	25.20
D4020M12BPLP1b-5	②	12	7~14	0.070	0.070	0.84	5500	6.79	0.19	2.99	0.12	19.30
D4020L12BPLP1b-5	①	12	7~14	0.050	0.050	0.60	4000	4.94	0.14	1.58	0.06	11.00
D4020Z24BPLB1b-5	⑦	24	15~27	0.210	0.180	4.32	15000	18.53	0.52	22.27	0.88	45.40
D4020Y24BPLP1b-5	⑥	24	15~27	0.110	0.110	2.64	10000	12.35	0.35	9.90	0.39	34.80
D4020X24BPLP1b-5	④	24	15~27	0.080	0.080	1.92	8500	10.50	0.30	7.15	0.28	30.60
D4020H24BPLP1b-5	③	24	15~27	0.060	0.060	1.44	7000	8.65	0.24	4.85	0.19	25.20





4020-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 20mm

(1.57 x 1.57 x 0.79in)

5V, 12V, 24V

4.92~10.88 CFM (0.14~0.31 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

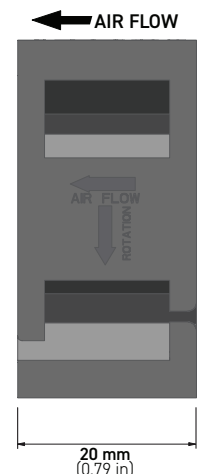
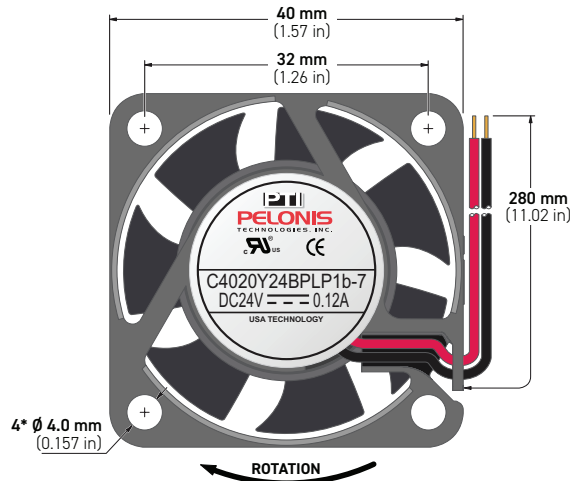
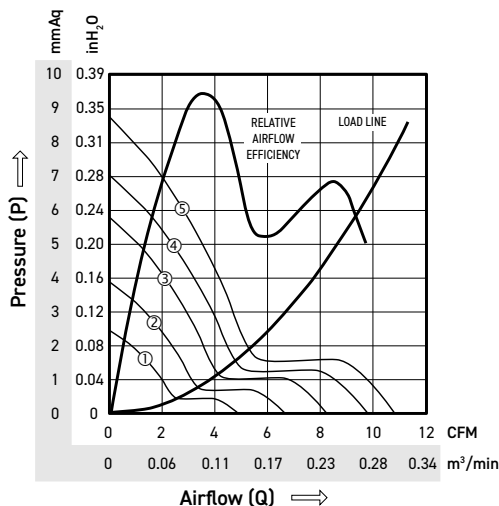
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
C4020H05BPLP1b-7	③	5	4~6	0.320	0.220	1.10	7000	8.21	0.23	5.74	0.23	32.38
C4020M05BPLP1b-7	②	5	4~6	0.170	0.140	0.70	5500	6.64	0.19	3.87	0.15	27.14
C4020L05BPLP1b-7	①	5	4~6	0.110	0.083	0.42	4000	4.92	0.14	2.40	0.09	20.78
C4020Y12BPLP1b-7	⑤	12	7~14	0.310	0.160	1.92	9000	10.88	0.31	8.68	0.34	39.18
C4020X12BPLP1b-7	④	12	7~14	0.168	0.140	1.68	8000	9.81	0.28	6.98	0.27	36.27
C4020H12BPLP1b-7	③	12	7~14	0.140	0.100	1.20	7000	8.21	0.23	5.74	0.23	32.38
C4020M12BPLP1b-7	②	12	7~14	0.100	0.062	0.74	5500	6.64	0.19	3.87	0.15	27.14
C4020L12BPLP1b-7	①	12	7~14	0.050	0.040	0.48	4000	4.92	0.14	2.40	0.09	20.78
C4020Y24BPLP1b-7	⑤	24	15~27	0.120	0.095	2.28	9000	10.88	0.31	8.68	0.34	39.18
C4020X24BPLP1b-7	④	24	15~27	0.096	0.072	1.73	8000	9.81	0.28	6.98	0.27	36.27
C4020H24BPLP1b-7	③	24	15~27	0.072	0.051	1.22	7000	8.21	0.23	5.74	0.23	32.38
D4020H05BPLP1b-7	③	5	4~6	0.320	0.220	1.10	7000	8.21	0.23	5.74	0.23	32.38
D4020M05BPLP1b-7	②	5	4~6	0.170	0.140	0.70	5500	6.64	0.19	3.87	0.15	27.14
D4020L05BPLP1b-7	①	5	4~6	0.110	0.083	0.42	4000	4.92	0.14	2.40	0.09	20.78
D4020Y12BPLP1b-7	⑤	12	7~14	0.310	0.160	1.92	9000	10.88	0.31	8.68	0.34	39.18
D4020H12BPLP1b-7	③	12	7~14	0.140	0.100	1.20	7000	8.21	0.23	5.74	0.23	32.38
D4020M12BPLP1b-7	②	12	7~14	0.100	0.062	0.74	5500	6.64	0.19	3.87	0.15	27.14
D4020L12BPLP1b-7	①	12	7~14	0.050	0.040	0.48	4000	4.92	0.14	2.40	0.09	20.78
D4020H24BPLP1b-7	③	24	15~27	0.130	0.045	1.08	7000	8.21	0.23	5.74	0.23	32.38
D4020M24BPLP1b-7	②	24	15~27	0.100	0.030	0.72	5500	6.64	0.19	3.87	0.15	27.14
D4020L24BPLP1b-7	①	24	15~27	0.060	0.020	0.48	4000	4.92	0.14	2.40	0.09	20.78

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD IP56, IP67
1b: AS IP51	2a: FG 2b: RD 3c: PPWM IP56, IP67





4028-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 28mm

(1.57 x 1.57 x 1.10in)

12V, 24V

12.40~27.28 CFM (0.35~0.77 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

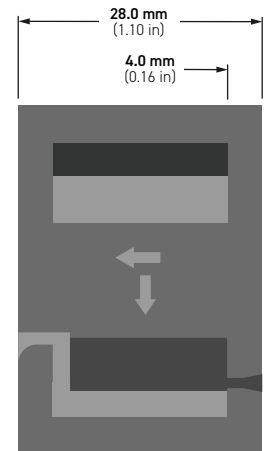
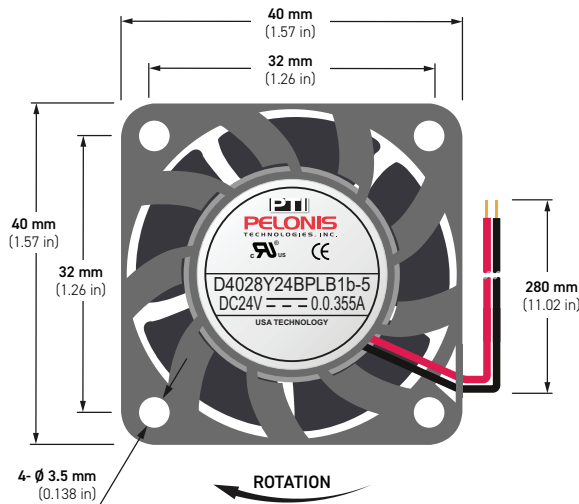
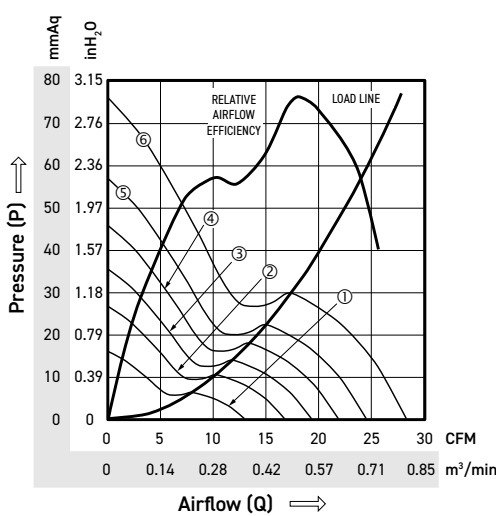
Operating Life: 70,000 hours

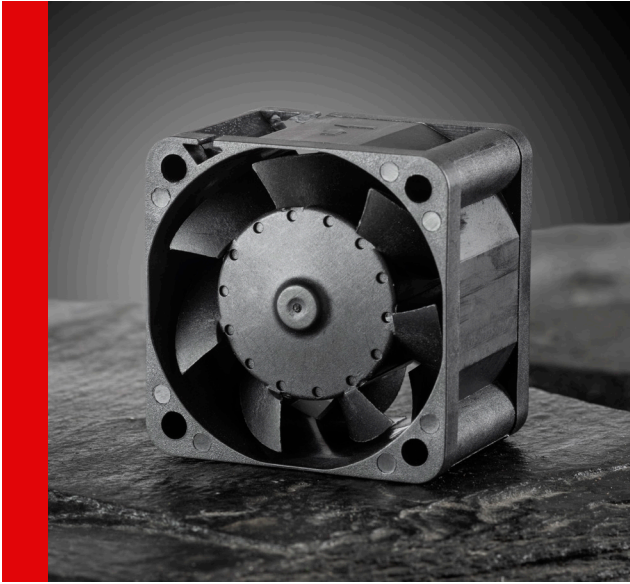
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
D4028Z12BPLB1b-5	⑥	12	7~13.2	1.170	1.060	12.72	22000	27.28	0.77	75.61	2.98	60.80	1b: AS IP51	2a: FG 2b: RD 3a: VPWM 3c: PPWM IP54, IP56, IP67
D4028Y12BPLB1b-5	⑤	12	7~13.2	0.770	0.730	8.76	19000	23.56	0.67	56.39	2.22	56.80		
D4028X12BPLB1b-5	④	12	7~13.2	0.680	0.640	7.68	17000	21.08	0.60	45.15	1.77	55.30		
D4028H12BPLB1b-5	③	12	7~13.2	0.520	0.490	5.88	15000	18.60	0.53	35.15	1.38	51.40		
D4028M12BPLB1b-5	②	12	7~13.2	0.420	0.380	4.56	13000	16.12	0.46	26.40	1.04	47.50		
D4028L12BPLB1b-5	①	12	7~13.2	0.290	0.260	3.12	10000	12.40	0.35	15.62	0.61	40.20		
D4028Z24BPLB1b-5	⑥	24	15~26.4	0.572	0.520	12.48	22000	27.28	0.77	75.61	2.98	60.80		
D4028Y24BPLB1b-5	⑤	24	15~26.4	0.355	0.320	7.68	19000	23.56	0.67	56.39	2.22	56.80		
D4028X24BPLB1b-5	④	24	15~26.4	0.280	0.255	6.12	17000	21.08	0.60	45.15	1.77	55.30		
D4028H24BPLB1b-5	③	24	15~26.4	0.210	0.189	4.54	15000	18.60	0.53	35.15	1.38	51.40		
D4028M24BPLB1b-5	②	24	15~26.4	0.155	0.138	3.31	13000	16.12	0.46	26.40	1.04	47.50		
D4028L24BPLB1b-5	①	24	15~26.4	0.093	0.088	2.11	10000	12.40	0.35	15.62	0.61	40.20		





4028-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

40 x 40 x 28mm

(1.57 x 1.57 x 1.10in)

12V, 24V

8.25~24.76 CFM (0.23~0.70 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 280±10mm

Operating Temperature: -10°C ~ +70°C

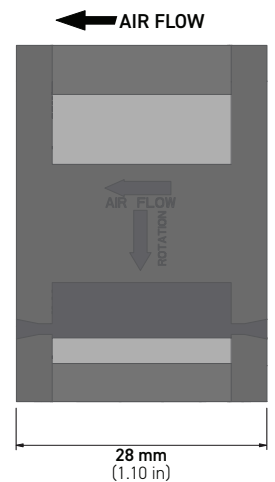
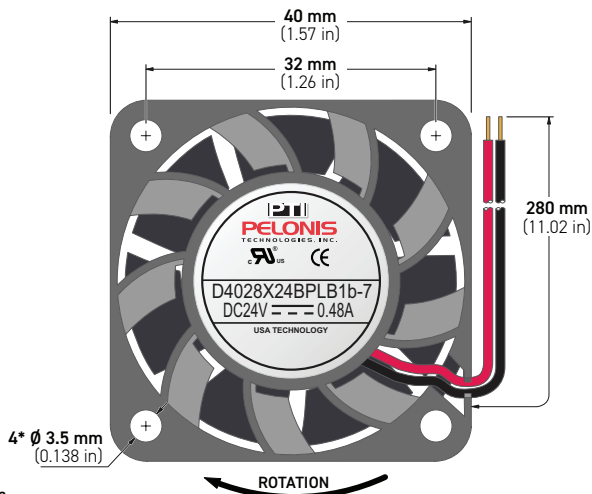
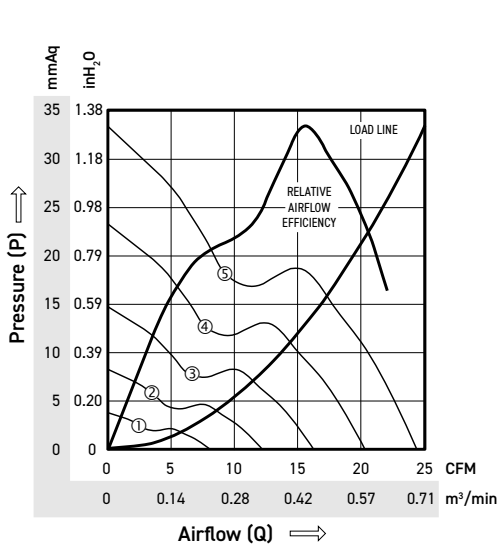
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
D4028Y12BPLB1b-7	⑤	12	7~14	1.122	0.850	10.20	15000	24.76	0.70	33.22	1.31	61.07	1b: AS IP51	2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3c: PPWM IP54, IP56, IP67
D4028X12BPLB1b-7	④	12	7~14	0.734	0.550	6.60	12500	20.63	0.58	23.07	0.91	55.47		
D4028H12BPLB1b-7	③	12	7~14	0.480	0.300	3.60	10000	16.50	0.47	14.76	0.58	49.20		
D4028M12BPLB1b-7	②	12	7~14	0.264	0.180	2.16	7500	12.38	0.35	8.30	0.33	39.19		
D4028L12BPLB1b-7	①	12	7~14	0.144	0.120	1.44	5000	8.25	0.23	3.69	0.15	32.45		
D4028Y24BPLB1b-7	⑤	24	15~27	0.608	0.500	12.00	15000	24.76	0.70	33.22	1.31	61.07		
D4028X24BPLB1b-7	④	24	15~27	0.480	0.400	9.60	12500	20.63	0.58	23.07	0.91	55.47		
D4028H24BPLB1b-7	③	24	15~27	0.360	0.160	3.84	10000	16.50	0.47	14.76	0.58	49.20		
D4028M24BPLB1b-7	②	24	15~27	0.144	0.080	1.92	7500	12.38	0.35	8.30	0.33	39.19		
D4028L24BPLB1b-7	①	24	15~27	0.084	0.070	1.68	5000	8.25	0.23	3.69	0.15	32.45		





5010-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

50 x 50 x 10mm

(1.97 x 1.97 x 0.39in)

5V, 12V, 24V

9.04~18.09 CFM (0.26~0.51 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

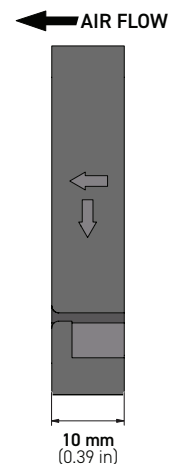
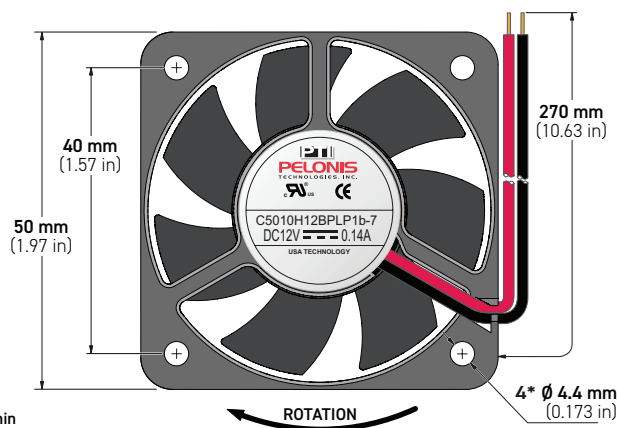
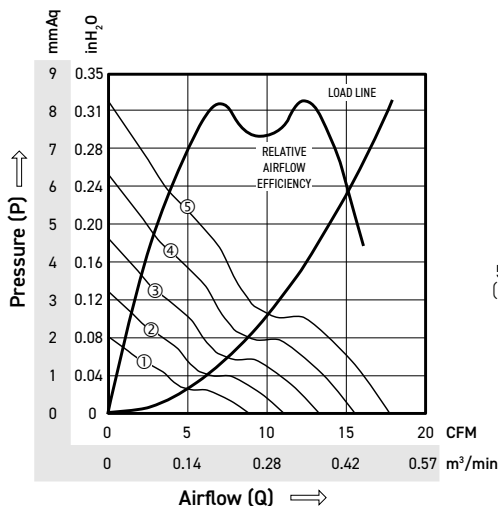
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
C5010H05BPLP1b-7	③	5	4~6	0.270	0.270	1.35	6000	13.57	0.38	4.67	0.18	33.15
C5010M05BPLP1b-7	②	5	4~6	0.160	0.160	0.80	5000	11.31	0.32	3.24	0.13	30.10
C5010L05BPLP1b-7	①	5	4~6	0.100	0.100	0.50	4000	9.04	0.26	2.08	0.08	25.85
C5010H12BPLP1b-7	③	12	7~14	0.140	0.135	1.62	6000	13.57	0.38	4.67	0.18	33.15
C5010M12BPLP1b-7	②	12	7~14	0.100	0.086	1.03	5000	11.31	0.32	3.24	0.13	30.10
C5010L12BPLP1b-7	①	12	7~14	0.060	0.055	0.66	4000	9.04	0.26	2.08	0.08	25.85
C5010H24BPLP1b-7	⑤	24	15~27	0.100	0.110	2.64	8000	18.09	0.51	8.30	0.33	40.11
C5010M24BPLP1b-7	④	24	15~27	0.080	0.080	1.92	7000	15.83	0.45	6.36	0.25	36.65
C5010L24BPLP1b-7	③	24	15~27	0.050	0.055	1.32	6000	13.57	0.38	4.67	0.18	33.15
D5010H05BPLP1b-7	③	5	4~6	0.270	0.270	1.35	6000	13.57	0.38	4.67	0.18	33.15
D5010M05BPLP1b-7	②	5	4~6	0.160	0.160	0.80	5000	11.31	0.32	3.24	0.13	30.10
D5010L05BPLP1b-7	①	5	4~6	0.100	0.100	0.50	4000	9.04	0.26	2.08	0.08	25.85
D5010H12BPLP1b-7	③	12	7~14	0.140	0.130	1.56	6000	13.57	0.38	4.67	0.18	33.15
D5010M12BPLP1b-7	②	12	7~14	0.100	0.080	0.96	5000	11.31	0.32	3.24	0.13	30.10
D5010L12BPLP1b-7	①	12	7~14	0.060	0.050	0.60	4000	9.04	0.26	2.08	0.08	25.85
D5010H24BPLP1b-7	⑤	24	15~27	0.100	0.110	2.64	8000	18.09	0.51	8.30	0.33	40.11
D5010M24BPLP1b-7	④	24	15~27	0.080	0.080	1.92	7000	15.83	0.45	6.36	0.25	36.65
D5010L24BPLP1b-7	③	24	15~27	0.050	0.060	1.44	6000	13.57	0.38	4.67	0.18	33.15

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD IP54, IP56





5015-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

50 x 50 x 15mm

(1.97 x 1.97 x 0.59in)

5V, 12V, 24V

12.03~22.80 CFM (0.34~0.65 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

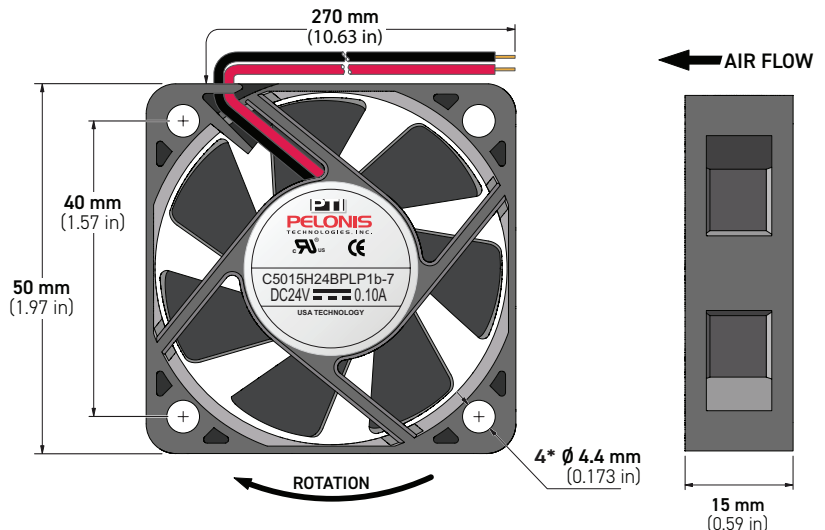
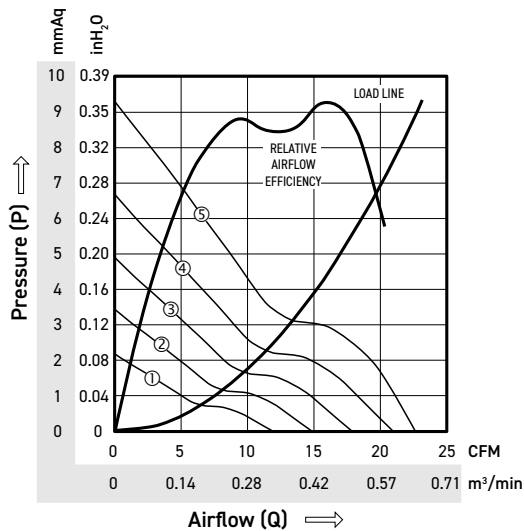
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
C5015H05BPLP1b-7	③	5	4~6	0.300	0.300	1.50	6000	18.04	0.51	4.86	0.19	32.40
C5015M05BPLP1b-7	②	5	4~6	0.240	0.240	1.20	5000	15.04	0.43	3.38	0.13	27.60
C5015M05BPLP1b-7	①	5	4~6	0.160	0.160	0.80	4000	12.03	0.34	2.16	0.09	21.80
C5015Y12BPLP1b-7	⑤	12	7~14	0.400	0.350	4.20	8000	22.80	0.65	9.25	0.36	41.50
C5015X12BPLP1b-7	④	12	7~14	0.260	0.250	3.00	7000	21.05	0.60	6.62	0.26	36.40
C5015H12BPLP1b-7	③	12	7~14	0.160	0.160	1.92	6000	18.04	0.51	4.86	0.19	32.40
C5015M12BPLP1b-7	②	12	7~14	0.120	0.110	1.32	5000	15.04	0.43	3.38	0.13	27.60
C5015L12BPLP1b-7	①	12	7~14	0.080	0.080	0.96	4000	12.03	0.34	2.16	0.09	21.80
C5015Y24BPLP1b-7	⑤	24	15~27	0.200	0.180	4.32	8000	22.80	0.65	9.25	0.36	41.50
C5015X24BPLP1b-7	④	24	15~27	0.150	0.130	3.12	7000	21.05	0.60	6.62	0.26	36.40
C5015H24BPLP1b-7	③	24	15~27	0.100	0.082	1.97	6000	18.04	0.51	4.86	0.19	32.40
C5015M24BPLP1b-7	②	24	15~27	0.060	0.060	1.44	5000	15.04	0.43	3.38	0.13	27.60
C5015L24BPLP1b-7	①	24	15~27	0.040	0.040	0.96	4000	12.03	0.34	2.16	0.09	21.80
D5015H05BPLP1b-7	③	5	4~6	0.300	0.300	1.50	6000	18.04	0.51	4.86	0.19	32.40
D5015M05BPLP1b-7	②	5	4~6	0.240	0.240	1.20	5000	15.04	0.43	3.38	0.13	27.60
D5015L05BPLP1b-7	①	5	4~6	0.160	0.160	0.80	4000	12.03	0.34	2.16	0.09	21.80
D5015Y12BPLP1b-7	⑤	12	7~14	0.400	0.400	3.96	8000	22.80	0.65	9.25	0.36	41.50
D5015X12BPLP1b-7	④	12	7~14	0.260	0.260	2.76	7000	21.05	0.60	6.62	0.26	36.40
D5015H12BPLP1b-7	③	12	7~14	0.160	0.160	1.80	6000	18.04	0.51	4.86	0.19	32.40
D5015M12BPLP1b-7	②	12	7~14	0.120	0.120	1.20	5000	15.04	0.43	3.38	0.13	27.60
D5015L12BPLP1b-7	①	12	7~14	0.080	0.080	0.96	4000	12.03	0.34	2.16	0.09	21.80
D5015Y24BPLP1b-7	⑤	24	15~27	0.200	0.200	4.08	8000	22.80	0.65	9.25	0.36	41.50
D5015X24BPLP1b-7	④	24	15~27	0.150	0.150	2.88	7000	21.05	0.60	6.62	0.26	36.40
D5015H24BPLP1b-7	③	24	15~27	0.100	0.100	1.92	6000	18.04	0.51	4.86	0.19	32.40
D5015M24BPLP1b-7	②	24	15~27	0.060	0.060	1.44	5000	15.04	0.43	3.38	0.13	27.60
D5015L24BPLP1b-7	①	24	15~27	0.040	0.040	0.96	4000	12.03	0.34	2.16	0.09	21.80

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD IP54, IP56, IP67





6010-11

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 10mm

(2.36 x 2.36 x 0.39in)

5V, 12V, 24V

13.82~19.87 CFM (0.39~0.56 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

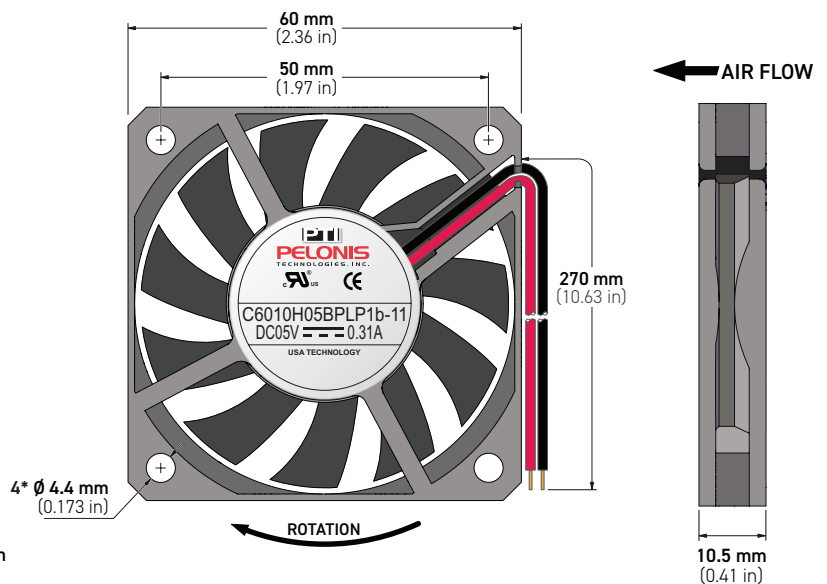
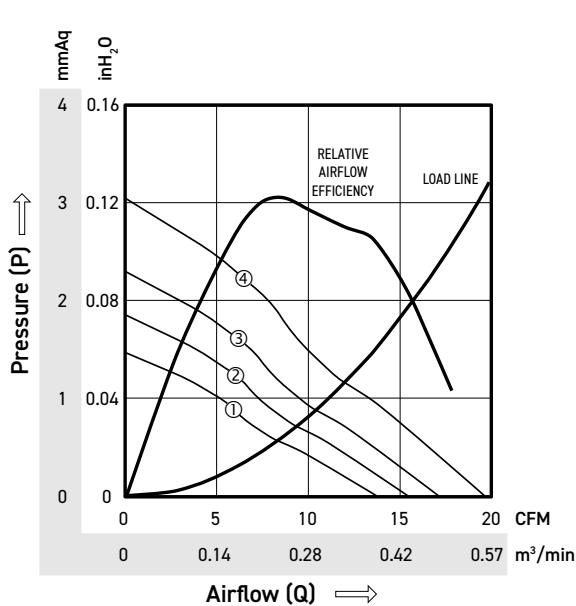
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
C6010H05BPLP1b-11	③	5	4~6	0.310	0.230	1.15	4000	17.28	0.49	2.31	0.09	32.07
C6010M05BPLP1b-11	②	5	4~6	0.200	0.190	0.95	3600	15.55	0.44	1.87	0.07	29.70
C6010L05BPLP1b-11	①	5	4~6	0.180	0.154	0.77	3200	13.82	0.39	1.48	0.06	24.91
C6010H12BPLP1b-11	③	12	7~14	0.280	0.180	2.16	4600	19.87	0.56	3.06	0.12	35.04
C6010M12BPLP1b-11	②	12	7~14	0.170	0.120	1.44	4000	17.28	0.49	2.31	0.09	32.07
C6010L12BPLP1b-11	①	12	7~14	0.130	0.090	1.08	3600	15.55	0.44	1.87	0.07	29.70
C6010H24BPLP1b-11	⑤	24	15~27	0.150	0.120	2.88	4600	19.87	0.56	3.06	0.12	35.04
C6010M24BPLP1b-11	④	24	15~27	0.100	0.074	1.78	4000	17.28	0.49	2.31	0.09	32.07
C6010L24BPLP1b-11	③	24	15~27	0.060	0.060	1.44	3600	15.55	0.44	1.87	0.07	29.70
D6010H12BPLP1b-11	③	12	7~14	0.280	0.180	2.16	4600	19.87	0.56	3.06	0.12	35.04
D6010M12BPLP1b-11	②	12	7~14	0.170	0.120	1.44	4000	17.28	0.49	2.31	0.09	32.07
D6010L12BPLP1b-11	①	12	7~14	0.130	0.090	1.08	3600	15.55	0.44	1.87	0.07	29.70
D6010H24BPLP1b-11	③	24	15~27	0.150	0.120	2.88	4600	19.87	0.56	3.06	0.12	35.04
D6010M24BPLP1b-11	②	24	15~27	0.100	0.074	1.78	4000	17.28	0.49	2.31	0.09	32.07
D6010L24BPLP1b-11	①	24	15~27	0.060	0.060	1.44	3600	15.55	0.44	1.87	0.07	29.70

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD IP54, IP56





6015-9

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 15mm

(2.36 x 2.36 x 0.59in)

5V, 12V, 24V, 48V

14.01~23.35 CFM (0.40~0.66 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C6015H05BPLP1b-9	③	5	4~6	0.620	0.440	2.20	4000	18.68	0.53	3.57	0.14	30.60	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56
C6015M05BPLP1b-9	②	5	4~6	0.380	0.320	1.60	3500	16.34	0.46	2.73	0.11	27.40		
C6015L05BPLP1b-9	①	5	4~6	0.250	0.210	1.05	3000	14.01	0.40	2.01	0.08	23.60		
C6015Y12BPLP1b-9	⑤	12	7~14	0.460	0.330	3.96	5000	23.35	0.66	5.57	0.22	36.70		
C6015X12BPLP1b-9	④	12	7~14	0.240	0.198	2.38	4500	21.01	0.59	4.51	0.17	33.40		
C6015H12BPLP1b-9	③	12	7~14	0.190	0.160	1.92	4000	18.68	0.53	3.57	0.14	30.60		
C6015M12BPLP1b-9	②	12	7~14	0.130	0.110	1.32	3500	16.34	0.46	2.73	0.11	27.40		
C6015L12BPLP1b-9	①	12	7~14	0.110	0.090	1.08	3000	14.01	0.40	2.01	0.08	23.60		
C6015Y24BPLP1b-9	⑤	24	15~27	0.210	0.150	3.60	5000	23.35	0.66	5.57	0.22	36.70		
C6015X24BPLP1b-9	④	24	15~27	0.140	0.120	2.88	4500	21.01	0.59	4.51	0.17	33.40		
C6015H24BPLP1b-9	③	24	15~27	0.110	0.090	2.16	4000	18.68	0.53	3.57	0.14	30.60		
C6015M24BPLP1b-9	②	24	15~27	0.080	0.070	1.68	3500	16.34	0.46	2.73	0.11	27.40		
C6015L24BPLP1b-9	①	24	15~27	0.070	0.060	1.44	3000	14.01	0.40	2.01	0.08	23.60		
C6015Y48BPLP1b-9	⑤	48	36~57	0.100	0.070	2.88	5000	23.35	0.66	5.57	0.22	36.70	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56
C6015X48BPLP1b-9	④	48	36~57	0.070	0.060	2.40	4500	21.01	0.59	4.51	0.17	33.40		
D6015H05BPLP1b-9	③	5	4~6	0.620	0.440	2.20	4000	18.68	0.53	3.57	0.14	30.60		
D6015M05BPLP1b-9	②	5	4~6	0.380	0.320	1.60	3500	16.34	0.46	2.73	0.11	27.40		
D6015L05BPLP1b-9	①	5	4~6	0.250	0.210	1.05	3000	14.01	0.40	2.01	0.08	23.60		
D6015Y12BPLP1b-9	⑤	12	7~14	0.460	0.330	3.96	5000	23.35	0.66	5.57	0.22	36.70		
D6015X12BPLP1b-9	④	12	7~14	0.240	0.198	2.38	4500	21.01	0.59	4.51	0.17	33.40		
D6015H12BPLP1b-9	③	12	7~14	0.190	0.160	1.92	4000	18.68	0.53	3.57	0.14	30.60		
D6015M12BPLP1b-9	②	12	7~14	0.130	0.110	1.32	3500	16.34	0.46	2.73	0.11	27.40		
D6015L12BPLP1b-9	①	12	7~14	0.110	0.090	1.08	3000	14.01	0.40	2.01	0.08	23.60		
D6015Y24BPLP1b-9	⑤	24	15~27	0.210	0.150	3.60	5000	23.35	0.66	5.57	0.22	36.70		
D6015X24BPLP1b-9	④	24	15~27	0.140	0.120	2.88	4500	21.01	0.59	4.51	0.17	33.40		
D6015H24BPLP1b-9	③	24	15~27	0.110	0.090	2.16	4000	18.68	0.53	3.57	0.14	30.60		
D6015M24BPLP1b-9	②	24	15~27	0.080	0.070	1.68	3500	16.34	0.46	2.73	0.11	27.40		
D6015L24BPLP1b-9	①	24	15~27	0.070	0.060	1.44	3000	14.01	0.40	2.01	0.08	23.60		
D6015Y48BPLP1b-9	⑤	48	36~57	0.100	0.070	2.88	5000	23.35	0.66	5.57	0.22	36.70		
D6015X48BPLP1b-9	④	48	36~57	0.070	0.060	2.40	4500	21.01	0.59	4.51	0.17	33.40		



