Product specification

Model:ECF(K)8D355-PLHDAJ11-RF

Fan type:EC Backward curved centrifugal fan

Manufactory:Zhejiang MingZhen Electric & Electronic Co., Ltd.

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Fan Introduction

This product consist of outer rotor(EC)motor, backward curved centrifugal impeller, with features of compact structure, large airflow, high static pressure, low vibration, low noise, convenient installation, energy saving, high efficiency etc..

Scope of application

General purpose fan, can be widely used in purification of air conditioning systems, ventilation duct dust, environmental protection, refrigeration equipment and other fields.

Environmental requirements

- ●Operating ambient temperature range:-25℃~+50℃
- ●Working environment humidity range:≤90%
- ●Transportation and storage temperature range:-40℃~+80℃
- ●Transportation and storage environment humidity range:≤80%
- ●The storage place is well ventilated, corrosive gases not contained.

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Design, manufacturing, testing standards and certification

- JB-T10563 Technical specification for general purposes centrifugal fans
- GB/T 14711 General safety requirements for Medium and small rotary motor
- GB/T 755/IEC60034-1 rotary motor quota and performance
- GB 4706.32-2012/IEC 60335-2-40:2005 Household and similar electrical appliances - Safety - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers
- The level of balance is in accordance with ISO 1940, G6.3
- Vibration testing and velocity is performed according to JB/T8689.
- This product is certified by China CCC and EU CE
- ISO 9001 quality system certification

Technical features

Mass	17 kg
Size	φ355 mm
Impeller material	Sheet aluminium
Rotation	Counter-clockwise(Seen from cable exit)
Protection class	IP54
Insulation class	F
Mounting	Shaft horizontal or rotor on bottom; rotor on top on request
Mode of operation	S1(Continuous operation)
Bearings	Maintenance-free ball bearings
Controller	Controller integrated with motor, 0~10V or PWM control

Structures

Inlet type	Single Inlet
Impeller type	Backward curved impeller
Housing	Without housing; With inlet ring;

Technical parameters

Supply	3P,380~480V
Frequency	50/60 Hz

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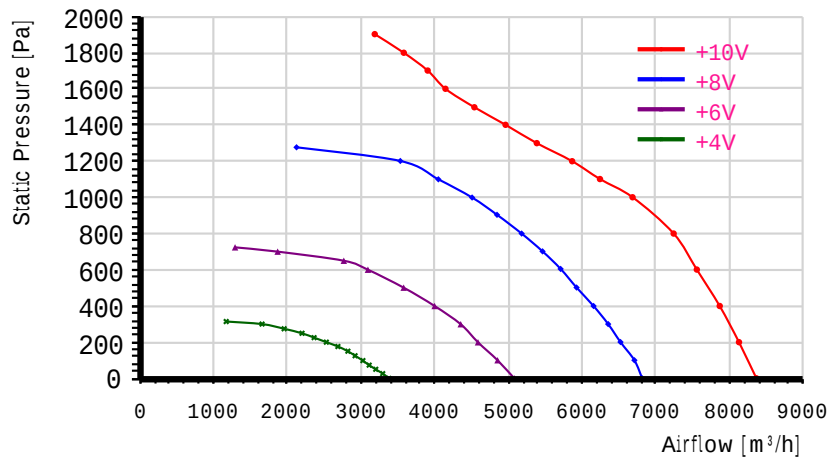
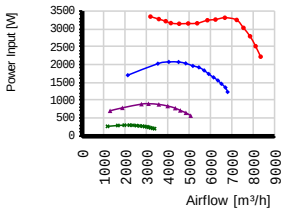
Rated voltage	400 VAC
Power input	3250 W
Rated current	5.1 A
Rated speed	3200 r/min
Max airflow	8350 m³/h (Static pressure=0Pa)
Acoustic	86 dB(A) measured at 1.0m from inlet side
ErP level	2015

Performance curve

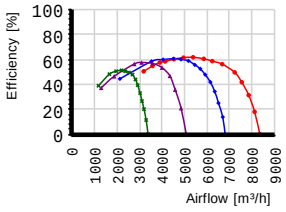
Airflow curve



Power input curve



Efficiency on static pressure



Performance test with reference to GB/T 1236-2017, equivalent to ISO 5801

TestID	2018011311	Control voltage	10 VDC

Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
398.6mm	0.1248㎡	9℃	42%	102.9kPa	1.2kg/m³

Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
399.7	50	3372	3341	5.31	3185	1902	32	1934	244	150+189*1
399.1	50	3264	3271	5.17	3580	1799	40	1839	308	150+189*1
401.4	50	3229	3211	5.03	3904	1701	48	1749	366	150+189*1
400.2	50	3164	3157	5.02	4145	1600	54	1654	412	150+189*1
399.9	50	3163	3140	4.98	4537	1498	64	1563	494	150+189*1
401	50	3147	3148	4.97	4960	1401	77	1478	228	150+189*2

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399.6	50	3153	3154	4.96	5384	1300	91	1391	268	150+189*2
400.8	50	3217	3237	5.09	5864	1200	108	1307	317	150+189*2
402.6	50	3274	3258	5.12	6241	1101	122	1223	359	150+189*2
400.9	50	3337	3309	5.22	6683	1001	140	1141	217	150+189*3
400.1	50	3402	3246	5.18	7240	800	164	965	254	150+189*3
400.1	50	3402	3025	4.81	7555	601	179	780	277	150+189*3
400.4	50	3402	2790	4.51	7865	400	194	594	300	150+189*3
399.2	50	3402	2511	4.06	8127	200	207	407	320	150+189*3
399.7	50	3402	2215	3.6	8363	0	220	220	339	150+189*3

TestID	2018011312	Control voltage	8 VDC

Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
398.6mm	0.1248㎡	10℃	42%	102.9kPa	1.2kg/m³

Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
402.2	50	2760	1698	2.79	2125	1277	14	1291	288	+189*1
400.3	50	2760	2021	3.24	3533	1201	39	1240	300	150+189*1
402	50	2760	2070	3.31	4049	1100	51	1151	394	150+189*1
399.4	50	2760	2067	3.33	4507	999	64	1062	487	150+189*1
400.5	50	2760	2030	3.26	4845	904	74	978	217	150+189*2
399.5	50	2760	1958	3.16	5179	800	84	884	248	150+189*2
398.6	50	2760	1916	3.1	5463	702	94	795	276	150+189*2
398.6	50	2760	1832	2.98	5708	605	102	707	301	150+189*2
401.1	50	2760	1731	2.83	5924	502	110	611	324	150+189*2
400.8	50	2760	1636	2.7	6154	400	119	519	349	150+189*2
402.5	50	2760	1549	2.55	6353	300	126	426	372	150+189*2
401.7	50	2760	1457	2.43	6519	201	133	334	392	150+189*2
400.9	50	2760	1351	2.28	6708	100	141	241	415	150+189*2
399.2	50	2760	1226	2.09	6813	1	145	146	428	150+189*2

TestID	2018011401	Control voltage	6 VDC

Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
398.6mm	0.1248㎡	8℃	61%	102.6kPa	1.2kg/m³

Test data										
Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
400.9	50	2059	699	1.25	1291	724	5	729	270	150+189*0
399.9	50	2059	783	1.42	1868	700	11	711	224	+189*1

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399.8	50	2059	887	1.55	2766	650	24	674	489	+189*1
399.6	50	2059	898	1.53	3094	600	30	630	231	150+189*1
401.2	50	2059	878	1.53	3578	501	40	542	309	150+189*1
401.6	50	2059	832	1.49	3998	400	50	450	385	150+189*1
400	50	2059	774	1.41	4352	299	60	359	456	150+189*1
400.2	50	2059	710	1.28	4587	199	66	265	506	150+189*1
401.8	50	2059	644	1.16	4852	100	74	174	566	150+189*1
401.2	50	2059	564	1.08	5079	0	81	81	620	150+189*1

TestID	2018011402	Control voltage	4 VDC

Test environment					
Outlet size	Outlet area	Temperature	Humidity	Baropressure	Density
398.6mm	0.1248㎡	8℃	61%	102.6kPa	1.2kg/m³

Test data

Voltage	Frequency	Speed	Power input	Current	Airflow	Static pressure	Dynamic pressure	Total pressure	Pressure Differenc	Nozzle Size
V	Hz	r/min	W	A	m³/h	Pa	Pa	Pa	Pa	mm
397.4	50	1377	263	0.62	1171	314	4	318	223	150+189*0
400.3	50	1377	287	0.66	1657	300	9	308	444	150+189*0
401.3	50	1377	295	0.67	1957	274	12	286	246	+189*1
400.4	50	1377	297	0.66	2199	249	15	264	310	+189*1
400.4	50	1377	293	0.71	2363	225	18	243	357	+189*1
400.5	50	1377	284	0.69	2529	200	20	220	409	+189*1
399.7	50	1377	275	0.64	2686	176	23	199	461	+189*1
399.8	50	1377	268	0.65	2821	150	25	175	508	+189*1
398.6	50	1377	258	0.64	2919	125	27	152	206	150+189*1
400.3	50	1377	250	0.62	3025	98	29	127	221	150+189*1
400	50	1377	237	0.63	3110	73	30	104	234	150+189*1
400.2	50	1377	221	0.57	3199	50	32	82	247	150+189*1
399.7	50	1377	209	0.55	3294	26	34	60	262	150+189*1
401	50	1377	197	0.52	3379	0	36	36	276	150+189*1

