



**Solar Powered Air Conditioner**

**Shinson**<sup>®</sup>  
*Technology Beyond Limits*

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# Hybrid Solar Air Conditioner

Solar ACDC hybrid solar air conditioners require 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 its independent solar panels to achieve Maximum efficiency. At night, you can continue to save due to its high efficiency.

The **WIFI** functionality allows full control, daily and weekly timers, complete visibility with AC and DC consumption and the history of all power consumption.



## Features


- Efficient brushless DC permanent-magnet variable frequency twin rotary compressors.
- AC Limiter will limit the AC consumption to 100W when DC power is available and slightly more when there is no DC.
- Anti-Corrosion Technology giving greater corrosion resistance for both outdoor and indoor units.
- Can run directly on 100% solar power during the daytime.
- Wide ambient operating temperature range:  $-10^{\circ}\text{C}$  to  $+58^{\circ}\text{C}$ .
- Mc4 Solar connector terminals - Easy plug and play connection and maintenance.
- Eco-Friendly R32 Refrigerant.
- Quiet indoor Unit (As low as 26dB).
- Low energy consumption.



**100% Energy Saving**  
Up to 100% Savings during the day time



**Wide Operating**  
Temperature Range between  $-10^{\circ}\text{C}$  to  $+58^{\circ}\text{C}$  (T3)



**Savings**  
No Inverter, Battery, or Charge controller needed



**Auto Balance**  
AC/DC auto balance

# Technical Specifications( Hybrid)

| Shinson Model                     |                           |       | SAH-12K-R | SAH-18K-R | SAH-24K-R |
|-----------------------------------|---------------------------|-------|-----------|-----------|-----------|
| Max electric current/Peak current |                           | A     | 12/15     | 12/15A    | 12/15A    |
| Power Supply                      | Rated Voltage             | V~    | 208-240   | 208-240   | 208-240   |
|                                   | Rated Frequency           | Hz    | 50/60     | 50/60     | 50/60     |
|                                   | Solar DC                  | V     | 70-350    | 70-350    | 70-350    |
|                                   | MinMax Voltage            | V~    | 150/265   | 150/265   | 150/265   |
| Solar Dc Current                  | Max Current               | A     | 12        | 12        | 12        |
| Rated Current                     | Cooling Rate Current(T1)  | A     | 3.85      | 5.88      | 8.73      |
|                                   | Cooling Rate Current (T3) | A     | 4.48      | 6.68      | 9.45      |
|                                   | Heating Rate Current      | A     | 4.02      | 5.80      | 8.91      |
| Rated Power                       | Cooling Rate Power (T1)   | W     | 860       | 1340      | 1920      |
|                                   | Cooling Rate Power (T3)   | W     | 963       | 1460      | 2060      |
|                                   | Heating Rate Power        | W     | 905       | 1320      | 1960      |
| Min. Power Input                  |                           | W     | 180       | 220       | 280       |
| Max. Power Input                  |                           | W     | 1500      | 1900      | 2700      |
| Cooling Capacity(T1)              |                           | W     | 3500      | 5000      | 7020      |
|                                   |                           | Btu/h | 12000     | 18000     | 24000     |
| Cooling Capacity(T3)              |                           | W     | 2800      | 4030      | 5660      |
|                                   |                           | Btu/h | 9600      | 13800     | 19400     |
| Min Cooling Capacity              |                           | W     | 1300      | 1700      | 2100      |
|                                   |                           | Btu/h | 4500      | 5800      | 7150      |
| Max Cooling Capacity              |                           | W     | 3950      | 5450      | 7800      |
|                                   |                           | Btu/h | 13500     | 18600     | 26668     |
| Heating Capacity                  |                           | W     | 3500      | 5250      | 7050      |
|                                   |                           | Btu/h | 12050     | 1800      | 24000     |
| Min Heating Capacity              |                           | W     | 1130      | 1310      | 1400      |
|                                   |                           | Btu/h | 3850      | 4500      | 4777      |
| Max Heating Capacity              |                           | W     | 4300      | 5800      | 8600      |
|                                   |                           | Btu/h | 14600     | 19600     | 29343     |
| EER                               |                           | W/W   | 4.02      | 3.74      | 3.76      |
|                                   |                           | Btu/W | 13.74     | 12.79     | 12.86     |
| SEER                              |                           | Btu/W | 23.00     | 21.00     | 20.00     |
| COP                               |                           | W/W   | 3.87      | 4.01      | 3.75      |
|                                   |                           | Btu/W | 13.34     | 13.70     | 12.80     |
| HSPF                              |                           | Btu/W | 9.70      | 9.55      | 9.60      |
| Application Area                  |                           | m2    | 14~24     | 21~30     | 30~45     |

# Off-Grid Solar Air Conditioner

Solar Off Grid DC48V with batteries storage solar air conditioner is ideal for places with no power grid or power stability issues, particularly for remote telecom stations, container houses, motor homes, remote locations, load shedding places, boating and island locations. As the latest advanced of our DC technology, this DC48V solar air conditioner can use 100% solar power.




