EC Backward Centrifugal Fan

LWBE3G190-072PS-06

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G190-072PS-06
Version Number:	A0
Make :	Jin
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.07.03

技术专用
朗伟电器

Version number	Notes Remarks	Reason content	Revised by	Date

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Nominal Data

Project1	Unit	Rating
Nominal Voltage :	[VAC]	230
Voltage Range :	[VAC]	176~264
Frequency :	[Hz]	50/60
Speed :	[rpm]	2940
Current :	[A]	0.53
Power input :	[W]	64
Air flow (Max) :	[m3/h]	639
	[CFM]	376
Static pressure (Max) :	[Pa]	453
Noise level (LpA):	dB(A)	65
Max.ambient Temp :	℃	60
Min.ambient Temp :	℃	-25
Insulation Class :		Class B
Protection Type :		IP55
Work system :		S1

Technical Features

Production Reference standard	GB12350《Safety requirements of small power motors》 JB/T10563 《technical specification for general purposes centrifugal fans》 EN60335-1《Household and similar electrical appliances-safety》 ISO5801-1997《Industrial fans-performance testing using standardized airways》 GB/T2888《Methods of Noise Measurement for Fans Blowers Compressors and Roots Blowers》
Certification	CE ETL (UL 507:2017 Ed.10+R:27May2020，CSA C22.2#113:2018 Ed.11)
Environmental protection	RoHS、Reach

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Technical Features

Service environment	Operating temperature：-25~60℃；Operating humidity：5 ~ 90 % RH Storing temperature：-40 ~ 80℃；Storing humidity：≤95 % RH Applicable altitude range：＜1000m
Life Expectance	40,000Hours(L10)，At 40℃ room, humidity 15%~65%RH.
Balancing	According to JB/T 9101-1999 requirements G6.3
Vibration of the fan	Test method accord with JB/T 8689
Installation method	Horizontal or vertical installation
Material	PA6+GF30% （Impeller）
Bearing	Maintenance-free deep groove ball bearings
Weight	APPROX 2.45 (Kg)

Electrical Protection

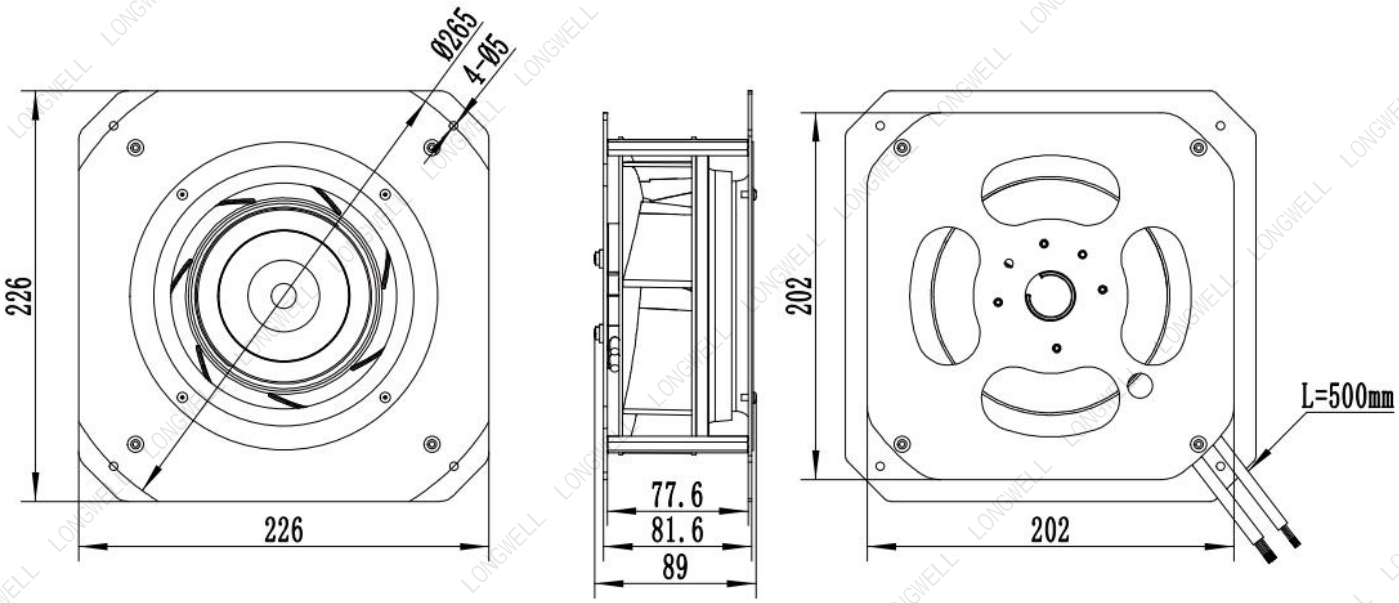
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal Output	Tach output：2 Pulse/R；FG internal open circuit output, external pull-up resistor R, pull-up voltage V+
Auxiliary power output	Output 10VDC，Max Current 10mA
Protection	Current limiting protection 、Over-temperature protection、Over-current protection Locked-rotor protection
Soft start	Delay time <10 seconds to full speed
Serial Communication	/

