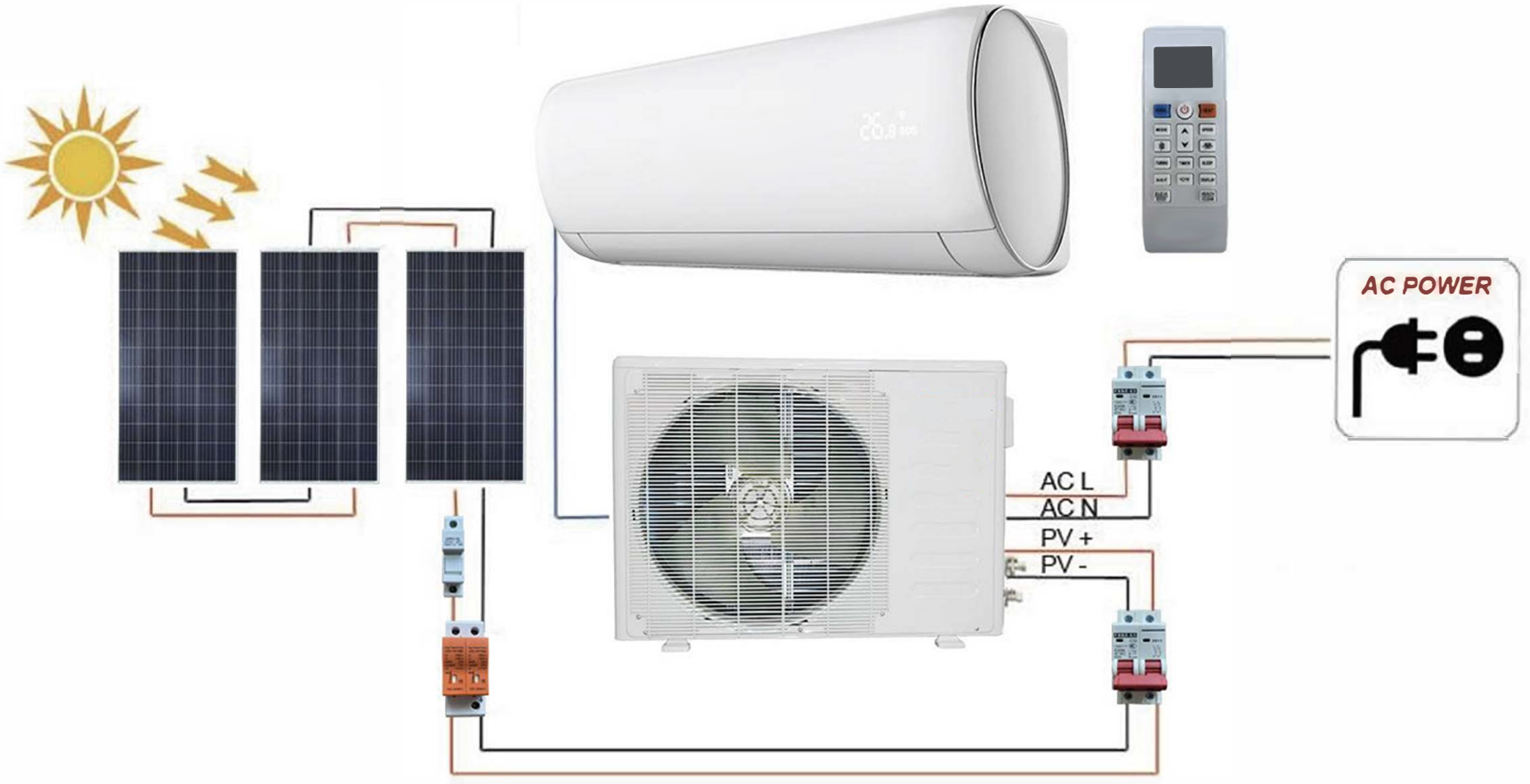
GPS
MONACO Group
Renewable Energy

Solar Air Conditioner Catalog



SOLAR INVERTER AIR CONDITIONER

AC/ DC HYBRID TYPE

Solar air conditioner include:

A/C Outdoor & Indoor Unit;
Solar Module;
Custom Roof Mounting System;
PV Cable;
Fuse Protection;
DC Breaker;
Lightening Arrester;

Product discrimination

The world's first true Hybrid Solar air conditioner.Using Solar direct drive technology(SDDA) the Solar Hybrid unit can use Solar DC generated power or mains AC generated power,or a combination of both as required.This means that the Hybrid requires NO batteries,NO inverter,NO controller and need only a few PV panels to deliver a huge saving.Under optimum conditions,this can save up to 97% of your mains power usage.

