EC Backward Centrifugal Fan

LWBE3G190-072PS-01

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G190-072PS-01
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]	3300
Current :	[A]	0.65
Power input :	[W]	87
Air flow (Max) :	[m3/h]	814
	[CFM]	479
Static pressure (Max) :	[Pa]	587
Noise level (LpA):	dB(A)	70
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

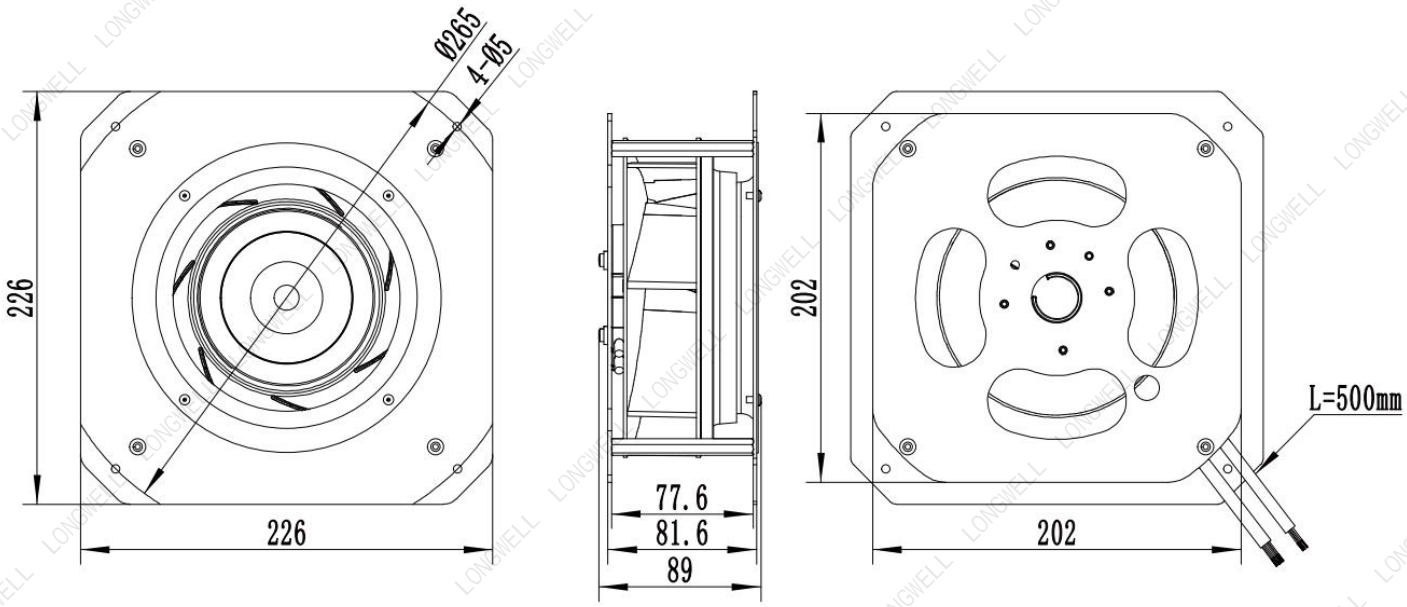
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal 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

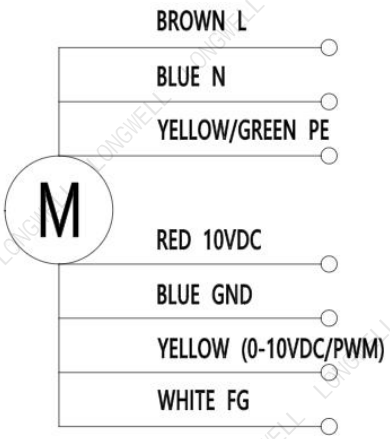


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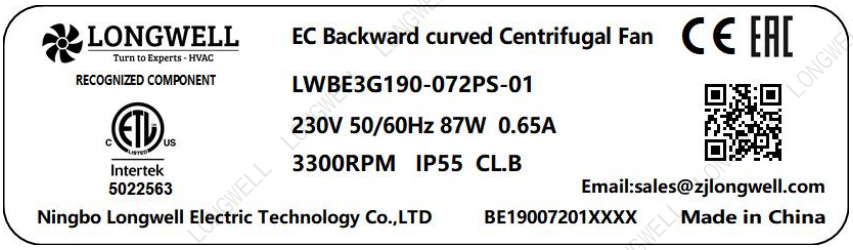
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Wiring Diagram