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Product Drawing

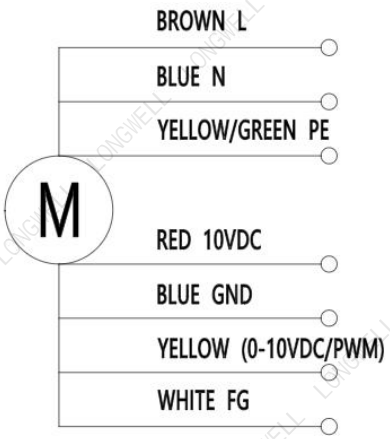


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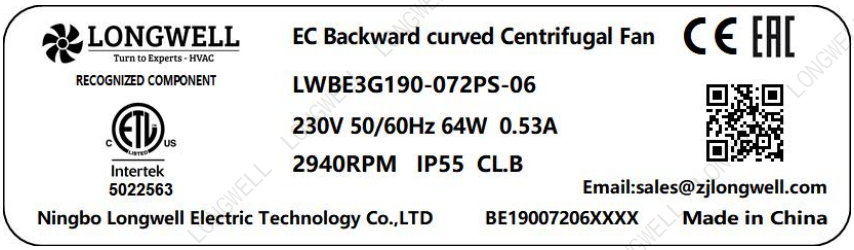
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Wiring Diagram



L	Color	Function	Functional description
L1	Brown	L	Live line
	Blue	N	Naught line
	Yellow/Green	PE	Ground lead
L2	Red	+10VDC	Fixed voltage output 10VDC,≦10mA
	Blue	GND	Ground reference end of control signal
	Yellow	Speed Control	Speed regulation signal input terminal,0-10VDC voltage /PWM
	White	FG	Speed feedback pulse output