The system uses a VRF(Variable Refrigerant Flow)controller and frequency driver in conjunction with multiple sensors and an algorithmic control circuit to raise and lower the unit's capacity in real-time based on conditions as they change. Hybrid Solar air conditioner are more powerful and use less energy than a fixed speed air conditioner.

The SDDA will use as much solar energy as is available and this solar energy directly replaces the equivalent amount of AC power from the mains provider.Under enough solar power conditions,the Hybrid can normal operation without AC generated power.

Products Benefits

- Help you to reduce the 40%-80% electricity bill.
- SEER up to 36 with solar,22 without solar.
- Enjoy cooling summer without grid in sunshine day.
- Lower investment than off-grid&on-grid solar energy system.
- Increase the value of your home.
- Reduce your carbon footprint.

Common Application

Home

Office/School

Remote Telecom Station

Desert Location

Island Location

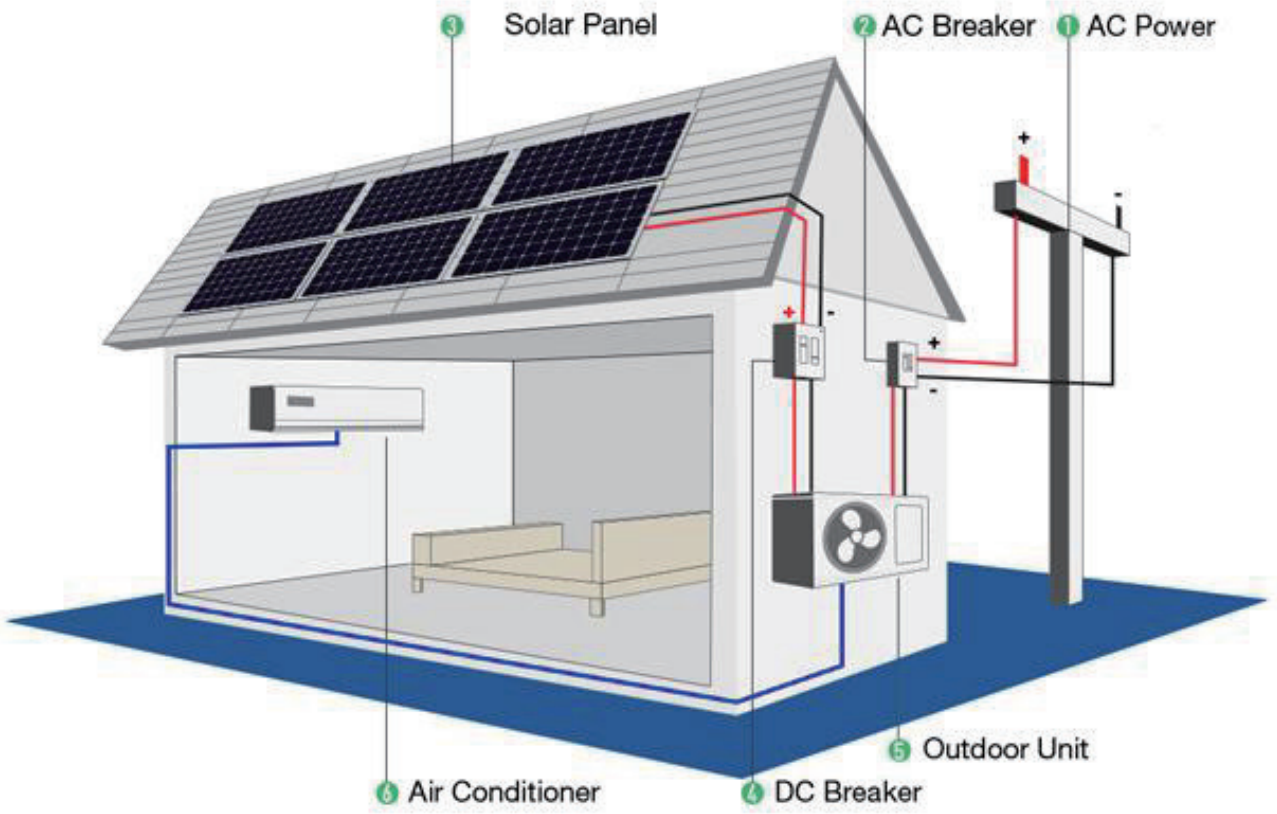
Bus Station

Connection Graph

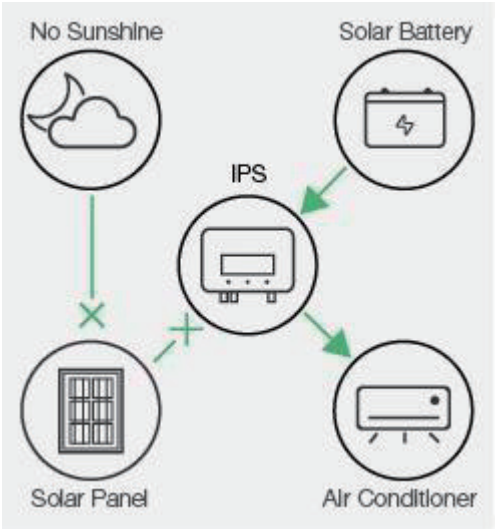
On Grid Solar Air Conditioner

Daytime when sunshine is strong
Power input by Solar Energy.

Nightime or sunshine ie weak
Power input by AC Power.

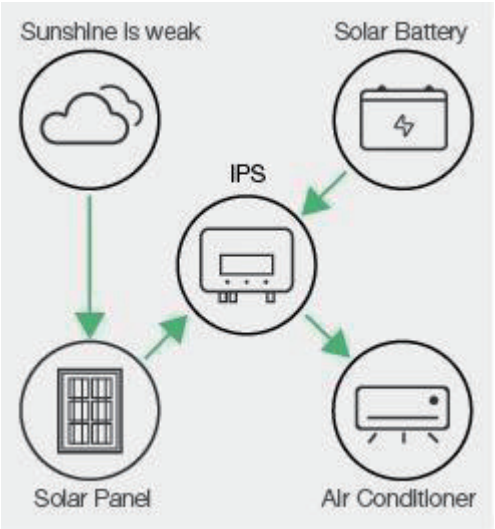


Model-1. Without Grid Power:



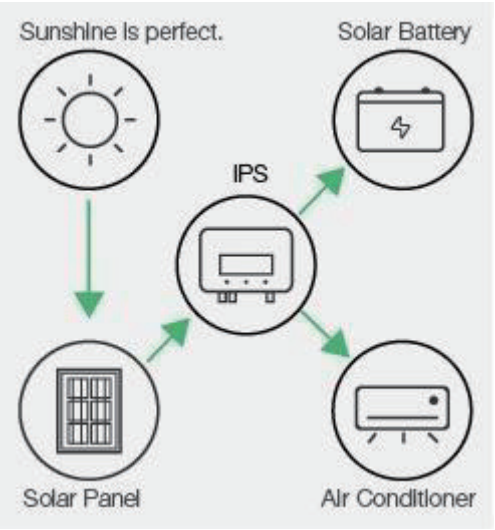
1. Battery Power

During the night or when there is no solar energy, the A/C unit will takes the power from the battery to run the device.



2. Battery & Solar

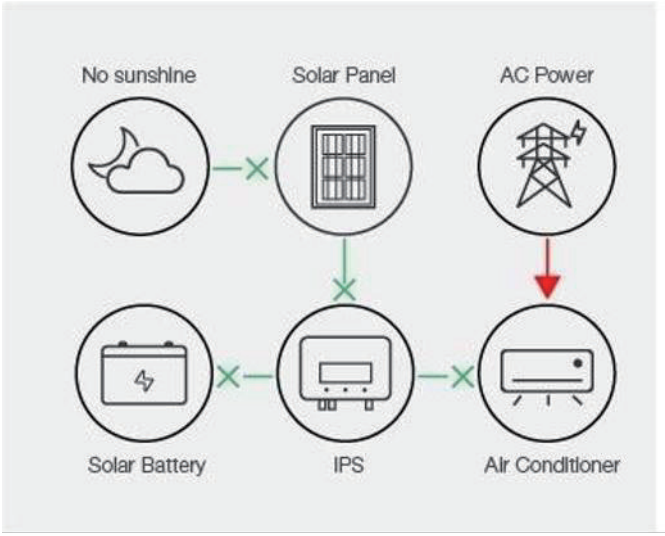
When the solar energy is weak, the A/C unit will take the solar power as the priority choice, the power from the battery will be a supplement.