6015-9

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 15mm

(2.36 x 2.36 x 0.59in)

5V, 12V, 24V, 48V

14.01~23.35 CFM (0.40~0.66 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

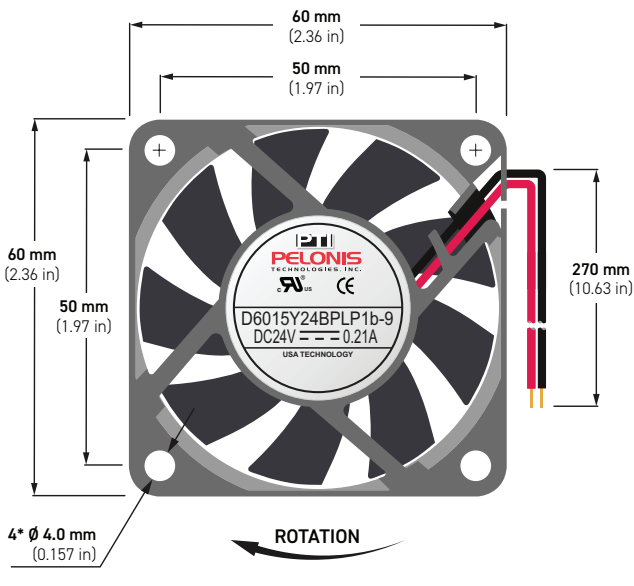
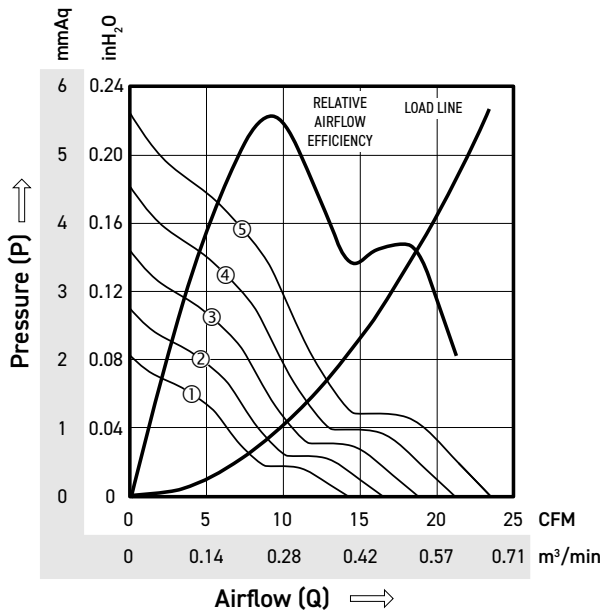
Lead Wires: UL1007 (+) Red; (-) Black, AWG 26, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





6020-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 20mm

(2.36 x 2.36 x 0.79in)

5V, 12V, 24V, 48V

13.80~33.33 CFM (0.39~0.94 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C6020X12BPLP1b-7	④	12	7~14	0.310	0.230	2.76	5600	24.30	0.69	8.53	0.34	39.16	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
C6020H12BPLP1b-7	③	12	7~14	0.220	0.168	2.02	4800	20.82	0.59	6.26	0.25	35.14		
C6020M12BPLP1b-7	②	12	7~14	0.160	0.120	1.44	4000	17.36	0.49	4.36	0.17	30.37		
C6020L12BPLP1b-7	①	12	7~14	0.110	0.075	0.90	3200	13.80	0.39	2.76	0.11	24.50		
C6020Y24BPLP1b-7	⑤	24	15~27	0.220	0.220	5.28	6400	27.63	0.78	11.03	0.43	42.46		
C6020X24BPLP1b-7	④	24	15~27	0.180	0.153	3.67	5600	24.30	0.69	8.53	0.34	39.16		
C6020H24BPLP1b-7	③	24	15~27	0.140	0.087	2.09	4800	20.82	0.59	6.26	0.25	35.14		
C6020M24BPLP1b-7	②	24	15~27	0.100	0.070	1.68	4000	17.36	0.49	4.36	0.17	30.37		
C6020L24BPLP1b-7	①	24	15~27	0.070	0.035	0.84	3200	13.80	0.39	2.76	0.11	24.50		
R6020X05BPLP1b-7	④	5	4~6	0.900	0.550	2.75	5600	24.30	0.69	8.53	0.34	39.16		
R6020H05BPLP1b-7	③	5	4~6	0.640	0.450	2.25	4800	20.82	0.59	6.26	0.25	35.14		
R6020M05BPLP1b-7	②	5	4~6	0.450	0.320	1.60	4000	17.36	0.49	4.36	0.17	30.37		
R6020L05BPLP1b-7	①	5	4~6	0.220	0.190	0.95	3200	13.80	0.39	2.76	0.11	24.50		
R6020Y12BPLP1b-7	⑤	12	7~14	0.380	0.370	4.44	6400	27.63	0.78	11.03	0.43	42.46		
R6020X12BPLP1b-7	④	12	7~14	0.310	0.230	2.76	5600	24.30	0.69	8.53	0.34	39.16		
R6020H12BPLP1b-7	③	12	7~14	0.220	0.168	2.02	4800	20.82	0.59	6.26	0.25	35.14		
R6020M12BPLP1b-7	②	12	7~14	0.160	0.120	1.44	4000	17.36	0.49	4.36	0.17	30.37		
R6020L12BPLP1b-7	①	12	7~14	0.110	0.075	0.90	3200	13.80	0.39	2.76	0.11	24.50		
R6020Y24BPLP1b-7	⑤	24	15~27	0.220	0.220	5.28	6400	27.63	0.78	11.03	0.43	42.46		
R6020X24BPLP1b-7	④	24	15~27	0.180	0.153	3.67	5600	24.30	0.69	8.53	0.34	39.16		
R6020H24BPLP1b-7	③	24	15~27	0.140	0.087	2.09	4800	20.82	0.59	6.26	0.25	35.14		
R6020M24BPLP1b-7	②	24	15~27	0.100	0.070	1.68	4000	17.36	0.49	4.36	0.17	30.37		
R6020L24BPLP1b-7	①	24	15~27	0.070	0.040	0.96	3200	13.80	0.39	2.76	0.11	24.50		
D6020X12BPLP1b-7	④	12	7~14	0.310	0.200	2.40	5600	24.30	0.69	8.53	0.34	39.16		
D6020H12BPLP1b-7	③	12	7~14	0.220	0.155	1.86	4800	20.82	0.59	6.26	0.25	35.14		
D6020M12BPLP1b-7	②	12	7~14	0.160	0.108	1.30	4000	17.36	0.49	4.36	0.17	30.37		
D6020L12BPLP1b-7	①	12	7~14	0.110	0.056	0.67	3200	13.80	0.39	2.76	0.11	24.50		
D6020Z24BPLP1b-7	⑥	24	15~27	0.304	0.270	6.48	7500	33.33	0.94	15.39	0.61	46.83		
D6020Y24BPLP1b-7	⑤	24	15~27	0.245	0.200	4.80	6400	27.63	0.78	11.03	0.43	42.46		
D6020X24BPLP1b-7	④	24	15~27	0.180	0.121	2.90	5600	24.30	0.69	8.53	0.34	39.16		
D6020H24BPLP1b-7	③	24	15~27	0.140	0.072	1.73	4800	20.82	0.59	6.26	0.25	35.14		
D6020M24BPLP1b-7	②	24	15~27	0.100	0.055	1.32	4000	17.36	0.49	4.36	0.17	30.37		
D6020L24BPLP1b-7	①	24	15~27	0.070	0.035	0.84	3200	13.80	0.39	2.76	0.11	24.50		
D6020Z48BPLP1b-7	⑥	48	36~57	0.150	0.140	6.72	7500	33.33	0.94	15.39	0.61	46.83		
D6020Y48BPLP1b-7	⑤	48	36~57	0.132	0.102	4.90	6400	27.63	0.78	11.03	0.43	42.46		
D6020X48BPLP1b-7	④	48	36~57	0.100	0.070	3.36	5600	24.30	0.69	8.53	0.34	39.16		
D6020H48BPLP1b-7	③	48	36~57	0.060	0.050	2.40	4800	20.82	0.59	6.26	0.25	35.14		
D6020M48BPLP1b-7	②	48	36~57	0.040	0.040	1.92	4000	17.36	0.49	4.36	0.17	30.37		
D6020L48BPLP1b-7	①	48	36~57	0.025	0.025	1.20	3200	13.80	0.39	2.76	0.11	24.50		



6020-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 20mm

(2.36 x 2.36 x 0.79in)

5V, 12V, 24V, 48V

13.80~33.33 CFM (0.39~0.94 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

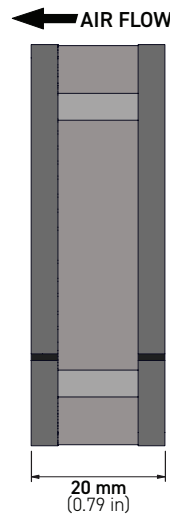
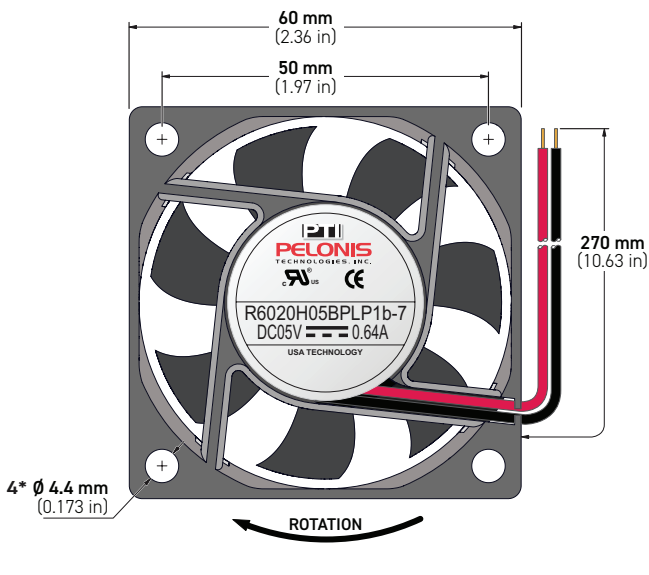
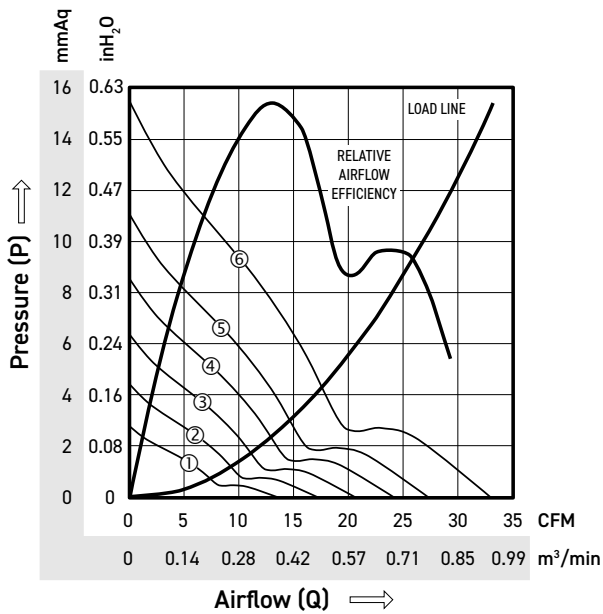
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





6025-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 25mm

(2.36 x 2.36 x 0.98in)

5V, 12V, 24V, 48V

17.78~38.09 CFM (0.50~1.08 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmHg)	(inH ₂ O)		STANDARD	OPTIONAL
C6025Y12BPLP1b-5	⑤	12	7~14	0.416	0.300	3.60	6500	33.02	0.94	10.44	0.41	41.80	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
C6025X12BPLP1b-5	④	12	7~14	0.286	0.230	2.76	6000	30.48	0.86	8.90	0.35	39.80		
C6025H12BPLP1b-5	③	12	7~14	0.247	0.190	2.28	5500	27.94	0.79	7.48	0.29	37.50		
C6025M12BPLP1b-5	②	12	7~14	0.156	0.140	1.68	4500	22.86	0.65	5.01	0.20	32.30		
C6025L12BPLP1b-5	①	12	7~14	0.104	0.090	1.08	3500	17.78	0.50	3.01	0.12	25.70		
C6025Y24BPLP1b-5	⑤	24	15~27	0.182	0.180	4.32	6500	33.02	0.94	10.44	0.41	41.80		
C6025X24BPLP1b-5	④	24	15~27	0.143	0.135	3.24	6000	30.48	0.86	8.90	0.35	39.80		
C6025H24BPLP1b-5	③	24	15~27	0.117	0.110	2.64	5500	27.94	0.79	7.48	0.29	37.50		
C6025M24BPLP1b-5	②	24	15~27	0.091	0.070	1.68	4500	22.86	0.65	5.01	0.20	32.30		
C6025L24BPLP1b-5	①	24	15~27	0.061	0.050	1.20	3500	17.78	0.50	3.03	0.12	25.70		
R6025X05BPLP1b-5	④	5	4~6	0.884	0.800	4.00	6000	30.48	0.86	8.90	0.35	39.80		
R6025H05BPLP1b-5	③	5	4~6	0.728	0.575	2.88	5500	27.94	0.79	7.48	0.29	37.50		
R6025M05BPLP1b-5	②	5	4~6	0.416	0.315	1.57	4500	22.86	0.65	5.01	0.20	32.30		
R6025L05BPLP1b-5	①	5	4~6	0.286	0.220	1.10	3500	17.78	0.50	3.03	0.12	25.70		
R6025Y12BPLP1b-5	⑤	12	7~14	0.416	0.300	3.60	6500	33.02	0.94	10.44	0.41	41.80		
R6025X12BPLP1b-5	④	12	7~14	0.286	0.230	2.76	6000	30.48	0.86	8.90	0.35	39.80		
R6025H12BPLP1b-5	③	12	7~14	0.247	0.190	2.28	5500	27.94	0.79	7.48	0.29	37.50		
R6025M12BPLP1b-5	②	12	7~14	0.156	0.140	1.68	4500	22.86	0.65	5.01	0.20	32.30		
R6025L12BPLP1b-5	①	12	7~14	0.104	0.090	1.08	3500	17.78	0.50	3.03	0.12	25.70		
R6025Y24BPLP1b-5	⑤	24	15~27	0.182	0.180	4.32	6500	33.02	0.94	10.44	0.41	41.80		
R6025X24BPLP1b-5	④	24	15~27	0.143	0.135	3.24	6000	30.48	0.86	8.90	0.35	39.80		
R6025H24BPLP1b-5	③	24	15~27	0.117	0.110	2.64	5500	27.94	0.79	7.48	0.29	37.50		
R6025M24BPLP1b-5	②	24	15~27	0.091	0.070	1.68	4500	22.86	0.65	5.01	0.20	32.30		
R6025L24BPLP1b-5	①	24	15~27	0.061	0.050	1.20	3500	17.78	0.50	3.03	0.12	25.70		
D6025Y12BPLP1b-5	⑤	12	7~14	0.416	0.280	3.36	6500	33.02	0.94	10.44	0.41	41.80		
D6025X12BPLP1b-5	④	12	7~14	0.286	0.220	2.64	6000	30.48	0.86	8.90	0.35	39.80		
D6025H12BPLP1b-5	③	12	7~14	0.247	0.180	2.16	5500	27.94	0.79	7.48	0.29	37.50		
D6025M12BPLP1b-5	②	12	7~14	0.156	0.135	1.62	4500	22.86	0.65	5.01	0.20	32.30		
D6025L12BPLP1b-5	①	12	7~14	0.104	0.090	1.08	3500	17.78	0.50	3.03	0.12	25.70		
D6025Y24BPLP1b-5	⑥	24	15~27	0.182	0.180	4.32	7500	38.09	1.08	13.89	0.55	45.60		
D6025X24BPLP1b-5	④	24	15~27	0.143	0.130	3.12	6000	30.48	0.86	8.90	0.35	39.80		
D6025H24BPLP1b-5	③	24	15~27	0.117	0.100	2.40	5500	27.94	0.79	7.48	0.29	37.50		
D6025M24BPLP1b-5	②	24	15~27	0.091	0.070	1.68	4500	22.86	0.65	5.01	0.20	32.30		
D6025L24BPLP1b-5	①	24	15~27	0.061	0.050	1.20	3500	17.78	0.50	3.03	0.12	25.70		
D6025Y48BPLP1b-5	⑥	48	36~57	0.085	0.090	4.32	7500	38.09	1.08	13.89	0.55	45.60		
D6025X48BPLP1b-5	④	48	36~57	0.073	0.070	3.36	6000	30.48	0.86	8.90	0.35	39.80		
D6025H48BPLP1b-5	③	48	36~57	0.060	0.060	2.88	5500	27.94	0.79	7.48	0.29	37.50		
D6025M48BPLP1b-5	②	48	36~57	0.042	0.042	2.02	4500	22.86	0.65	5.01	0.20	32.30		
D6025L48BPLP1b-5	①	48	36~57	0.034	0.034	1.63	3500	17.78	0.50	3.03	0.12	25.70		



6025-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 25mm

(2.36 x 2.36 x 0.98in)

5V, 12V, 24V, 48V

17.78~38.09 CFM (0.50~1.08 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

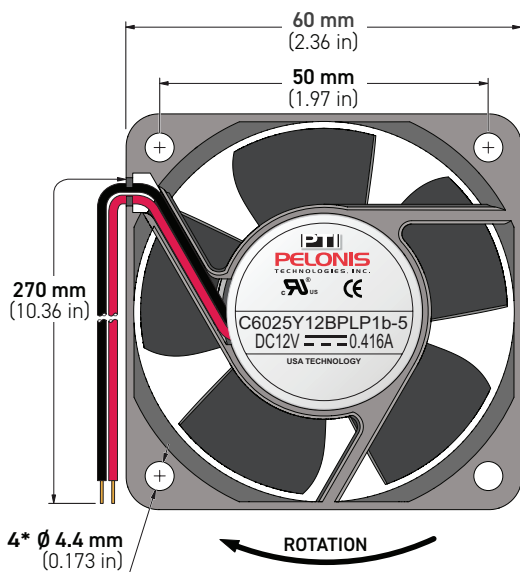
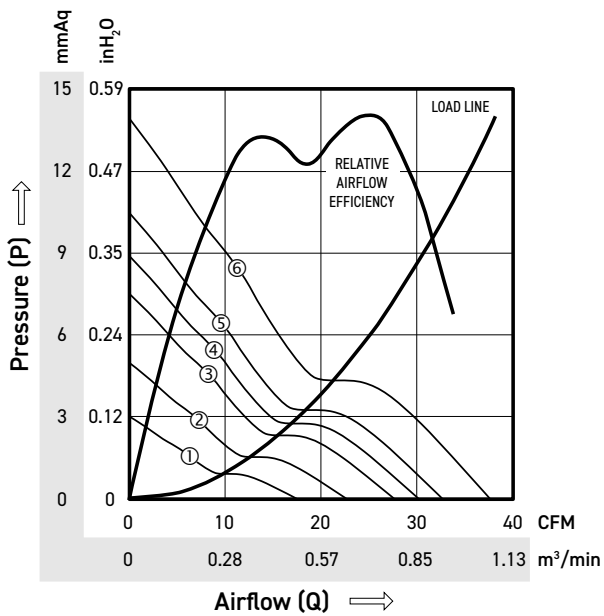
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

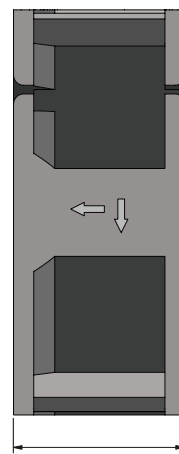
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS



← AIR FLOW



25.5 mm
(1.00 in)



6025-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 25mm

(2.36 x 2.36 x 0.98in)

5V, 12V, 24V, 48V

15.41~29.17 CFM (0.44~0.83 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C6025X12BPLP1b-7	④	12	7~14	0.370	0.290	3.48	6000	26.70	0.76	10.56	0.42	41.56	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
C6025H12BPLP1b-7	③	12	7~14	0.340	0.240	2.88	5500	24.28	0.69	8.91	0.35	39.31		
C6025M12BPLP1b-7	②	12	7~14	0.190	0.140	1.68	4500	19.81	0.56	5.99	0.24	34.13		
C6025L12BPLP1b-7	①	12	7~14	0.140	0.100	1.20	3500	15.41	0.44	3.57	0.14	27.86		
C6025X24BPLP1b-7	④	24	15~27	0.200	0.150	3.60	6000	26.70	0.76	10.56	0.42	41.56		
C6025H24BPLP1b-7	③	24	15~27	0.160	0.125	3.00	5500	24.28	0.69	8.91	0.35	39.31		
C6025M24BPLP1b-7	②	24	15~27	0.100	0.080	1.92	4500	19.81	0.56	5.99	0.24	34.13		
C6025L24BPLP1b-7	①	24	15~27	0.060	0.050	1.20	3500	15.41	0.44	3.57	0.14	27.86		
R6025X05BPLP1b-7	④	5	4~6	0.950	0.950	4.75	6000	26.70	0.76	10.56	0.42	41.56		
R6025H05BPLP1b-7	③	5	4~6	0.650	0.620	3.10	5500	24.28	0.69	8.91	0.35	39.31		
R6025M05BPLP1b-7	②	5	4~6	0.420	0.410	2.05	4500	19.81	0.56	5.99	0.24	34.13		
R6025L05BPLP1b-7	①	5	4~6	0.320	0.250	1.25	3500	15.41	0.44	3.57	0.14	27.86		
R6025Y12BPLP1b-7	⑤	12	7~14	0.700	0.377	4.52	6500	29.17	0.83	12.43	0.49	43.64		
R6025X12BPLP1b-7	④	12	7~14	0.370	0.290	3.48	6000	26.70	0.76	10.56	0.42	41.56		
R6025H12BPLP1b-7	③	12	7~14	0.340	0.240	2.88	5500	24.28	0.69	8.91	0.35	39.31		
R6025M12BPLP1b-7	②	12	7~14	0.190	0.140	1.68	4500	19.81	0.56	5.99	0.24	34.13		
R6025L12BPLP1b-7	①	12	7~14	0.140	0.100	1.20	3500	15.41	0.44	3.57	0.14	27.86		
R6025Y24BPLP1b-7	⑤	24	15~27	0.240	0.189	4.54	6500	29.17	0.83	12.43	0.49	43.64		
R6025X24BPLP1b-7	④	24	15~27	0.200	0.150	3.60	6000	26.70	0.76	10.56	0.42	41.56		
R6025H24BPLP1b-7	③	24	15~27	0.160	0.125	3.00	5500	24.28	0.69	8.91	0.35	39.31		
R6025M24BPLP1b-7	②	24	15~27	0.100	0.080	1.92	4500	19.81	0.56	5.99	0.24	34.13		
R6025L24BPLP1b-7	①	24	15~27	0.060	0.050	1.20	3500	15.41	0.44	3.57	0.14	27.86		
D6025X12BPLP1b-7	⑤	12	7~14	0.370	0.286	3.43	6500	29.17	0.83	12.43	0.49	43.64		
D6025H12BPLP1b-7	③	12	7~14	0.340	0.190	2.28	5500	24.28	0.69	8.91	0.35	39.31		
D6025M12BPLP1b-7	②	12	7~14	0.190	0.140	1.68	4500	19.81	0.56	5.99	0.24	34.13		
D6025L12BPLP1b-7	①	12	7~14	0.140	0.080	0.96	3500	15.41	0.44	3.57	0.14	27.86		
D6025X24BPLP1b-7	⑤	24	15~27	0.200	0.160	3.84	6500	29.17	0.83	12.43	0.49	43.64		
D6025H24BPLP1b-7	③	24	15~27	0.160	0.100	2.40	5500	24.28	0.69	8.91	0.35	39.31		
D6025M24BPLP1b-7	②	24	15~27	0.100	0.065	1.56	4500	19.81	0.56	5.99	0.24	34.13		
D6025L24BPLP1b-7	①	24	15~27	0.060	0.040	0.96	3500	15.41	0.44	3.57	0.14	27.86		
D6025X48BPLP1b-7	⑤	48	36~57	0.080	0.080	3.84	6500	29.17	0.83	12.43	0.49	43.64		
D6025H48BPLP1b-7	③	48	36~57	0.060	0.058	2.78	5500	24.28	0.69	8.91	0.35	39.31		
D6025M48BPLP1b-7	②	48	36~57	0.040	0.040	1.92	4500	19.81	0.56	5.99	0.24	34.13		
D6025L48BPLP1b-7	①	48	36~57	0.030	0.027	1.30	3500	15.41	0.44	3.57	0.14	27.86		



6025-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 25mm

(2.36 x 2.36 x 0.98in)

5V, 12V, 24V, 48V

15.41~29.17 CFM (0.44~0.83 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

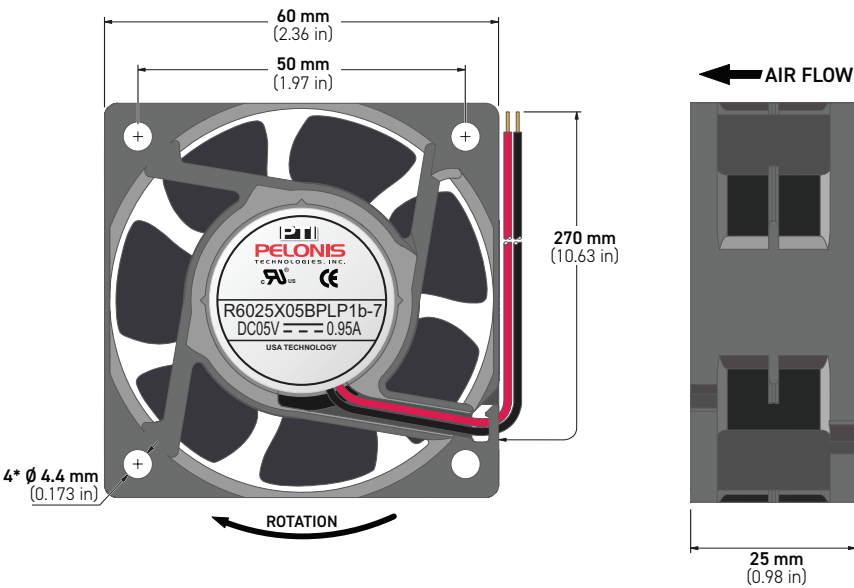
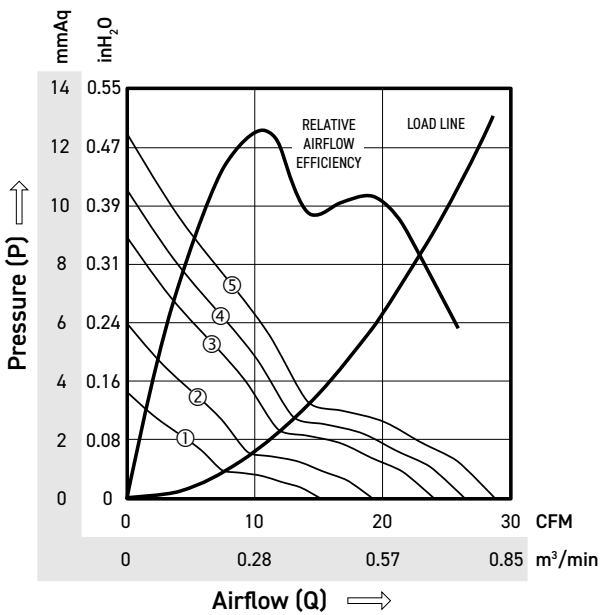
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

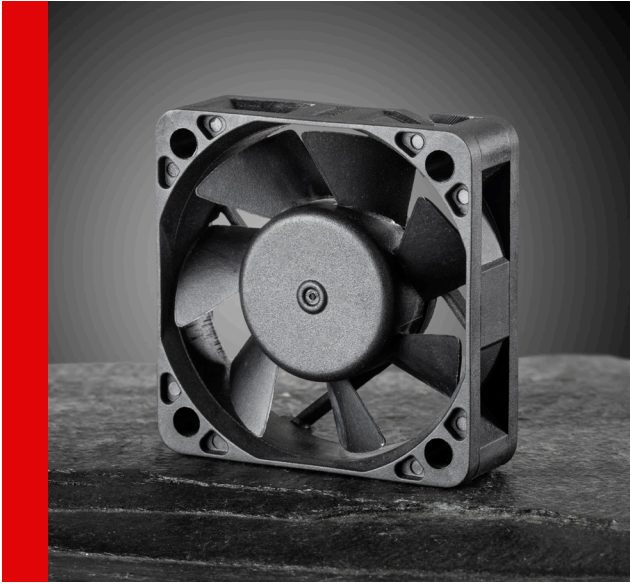
Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





6026-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 25mm

(2.36 x 2.36 x 0.98in)

12V, 24V, 48V

27.39~47.40 CFM (0.78~1.34 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

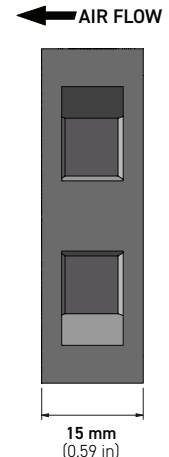
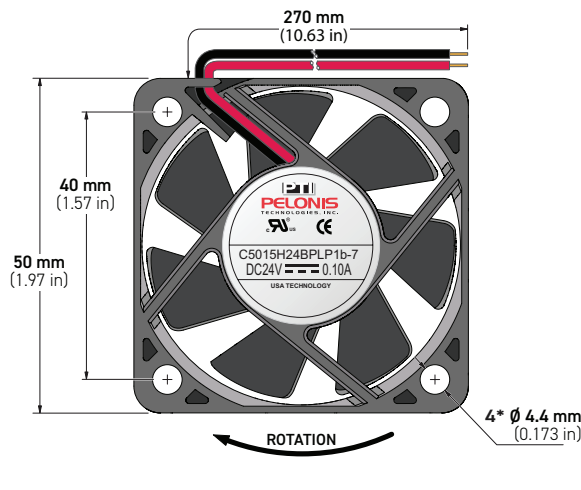
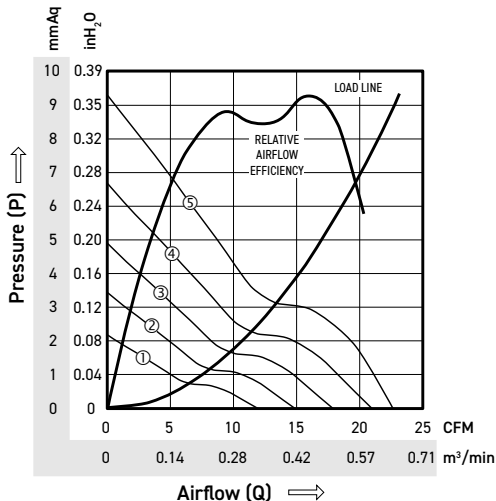
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
C6026H12BPLP1b-7	⑤	12	7~14	0.460	0.430	5.16	6800	35.81	1.01	12.87	0.51	46.40
C6026M12BPLP1b-7	②	12	7~14	0.440	0.400	4.80	6200	32.65	0.93	10.70	0.42	44.60
C6026L12BPLP1b-7	①	12	7~14	0.260	0.240	2.88	5200	27.39	0.78	7.53	0.30	41.20
C6026H24BPLP1b-7	③	24	15~27	0.260	0.240	5.76	6800	35.81	1.01	12.87	0.51	46.40
C6026M24BPLP1b-7	②	24	15~27	0.230	0.220	5.28	6200	32.65	0.93	10.70	0.42	44.60
C6026L24BPLP1b-7	①	24	15~27	0.150	0.130	3.12	5200	27.39	0.78	7.53	0.30	41.20
D6026Z12BPLB1b-7	⑥	12	7~13.2	0.920	0.850	10.20	9000	47.40	1.34	22.55	0.89	54.10
D6026Y12BPLB1b-7	⑤	12	7~13.2	0.720	0.650	7.80	8300	43.71	1.24	19.18	0.76	51.10
D6026X12BPLB1b-7	④	12	7~13.2	0.480	0.430	5.16	7600	40.03	1.13	16.08	0.63	49.80
D6026H12BPLP1b-7	③	12	7~14	0.460	0.380	4.56	6800	35.81	1.01	12.87	0.51	46.40
D6026M12BPLP1b-7	②	12	7~14	0.440	0.300	3.60	6200	32.65	0.93	10.70	0.42	44.60
D6026L12BPLP1b-7	①	12	7~14	0.260	0.200	2.40	5200	27.39	0.78	7.53	0.30	41.20
D6026Z24BPLB1b-7	⑥	24	15~26.4	0.480	0.450	10.80	9000	47.40	1.34	22.55	0.89	54.10
D6026Y24BPLB1b-7	⑤	24	15~26.4	0.380	0.350	8.40	8300	43.71	1.24	19.18	0.76	51.10
D6026X24BPLB1b-7	④	24	15~26.4	0.320	0.280	6.72	7600	40.03	1.13	16.08	0.63	49.80
D6026H24BPLP1b-7	③	24	15~27	0.260	0.190	4.56	6800	35.81	1.01	12.87	0.51	46.40
D6026M24BPLP1b-7	②	24	15~27	0.230	0.155	3.72	6200	32.65	0.93	10.70	0.42	44.60
D6026L24BPLP1b-7	①	24	15~27	0.150	0.105	2.52	5200	27.39	0.78	7.53	0.30	41.20
D6026Z48BPLB1b-7	⑥	48	36~57	0.265	0.235	11.28	9000	47.40	1.34	22.55	0.89	54.10
D6026Y48BPLB1b-7	⑤	48	36~57	0.220	0.182	8.74	8300	43.71	1.24	19.18	0.76	51.10
D6026X48BPLB1b-7	④	48	36~57	0.150	0.135	6.48	7600	40.03	1.13	16.08	0.63	49.80
D6026H48BPLP1b-7	③	48	36~57	0.110	0.098	4.70	6800	35.81	1.01	12.87	0.51	46.40
D6026M48BPLP1b-7	②	48	36~57	0.098	0.090	4.32	6200	32.65	0.93	10.70	0.42	44.60
D6026L48BPLP1b-7	①	48	36~57	0.070	0.064	3.07	5200	27.39	0.78	7.53	0.30	41.20

STANDARD	OPTIONAL
1b: AS, IP51	IP54, IP56, IP67
1b: AS, IP51	2a: FG, 2b: RD, 2c: RDb IP54, IP56, IP67
1b: AS, IP51	IP54, IP56, IP67
1b: AS, IP51	2a: FG, 2b: RD, 2c: RDb IP54, IP56, IP67
1b: AS, IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





6038-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

60 x 60 x 38mm

(2.36 x 2.36 x 1.50in)

