EC Backward Centrifugal Fan

LWBE3G280-102PT-08

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G280-102PT-08
Version Number:	A0
Make :	Jin
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.07.12

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]	380
Voltage Range :	[VAC]	304~456
Frequency :	[Hz]	50/60
Speed :	[rpm]	3370
Current :	[A]	1.7
Power input :	[W]	1100
Air flow (Max) :	[m3/h]	4378
	[CFM]	2575
Static pressure (Max) :	[Pa]	1751
Noise level (LpA):	dB(A)	78
Max.ambient Temp :	℃	60
Min.ambient Temp :	℃	-25
Insulation Class :		Class F
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
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	Aluminum Alloy （Impeller）
Bearing	Maintenance-free deep groove ball bearings
Weight	APPROX 13.5 (Kg)

Electrical Protection

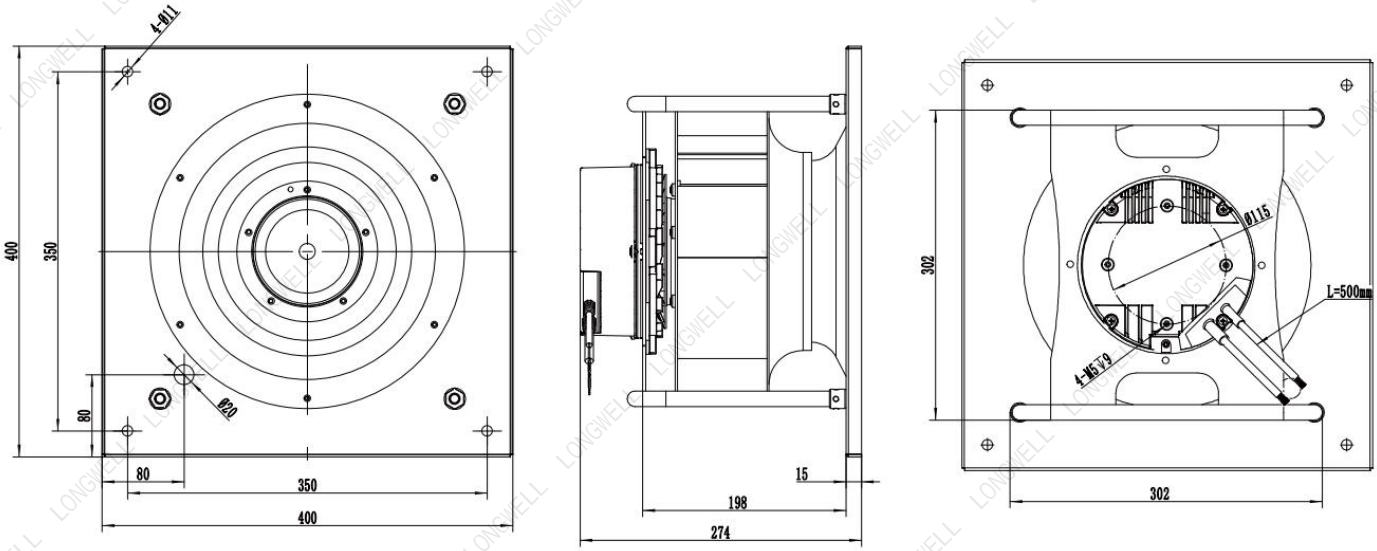
Speed Control	Control input 0~10VDC/PWM/RS485
VSP Control	Control signal VSP voltage range1±0.1VDC~9.5±0.2VDC (During normal operation, when the VSP voltage is below 0.8±0.1VDC, the motor switches from operating mode to standby mode)
PWM Control	PWM signal: frequency 1K ~ 10KHz, amplitude 10V,duty cycle 10% ~ 100% .
Signal Output	Tach output：5 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 <30 seconds to full speed
Serial Communication	LWRS485-02