**OFF GRID DC48V**



## Features


- High-SEER Brushless inverter DC permanent magnet compressors
- 100% 48Volt DC
- Fast Cooling around 30s / Powerful heating within 1minute
- Wide operating temperature range: -10°C to + 58°C
- Anti-Corrosion Technology giving greater corrosion resistance for both
- Outdoor and indoor unit
- Eco-Friendly R32 Refrigerant
- Low energy consumption
- Quiet Indoor and Outdoor Unit (As Low As 26dB)
- 100% Off Grid



**100%**  
100% off Grid



**Battery**  
Battery Powered



**MaX SEER35**  
DC-driven



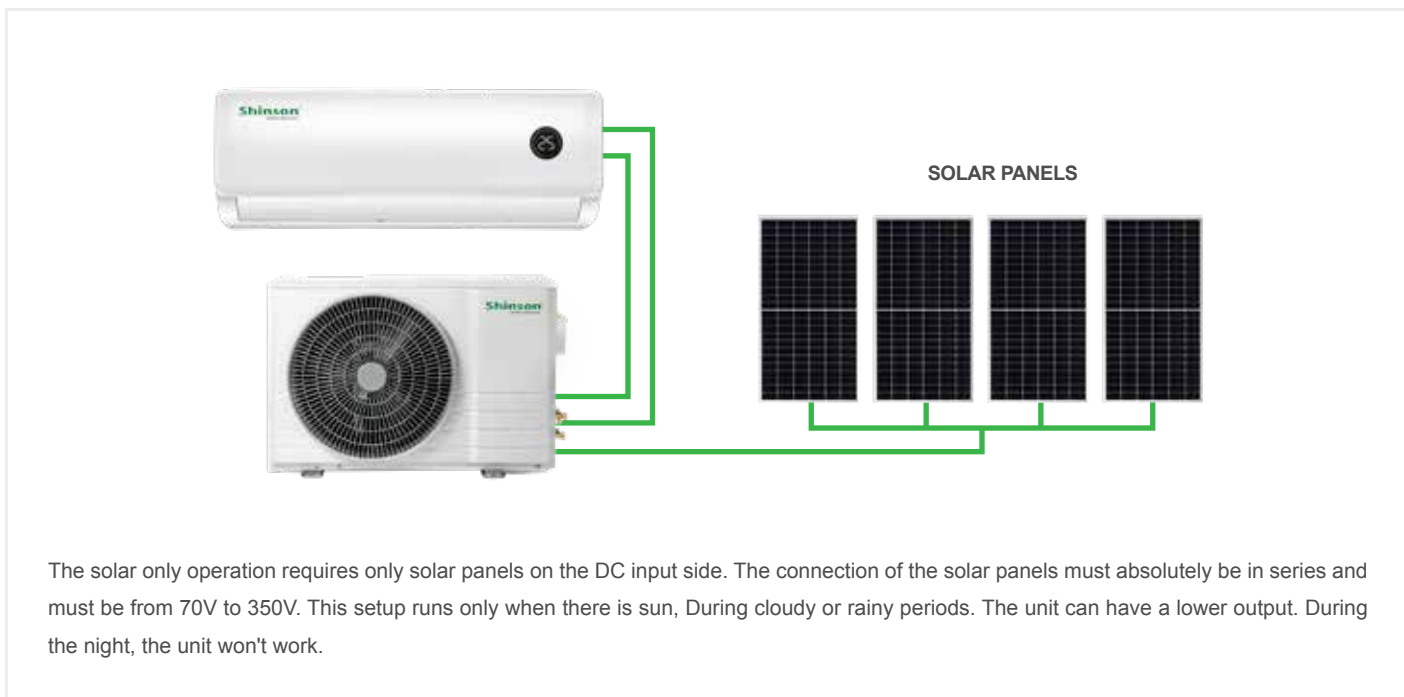
**Wide operating Temperature**  
Temperature Range between -10°C to +58°C

