EC Backward Centrifugal Fan

LWBE3G175-072PS-02

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G175-072PS-02
Version Number:	A0
Make :	Jin
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.06.25

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]	85
Air flow (Max) :	[m3/h]	742
	[CFM]	436
Static pressure (Max) :	[Pa]	536
Noise level (LpA):	dB(A)	72
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 2.4 (Kg)

Electrical Protection

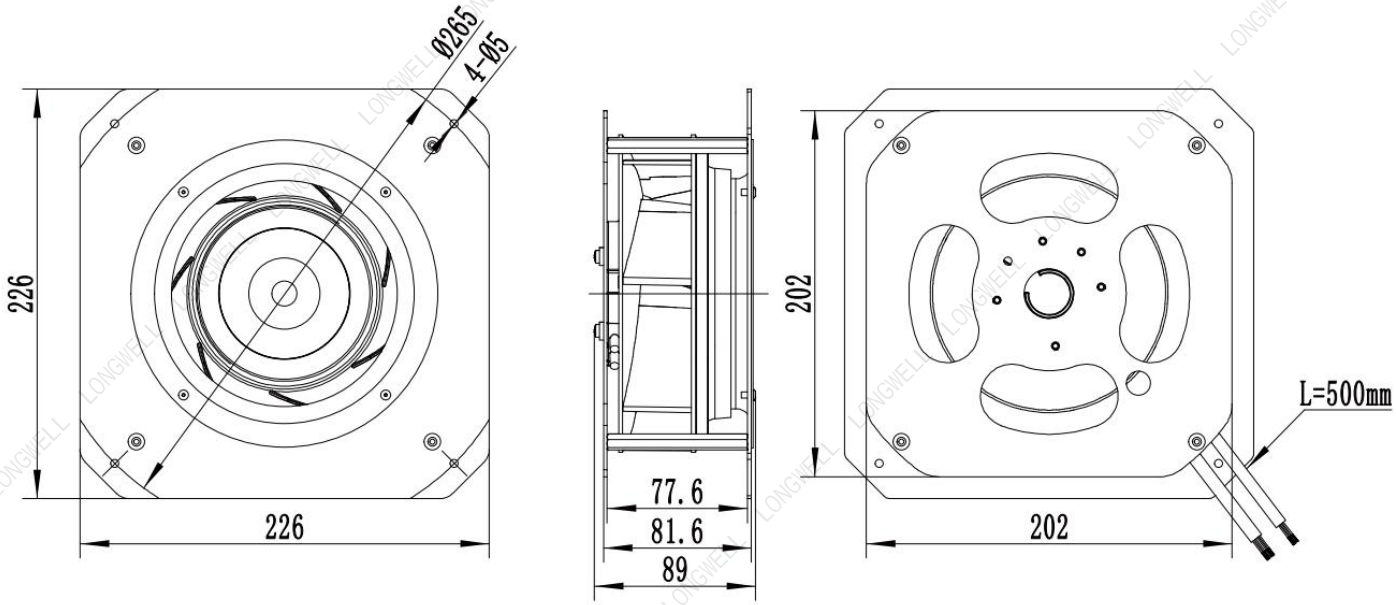
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal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

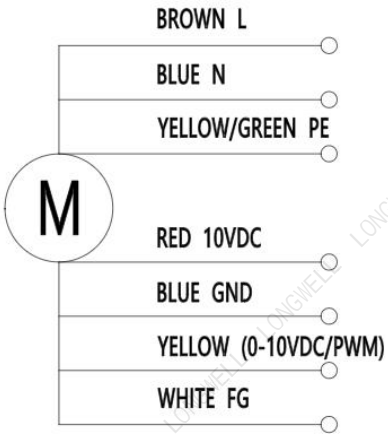


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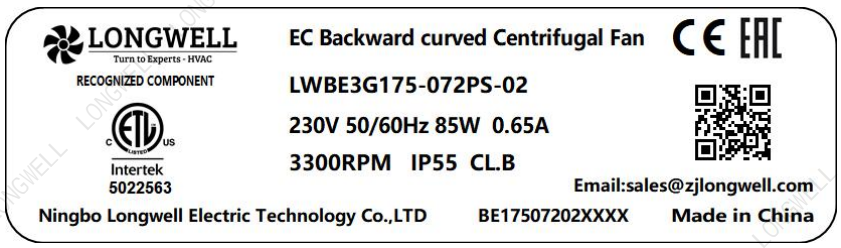
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Wiring Diagram