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Product Drawing



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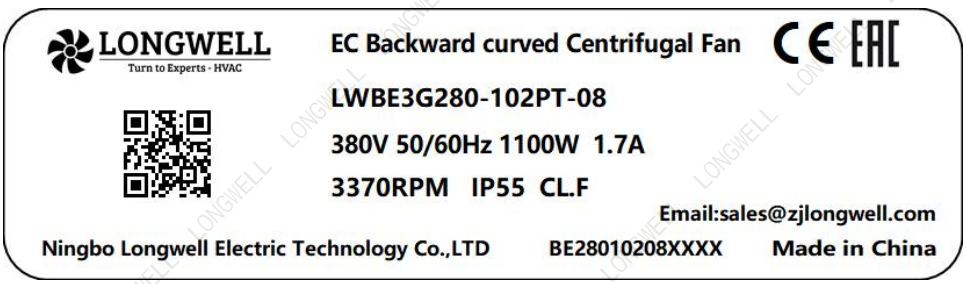
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Wiring Diagram

L	Color	Function	Functional description
L1	Yellow/Green	PE	Ground lead
	Blue	L1	Three-phase power supply terminal Voltage Range: 304~ 456V Frequency:50/60Hz
	Brown	L2	
	Black	L3	
	White	NC	Status relay, normally turn-off； break with error
	Gray	COM	The normally closedterminal of the relay is closed with COMduring normal operation or not poweredon,when the fan fails,it is disconnectedfrom COM.
L2	Brown	RS485A	Bus connection RS485; RSA;MODBUS RTU
	Gray	RS485B	Bus connection RS485; RSB;MODBUS RTU
	Yellow	Speed Control	Speed regulation signal input terminal,0-10VDC voltage /PWM
	White	FG	Velocity feedback pulse output 5 Pulse/R
	Red	+10VDC	Fixed voltage output 10VDC,≦10mA
	Blue	GND	Ground reference end of control signal