12V, 24V, 48V

38.89~66.67 CFM (1.10~1.89 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

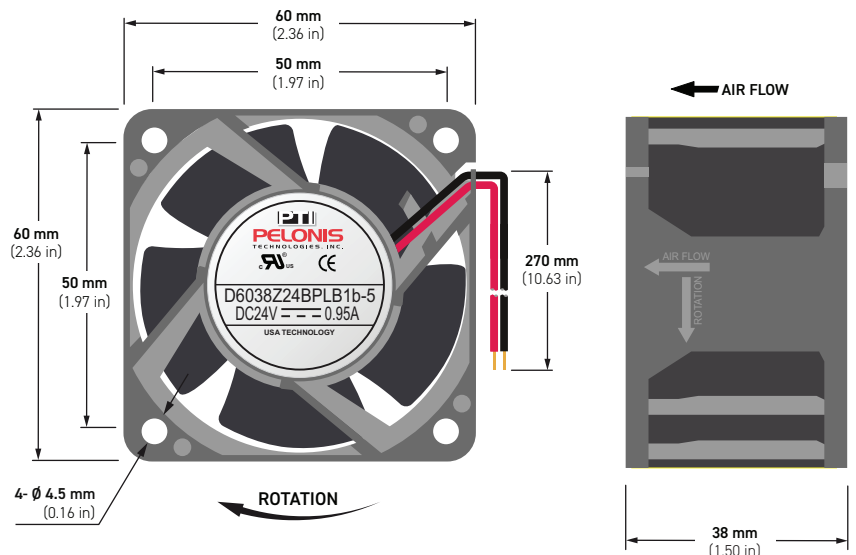
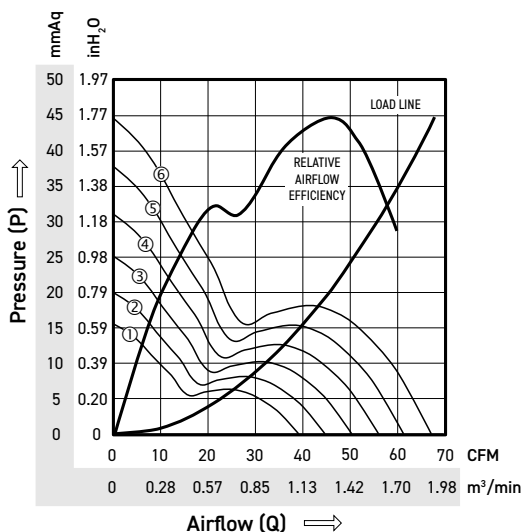
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
D6038Y12BPLB1b-5	⑤	12	7~14	1.450	1.200	14.40	11000	61.12	1.73	36.59	1.44	56.80
D6038X12BPLB1b-5	④	12	7~14	1.080	0.900	10.80	10000	55.56	1.57	30.24	1.19	55.80
D6038H12BPLB1b-5	③	12	7~14	0.830	0.690	8.28	9000	50.00	1.42	24.49	0.96	53.10
D6038M12BPLB1b-5	②	12	7~14	0.590	0.490	5.88	8000	44.45	1.26	19.35	0.76	49.90
D6038L12BPLB1b-5	①	12	7~14	0.420	0.350	4.20	7000	38.89	1.10	14.82	0.58	46.80
D6038Z24BPLB1b-5	⑥	24	15~27	0.950	0.790	18.96	12000	66.67	1.89	43.54	1.71	62.00
D6038Y24BPLB1b-5	⑤	24	15~27	0.680	0.570	13.68	11000	61.12	1.73	36.59	1.44	56.80
D6038X24BPLB1b-5	④	24	15~27	0.550	0.460	11.04	10000	55.56	1.57	30.24	1.19	55.80
D6038H24BPLB1b-5	③	24	15~27	0.420	0.350	8.40	9000	50.00	1.42	24.49	0.96	53.10
D6038M24BPLB1b-5	②	24	15~27	0.300	0.250	6.00	8000	44.45	1.26	19.35	0.76	49.90
D6038L24BPLB1b-5	①	24	15~27	0.210	0.180	4.32	7000	38.89	1.10	14.82	0.58	46.80
D6038Z48BPLB1b-5	⑥	48	36~57	0.480	0.400	19.20	12000	66.67	1.89	43.54	1.71	62.00
D6038Y48BPLB1b-5	⑤	48	36~57	0.360	0.300	14.40	11000	61.12	1.73	36.59	1.44	56.80
D6038X48BPLB1b-5	④	48	36~57	0.280	0.230	11.04	10000	55.56	1.57	30.24	1.19	55.80
D6038H48BPLB1b-5	③	48	36~57	0.220	0.180	8.64	9000	55.00	1.42	24.49	0.96	53.10
D6038M48BPLB1b-5	②	48	36~57	0.160	0.130	6.24	8000	44.45	1.26	19.35	0.46	49.90
D6038L48BPLB1b-5	①	48	36~57	0.130	0.100	4.80	7000	38.89	1.10	14.82	0.58	46.80

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





7025-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

70 x 70 x 25mm

(2.76 x 2.76 x 0.98in)

5V, 12V, 24V, 48V

24.10~44.13 CFM (0.68~1.25 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C7025X12BPLP1b-7	④	12	7~14	0.260	0.230	2.76	4000	40.12	1.14	6.09	0.24	39.30	1b: AS IP51	2a: FG 2b: RD 2c: RDb IP54, IP56, IP67
C7025H12BPLP1b-7	③	12	7~14	0.200	0.180	2.16	3600	36.10	1.02	4.93	0.19	36.50		
C7025M12BPLP1b-7	②	12	7~14	0.180	0.131	1.57	3000	30.10	0.85	3.43	0.14	30.67		
C7025L12BPLP1b-7	①	12	7~14	0.120	0.076	0.92	2400	24.10	0.68	2.20	0.09	26.00		
C7025X24BPLP1b-7	④	24	15~27	0.100	0.110	2.64	4000	40.12	1.14	6.09	0.24	39.30		
C7025H24BPLP1b-7	③	24	15~27	0.090	0.090	2.16	3600	36.10	1.02	4.93	0.19	36.50		
C7025M24BPLP1b-7	②	24	15~27	0.060	0.060	1.44	3000	30.10	0.85	3.43	0.14	30.67		
C7025L24BPLP1b-7	①	24	15~27	0.050	0.040	0.96	2400	24.10	0.68	2.20	0.09	26.00		
R7025X05BPLP1b-7	④	5	4~6	0.960	0.720	3.60	4000	40.12	1.14	6.09	0.24	39.30		
R7025H05BPLP1b-7	③	5	4~6	0.590	0.563	2.82	3600	36.10	1.02	4.93	0.19	36.50		
R7025M05BPLP1b-7	②	5	4~6	0.420	0.322	1.61	3000	30.10	0.85	3.43	0.14	30.67		
R7025L05BPLP1b-7	①	5	4~6	0.230	0.230	1.15	2400	24.10	0.68	2.20	0.09	26.00		
R7025Y12BPLP1b-7	⑤	12	7~14	0.350	0.307	3.68	4400	44.13	1.25	7.37	0.29	41.80		
R7025X12BPLP1b-7	④	12	7~14	0.290	0.230	2.76	4000	40.12	1.14	6.09	0.24	39.30		
R7025H12BPLP1b-7	③	12	7~14	0.220	0.180	2.16	3600	36.10	1.02	4.93	0.19	36.50		
R7025M12BPLP1b-7	②	12	7~14	0.140	0.131	1.57	3000	30.10	0.85	3.43	0.14	30.67		
R7025L12BPLP1b-7	①	12	7~14	0.120	0.076	0.91	2400	24.10	0.68	2.20	0.09	26.00		
R7025Y24BPLP1b-7	⑤	24	15~27	0.180	0.180	4.32	4400	44.13	1.25	7.37	0.29	41.80		
R7025X24BPLP1b-7	④	24	15~27	0.140	0.110	2.64	4000	40.12	1.14	6.09	0.24	39.30		
R7025H24BPLP1b-7	③	24	15~27	0.120	0.090	2.16	3600	36.10	1.02	4.93	0.19	36.50		
R7025M24BPLP1b-7	②	24	15~27	0.080	0.060	1.44	3000	30.10	0.85	3.43	0.14	30.67		
R7025L24BPLP1b-7	①	24	15~27	0.060	0.040	0.96	2400	24.10	0.68	2.20	0.09	26.00		
D7025X12BPLP1b-7	⑤	12	7~14	0.260	0.220	2.52	4400	44.13	1.25	7.37	0.29	41.80		
D7025H12BPLP1b-7	③	12	7~14	0.200	0.160	1.92	3600	36.10	1.02	4.93	0.19	36.50		
D7025M12BPLP1b-7	②	12	7~14	0.180	0.110	1.32	3000	30.10	0.85	3.43	0.14	30.67		
D7025L12BPLP1b-7	①	12	7~14	0.120	0.080	0.96	2400	24.10	0.68	2.20	0.09	26.00		
D7025X24BPLP1b-7	④	24	15~27	0.100	0.100	2.40	4000	40.12	1.14	6.09	0.24	39.30		
D7025H24BPLP1b-7	③	24	15~27	0.090	0.080	1.92	3600	36.10	1.02	4.93	0.19	36.50		
D7025M24BPLP1b-7	②	24	15~27	0.060	0.050	1.20	3000	30.10	0.85	3.43	0.14	30.67		
D7025L24BPLP1b-7	①	24	15~27	0.050	0.040	0.96	2400	24.10	0.68	2.20	0.09	26.00		
D7025X48BPLP1b-7	④	48	36~57	0.070	0.060	2.88	4000	40.12	1.14	6.09	0.24	39.30		
D7025H48BPLP1b-7	③	48	36~57	0.060	0.050	2.40	3600	36.10	1.02	4.93	0.19	36.50		
D7025M48BPLP1b-7	②	48	36~57	0.040	0.030	1.44	3000	30.10	0.85	3.43	0.14	30.67		
D7025L48BPLP1b-7	①	48	36~57	0.030	0.020	0.96	2400	24.10	0.68	2.20	0.09	26.00		



7025-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

70 x 70 x 25mm

(2.76 x 2.76 x 0.98in)

5V, 12V, 24V, 48V

24.10~44.13 CFM (0.68~1.25 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

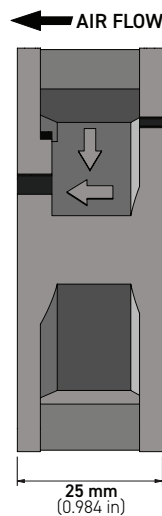
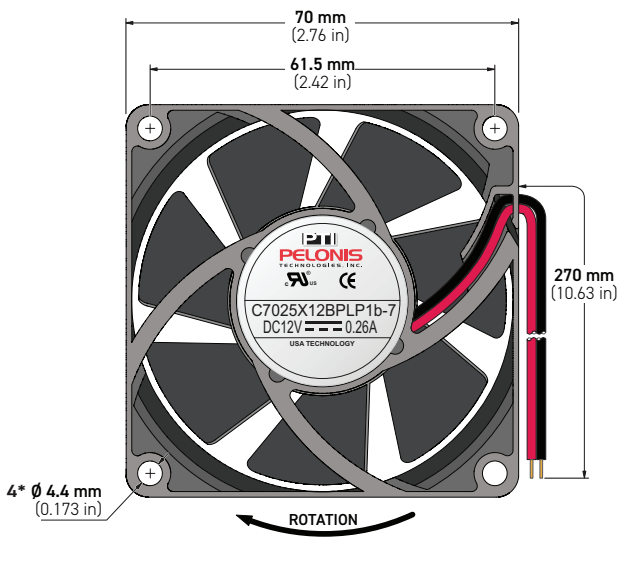
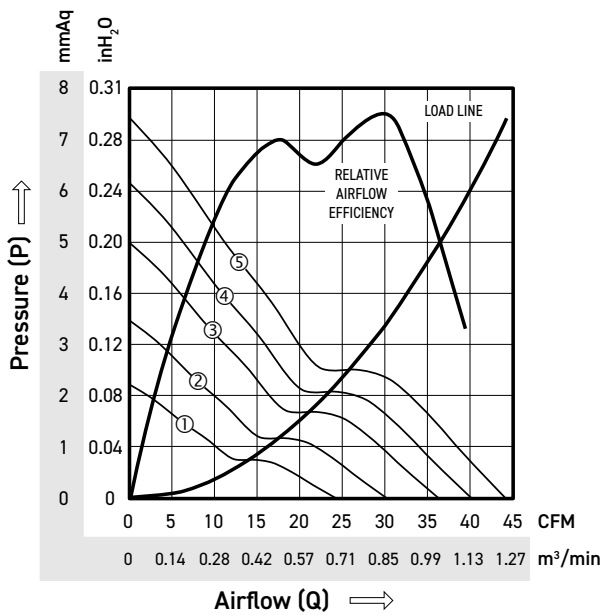
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 270±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





8015-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 15mm

(3.15 x 3.15 x 0.59in)

5V, 12V, 24V, 48V

26.10~43.50 CFM (0.74~1.23 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
C8015X12BPLP1b-7	④	12	7~14	0.260	0.308	3.70	4000	43.50	1.23	5.02	0.20	40.14	1b: AS IP51	2a: FG 2b: RD 2c: RDb IP54, IP56
C8015H12BPLP1b-7	③	12	7~14	0.170	0.160	1.92	3200	34.80	0.99	3.21	0.13	34.38		
C8015M12BPLP1b-7	②	12	7~14	0.120	0.120	1.44	2800	30.45	0.86	2.46	0.10	31.00		
C8015L12BPLP1b-7	①	12	7~14	0.080	0.080	0.96	2400	26.10	0.74	1.81	0.07	27.23		
C8015X24BPLP1b-7	④	24	15~27	0.160	0.150	3.60	4000	43.50	1.23	5.02	0.20	40.14		
C8015H24BPLP1b-7	③	24	15~27	0.120	0.100	2.40	3200	34.80	0.99	3.21	0.13	34.38		
C8015M24BPLP1b-7	②	24	15~27	0.070	0.070	1.68	2800	30.45	0.86	2.46	0.10	31.00		
C8015L24BPLP1b-7	①	24	15~27	0.050	0.049	1.18	2400	26.10	0.74	1.81	0.07	27.23		
R8015H05BPLP1b-7	③	5	4~6	0.630	0.400	2.00	3200	34.80	0.99	3.21	0.13	34.38		
R8015M05BPLP1b-7	②	5	4~6	0.580	0.373	1.87	2800	30.45	0.86	2.46	0.10	31.00		
R8015L05BPLP1b-7	①	5	4~6	0.340	0.280	1.40	2400	26.10	0.74	1.81	0.07	27.23		
R8015X12BPLP1b-7	④	12	7~14	0.310	0.308	3.70	4000	43.50	1.23	5.02	0.20	40.14		
R8015H12BPLP1b-7	③	12	7~14	0.200	0.160	1.92	3200	34.80	0.99	3.21	0.13	34.38		
R8015M12BPLP1b-7	②	12	7~14	0.180	0.130	1.56	2800	30.45	0.86	2.46	0.10	31.00		
R8015L12BPLP1b-7	①	12	7~14	0.130	0.100	1.20	2400	26.10	0.74	1.81	0.07	27.23		
R8015X24BPLP1b-7	④	24	15~27	0.190	0.150	3.60	4000	43.50	1.23	5.02	0.20	40.14		
R8015H24BPLP1b-7	③	24	15~27	0.130	0.100	2.40	3200	34.80	0.99	3.21	0.13	34.38		
R8015M24BPLP1b-7	②	24	15~27	0.110	0.070	1.68	2800	30.45	0.86	2.46	0.10	31.00		
R8015L24BPLP1b-7	①	24	15~27	0.080	0.049	1.18	2400	26.10	0.74	1.81	0.07	27.23		
D8015X12BPLP1b-7	④	12	7~14	0.260	0.260	3.12	4000	43.50	1.23	5.02	0.20	40.14	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56
D8015H12BPLP1b-7	③	12	7~14	0.170	0.158	1.90	3200	34.80	0.99	3.21	0.13	34.38		
D8015M12BPLP1b-7	②	12	7~14	0.120	0.112	1.34	2800	30.45	0.86	2.46	0.10	31.00		
D8015L12BPLP1b-7	①	12	7~14	0.080	0.074	0.89	2400	26.10	0.74	1.81	0.07	27.23		
D8015X24BPLP1b-7	④	24	15~27	0.160	0.125	3.00	4000	43.50	1.23	5.02	0.20	40.14		
D8015H24BPLP1b-7	③	24	15~27	0.120	0.080	1.92	3200	34.80	0.99	3.21	0.13	34.38		
D8015M24BPLP1b-7	②	24	15~27	0.070	0.060	1.44	2800	30.45	0.86	2.46	0.10	31.00		
D8015L24BPLP1b-7	①	24	15~27	0.050	0.040	0.96	2400	26.10	0.74	1.81	0.07	27.23		
D8015X48BPLP1b-7	④	48	36~57	0.120	0.074	3.55	4000	43.50	1.23	5.02	0.20	40.14		
D8015H48BPLP1b-7	③	48	36~57	0.070	0.044	2.12	3200	34.80	0.99	3.21	0.13	34.38		
D8015M48BPLP1b-7	②	48	36~57	0.040	0.036	1.72	2800	30.45	0.86	2.46	0.10	31.00		
D8015L48BPLP1b-7	①	48	36~57	0.030	0.019	0.89	2400	26.10	0.74	1.81	0.07	27.23		



8015-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 15mm

(3.15 x 3.15 x 0.59in)

5V, 12V, 24V, 48V

26.10~43.50 CFM (0.74~1.23 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

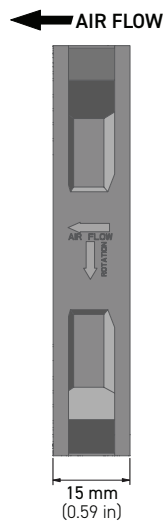
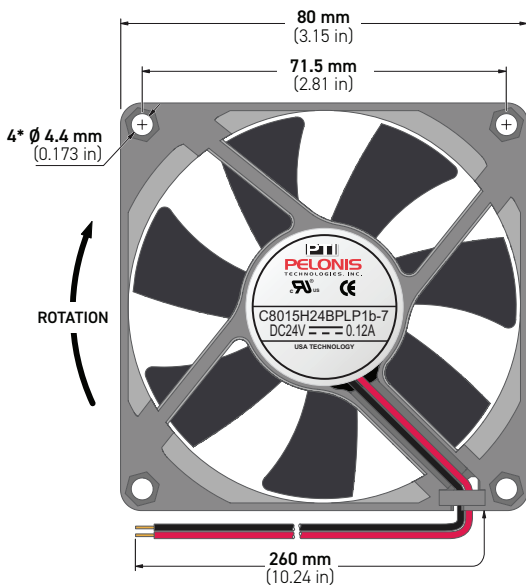
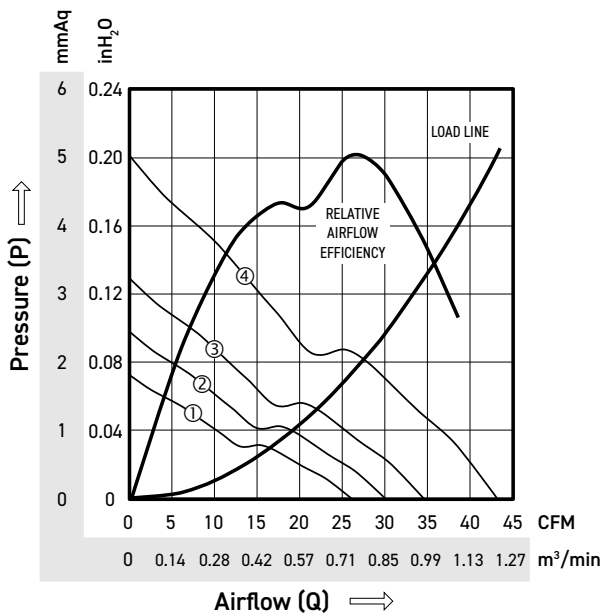
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





8025-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 25mm

(3.15 x 3.15 x 0.98in)

5V, 12V, 24V, 48V

28.89~57.78 CFM (0.82~1.64 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C8025X12BPLP1b-7	④	12	7~14	0.260	0.200	2.40	3600	47.27	1.34	5.15	0.20	37.85	1b: AS IP51	2a: FG 2b: RD 2c: RDb IP54, IP56, IP67
C8025H12BPLP1b-7	③	12	7~14	0.180	0.148	1.78	3000	39.39	1.12	3.58	0.14	32.11		
C8025M12BPLP1b-7	②	12	7~14	0.140	0.095	1.13	2600	34.14	0.97	2.69	0.11	28.56		
C8025L12BPLP1b-7	①	12	7~14	0.110	0.068	0.82	2200	28.89	0.82	1.92	0.08	23.79		
C8025X24BPLP1b-7	④	24	15~27	0.120	0.116	2.78	3600	47.27	1.34	5.15	0.20	37.85		
C8025H24BPLP1b-7	③	24	15~27	0.080	0.074	1.78	3000	39.39	1.12	3.58	0.14	32.11		
C8025M24BPLP1b-7	②	24	15~27	0.060	0.060	1.44	2600	34.14	0.97	2.69	0.11	28.56		
C8025L24BPLP1b-7	①	24	15~27	0.040	0.040	0.96	2200	28.89	0.82	1.92	0.08	23.79		
R8025X05BPLP1b-7	④	5	4~6	0.920	0.750	3.75	3600	47.27	1.34	5.15	0.20	37.85		
R8025H05BPLP1b-7	③	5	4~6	0.540	0.360	1.80	3000	39.39	1.12	3.58	0.14	32.11		
R8025M05BPLP1b-7	②	5	4~6	0.470	0.269	1.34	2600	34.14	0.97	2.69	0.11	28.56		
R8025L05BPLP1b-7	①	5	4~6	0.260	0.170	0.85	2200	28.89	0.82	1.92	0.08	23.79		
R8025Y12BPLP1b-7	⑤	12	7~14	0.520	0.400	4.80	4400	57.78	1.64	7.69	0.30	40.55		
R8025X12BPLP1b-7	④	12	7~14	0.370	0.200	2.40	3600	47.27	1.34	5.15	0.20	37.85		
R8025H12BPLP1b-7	③	12	7~14	0.260	0.148	1.78	3000	39.39	1.12	3.58	0.14	32.11		
R8025M12BPLP1b-7	②	12	7~14	0.190	0.095	1.14	2600	34.14	0.97	2.69	0.11	28.56		
R8025L12BPLP1b-7	①	12	7~14	0.140	0.068	0.82	2200	28.89	0.82	1.92	0.08	23.79		
R8025Y24BPLP1b-7	⑤	24	15~27	0.340	0.190	4.56	4400	57.78	1.64	7.69	0.30	40.55		
R8025X24BPLP1b-7	④	24	15~27	0.250	0.116	2.78	3600	47.27	1.34	5.15	0.20	37.85		
R8025H24BPLP1b-7	③	24	15~27	0.160	0.074	1.78	3000	39.39	1.12	3.58	0.14	32.11		
R8025M24BPLP1b-7	②	24	15~27	0.120	0.060	1.44	2600	34.14	0.97	2.69	0.11	28.56		
R8025L24BPLP1b-7	①	24	15~27	0.090	0.040	0.96	2200	28.89	0.82	1.92	0.08	23.79		
D8025X12BPLP1b-7	④	12	7~14	0.260	0.185	2.22	3600	47.27	1.34	5.15	0.20	37.85	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
D8025H12BPLP1b-7	③	12	7~14	0.180	0.125	1.50	3000	39.39	1.12	3.58	0.14	32.11		
D8025M12BPLP1b-7	②	12	7~14	0.140	0.095	1.14	2600	34.14	0.97	2.69	0.11	28.56		
D8025L12BPLP1b-7	①	12	7~14	0.110	0.065	0.78	2200	28.89	0.82	1.92	0.08	23.79		
D8025X24BPLP1b-7	④	24	15~27	0.120	0.100	2.40	3600	47.27	1.34	5.15	0.20	37.85		
D8025H24BPLP1b-7	③	24	15~27	0.080	0.060	1.44	3000	39.39	1.12	3.58	0.14	32.11		
D8025M24BPLP1b-7	②	24	15~27	0.060	0.050	1.20	2600	34.14	0.97	2.69	0.11	28.56		
D8025L24BPLP1b-7	①	24	15~27	0.040	0.035	0.84	2200	28.89	0.82	1.92	0.08	23.79		
D8025Y48BPLP1b-7	⑤	48	36~57	0.100	0.090	4.32	4400	57.78	1.64	7.69	0.30	40.55		
D8025X48BPLP1b-7	④	48	36~57	0.070	0.060	2.88	3600	47.27	1.34	5.15	0.20	37.85		
D8025H48BPLP1b-7	③	48	36~57	0.050	0.050	2.40	3000	39.39	1.12	3.58	0.14	32.11		
D8025M48BPLP1b-7	②	48	36~57	0.040	0.040	1.92	2600	34.14	0.97	2.69	0.11	28.56		
D8025L48BPLP1b-7	①	48	36~57	0.030	0.030	1.44	2200	28.89	0.82	1.92	0.08	23.79		



8025-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 25mm

(3.15 x 3.15 x 0.98in)

5V, 12V, 24V, 48V

28.89~57.78 CFM (0.82~1.64 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

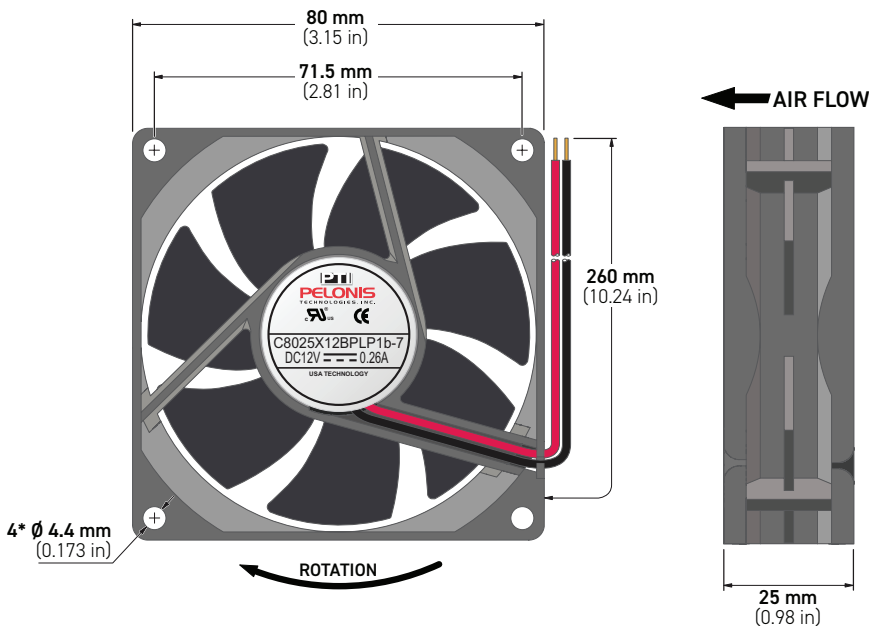
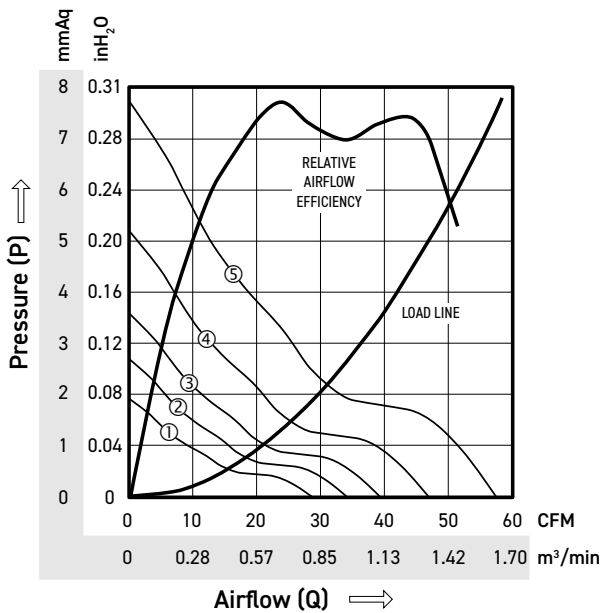
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





8026-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 25mm

(3.15 x 3.15 x 0.98in)

5V, 12V, 24V, 48V

31.54~71.69 CFM (0.89~2.03 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C8026H05BPLP1b-7	③	5	4~6	0.500	0.370	1.85	3000	43.02	1.22	3.63	0.14	31.60	1b: AS IP51	2a: FG 2b: RD 2c: RDb IP54, IP56, IP67
C8026M05BPLP1b-7	②	5	4~6	0.330	0.260	1.30	2600	37.28	1.06	2.73	0.11	27.80		
C8026L05BPLP1b-7	①	5	4~6	0.200	0.190	0.95	2200	31.54	0.89	1.95	0.08	23.50		
C8026Y12BPLP1b-7	⑤	12	7~14	0.750	0.380	4.56	4000	57.35	1.62	6.45	0.25	37.10		
C8026X12BPLP1b-7	④	12	7~14	0.300	0.250	3.00	3600	51.62	1.46	5.23	0.21	36.30		
C8026H12BPLP1b-7	③	12	7~14	0.210	0.200	2.40	3000	43.02	1.22	3.63	0.14	31.60		
C8026M12BPLP1b-7	②	12	7~14	0.130	0.130	1.56	2600	37.28	1.06	2.73	0.11	27.80		
C8026L12BPLP1b-7	①	12	7~14	0.100	0.090	1.08	2200	31.54	0.89	1.95	0.08	23.50		
C8026Y24BPLP1b-7	⑤	24	15~27	0.480	0.190	4.56	4000	57.35	1.62	6.45	0.25	37.10		
C8026X24BPLP1b-7	④	24	15~27	0.170	0.150	3.60	3600	51.62	1.46	5.23	0.21	36.30		
C8026H24BPLP1b-7	③	24	15~27	0.130	0.100	2.40	3000	43.02	1.22	3.63	0.14	31.60		
C8026M24BPLP1b-7	②	24	15~27	0.100	0.080	1.92	2600	37.28	1.06	2.73	0.11	27.80		
C8026L24BPLP1b-7	①	24	15~27	0.070	0.050	1.20	2200	31.54	0.89	1.95	0.08	23.50		
R8026Y05BPLP1b-7	⑤	5	4~6	1.000	0.820	4.10	4000	57.35	1.62	6.45	0.25	37.10	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R8026X05BPLP1b-7	④	5	4~6	0.700	0.580	2.90	3600	51.62	1.46	5.23	0.21	36.30		
R8026H05BPLP1b-7	③	5	4~6	0.500	0.370	1.85	3000	43.02	1.22	3.63	0.14	31.60		
R8026M05BPLP1b-7	②	5	4~6	0.330	0.260	1.30	2600	37.28	1.06	2.73	0.11	27.80		
R8026L05BPLP1b-7	①	5	4~6	0.200	0.190	0.95	2200	31.54	0.89	1.95	0.08	23.50		
R8026Y12BPLP1b-7	⑤	12	7~14	0.750	0.550	6.60	4000	57.35	1.62	6.45	0.25	37.10		
R8026X12BPLP1b-7	④	12	7~14	0.300	0.250	3.00	3600	51.62	1.46	5.23	0.21	36.30		
R8026H12BPLP1b-7	③	12	7~14	0.210	0.200	2.40	3000	43.02	1.22	3.63	0.14	31.60		
R8026M12BPLP1b-7	②	12	7~14	0.130	0.130	1.56	2600	37.28	1.06	2.73	0.11	27.80		
R8026L12BPLP1b-7	①	12	7~14	0.090	0.090	1.08	2200	31.54	0.89	1.95	0.08	23.50		
R8026Y24BPLP1b-7	⑤	24	15~27	0.480	0.290	6.96	4500	64.52	1.83	8.17	0.32	42.10		
R8026X24BPLP1b-7	④	24	15~27	0.170	0.150	3.60	3600	51.62	1.46	5.23	0.21	36.30		
R8026H24BPLP1b-7	③	24	15~27	0.130	0.100	2.40	3000	43.02	1.22	3.63	0.14	31.60		
R8026M24BPLP1b-7	②	24	15~27	0.100	0.080	1.92	2600	37.28	1.06	2.73	0.11	27.80		
R8026L24BPLP1b-7	①	24	15~27	0.070	0.050	1.20	2200	31.54	0.89	1.95	0.08	23.50		
D8026Y12BPLP1b-7	⑥	12	7~14	0.750	0.600	7.20	5000	71.69	2.03	10.09	0.40	44.90	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
D8026X12BPLP1b-7	⑥	12	7~14	0.300	0.300	3.60	4200	60.22	1.71	7.12	0.28	40.30		
D8026H12BPLP1b-7	④	12	7~14	0.210	0.210	2.52	3600	51.62	1.46	5.23	0.21	36.30		
D8026M12BPLP1b-7	③	12	7~14	0.130	0.130	1.56	3000	43.02	1.22	3.63	0.14	31.60		
D8026L12BPLP1b-7	②	12	7~14	0.100	0.100	1.20	2600	37.28	1.06	2.73	0.11	27.80		
D8026Y24BPLP1b-7	⑥	24	15~27	0.480	0.270	6.48	5000	71.69	2.03	10.09	0.40	44.90		
D8026X24BPLP1b-7	⑥	24	15~27	0.170	0.170	4.08	4200	60.22	1.71	7.12	0.28	40.30		
D8026H24BPLP1b-7	④	24	15~27	0.130	0.120	2.88	3600	51.62	1.46	5.23	0.21	36.30		
D8026M24BPLP1b-7	③	24	15~27	0.100	0.080	1.92	3000	43.02	1.22	3.63	0.14	31.60		
D8026L24BPLP1b-7	②	24	15~27	0.070	0.070	1.68	2600	37.28	1.06	2.73	0.11	27.80		
D8026Y48BPLP1b-7	⑥	48	36~57	0.210	0.160	7.68	5000	71.69	2.03	10.09	0.40	44.90		
D8026X48BPLP1b-7	⑥	48	36~57	0.140	0.090	4.32	4200	60.22	1.71	7.12	0.28	40.30		
D8026H48BPLP1b-7	④	48	36~57	0.120	0.065	3.12	3600	51.62	1.46	5.23	0.21	36.30		
D8026M48BPLP1b-7	③	48	36~57	0.100	0.040	1.92	3000	43.02	1.22	3.63	0.14	31.60		
D8026L48BPLP1b-7	②	48	36~57	0.050	0.035	1.68	2600	37.28	1.06	2.73	0.11	27.80		



8026-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 25mm

(3.15 x 3.15 x 0.98in)

5V, 12V, 24V, 48V

31.54~71.69 CFM (0.89~2.03 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

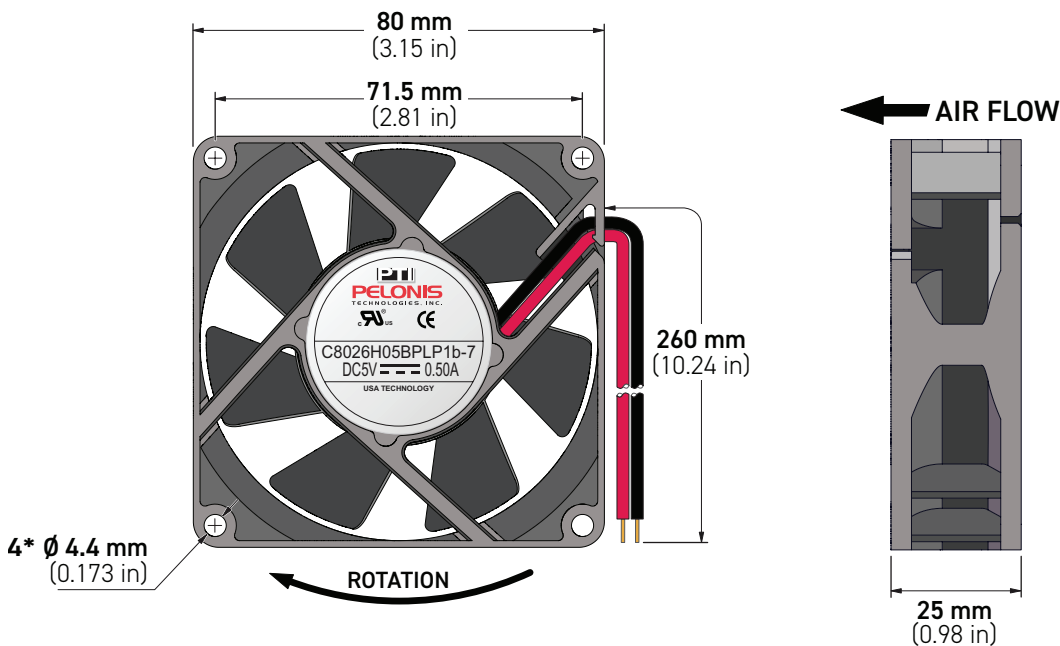
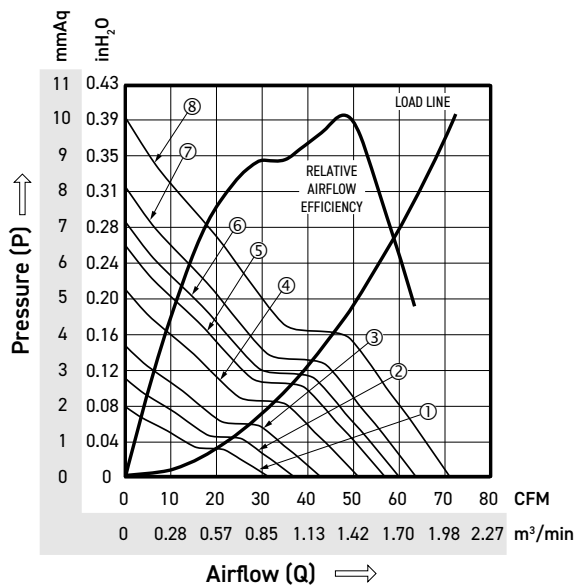
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





