EC Backward Centrifugal Fan

LWBE3G190-072PS-02

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G190-072PS-02
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]	3800
Current :	[A]	0.9
Power input :	[W]	115
Air flow (Max) :	[m3/h]	855
	[CFM]	503
Static pressure (Max) :	[Pa]	876
Noise level (LpA):	dB(A)	71
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 2.8 (Kg)

Electrical Protection

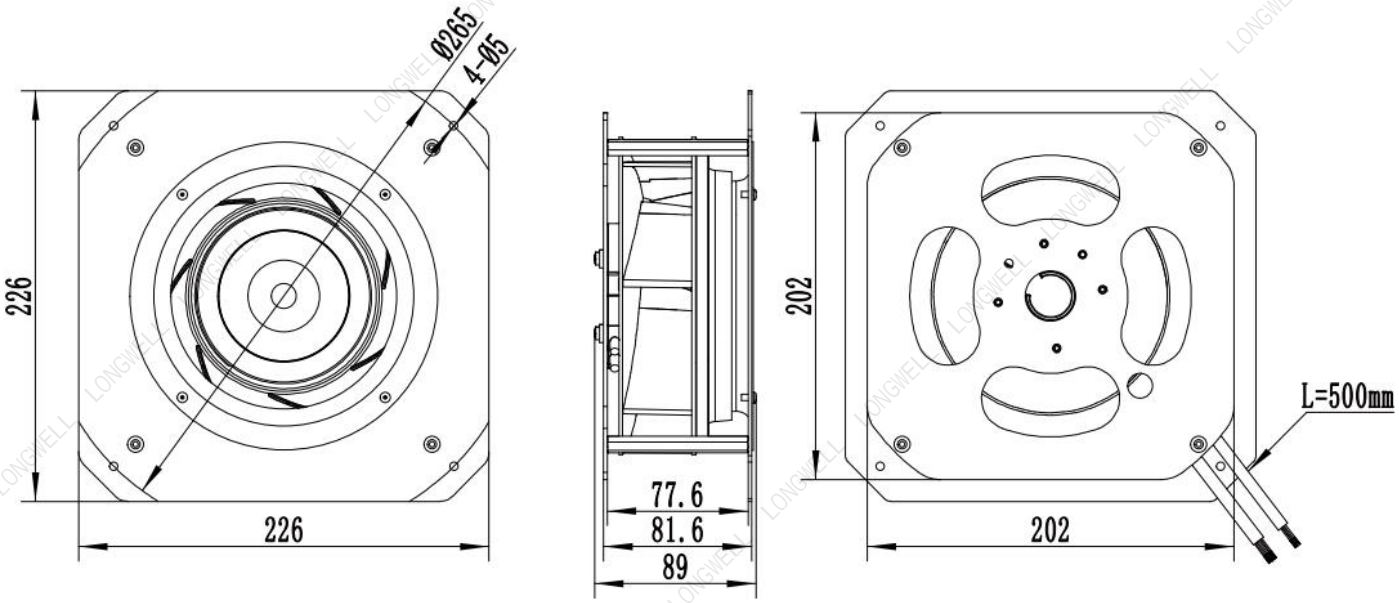
Speed Control	Control input 0~10VDC/PWM
VSP Control	Control signal VSP voltage range1VDC~9.5VDC (During normal operation, when the VSP voltage is below 0.8VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal 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 <15 seconds to full speed
Serial Communication	/

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Product Drawing

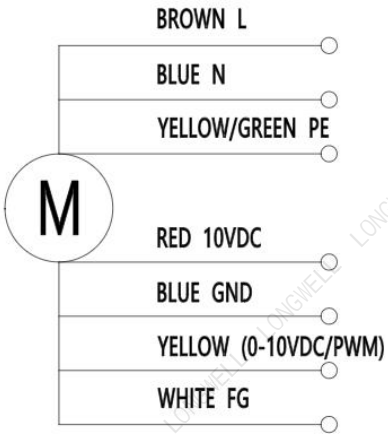


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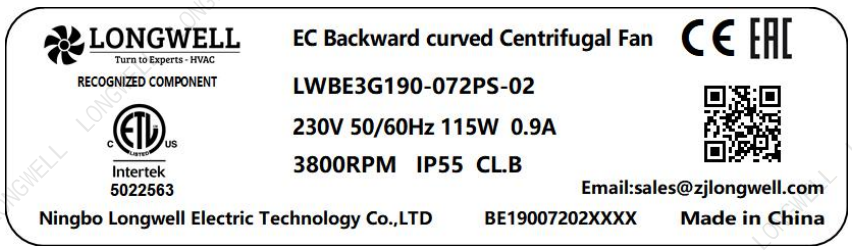
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Wiring Diagram