3. 100% Solar

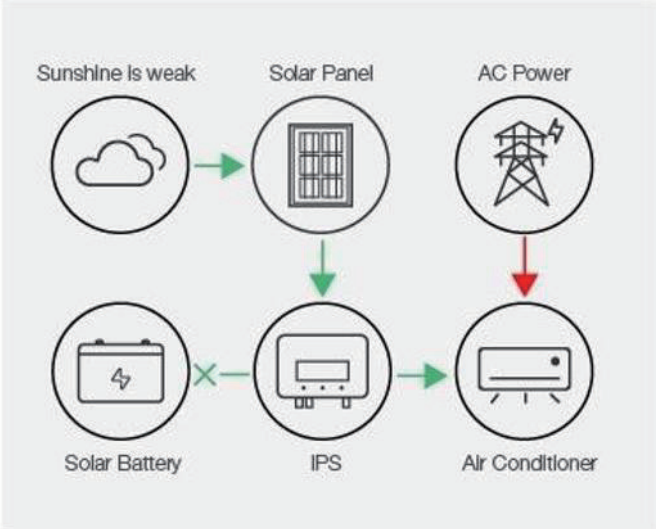
When the solar is sufficient, the A/C unit will start and operate by solar energy only. In thesame time, the system will charge the battery automatically.

Model-2. With Grid Power:



1. Grid Power

During the night, the A/C unit take the power from the grid power and running with same principle of regular air conditioner, the SEER is over 22, it can saving 20-30% energy compare with the regular A/C unit.



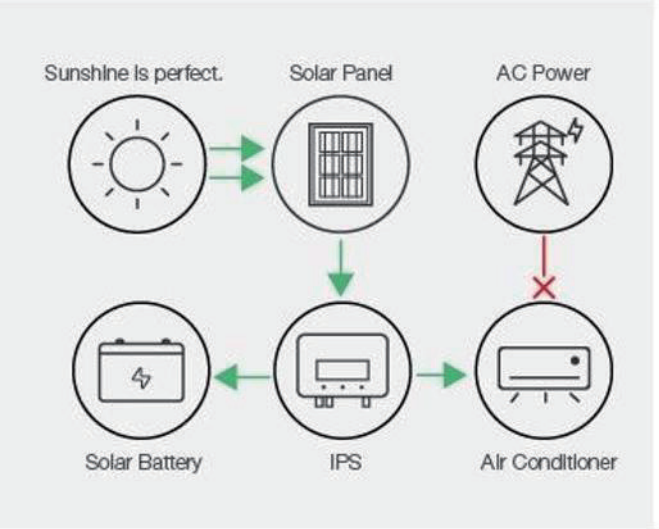
2. Grid and solar

When Sunshine is weak, like in the morning or cloudy day, the A/C unit will take the solar as the priority choice, the insufficient power will take from the grid to make sure 24H working.

Model-2. With Grid Power:

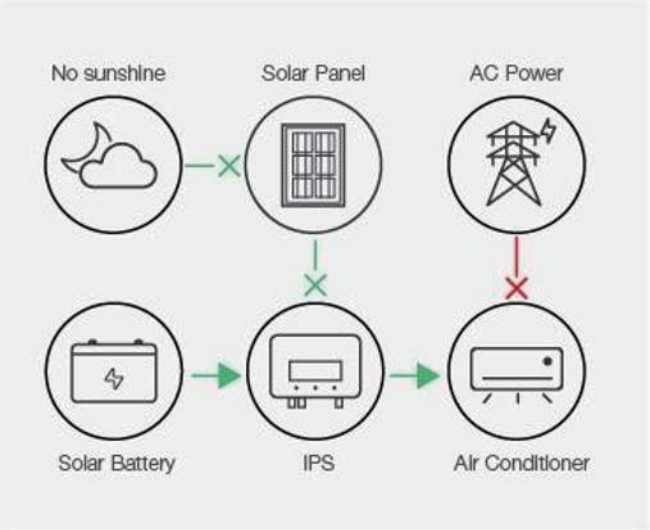
3. 100% Solar

When the solar energy meets the min running requirement of compressor, the A/C unit will start and operate by solar energy only, even the grid off, 100% energy saving. In the same time, the system will charge the battery automatically.