8038-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 38mm

(3.15 x 3.15 x 1.50in)

12V, 24V, 48V

59.23~136.23 CFM (1.67~3.85 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

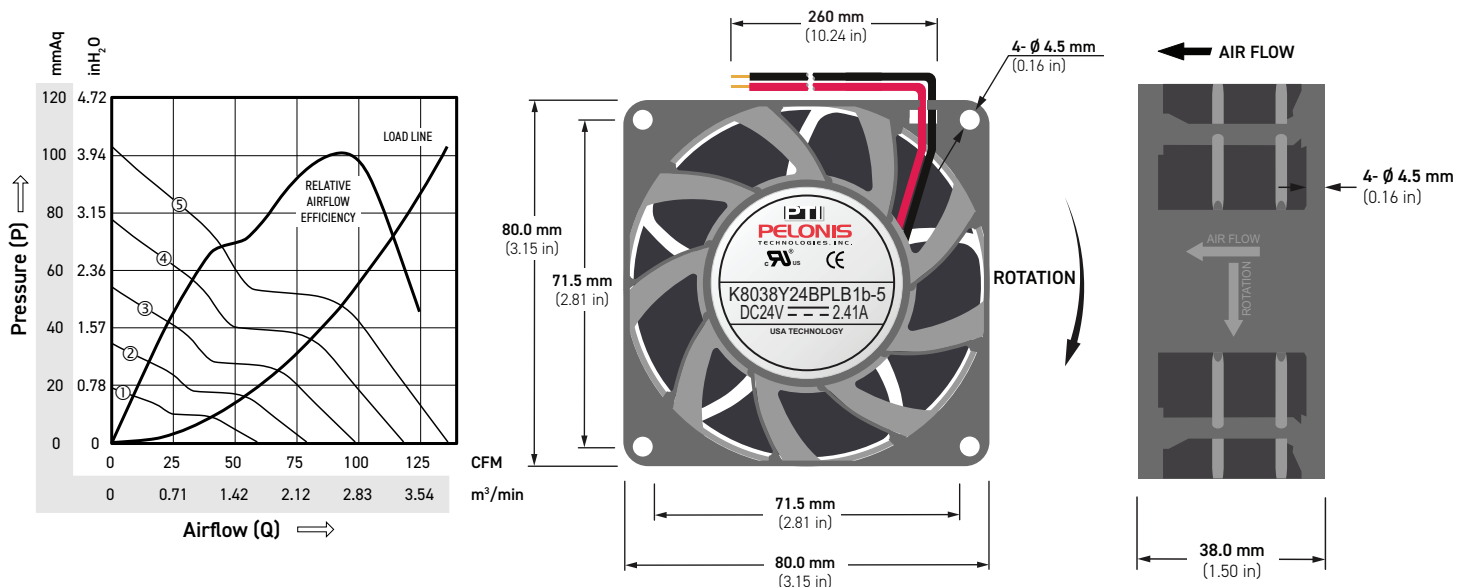
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m ³ /min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
K8038Y12BPLB1b-5	⑤	12	7~13.2	4.900	3.700	44.40	13800	136.23	3.85	102.15	4.02	68.40
K8038X12BPLB1b-5	④	12	7~13.2	3.320	2.550	30.60	12000	118.46	3.35	77.24	3.04	64.80
K8038H12BPLB1b-5	③	12	7~13.2	2.020	1.550	18.60	10000	98.72	2.79	53.64	2.11	60.90
K8038M12BPLB1b-5	②	12	7~13.2	1.300	1.000	12.00	8000	78.97	2.23	34.33	1.35	54.20
K8038L12BPLB1b-5	①	12	7~13.2	0.820	0.630	7.56	6000	59.23	1.67	19.31	0.76	47.20
K8038Y24BPLB1b-5	⑤	24	15~27	2.410	1.850	44.40	13800	136.23	3.85	102.15	4.02	68.40
K8038X24BPLB1b-5	④	24	15~27	1.760	1.350	32.40	12000	118.46	3.35	77.24	3.04	64.80
K8038H24BPLB1b-5	③	24	15~27	1.070	0.820	19.68	10000	98.72	2.79	53.64	2.11	60.90
K8038M24BPLB1b-5	②	24	15~27	0.680	0.520	12.48	8000	78.97	2.23	34.33	1.35	54.20
K8038L24BPLB1b-5	①	24	15~27	0.400	0.310	7.44	6000	59.23	1.67	19.31	0.76	47.20
K8038Y48BPLB1b-5	⑤	48	36~57	1.240	0.950	45.60	13800	136.23	3.85	102.15	4.02	68.40
K8038X48BPLB1b-5	④	48	36~57	0.880	0.680	32.64	12000	118.46	3.35	77.24	3.04	64.80
K8038H48BPLB1b-5	③	48	36~57	0.570	0.435	20.88	10000	98.72	2.79	53.64	2.11	60.90
K8038M48BPLB1b-5	②	48	36~57	0.360	0.275	13.20	8000	78.97	2.23	34.33	1.35	54.20
K8038L48BPLB1b-5	①	48	36~57	0.190	0.145	6.96	6000	59.23	1.67	19.31	0.76	47.20

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





8038-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

80 x 80 x 38mm

(3.15 x 3.15 x 1.50in)

12V, 24V, 48V

56.27~140.67 CFM (1.59~3.98 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

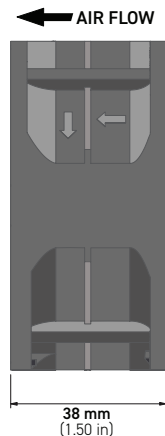
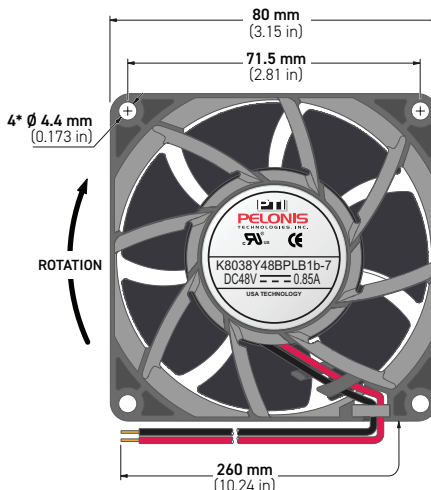
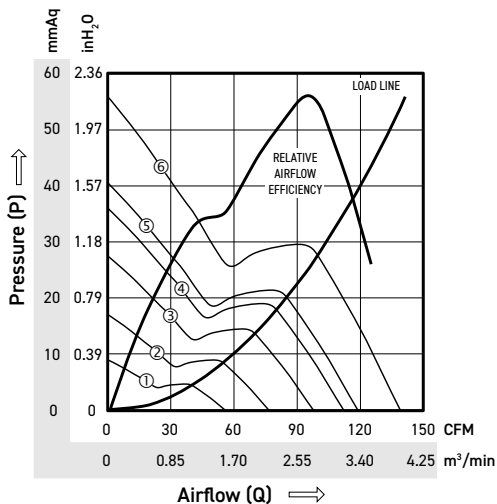
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m ³ /min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
R8038H12BPLB1b-7	③	12	7~14	1.430	1.200	14.40	7000	98.47	2.79	27.23	1.07	57.10
R8038M12BPLB1b-7	②	12	7~14	0.720	0.500	6.00	5500	77.37	2.19	16.81	0.66	50.80
R8038L12BPLB1b-7	①	12	7~14	0.330	0.293	3.52	4000	56.27	1.59	8.89	0.35	42.50
R8038H24BPLB1b-7	③	24	15~27	0.650	0.500	12.00	7000	98.47	2.79	27.23	1.07	57.10
R8038M24BPLB1b-7	②	24	15~27	0.340	0.270	6.48	5500	77.37	2.19	16.81	0.66	50.80
R8038L24BPLB1b-7	①	24	15~27	0.170	0.160	3.84	4000	56.27	1.59	8.89	0.35	42.50
R8038H48BPLB1b-7	③	48	36~57	0.330	0.293	14.06	7000	98.47	2.79	27.23	1.07	57.10
R8038M48BPLB1b-7	②	48	36~57	0.200	0.140	6.72	5500	77.37	2.19	16.81	0.66	50.80
R8038L48BPLB1b-7	①	48	36~57	0.100	0.093	4.46	4000	56.27	1.59	8.89	0.35	42.50
K8038X12BPLB1b-7	④	12	7~14	2.150	1.350	16.20	8000	112.53	3.19	35.57	1.40	60.59
K8038H12BPLB1b-7	③	12	7~14	1.430	0.900	10.80	7000	98.47	2.79	27.23	1.07	57.10
K8038M12BPLB1b-7	②	12	7~14	0.720	0.500	6.00	5500	77.37	2.19	16.81	0.66	50.80
K8038L12BPLB1b-7	①	12	7~14	0.330	0.250	3.00	4000	56.27	1.59	8.89	0.35	42.50
K8038Y24BPLB1b-7	⑥	24	15~27	1.760	1.200	28.80	10000	140.67	3.98	55.58	2.19	66.40
K8038X24BPLB1b-7	⑤	24	15~27	1.200	0.900	21.60	8500	119.57	3.39	40.15	1.58	62.20
K8038H24BPLB1b-7	③	24	15~27	0.650	0.400	9.60	7000	98.47	2.79	27.23	1.07	57.10
K8038M24BPLB1b-7	②	24	15~27	0.340	0.300	7.20	5500	77.37	2.19	16.81	0.66	50.80
K8038L24BPLB1b-7	①	24	15~27	0.170	0.160	3.84	4000	56.27	1.59	8.89	0.35	42.50
K8038Y48BPLB1b-7	⑥	48	36~57	0.850	0.600	28.80	10000	140.67	3.98	55.58	2.19	66.40
K8038X48BPLB1b-7	⑤	48	36~57	0.530	0.490	23.52	8500	119.57	3.39	40.15	1.58	62.20
K8038H48BPLB1b-7	③	48	36~57	0.330	0.250	12.00	7000	98.47	2.79	27.23	1.07	57.10
K8038M48BPLB1b-7	②	48	36~57	0.200	0.165	7.92	5500	77.37	2.19	16.81	0.66	50.80
K8038L48BPLB1b-7	①	48	36~57	0.100	0.090	4.32	4000	56.27	1.59	8.89	0.35	42.50

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





9225-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 25mm

(3.62 x 3.62 x 0.98in)

5V, 12V, 24V, 48V

40.91~81.81 CFM (1.16~2.32 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
C9225X12BPLP1b-7	④	12	7~14	0.350	0.350	4.20	3600	66.94	1.90	6.01	0.24	41.16	1b: AS IP51	2a: FG 2b: RD 2c: RDb IP54, IP56, IP67
C9225H12BPLP1b-7	③	12	7~14	0.230	0.220	2.64	3000	55.78	1.58	4.18	0.16	35.73		
C9225M12BPLP1b-7	②	12	7~14	0.180	0.135	1.62	2600	48.34	1.37	3.14	0.12	31.99		
C9225L12BPLP1b-7	①	12	7~14	0.140	0.108	1.30	2200	40.91	1.16	2.25	0.09	27.56		
C9225X24BPLP1b-7	④	24	15~27	0.220	0.180	4.32	3600	66.94	1.90	6.01	0.24	41.16		
C9225H24BPLP1b-7	③	24	15~27	0.150	0.120	2.88	3000	55.78	1.58	4.18	0.16	35.73		
C9225M24BPLP1b-7	②	24	15~27	0.090	0.084	2.02	2600	48.34	1.37	3.14	0.12	31.99		
C9225L24BPLP1b-7	①	24	15~27	0.060	0.055	1.32	2200	40.91	1.16	2.25	0.09	27.56		
R9225H05BPLP1b-7	③	5	4~6	0.800	0.540	2.70	3000	55.78	1.58	4.18	0.16	35.73	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R9225M05BPLP1b-7	②	5	4~6	0.600	0.450	2.25	2600	48.34	1.37	3.14	0.12	31.99		
R9225L05BPLP1b-7	①	5	4~6	0.440	0.264	1.32	2200	40.91	1.16	2.25	0.09	27.56		
R9225X12BPLP1b-7	④	12	7~14	0.470	0.360	4.32	3600	66.94	1.90	6.01	0.24	41.16		
R9225H12BPLP1b-7	③	12	7~14	0.290	0.220	2.64	3000	55.78	1.58	4.18	0.16	35.73		
R9225M12BPLP1b-7	②	12	7~14	0.220	0.135	1.62	2600	48.34	1.37	3.14	0.12	31.99		
R9225L12BPLP1b-7	①	12	7~14	0.140	0.108	1.30	2200	40.91	1.16	2.25	0.09	27.56		
R9225X24BPLP1b-7	④	24	15~27	0.240	0.180	4.32	3600	66.94	1.90	6.01	0.24	41.16		
R9225H24BPLP1b-7	③	24	15~27	0.170	0.120	2.88	3000	55.78	1.58	4.18	0.16	35.73	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
R9225M24BPLP1b-7	②	24	15~27	0.120	0.084	2.02	2600	48.34	1.37	3.14	0.12	31.99		
R9225L24BPLP1b-7	①	24	15~27	0.080	0.055	1.32	2200	40.91	1.16	2.25	0.09	27.56		
D9225X12BPLP1b-7	④	12	7~14	0.350	0.300	3.60	3600	66.94	1.90	6.01	0.24	41.16		
D9225H12BPLP1b-7	③	12	7~14	0.230	0.200	2.40	3000	55.78	1.58	4.18	0.16	35.73		
D9225M12BPLP1b-7	②	12	7~14	0.180	0.120	1.44	2600	48.34	1.37	3.14	0.12	31.99		
D9225L12BPLP1b-7	①	12	7~14	0.140	0.090	1.08	2200	40.91	1.16	2.25	0.09	27.56		
D9225Y24BPLP1b-7	⑤	24	15~27	0.252	0.250	6.00	4400	81.81	2.32	8.98	0.35	45.73		
D9225X24BPLP1b-7	④	24	15~27	0.220	0.160	3.84	3600	66.94	1.90	6.01	0.24	41.16		
D9225H24BPLP1b-7	③	24	15~27	0.150	0.100	2.40	3000	55.78	1.58	4.18	0.16	35.73	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
D9225M24BPLP1b-7	②	24	15~27	0.090	0.065	1.56	2600	48.34	1.37	3.14	0.12	31.99		
D9225L24BPLP1b-7	①	24	15~27	0.060	0.050	1.20	2200	40.91	1.16	2.25	0.09	27.56		
D9225Y48BPLP1b-7	⑤	48	36~57	0.142	0.130	6.24	4400	81.81	2.32	8.98	0.35	45.73		
D9225X48BPLP1b-7	④	48	36~57	0.080	0.080	3.84	3600	66.94	1.90	6.01	0.24	41.16		
D9225H48BPLP1b-7	③	48	36~57	0.060	0.060	2.88	3000	55.78	1.58	4.18	0.16	35.73		
D9225M48BPLP1b-7	②	48	36~57	0.050	0.044	2.11	2600	48.34	1.37	3.14	0.12	31.99		
D9225L48BPLP1b-7	①	48	36~57	0.040	0.031	1.48	2200	40.91	1.16	2.25	0.09	27.56		



9225-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 25mm

(3.62 x 3.62 x 0.98in)

5V, 12V, 24V, 48V

40.91~81.81 CFM (1.16~2.32 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

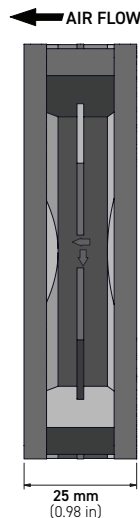
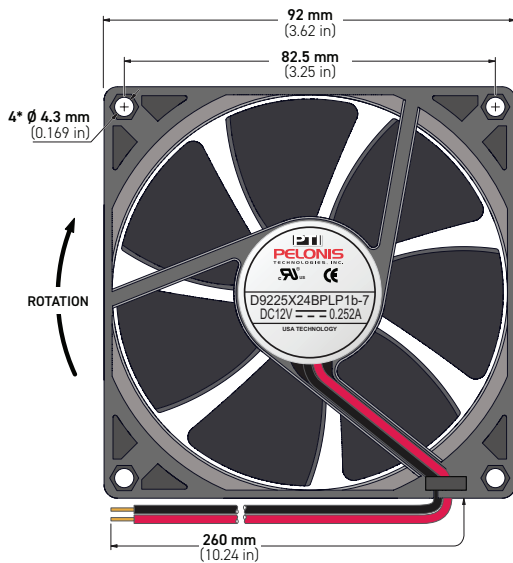
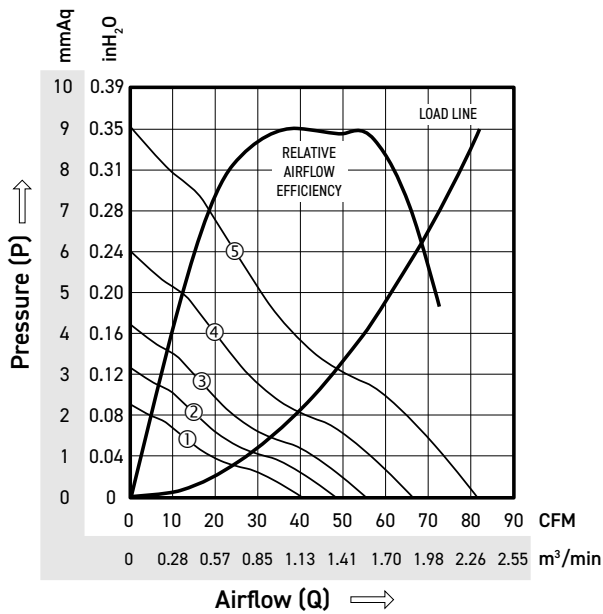
Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS





9226-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 25mm

(3.62 x 3.62 x 0.98in)

- 5V, 12V, 24V, 48V
- 48.50~106.80 CFM (1.37~3.02 m³/min)
- Dual Ball Bearings
- Frame: Thermoplastic PBT + 30% GF, UL94-V0
- Impeller: Thermoplastic PBT + 15% GF, UL94-V0
- Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm
- Operating Temperature: -10°C ~ +70°C
- Operating Life: 70,000 hours
- Locked Rotor Protection
- UL, CE, RoHS

CONTROL FEATURES			
STANDARD	OPTIONAL		
1b: AS IP51	2a: FG 2b: RD 2c: RDb IP54, IP56, IP67		
	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67	
		1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	(m ³ /min)	Pressure (P) (mmAq)	(inH ₂ O)	Noise (dBA)
C9226L05BPLP1b-7	①	5	4~6	0.330	0.240	1.20	2200	48.50	1.37	2.33	0.09	27.60
C9226X12BPLP1b-7	④	12	7~14	0.600	0.440	5.28	3600	80.10	2.27	5.79	0.23	42.30
C9226H12BPLP1b-7	③	12	7~14	0.320	0.230	2.76	3000	67.70	1.92	4.32	0.17	36.90
C9226M12BPLP1b-7	②	12	7~14	0.230	0.170	2.04	2600	58.50	1.66	3.29	0.13	32.80
C9226L12BPLP1b-7	①	12	7~14	0.150	0.110	1.32	2200	48.50	1.37	2.33	0.09	27.60
C9226X24BPLP1b-7	④	24	15~27	0.320	0.250	6.00	3600	80.10	2.27	5.79	0.23	42.30
C9226H24BPLP1b-7	③	24	15~27	0.180	0.118	2.84	3000	67.70	1.92	4.32	0.17	36.90
C9226M24BPLP1b-7	②	24	15~27	0.143	0.083	2.00	2600	58.50	1.66	3.29	0.13	32.80
C9226L24BPLP1b-7	①	24	15~27	0.085	0.055	1.32	2200	48.50	1.37	2.33	0.09	27.60
R9226H05BPLP1b-7	③	5	4~6	0.870	0.700	3.50	3000	67.70	1.92	4.32	0.17	36.90
R9226M05BPLP1b-7	②	5	4~6	0.630	0.480	2.40	2600	58.50	1.66	3.29	0.13	32.80
R9226L05BPLP1b-7	①	5	4~6	0.330	0.240	1.20	2200	48.50	1.37	2.33	0.09	27.60
R9226Y12BPLP1b-7	⑤	12	7~14	0.860	0.600	7.20	4000	89.00	2.52	7.00	0.28	44.90
R9226X12BPLP1b-7	④	12	7~14	0.600	0.440	5.28	3600	80.10	2.27	5.79	0.23	42.30
R9226H12BPLP1b-7	③	12	7~14	0.320	0.230	2.76	3000	67.70	1.92	4.32	0.17	36.90
R9226M12BPLP1b-7	②	12	7~14	0.230	0.170	2.04	2600	58.50	1.66	3.29	0.13	32.80
R9226L12BPLP1b-7	①	12	7~14	0.150	0.110	1.32	2200	48.50	1.37	2.33	0.09	27.60
R9226Y24BPLP1b-7	⑤	24	15~27	0.480	0.300	7.20	4000	89.00	2.52	7.00	0.28	44.90
R9226X24BPLP1b-7	④	24	15~27	0.320	0.250	6.00	3600	80.10	2.27	5.79	0.23	42.30
R9226H24BPLP1b-7	③	24	15~27	0.180	0.118	2.83	3000	67.70	1.92	4.32	0.17	36.90
R9226M24BPLP1b-7	②	24	15~27	0.143	0.083	1.99	2600	58.50	1.66	3.29	0.13	32.80
R9226L24BPLP1b-7	①	24	15~27	0.085	0.055	1.32	2200	48.50	1.37	2.33	0.09	27.60
D9226Y12BPLP1b-7	⑦	12	7~14	0.860	0.800	9.60	4800	106.80	3.02	11.23	0.44	50.10
D9226X12BPLP1b-7	⑥	12	7~14	0.600	0.550	6.60	4200	92.30	2.61	7.31	0.29	46.40
D9226H12BPLP1b-7	④	12	7~14	0.320	0.320	3.84	3600	80.10	2.27	5.79	0.23	42.30
D9226M12BPLP1b-7	③	12	7~14	0.230	0.230	2.76	3000	67.70	1.92	4.32	0.17	36.90
D9226L12BPLP1b-7	②	12	7~14	0.150	0.150	1.80	2600	58.50	1.66	3.29	0.13	32.80
D9226Y24BPLP1b-7	⑦	24	15~27	0.480	0.400	9.60	4800	106.80	3.02	11.23	0.44	50.10
D9226X24BPLP1b-7	⑥	24	15~27	0.320	0.300	7.20	4200	92.30	2.61	7.31	0.29	46.40
D9226H24BPLP1b-7	④	24	15~27	0.180	0.180	4.32	3600	80.10	2.27	5.79	0.23	42.30
D9226M24BPLP1b-7	③	24	15~27	0.143	0.115	2.76	3000	67.70	1.92	4.32	0.17	36.90
D9226L24BPLP1b-7	②	24	15~27	0.085	0.078	1.87	2600	58.50	1.66	3.29	0.13	32.80
D9226Y48BPLP1b-7	⑦	48	36~57	0.270	0.230	11.04	4800	106.80	3.01	11.23	0.44	50.10
D9226X48BPLP1b-7	⑥	48	36~57	0.120	0.130	6.24	4200	92.30	2.61	7.31	0.29	46.40
D9226H48BPLP1b-7	④	48	36~57	0.090	0.090	4.32	3600	80.10	2.27	5.79	0.23	42.30
D9226M48BPLP1b-7	③	48	36~57	0.060	0.060	2.88	3000	67.70	1.92	4.32	0.17	36.90
D9226L48BPLP1b-7	②	48	36~57	0.046	0.046	2.21	2600	58.50	1.66	3.29	0.13	32.80



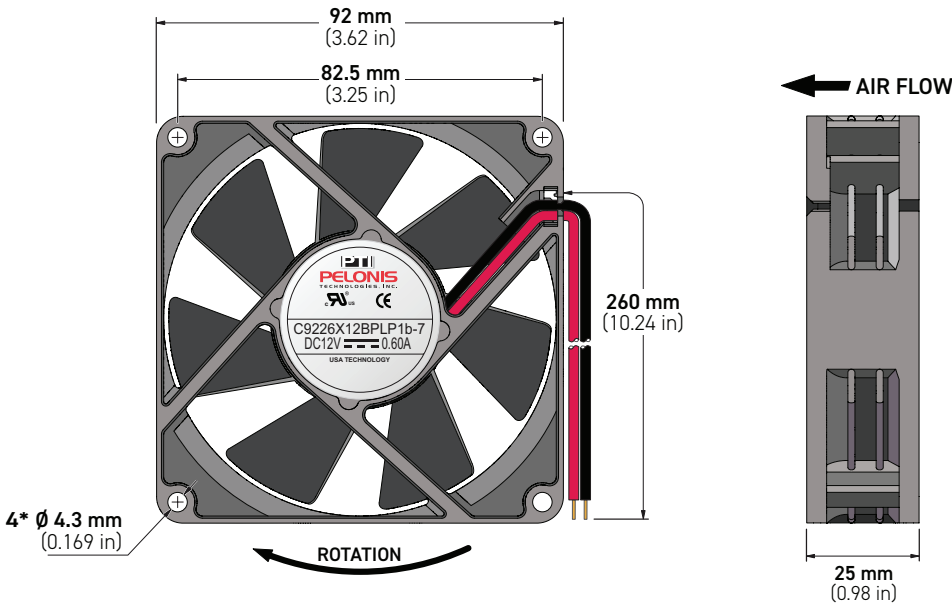
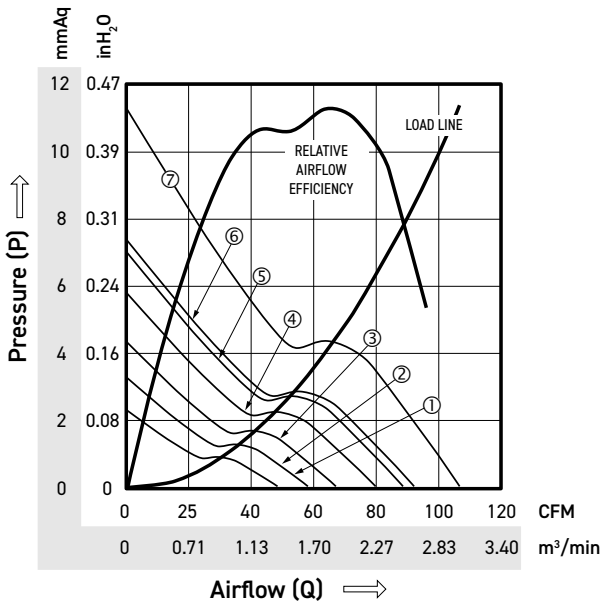
9226-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 25mm

(3.62 x 3.62 x 0.98in)

- 5V, 12V, 24V, 48V
- 48.50~106.80 CFM (1.37~3.02 m³/min)
- Dual Ball Bearings
- Frame: Thermoplastic PBT + 30% GF, UL94-V0
- Impeller: Thermoplastic PBT + 15% GF, UL94-V0
- Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm
- Operating Temperature: -10°C ~ +70°C
- Operating Life: 70,000 hours
- Locked Rotor Protection
- UL, CE, RoHS





9232-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 32mm

(3.62 x 3.62 x 1.26in)

5V, 12V, 24V, 48V

52.01~87.38 CFM (1.47~2.47 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
R9232H05BPLB1b-7	③	5	4~6	1.404	0.750	3.75	3250	67.62	1.91	6.95	0.27	38.23	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R9232M05BPLB1b-7	②	5	4~6	1.001	0.600	3.00	2900	60.33	1.71	5.53	0.22	35.30		
R9232L05BPLB1b-7	①	5	4~6	0.559	0.400	2.00	2500	52.01	1.47	4.11	0.16	31.52		
R9232Y12BPLB1b-7	⑤	12	7~14	1.040	0.720	8.64	4200	87.38	2.47	11.61	0.46	44.89		
R9232X12BPLB1b-7	④	12	7~14	0.741	0.564	6.77	3750	78.02	2.21	9.25	0.36	41.94		
R9232H12BPLB1b-7	③	12	7~14	0.494	0.300	3.60	3250	67.62	1.91	6.95	0.27	38.23		
R9232M12BPLB1b-7	②	12	7~14	0.325	0.250	3.00	2900	60.33	1.71	5.53	0.22	35.30		
R9232L12BPLB1b-7	①	12	7~14	0.234	0.170	2.04	2500	52.01	1.47	4.11	0.16	31.52		
R9232Y24BPLB1b-7	⑤	24	15~27	0.520	0.330	7.92	4200	87.38	2.47	11.61	0.46	44.89		
R9232X24BPLB1b-7	④	24	15~27	0.364	0.280	6.72	3750	78.02	2.21	9.25	0.36	41.94		
R9232H24BPLB1b-7	③	24	15~27	0.260	0.160	3.84	3250	67.62	1.91	6.95	0.27	38.23		
R9232M24BPLB1b-7	②	24	15~27	0.182	0.140	3.36	2900	60.33	1.71	5.53	0.22	35.30		
R9232L24BPLB1b-7	①	24	15~27	0.143	0.104	2.50	2500	52.01	1.47	4.11	0.16	31.52		
R9232Y48BPLB1b-7	⑤	48	36~57	0.209	0.200	9.60	4200	87.38	2.47	11.61	0.46	44.89		
R9232X48BPLB1b-7	④	48	36~57	0.143	0.140	6.72	3750	78.02	2.21	9.25	0.36	41.94		
R9232H48BPLB1b-7	③	48	36~57	0.104	0.104	4.99	3250	67.62	1.91	6.95	0.27	38.23		
R9232M48BPLB1b-7	②	48	36~57	0.078	0.078	3.74	2900	60.33	1.71	5.53	0.22	35.30		
R9232L48BPLB1b-7	①	48	36~57	0.052	0.052	2.50	2500	52.01	1.47	4.11	0.16	31.52		
G9232Y12BPLB1b-7	⑤	12	7~14	1.040	0.638	7.66	4200	87.38	2.47	11.61	0.46	44.89	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
G9232X12BPLB1b-7	④	12	7~14	0.741	0.510	6.12	3750	78.02	2.21	9.25	0.36	41.94		
G9232H12BPLB1b-7	③	12	7~14	0.494	0.330	3.96	3250	67.62	1.91	6.95	0.27	38.23		
G9232M12BPLB1b-7	②	12	7~14	0.325	0.210	2.52	2900	60.33	1.71	5.53	0.22	35.30		
G9232L12BPLB1b-7	①	12	7~14	0.234	0.130	1.56	2500	52.01	1.47	4.11	0.16	31.52		
G9232Y24BPLB1b-7	⑤	24	15~27	0.520	0.320	7.68	4200	87.38	2.47	11.61	0.46	44.89		
G9232X24BPLB1b-7	④	24	15~27	0.364	0.220	5.28	3750	78.02	2.21	9.25	0.36	41.94		
G9232H24BPLB1b-7	③	24	15~27	0.260	0.160	3.84	3250	67.62	1.91	6.95	0.27	38.23		
G9232M24BPLB1b-7	②	24	15~27	0.182	0.120	2.88	2900	60.33	1.71	5.53	0.22	35.30		
G9232L24BPLB1b-7	①	24	15~27	0.143	0.076	1.82	2500	52.01	1.47	4.11	0.16	31.52		
G9232Y48BPLB1b-7	⑤	48	36~57	0.209	0.161	7.73	4200	87.38	2.47	11.61	0.46	44.89		
G9232X48BPLB1b-7	④	48	36~57	0.143	0.110	5.28	3750	78.02	2.21	9.25	0.36	41.94		
G9232H48BPLB1b-7	③	48	36~57	0.104	0.080	3.84	3250	67.62	1.91	6.95	0.27	38.23		
G9232M48BPLB1b-7	②	48	36~57	0.078	0.060	2.88	2900	60.33	1.71	5.53	0.22	35.30		
G9232L48BPLB1b-7	①	48	36~57	0.052	0.038	1.82	2500	52.01	1.47	4.11	0.16	31.52		



9232-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 32mm

(3.62 x 3.62 x 1.26in)

