

# Free Cooling In The Sun



AUS Design

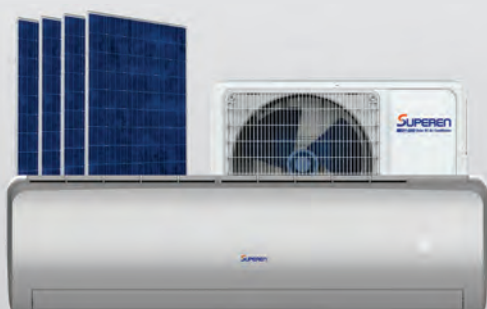
# SUPEREN

## Solar Air Conditioner

### ACDC HYBRID

-  **100% Eco**  
Up to 100% Saving in day time
-  **Savings**  
No Inverter, battery, Charger controller needed
-  **Wide Operating Temperature**  
Temperature Range between -10°C to +52°C
-  **Auto Balance**  
AC/DC auto balance
-  **Max Efficiency**  
PV fit & DC-driven

- ✓ Purpose built DC Hybrid solar air conditioner built from the ground up 100% DC - No electronic inverter.
- ✓ Can operate independent of AC Grid "Off Grid" turning itself off when there is insufficient solar power and back on when there is enough power to operate.
- ✓ No grid connection for installation, no utility company authority required.
- ✓ Plug and play installation – solar panels connect directly to solar terminals.
- ✓ STC's are claimable on solar panels installed on a unit – essentially covering the cost of the panels.
- ✓ Uses eco-friendly R410a refrigerant gas – non-flammable! Compared with widely used flammable R32 gas.
- ✓ Brushless DC motors in both indoor and outdoor units ensure extremely quiet operating levels.
- ✓ Using solar power for one of our highest energy consuming appliances. Just common sense!



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# SUPEREN

## Solar Air Conditioner

### ACDC HYBRID



## Application

Superen hybrid ACDC solar air conditioners need no batteries, and only a few PV panels to deliver huge savings. During the day, when air conditioning is needed the most, you can operate this unit partly or up to 100% by solar panels and can achieve an efficiency above SEER 35 when using four >= 300W solar panels. At night, you can continue to save due to the > SEER 21 rating.

The Hybrid solar air conditioners can be connected with up to 360V/10A solar DC power. Unlike regular DC-Inverter air conditioners the hybrid's Intelligent Power Management technology allows this system and specifically it's compressor to accept DC power directly from solar panels, without needing, an inverter, controller or batteries.

## Your Benefits

- High-SEER Brushless inverter DC permanent magnet compressors
- Runs on up to 100% solar power directly in the daytime
- Fast Cooling around 30s / Powerful heating within 1 minute
- Wide ambient operating temperature range: -10°C to +52°C
- Anti-Corrosion Technology giving greater corrosion resistance for both outdoor and indoor unit
- Eco-Friendly R410a Refrigerant
- Solar connector terminal - Easy connection and maintenance plug and play
- Low energy consumption
- Quiet Indoor Unit (As low as 26dB)

## Technical Specifications

Type	ACDC Hybrid		
Model	ACDC 7.0kw	ACDC 5.0kw	ACDC 3.5kw
Nom.Solar Input Voltage (V DC)	90 ~ 360	90 ~ 360	90 ~ 360
Capacity Cooling (Btu/h)	24,000/7.0kw	18,000/5.28kw	12,000/3.51kw
Capacity Heating (Btu/h)	24,000/7.1kw	18,000/5.3kw	12,000/3.5kw
Power Input Cooling (W)	370~1980	280~1360	250~900
Power Input Heating(W)	540~1880	410~1360	315~900
SEER Without Solar Input (W/W)	20	21	22
HSPF Without Solar Input (W/W)	11	10	11
Net Weight Indoor/Outdoor (Kg)	17/62	14/48	11/32
Net Size Indoor (mm)	1078/325/257	970/315/235	850/300/180
Net Size Outdoor (mm)	989/715/400	900/700/350	800/545/315

## System Components



### DC Powered Indoor unit

One reason that a DC Air Conditioner makes the best use of solar power is because there is no loss associated with converting DC power from solar panels into AC power to run a standard air conditioner



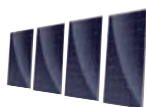
### ACDC Hybrid Outdoor unit

During the day it runs primarily on solar power and only uses small amounts of power from the utility company as needed. When it comes to night time, it will automatically mix power and eventually switch to 240V AC power.



### DC Brushless fan motor

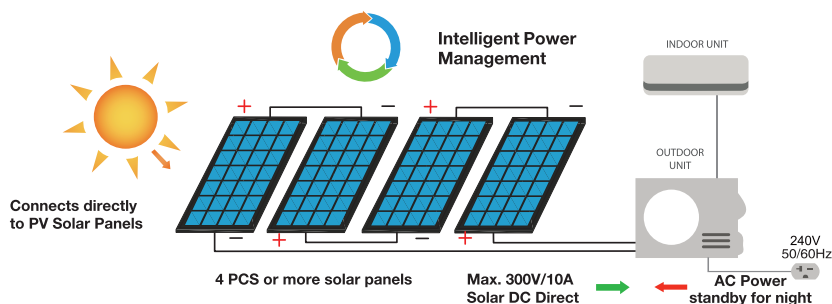
DC brushless fan motors are used for both indoor and outdoor units. They can greatly reduce energy consumption, and run with very low noise. Plus, the use of a brushless permanent magnet motor driver provides a variable frequency drive that allows the system to dynamically adjust its capacity based on conditions.



### Solar Panels

Using the latest innovative cell technology, increasing module power output and system reliability, ensured by 15 years of experience in module manufacturing, well-engineered module design, stringent BOM quality testing, automated manufacturing processes and 100% EL testing

## System Diagram



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