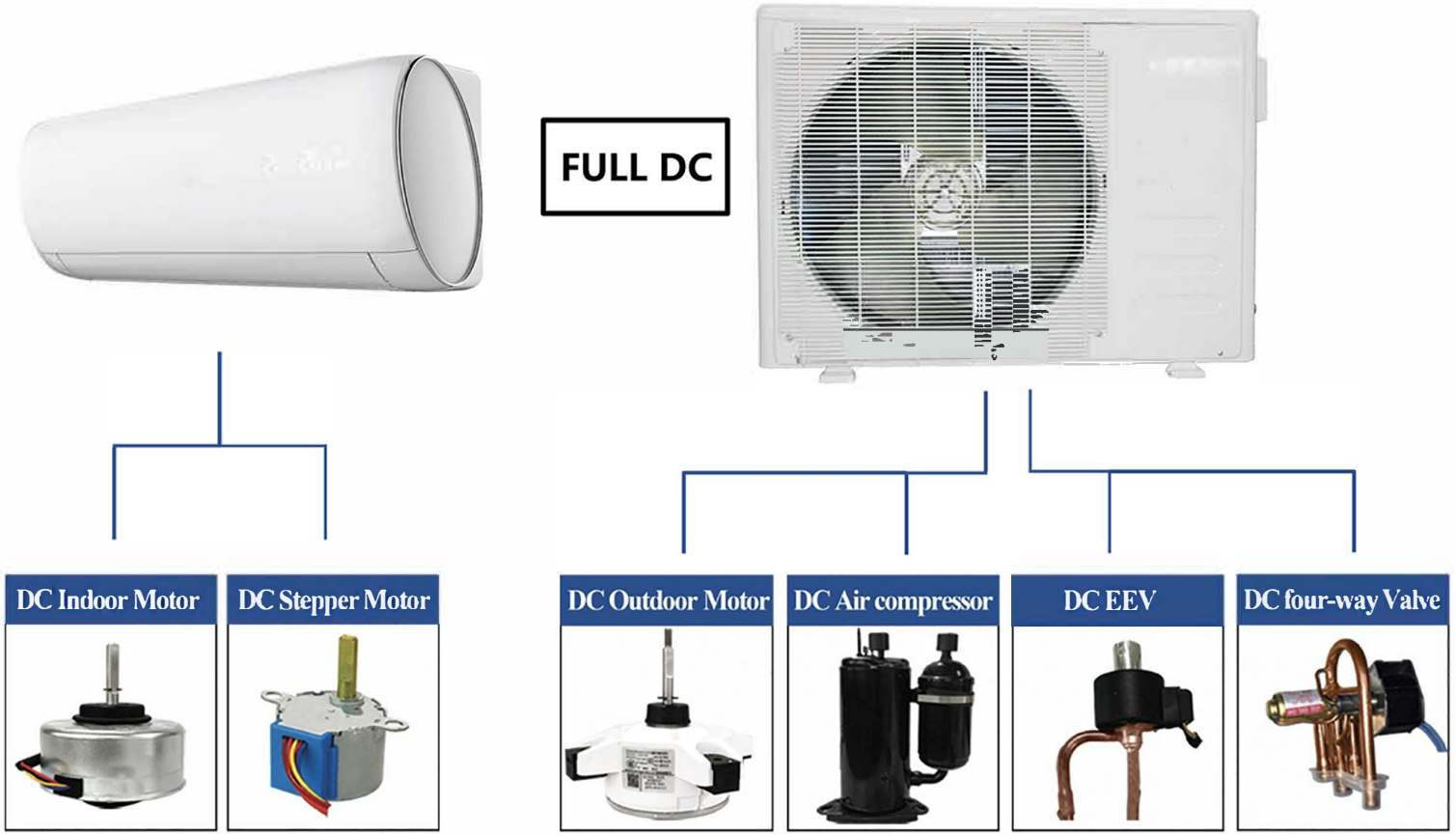
4. Grid Off

When the grid off or the customer turns off the grid power, the system will automatically take the battery energy to run the A/C unit, it will ensure you enjoy cooling summer in any situation.



Solar Part Description

Torchn Hybrid Solar air conditioner is engineered from the ground up for usewith solar.All electrical components are DC powered including compressor, high-efficiency DC fan motors,DC valves&solenoids,etc.



