SUNON®

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SUNON®

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2024/10/21 (260-W)

Thermal Solution

Renewable Energy

ESS/PV Inverter/EV charging stations

*All products are RoHS compliant.

SUNON®

Thermal Solution

Renewable Energy

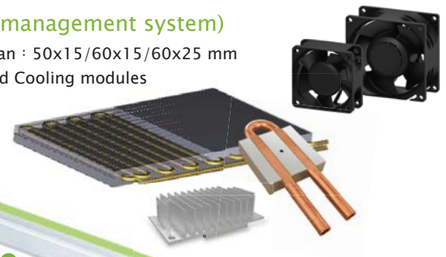
ESS/PV Inverter/EV charging stations

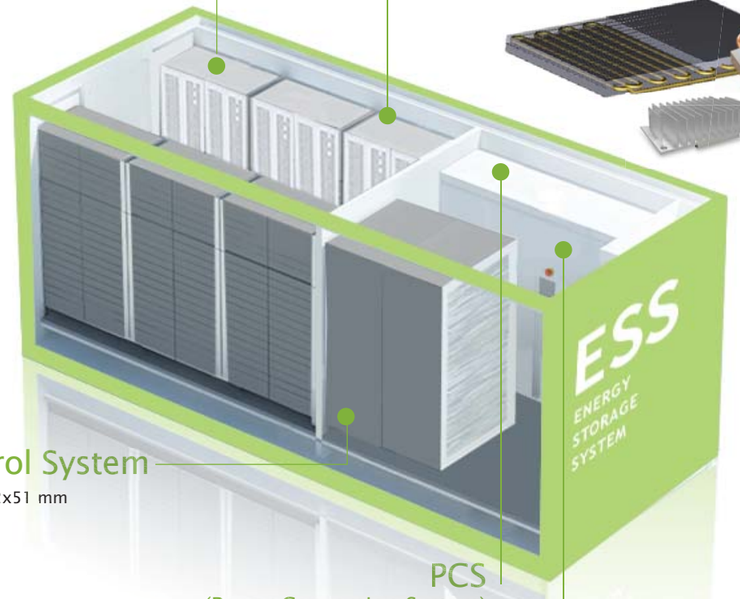
BMS
(Battery Management System)

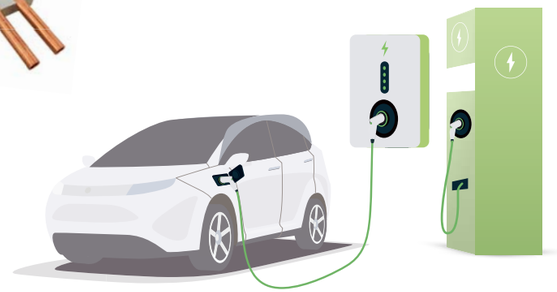
DC Axial Fan：92x38 mm
Customized Cooling modules

EMS
(Energy management system)

DC Axial Fan：50x15/60x15/60x25 mm
Customized Cooling modules







EV charging stations

DC Axial Fan：40x20/40x28/50x15/60x15/60x25/80x25/
80x38/92x25/97x33/120x25/120x38 mm
EC Axial Fan：120x38/250x78 mm
AC Fan：171x51/176x89 mm
Customized Cooling modules

PV INVERTER

DC Axial Fan：60x25/60x38/80x25/80x38/92x25/120x25/120x38 mm
EC Axial Fan：120x38 mm
AC Fan：120x38 mm
Customized Cooling modules

PCS
(Power Conversion System)

DC Axial Fan：50x15/60x15/60x25 mm
Customized Cooling modules

Fire Safety System

EC Axial Fan：120x38 mm
Customized Cooling modules

Sunon Offers Optimum Thermal Solution Integrated Heat Dissipation Technology and Services

With over 40 years solid thermal management experience, SUNON has been committed to delivering the latest technical expertise in motor and cooling technology by investing our research and development operations. We are an original brand cooling product manufacturer, offering one-stop service ranged from design, development, to manufacture such as fan, vapor chamber and heat pipes. SUNON with scientific stimulation analysis capability is not only equipped to provide a total thermal solution by integrating heat conductive material and components, but also offers a series of heat dissipation services, such as customizing product function, structures and costing, to suit our clients' thermal requirements.

