



www.sunon.com

SUNON®

SUNON®

Headquarters
Sunonwealth Electric Machine Industry Co., Ltd.
TEL : +886-7-8135888
E-mail : sunon@sunon.com

Sunon Inc. (U.S.A.)
TEL : +1-714-255-0208
E-mail : info@sunon.com

Sunon SAS (Europe)
TEL : +33-1-46154515
E-mail : europe@sunon.com

Sunon India
TEL : +91 76960 63027
E-mail : sunon@sunon.com



2023/07/07 (260-E)

© 2023 SUNONWEALTH Electric Machine Industry Co., Ltd.

Thermal Solution
Renewable Energy
ESS/PV Inverter/EV charging stations
*All products are RoHS compliant.

Thermal Solution Renewable Energy ESS/PV Inverter/EV charging stations



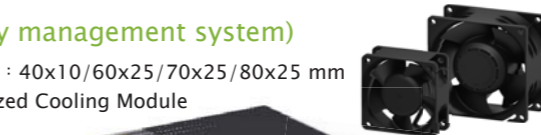
PV INVERTER

Axial Fan : 40x28/60x26/80x38/92x38/120x38 mm
Customized Cooling Module



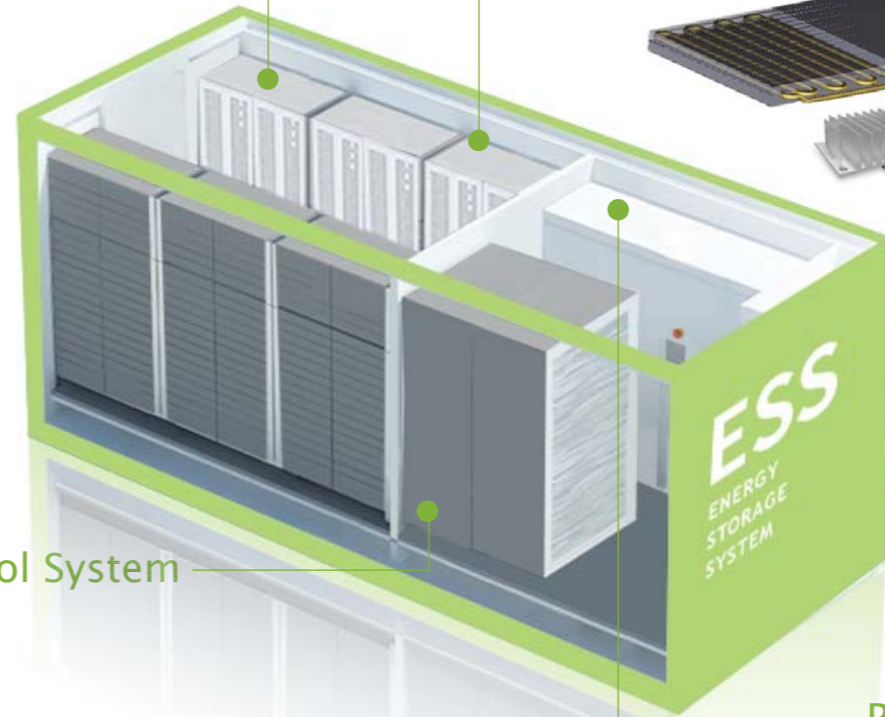
BMS
(Battery Management System)

Axial fan : 80x38/92x38/120x38 mm
Customized Cooling Module



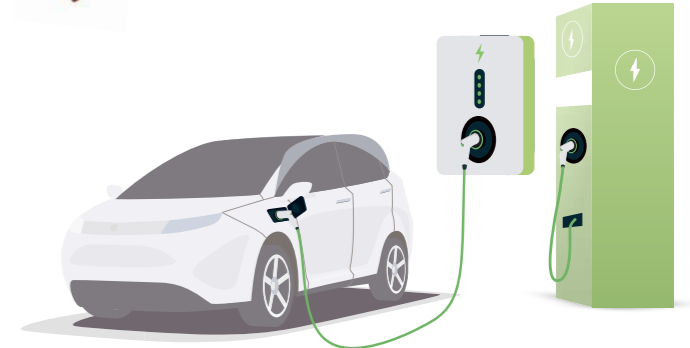
EMS
(Energy management system)