Solar Part Description

>ACDC Hybrid Indoor Unit

DC 90V-380V;

Available Capacity 9k, 12k, 18k,

24k Btu ;

Digital display

>ACDC Hybrid Outdoor Unit

AC Input 220~240V

50/60HZ;

Low Noise 53~60dB

Eco Friendly R32

- Copper pipe (4m)
- Drain pipe (4m)
- Power cable (4m)
- Remote contron
- MC4 connector

Solar Part Description

DC Cable.

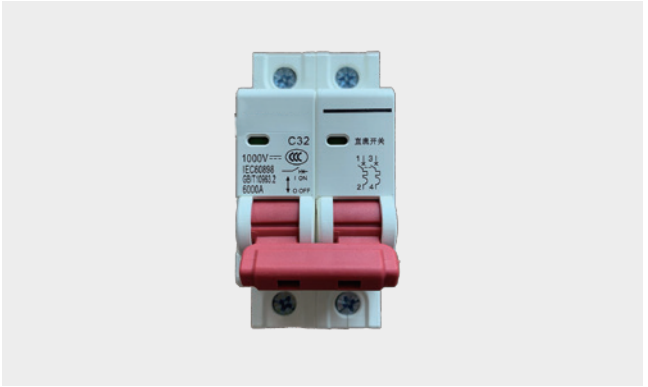
Cross Section: 4㎡, 6㎡ Optional Rated Voltage:600VDC(UL)/1000VDC(TUV)
Rated Current: 55A,70A

Lightning Arrester.

PC40-85V DC

Fuse-Protection.