## Technical Specifications ( Off-Grid)

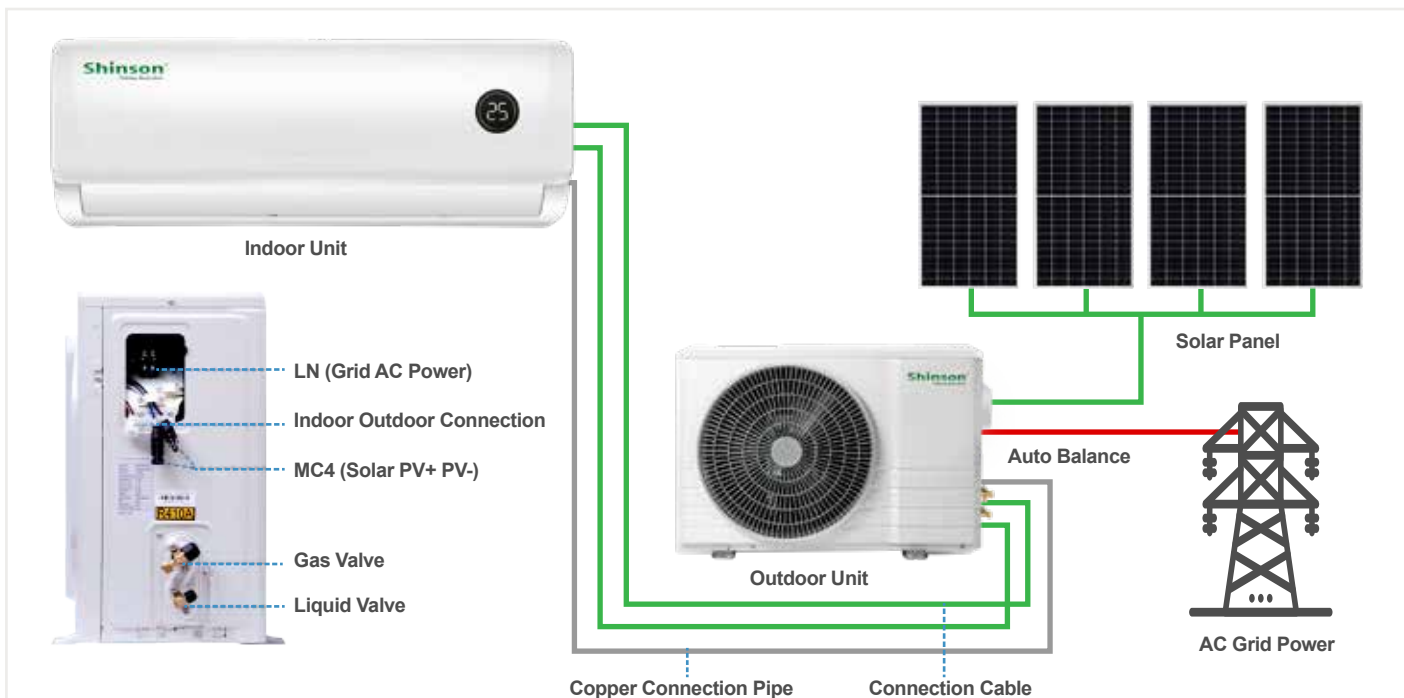
| Shinson Model                     |                           |       | SAF-12K-RO | SAF-18K-RO | SAF-24K-RO |
|-----------------------------------|---------------------------|-------|------------|------------|------------|
| Max electric current/peak current |                           | A     | 12/30A     | 12/35A     | 12/50A     |
| Power Supply                      | Rated Voltage             | V~    | 208-240    | 208-240    | 208-240    |
|                                   | Rated Frequency           | Hz    | 50/60      | 50/60      | 50/60      |
|                                   | DC Input Voltage          | V-    | 48         | 48         | 48         |
|                                   | Min/Max. Voltage          | V~    | 42/58      | 42/58      | 42/58      |
| Solar Dc Current                  | Max.Current               | A     | 25         | 35         | 50         |
| Rated Currert                     | Cooling Rate Current (T1) | A     | 19.00      | 28.00      | 40.00      |
|                                   | Cooling Rate Current (T3) | A     | 22.00      | 31.00      | 43.00      |
|                                   | Heating Rate Current      | A     | 20.00      | 28.00      | 41.00      |
| Rated Power                       | Cooling Rate Power (T1)   | W     | 860        | 1340       | 1920       |
|                                   | Cooling Rate Power (T3)   | W     | 963        | 1460       | 2060       |
|                                   | Heating Rate Power        | W     | 905        | 1320       | 1960       |
| Min. Power Input                  |                           | W     | 180        | 220        | 280        |
| Max. Power Input                  |                           | W     | 1350       | 1650       | 2350       |
| Cooling Capacity (T1)             |                           | W     | 3500       | 5000       | 7020       |
|                                   |                           | Btu/h | 12000      | 18000      | 24000      |
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|                                   |                           | Btu/h | 9600       | 13800      | 19400      |
| Min. Cooling Capacity             |                           | W     | 1300       | 1700       | 2100       |
|                                   |                           | Btu/h | 4500       | 5800       | 7150       |
| Max. Cooling Capacity             |                           | W     | 3950       | 5450       | 7800       |
|                                   |                           | Btu/h | 13500      | 18600      | 26668      |
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|                                   |                           | Btu/h | 12050      | 1800       | 24000      |
| Min. Heating Capacity             |                           | W     | 1130       | 1310       | 1400       |
|                                   |                           | Btu/h | 3850       | 4500       | 4777       |
| Max. Heating Capacity             |                           | W     | 4300       | 5800       | 8600       |
|                                   |                           | Btu/h | 14600      | 19600      | 29343      |
| EER                               |                           | W/W   | 4.02       | 3.74       | 3.76       |
|                                   |                           | Btu/W | 13.74      | 12.79      | 12.86      |
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| COP                               |                           | W/W   | 3.87       | 4.01       | 3.75       |
|                                   |                           | Btu/W | 13.34      | 13.70      | 12.80      |
| HSPF                              |                           | Btu/W | 9.70       | 9.55       | 9.60       |
| Application Area                  |                           | m2    | 14~24      | 21~30      | 30~45      |

