EC Backward Centrifugal Fan

LWBE3G133-072PS-02

Ningbo Longwell Electric Technology CO.,LTD

NO.100, Ditang District ,Yuyao,Zhejiang Province,China 315400

Phone 86 574 6218 9863

Fax 86 574 6218 9863

sales@zjlongwell.com

www.longwellfans.com



Model No.:	LWBE3G133-072PS-02
Version Number:	A0
Make :	Jin
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.07.06

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]	3800
Current :	[A]	0.23
Power input :	[W]	30
Air flow (Max) :	[m3/h]	268
	[CFM]	158
Static pressure (Max) :	[Pa]	453
Noise level (LpA):	dB(A)	63
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 1.8 (Kg)

Electrical Protection

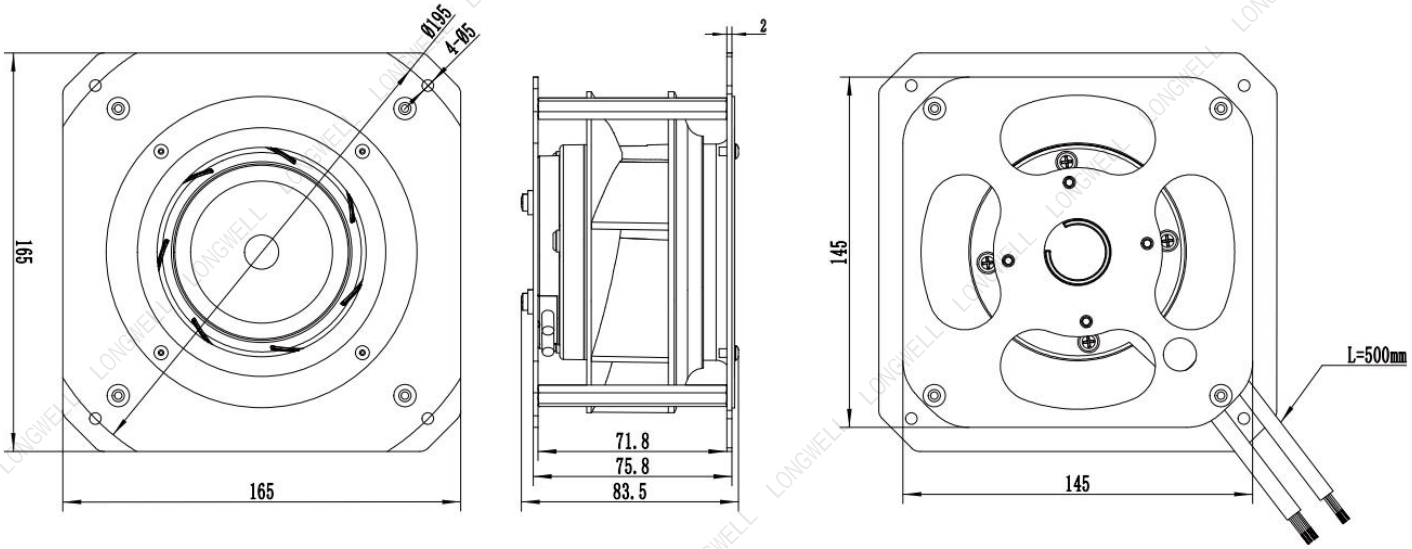
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal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

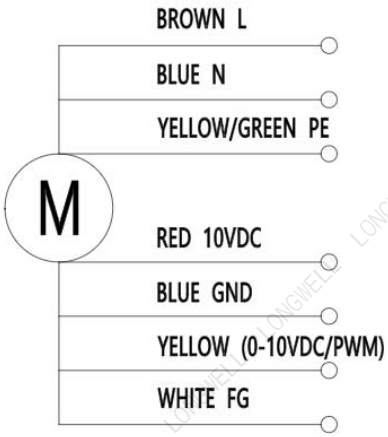


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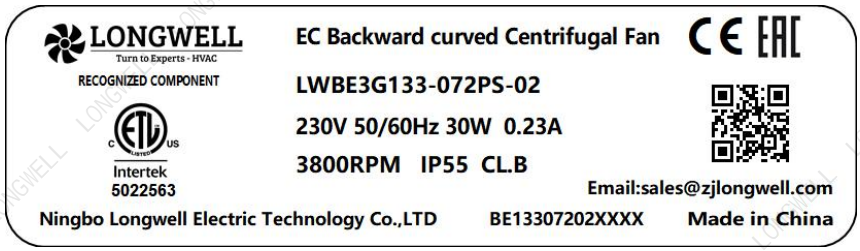
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Wiring Diagram