5V, 12V, 24V, 48V

52.01~87.38 CFM (1.47~2.47 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

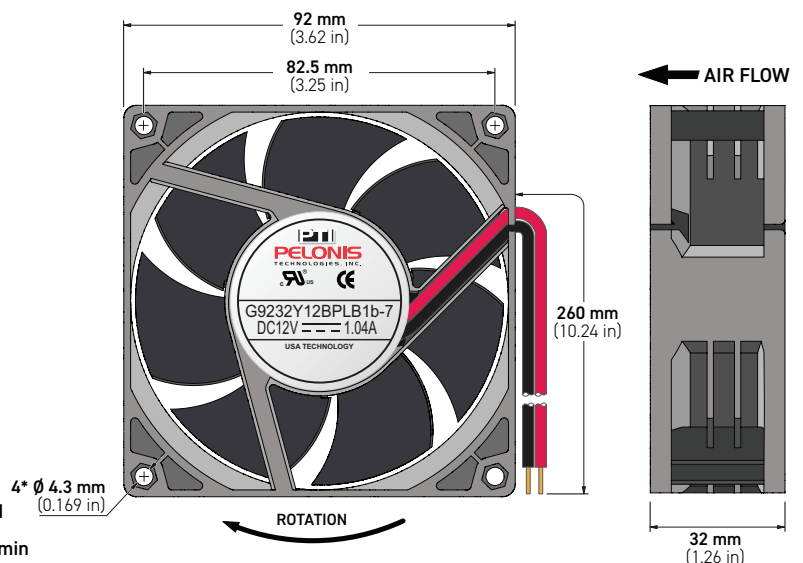
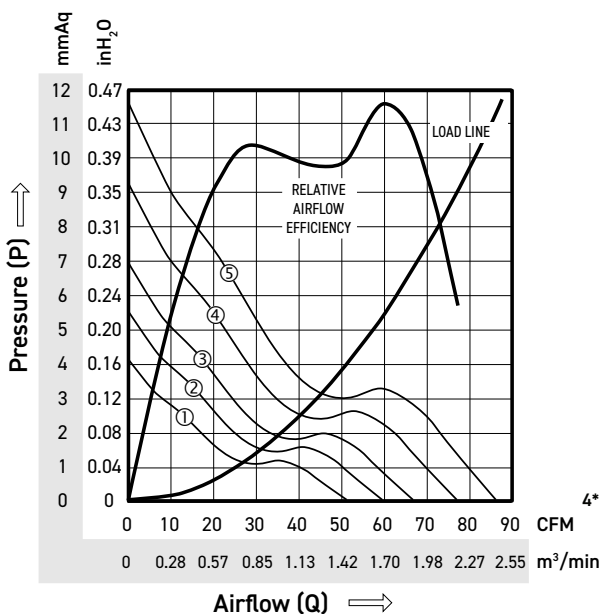
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
P9232Y12BPLB1b-7	⑤	12	8~14	1.040	0.638	7.66	4200	87.38	2.47	11.61	0.46	44.89	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
P9232X12BPLB1b-7	④	12	8~14	0.741	0.510	6.12	3750	78.02	2.21	9.25	0.36	41.94		
P9232H12BPLB1b-7	③	12	8~14	0.494	0.330	3.96	3250	67.62	1.91	6.95	0.27	38.23		
P9232M12BPLB1b-7	②	12	8~14	0.325	0.210	2.52	2900	60.33	1.71	5.53	0.22	35.30		
P9232L12BPLB1b-7	①	12	8~14	0.234	0.130	1.56	2500	52.01	1.47	4.11	0.16	31.52		
P9232Y24BPLB1b-7	⑤	24	15~27	0.520	0.320	7.68	4200	87.38	2.47	11.61	0.46	44.89		
P9232X24BPLB1b-7	④	24	15~27	0.364	0.220	5.28	3750	78.02	2.21	9.25	0.36	41.94		
P9232H24BPLB1b-7	③	24	15~27	0.260	0.160	3.84	3250	67.62	1.91	6.95	0.27	38.23		
P9232M24BPLB1b-7	②	24	15~27	0.182	0.120	2.88	2900	60.33	1.71	5.53	0.22	35.30		
P9232L24BPLB1b-7	①	24	15~27	0.143	0.076	1.82	2500	52.01	1.47	4.11	0.16	31.52		
P9232X12BPLB1b-7	⑤	48	36~57	0.209	0.161	7.73	4200	87.38	2.47	11.61	0.46	44.89		
P9232X12BPLB1b-7	④	48	36~57	0.143	0.110	5.28	3750	78.02	2.21	9.25	0.36	41.94		
P9232X12BPLB1b-7	③	48	36~57	0.104	0.080	3.84	3250	67.62	1.91	6.95	0.27	38.23		
P9232X12BPLB1b-7	②	48	36~57	0.078	0.060	2.88	2900	60.33	1.71	5.53	0.22	35.30		
P9232X12BPLB1b-7	①	48	36~57	0.052	0.038	1.82	2500	52.01	1.47	4.11	0.16	31.52		





9238-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

92 x 92 x 38mm

(3.62 x 3.62 x 1.50in)

12V, 24V, 48V

71.58~163.61 CFM (2.03~4.63 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 260±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

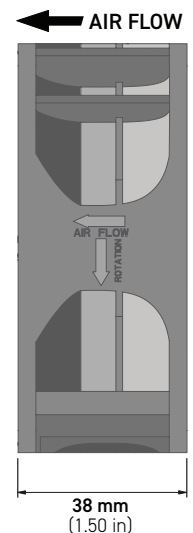
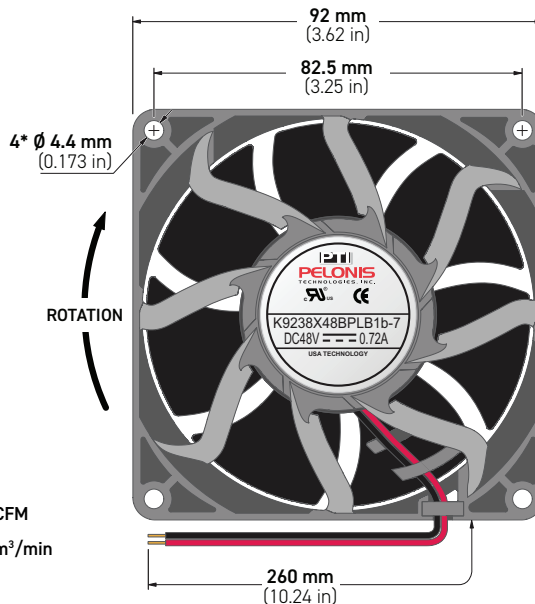
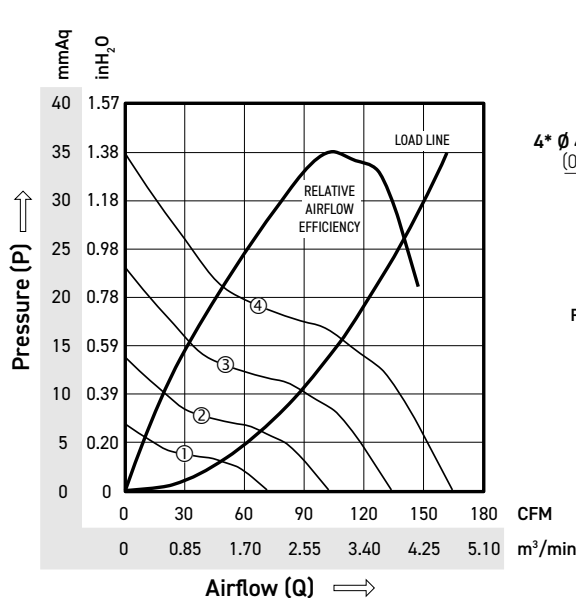
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m ³ /min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
R9238H12BPLB1b-7	③	12	7~14	1.850	1.560	18.72	6500	132.94	3.76	22.88	0.90	59.10
R9238M12BPLB1b-7	②	12	7~14	0.820	0.640	7.68	5000	102.26	2.90	13.54	0.53	52.20
R9238L12BPLB1b-7	①	12	7~14	0.330	0.292	3.50	3500	71.58	2.03	6.63	0.26	43.00
R9238H24BPLB1b-7	③	24	15~27	0.810	0.720	17.28	6500	132.94	3.76	22.88	0.90	59.10
R9238M24BPLB1b-7	②	24	15~27	0.430	0.340	8.16	5000	102.26	2.90	13.54	0.53	52.20
R9238L24BPLB1b-7	①	24	15~27	0.170	0.152	3.65	3500	71.58	2.03	6.63	0.26	43.00
R9238H48BPLB1b-7	③	48	36~57	0.390	0.351	16.85	6500	132.94	3.76	22.88	0.90	59.10
R9238M48BPLB1b-7	②	48	36~57	0.200	0.176	8.45	5000	102.26	2.90	13.54	0.53	52.20
R9238L48BPLB1b-7	①	48	36~57	0.100	0.080	3.84	3500	71.58	2.03	6.63	0.26	43.00
K9238H12BPLB1b-7	③	12	7~14	1.850	1.450	17.40	6500	132.94	3.76	22.88	0.90	59.10
K9238M12BPLB1b-7	②	12	7~14	0.820	0.600	7.20	5000	102.26	2.90	13.54	0.53	52.20
K9238L12BPLB1b-7	①	12	7~14	0.330	0.270	3.24	3500	71.58	2.03	6.63	0.26	43.00
K9238X24BPLB1b-7	④	24	15~27	1.560	1.200	28.80	8000	163.61	4.63	34.65	1.36	64.50
K9238H24BPLB1b-7	③	24	15~27	0.810	0.640	15.36	6500	132.94	3.76	22.88	0.90	59.10
K9238M24BPLB1b-7	②	24	15~27	0.430	0.310	7.44	5000	102.26	2.90	13.54	0.53	52.20
K9238L24BPLB1b-7	①	24	15~27	0.170	0.140	3.36	3500	71.58	2.03	6.63	0.26	43.00
K9238X48BPLB1b-7	④	48	36~57	0.720	0.615	29.52	8000	163.61	4.63	34.65	1.36	64.50
K9238H48BPLB1b-7	③	48	36~57	0.390	0.320	15.36	6500	132.94	3.76	22.88	0.90	59.10
K9238M48BPLB1b-7	②	48	36~57	0.200	0.165	7.92	5000	102.26	2.90	13.54	0.53	52.20
K9238L48BPLB1b-7	①	48	36~57	0.100	0.070	3.36	3500	71.58	2.03	6.63	0.26	43.00

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
1b: AS IP51	1a: IR, 2a: FG, 2b: RD 2c: RDb, 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





1225-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 25mm (4.72 x 4.72 x 0.98in)

5V, 12V, 24V, 48V

78.16~176.75 CFM (2.21~5.00 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
R1225H05BPLP1b-7	③	5	4~6	0.920	0.800	4.00	3250	99.47	2.82	8.11	0.32	43.02	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R1225M05BPLP1b-7	②	5	4~6	0.830	0.700	3.50	2900	88.15	2.50	6.59	0.26	40.09		
R1225L05BPLP1b-7	①	5	4~6	0.640	0.400	2.00	2600	78.16	2.21	5.25	0.21	37.19		
R1225Y12BPLB1b-7	⑤	12	7~14	0.830	0.670	8.04	4200	129.41	3.66	13.58	0.53	50.97		
R1225X12BPLB1b-7	④	12	7~14	0.690	0.520	6.24	3750	113.47	3.21	11.17	0.44	48.45		
R1225H12BPLP1b-7	③	12	7~14	0.440	0.365	4.38	3250	99.47	2.82	8.11	0.32	43.02		
R1225M12BPLP1b-7	②	12	7~14	0.330	0.250	3.00	2900	88.15	2.50	6.59	0.26	40.09		
R1225L12BPLP1b-7	①	12	7~14	0.250	0.180	2.16	2600	78.16	2.21	5.25	0.21	37.19		
R1225Y24BPLB1b-7	⑤	24	15~27	0.430	0.370	8.88	4200	129.41	3.66	13.58	0.53	50.97		
R1225X24BPLB1b-7	④	24	15~27	0.330	0.300	7.20	3750	113.47	3.21	11.17	0.44	48.45		
R1225H24BPLP1b-7	③	24	15~27	0.200	0.165	3.96	3250	99.47	2.82	8.11	0.32	43.02		
R1225M24BPLP1b-7	②	24	15~27	0.160	0.140	3.36	2900	88.15	2.50	6.59	0.26	40.09		
R1225L24BPLP1b-7	①	24	15~27	0.120	0.100	2.40	2600	78.16	2.21	5.25	0.21	37.19		
R1225Y48BPLB1b-7	⑤	48	36~57	0.280	0.228	10.94	4200	129.41	3.66	13.58	0.53	50.97		
R1225X48BPLB1b-7	④	48	36~57	0.160	0.160	7.68	3750	113.47	3.21	11.17	0.44	48.45		
R1225H48BPLB1b-7	③	48	36~57	0.130	0.090	4.32	3250	99.47	2.82	8.11	0.32	43.02		
R1225M48BPLB1b-7	②	48	36~57	0.110	0.080	3.84	2900	88.15	2.50	6.59	0.26	40.09		
R1225L48BPLB1b-7	①	48	36~57	0.080	0.060	2.88	2600	78.16	2.21	5.25	0.21	37.19		
G1225Y12BPLB1b-7	⑤	12	7~14	0.830	0.650	7.80	4200	129.41	3.66	13.58	0.53	50.97		
G1225X12BPLB1b-7	④	12	7~14	0.690	0.470	5.64	3750	113.47	3.21	11.17	0.44	48.45		
G1225H12BPLP1b-7	③	12	7~14	0.440	0.350	4.20	3250	99.47	2.82	8.11	0.32	43.02		
G1225M12BPLP1b-7	②	12	7~14	0.330	0.230	2.76	2900	88.15	2.50	6.59	0.26	40.09		
G1225L12BPLP1b-7	①	12	7~14	0.250	0.175	2.10	2600	78.16	2.21	5.25	0.21	37.19		
G1225Y24BPLB1b-7	⑤	24	15~27	0.430	0.350	8.40	4200	129.41	3.66	13.58	0.53	50.97		
G1225X24BPLB1b-7	④	24	15~27	0.330	0.280	6.72	3750	113.47	3.21	11.17	0.44	48.45		
G1225H24BPLP1b-7	③	24	15~27	0.200	0.155	3.72	3250	99.47	2.82	8.11	0.32	43.02		
G1225M24BPLP1b-7	②	24	15~27	0.160	0.135	3.24	2900	88.15	2.50	6.59	0.26	40.09		
G1225L24BPLP1b-7	①	24	15~27	0.120	0.100	2.40	2600	78.16	2.21	5.25	0.21	37.19		
G1225Y48BPLB1b-7	⑤	48	36~57	0.280	0.220	10.56	4200	129.41	3.66	13.58	0.53	50.97		
G1225X48BPLB1b-7	④	48	36~57	0.160	0.110	5.28	3750	113.47	3.21	11.17	0.44	48.45		
G1225H48BPLP1b-7	③	48	36~57	0.130	0.090	4.32	3250	99.47	2.82	8.11	0.32	43.02		
G1225M48BPLP1b-7	②	48	36~57	0.110	0.070	3.36	2900	88.15	2.50	6.59	0.26	40.09		
G1225L48BPLP1b-7	①	48	36~57	0.080	0.060	2.88	2600	78.16	2.21	5.25	0.21	37.19		



1225-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 25mm (4.72 x 4.72 x 0.98in)

5V, 12V, 24V, 48V

78.16~176.75 CFM (2.21~5.00 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

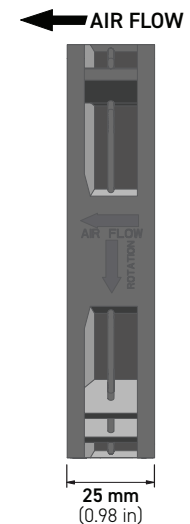
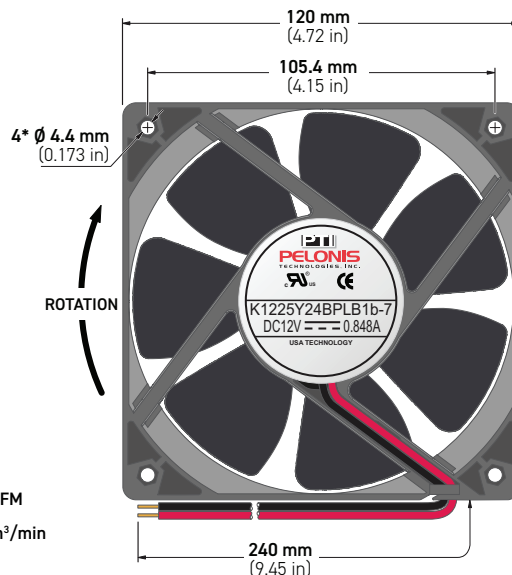
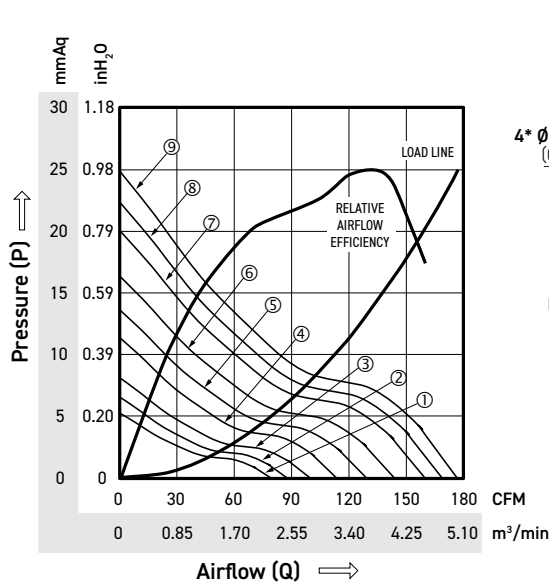
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m ³ /min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
P1225Y12BPLB1b-7	⑤	12	8~14	0.830	0.650	7.80	4200	129.41	3.66	13.58	0.53	50.97
P1225X12BPLB1b-7	④	12	8~14	0.690	0.470	5.64	3750	113.47	3.21	11.17	0.44	48.45
P1225H12BPLP1b-7	③	12	8~14	0.440	0.350	4.20	3250	99.47	2.82	8.11	0.32	43.02
P1225M12BPLP1b-7	②	12	8~14	0.330	0.230	2.76	2900	88.15	2.50	6.59	0.26	40.09
P1225L12BPLP1b-7	①	12	8~14	0.250	0.175	2.10	2600	78.16	2.21	5.25	0.21	37.19
P1225Y24BPLB1b-7	⑤	24	15~27	0.430	0.300	7.20	4200	129.41	3.66	13.58	0.53	50.97
P1225X24BPLB1b-7	④	24	15~27	0.330	0.230	5.52	3750	113.47	3.21	11.17	0.44	48.45
P1225H24BPLP1b-7	③	24	15~27	0.200	0.155	3.72	3250	99.47	2.82	8.11	0.32	43.02
P1225M24BPLP1b-7	②	24	15~27	0.160	0.125	3.00	2900	88.15	2.50	6.59	0.26	40.09
P1225L24BPLP1b-7	①	24	15~27	0.120	0.100	2.40	2600	78.16	2.21	5.25	0.21	37.19
P1225Y48BPLB1b-7	⑤	48	36~57	0.280	0.168	8.06	4200	129.41	3.66	13.58	0.53	50.97
P1225X48BPLB1b-7	④	48	36~57	0.160	0.110	5.28	3750	113.47	3.21	11.17	0.44	48.45
P1225H48BPLP1b-7	③	48	36~57	0.130	0.090	4.32	3250	99.47	2.82	8.11	0.32	43.02
P1225M48BPLP1b-7	②	48	36~57	0.110	0.070	3.36	2900	88.15	2.50	6.59	0.26	40.09
P1225L48BPLP1b-7	①	48	36~57	0.080	0.055	2.64	2600	78.16	2.21	5.25	0.21	37.19
K1225Y12BPLB1b-7	⑧	12	8~14	1.770	1.473	17.68	5500	169.12	4.79	22.28	0.88	57.03
K1225X12BPLB1b-7	⑦	12	8~14	1.334	1.168	14.02	5200	159.89	4.53	19.91	0.78	55.99
K1225H12BPLB1b-7	⑥	12	8~14	1.002	0.740	8.88	4700	143.38	4.06	16.42	0.65	53.74
K1225Y24BPLB1b-7	⑨	24	15~27	0.848	0.680	16.32	5800	176.75	5.00	24.80	0.98	58.23
K1225X24BPLB1b-7	⑦	24	15~27	0.725	0.613	14.71	5200	159.89	4.53	19.91	0.78	55.99
K1225H24BPLB1b-7	⑥	24	15~27	0.557	0.400	9.60	4700	143.38	4.06	16.42	0.65	53.74
K1225Y48BPLB1b-7	⑨	48	36~57	0.529	0.380	18.24	5800	176.75	5.00	24.80	0.98	58.23
K1225X48BPLB1b-7	⑦	48	36~57	0.379	0.310	14.88	5200	159.89	4.53	19.91	0.78	55.99
K1225H48BPLB1b-7	⑥	48	36~57	0.295	0.210	10.08	4700	143.38	4.06	16.42	0.65	53.74





1232-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 32mm (4.72 x 4.72 x 1.26in)

12V, 24V, 48V

107.49~239.93 CFM (3.04~6.79 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
R1232Y12BPLB1b-5	⑤	12	7~14	1.924	1.498	17.98	4200	172.22	4.88	16.49	0.65	54.43	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R1232X12BPLB1b-5	④	12	7~14	1.200	1.056	12.67	3750	154.41	4.37	13.13	0.52	51.63		
R1232H12BPLB1b-5	③	12	7~14	0.858	0.600	7.20	3250	134.21	3.80	9.77	0.38	47.92		
R1232M12BPLB1b-5	②	12	7~14	0.624	0.420	5.04	2900	119.87	3.39	7.78	0.31	44.90		
R1232L12BPLB1b-5	①	12	7~14	0.468	0.280	3.36	2600	107.49	3.04	6.27	0.25	42.07		
R1232Y24BPLB1b-5	⑤	24	15~27	0.858	0.640	15.36	4200	172.22	4.88	16.49	0.65	54.43		
R1232X24BPLB1b-5	④	24	15~27	0.676	0.532	12.76	3750	154.41	4.37	13.13	0.52	51.63		
R1232H24BPLB1b-5	③	24	15~27	0.416	0.310	7.44	3250	134.21	3.80	9.77	0.38	47.92		
R1232M24BPLB1b-5	②	24	15~27	0.273	0.220	5.28	2900	119.87	3.39	7.78	0.31	44.90		
R1232L24BPLB1b-5	①	24	15~27	0.221	0.182	4.37	2600	107.49	3.04	6.27	0.25	42.07		
R1232Y48BPLB1b-5	⑤	48	36~57	0.377	0.348	16.70	4200	172.22	4.88	16.49	0.65	54.43		
R1232X48BPLB1b-5	④	48	36~57	0.273	0.257	12.36	3750	154.41	4.37	13.13	0.52	51.63		
R1232H48BPLB1b-5	③	48	36~57	0.195	0.176	8.45	3250	134.21	3.80	9.77	0.38	47.92		
R1232M48BPLB1b-5	②	48	36~57	0.143	0.126	6.05	2900	119.87	3.39	7.78	0.31	44.90		
R1232L48BPLB1b-5	①	48	36~57	0.104	0.090	4.32	2600	107.49	3.04	6.27	0.25	42.07		
G1232Y12BPLB1b-5	⑤	12	7~14	1.924	1.150	13.80	4200	172.22	4.88	16.49	0.65	54.43		
G1232X12BPLB1b-5	④	12	7~14	1.200	0.820	9.84	3750	154.41	4.37	13.13	0.52	51.63		
G1232H12BPLB1b-5	③	12	7~14	0.858	0.550	6.60	3250	134.21	3.80	9.77	0.38	47.92		
G1232M12BPLB1b-5	②	12	7~14	0.624	0.390	4.68	2900	119.87	3.39	7.78	0.31	44.90		
G1232L12BPLB1b-5	①	12	7~14	0.486	0.250	3.00	2600	107.49	3.04	6.27	0.25	42.07		
G1232Y24BPLB1b-5	⑤	24	15~27	0.858	0.530	12.72	4200	172.22	4.88	16.49	0.65	54.43		
G1232X24BPLB1b-5	④	24	15~27	0.676	0.380	9.12	3750	154.41	4.37	13.13	0.52	51.63		
G1232H24BPLB1b-5	③	24	15~27	0.416	0.250	6.00	3250	134.21	3.80	9.77	0.38	47.92		
G1232M24BPLB1b-5	②	24	15~27	0.273	0.180	4.32	2900	119.87	3.39	7.78	0.31	44.90		
G1232L24BPLB1b-5	①	24	15~27	0.221	0.135	3.24	2600	107.49	3.04	6.27	0.25	42.07		
G1232Y48BPLB1b-5	⑤	48	36~57	0.377	0.288	13.82	4200	172.22	4.88	16.49	0.65	54.43		
G1232X48BPLB1b-5	④	48	36~57	0.273	0.220	10.56	3750	154.41	4.37	13.13	0.52	51.63		
G1232H48BPLB1b-5	③	48	36~57	0.195	0.143	6.86	3250	134.21	3.80	9.77	0.38	47.92		
G1232M48BPLB1b-5	②	48	36~57	0.143	0.110	5.28	2900	119.87	3.39	7.78	0.31	44.90		
G1232L48BPLB1b-5	①	48	36~57	0.104	0.080	3.84	2600	107.49	3.04	6.27	0.25	42.07		



1232-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 32mm (4.72 x 4.72 x 1.26in)

12V, 24V, 48V

107.49~239.93 CFM (3.04~6.79 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

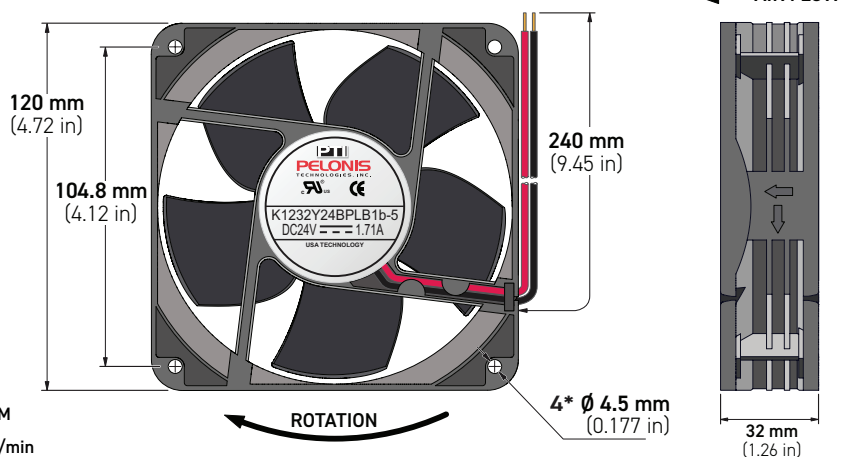
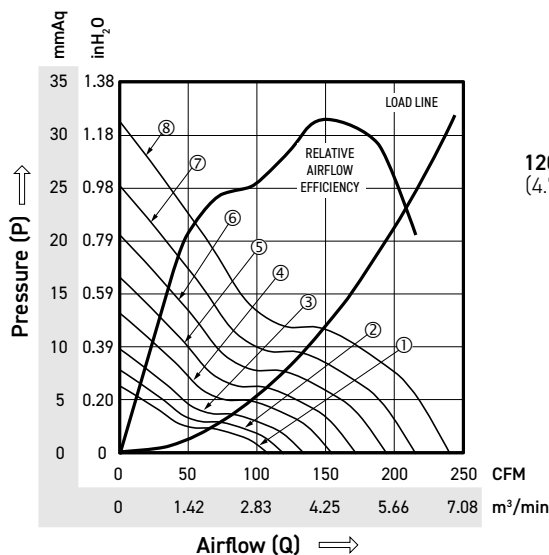
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
P1232Y12BPLB1b-5	⑤	12	8~14	1.924	1.150	13.80	4200	172.22	4.88	16.49	0.65	54.43
P1232X12BPLB1b-5	④	12	8~14	1.200	0.820	9.84	3750	154.41	4.37	13.13	0.52	51.63
P1232H12BPLB1b-5	③	12	8~14	0.858	0.550	6.60	3250	134.21	3.80	9.77	0.38	47.92
P1232M12BPLB1b-5	②	12	8~14	0.624	0.390	4.68	2900	119.87	3.39	7.78	0.31	44.90
P1232L12BPLB1b-5	①	12	8~14	0.468	0.250	3.00	2600	107.49	3.04	6.27	0.25	42.07
P1232Y24BPLB1b-5	⑤	24	15~27	0.858	0.530	12.72	4200	172.22	4.88	16.49	0.65	54.43
P1232X24BPLB1b-5	④	24	15~27	0.676	0.380	9.12	3750	154.41	4.37	13.13	0.52	51.63
P1232H24BPLB1b-5	③	24	15~27	0.416	0.250	6.00	3250	134.21	3.80	9.77	0.38	47.92
P1232M24BPLB1b-5	②	24	15~27	0.273	0.180	4.32	2900	119.87	3.39	7.78	0.31	44.90
P1232L24BPLB1b-5	①	24	15~27	0.221	0.135	3.24	2600	107.49	3.04	6.27	0.25	42.07
P1232Y48BPLB1b-5	⑤	48	36~57	0.377	0.288	13.82	4200	172.22	4.88	16.49	0.65	54.43
P1232X48BPLB1b-5	④	48	36~57	0.273	0.220	10.56	3750	154.41	4.37	13.13	0.52	51.63
P1232H48BPLB1b-5	③	48	36~57	0.195	0.143	6.86	3250	134.21	3.80	9.77	0.38	47.92
P1232M48BPLB1b-5	②	48	36~57	0.143	0.110	5.28	2900	119.87	3.39	7.78	0.31	44.90
P1232L48BPLB1b-5	①	48	36~57	0.104	0.080	3.84	2600	107.49	3.04	6.27	0.25	42.07
K1232X12BPLB1b-5	⑦	12	8~14	2.826	1.760	21.12	5200	215.11	6.09	25.09	0.99	60.73
K1232H12BPLB1b-5	⑥	12	8~14	1.767	1.310	15.72	4700	194.42	5.51	20.50	0.81	58.10
K1232Y24BPLB1b-5	⑧	24	15~27	1.710	1.353	32.46	5800	239.93	6.79	31.22	1.23	64.51
K1232X24BPLB1b-5	⑦	24	15~27	1.153	0.975	23.39	5200	215.11	6.09	25.09	0.99	60.73
K1232H24BPLB1b-5	⑥	24	15~27	0.882	0.720	17.27	4700	194.42	5.51	20.50	0.81	58.10
K1232Y48BPLB1b-5	⑧	48	36~57	1.211	0.637	30.60	5800	239.93	6.79	31.22	1.23	64.51
K1232X48BPLB1b-5	⑦	48	36~57	0.778	0.459	22.05	5200	215.11	6.09	25.09	0.99	60.73
K1232H48BPLB1b-5	⑥	48	36~57	0.574	0.368	17.66	4700	194.42	5.51	20.50	0.81	58.10

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





1232-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 32mm (4.72 x 4.72 x 1.26in)

- 5V, 12V, 24V, 48V
- 80.96~178.59 CFM (2.29~5.06 m³/min)
- Dual Ball Bearings
- Frame: Thermoplastic PBT + 30% GF, UL94-V0
- Impeller: Thermoplastic PBT + 15% GF, UL94-V0
- Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm
- Operating Temperature: -10°C ~ +70°C
- Operating Life: 70,000 hours
- Locked Rotor Protection
- UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m ³ /min)	(mmAq)	(mH ₂ O)		STANDARD	OPTIONAL
R1232H05BPLB1b-7	③	5	4~6	1.400	1.200	6.00	3250	101.08	2.86	9.76	0.38	43.32	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R1232M05BPLB1b-5	②	5	4~6	0.980	0.900	4.50	2900	90.28	2.56	7.79	0.31	40.09		
R1232L05BPLB1b-5	①	5	4~6	0.720	0.715	3.58	2600	80.96	2.29	6.26	0.25	37.49		
R1232Y12BPLB1b-7	⑤	12	7~14	1.120	0.700	8.40	4200	131.45	3.72	16.34	0.64	49.71		
R1232X12BPLB1b-7	④	12	7~14	0.770	0.520	6.24	3750	117.21	3.32	13.00	0.51	46.69		
R1232H12BPLB1b-7	③	12	7~14	0.540	0.410	4.92	3250	101.08	2.86	9.76	0.38	43.32		
R1232M12BPLB1b-7	②	12	7~14	0.410	0.290	3.48	2900	90.28	2.56	7.79	0.31	40.09		
R1232L12BPLB1b-7	①	12	7~14	0.260	0.240	2.88	2600	80.96	2.29	6.26	0.25	37.49		
R1232Y24BPLB1b-7	⑤	24	15~27	0.530	0.380	9.12	4200	131.45	3.72	16.34	0.64	49.71		
R1232X24BPLB1b-7	④	24	15~27	0.390	0.260	6.24	3750	117.21	3.32	13.00	0.51	46.69		
R1232H24BPLB1b-7	③	24	15~27	0.240	0.190	4.56	3250	101.08	2.86	9.76	0.38	43.32		
R1232M24BPLB1b-7	②	24	15~27	0.160	0.155	3.72	2900	90.28	2.56	7.79	0.31	40.09		
R1232L24BPLB1b-7	①	24	15~27	0.130	0.125	3.00	2600	80.96	2.29	6.26	0.25	37.49		
R1232Y48BPLB1b-7	⑤	48	36~57	0.280	0.216	10.37	4200	131.45	3.72	16.34	0.64	49.71		
R1232X48BPLB1b-7	④	48	36~57	0.210	0.170	8.16	3750	117.21	3.32	13.00	0.51	46.69		
R1232H48BPLB1b-7	③	48	36~57	0.140	0.115	5.52	3250	101.08	2.86	9.76	0.38	43.32		
R1232M48BPLB1b-7	②	48	36~57	0.130	0.096	4.61	2900	90.28	2.56	7.79	0.31	40.09		
R1232L48BPLB1b-7	①	48	36~57	0.110	0.080	3.84	2600	80.96	2.29	6.26	0.25	37.49		
G1232Y12BPLB1b-7	⑤	12	7~14	1.120	0.700	8.40	4200	131.45	3.72	16.34	0.64	49.71		
G1232X12BPLB1b-7	④	12	7~14	0.770	0.510	6.12	3750	117.21	3.32	13.00	0.51	46.69		
G1232H12BPLB1b-7	③	12	7~14	0.540	0.330	3.96	3250	101.08	2.86	9.76	0.38	43.32		
G1232M12BPLB1b-7	②	12	7~14	0.410	0.270	3.24	2900	90.28	2.56	7.79	0.31	40.09		
G1232L12BPLB1b-7	①	12	7~14	0.260	0.187	2.24	2600	80.96	2.29	6.26	0.25	37.49		
G1232Y24BPLB1b-7	⑤	24	15~27	0.530	0.330	7.92	4200	131.45	3.72	16.34	0.64	49.71		
G1232X24BPLB1b-7	④	24	15~27	0.390	0.240	5.76	3750	117.21	3.32	13.00	0.51	46.69		
G1232H24BPLB1b-7	③	24	15~27	0.240	0.176	4.22	3250	101.08	2.86	9.76	0.38	43.32		
G1232M24BPLB1b-7	②	24	15~27	0.160	0.130	3.12	2900	90.28	2.56	7.79	0.31	40.09		
G1232L24BPLB1b-7	①	24	15~27	0.130	0.110	2.64	2600	80.96	2.29	6.26	0.25	37.49		
G1232Y48BPLB1b-7	⑤	48	36~57	0.280	0.170	8.16	4200	131.45	3.72	16.34	0.64	49.71		
G1232X48BPLB1b-7	④	48	36~57	0.210	0.143	6.86	3750	117.21	3.32	13.00	0.51	46.69		
G1232H48BPLB1b-7	③	48	36~57	0.140	0.100	4.80	3250	101.08	2.86	9.76	0.38	43.32		
G1232M48BPLB1b-7	②	48	36~57	0.130	0.080	3.84	2900	90.28	2.56	7.79	0.31	40.09		
G1232L48BPLB1b-7	①	48	36~57	0.110	0.070	3.36	2600	80.96	2.29	6.26	0.25	37.49		



1232-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 32mm (4.72 x 4.72 x 1.26in)

5V, 12V, 24V, 48V

80.96~178.59 CFM (2.29~5.06 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