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

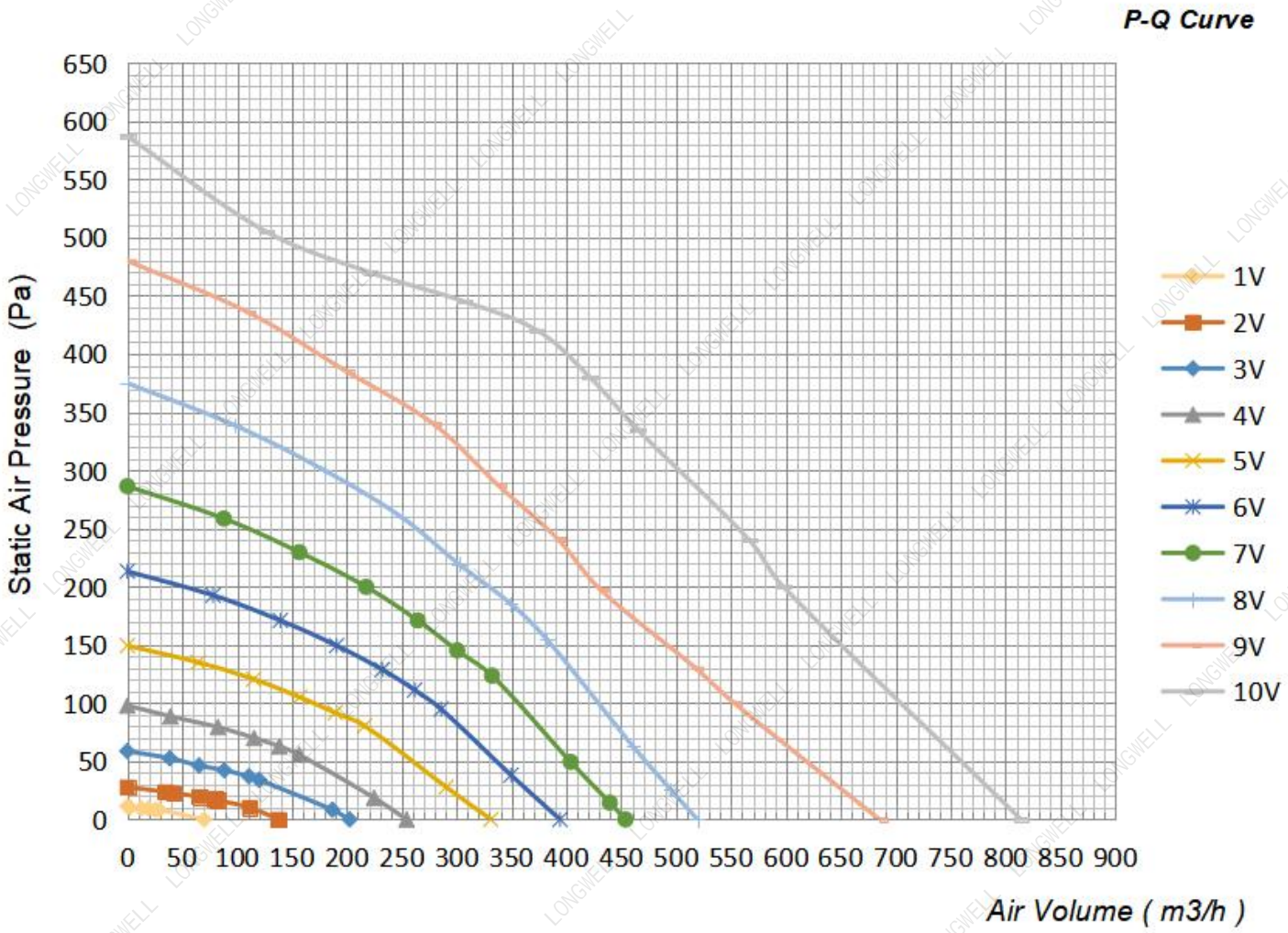


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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m³ /h)	Static pressure(Pa)
10V	3338	56	0	587
	3258	71	127	505
	3217	79	221	470
	3200	80	307	445
	3233	79	374	420
	3200	76	421	380
	3225	74	465	335
	3258	72	567	240
	3267	69	597	200
	3288	66	814	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	3225	51	0	480
	3142	65	110	436
	3121	71	199	385
	3079	73	278	340
	3117	71	338	287
	3113	69	392	241
	3117	68	431	198
	3158	65	518	130
	3183	62	553	100
	3188	61	685	0
8V	2900	36	0	375
	2825	45	97	339
	2771	50	180	300
	2758	52	250	260
	2750	50	302	219
	2783	49	349	185
	2788	48	382	155
	2813	46	461	63
	2825	44	495	26
	2821	44	519	0
7V	2538	26	0	286
	2450	31	88	259
	2421	35	157	230
	2404	36	218	200
	2433	35	265	171
	2438	33	300	145
	2442	33	332	124
	2438	33	404	49
	2463	31	439	14
	2458	31	454	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2188	17	0	213
	2117	21	78	193
	2079	23	139	171
	2079	24	191	149
	2071	23	232	129
	2083	24	262	111
	2079	23	286	95
	2104	22	350	38
	2125	20	394	0
5V	1800	12	0	149
	1775	13	65	135
	1746	15	115	121
	1733	15	157	105
	1738	15	189	92
	1742	15	216	80
	1758	14	290	28
	1771	14	331	0
4V	1454	8	0	98
	1421	9	39	89
	1396	10	83	79
	1417	9	116	70
	1408	10	138	63
	1404	10	156	56
	1413	9	225	19
	1421	9	254	0
3V	1142	6	0	59
	1100	6	39	53
	1071	6	65	46
	1083	6	88	42
	1067	6	111	37
	1092	5	120	34
	1083	6	187	8
	1092	6	203	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	771	4	0	28
	725	4	35	24
	729	4	42	23
	717	4	66	20
	725	4	80	18
	717	4	82	16
	733	4	111	10
	742	4	138	0
1V	496	4	0	11
	471	4	3	10
	463	4	13	9
	463	3	19	9
	467	4	25	8
	467	4	29	8
	463	4	70	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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