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

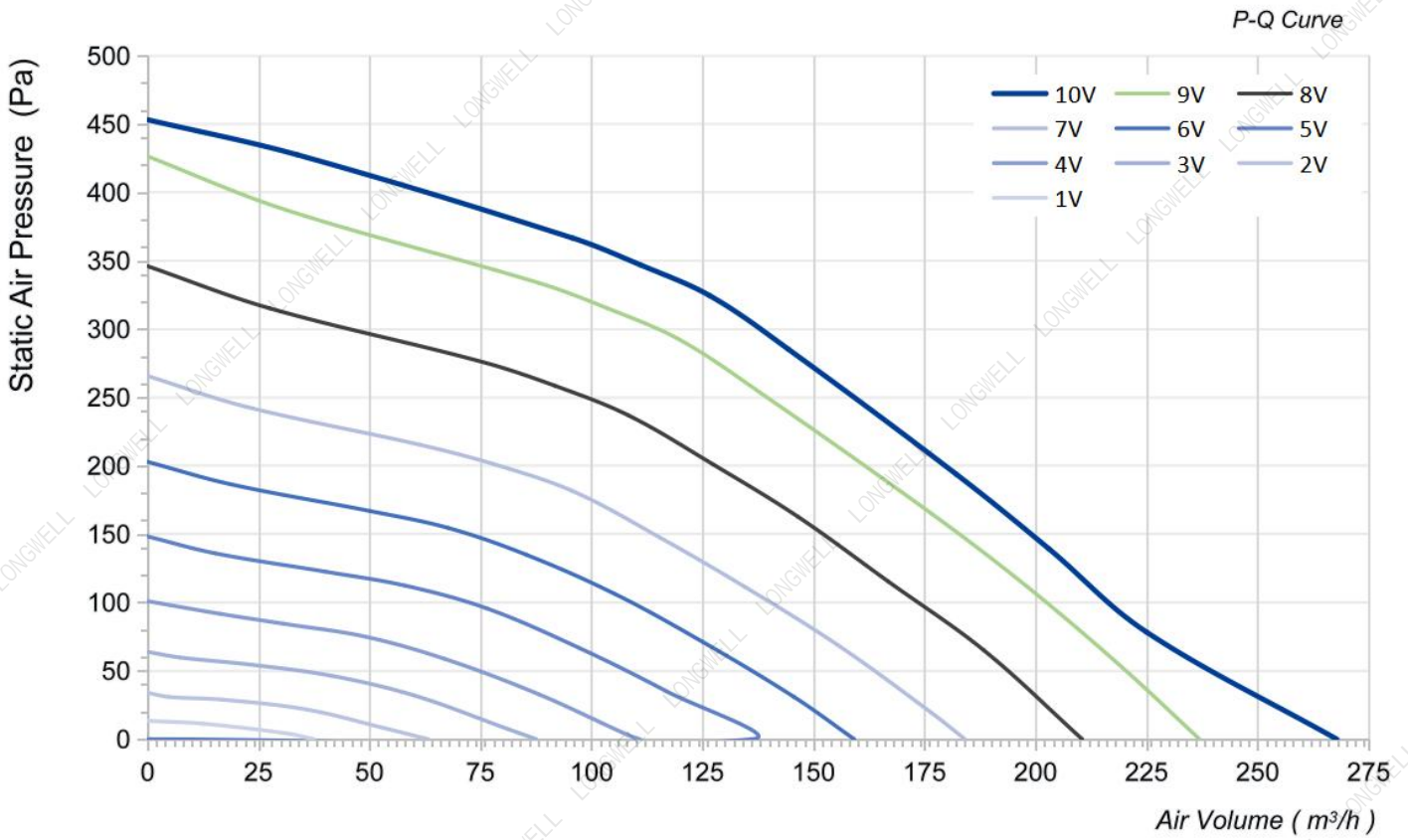


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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m³ /h)	Static pressure(Pa)
10V	4155	19	0	453
	4066	22	34	427
	3970	27	96	367
	3962	28	111	347
	3951	28	127	324
	3926	29	144	285
	3941	28	182	194
	3964	27	203	139
	3987	26	225	78
	4035	24	268	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	3945	16	0	426
	3858	19	31	387
	3772	22	88	334
	3755	24	104	315
	3747	24	120	293
	3722	25	138	253
	3747	24	177	165
	3760	22	198	111
	3795	22	219	53
	3822	20	237	0
8V	3562	12	0	346
	3485	14	28	315
	3408	17	75	276
	3389	18	92	259
	3380	18	108	237
	3364	19	127	201
	3372	18	146	163
	3393	18	167	115
	3408	17	188	65
	3455	16	210	0
7V	3099	10	0	266
	3049	11	22	243
	2983	13	61	215
	2964	12	78	201
	2953	12	96	181
	2939	14	116	147
	2953	13	135	111
	2968	12	155	69
	2991	12	176	20
	3012	11	184	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2705	7	0	203
	2662	8	19	186
	2599	9	50	167
	2583	9	68	155
	2566	10	85	135
	2562	10	105	106
	2580	9	125	71
	2601	9	146	31
	2624	9	159	0
5V	2308	5	0	148
	2270	6	15	136
	2228	6	40	123
	2210	6	58	112
	2185	7	76	96
	2197	6	97	67
	2214	6	117	35
	2235	6	136	0
4V	1908	4	0	101
	1872	4	16	92
	1843	4	31	84
	1824	5	49	75
	1805	5	67	59
	1816	5	88	33
	1843	5	108	3
	1853	4	111	0
3V	1516	3	0	64
	1499	3	7	60
	1474	3	23	55
	1458	4	41	46
	1447	4	60	32
	1464	4	81	7
	1476	4	87	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	1099	2	0	34
	1091	2	5	31
	1076	2	17	29
	1062	3	36	22
	1068	3	54	7
	1078	3	63	0
1V	687	2	0	13
	676	3	12	11
	676	3	31	4
	674	2	37	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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