# Multiple Working Diagrams

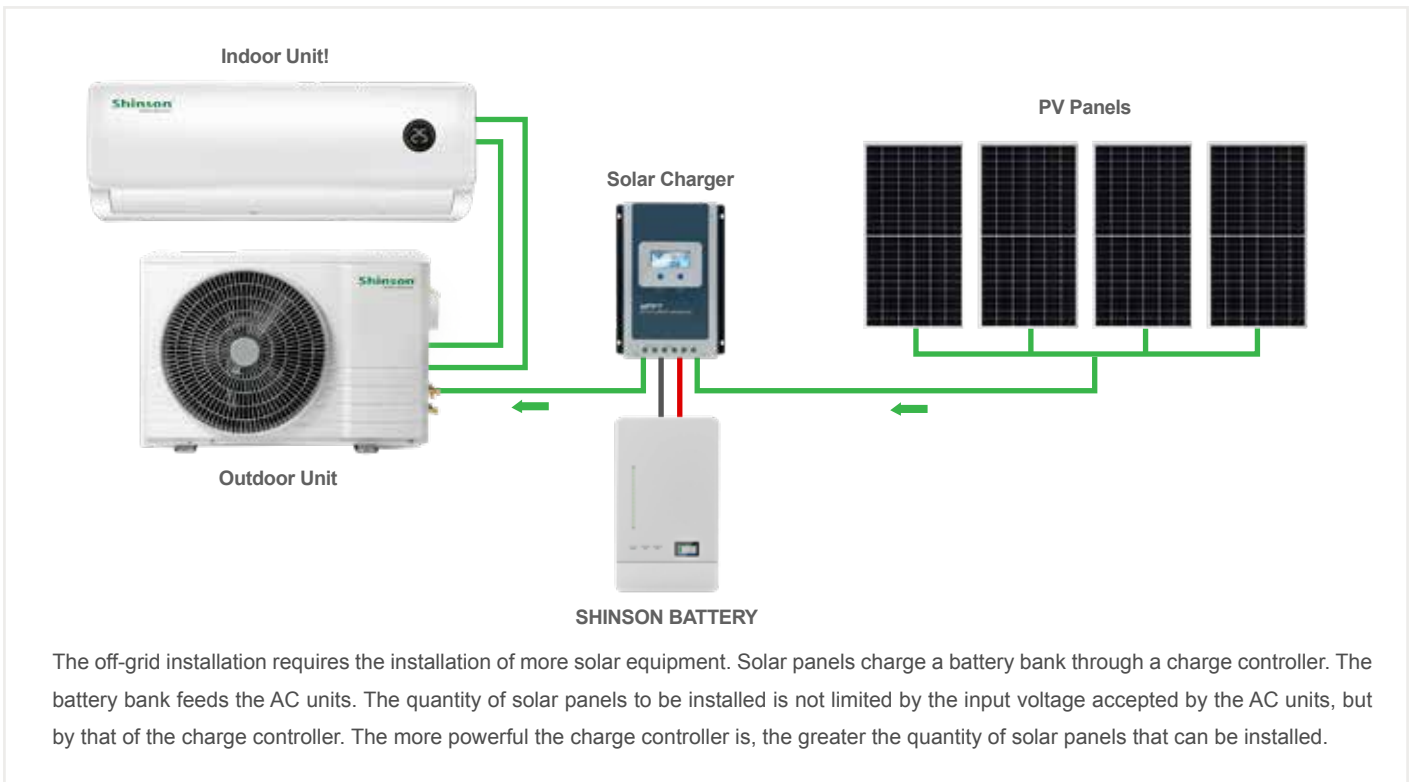
## Scenario 1 : SOLAR ONLY (HYBRID AIR CONDITIONER)



## Scenario 2: SOLAR + GRID (HYBRID AIR CONDITIONER)



### Scenario3: SOLAR + BATTERIES (OFF-GRID AIR CONDITIONER)



### Scenario4: SOLAR + GRID+ BATTERIES (OFF-GRID AIR CONDITIONER)