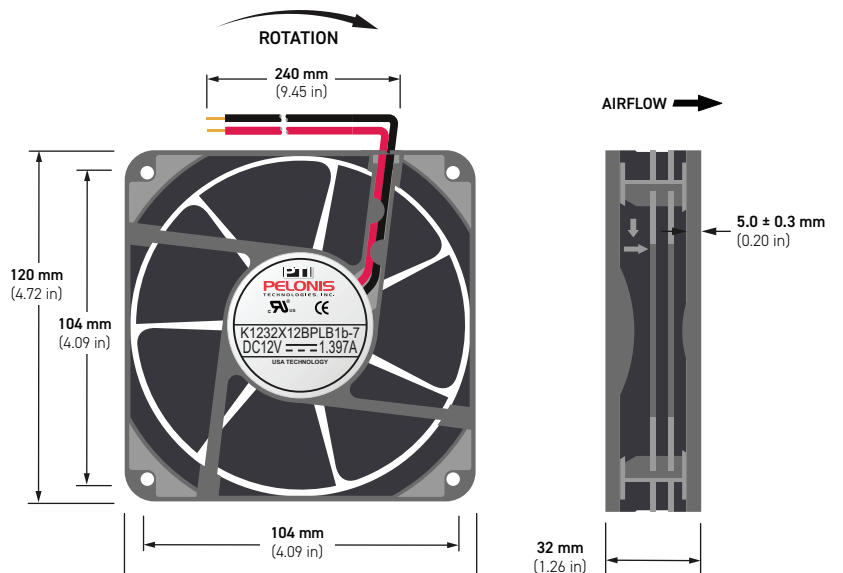
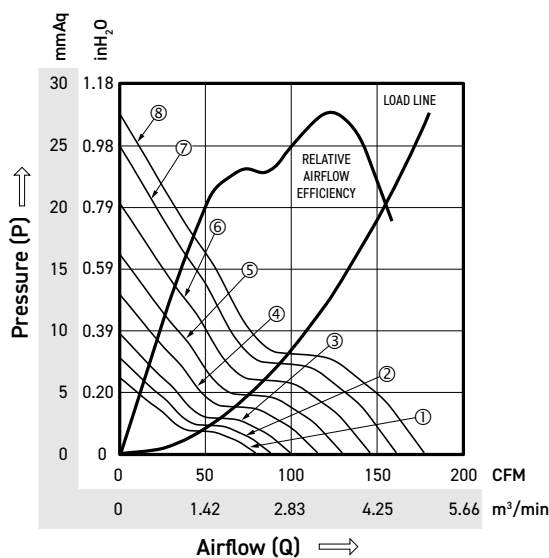
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	(m ³ /min)	Pressure (P) (mmAq)	(inH ₂ O)	Noise (dBA)
P1232Y12BPLB1b-7	⑤	12	8~14	1.120	0.700	8.40	4200	131.45	3.72	16.34	0.64	49.71
P1232X12BPLB1b-7	④	12	8~14	0.770	0.510	6.12	3750	117.21	3.32	13.00	0.51	46.69
P1232H12BPLB1b-7	③	12	8~14	0.540	0.330	3.96	3250	101.08	2.86	9.76	0.38	43.32
P1232M12BPLB1b-7	②	12	8~14	0.410	0.250	3.00	2900	90.28	2.56	7.79	0.31	40.09
P1232L12BPLB1b-7	①	12	8~14	0.260	0.187	2.24	2600	80.96	2.29	6.26	0.25	37.49
P1232Y24BPLB1b-7	⑤	24	15~27	0.530	0.330	7.92	4200	131.45	3.72	16.34	0.64	49.71
P1232X24BPLB1b-7	④	24	15~27	0.390	0.240	5.76	3750	117.21	3.32	13.00	0.51	46.69
P1232H24BPLB1b-7	③	24	15~27	0.240	0.176	4.22	3250	101.08	2.86	9.76	0.38	43.32
P1232M24BPLB1b-7	②	24	15~27	0.160	0.130	3.12	2900	90.28	2.56	7.79	0.31	40.09
P1232L24BPLB1b-7	①	24	15~27	0.130	0.110	2.64	2600	80.96	2.29	6.26	0.25	37.49
P1232Y48BPLB1b-7	⑤	48	36~57	0.280	0.170	8.16	4200	131.45	3.72	16.34	0.64	49.71
P1232X48BPLB1b-7	④	48	36~57	0.210	0.143	6.86	3750	117.21	3.32	13.00	0.51	46.69
P1232H48BPLB1b-7	③	48	36~57	0.140	0.100	4.80	3250	101.08	2.86	9.76	0.38	43.32
P1232M48BPLB1b-7	②	48	36~57	0.130	0.080	3.84	2900	90.28	2.56	7.79	0.31	40.09
P1232L48BPLB1b-7	①	48	36~57	0.110	0.070	3.36	2600	80.96	2.29	6.26	0.25	37.49
K1232X12BPLB1b-7	⑦	12	8~14	1.397	1.397	16.76	5200	162.97	4.61	25.04	0.99	57.60
K1232H12BPLB1b-7	⑥	12	8~14	1.106	1.100	13.20	4700	147.30	4.17	20.46	0.81	54.35
K1232Y24BPLB1b-7	⑧	24	15~27	0.896	0.896	21.50	5800	178.59	5.06	27.61	1.09	59.74
K1232X24BPLB1b-7	⑦	24	15~27	0.683	0.683	16.39	5200	162.97	4.61	25.04	0.99	57.60
K1232H24BPLB1b-7	⑥	24	15~27	0.574	0.574	13.78	4700	147.30	4.17	20.46	0.81	54.35
K1232Y48BPLB1b-7	⑧	48	36~57	0.622	0.608	29.18	5800	178.59	5.06	27.61	1.09	59.74
K1232X48BPLB1b-7	⑦	48	36~57	0.414	0.414	19.87	5200	162.97	4.61	25.04	0.99	57.60
K1232H48BPLB1b-7	⑥	48	36~57	0.316	0.316	15.17	4700	147.3	4.17	20.46	0.81	54.35

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





1238-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 38mm (4.72 x 4.72 x 1.50in)

12V, 24V, 48V

190.31~236.83 CFM (5.39~6.71 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

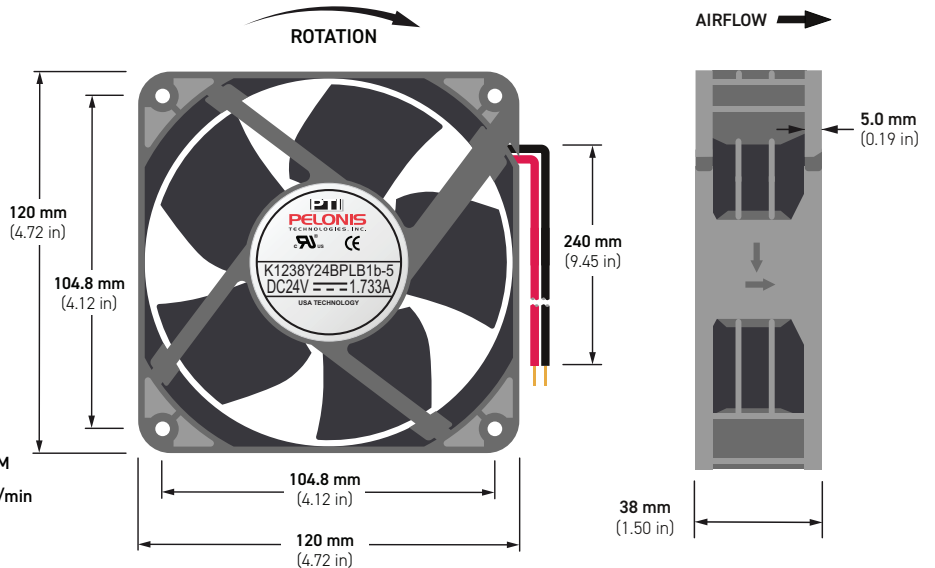
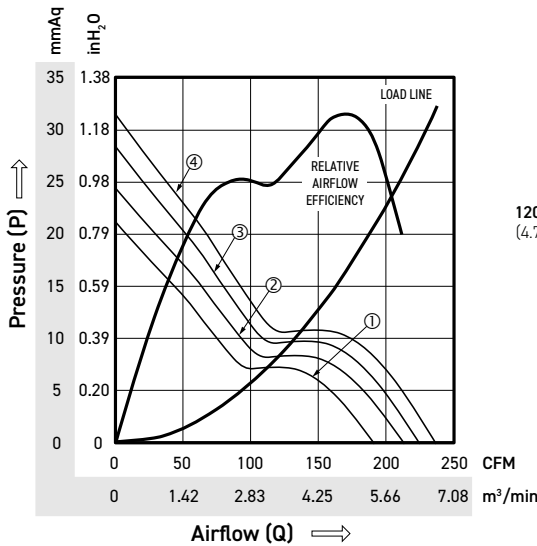
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
K1238X12BPLB1b-5	②	12	8~14	2.513	2.100	25.20	5200	212.57	6.02	24.38	0.96	61.89	1b: AS IP51	1a: IR, 2a: FG, 2b: RD 2c: RDb, 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
H1238H12BPLB1b-5	①	12	8~14	1.846	1.650	19.80	4700	190.31	5.39	21.13	0.83	57.78		
K1238Y24BPLB1b-5	③	24	15~27	1.733	1.200	28.80	5500	224.58	6.36	28.29	1.11	63.63		
K1238X24BPLB1b-5	②	24	15~27	1.110	0.950	22.80	5200	212.57	6.02	24.38	0.96	61.89		
K1238H24BPLB1b-5	①	24	15~27	0.938	0.680	16.32	4700	190.31	5.39	21.13	0.83	57.78		
K1238Y48BPLB1b-5	④	48	36~57	0.826	0.610	29.28	5800	236.83	6.71	31.47	1.24	65.02		
K1238X48BPLB1b-5	②	48	36~57	0.602	0.510	24.48	5200	212.57	6.02	24.38	0.96	61.89		
K1238H48BPLB1b-5	①	48	36~57	0.520	0.355	17.04	4700	190.31	5.39	21.13	0.83	57.78		





1238-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 38mm (4.72 x 4.72 x 1.50in)

- 5V, 12V, 24V, 48V
- 104.46~231.53 CFM (2.96~6.56 m³/min)
- Dual Ball Bearings
- Frame: Thermoplastic PBT + 30% GF, UL94-V0
- Impeller: Thermoplastic PBT + 15% GF, UL94-V0
- Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm
- Operating Temperature: -10°C ~ +70°C
- Operating Life: 70,000 hours
- Locked Rotor Protection
- UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
R1238H05BPLB1b-7	③	5	4~6	2.220	1.600	8.00	3250	130.45	3.69	11.14	0.44	46.13	1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67
R1238M05BPLB1b-7	②	5	4~6	1.610	1.300	6.50	2900	115.24	3.26	8.81	0.35	42.96		
R1238L05BPLB1b-7	①	5	4~6	1.200	0.961	4.81	2600	104.46	2.96	7.26	0.29	39.83		
R1238Y12BPLB1b-7	⑤	12	7~14	1.770	1.267	15.20	4200	167.66	4.75	17.92	0.71	52.99		
R1238X12BPLB1b-7	④	12	7~14	1.440	0.822	9.86	3750	150.71	4.27	15.17	0.60	50.32		
R1238H12BPLB1b-7	③	12	7~14	0.860	0.510	6.12	3250	130.45	3.69	11.14	0.44	46.13		
R1238M12BPLB1b-7	②	12	7~14	0.640	0.400	4.80	2900	115.24	3.26	8.81	0.35	42.96		
R1238L12BPLB1b-7	①	12	7~14	0.410	0.300	3.60	2600	104.46	2.96	7.26	0.29	39.83		
R1238Y24BPLB1b-7	⑤	24	15~27	0.850	0.580	13.92	4200	167.66	4.75	17.92	0.71	52.99		
R1238X24BPLB1b-7	④	24	15~27	0.630	0.460	11.04	3750	150.71	4.27	15.17	0.60	50.32		
R1238H24BPLB1b-7	③	24	15~27	0.370	0.300	7.20	3250	130.45	3.69	11.14	0.44	46.13		
R1238M24BPLB1b-7	②	24	15~27	0.290	0.238	5.71	2900	115.24	3.26	8.81	0.35	42.96		
R1238L24BPLB1b-7	①	24	15~27	0.180	0.160	3.84	2600	104.46	2.96	7.26	0.29	39.83		
R1238Y48BPLB1b-7	⑤	48	36~57	0.540	0.350	16.80	4200	167.66	4.75	17.92	0.71	52.99		
R1238X48BPLB1b-7	④	48	36~57	0.300	0.220	10.56	3750	150.71	4.27	15.17	0.60	50.32		
R1238H48BPLB1b-7	③	48	36~57	0.180	0.150	7.20	3250	130.45	3.69	11.14	0.44	46.13		
R1238M48BPLB1b-7	②	48	36~57	0.140	0.110	5.28	2900	115.24	3.26	8.81	0.35	42.96		
R1238L48BPLB1b-7	①	48	36~57	0.120	0.080	3.84	2600	104.46	2.96	7.26	0.29	39.83		
G1238Y12BPLB1b-7	⑤	12	7~14	1.770	1.150	13.80	4200	167.66	4.75	17.92	0.71	52.99		
G1238X12BPLB1b-7	④	12	7~14	1.440	0.750	9.00	3750	150.71	4.27	15.17	0.60	50.32		
G1238H12BPLB1b-7	③	12	7~14	0.860	0.500	6.00	3250	130.45	3.69	11.14	0.44	46.13		
G1238M12BPLB1b-7	②	12	7~14	0.640	0.380	4.56	2900	115.24	3.26	8.81	0.35	42.96		
G1238L12BPLB1b-7	①	12	7~14	0.410	0.290	3.48	2600	104.46	2.96	7.26	0.29	39.83		
G1238Y24BPLB1b-7	⑤	24	15~27	0.850	0.500	12.00	4200	167.66	4.75	17.92	0.71	52.99		
G1238X24BPLB1b-7	④	24	15~27	0.630	0.420	10.08	3750	150.71	4.27	15.17	0.60	50.32		
G1238H24BPLB1b-7	③	24	15~27	0.370	0.290	6.96	3250	130.45	3.69	11.14	0.44	46.13		
G1238M24BPLB1b-7	②	24	15~27	0.290	0.200	4.80	2900	115.24	3.26	8.81	0.35	42.96		
G1238L24BPLB1b-7	①	24	15~27	0.180	0.150	3.60	2600	104.46	2.96	7.26	0.29	39.83		
G1238Y48BPLB1b-7	⑤	48	36~57	0.540	0.260	12.48	4200	167.66	4.75	17.92	0.71	52.99		
G1238X48BPLB1b-7	④	48	36~57	0.300	0.210	10.08	3750	150.71	4.27	15.17	0.60	50.32		
G1238H48BPLB1b-7	③	48	36~57	0.180	0.135	6.48	3250	130.45	3.69	11.14	0.44	46.13		
G1238M48BPLB1b-7	②	48	36~57	0.140	0.105	5.04	2900	115.24	3.26	8.81	0.35	42.96		
G1238L48BPLB1b-7	①	48	36~57	0.120	0.077	3.70	2600	104.46	2.96	7.26	0.29	39.83		
													1b: AS IP51	2a: FG 2b: RD 2c: RDb 6: CL IP54, IP56, IP67



1238-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 38mm (4.72 x 4.72 x 1.50in)

5V, 12V, 24V, 48V

104.46~231.53 CFM (2.96~6.56 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

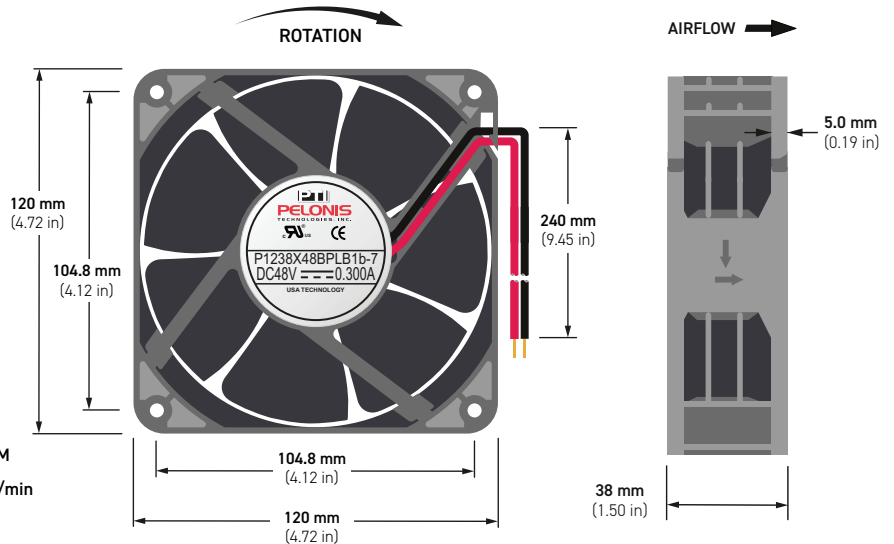
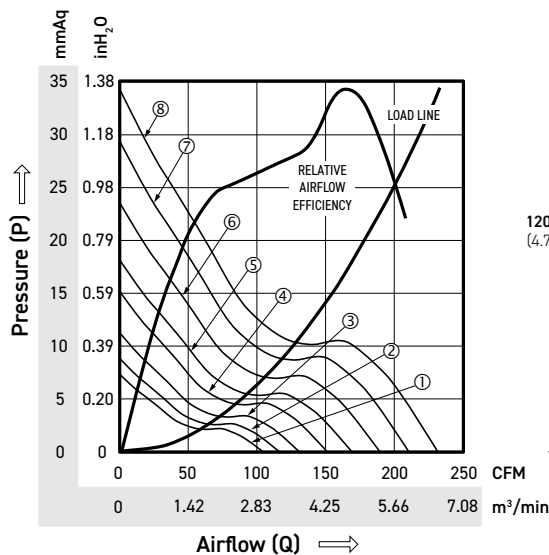
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
P1238Y12BPLB1b-7	⑤	12	8~14	1.770	0.970	11.64	4200	167.66	4.75	17.92	0.71	52.99
P1238X12BPLB1b-7	④	12	8~14	1.440	0.730	8.76	3750	150.71	4.27	15.17	0.60	50.32
P1238H12BPLB1b-7	③	12	8~14	0.860	0.500	6.00	3250	130.45	3.69	11.14	0.44	46.13
P1238M12BPLB1b-7	②	12	8~14	0.640	0.370	4.44	2900	115.24	3.26	8.81	0.35	42.96
P1238L12BPLB1b-7	①	12	8~14	0.410	0.275	3.30	2600	104.46	2.96	7.26	0.29	39.83
P1238Y24BPLB1b-7	⑤	24	15~27	0.850	0.480	11.52	4200	167.66	4.75	17.92	0.71	52.99
P1238X24BPLB1b-7	④	24	15~27	0.630	0.410	9.84	3750	150.71	4.27	15.17	0.60	50.32
P1238H24BPLB1b-7	③	24	15~27	0.370	0.280	6.72	3250	130.45	3.69	11.14	0.44	46.13
P1238M24BPLB1b-7	②	24	15~27	0.290	0.195	4.68	2900	115.24	3.26	8.81	0.35	42.96
P1238L24BPLB1b-7	①	24	15~27	0.180	0.143	3.43	2600	104.46	2.96	7.26	0.29	39.83
P1238Y48BPLB1b-7	⑤	48	36~57	0.540	0.250	12.00	4200	167.66	4.75	17.92	0.71	52.99
P1238X48BPLB1b-7	④	48	36~57	0.300	0.200	9.60	3750	150.71	4.27	15.17	0.60	50.32
P1238H48BPLB1b-7	③	48	36~57	0.180	0.130	6.24	3250	130.45	3.69	11.14	0.44	46.13
P1238M48BPLB1b-7	②	48	36~57	0.140	0.100	4.80	2900	115.24	3.26	8.81	0.35	42.96
P1238L48BPLB1b-7	①	48	36~57	0.120	0.072	3.46	2600	104.46	2.96	7.26	0.29	39.83
K1238X12BPLB1b-7	⑦	12	8~14	2.544	2.100	25.20	5200	208.98	5.92	29.16	1.15	61.89
K1238H12BPLB1b-7	⑥	12	8~14	1.950	1.625	19.50	4700	188.64	5.34	23.30	0.92	57.78
K1238Y24BPLB1b-7	⑧	24	15~27	1.766	1.472	35.33	5800	231.53	6.56	34.17	1.35	65.02
K1238X24BPLB1b-7	⑦	24	15~27	1.207	0.960	23.04	5200	208.98	5.92	29.16	1.15	61.89
K1238H24BPLB1b-7	⑥	24	15~27	0.960	0.640	15.36	4700	188.64	5.34	23.30	0.92	57.78
K1238Y48BPLB1b-7	⑧	48	36~57	0.886	0.750	36.00	5800	231.53	6.56	34.17	1.35	65.02
K1238X48BPLB1b-7	⑦	48	36~57	0.878	0.502	24.10	5200	208.98	5.92	29.16	1.15	61.89
K1238H48BPLB1b-7	⑥	48	36~57	0.509	0.400	19.20	4700	188.64	5.34	23.30	0.92	57.78





1238-11 PL

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 38mm (4.72 x 4.72 x 1.50in)

12V, 24V, 48V

141.98~257.34 CFM (4.02~7.29 m³/min)

Dual Ball Bearings

Frame: Thermoplastic PBT + 30% GF, UL94-V0

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 255±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

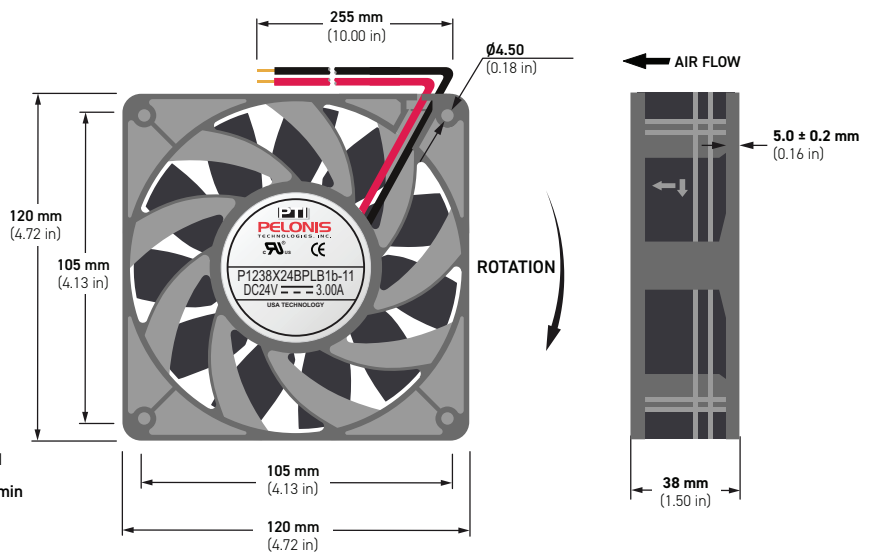
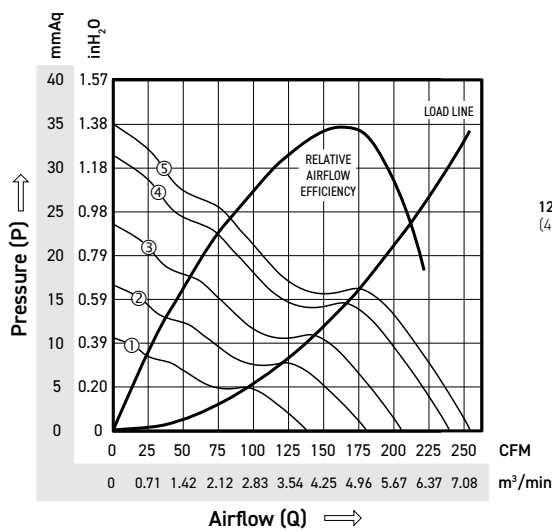
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
P1238X12BPLB1b-11	④	12	8~14	6.500	5.000	60.00	5500	244.03	6.91	31.91	1.26	66.00
P1238H12BPLB1b-11	③	12	8~14	3.500	3.000	36.00	4800	212.97	6.03	24.30	0.96	62.00
P1238M12BPLB1b-11	②	12	8~14	1.950	1.500	18.00	4000	177.47	5.02	16.88	0.66	57.00
P1238L12BPLB1b-11	①	12	8~14	1.240	0.950	11.40	3200	141.98	4.02	10.80	0.42	51.00
P1238X24BPLB1b-11	④	24	15~27	3.000	2.500	60.00	5500	244.03	6.91	31.91	1.26	66.00
P1238H24BPLB1b-11	③	24	15~27	1.450	1.350	32.40	4800	212.97	6.03	24.30	0.96	62.00
P1238M24BPLB1b-11	②	24	15~27	0.820	0.750	18.00	4000	177.47	5.02	16.88	0.66	57.00
P1238L24BPLB1b-11	①	24	15~27	0.500	0.450	10.80	3200	141.98	4.02	10.80	0.42	51.00
P1238Y48BPLB1b-11	⑤	48	36~57	1.600	1.400	67.20	5800	257.34	7.29	35.48	1.40	67.00
P1238X48BPLB1b-11	④	48	36~57	1.250	1.150	55.20	5500	244.03	6.91	31.91	1.26	66.00
P1238H48BPLB1b-11	③	48	36~57	0.820	0.750	36.00	4800	212.97	6.03	24.30	0.96	62.00
P1238M48BPLB1b-11	②	48	36~57	0.450	0.410	19.68	4000	177.47	5.02	16.88	0.66	57.00
P1238L48BPLB1b-11	①	48	36~57	0.280	0.245	11.76	3200	141.98	4.02	10.80	0.42	51.00

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





1238-11 AL

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

120 x 120 x 38mm (4.72 x 4.72 x 1.50in)

12V, 24V, 48V

165.75~277.75 CFM (4.69~7.86 m³/min)

Dual Ball Bearings

Frame: Aluminum

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 240±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

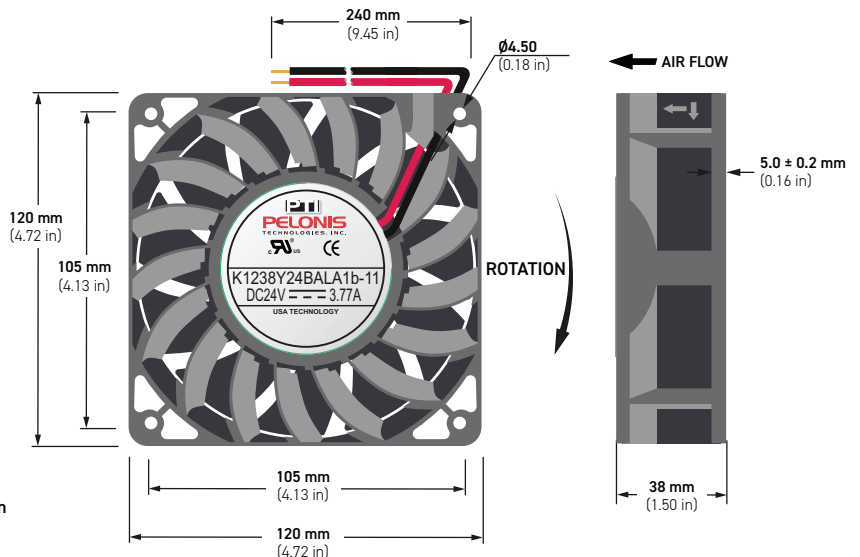
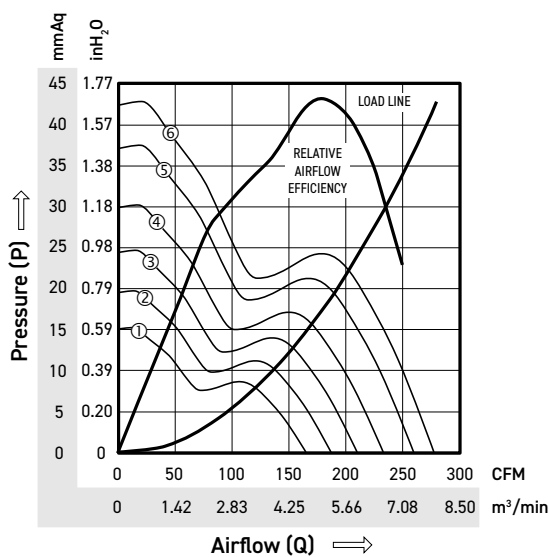
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
K1238M12BALA1b-11	②	12	8~14	3.250	2.400	28.80	4200	188.15	5.33	19.47	0.77	60.00
K1238L12BALA1b-11	①	12	8~14	2.500	1.850	22.20	3700	165.75	4.69	15.11	0.59	56.70
K1238Y24BALA1b-11	⑤	24	15~27	3.770	2.600	62.40	5800	259.83	7.36	37.13	1.46	68.40
K1238X24BALA1b-11	④	24	15~27	2.990	1.900	45.60	5200	232.95	6.60	29.84	1.17	65.50
K1238H24BALA1b-11	③	24	15~27	2.210	1.600	38.40	4700	210.55	5.96	24.38	0.96	62.90
K1238M24BALA1b-11	②	24	15~27	1.690	1.200	28.80	4200	188.15	5.33	19.47	0.77	60.00
K1238L24BALA1b-11	①	24	15~27	1.300	0.950	22.80	3700	165.75	4.69	15.11	0.59	56.70
K1238Z48BALA1b-11	⑥	48	36~57	2.340	1.700	81.60	6200	277.75	7.86	42.43	1.67	70.10
K1238Y48BALA1b-11	⑤	48	36~57	1.880	1.300	62.40	5800	259.83	7.36	37.13	1.46	68.40
K1238X48BALA1b-11	④	48	36~57	1.490	1.000	48.00	5200	232.95	6.60	29.84	1.17	65.50
K1238H48BALA1b-11	③	48	36~57	1.100	0.800	38.40	4700	210.55	5.96	24.38	0.96	62.90
K1238M48BALA1b-11	②	48	36~57	0.840	0.600	28.80	4200	188.15	5.33	19.47	0.77	60.00
K1238L48BALA1b-11	①	48	36~57	0.650	0.475	22.80	3700	165.75	4.69	15.11	0.59	56.70

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67



1725-13

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

172 x 150 x 25mm (6.77 x 5.91 x 0.98in)

12V, 24V, 48V

163.32~272.20 CFM (4.62~7.71 m³/min)

Dual Ball Bearings

Frame: Aluminum

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 22, 230±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

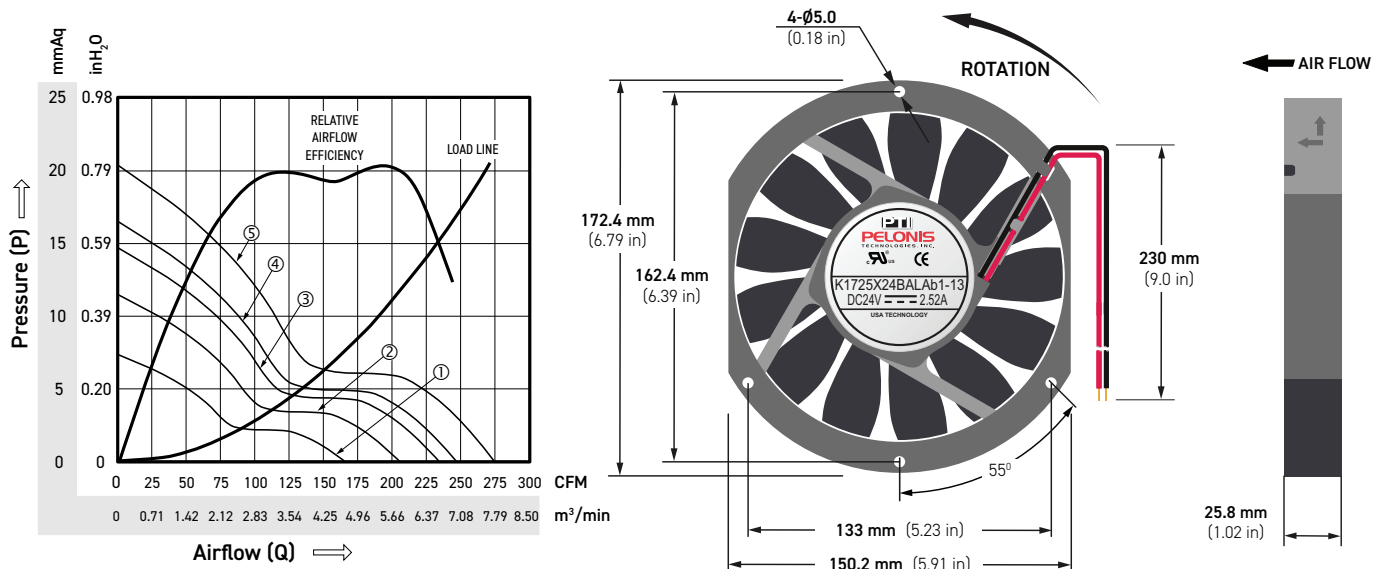
Locked Rotor Protection

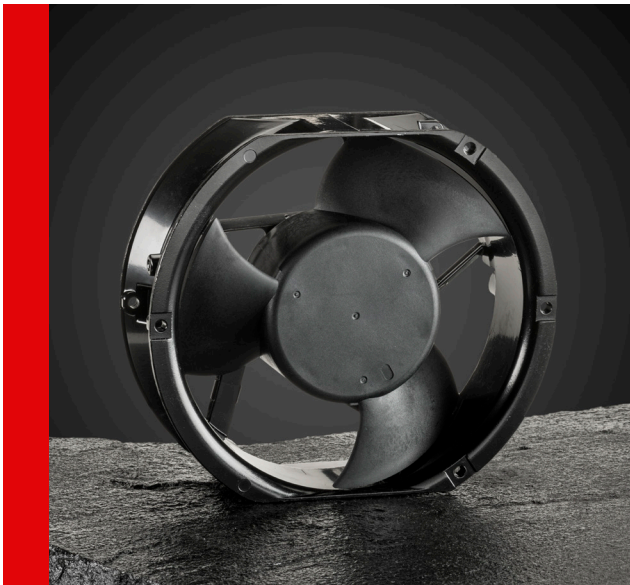
UL, CE, RoHS



CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
K1725H12BALA1b-13	④	12	8~14	3.640	2.250	27.00	3600	244.98	6.93	16.40	0.65	60.05	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
K1725M12BALA1b-13	②	12	8~14	1.372	1.300	15.60	3000	204.15	5.78	11.39	0.45	57.12		
K1725L12BALA1b-13	①	12	8~14	0.784	0.750	9.00	2400	163.32	4.62	7.29	0.29	51.20		
K1725X24BALA1b-13	⑤	24	15~27	2.520	1.450	34.80	4000	272.20	7.71	20.25	0.80	64.00		
K1725H24BALA1b-13	③	24	15~27	0.868	0.850	20.40	3400	231.37	6.55	14.63	0.58	58.00		
K1725M24BALA1b-13	②	24	15~27	0.700	0.650	15.60	3000	204.15	5.78	11.39	0.45	57.12		
K1725L24BALA1b-13	①	24	15~27	0.434	0.400	9.60	2400	163.32	4.62	7.29	0.29	51.20		
K1725X48BALA1b-13	⑤	48	36~57	1.260	0.800	38.40	4000	272.20	7.71	20.25	0.80	64.00		
K1725H48BALA1b-13	③	48	36~57	0.434	0.430	20.64	3400	231.37	6.55	14.63	0.58	58.00		
K1725M48BALA1b-13	②	48	36~57	0.378	0.350	16.80	3000	204.15	5.78	11.39	0.45	57.12		
K1725L48BALA1b-13	①	48	36~57	0.308	0.250	12.00	2400	163.32	4.62	7.29	0.29	51.20		





1751-3

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

172 x 150 x 51 mm (6.77 x 5.91 x 2.00 in)

12V, 24V, 48V

241.46~413.93 CFM (6.84~11.72 m³/min)

Dual Ball Bearings

Frame: Aluminum

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 22, 220±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