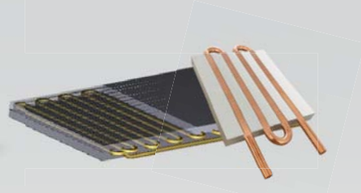
- High performance cooling module, possesses high capability of dissipating heat energy.
- Most economic total thermal solution, increases the customer's product profitability.
- Strong thermal experience and technology, provide optimized customized module.
- IP21~IP68 protection design, adaptable to a variety of environments.

Heat Sink Series

- Economic design solution
- Multiple type product
  - Extrusion
  - Skived fin
  - Stacked fin

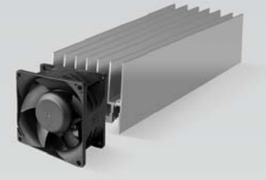
Heat Pipe Module

- Two-phase heat transfer device
- Flexible design feasibility
- High thermal conductivity



Cold Plate

- High Power Density
- Large Power
- Effectively reduce the module size



Air Cooling Module

- Integrated Solution
- High Thermal Efficiency
- Custom Design Heat Dissipation

SUNON®

Cooling Fan

Renewable Energy

ESS / PV Inverter

DC/EC Axial Fans for Energy Storage System (ESS)

size (mm)	Fan Type	Model	Voltage (V)	Freq. (Hz)	Power (W)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H2O)	Noise (dB(A))	Temperature (℃)	Lifetime (hours)	IP Range	Anti-surge Circuit
30x30x10	DC	MF30101V1-1000	12		0.66	11,500	5.5	0.25	23.0	-10℃~70℃	60,000hrs@40℃	IP21	
35x35x10	DC	MF35100VX-1Q02	5		0.66	10,000	7.2	0.22	30.3	-10℃~80℃	70,000hrs@40℃	IP21	
40x40x28	DC	GF40281B1-Q040	12		6.96	17,600	24.6	2.07	58.1	-10℃~70℃	70,000hrs@40℃	GR487	
50x50x10	DC	MF50101V1-1000	12		0.84	5,800	13.8	0.15	30.7	-10℃~70℃	60,000hrs@40℃	IP21	
50x50x15	DC	MF50152VX-1000	24		1.32	7,200	18.6	0.31	38.1	-10℃~70℃	60,000hrs@40℃	IP21	
60x60x15	DC	MF60151VX-1000	12		1.98	5,400	30.4	0.22	36.2	-10℃~70℃	60,000hrs@40℃	IP21	
60x60x25	DC	PF60252BX-1000	24		3.22	8,300	40.0	0.66	46.0	-10℃~60℃	70,000hrs@40℃	IP55 ★	
92x92x38	DC	PF92381BX-1000	12		50.40	12,000	182.4	2.94	70.2	-10℃~60℃	70,000hrs@40℃	IP55 ★	●
120x120x38	DC	PFC0382BX-1Q02	24		31.20	6,000	233.7	1.16	62.4	-20℃~80℃	70,000hrs@40℃	IP52 ★	
120x120x38	DC	XGC0382BX-1Q01	24		96.00	11,600	307.1	5.62	78.5	-10℃~70℃	70,000hrs@40℃	IP55 ★	●
170x150x51	DC	PFH0512BX-1Q01	24		39.60	5,300	355.3	0.98	66.9	-10℃~70℃	70,000hrs@40℃	IP55 ★	●
172x170x51	DC	XGH2512BX-1000	24		192.00	10,000	542.3	5.05	74.7	-10℃~70℃	70,000hrs@40℃	IP55 ★	●
120x120x38	EC	CF4113HBL-0000	100-240	50/60	5.10	3,500	109.0	0.37	44.9	-25℃~+70℃		IP55 ATEX	
120x120x38	EC	CF4113HBL-0000	100-240	50/60	5.10	3,500	109.0	0.37	44.9	-25℃~+70℃		IP68 ATEX	
120x120x38	EC	CF4113MBL-0000	100-240	50/60	3.40	3,000	90.1	0.31	40.2	-25℃~+70℃		IP55 ATEX	
120x120x38	EC	CF4113MBL-0000	100-240	50/60	3.40	3,000	90.1	0.31	40.2	-25℃~+70℃		IP68 ATEX	
120x120x38	EC	CF4113LBL-0000	100-240	50/60	1.80	2,000	64.3	0.17	31.4	-25℃~+70℃		IP55 ATEX	
120x120x38	EC	CF4113LBL-0000	100-240	50/60	1.80	2,000	64.3	0.17	31.4	-25℃~+70℃		IP68 ATEX	