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

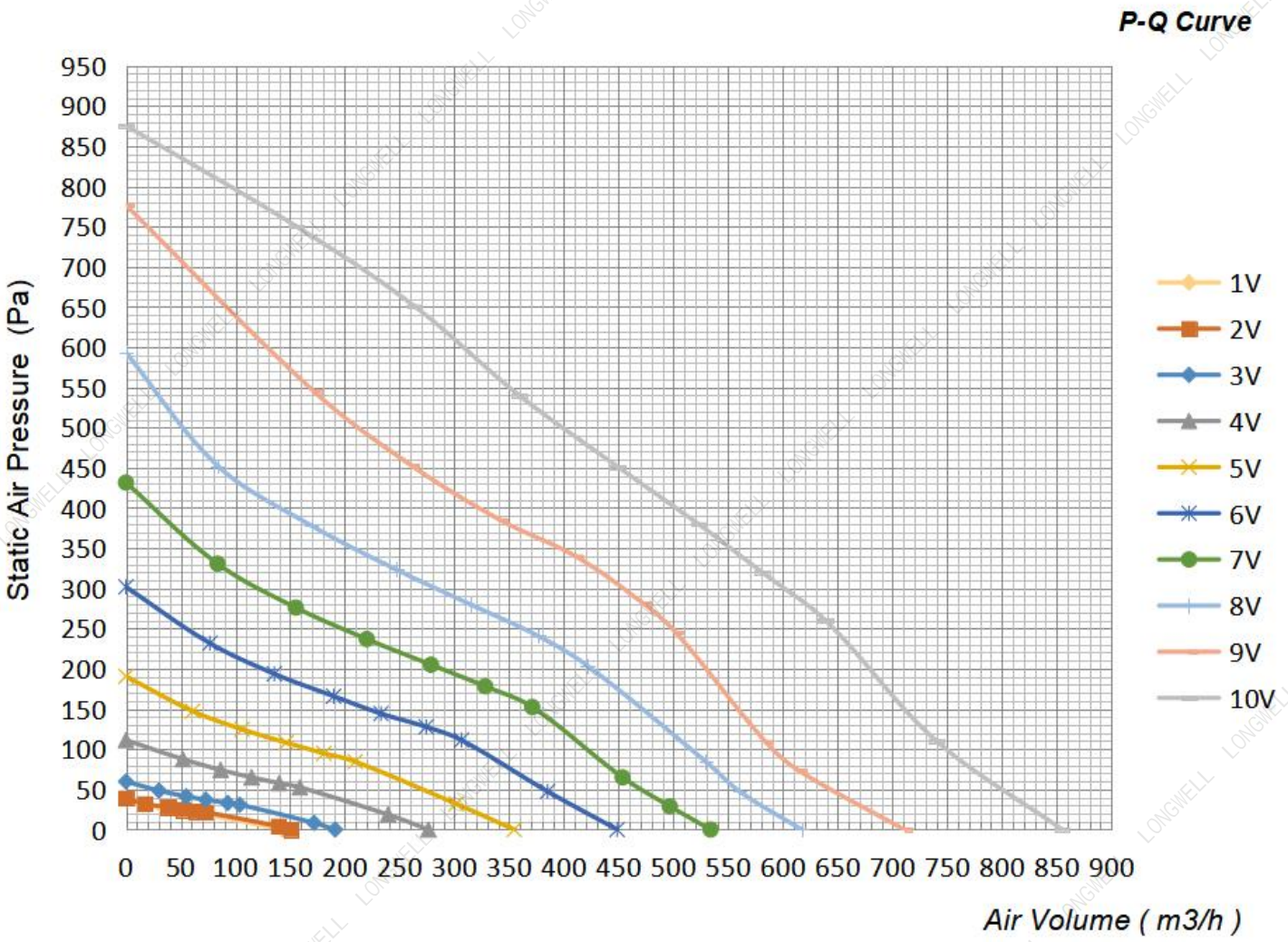
Label



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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m³ /h)	Static pressure(Pa)
10V	4425	118	0	876
	3921	117	156	750
	3717	117	263	651
	3663	116	359	540
	3696	117	449	451
	3758	117	523	380
	3813	118	581	320
	3875	118	639	260
	3958	117	740	110
	4042	117	855	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	4113	97	0	777
	3488	97	172	545
	3429	97	260	453
	3467	96	342	385
	3513	95	410	340
	3558	97	473	281
	3600	96	502	245
	3679	97	584	109
	3704	96	615	73
	3829	96	711	0
8V	3621	66	0	593
	3208	66	84	452
	3088	65	169	378
	3042	65	247	323
	3038	66	314	280
	3063	66	376	241
	3121	66	421	204
	3196	66	530	84
	3267	65	560	47
	3329	66	617	0
7V	3088	42	0	432
	2758	42	84	331
	2625	42	155	276
	2579	43	220	237
	2579	43	279	205
	2617	42	328	178
	2654	42	371	152
	2717	42	454	65
	2788	43	497	29
	2838	42	534	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2575	26	0	302
	2288	27	77	232
	2192	27	136	194
	2150	27	190	166
	2158	26	233	144
	2183	27	274	128
	2196	27	306	111
	2258	26	385	47
	2333	27	449	0
5V	2046	15	0	191
	1850	15	61	147
	1758	15	106	125
	1729	15	146	108
	1708	15	181	95
	1742	16	209	84
	1783	16	302	32
	1875	15	355	0
4V	1542	10	0	111
	1413	9	52	88
	1358	9	86	74
	1329	9	115	65
	1308	10	140	58
	1317	10	159	53
	1383	9	239	19
	1413	10	276	0
3V	1125	6	0	60
	1054	5	30	48
	996	6	55	41
	983	7	73	37
	992	6	93	33
	967	6	104	31
	1008	6	172	8
	1042	6	191	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
2V	904	5	0	39
	838	6	17	32
	808	5	39	28
	804	5	52	25
	813	5	64	23
	788	5	72	22
	846	4	139	4
	850	5	151	0
1V	892	4	0	37
	821	5	16	31
	800	5	35	27
	783	5	49	24
	783	4	59	22
	767	5	66	21
	808	5	143	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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