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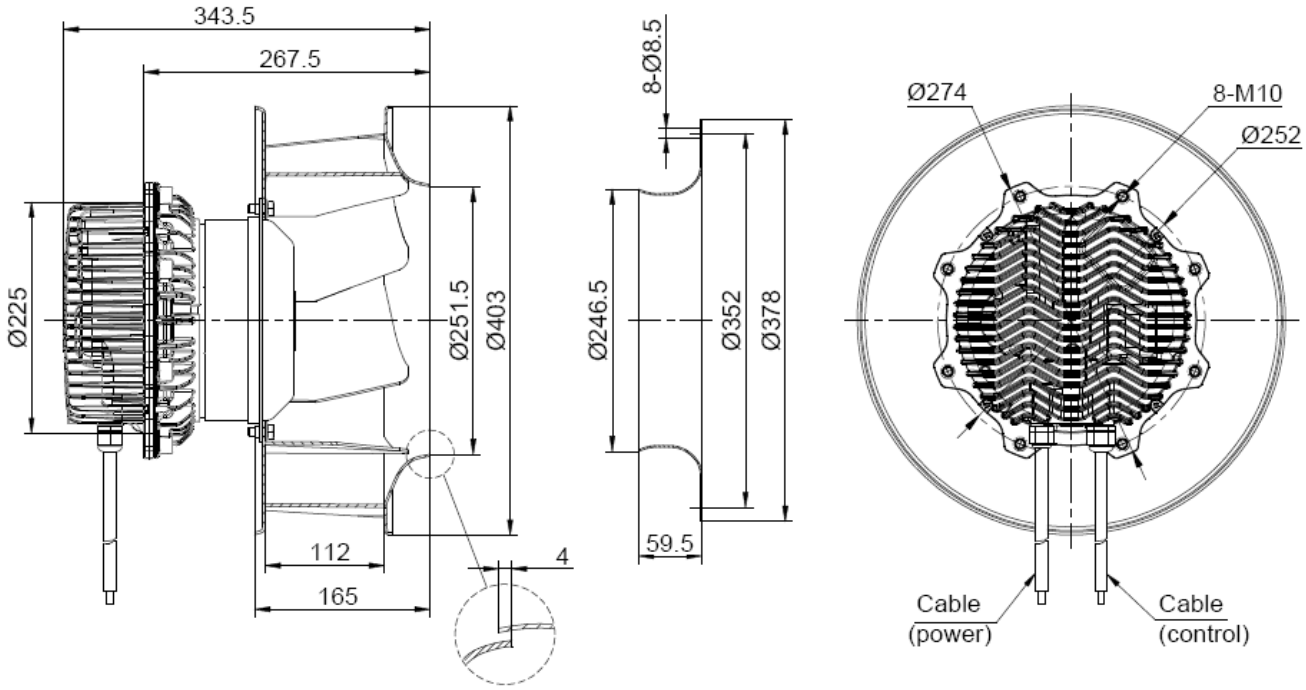
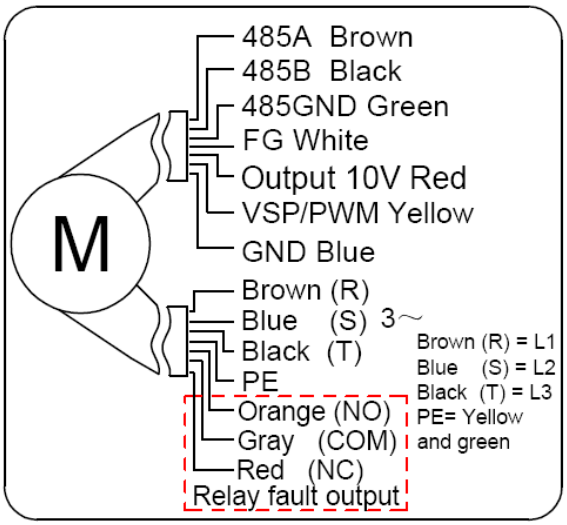
Dimensions(in mm)



