



**SOLAR HYBRID MINI-SPLIT  
AIR CONDITIONER HEAT PUMP**

***Solar Cooling***

By  **ECOSOLARIS**

*Smarter Comfort — Powered By The Sun*

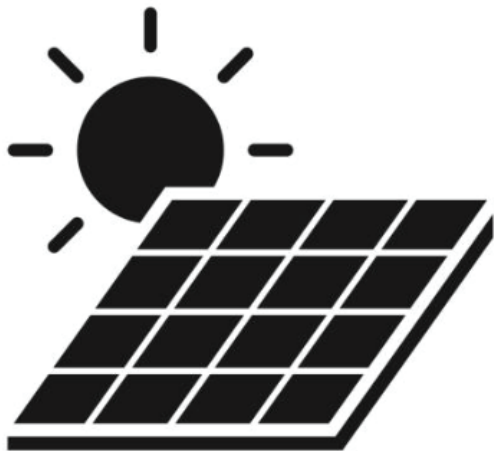
# Solar Cooling

By  ECOSOLARIS

Solar Hybrid Mini-Split Air Conditioner Heat Pump



Available in 12, 000 BTU and 18, 000 BTU Models



**Solar panels**

Sold separately

**Mobile Application**



**Solar Hybrid AC/DC**



**Cooling & Heating**



**5-Year Limited Warranty**



**Energy Star Rated**

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## Affordable All-Year Comfort with Solar Air Conditioner Heat Pumps



### Simplified Installation

The Ecosolaris solar air conditioner heat pump is installed like a standard mini-split—no ductwork needed. Simply connect solar panels to the unit using MC4 connectors, with no need for an inverter, charge controller, or battery to operate on solar DC. It's plug and play simplicity, though professional installation is still required to ensure safety and performance.

### Highest Energy Efficiency

The Ecosolaris solar air conditioner heat pump operates directly on DC power from solar pv panels and delivers a high SEER rating of up to 23.40. It comes with a high-efficiency DC compressor, a built-in MPPT charge controller. This DC-direct technology eliminates the need for an external inverter or charge controller, reduces energy loss, and lowers both energy consumption and environmental impact.

In addition, it uses R32 refrigerant, which improves energy efficiency while having a much lower global warming potential than traditional refrigerants, further reducing its environmental impact.

### Lower Energy Bills

Struggling with high electricity costs? The Ecosolaris solar mini-split can eliminate up to 100% of your cooling and heating energy expenses during sunny days by running entirely on solar power. By combining the proven efficiency of a heat pump technology with free energy from the sun, it offers immediate savings on monthly energy costs and significant return on investment compared to conventional central air conditioning or standard heat pump units.

### Comfort in Every Season

The system is designed to operate reliably in extreme temperatures ranging from -15°C (5°F) to 55°C (131°F), ensuring year-round comfort. It provides both heating and cooling, adapting to seasonal needs. Whether in freezing cold or intense heat, performance remains consistent and dependable.

### Solar Hybrid AC/DC Technology

This solar-first system automatically prioritizes power from solar PV panels and only draws from the grid when needed. It's fully hybrid, combining solar DC input with AC grid backup to guarantee uninterrupted operation. The result is high reliability, reduced grid dependence, and greater peace of mind.

### Off-Grid Capability

Whether you're in a remote area or facing an unreliable utility power grid, the Ecosolaris solar air conditioner heat pump is ready to perform. It can run solely on solar panels during sunlight hours, or operate completely off-grid when combined with a battery bank for continuous performance. This provides full comfort without relying on the electrical grid — an ideal solution for cabins, rural homes, or energy-resilient projects.