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DC/AC/EC Axial Fan for PV Inverter

size (mm)	Fan Type	Model	P/N	Voltage (V)	Freq. (Hz)	Power (W)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H2O)	Noise (dB(A))	Temperature (℃)	Lifetime (hours)	IP Range	Anti-surge Circuit
40x40x28	DC	GF40281B1-Q040		12		6.96	17,600	24.6	2.07	58.1	-10℃~70℃	70,000hrs@40℃	GR487	
92x92x38	DC	PF92381BX-1000		12		50.40	12,000	182.4	2.94	70.2	-10℃~70℃	70,000hrs@40℃	IP55 ★	
92x92x38	DC	GF92382BX-1000		24		40.80	9,000	172.9	1.73	66.8	-10℃~60℃	70,000hrs@40℃	GR487	
92x92x38	DC	PF92382BX-Q02		24		45.60	13,000	182.4	2.94	74.1	-10℃~70℃	70,000hrs@40℃	IP21 ★	
92x92x38	DC	GF92382B1-Q04		24		27.60	10,500	147.4	2.10	67.1	-10℃~60℃	70,000hrs@40℃	GR487	
120x120x25	DC	PFC0251B1-1Q06		12		10.80	4,400	150.6	0.56	56.8	-10℃~70℃	70,000hrs@40℃	IP55 ★	
120x120x38	DC	PFC0381BX-1Q14		12		32.40	6,000	232.3	1.14	63.5	-20℃~80℃	70,000hrs@40℃	IP21 ★	
120x120x38	DC	PFC0382BX-1Q02		24		31.20	6,000	233.7	1.16	62.4	-20℃~80℃	100,000hrs@60℃	IP21 ★	●
120x120x38	AC	SP100A	1123XBL.GN	115	50/60	22/20	2,850/3,150	97/117	0.34/0.39	45/50	-10℃~70℃		IP21~55	
120x120x38	AC	SP101A	1123HBL.GN	115	50/60	20/18	2,750/3,050	87/107	0.26/0.32	45/50	-10℃~70℃		IP21~55	●
120x120x38	AC	DP200A	2123XBL.GN	220-240	50/60	22/21	2,850/3,150	97/117	0.34/0.39	45/50	-10℃~70℃		IP21~55	●
120x120x38	AC	DP200A	2123XBT.GN	220-240	50/60	22/21	2,850/3,150	97/117	0.34/0.39	45/50	-10℃~70℃		IP21~55	●
120x120x38	AC	A1123-HBT	GN	115	50/60	23/20	2,700/3,100	97/117	0.34/0.39	45/50	-10℃~70℃		IP21~55	
120x120x38	AC	A2123-HBT	GN	220-240	50/60	23/20	2,700/3,100	97/117	0.34/0.39	45/50	-10℃~70℃		IP21~55	
120x120x38	EC	CF4113HBL-0000		100-240	50/60	5.1	3,500	109.0	0.37	44.9	-25℃~70℃		IP55-IP68	
120x120x38	EC	CF4113MBL-0000		100-240	50/60	3.4	3,000	90.1	0.31	40.2	-25℃~70℃		IP55-IP68	
120x120x38	EC	CF4113HBL-10000		100-240	50/60	5.1	3,600	109.0	0.37	44.9	-25℃~70℃	70,000hrs@40℃	IP55, PWM	
120x120x38	EC	CF4113MBL-10000		100-240	50/60	3.6	3,100	90.1	0.37	40.2	-25℃~70℃	70,000hrs@40℃	IP55, PWM	

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Ingress Protection for Environmental Applications

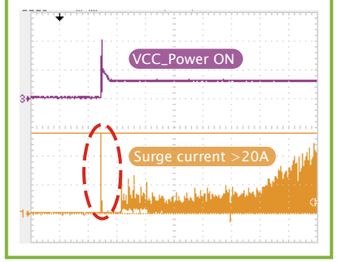
※ After being irradiated by a UV lamp, it will show a fluorescent reaction.

