EC Backward Centrifugal Fan

LWBE3G355-102NT-25

Ningbo Longwell Electric Technology CO.,LTD

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Model No.:	LWBE3G355-102NT-25
Version Number:	A0
Make :	Jin/Pan
Review :	Zhong
Approvd :	Yao/Jiang
Date:	2023.07.05

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]	2550
Current :	[A]	2.1
Power input :	[W]	1100
Air flow (Max) :	[m3/h]	6180
	[CFM]	3635
Static pressure (Max) :	[Pa]	1751
Noise level (LpA):	dB(A)	86
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 5.9 (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 0.8VDC, 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：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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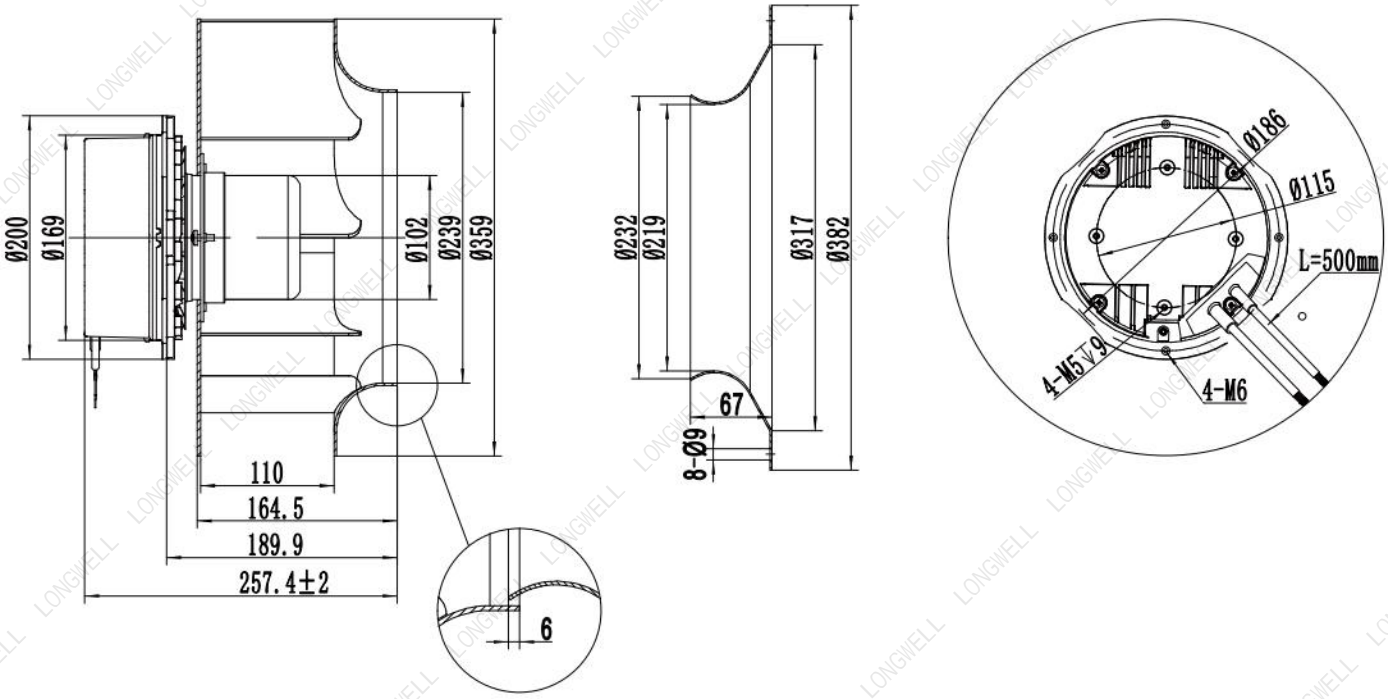
Product Drawing



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Wiring Diagram

L	Color	Function	Functional description
L1	Blue	L1	Three-phase power supply terminalVoltage
	Brown	L2	
	Black	L3	
	Yellow/Green	PE	Ground lead
	White	NC	Status relay, normally turn-off; break with error
	Gray	COM	The normally closedterminal of the relay is closed with COM during normal operation or not poweredon,when the fan fails,it is disconnected from COM.
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
	Brown	RS485A	Bus connection RS485; RSA;MODBUS RTU
	Gray	RS485B	Bus connection RS485; RSB;MODBUS RTU