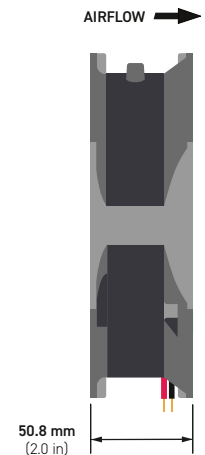
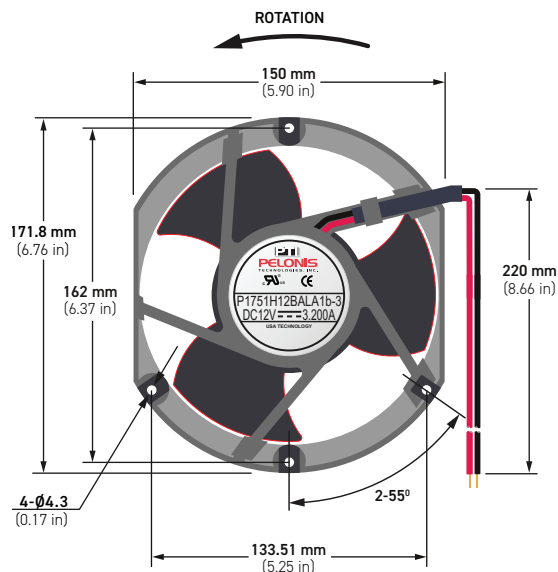
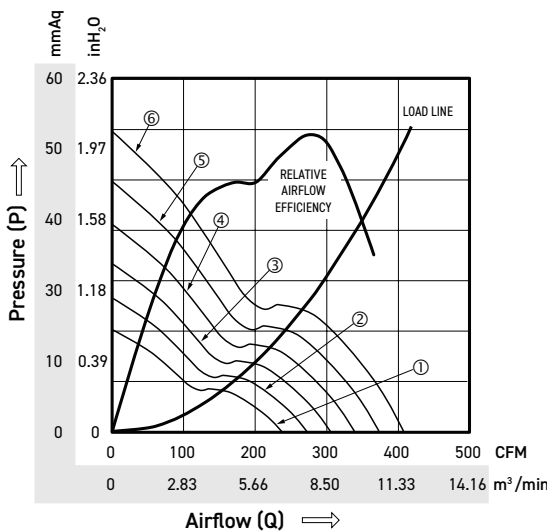
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m ³ /min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
P1751H12BALA1b-3	③	12	8~14	3.200	3.000	36.00	4500	310.45	8.79	28.40	1.12	62.70
P1751M12BALA1b-3	②	12	8~14	2.600	2.400	28.80	4000	275.95	7.81	22.44	0.88	59.60
P1751L12BALA1b-3	①	12	8~14	1.700	1.500	18.00	3500	241.46	6.84	17.18	0.68	57.10
P1751Z24BALA1b-3	⑥	24	15~27	4.000	3.300	79.20	6000	413.93	11.72	50.48	1.99	70.10
P1751Y24BALA1b-3	⑤	24	15~27	2.800	2.500	60.00	5500	379.44	10.74	42.42	1.67	68.00
P1751X24BALA1b-3	④	24	15~27	2.200	2.000	48.00	5000	344.94	9.76	35.06	1.38	65.20
P1751H24BALA1b-3	③	24	15~27	1.600	1.500	36.00	4500	310.45	8.79	28.40	1.12	62.70
P1751M24BALA1b-3	②	24	15~27	1.260	1.100	26.40	4000	275.95	7.81	22.44	0.88	59.60
P1751L24BALA1b-3	①	24	15~27	0.850	0.750	18.00	3500	241.46	6.84	17.18	0.68	57.10
P1751Z48BALA1b-3	⑥	48	36~57	2.000	1.680	80.64	6000	413.93	11.72	50.48	1.99	70.10
P1751Y48BALA1b-3	⑤	48	36~57	1.400	1.300	62.40	5500	379.44	10.74	42.42	1.67	68.00
P1751X48BALA1b-3	④	48	36~57	1.050	0.950	45.60	5000	344.94	9.76	35.06	1.38	65.20
P1751H48BALA1b-3	③	48	36~57	0.800	0.730	35.04	4500	310.45	8.79	28.40	1.12	62.70
P1751M48BALA1b-3	②	48	36~57	0.600	0.520	24.96	4000	275.95	7.81	22.44	0.88	59.60
P1751L48BALA1b-3	①	48	36~57	0.420	0.370	17.76	3500	241.46	6.84	17.18	0.68	57.10

STANDARD	OPTIONAL
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67, IP68





1751-5

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

172 x 150 x 51 mm (6.77 x 5.91 x 2.00 in)

12V, 24V, 48V

179.98~374.35 CFM (5.10~10.60 m³/min)

Dual Ball Bearings

Frame: Aluminum

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 220±10mm

Operating Temperature: -10°C ~ +70°C

Operating Life: 70,000 hours

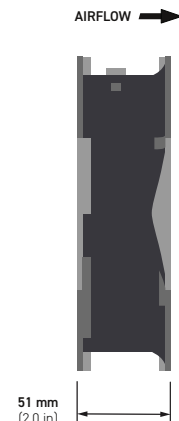
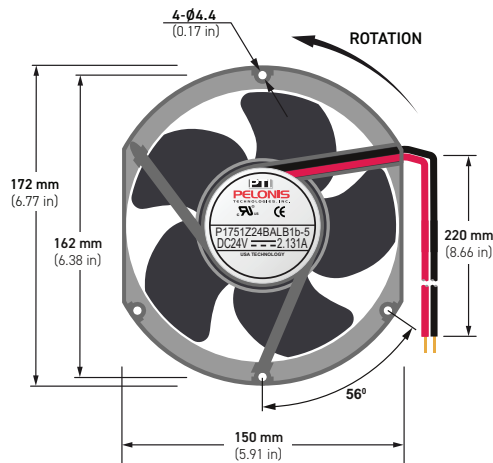
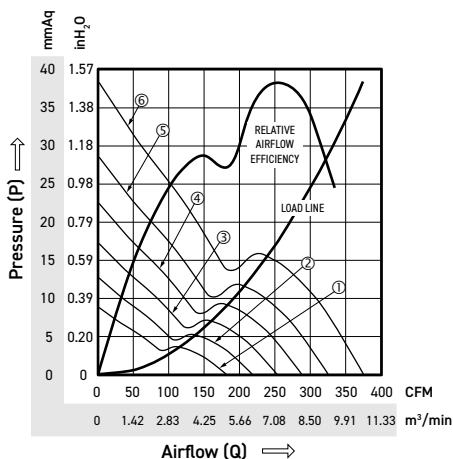
Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q) (CFM)	Airflow (Q) (m³/min)	Pressure (P) (mmAq)	Pressure (P) (inH ₂ O)	Noise (dBA)
G1751H12BALB1b-5	③	12	7~14	2.170	1.512	18.14	3500	251.97	7.13	17.31	0.68	57.70
G1751M12BALB1b-5	②	12	7~14	1.560	0.850	10.20	3000	215.97	6.12	12.72	0.50	53.68
G1751L12BALB1b-5	①	12	7~14	0.670	0.540	0.540	2500	179.98	5.10	8.83	0.35	48.93
G1751Y24BALB1b-5	⑤	24	15~27	2.340	1.200	28.80	4500	323.96	9.17	28.61	1.13	64.24
G1751X24BALB1b-5	④	24	15~27	1.430	0.834	20.02	4000	287.96	8.15	22.61	0.89	61.18
G1751H24BALB1b-5	③	24	15~27	0.980	0.600	14.40	3500	251.97	7.13	17.31	0.68	57.70
G1751M24BALB1b-5	②	24	15~27	0.630	0.420	10.08	3000	215.97	6.12	12.72	0.50	53.68
G1751L24BALB1b-5	①	24	15~27	0.360	0.290	6.96	2500	179.98	5.10	8.83	0.35	48.93
G1751Y48BALB1b-5	⑤	48	36~57	1.100	0.567	27.22	4500	323.96	9.17	28.61	1.13	64.24
G1751X48BALB1b-5	④	48	36~57	0.710	0.410	19.68	4000	287.96	8.15	22.61	0.89	61.18
G1751H48BALB1b-5	③	48	36~57	0.500	0.298	14.30	3500	251.97	7.13	17.31	0.68	57.70
G1751M48BALB1b-5	②	48	36~57	0.390	0.230	11.04	3000	215.97	6.12	12.72	0.50	53.68
G1751L48BALB1b-5	①	48	36~57	0.200	0.164	7.87	2500	179.98	5.10	8.83	0.35	48.93
P1751H12BALB1b-5	③	12	8~14	2.170	1.512	18.14	3500	251.97	7.13	17.31	0.68	57.70
P1751M12BALB1b-5	②	12	8~14	1.560	0.850	10.20	3000	215.97	6.12	12.72	0.50	53.68
P1751L12BALB1b-5	①	12	8~14	0.670	0.540	6.48	2500	179.98	5.10	8.83	0.35	48.93
P1751Z24BALB1b-5	⑥	24	15~27	2.131	1.800	43.20	5200	374.35	10.60	38.21	1.50	68.01
P1751Y24BALB1b-5	⑤	24	15~27	2.340	1.200	28.80	4500	323.96	9.17	28.61	1.13	64.24
P1751X24BALB1b-5	④	24	15~27	1.430	0.834	20.02	4000	287.96	8.15	22.62	0.89	61.18
P1751H24BALB1b-5	③	24	15~27	0.980	0.600	14.40	3500	251.97	7.13	17.31	0.68	57.70
P1751M24BALB1b-5	②	24	15~27	0.630	0.420	10.08	3000	215.97	6.12	12.72	0.50	53.68
P1751L24BALB1b-5	①	24	15~27	0.360	0.290	6.96	2500	179.98	5.10	8.83	0.35	48.93
P1751Z48BALB1b-5	⑥	48	36~57	1.159	0.875	42.00	5200	374.35	10.60	38.21	1.50	68.01
P1751Y48BALB1b-5	⑤	48	36~57	1.100	0.567	27.22	4500	323.96	9.17	28.61	1.13	64.24
P1751X48BALB1b-5	④	48	36~57	0.710	0.410	19.68	4000	287.96	8.15	22.62	0.89	61.18
P1751H48BALB1b-5	③	48	36~57	0.500	0.298	14.30	3500	251.97	7.13	17.31	0.68	57.70
P1751M48BALB1b-5	②	48	36~57	0.390	0.230	11.04	3000	215.97	6.12	12.72	0.50	53.68
P1751L48BALB1b-5	①	48	36~57	0.200	0.164	7.87	2500	179.98	5.10	8.83	0.35	48.93

STANDARD	OPTIONAL
1b: AS IP51	2a: FG 2b: RD 2c: RDb 2d: LD 6: CL 7: CS IP54, IP56, IP67, IP68
1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67





1751-7

BRUSHLESS DC AXIAL FAN
INTELLIGENT MOTION SERIES

172 x 150 x 51 mm (6.77 x 5.91 x 2.00 in)

12V, 24V, 48V

193.86~323.09 CFM (5.49~9.15 m³/min)

Dual Ball Bearings

Frame: Aluminum

Impeller: Thermoplastic PBT + 15% GF, UL94-V0

Lead Wires: UL1007 (+) Red; (-) Black, AWG 24, 220±10mm

Operating Temperature: -10°C ~ +70°C

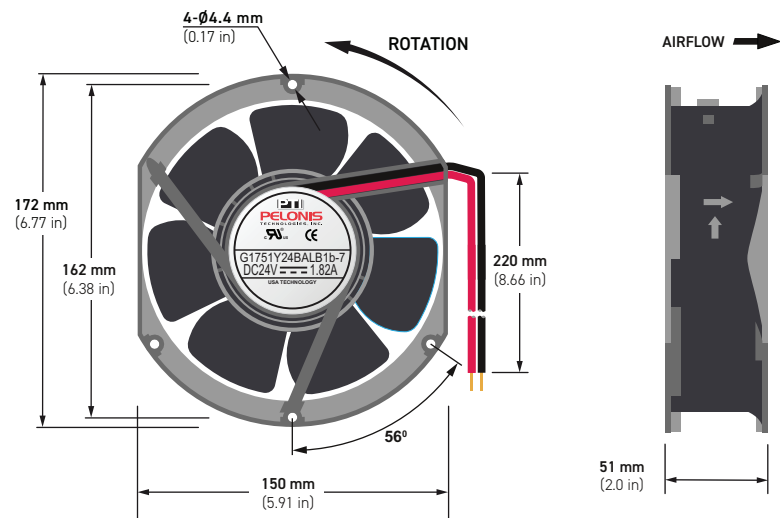
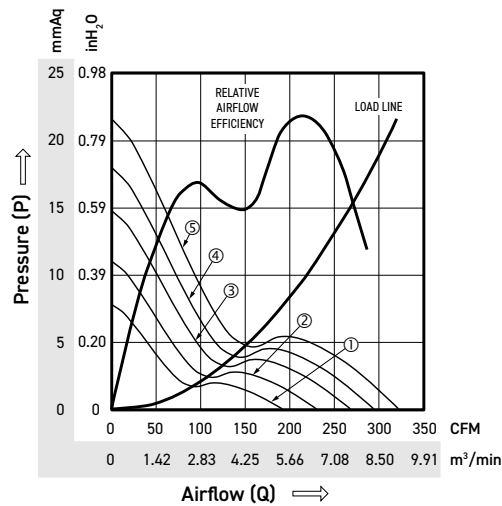
Operating Life: 70,000 hours

Locked Rotor Protection

UL, CE, RoHS

CONTROL FEATURES

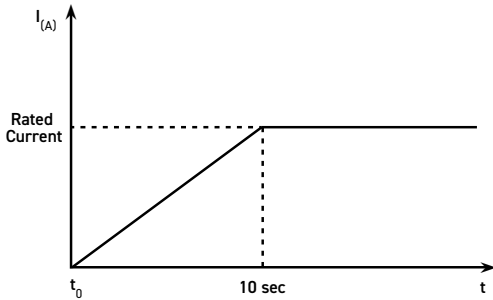
Model Number	Curve	Voltage (V)	Range (VDC)	Label (A)	Current (A)	Power (W)	Speed (RPM)	Airflow (Q)		Pressure (P)		Noise (dBA)	CONTROL FEATURES	
								(CFM)	(m³/min)	(mmAq)	(inH ₂ O)		STANDARD	OPTIONAL
G1751H12BALB1b-7	③	12	7~14	2.250	1.600	19.20	2900	267.71	7.58	14.86	0.59	54.07	1b: AS IP51	2a: FG 2b: RD 2c: RDb 2d: LD 6: CL 7: CS IP54, IP56, IP67, IP68
G1751M12BALB1b-7	②	12	7~14	1.080	1.000	12.00	2500	230.78	6.54	11.04	0.43	50.20		
G1751L12BALB1b-7	①	12	7~14	0.710	0.710	8.52	2100	193.86	5.49	7.79	0.31	45.66		
G1751Y24BALB1b-7	⑤	24	15~27	1.820	1.400	33.60	3500	323.09	9.15	21.64	0.85	58.97		
G1751X24BALB1b-7	④	24	15~27	1.020	0.950	22.80	3200	295.40	8.36	18.09	0.71	56.63		
G1751H24BALB1b-7	③	24	15~27	0.760	0.740	17.76	2900	267.71	7.58	14.86	0.59	54.07		
G1751M24BALB1b-7	②	24	15~27	0.490	0.475	11.40	2500	230.78	6.54	11.04	0.43	50.20		
G1751L24BALB1b-7	①	24	15~27	0.310	0.300	7.20	2100	193.86	5.49	7.79	0.31	45.66		
G1751Y48BALB1b-7	⑤	48	36~57	1.150	0.623	29.90	3500	323.09	9.15	21.64	0.85	58.97		
G1751X48BALB1b-7	④	48	36~57	0.760	0.500	24.00	3200	295.40	8.36	18.09	0.71	56.63		
G1751H48BALB1b-7	③	48	36~57	0.510	0.370	17.76	2900	267.71	7.58	14.86	0.59	54.07		
G1751M48BALB1b-7	②	48	36~57	0.280	0.230	11.04	2500	230.78	6.54	11.04	0.43	50.20		
G1751L48BALB1b-7	①	48	36~57	0.170	0.160	7.68	2100	193.86	5.49	7.79	0.31	45.66		
P1751H12BALB1b-7	③	12	8~14	2.250	1.600	19.20	2900	267.71	7.58	14.86	0.59	54.07	1b: AS IP51	1a: IR 2a: FG 2b: RD 2c: RDb 2d: LD 3a: VPWM 3b: IPWM 3c: PPWM 5a: TPWM 5b: RPWM 6: CL 7: CS IP54, IP56, IP67
P1751M12BALB1b-7	②	12	8~14	1.080	1.000	12.00	2500	230.78	6.54	11.04	0.43	50.20		
P1751L12BALB1b-7	①	12	8~14	0.710	0.710	8.52	2100	193.86	5.49	7.79	0.31	45.66		
P1751Y24BALB1b-7	⑤	24	15~27	1.820	1.400	33.60	3500	323.09	9.15	21.64	0.85	58.97		
P1751X24BALB1b-7	④	24	15~27	1.020	0.950	22.80	3200	295.40	8.36	18.09	0.71	56.63		
P1751H24BALB1b-7	③	24	15~27	0.760	0.740	17.76	2900	267.71	7.58	14.86	0.59	54.07		
P1751M24BALB1b-7	②	24	15~27	0.490	0.475	11.40	2500	230.78	6.54	11.04	0.43	50.20		
P1751L24BALB1b-7	①	24	15~27	0.310	0.300	7.20	2100	193.86	5.49	7.79	0.31	45.66		
P1751Y48BALB1b-7	⑤	48	36~57	1.150	0.650	31.20	3500	323.09	9.15	21.64	0.85	58.97		
P1751X48BALB1b-7	④	48	36~57	0.760	0.500	24.00	3200	295.40	8.36	18.09	0.71	56.63		
P1751H48BALB1b-7	③	48	36~57	0.510	0.370	17.76	2900	267.71	7.58	14.86	0.59	54.07		
P1751M48BALB1b-7	②	48	36~57	0.280	0.230	11.04	2500	230.78	6.54	11.04	0.43	50.20		
P1751L48BALB1b-7	①	48	36~57	0.170	0.160	7.68	2100	193.86	5.49	7.79	0.31	45.66		



1a IR INRUSH CURRENT PROTECTION

OPTIONAL CONTROL FEATURE

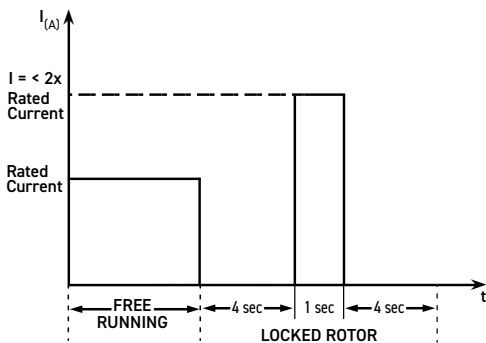
With the Inrush Current Protection (IR) Control, when the power switch is turned on to supply current to the fan, the current is zero and starts to increase gradually until the fan has achieved its maximum speed at the rated current. The maximum current at startup is equal to the free-running current (or less when the rotor stays locked at startup). The fan will achieve the rated speed within 10 seconds. This built-in Control contains no external wire. **End Result Benefit:** Protects from Current surges.



1b AS AUTO RESTART

STANDARD CONTROL FEATURE

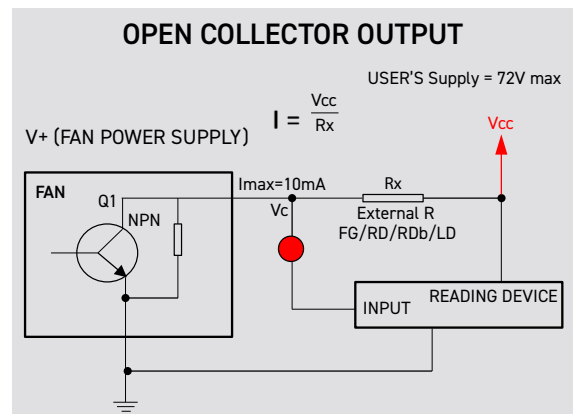
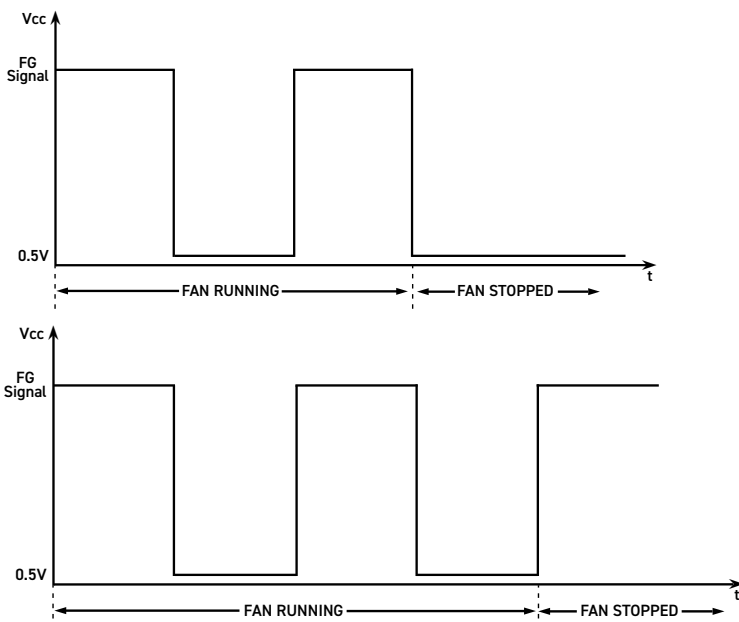
The Auto Restart (AS) Control feature ensures that the fan will automatically restart if the blade is blocked and then released. When the rotor is locked, the fan current is reduced to zero and the fan tries to restart every 5 seconds. This is a built-in Control with no external wire. **End Result Benefit:** Protects automatically if the blade gets blocked.



2a FG TACHOMETER (FREQUENCY GENERATOR)

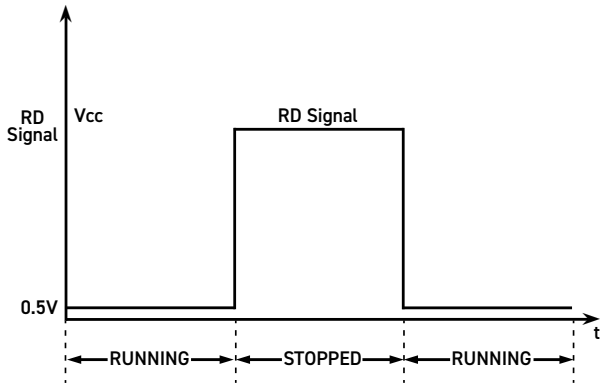
OPTIONAL CONTROL FEATURE

The Frequency Generator (FG) Control is an open collector output type. It provides a square wave signal if the open collector is connected to a "PULL UP" resistor and is powered by the power supply voltage which is compatible with the input of the reading device (such as TTL input of the computer etc.). The maximum collector voltage may be up to 72V DC and the maximum collector current is 10mA. The reading device's power supply must have the same ground potential as the fan. The FG Control is an external YELLOW wire. **End Result Benefit:** Monitors the fan's running speed.



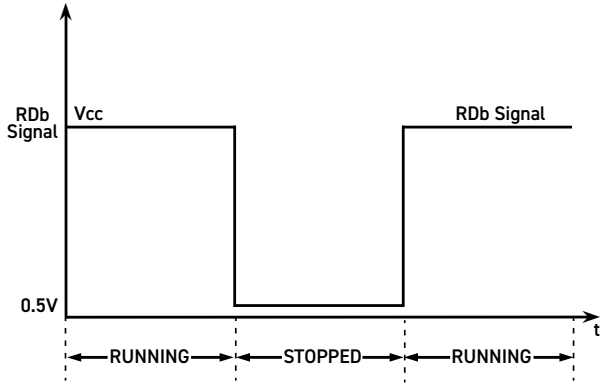
2b RD ROTATION DETECTION **OPTIONAL CONTROL FEATURE**

The Rotation Detection (RD) Control is an open collector type. It contains the same hardware as the Frequency Generator Control 2a. The output signal is LOW when the fan is rotating and is set HIGH when the fan is stopped or is powered OFF. The RD Control is an external GRAY wire. **End Result Benefit:** Indicates if the blade is rotating (LOW signal).



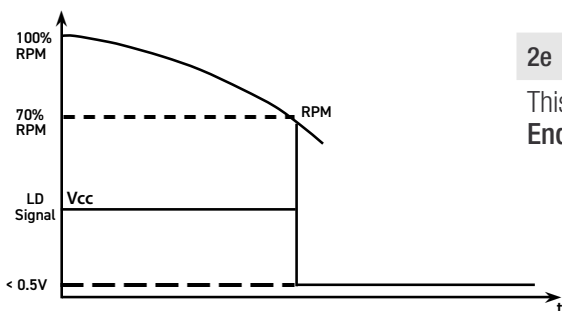
2c RDb ROTATION DETECTION COMPLEMENT **OPTIONAL CONTROL FEATURE**

The Rotation Detector Complement (RDb) Control is an open collector type with the same hardware as the Frequency Generator Control 2a. The output signal is HIGH when the fan is rotating and is set LOW when the fan is stopped or is powered OFF. This output can be connected in parallel to the RDb of an array of fans that ends at a single alarm device to warn when any fan has stopped (see the Multi-Fan Alarm Connection on page 63). The RDb Control is an external VIOLET wire. **End Result Benefit:** Indicates if the blade is rotating (HIGH signal).



2d LD LIFE DETECTION **OPTIONAL CONTROL FEATURE**

The Life Detection (LD) Control is an open collector type with the same hardware as the Frequency Generator Control 2a. The output signal is HIGH when the fan is rotating normally and it is LOW when the fan is turning below 70% of its rated target speed. Slow rotation may indicate aging or wear of the fan or reduced power supply voltage. The LD Control is a BROWN external wire. **End Result Benefit:** Indicates if the blade is rotating (HIGH signal).



2e LDb LIFE DETECTION COMPLEMENT **OPTIONAL CONTROL FEATURE**

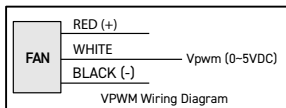
This function is the complement of the LD Control applied in one fan. **End Result Benefit:** Indicates if the blade is rotating (LOW signal).

3a VPWM DC VOLTAGE SIGNAL CONTROL

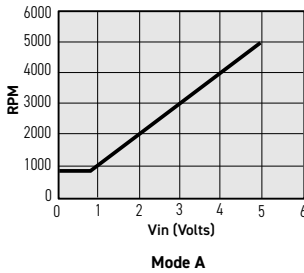
OPTIONAL CONTROL FEATURE

The DC Voltage Signal (VPWM) Control adjusts the speed when applying an external DC Voltage signal. This voltage input “Vin” may have any value from 1V to 20V (standard value is 1V to 5V). The blower speed will vary linearly and is proportional to the % change of the “Vin” value, corresponding to the same % change of the maximum speed.

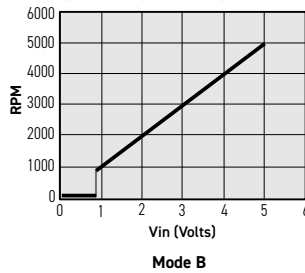
The Constant Speed (CS), Inrush Current Protection (IR), and Current Limit (CL) controls are included. The part number is followed by additional identification entry such as V 1 5 20 100 C 500: This means the fan speed will be 1,000 RPM (20%) at 1V and 5,000 RPM (100%) at 5V. The fan will maintain the minimum speed if Vin < 1V and it will stop if Vin < 0.5V (Mode “C” operation). The maximum fan speed is 5,000 RPM, and the stop point is typically set at 20% of the maximum. The VPWM Control is an external WHITE wire. (See Mode A, B, C) Slope: 1,000 RPM/Volt. **End Result Benefit:** Controls speed via an external DC voltage signal.



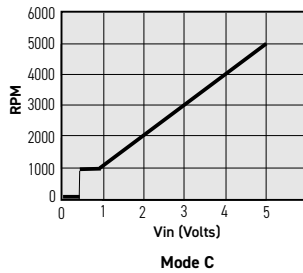
VPWM-pos-slope 2008/7/16
RPM: 882 to 5000
Vs: 1.8 to 10 Volts
VPWM 1.8 10 18 100 A 500
MODE: TYPE- A change @: -0.2 V
ST 12% 1.65 D 0.2 F 2 C



VPWM-pos-slope 2008/7/16
RPM: 882 to 5000
Vs: 1.8 to 10 Volts
MODE: TYPE- B change @: 1.78 V
VPWM 1.8 10 18 100 B 500
ST 12% 1.65 D 0.2 F 2 C



VPWM-pos-slope 2008/7/16
RPM: 882 to 5000
Vs: 1.8 to 10 Volts
VPWM 1.8 10 18 100 C 500
MODE: TYPE- C change @: 0.8 V
ST 12% 1.65 D 0.2 F 2 C



* Select from Mode A, Mode B, or Mode C, or specify required function.

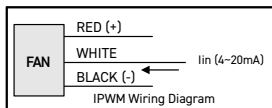
3b IPWM CURRENT SOURCE SIGNAL CONTROL

OPTIONAL CONTROL FEATURE

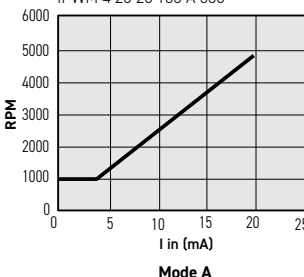
The Current Source Signal (IPWM) Control adjusts the speed by applying an external Current Source Signal. This current input “Iin” may have any value from 4 mA to 50 mA, (standard value is 4 to 20mA). The fan speed will vary linearly and is proportional to the % change of the Iin value, corresponding to the same % change of the maximum speed.

The Constant Speed (CS), Inrush Current Protection (IR), and Current Limit (CL) controls are included. The part number is followed by additional identification entry such as I 4 20 20 100 A 500. This means that the fan speed will be 1,000 RPM (20%) at 4mA and 5,000 RPM (100%) at 20mA. The fan will maintain the minimum speed if Iin < 4mA (Mode “A” operation). The maximum fan speed is 5,000 RPM. The IPWM Control is an external WHITE wire. (See Mode A, B, C) Slope: 266 RPM/mA.

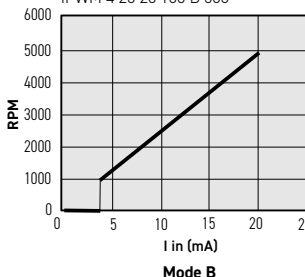
End Result Benefit: Controls speed via an external Current source signal.



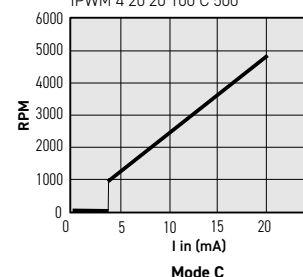
IPWM
RPM: 1000 ~ 5000
I in: 4.0 ~ 20.0mA
MODE: TYPE-A Stop @: 0.0mA
IPWM 4 20 20 100 A 500



IPWM
RPM: 1000 ~ 5000
I in: 4.0 ~ 20.0mA
MODE: TYPE-B Stop @: 4.0mA
IPWM 4 20 20 100 B 500



IPWM
RPM: 1000 ~ 5000
I in: 4.0 ~ 20.0mA
MODE: TYPE-C Stop @: 1.96mA
IPWM 4 20 20 100 C 500



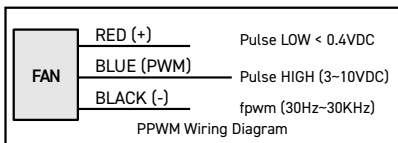
* Select from Mode A, Mode B, or Mode C, or specify required function.

3c PPWM PULSE WIDTH MODULATION SIGNAL CONTROL

OPTIONAL CONTROL FEATURE

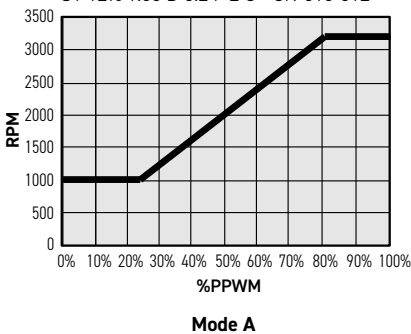
The Pulse Width Modulation Signal (PPWM) Control adjusts the speed by applying a pulse width modulated signal. The frequency may be in the range of 30 Hz to 30 KHz. The maximum pulse height “HIGH” may be from 3V to 10V. The maximum pulse height “LOW” is 0.4V. The fan speed will vary linearly and is proportional to the % change of the Duty Cycle value, corresponding to the same % change of the maximum speed.

The Constant Speed (CS), Inrush Current Protection (IR), and Current Limit (CL) controls are included. The part number is followed by additional identification entry such as P 25 80 25 80 C 393 Cs320. This means that the fan speed will be 1,000 RPM (25%) at 25% Duty Cycle and 3,200 RPM (80%) at 80% Duty Cycle. Furthermore, the fan will maintain the minimum speed if the Duty Cycle is less than 25% (Mode “A” operation). The maximum possible fan speed is 4,000 RPM. (See Mode A, B, C) Slope: 36.4 RPM/%P-**WM. End Result Benefit:** Controls speed by applying a PWM signal 30Hz to 30KHz.



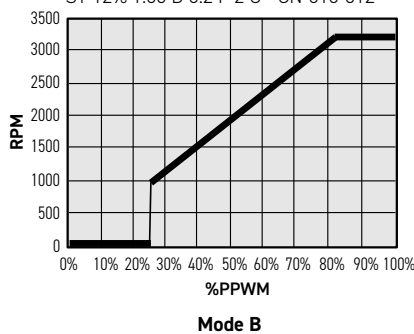
PPWM-pos-slope 2008/7/15

RPM: 988 to 3200
 %PPWM 24.7% to 80.0%
 MODE: TYPE- A change @: -2.0%
 PPWM 24.8 80 25 80 A 320 CN-010-012
 ST 12% 1.65 D 0.2 F 2 C - CN-010-012



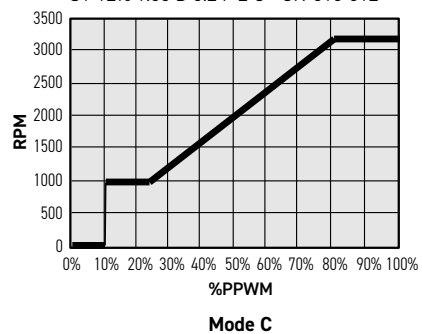
PPWM-pos-slope 2008/7/15

RPM: 988 to 3200
 %PPWM 24.7% to 80.0%
 MODE: TYPE- B change @: 25.0%
 PPWM 24.8 80 25 80 B 320 CN-010-012
 ST 12% 1.65 D 0.2 F 2 C - CN-010-012



PPWM-pos-slope 2008/7/15

RPM: 988 to 3200
 %PPWM 24.7% to 80.0%
 MODE: TYPE- C change @: 10.0%
 PPWM 24.8 80 25 80 C 320 CN-010-012
 ST 12% 1.65 D 0.2 F 2 C - CN-010-012



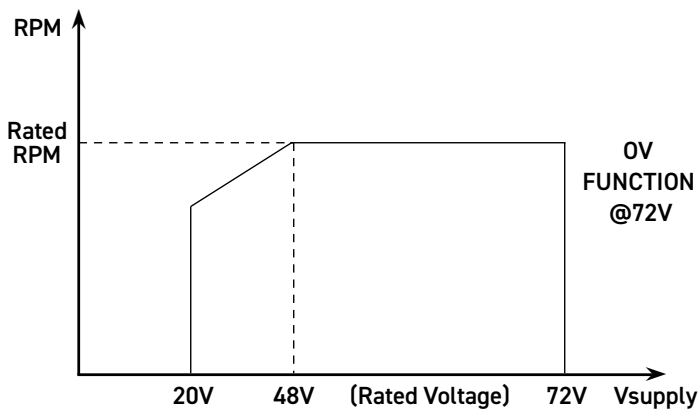
* Select from Mode A, Mode B, or Mode C, or specify required function.

