

Intelligent Sunshine Box iSBox™ Solar Power System



iSBox™ Intelligent Solar Power System

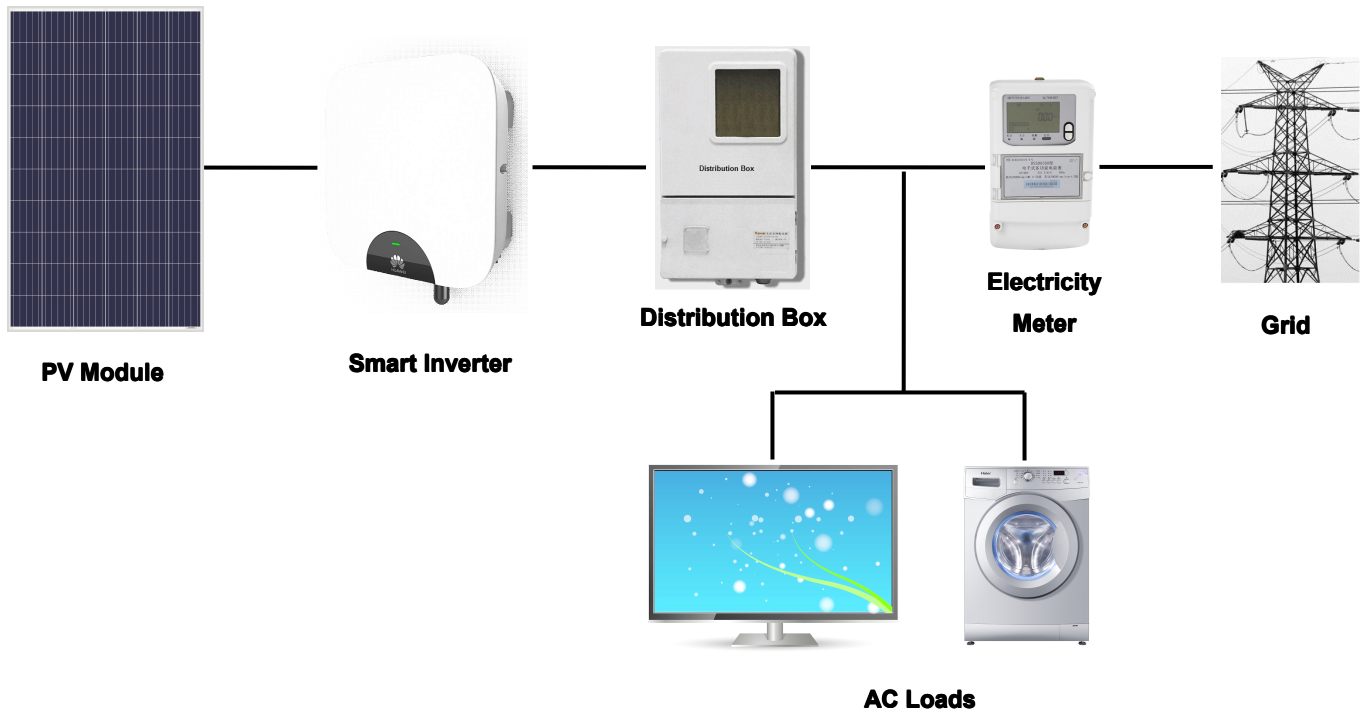
Amerisolar iSBox™ is an integrated intelligent solar power system which is specially designed to provide a complete energy solution for residential and commercial roofs. Both on-grid and off-grid PV systems can be customized and provided according to the user's requirements. The on-grid PV system is composed of PV modules, smart inverters, mounting racks, distribution box and other necessary accessories. The inverter converts the DC power produced by the modules into AC power consistent with the voltage and power quality required by the utility grid. The off-grid PV system is composed of PV modules, hybrid controller & inverter (controller and inverter), battery, mounting racks, distribution box and other necessary accessories. The controller adopts MPPT technology and intelligent battery management design, and regulates the charging of the battery by the modules and discharging of the battery by the appliances. All the components are from the top-class manufacturers, and ensure the highest energy yield and maximize the user's return on investment.