## Solar Hybrid Mini-Split Air Conditioner Heat Pump

## Specifications

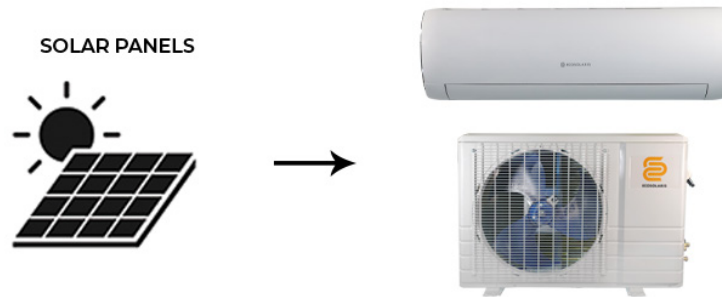
MODEL	12 000 BTU	18 000 BTU
COOLING PERFORMANCE		
SEER2	23.40 Btu/W	21.70 Btu/W
EER	13.74 Btu/W	12.79 Btu/W
Cooling Capacity	3500 W (12,000 Btu/h)	5150 W (18,000 Btu/h)
HEATING PERFORMANCE		
HSPF2	9.70 Btu/W	9.55 Btu/W
COP (Btu/W)	13.34 Btu/W	13.70 Btu/W
COP(W/W)	3.90 W/W	4.01 W/W
Heating Capacity	3500 W (12,000 Btu/h)	5150 W (18,000 Btu/h)
ELECTRICAL (AC)		
Rated Voltage	208-240 V	
Min/Max Voltage	150-265 V	
Rated Current Cooling	3.85 A	5.88 A
Rated Current Heating	4.02 A	5.80 A
Rated Power Cooling	180-860 W	220-1340 W
Rated Power Heating	180-905 W	220-1320 W
Rated Frequency	50-60 Hz	
Circuit Breaker	15 A	
ELECTRICAL (DC)		
Rated Voltage (DC Solar-Only Mode)	80-350 VDC	
Rated Voltage (AC/DC Hybrid Mode)	70-380 VDC	
Maximum PV Voltage	380 VOC	
Maximum PV Amperage	12 A	
Recommended PV Wattage	900 - 1400 W	1300 - 1800 W
48V Battery Bank Minimum Capacity (if applicable)	5 kWh or more	
REFRIGERANT		
Refrigerant Type	R32 (830 g/29.3 oz)	
Maximum Allowable Pressure	4.3 MPa (~624 psi)	
Liquid Valve Diameter	6.35 mm (1/4")	
Gas Valve Diameter	9.5 mm (3/8")	
Max Refrigerant Lineset Length	10 m (32.81 ft)	15 m (49.21 ft)
Max Refrigerant Lineset Drop Height	5 m (16.4 ft)	10 m (32.81 ft)

## Specifications

MODEL	12 000 BTU	18 000 BTU
<b>COMPRESSOR</b>		
Compressor Type	Rotary	
Compressor Trademark	HIGHLY	
Input Power	830 W	900 W
<b>INDOOR UNIT</b>		
Fan Type	Cross-flow	
Fan Speed (High, Medium, Low, Auto)	1300/1200/1100/960 rpm	1050/950/850/750 rpm
Air Flow (High, Medium, Low, Auto)	540/485/435/350 m <sup>3</sup> /h (318/285/256/206 CFM)	980/880/740/620 m <sup>3</sup> /h (577/518/436/365 CFM)
Sound Pressure (Low, Medium, High)	24-37-42 dB(A)	30-42-45 dB(A)
Operating Temperature Range	16 - 32 °C (60 - 90 °F)	
Unit Dimensions (W x D x H)	895 x 210 x 298 mm (35.2 x 8.3 x 11.7 in)	100 x 236 x 306 mm (39.4 x 9.3 x 12.0 in)
Packaging Dimension	965 x 275 x 370 mm (38.0 x 10.8 x 14.6 in)	1075 x 310 x 385 mm (42.3 x 12.2 x 15.2 in)
Net Weight	11 kg (24.3 lbs)	13 kg (28.7 lbs)
<b>OUTDOOR UNIT</b>		
Sound Pressure	52 dB(A)	54 dB(A)
Operating Temperature Range ( Cooling)	0 - 55 °C (32 - 131 °F)	
Operating Temperature Range ( Heating)	-15 - 32 °C (5 - 90 °F)	
Unit Dimensions (W x D x H)	782 x 336 x 544 mm (30.8 x 13.2 x 21.4 in)	856 x 365 x 555 mm (33.7 x 14.4 x 21.9 in)
Packaging Dimension (W x D x H)	855 x 367 x 600 mm (33.7 x 14.4 x 23.6 in)	913 x 396 x 604 mm (35.9 x 15.6 x 23.8 in)
Net Weight	27 kg (59.5 lbs)	31 kg (68.3 lbs)
<b>WARRANTY</b>		
Limited Warranty	5-Year Limited Warranty	