Ingress Protection	IP21-IP51	IP52-IP66	IP67-IP68	GR487
Technics	Conformal Coating	Conformal Coating	Parylene Coating	Potting
Available	Sleeve/Vapo/Ball	Ball	Ball	Ball
Cost	low ——————————→ High			

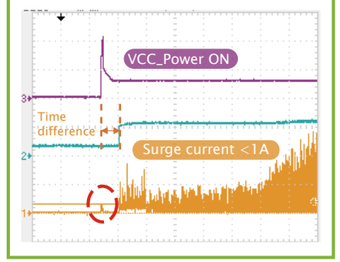
Anti-Surge Circuit

SUNON's fan with the customized protection is designed to minimize damage caused by inrush current to the fan after a startup of system. By applying the solution, the amount of input current into the fan is managed within 10 times limit to the input steady-state current that ensures the best operation of heat dissipation to maintain the effectiveness of the system.

Unlimited Protection



Inrush Current Limit



SUNON®

Thermal Solution

Renewable Energy

EV charging stations

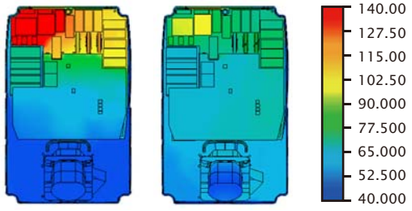
EV charging systems can adapt DC electricity, transformed from solar power, to give renewable power for electric vehicle use. A massive amount of heat is generated during the charging process, leading to system breakdowns and additional costs if poorly designed thermal management is applied.
SUNON offers highly effective thermal solutions for EV charging stations that enhance the efficiency of clients' systems to increase the utilization of green power.

Outdoor-level waterproof protection
Long service lifespan
Low vibration & Less Noise
Efficient heat dissipation

SUNON's technical strength has been built day by day, and accompanying the latest EV charging technology, SUNON aims to provide total thermal solutions to meet a variety of application needs.

Two-Phase Cooling Solutions for Wall-Mounted Charging Stations

> Exclusive to EV charging applications
> Light and custom-created thermal solutions
> Nickel plating technics to enhance the module's lifespan.



Before After

Fan Solutions for Stand-Alone Charging Stations

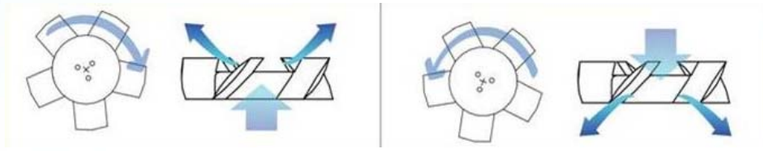
> Thermal management with efficiency
> Optimal heat dissipating design
> Premium IP68 rating protection

120x120x38 80x80x38 92x92x38

Automatic Dust-cleaning Fan Design

SUNON's thermal solution has a built-in patented smart design, an anti-dust electrical circuit that can be customized for a dust-cleaning setting and schedule.
By using the fan's reaction forces:
> To rid dirt on the blades, equivalent to IP5X dustproof protection, to ensure stable airflow.
> Free from a grimy fan, reducing rising temperature and noises, to extend fan service lifespan.

To maintain the solution's high effectiveness and thermal longevity.