Key Features and Benefits

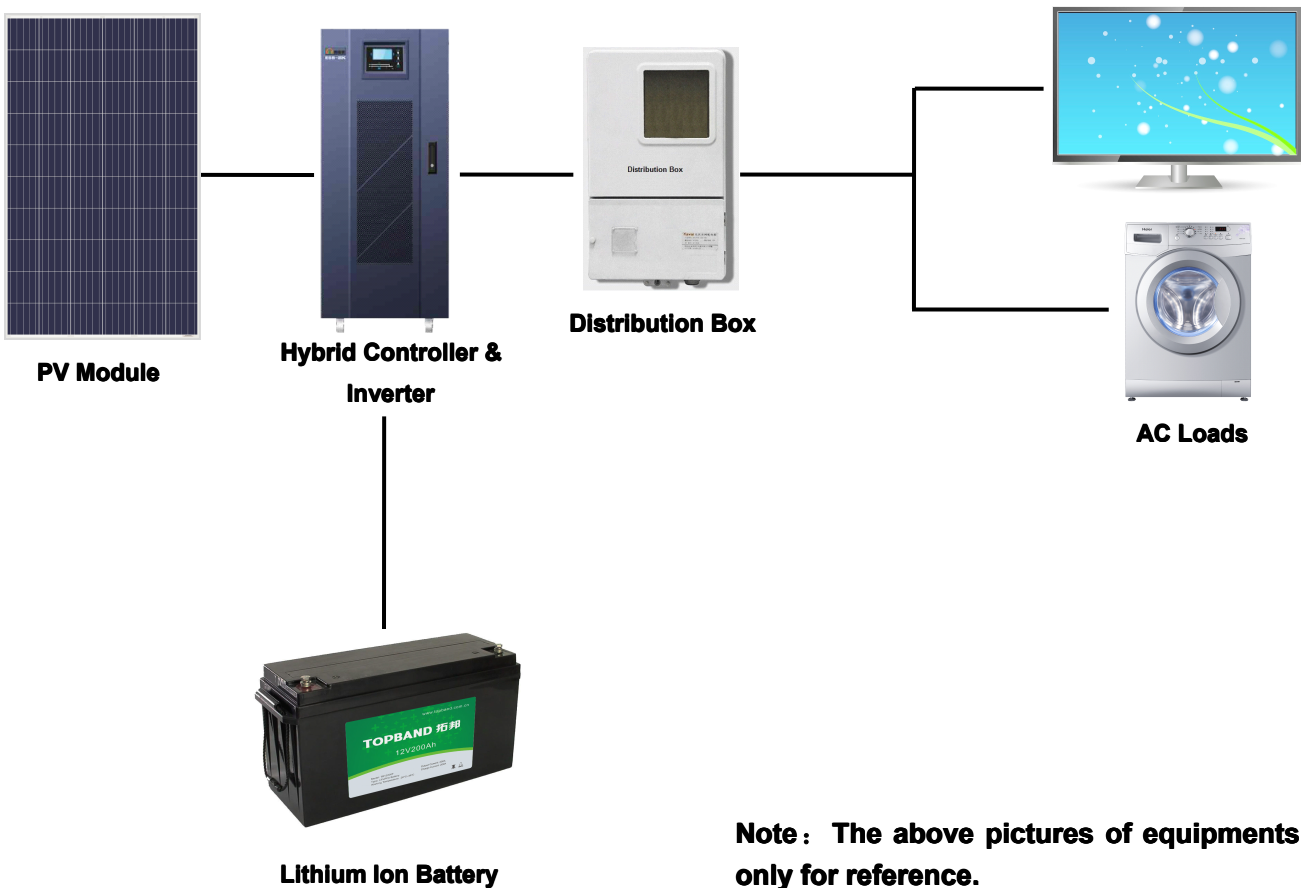
- High performance and reliability
- strings intelligent monitoring and fast trouble-shooting (On-grid)
- Remote monitoring and multiple communication (On-grid)
- Type II surge arresters for both DC and AC (On-grid)
- Built-in MPPT solar controller, maximize the utilization of solar panel (Off-grid)
- Support mains/generator input (optional) (Off-grid)
- Intelligent battery management and temperature compensation function (Off-grid)
- Pure sine wave output, output isolated transformer, safe and stable (Off-grid)
- Easy installation and low installation costs
- Easy maintenance
- Long lifespan up to 25 years



iSBox On-grid system schematic diagram



iSBox Off-grid system schematic diagram



Note: The above pictures of equipments are only for reference.

iSBox™ --- On-grid PV system configuration *

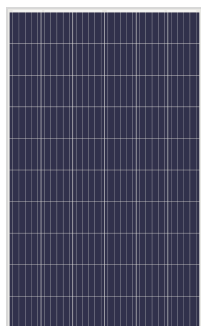
No.	Components	Model / Quantity				
		3kW System	4kW System	5kW System	10kW System	20kW System
1	PV Module	AS-6M30-300W / 10 pcs	AS-6M30-290W / 14 pcs	AS-6P30-280W / 18 pcs	AS-6P30-280W / 36 pcs	AS-6P30-280W / 72 pcs
2	Inverter	3kW / 1 pcs	4kW / 1 pcs	5kW / 1 pcs	10kW / 1 pcs	20kW / 1 pcs
3	Mounting racks	3kW / 1 set	4kW / 1 set	5kW / 1 set	10kW / 1 set	20kW / 1 set
4	Distribution box	3kW / 1 pcs	4kW / 1 pcs	5kW / 1 pcs	10kW / 1 pcs	20kW / 1 pcs
5	Electrical accessories	Cable, connectors / 1 set	Cable, connectors / 1 set	Cable, connectors / 1 set	Cable, connectors / 1 set	Cable, connectors / 1 set