Wiring diagram



Electrical connections

Connection	Assignment/function
L1、L2、L3	Three-phase supply connection, voltage range 380-480VAC, frequency 50/60Hz
PE	Protective earth
485A	RS485 interface for MODBUS-RTU

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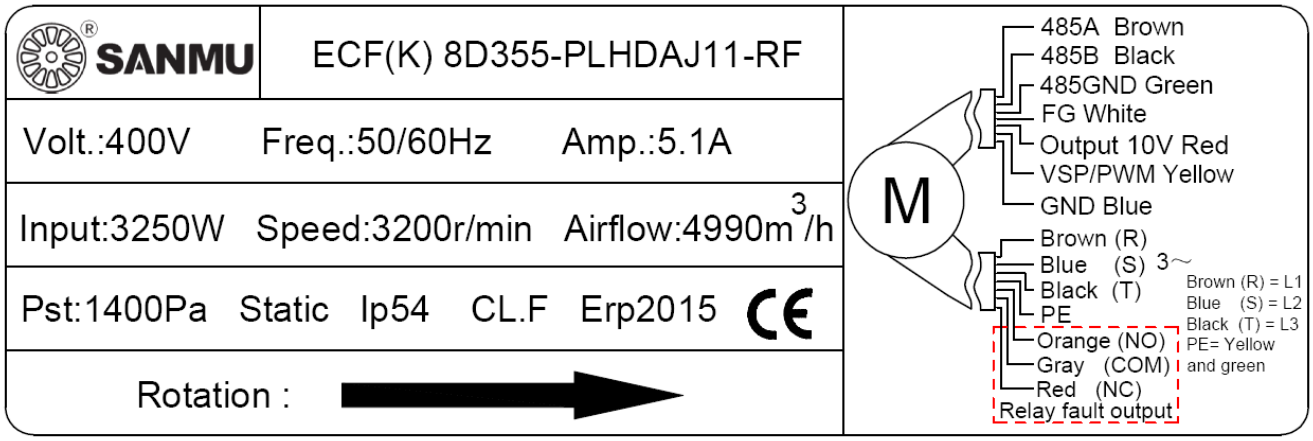
485B	RS485 interface for MODBUS-RTU
485GND	Reference ground for control interface
NC	Status relay, mode2--close on normal, open on fault
COM	Common connection of status relay, contact rating 250VAC/3A
NO	Status relay, mode2--open on normal, close on fault
FG	Speed feedback pulse output, 2 pulses per revolution, can be customized
+10V	10VDC output,maximum output current 10mA
VSP/PWM	Speed control signal input connection, 0-10V voltage or PWM signal (amplitude 10-12V, frequency 1-10kHz)
GND	Signal ground for control interface

NamePlate



Attentions

★Please check the appearance and the accessories if there is no damage before use, check the model is consistent with requirements;

★Keep reliable grounding according to the wiring diagram. to avoid motor burning and personal accident, please check wiring is loose or fall off;

★Before connect the power supply, check whether the motor is reliable, otherwise it will cause motor damage and personal injury;

★It is forbidden to pull the power cable, if the power cable is damaged, to be repaired before use, to avoid the accident of electric shock;

★Drop or impact motor is forbidden;

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★Washing motor with water is prohibited, it will reduce the motor insulation level, even lead to electric leakage even endanger personal safety;

★Special customized product is designed for specified requirements, please consult with our engineers before change useage;

★The temperature of the motor shell may be higher in a short time after the fan stopped, Please avoid direct contact with the motor surface. If necessary, please take protective measures to prevent scald;

★Do not contact the impeller when the fan running, you need to wait for all the parts stopped before operate it;

★When the fan is installed, check and ensure thers is no debris in the shell and other shell body, keep the fan clean;

★After the fan installation complete, before connected to supply, please confirm that there is no collision or interference or stuck.

Product life and maintenance, warranty

●The design life of this product is 40,000 hours. This data is derived from the expected life of L10 for general ball bearings at 40℃ is 40,000 hours. The actual service life of the product is affected by the use environment (temperature, humidity, installation, bearing load, etc.).

●According to the use of the environment, please make a clean maintenance every 3~6 months.

●From the date of purchase (order delivery date), The warranty period is one year. During this period, for failure due to the quality of the product itself, we provide free replacement or repairing. If the damage caused by improper disassembly, transportation, artificial damage or natural disasters, etc., is not in the scope of this warranty;