Axial fan : 40x10/60x25/70x25/80x25 mm
Customized Cooling Module



Temperature Control System

Axial fan : 120x38 mm



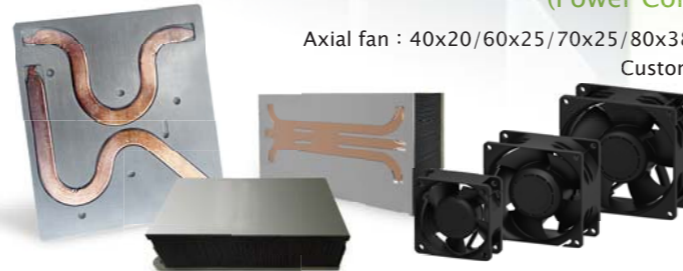
EV charging stations

Axial fan : 80x38/92x38/120x38 mm
Customized Cooling Module



PCS
(Power Conversion System)

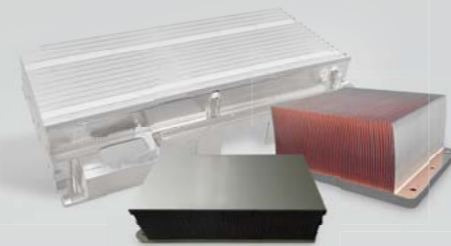
Axial fan : 40x20/60x25/70x25/80x38/92x38/120x25 mm
Customized Cooling Module



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.



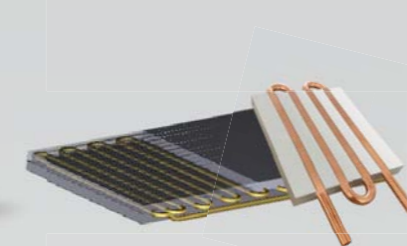
Heat Sink Series

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



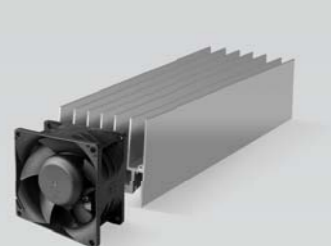
Heat Pipe Module

- 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



Axial Fan for Energy Storage system (ESS)

size (mm)	Model	Voltage (V)	Power (W)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H2O)	Noise (dB(A))	Temperature (°C)	Lifetime (hours)	IP Range	Anti-surge Circuit
40x40x10	EF40102BX-1Q03	24	1.44	9,000	9.8	0.28	34.1	-10°C~70°C	70,000hrs@40°C	IP55	★
40x40x20	PF40202B1-Q01	24	2.64	14,600	15.1	0.94	48.0	-10°C~70°C	70,000hrs@40°C	IP55	★
40x40x28	GF40282BX-1000	24	9.60	17600	23.9	2.01	58.5	-10°C~70°C	70,000hrs@40°C	GR487	★
60x60x25	PF60251BX-Q19	12	9.86	13,100	54.1	1.44	62.9	-10°C~70°C	70,000hrs@40°C	IP21	★
60x60x25	GF60252BX-1000	24	13.08	12900	54.8	1.44	55.4	-10°C~60°C	70,000hrs@40°C	GR487	★
70x70x25	PF70252BX-Q01	24	6.36	6,400	55.6	0.57	50.8	-10°C~70°C	70,000hrs@40°C	IP55	★
80x80x25	PF80252B1-1000	24	3.72	4,800	60.0	0.41	45.5	-10°C~70°C	70,000hrs@40°C		★
80x80x38	PF80381BX-1000	12	48.00	14000	141.9	3.50	69.1	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
80x80x38	GF80381B1-Q01	12	24.00	11,200	110.0	2.11	67.4	-10°C~70°C	70,000hrs@40°C	IP68	▲ ●
80x80x38	GF80382BX-1000	24	39.12	10000	133.0	1.76	64.3	-10°C~70°C	70,000hrs@40°C	GR487	★ ●
80x80x38	PF80382BX-Q01	24	33.60	12,900	134.7	2.79	68.3	-10°C~70°C	70,000hrs@40°C		★
80x80x38	PF80382B2-Q081	24	7.20	7,350	70.4	1.46	54.7	-10°C~70°C	70,000hrs@40°C	IP68	★
92x92x38	PF92381BX-1000	12	50.40	12000	182.4	2.94	70.2	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
92x92x38	GF92382BX-10000	24	40.80	9000	172.9	1.73	66.8	-10°C~60°C	70,000hrs@40°C	GR487	★ ●
92x92x38	GF92382B1-Q02	24	20.40	9,500	130.7	2.10	66.8	-10°C~70°C	70,000hrs@40°C	IP68	▲ ●
92x92x38	PF92382B1-Q03	24	14.40	9,000	125.6	1.76	65.1	-10°C~70°C	70,000hrs@40°C	IP21	★
92x92x38	PF92382B2-Q02	24	19.20	10,000	139.3	2.13	67.2	-10°C~95°C	70,000hrs@40°C	IP52	★
120x120x25	PFC0252B1-E05	24	10.80	4,400	152.2	0.55	54.5	-10°C~70°C	70,000hrs@40°C	IP55	★
120x120x38	PFC0382BX-1Q02	24	31.20	6,000	233.0	1.16	63.0	-10°C~70°C	100,000hrs@60°C	IP52	★
120x120x38	XGC0384BX-1000	48	115.92	11,600	301.7	5.58	75.0	-10°C~70°C	70,000hrs@40°C		★ ●