Label

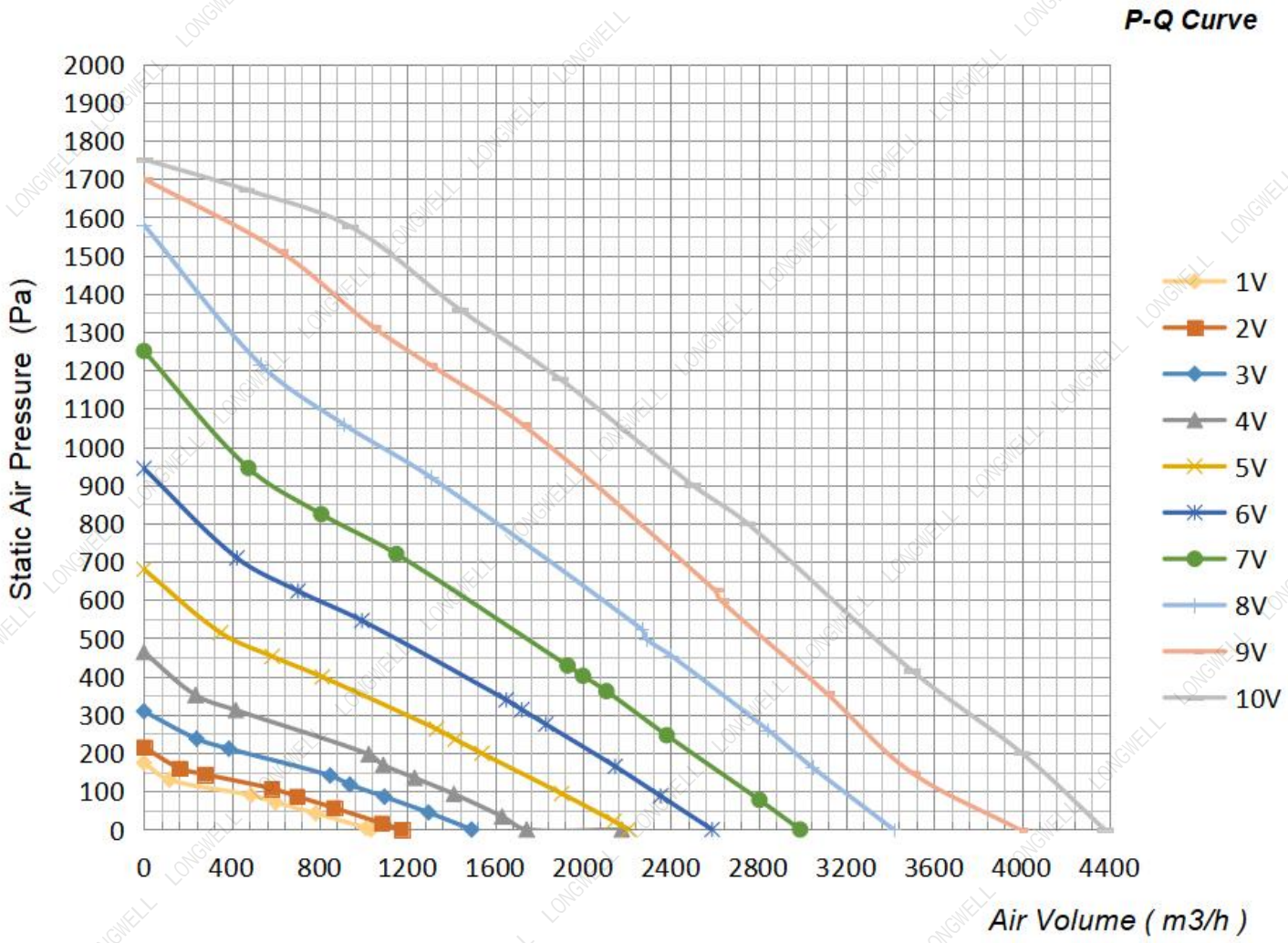


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Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	3907	1010	0	1751
	3835	1010	467	1672
	3813	1010	938	1576
	3558	1010	1438	1360
	3392	1010	1894	1178
	3268	1010	2500	900
	3322	1010	2750	800
	3407	1010	3500	415
	3515	1010	4000	200
	3635	1010	4378	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	3753	930.0	0	1700
	3665	930.0	618	1511
	3500	930.0	1042	1314
	3338	930.0	1300	1215
	3247	930.0	1724	1059
	3130	930.0	2599	627
	3113	930.0	2627	599
	3263	930.0	3110	356
	3327	930.0	3497	149
	3415	930.0	3989	0
8V	3633	675.0	0	1580
	3318	675.0	531	1215
	3087	675.0	910	1059
	2935	675.0	1306	921
	2767	675.0	2267	524
	2820	675.0	2291	497
	2832	675.0	2400	455
	2907	675.0	2842	261
	2938	675.0	3044	164
	3068	675.0	3416	0
7V	3325	471.0	0	1250
	2960	471.0	476	945
	2720	471.0	808	824
	2590	471.0	1150	720
	2478	471.0	1930	428
	2438	471.0	2001	402
	2478	471.0	2108	362
	2542	471.0	2383	246
	2638	471.0	2805	77
	2675	471.0	2990	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2900	312.0	0	943
	2528	312.0	424	710
	2422	312.0	703	623
	2265	312.0	994	546
	2122	312.0	1652	339
	2137	312.0	1722	313
	2170	312.0	1832	275
	2247	312.0	2148	165
	2292	312.0	2354	88
	2342	312.0	2590	0
5V	2470	204.0	0	680
	2163	204.0	350	514
	2033	204.0	585	452
	1933	204.0	813	399
	1803	204.0	1333	263
	1818	204.0	1419	236
	1830	204.0	1540	199
	1912	204.0	1904	94
	1995	204.0	2142	22
	1998	204.0	2208	0
4V	2033	120.0	0	464
	1795	120.0	235	351
	1683	120.0	419	312
	1537	120.0	1025	197
	1505	120.0	1091	169
	1527	120.0	1233	135
	1555	120.0	1413	93
	1615	120.0	1632	34
	1653	120.0	1744	22
	1485	120.0	2178	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
3V	1660	75.0	0	309
	1473	75.0	240	237
	1400	75.0	387	211
	1282	75.0	849	141
	1238	75.0	938	117
	1257	75.0	1096	85
	1313	75.0	1297	44
	1373	75.0	1493	0
2V	1380	45.0	0	215
	1202	45.0	163	160
	1152	45.0	278	144
	1073	45.0	582	107
	1047	45.0	697	87
	1068	45.0	865	57
	1130	45.0	1083	16
	1145	45.0	1173	0
1V	1242	36.0	0	174
	1087	36.0	116	130
	965	36.0	488	90
	948	36.0	600	71
	968	36.0	782	42
	1032	36.0	1012	4
	1040	36.0	1035	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 ☐ Rs485

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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