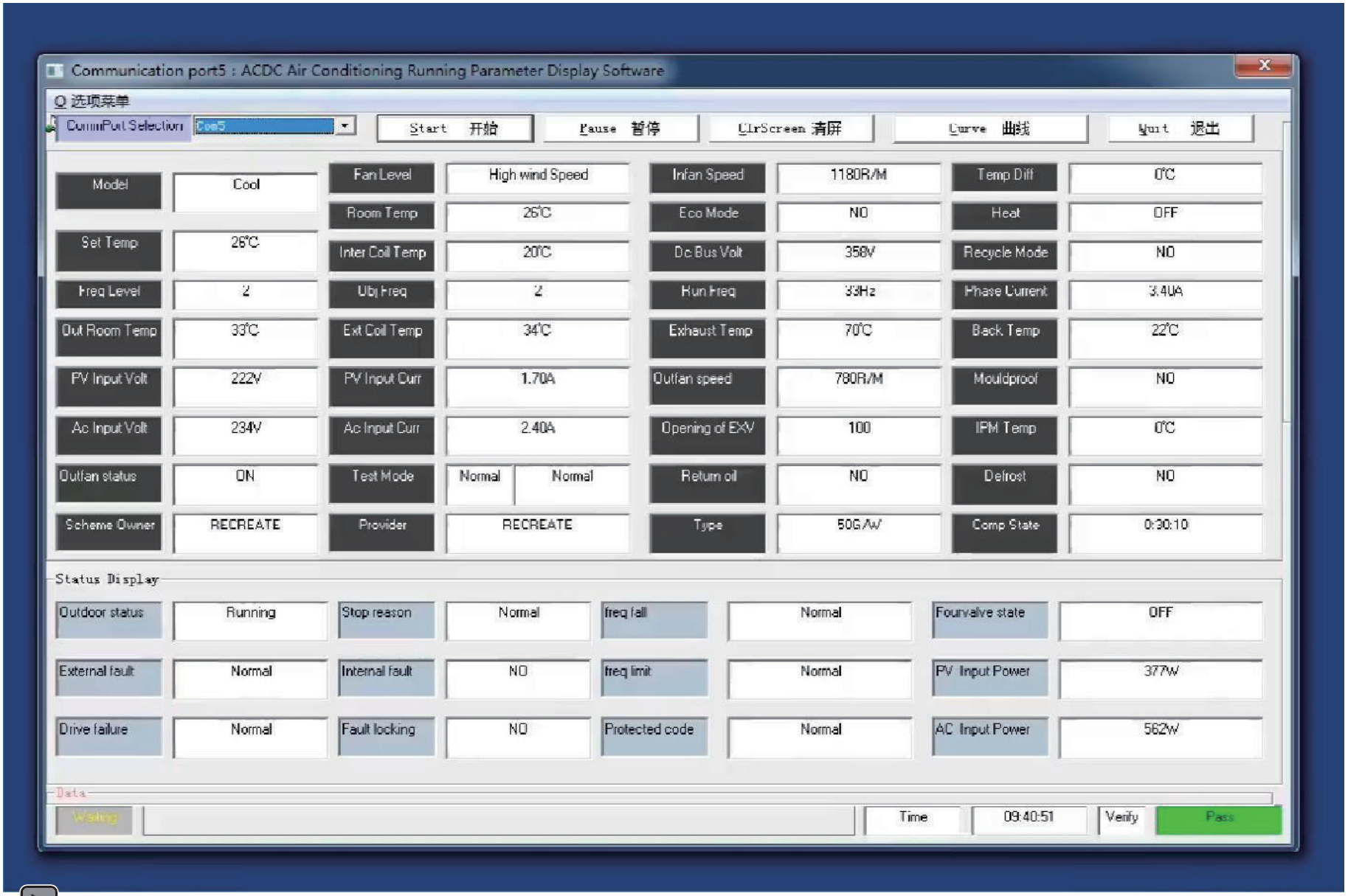
RT28N-32X 1P



DC Breaker.

DC800V 2P 20A

Power Tracking



Products Parameters

Solar Air Conditioner							
PRODUCT SPECIFICATION SHEET							
Items			Indoor	heat pump	heat pump	heat pump	heat pump
			Indoor				
			Outdoor				
Picture of Indoor Unit			-				
Power supply source			V/Ph/Hz	220V-1-50Hz/220～240V-1-50Hz	220V-1-50Hz/220～240V-1-50Hz	220V-1-50Hz/220～240V-1-50Hz	220V-1-50Hz/220～240V-1-50Hz
			DC	DC90-380V MAX.15A	DC90-380V MAX.15A	DC90-380V MAX.15A	DC90-380V MAX.20A
Rated Capacity		Cooling	W	2500	3500	5000	7000
		Heating	W	2500	3600	5100	7200
Rated Power Consumption		Cooling	W	690	1030	1520	2100
		Heating	W	713	980	1550	2180
Rated Running Current		Cooling	A	3	4.7	6.9	9.3
		Heating	A	3.1	4.5	7	9.6
Max. Input Power			W	1450	1870	2860	3800
Max. Input Current			A	6.6	8.5	13	17.2
SEER Cooling			W/W	SEER6.6	SEER6.6	SEER6.6	SEER6.6
SCOP Heating			W/W	SCOP4.6	SCOP4.6	SCOP4.0	SCOP4.0
Refrigerant			-	R32	R32	R32	R32
Refrigerant Charged			g	900	900	920	1260
Air Flow Volume			m^3/h	650	650	900	1200
Noise level (INDOOR)			dB(A)	41	42	45	48
Noise level(OUTDOOR)			dB(A)	50	50	52	56
Connect pipe	Thickness		mm	Φ6*0.5	Φ6*0.5	Φ6*0.5	Φ6*0.5
	Gas tube Diameter × Thickness		mm	Φ9.52*0.6	Φ9.52*0.6	Φ12.7x0.7	Φ15.88x0.9
Compressor Parameter	Compressor Model			KSK103D53UFZ	KSN108D34UFZ	FTz-SM151AXBA	KTM240D43UMT
	Drive mode		AC/DC	DC	DC	DC	DC
	type			Rolling Rotor Type	Rolling Rotor Type	Rolling Rotor Type	Rolling Rotor Type
	Brand			GMCC	GMCC	LAMDA	GMCC
	Capacity		W	3120±5%	3080±5%	5780±5%	7740±5%
	Input		W	805±5%	780±5%	1320±5%	2065±5%
	Rated current(RLA)		A	5.7±5%	5.4±5%	6.0±10%	9.4±10%
Dimension	Outdoor	Net Dimension	mm	795×290×555	795×290×555	795×290×555	860×304×733
		Packing Dimension	mm	910*400*630	910*400*630	910*400*630	1005*450*820
	Indoor	Net Dimension	mm	895*203*300	895*203*300	1000*240*310	1130*245*320
		Packing Dimension	mm	965*275*370	965*275*370	1075×310*385	1195*310*390
Indoor unit weight （Net）			Kg	12	12	15	17.5
Outdoor unit weight (Net)			Kg	38	40	43	55
Loading qty (20/40Q/40HQ)				90/176/194	90/176/194	79/160/180	50/105/120