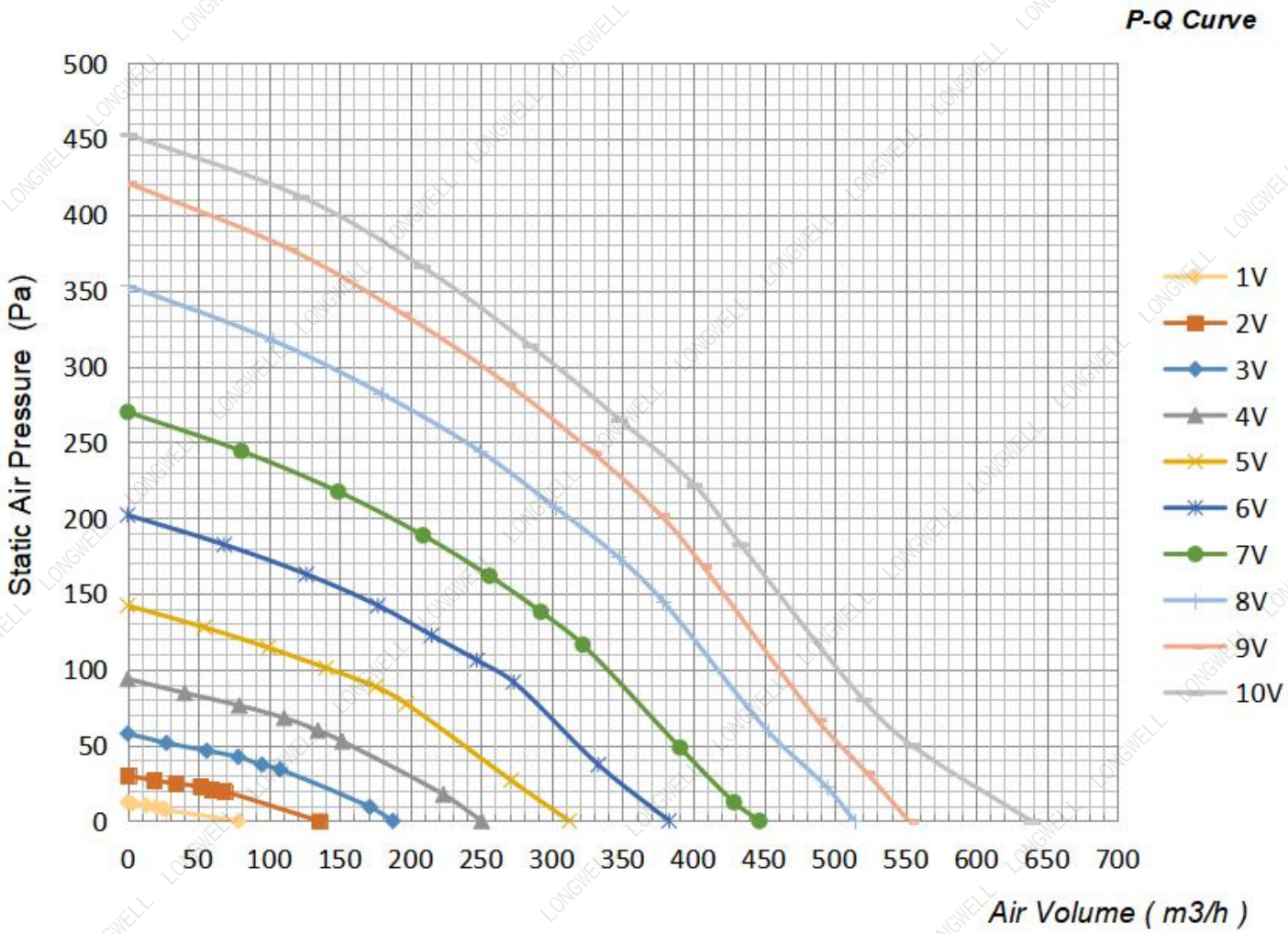
Label



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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	3246	50.00	0	453
	3142	65.00	122	412
	3096	71.20	208	366
	3075	72.50	284	314
	3092	71.70	348	265
	3104	68.80	400	222
	3125	66.70	433	183
	3133	65.00	520	80
	3138	62.30	554	50
	3179	59.70	639	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	3158	47.00	0	421
	3046	58.30	114	377
	3000	65.70	195	335
	2992	66.50	269	288
	3013	65.30	328	243
	3013	62.80	377	202
	3038	61.30	407	168
	3046	59.70	487	67
	3058	56.70	522	32
	3063	55.00	552	0
8V	2808	33.70	0	353
	2704	42.50	102	317
	2683	46.50	179	282
	2658	47.30	249	244
	2667	47.20	302	207
	2675	45.50	347	174
	2696	44.20	378	145
	2725	42.50	452	60
	2738	39.80	494	23
	2738	39.70	514	0
7V	2438	24.00	0	270
	2379	28.30	80	244
	2346	32.20	149	217
	2338	32.30	209	188
	2338	32.20	256	162
	2338	31.70	292	138
	2363	30.50	322	116
	2358	30.00	391	48
	2388	27.80	429	12
	2408	27.30	447	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2108	16.70	0	202
	2058	19.70	68	182
	2033	21.50	126	163
	2029	22.00	177	142
	2013	22.00	215	123
	2021	21.70	247	106
	2021	21.50	273	92
	2046	20.30	333	37
	2063	18.30	383	0
5V	1758	11.00	0	142
	1733	12.50	54	128
	1692	14.30	99	114
	1696	13.80	140	101
	1683	14.70	175	89
	1692	14.70	197	77
	1713	13.30	271	27
	1721	13.30	312	0
4V	1425	7.50	0	94
	1383	8.80	40	84
	1392	8.50	79	76
	1367	9.20	111	68
	1371	8.80	135	60
	1383	8.70	152	53
	1396	8.70	223	18
	1413	8.00	250	0
3V	1104	6.30	0	58
	1092	5.50	27	52
	1058	6.30	56	46
	1050	6.30	78	42
	1063	5.80	95	37
	1050	5.70	108	34
	1063	6.00	171	9
	1083	5.80	188	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	804	4.30	0	30
	775	5.00	19	27
	771	3.80	34	25
	767	4.50	51	23
	758	5.00	60	21
	767	3.50	68	20
	775	3.80	135	0
1V	504	2.80	0	12
	479	4.50	3	11
	471	3.80	13	10
	488	3.20	20	9
	475	3.70	25	8
	471	3.70	27	7
	475	3.50	78	0

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Warning:

1.The fan and motor must be used within the prescribed scope of temperature and humidity otherwise it will cause an unexpected damage.

2. Fan is not set wrong connection protection，Provide the right voltage and line sequence according to the nameplate otherwise it will damage the product.