4 OV OVER VOLTAGE PROTECTION

OPTIONAL CONTROL FEATURE

This Over-Voltage Protection (OV) Control detects the power supply voltage and allows operation up to the rated maximum operating voltage. Typically, the maximum operating voltage is 20% over the specified rated voltage (unless otherwise specified).

If the power supply voltage increases over the 20% limit, the fan will stop running and the power supply current will be reduced to essentially zero. The maximum over-voltage protection range is twice the value of the rated voltage. For example, if the rated voltage is 24V, the maximum voltage that can be applied accidentally is 48V. The same applies to a 12V blower; the maximum applied over-voltage is 24V. The OV Control comes built-in with no external wire. **End Result Benefit:** Protects from power supply over-voltage.



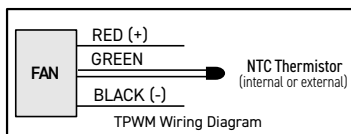
5a TPWM AUTOMATIC TEMPERATURE CONTROL

OPTIONAL CONTROL FEATURE

When the Automatic Temperature (TPWM) Control is applied, the upper and lower temperatures may be selected as well as the choice of maintaining the minimum RPM below the minimum temperature chosen. The Constant Speed (CS), Inrush Current Protection (IR), and Current Limit (CL) controls are included.

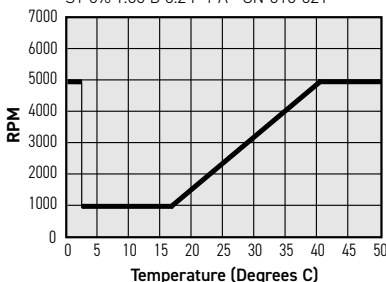
The NTC thermistor is a 104J (100K @ 25 °C) type and is included with the fan (either “built-in” or external). The part number is followed by additional identification entry such as T 16 40 20 100 A 500. This means that the fan speed will be 1,000 RPM (20%) at 16 °C and 5,000 RPM (100%) at 40 °C. The fan will maintain the minimum speed of 1,000 RPM below the temperature of 16 °C (Mode “A” operation). For safety reasons, if the NTC thermistor is OPEN or SHORTED, the fan will run at its maximum speed. The TPWM Control is an external GREEN wire. Mode A, B, and C show the three available modes of control.

End Result Benefit: Controls speed automatically via a temperature sensor.



TPWM (ntc to GND) 07/16/08

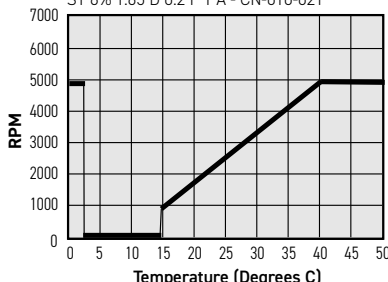
RPM: 1000 to 5000
 MODE: A
 TPWM (ntc to GND) 15 40 20 100 A 500
 Temp.(°C) 15.0 to 40.0
 ST 6% 1.65 D 0.2 F 1 A - CN-010-021



Mode A

TPWM (ntc to GND) 07/16/08

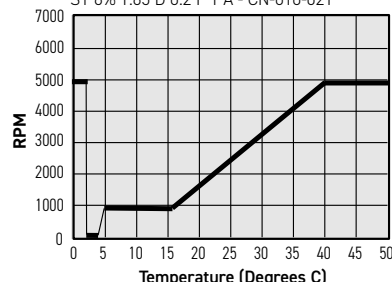
RPM: 1000 to 5000
 MODE: B
 TPWM (ntc to GND) 15 40 20 100 B 500
 Temp.(°C) 15.0 to 40.0
 ST 6% 1.65 D 0.2 F 1 A - CN-010-021



Mode B

TPWM (ntc to GND) 07/16/08

RPM: 1000 to 5000
 MODE: C Stop @: 5 °C
 TPWM (ntc to GND) 15 40 20 100 C 500
 Temp.(°C) 15.0 to 40.0
 ST 6% 1.65 D 0.2 F 1 A - CN-010-021



Mode C

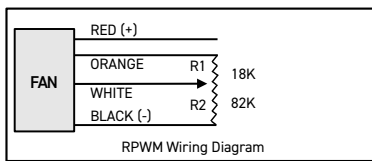
* Select from Mode A, Mode B, or Mode C, or specify required function.

5b RPWM MANUAL VARIABLE RESISTOR CONTROL **OPTIONAL CONTROL FEATURE**

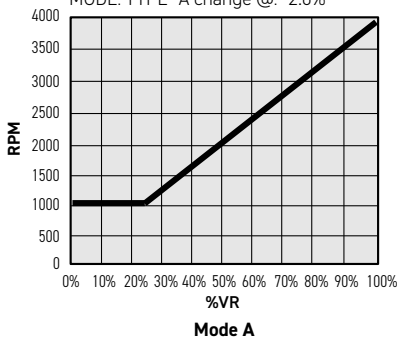
With the Manual Variable Resistor (RPWM) Control, the speed can be controlled using an external variable resistor. This resistor may have any maximum value from 10K to 100K. The fan speed will vary linearly and is proportional to the % change of the resistor value, corresponding to the same % change of the maximum speed.

The Constant Speed (CS), Inrush Current Protection (IR), and Current Limit (CL) controls are included. The part number is followed by additional identification entry such as R 25 100 25 100 B 400. This means if VR = 100K, the blower speed will be 1,000 RPM (25%) at VR = 25K and 4,000 RPM. (100%) at VR = 100K. The fan will stop if VR < 25K (Mode “B” operation). The maximum fan speed is 4,000 RPM. The RPWM Control is an external ORANGE and WHITE wire. (See Mode A,B, C) Slope: 40 RPM / %R, (If VR=10K: 400 RPM/KΩ, If VR=50K: 80 RPM/KΩ).

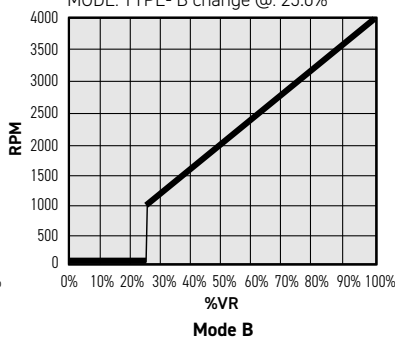
End Result Benefit: Controls speed manually via an external resistor.



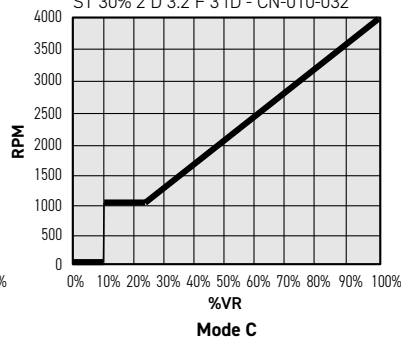
RPWM-pos-slope 2008/7/16
 RPM: 988 to 4000
 %R= 24.7% to 100.0%
 RPWM 24.8 100 25 100 A 400
 ST 12% 1.65 D 0.2 F 2 C - CN-010-013
 MODE: TYPE- A change @: -2.0%



RPWM-pos-slope 2008/7/16
 RPM: 988 to 4000
 %R= 24.7% to 100.0%
 RPWM 24.8 100 25 100 B 400
 ST 12% 1.65 D 0.2 F 2 C - CN-010-013
 MODE: TYPE- B change @: 25.0%



RPWM-pos-slope 2008/7/16
 RPM: 988 to 4000
 %R= 24.7% to 100.0%
 MODE: TYPE- C change @: 10%
 RPWM 24.8 100 25 100 C 400
 ST 30% 2 D 3.2 F 3 D - CN-010-032

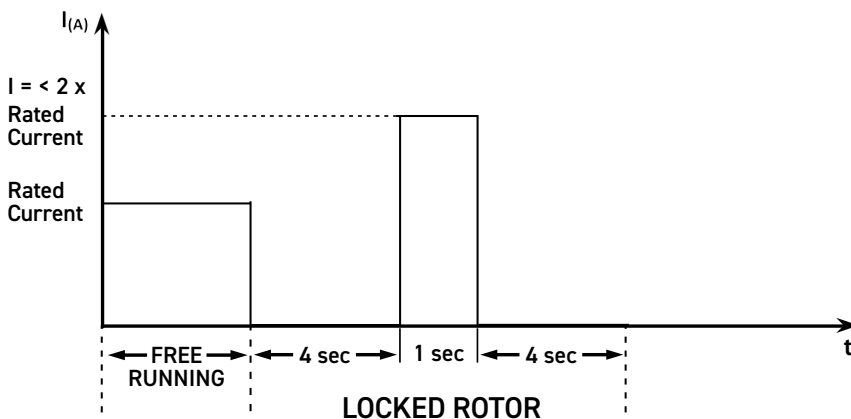


* Select from Mode A, Mode B, or Mode C, or specify required function.

6 CL CURRENT LIMIT CONTROL **OPTIONAL CONTROL FEATURE**

With the Current Limit (CL) Control, the current is limited during the start or restart (AS) period (refer to the Auto Restart feature on page 6). The CL Control comes built-in with no external wire.

End Result Benefit: Limits Current during start or restart period.

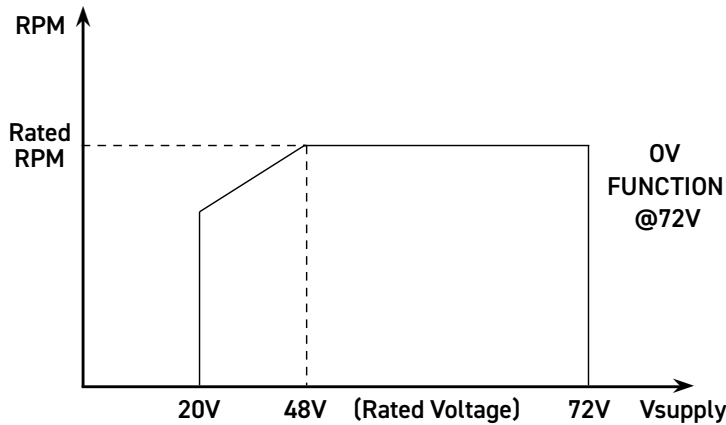


7 CS_f FIXED CONSTANT SPEED

OPTIONAL CONTROL FEATURE

The Fixed Constant Speed (CS_f) Control allows the fan to operate safely over a very large power supply voltage range. For example, if the fan is designed to run at 4,200 RPM at the rated voltage of 48 Volts, the fan will maintain the same RPM even when the supply voltage varies from 48 to 72 Volts.

The fixed CS Control is preset internally and the maximum RPM is the rated RPM. The Fixed CS Control is built-in with no external wire. **End Result Benefit:** Maintains a constant speed over a wide voltage range.

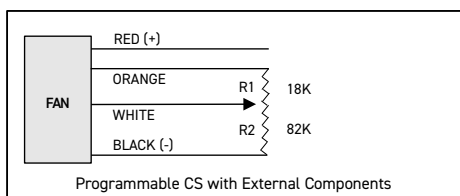


7a CS_p PROGRAMMABLE CONSTANT SPEED

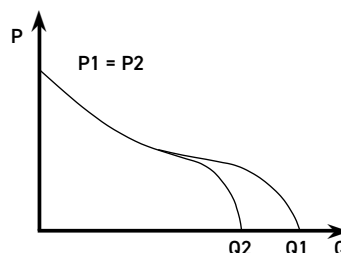
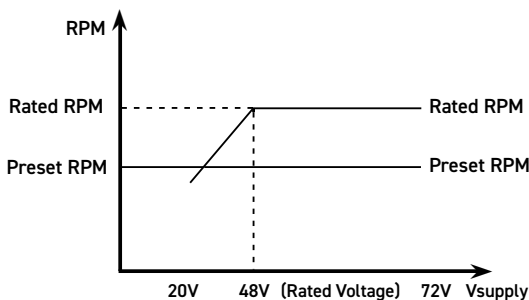
OPTIONAL CONTROL FEATURE

The Programmable Constant Speed (CS_p) Control can be implemented by the use of the RPWM Control. For example, if the external resistor is made up by an 82K and an 18K resistor, then the center point of these resistors will be the input which will determine that 82% of the rated speed will be the maximum speed of the modified fan (if the resistor ends are reversed, then 18% of the rated speed will be the new maximum speed).

The resistor ends are tied to the ORANGE and BLACK wires and the center point is tied to the WHITE input wire. A very important use of this control is to overcome system impedance variations. The fan can be programmed to run at 20% lower of the rated speed at zero pressure. When the fan's static pressure is increased, the fan will be able to maintain the same speed under maximum pressure, thus becoming immune to system impedance variations. The Programmable CS Control is an external ORANGE and WHITE wire. **End Result Benefit:** Maintains a constant speed over a wide voltage range.



Q1 is the maximum airflow without CS adjustment.
 Q2 is the maximum airflow reduced with R1 and R2 setup.
 P2, P1 when the maximum speed is selected to set Q2 at about 80% of Q1.



MULTI-FAN ALARM CONNECTION

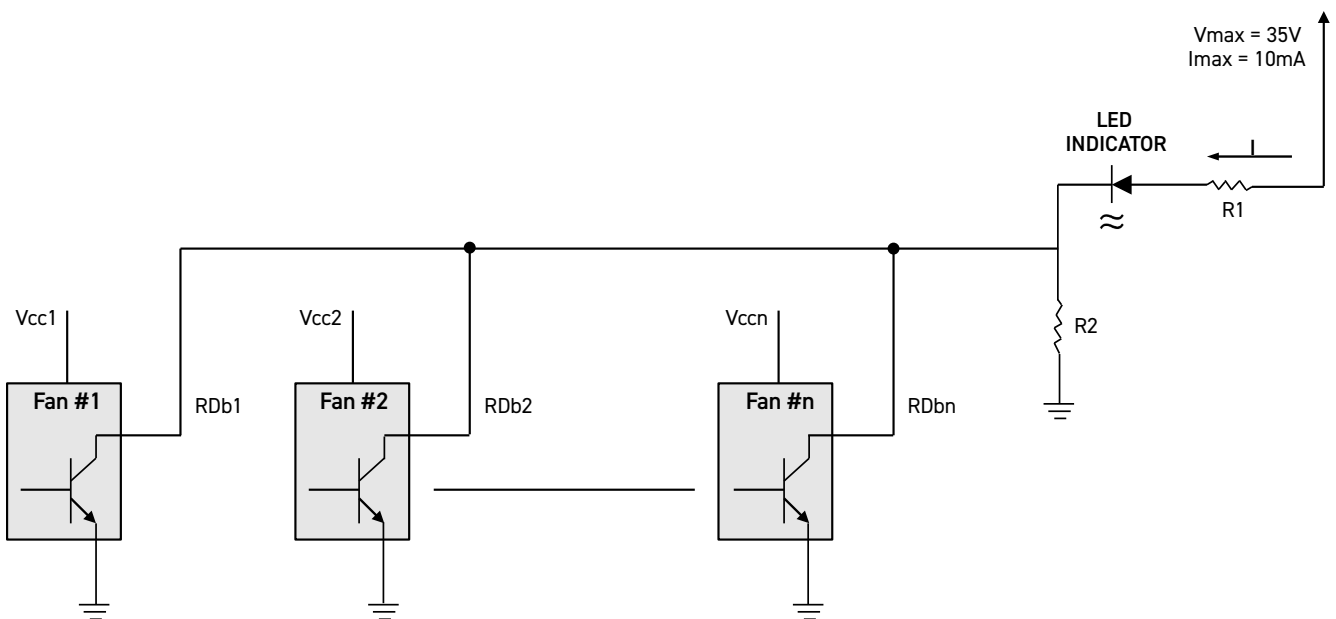
OPTIONAL CONTROL FEATURE

When multiple fans are used in an application, it is critical to monitor the proper running state of the fans. It is practical to have a single alarm (sound or light) that will indicate when any of the fans have stopped running.

Every fan can include the Rotation Detector Complement (RDb) Control in order to combine the multi-alarm function to a single alarm indicator. The diagram below shows how to connect the multi-alarm any number of fans of any model equipped with the RDb Control cascaded (maximum 100 fans).

NOTE: If the engineer wants to connect to a voltage higher than 35V for his alarm signal, an R2 resistor may be added. If the fans have the Life Detection (LD) Control output and one fan runs below 70% of its rated speed, the alarm will be activated.

End Result Benefit: Monitors the running state of multiple fans.



INGRESS PROTECTION (IP)

Ingress Protection (IP) indicates the level of protection against intrusion from dust and moisture.

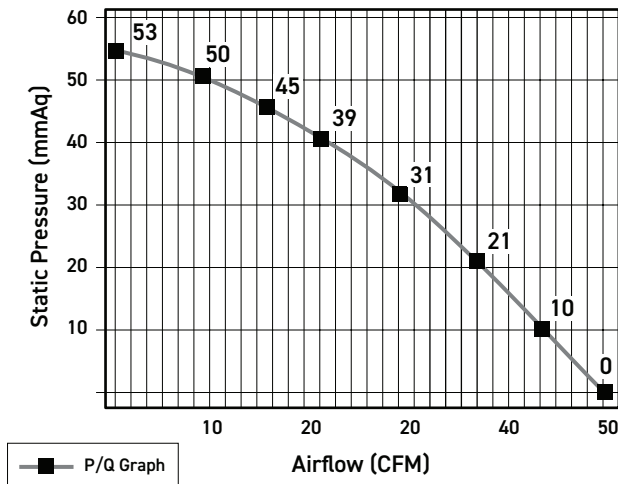
IP51 (standard)	: Limited protection from dust and condensation.
IP54 (optional)	: Protection from dust and water spray from any direction.
IP56 (optional)	: Protection from dust and high pressure water jets from any direction.
IP67 (optional)	: Total protection from dust and water immersion.
IP68 (optional)	: Total protection from dust and water submersion.

HOW TO MEASURE THE IMPEDANCE OF YOUR SYSTEM

The measurement of the system's impedance and the selection of the appropriate fan can be illustrated by the following example:

Let us use a series 1232 blower with the following PQ characteristics:

P1232Y12BACB7b PQ Characteristics



- A. Calculate the airflow through your system by applying the blower in your system and by measuring the incoming and outgoing airflow temperatures as follows:

$$\text{Airflow in CFM} = \frac{1.76 \times P}{T_2 - T_1}$$

Where: P = Input power into your system (e.g. 1000W)
 T₂ = Outgoing airflow temperature in °C (e.g. 59.1°C)
 T₁ = Incoming airflow temperature in °C (e.g. 20°C)
 Then, calculate the test result: Airflow = 45 CFM

- B. Refer to the PQ characteristic of the fan or blower to determine the static pressure of your system at the measured airflow. The pressure can be determined from the PQ graph above to be 6 mmAq, for the calculated airflow in A of 45 CFM.
- C. From the temperature specifications of your equipment, calculate the temperature difference T₂-T₁ where: T₁ is the typical room temperature (e.g. 25° C) and T₂ is the maximum allowable operating temperature of the equipment (e.g. 60° C). Therefore, T₂-T₁= 35° C. Assuming that you are powering your system with 1000W, necessary airflow can be calculated using the formula shown in A as follows:

$$\text{Airflow in CFM} = \frac{1.76 \times 1000}{35} = 50.3 \text{ CFM}$$

- D. For the purposes of the example used here, the appropriate fan to be selected for this application should be able to deliver a minimum of 50.3 CFM at a minimum static pressure of 6mmAq. For safety reasons and to allow for higher room temperature, referring to the product catalog, we can select model P1232Y that can deliver 64 CFM at 6 mmAq with 4200 RPM, or model P1238X that can deliver 63 CFM at 6 mmAq with 3650 RPM. We can further consider the noise level and product life.

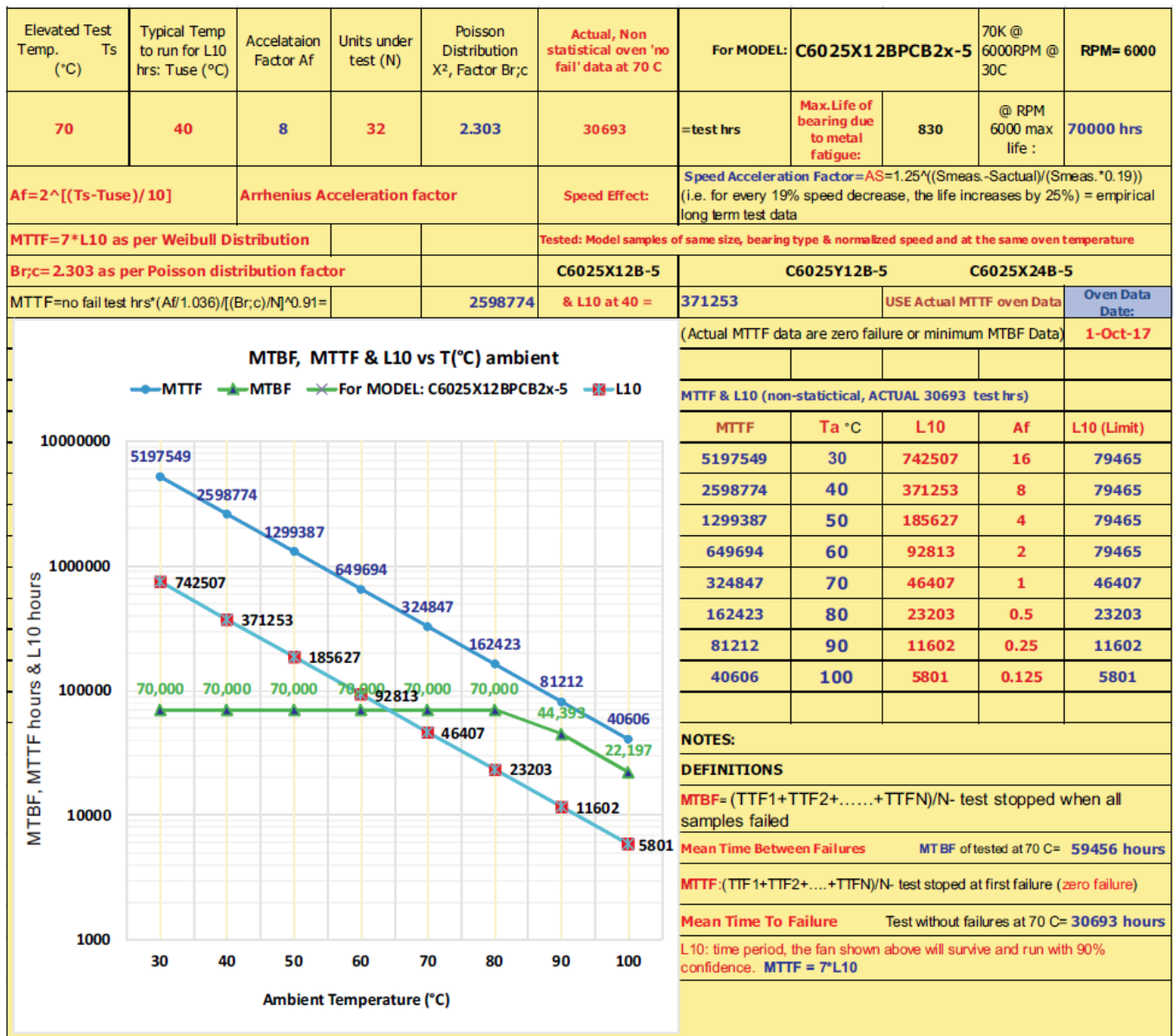
In this case, model P1238X will be the optimum solution for the system outlined in the above example (See also "SELECTION OF A COOLING FAN" on page 1 and "AIRFLOW EFFICIENCY OF A FAN MOTOR" on pages 67-69).

METHOD OF DETERMINING LIFE EXPECTANCY

The life expectancy of a fan is limited by the following:

1. The **temperature** of the motor (i.e. Ambient temperature plus Temperature Rise of the motor) - for every 10°C increase of temperature, its life is decreased by 50%.
2. The **running speed** of the motor (for every 19% increase of speed, its life is decreased by 25%).
3. The **metal fatigue** of the bearing system used (e. g. The maximum bearing life is 70,000 hrs when the fan is running at 6000RPM as shown in the example below).
4. The **life of the electrolytic capacitor** whose value is decreased by 50% with every 10°C of temperature increase.

Below is a sample of MTBF (Mean Time Between Failure) calculation for fan model C6025X12BPCB2b-5. The calculation is based on tested samples C6025X12B-5, C6025Y12B-5, and C6025X24B-5. These models use the same size and the same bearing system and are tested at the same 70°C oven.



FAN MOTOR EFFICIENCY

The efficiency of a system is defined as $\eta = \text{Out Power} / \text{Input power}$

In the case of a motor, the incoming power in horsepower terms is expressed in electric power of watts equivalent to 746 W/hp (watts/horsepower) and the output power is in units of energy/second.

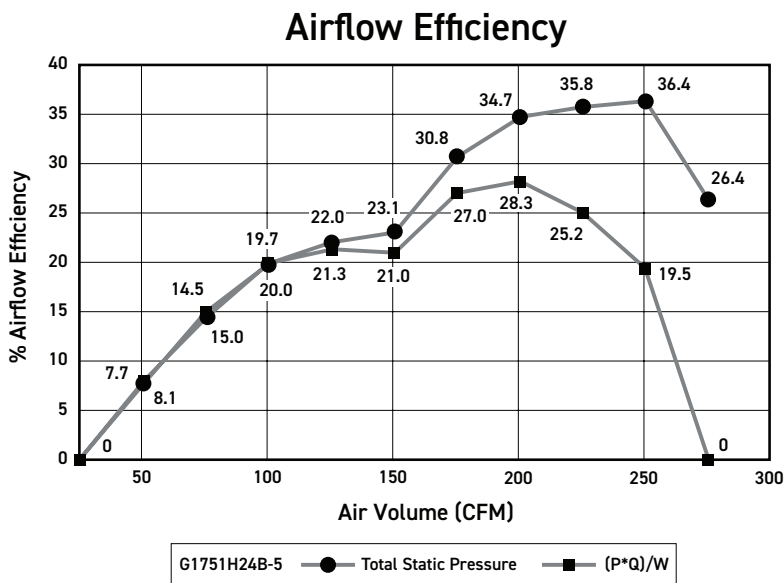
In the case of fans, the efficiency of the fan motor is measured in 2 different ways:

A. $(\eta = P*Q / W) = (\text{Pressure*Air Volume} / \text{Input Power}) = (\text{Output Power} / \text{Input Power})$

Where: P*Q is air flow power expressed in Watts if P is in Pascal (Pa), Q is the airflow in m³/sec and the Input Power is expressed in Watts.

The figure of efficiency varies according to the operating point of the fan. When there is no obstacle in the airflow (i.e. free air condition), we have the maximum airflow but the pressure presented to the airflow is zero. As a result, no actual benefit is provided and at this point the efficiency is zero. Likewise, when the airflow is totally blocked by closing the exhaust opening of the fan in which case we have the maximum pressure but zero airflow, the system's efficiency is also zero.

Below is a typical efficiency graph for fan model G1751H24B-5 indicating that the fan motor's efficiency for all the points from zero airflow-max pressure and zero pressure-max airflow.



The units of measurement are:

Pressure in Pa (Pascal)

Air Volume: Q in m³/second

Input power is expressed in Watts

$[\eta = P*Q/W * 100\%]$

The above fan has peak airflow efficiency of 36.88% running at 3553 RPM and delivering 250.70 CFM. The free air, air volume of this fan is 280.1 CFM

B. $(\eta = P_t*Q / W)$, where: $P_t = P_s + P_d$

Where: P_s = Static Pressure

$P_d = m*V^2/2$ = dynamic pressure of the airflow

m = density of the air in kg/m³

V = is the airvelocity through the Blow Area in m/s

Blow area S in m² is the air exhaust area including the hub area.

$V = Q/S$ = Air volume / Blow area (where Air Volume Q is expressed in m³ / second)

Therefore $P_t = P_s + m*V^2/2 = P_s + [m*(Q/S)^2]/2$

AIRFLOW EFFICIENCY

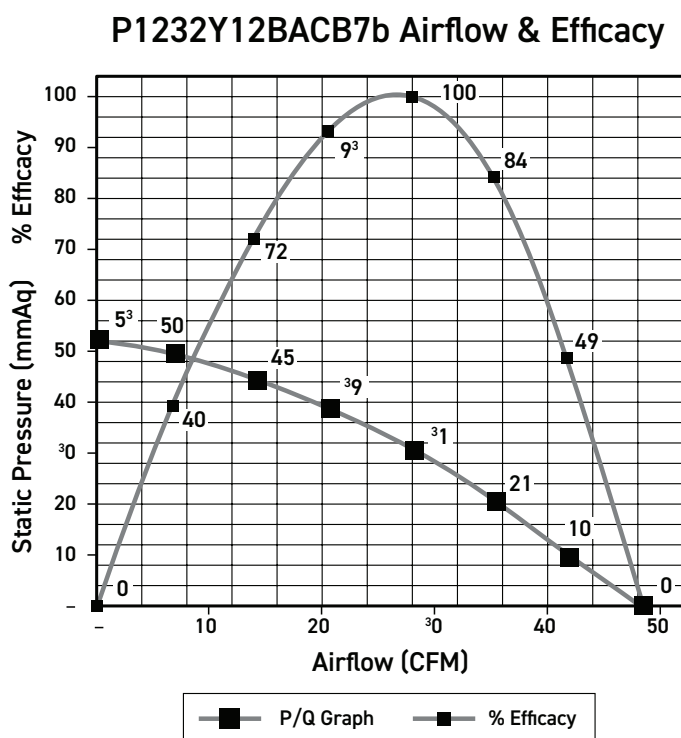
DEFINITION OF AIRFLOW EFFICIENCY

The airflow efficiency of a fan motor is usually defined as the product of the airflow times the pressure at a given operating point divided by the power consumed by the fan motor: $\eta = \{(P \times Q) / W\} \times 100\%$
[P = Pascals, Q = m³ / sec, W = Watts]

AIRFLOW EFFICACY OF A FAN MOTOR

A fan motor is generally used for the purpose of cooling equipment or for circulating free air. In the case of equipment cooling, the airflow is restricted by airflow obstacles presented by the equipment (system impedance). Under zero pressure (free air), the fan motor can deliver the maximum airflow and under zero airflow conditions (max pressure), no air is passing through the equipment in order to remove heat. In neither of the above fan conditions the fan motor is of any use for cooling equipment purposes.

In order to determine the most efficient operating point of the fan motor engaged in cooling given equipment, we must calculate the maximum PQ product and thus determine the optimum ability of a given motor to cool. This can be illustrated by an example based on the PQ characteristic of a 1232 blower shown below:



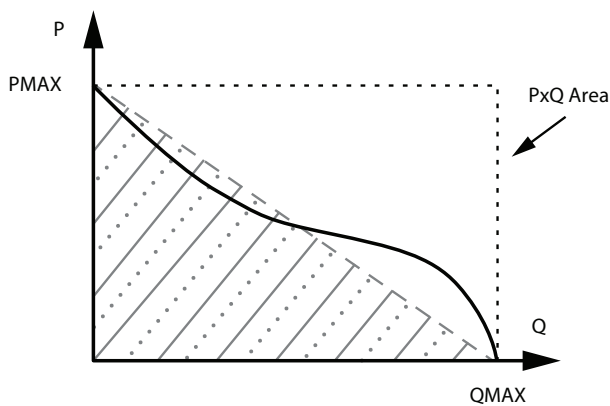
From the left side of the graph, we can see that if we accept over 80% efficacy, then the fan motor can optimally cool a system when it delivers 18 ~ 34 CFM under static pressure of the range 22~ 42 mmAq with optimum point of 24 ~ 30 CFM and pressure of 28 ~ 36 mmAq.

THE (PQ/W) CRITERION

In general, assuming materials used for DC fan motor production by manufactures is similar, and, assuming no significant construction shortcomings which will mainly have a bearing on the product life, the most important criterion remains the product's performance during its life span.

The fan motor's performance can be visualized by its PQ graph shown below:

PQ Characteristics of a typical fan motor



The higher the P and the higher the Q of a fan motor of a given size, the more airflow will be driven into the system to achieve better cooling results. However, at what cost is this accomplished? In order to appreciate the motor's performance, one must consider the product of P times Q result divided by the power that the product consumes. The lower the power dissipation for the highest possible PQ can characterize the fan motor's performance. If we were to draw a line from the maximum point of P and the maximum point of Q, we could easily determine the shaded area to be $(P \times Q)/2$. We could then define as performance criterion the $(P \times Q)/W$ which represents twice the shaded area divided by the consumed power.

One can argue that the power dissipation at maximum Q is lower than the power dissipated at maximum P for an axial fan motor, but for comparison reasons, this point becomes of less importance. It must also be noted that in the case of a blower type fan motor at maximum P, the power consumption is less than at maximum Q point. ***The higher the PQ/W, the better the fan motor's performance.***

THE (RPM/W) CRITERION

One other way to detect if the fan motor is properly designed and can perform under the lowest running temperature rise conditions is to check the ratio of RPM increase over the consumed power increase. As a rule, to increase the RPM by 10%, one needs to increase the power by about 30%. A well-designed fan motor will always stay below the 30% of power increase or else the motor is over driven, which will result in premature failure. To maintain this criterion, one needs to increase the silicon steel size or reduce the PQ performance of the product, or else the high running motor temperature will de rate the life of the product. ***Higher RPM/W means a more efficient and better designed fan motor.***

WHY ARE THE (PQ/W) AND (RPM/W) CRITERIA IMPORTANT?

Both of the above mentioned criteria are important and their value should be the highest possible because:

- They indicate how good the performance is for the running power cost.
- They indicate the lowest running temperature (which is proportional to the power input), which is inversely proportional to the product life. As a rule of thumb, the product life is reduced by 1/2 for every 10°C increase of its running temperature.

CONVERSION TABLES

STATIC PRESSURE CONVERSION TABLE

Pa (=N/m ²)	mmH ₂ O = mmAq	inH ₂ O	Kgf/cm ²	bar
1	1.0197 x 10 ⁻¹	4.017 x 10 ⁻³	1.0197 x 10 ⁻⁵	1 x 10 ⁻⁵
9.80665	1	3.939 x 10 ⁻²	1 x 10 ⁻⁴	9.80665 x 10 ⁻⁵
1.3332 x 10 ²	1.3619 x 10	1	1.3595 x 10 ⁻³	1.3332 x 10 ⁻³
9.80665 x 10 ⁴	10 ⁴	3.937 x 10 ²	1	9.80665 x 10 ⁻¹
1 x 10 ⁵	1.0197 x 10 ⁴	4.018 x 10 ²	1.01972	1

AIR FLOW CONVERSION TABLE

m ³ /min	CFM	L/s	L/min
1	3.531 x 10	1.666 x 10	1 x 10 ³
2.831 x 10 ⁻²	1	4.720 x 10 ⁻¹	2.831 x 10
6 x 10 ⁻²	2.118	1	6 x 10
1 x 10 ⁻³	3.531 x 10 ⁻²	1.666 x 10 ²	1

FAHRENHEIT/CELSIUS/KELVIN CONVERSION TABLE

Fahrenheit to Celsius	Celsius to Fahrenheit	Celsius to Kelvin
°C = (5/9) * (°F-32)	°F = (°C * (9/5)) + 32	K = °C + 273.15

NOTES:

INNOVATION IN MOTION



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