DC/AC/EC Axial Fan for EV Charging Systems

size (mm)	Fan Type	Model	P/N	Voltage (V)	Freq. (Hz)	Power (W)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H2O)	Noise (dB(A))	Temperature (℃)	Lifetime (hours)	IP Range	Anti-surge Circuit
40x40x20	DC	MF40201VX-1Q09		12		0.99	9,500	10.7	0.40	33.8	-10℃~70℃	60,000hrs@40℃	IP21	
40x40x28	DC	GF40281B1-Q040		12		6.96	17,600	24.6	2.07	58.1	-10℃~70℃	70,000hrs@40℃	GR487	
40x40x28	DC	PF40281BX-1000		12		11.40	22,000	31.3	3.12	62.0	-10℃~70℃	70,000hrs@40℃	IP55 ★	●
40x40x28	DC	GF40281B1-Q01		12		6.96	17,600	24,6	2.07	58.1	-10℃~70℃	70,000hrs@40℃	IP68	
50x50x15	DC	MF50151VX-1B00		12		1.86	6,200	5.4	0.97	42.2	-10℃~70℃	70,000hrs@40℃	IP21	
50x50x15	DC	MF50151V1-1D09		12		0.80	6,100	17.0	0.23	33.0	-10℃~70℃	60,000hrs@40℃	IP21	
60x60x15	DC	MF60151V1-1000		12		1.32	4,700	26.4	0.18	34.2	-10℃~70℃	60,000hrs@40℃	IP21	
60x60x25	DC	GF60251BX-1Q01		12		14.40	12,900	54.8	1.44	55.4	-30℃~70℃	70,000hrs@40℃	GR487	
60x60x25	DC	MF60252VX-1000		24		1.92	5,200	27.0	0.31	31.2	-10℃~70℃	70,000hrs@40℃	IP21	
80x80x25	DC	GF80251B1-000		12		3.96	4,800	60.0	0.41	47.5	-10℃~70℃	70,000hrs@40℃	IP68	
80x80x38	DC	PF80381B1-1Q05		12		24.00	11,200	110.0	2.08	63.9	-10℃~70℃	70,000hrs@40℃	IP21 ★	●
80x80x38	DC	GF80381B1-Q01		12		24.00	11,200	112.2	2.04	67.4	-10℃~70℃	70,000hrs@40℃	GR487	
92x92x25	DC	PF92251B1-1D06		12		4.32	4,500	75.0	0.35	46.1	-10℃~70℃	70,000hrs@40℃	IP55 ★	
92x92x38	DC	PF92381BX-1000		12		50.40	12,000	182.4	2.94	70.2	-10℃~60℃	70,000hrs@40℃	IP55 ★	●
92x92x38	DC	GF92381B1-Q01		12		24.00	10,500	147.4	2.10	67.1	-10℃~70℃	70,000hrs@40℃	GR487	
97x94x33	DC	PF97331B1-1C05		12		1.60	5,700	46.5	3.29	59.8	-10℃~70℃	70,000hrs@40℃	IP55 ★	
120x120x25	DC	PFC0251B1-1Q06		12		10.80	4,400	150.6	0.56	56.8	-10℃~70℃	70,000hrs@40℃	IP55 ★	
120x120x38	DC	PFC0382BX-1Q02		24		31.20	6,000	233.7	1.16	62.4	-20℃~80℃	70,000hrs@40℃	IP52 ★	
171x151x51	AC	A1175-HBL	TC.GN	115	50/60	25/27	2,800/3,200	203/239	0.62/0.69	51/58	-10℃~70℃		IP21~55	
171x151x51	AC	A2175-HBL	TC.GN	220-240	50/60	25/26	2,800/3,200	203/239	0.62/0.69	51/58	-10℃~70℃		IP21~55	
176x176x89	AC	A1179-HBL	TC.GN	115	50/60	24/30	2,800/3,250	315/335	0.65/0.80	62/66	-10℃~70℃		IP21	
176x176x89	AC	A2179-HBL	TC.GN	220-240	50/60	23/30	2,800/3,250	315/335	0.65/0.80	62/66	-10℃~70℃		IP21	
120x120x38	EC	CF4113HBL-0000		100-240	50/60	5.10	3,500	109.0	0.37	44.9	-25℃~70℃		IP55-IP68 ATEX	
120x120x38	EC	CF4113MBL-0000		100-240	50/60	3.40	3,000	90.1	0.31	40.2	-25℃~70℃		IP55-IP68 ATEX	
120x120x38	EC	CF4113LBL-0000		100-240	50/60	1.80	2,000	64.3	0.17	31.4	-25℃~70℃		IP55-IP68 ATEX	
250x250x77	EC	CF4207HBL-10000		100-240	50/60	16.50	2,100	438.0	0.57	53.4	-40℃~50℃		IP21, IP55	
250x250x77	EC	CF4207LBL-10000		100-240	50/60	5.00	1,350	280.0	0.27	41.2	-40℃~50℃		IP21, IP55	

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Cooling Modules Solutions

SUNON offers a variety of cooling components, configuring the best thermal systems based on clients' applications. We are determined to satisfy all customer conditions, including functions, design and cost.

> Customized design
> High thermal conductivity
> Excellent heat dissipation