Note 1 : "★" and "▲" marked in IP Ratings column indicate request for custom design IP21 to IP68 and GR487 respectively are available.
 Note 2 : If you need special specification. Please contact SUNON sales.
 Note 3 : Specifications in this catalog are for reference, please contact SUNON sales for further information such as quotation and lead time.
 Note 4 : There is no notice in advance about any changes in specifications in this catalog, please refer to datasheet provided by SUNON sales.

■ Ingress Protection for Environmental Applications

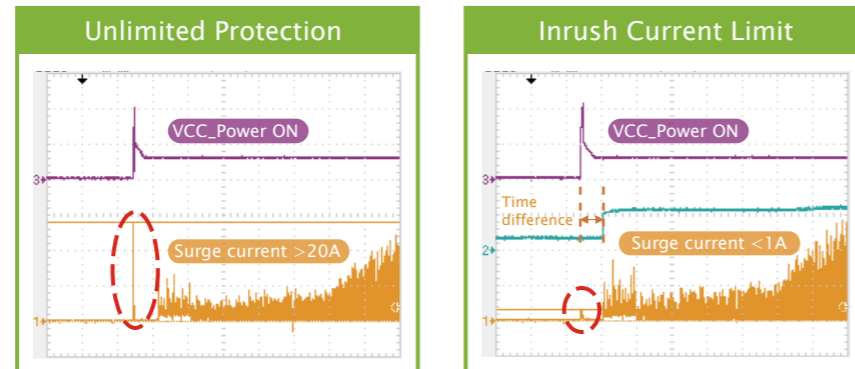
※ After being irradiated by a UV lamp, it will show a fluorescent reaction.



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.



Axial Fan for PV Inverter

size (mm)	Model	Voltage (V)	Power (W)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H2O)	Noise (dB(A))	Temperature (°C)	Lifetime (hours)	IP Range	Anti-surge Circuit
40x40x28	GF40282BX-1000	24	9.60	17600	23.9	2.01	58.5	-10°C~70°C	70,000hrs@40°C	GR487	★
40x40x28	PF40282B2-Q021	24	2.88	13,500	19.2	1.15	52.9	-10°C~70°C	70,000hrs@40°C		★
60x60x25	GF60252BX-1000	24	13.08	12900	54.8	1.44	55.4	-10°C~60°C	70,000hrs@40°C	GR487	★
80x80x38	GF80381B1-Q01	12	24.00	11,200	112.2	2.04	67.4	-10°C~70°C	70,000hrs@40°C	IP68	▲
80x80x38	PF80381BX-1000	12	48.00	14000	141.9	3.50	69.1	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
80x80x38	GF80382BX-1000	24	39.12	10000	133.0	1.76	64.3	-10°C~70°C	70,000hrs@40°C	GR487	★ ●
80x80x38	PF80382BX-Q03	24	26.40	12,200	125.5	2.95	67.9	-10°C~70°C	70,000hrs@40°C	IP52	★ ●
80x80x38	PF80382B2-Q081	24	7.20	7,350	70.4	1.46	54.7	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
92x92x38	PF92381BX-1000	12	50.40	12000	182.4	2.94	70.2	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
92x92x38	GF92382BX-1000	24	40.80	9000	172.9	1.73	66.8	-10°C~60°C	70,000hrs@40°C	GR487	★ ●
92x92x38	GF92382B1-Q02	24	20.40	9,500	132.2	2.12	66.8	-10°C~70°C	70,000hrs@40°C	IP68	▲ ●
92x92x38	PF92382B1-Q03	24	14.40	9,000	125.6	1.76	65.1	-10°C~70°C	70,000hrs@40°C	IP21	★
92x92x38	PF92382B2-Q02	24	19.20	10,000	139.3	2.13	67.2	-10°C~95°C	70,000hrs@40°C	IP21	★ ●
120x120x38	PFC0382BX-1Q02	24	31.20	6,000	233.7	1.16	62.4	-10°C~70°C	100,000hrs@60°C	IP21	★

Note 1 : "★" and "▲" marked in IP Ratings column indicate request for custom design IP21 to IP68 and GR487 respectively are available.
 Note 2 : If you need special specification. Please contact SUNON sales.
 Note 3 : Specifications in this catalog are for reference, please contact SUNON sales for further information such as quotation and lead time.
 Note 4 : There is no notice in advance about any changes in specifications in this catalog, please refer to datasheet provided by SUNON sales.