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

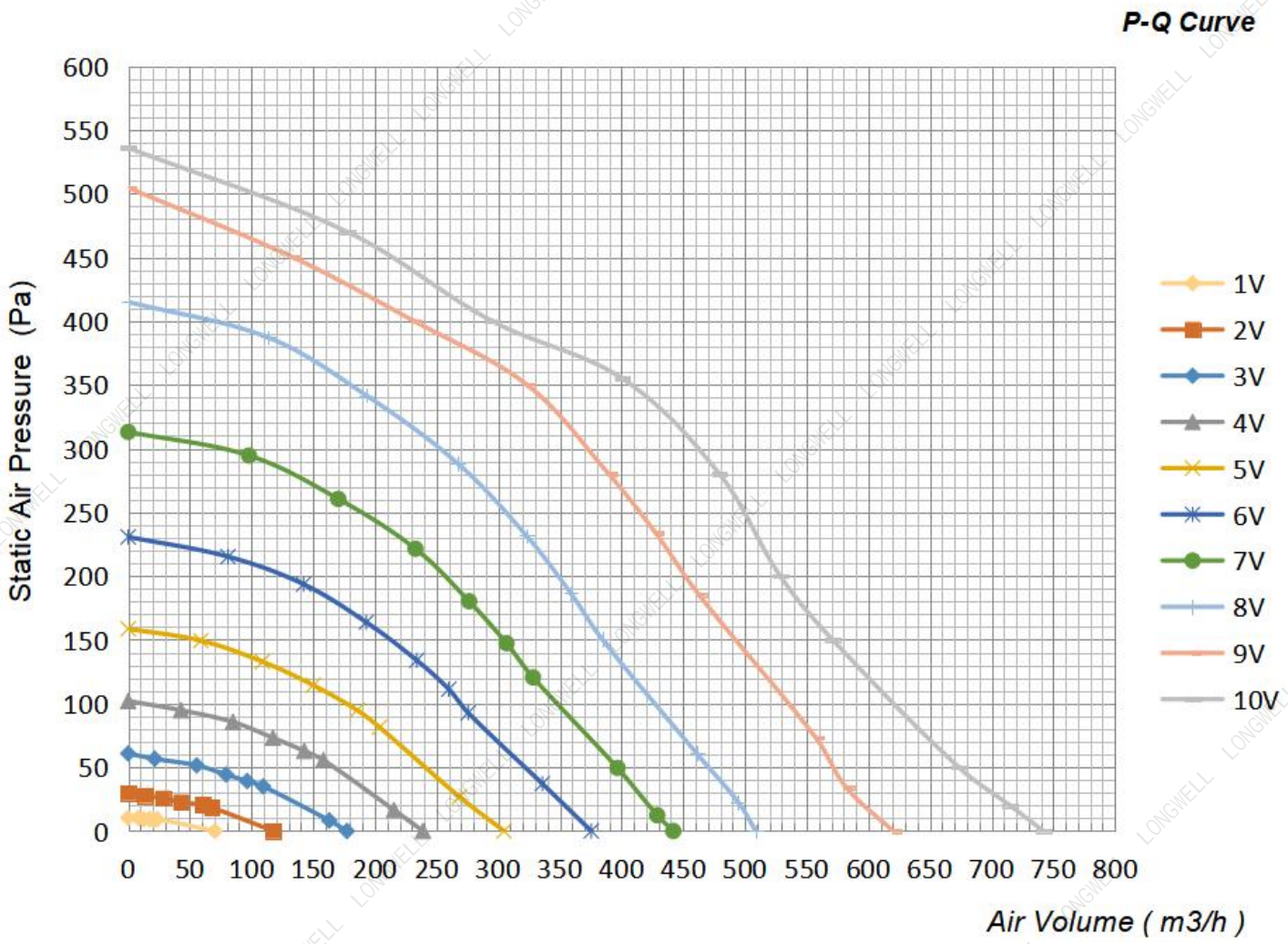


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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	3892	58	0	536
	3825	80	178	470
	3800	84	295	400
	3779	85	401	355
	3779	84	479	280
	3800	80	529	200
	3792	76	571	150
	3842	67	673	50
	3867	64	715	20
	3871	63	742	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	3713	51	0	505
	3629	69	134	450
	3592	73	232	400
	3617	73	323	350
	3617	72	390	280
	3621	70	428	234
	3663	66	463	185
	3675	59	558	73
	3679	57	582	34
	3713	55	620	0
8V	3275	36	0	415
	3217	48	113	387
	3179	51	193	342
	3179	51	267	288
	3188	51	323	232
	3217	49	359	186
	3204	47	384	150
	3238	42	461	61
	3246	40	494	23
	3267	40	509	0
7V	2871	25	0	313
	2771	32	98	295
	2763	34	170	261
	2763	36	233	221
	2758	35	276	180
	2779	33	307	147
	2792	32	328	121
	2813	29	397	49
	2842	28	429	12
	2858	27	442	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2450	17	0	231
	2400	22	81	215
	2375	23	142	194
	2367	24	193	164
	2371	23	234	134
	2379	22	260	111
	2371	22	276	93
	2413	20	336	37
	2429	18	375	0
5V	2025	11	0	159
	1979	14	59	149
	1954	15	109	133
	1963	15	150	114
	1975	15	186	95
	1958	15	204	81
	1996	13	269	27
	2013	12	305	0
4V	1617	8	0	102
	1575	9	43	95
	1579	9	85	85
	1571	9	117	73
	1588	9	143	63
	1579	9	158	56
	1596	9	215	16
	1600	8	239	0
3V	1246	5	0	61
	1213	6	21	57
	1196	6	56	52
	1192	6	79	44
	1188	6	96	39
	1196	6	109	35
	1221	6	163	8
	1221	6	177	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	871	4	0	30
	838	4	14	28
	833	4	28	26
	825	4	43	23
	825	4	60	21
	833	4	68	19
	854	4	118	0
1V	496	4	0	10
	492	3	8	10
	488	4	13	9
	496	3	17	9
	483	4	21	8
	492	3	24	9
	500	3	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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