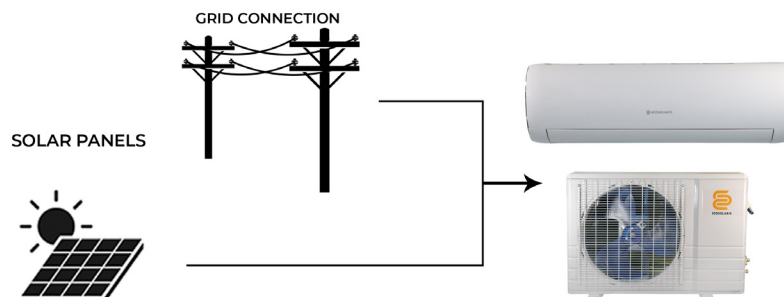
## One Heat Pump — Four Operating Modes

### 1. Solar-Only Mode



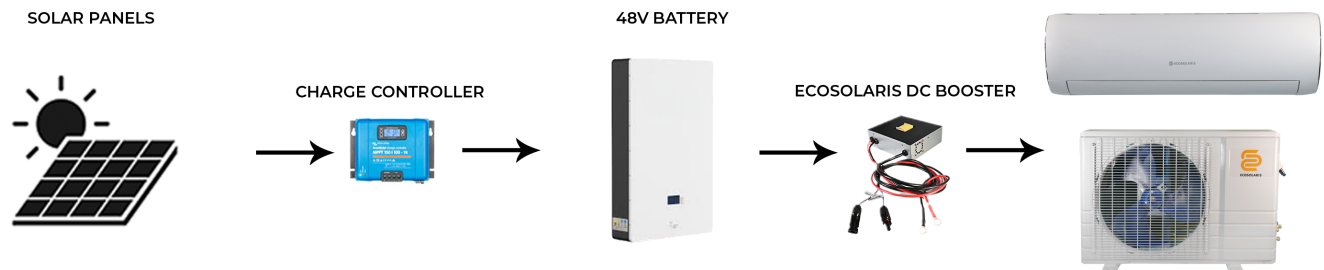
The Solar-Only mode means the solar-powered mini-split is 100% powered by the sun (generated from solar PV panels). The mini-split is not connected to any other source of power, such as the grid, and so will not work at night or when there's no sun. It will still work during cloudy periods, but its output will be reduced.

### 2. Hybrid Mode



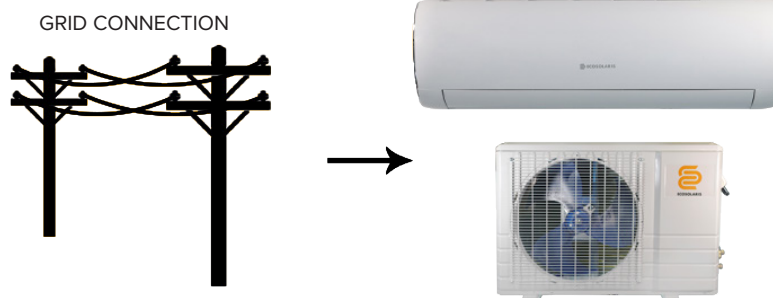
The Hybrid mode is the most flexible mode; solar-first, with grid peace of mind. The solar air conditioner heat pump runs on both solar and grid power, and is specifically engineered to prioritize DC power from solar panels, seamlessly drawing AC grid power when sunlight isn't enough. This mode ensures uninterrupted operation, day and night.

### 3. Battery-Powered Mode



The battery-powered mode ensures full grid independence as well as uninterrupted operation, even at night or during power outages. The solar heat pump integrates easily into any solar energy system, as it supports various battery types, as long as the battery bank operates at 48 VDC. Since the unit runs on a higher DC input voltage of 70–380 VDC, a DC-to-DC converter is required to step up the 48 VDC from the batteries to the operating voltage range of the heat pump. Since all solar power flows through the battery, more solar input is required in this operating mode.

### 4. Grid-Only Mode



The Grid-Only mode allows the solar heat pump to function like a conventional 240 VAC unit connected to the grid, while remaining solar-ready, so you can easily add solar panels whenever you're ready.