Label

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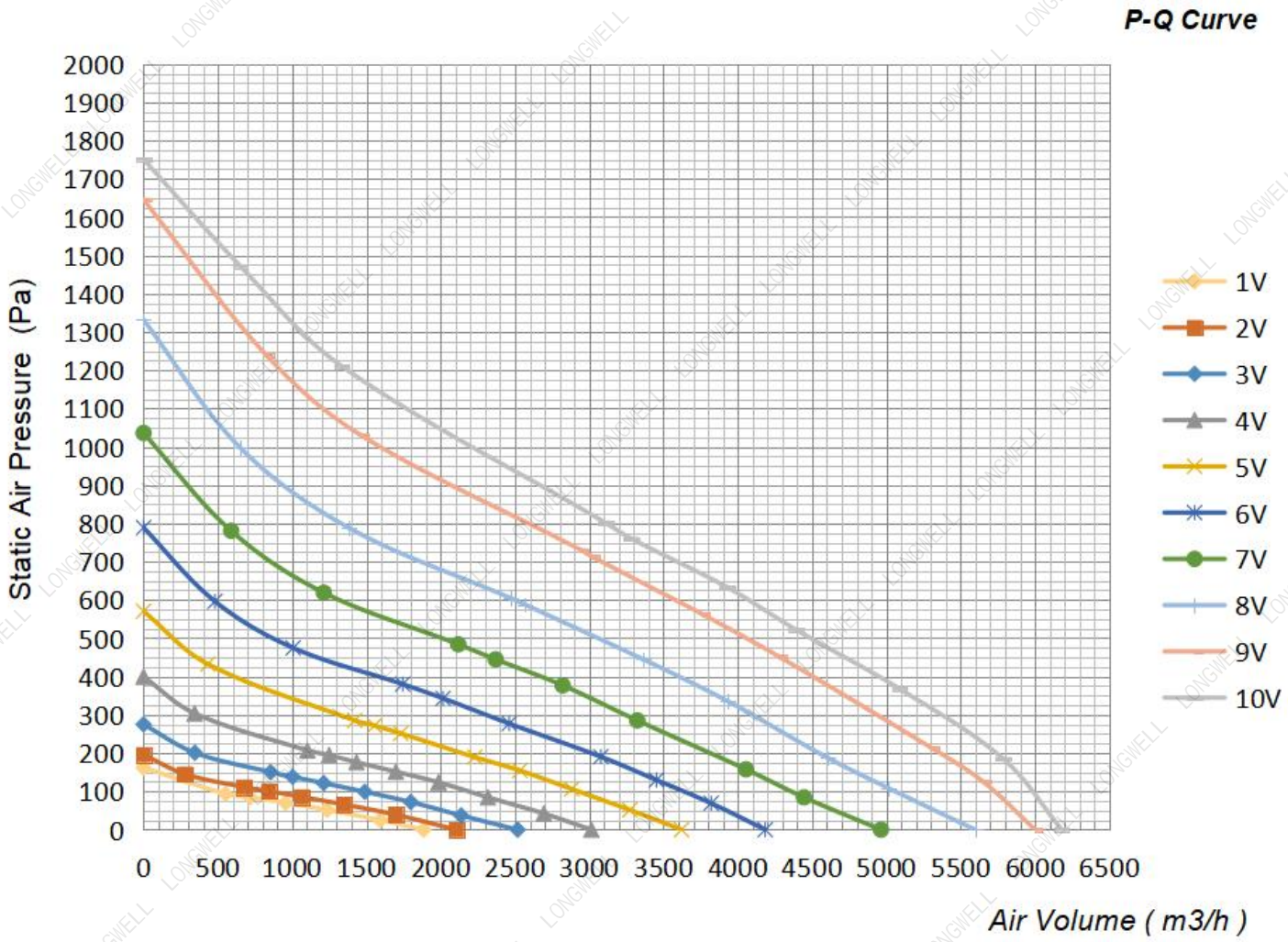
Charts :Air Flow (P-Q)



VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
10V	3100	1110.0	0	1751
	2840	1110.0	652	1472
	2582	1110.0	1335	1210
	2177	1110.0	3110	801
	2168	1110.0	3283	760
	2148	1110.0	3927	633
	2200	1110.0	4391	522
	2247	1110.0	5089	368
	2320	1110.0	5785	185
	2637	1110.0	6180	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
9V	2953	945.0	0	1646
	2620	945.0	825	1240
	2413	945.0	1460	1031
	2100	945.0	2945	730
	2085	945.0	3016	714
	2048	945.0	3758	563
	2068	945.0	4277	452
	2172	945.0	5300	214
	2252	945.0	5650	126
	2342	945.0	6000	0
8V	2683	687.0	0	1332
	2342	687.0	648	999
	2090	687.0	1384	788
	1890	687.0	2472	605
	1853	687.0	2567	588
	1852	687.0	3363	445
	1880	687.0	3931	336
	1978	687.0	4605	187
	1998	687.0	5016	108
	2073	687.0	5597	0
7V	2373	474.0	0	1036
	2075	474.0	589	781
	1843	474.0	1213	619
	1673	474.0	2119	484
	1640	474.0	2370	445
	1633	474.0	2821	377
	1663	474.0	3323	285
	1712	474.0	4055	158
	1773	474.0	4445	84
	1825	474.0	4963	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
6V	2077	318.0	0	789
	1815	318.0	481	596
	1622	318.0	1007	475
	1470	318.0	1744	380
	1448	318.0	2016	343
	1437	318.0	2461	277
	1457	318.0	3078	191
	1497	318.0	3452	130
	1558	318.0	3820	69
	1590	318.0	4184	0
5V	1758	204.0	0	571
	1533	204.0	433	433
	1268	204.0	1421	285
	1252	204.0	1554	272
	1238	204.0	1731	251
	1220	204.0	2229	190
	1232	204.0	2533	155
	1268	204.0	2882	106
	1320	204.0	3273	52
	1363	204.0	3621	0
4V	1468	123.0	0	400
	1293	123.0	344	304
	1087	123.0	1103	207
	1058	123.0	1250	195
	1032	123.0	1433	176
	1025	123.0	1698	151
	1025	123.0	1986	124
	1060	123.0	2318	84
	1107	123.0	2694	42
	1148	123.0	3014	0

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VSP	Speed(RPM)	Power input(W)	Airflow(m^3 /h)	Static pressure(Pa)
3V	1218	75.0	0	275
	1048	75.0	346	201
	918	75.0	855	150
	888	75.0	1004	138
	868	75.0	1213	122
	862	75.0	1490	99
	872	75.0	1799	72
	912	75.0	2137	37
	967	75.0	2518	0
2V	1025	48.0	0	196
	888	48.0	279	145
	785	48.0	677	111
	762	48.0	843	101
	737	48.0	1063	85
	730	48.0	1348	66
	760	48.0	1696	39
	812	48.0	2106	0
1V	933	36.0	0	162
	717	36.0	552	94
	697	36.0	717	84
	670	36.0	955	70
	668	36.0	1235	52
	702	36.0	1593	25
	748	36.0	1885	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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