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.

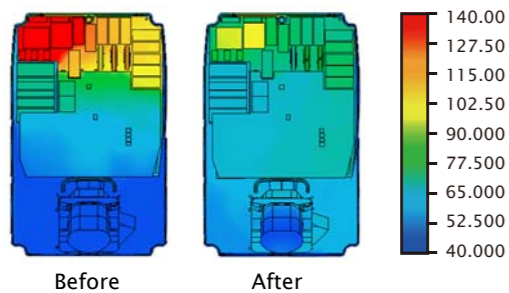


- Outdoor-level waterproof protection
- Long service lifespan
- Low vibration & Less Noise
- Efficient heat dissipation

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.



Fan Solutions for Stand-Alone Charging Stations

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



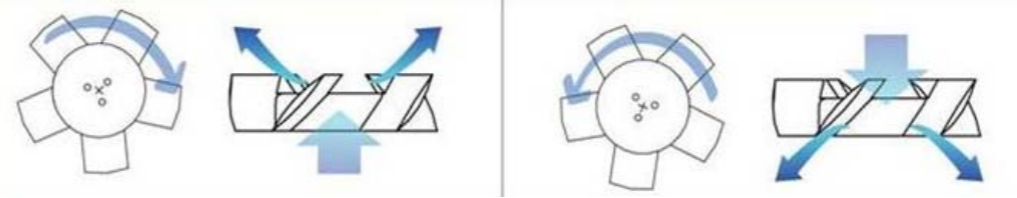
Automatic Dust-cleaning Fan Design

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 Axial Fan Solutions

size (mm)	Model	Voltage (V)	Power (W)	Speed (RPM)	Air Flow (CFM)	Static Pressure (Inch-H2O)	Noise (dB(A))	Temperature (°C)	Lifetime (hours)	IP Range	Anti-surge Circuit
35x35x10	MF35100VX-1Q020	5	0.66	10000	7.2	0.22	30.3	-10°C~80°C	70,000hrs@40°C	IP21	★
40x40x28	GF40282BX-1000	24	9.60	17600	23.9	2.01	58.5	-10°C~70°C	70,000hrs@40°C	GR487	
40x40x28	PF40282B2-Q02U	24	2.88	13500	19.2	1.15	52.9	-10°C~70°C	70,000hrs@40°C	IP21	★
60x60x25	GF60252BX-1000	24	13.08	12900	54.8	1.44	55.4	-10°C~60°C	70,000hrs@40°C	GR487	
60x60x25	PF60252BX-Q123	24	6.36	11000	46.2	1.11	57.0	-20°C~70°C	70,000hrs@40°C	IP21	★
80x80x25	PF80252B1-10000	24	3.72	4800	60.0	0.41	45.5	-10°C~70°C	70,000hrs@40°C	IP21	★
80x80x38	PF80381BX-1000	12	48.00	14000	141.9	3.50	69.1	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
80x80x38	GF80382BX-1000	24	39.12	10000	133.0	1.76	64.3	-10°C~70°C	70,000hrs@40°C	GR487	●
92x92x25	PF92252B1-10000	24	4.92	4500	75	0.35	46.1	-10°C~70°C	70,000hrs@40°C	IP21	★
92x92x38	PF92381BX-1000	12	50.40	12000	182.4	2.94	70.2	-10°C~70°C	70,000hrs@40°C	IP68	★ ●
92x92x38	GF92382BX-1000	24	40.80	9000	172.9	1.73	66.8	-10°C~60°C	70,000hrs@40°C	GR487	●
97x97x33	PF97332BX-C020	24	31.2	6800	53.6	4.82	65.8	-10°C~70°C	70,000hrs@40°C	IP21	★
120x120x38	PFC0382BX-1Q02	24	31.20	6,000	233.7	1.16	62.4	-10°C~70°C	100,000hrs@60°C	IP21	★

Note 1 : "★" and "▲" marked in IP Ratings column indicate request for custom design IP21 to IP68 and GR487 respectively are available.
 Note 2 : If you need special specification. Please contact SUNON sales.
 Note 3 : Specifications in this catalog are for reference, please contact SUNON sales for further information such as quotation and lead time.
 Note 4 : There is no notice in advance about any changes in specifications in this catalog, please refer to datasheet provided by SUNON sales.

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