3. Wiring depends on the wiring diagram and please connect the earth ground if required. We don't suggest to use the extension cord .Any wrong connection may cause the damage of the fan.

4. Be careful when moving the fan and do not take the blades as a handle because it will cause the distortion and chatter.

5. Connect the thermostat if required otherwise it would damage the motor because of the over temperature.

6. The length of the mounting screws shall not exceed the requirement, otherwise the fan will be damaged.

7. Do not disassemble the fan arbitrarily. It may hurt the capacity of water tightness and dynamic balance or cause other serious problems.

8. The over current protector is necessary in case the damage from the over current.

9. Install the fan as required, any other installing direction would affect the service life of the product.

10. The fan with inlet ring should be installed follow the requirements or it will affect the performance.

11. Users should use the standard cable when install the fan otherwise it will affect the water tightness.

12. The fan should keep away from the children especially the blade and electric parts .And the children are not allowed to operate the fan alone.

13. Do not connect the white signal cable directly to the red signal cable or the external DC power supply. Otherwise, the fan may be damaged.T

14.Please do not perform extraction and insertion of the connector under revolution irrespective of power on and power on and power off , and the fan should not touch or move when running.

15. Do not lift the fan wire when taking the fan, and do not impact the bearing during the handling process.

16. The version change may not be notified, please ask our company for the latest version when necessary.

17.Please be informed that we are not responsible for any damage or accidents caused by violating above rules to install and operate the fan.

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Approval

CUSTOMER APPROVAL

CUSTOMER SIGNATURE:	DATE :

Product Data Confirm :

Speed Control System :

☐ PWM ☐ 0-10V

Accessories:

☐ Air Inlet Cone ☐ Pressure nozzle ☐ Custom wire length

Note :Please check and mark the data when you sign the specification sheet .

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