iSBox™ --- Off-grid PV system configuration **

No.	Components	Model / Quantity				
		1kW System	3kW System	5kW System	10kW System	20kW System
1	PV Module	AS-6P30-270W / 4 pcs	AS-6P-330W / 9 pcs	AS-6P30-280W / 18 pcs	AS-6P30-280W / 36 pcs	AS-6P30-280W / 72 pcs
2	Hybrid controller & inverter	1kW / 1 pcs	3kW / 1 pcs	5kW / 1 pcs	10kW / 1 pcs	20kW / 1 pcs
3	Lithium Ion Battery	12V200Ah / 2 pcs	12V200Ah / 4 pcs	12V200Ah / 8 pcs	12V200Ah / 19 pcs	12V200Ah / 38 pcs
4	Mounting racks	1kW / 1 set	3kW / 1 set	5kW / 1 set	10kW / 1 set	20kW / 1 set
5	Distribution box	1kW / 1 pcs	3kW / 1 pcs	5kW / 1 pcs	10kW / 1 pcs	20kW / 1 pcs
6	Electrical accessories	Cable, connectors / 1 set	Cable, connectors / 1 set	Cable, connectors / 1 set	Cable, connectors / 1 set	Cable, connectors / 1 set

*/** The system configuration can be adjusted according to the user's demands.

Main components



PV Module

Amerisolar photovoltaic modules are produced under the strict quality control in compliance with the standard IEC61215, IEC61730 and UL1703. All components and materials for the modules are of the best quality from well-established suppliers. This ensures the modules produce a continuous, reliable yield, even under demanding operational conditions. The modules also show superior performance in Photon Lab's test field.

✦ **Certification:**          

✦ **Warranty:**

- Product warranty: 12 years
- Limited linear power warranty: 12 years 91.2% of the nominal power output, 30 years 80.6% of the nominal power output



Smart Inverter

Huawei smart inverters integrate the latest digital and internet technology, and make any PV power system more efficient and more intelligent. They are configured to maximize power output of Amerisolar modules, and convert DC electricity produced by the modules into AC electricity and feed it to the grid. They offer best-in-class performance along with a reassuring customer service.

✦ **Smart:**

- Strings intelligent monitoring and fast trouble-shooting
- Remote monitoring and multiple communication

✦ **Efficient:**

- Max. efficiency up to 98.5%, European efficiency up to 98.3%

✦ **Safe:**

- DC switch integrated, safe and convenient for maintenance
- Residual Current Monitoring Unit (RCMU) integrated
- Fuse free design

✦ **Reliable**

- Natural cooling technology
- Protection degree of IP65
- Type II surge arresters for both DC and AC



Hybrid Controller & Inverter

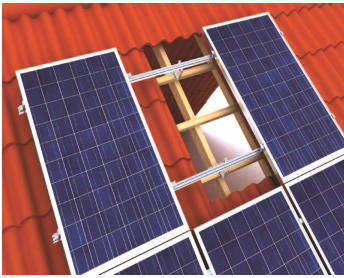
The hybrid controller & inverter integrates 3 functional modules: solar controller, pure sine wave inverter and insulated transformer. The controller adopts MPPT technology and intelligent battery management design which is very efficient and smart; integrated pure sine wave inverter and low frequency isolated transformer makes it with excellent overload performance, suitable for a variety of electrical appliances. It supports mains/generator input, take advantages of old diesel generators, saving initial investment and operation maintenance cost.

Main components



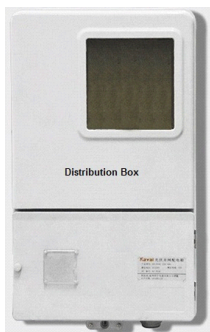
Lithium Ion Battery

The lithium ion batteries designed with the latest technology have high energy density, very low self-discharge rate, wide operating temperature and excellent performance at high temperature. With long cycle life, high safety and reliability, flexible installation and easy maintenance, the batteries are widely used in electrical vehicles, communications systems, solar PV system, wind power system and power station system. Their superior performance have been verified in various fields.



Mounting Racks

The mounting racks are composed of high-quality aluminum or high-grade steel components, which combine optimum structural design and durability for quick and easy installation and long-term performance. The light-weight and durable systems can be adapted to a wide range of roof types.



Distribution Box

The distribution box contains AC circuit breaker, surge protection module, grounding module and no-voltage release module (only for on-grid system) with high safety and reliability, stability, convenient installation and maintenance. Assembled with high quality components, the distribution box can provide better protection for system safety and personal safety.

ISBox Monitoring system

iSBox monitoring system depends on Huawei Fusionhome smart PV management system, and provides users with a flexible internet monitoring solution which is suitable for residential, commercial rooftop systems and PV power plants. It can archive all-weather data and automatically transmit data to PV monitoring web-server via internet. The users can login monitoring website or use smart phone Apps to check power plant information.

✧ **Smart**

- Easy data access on mobile devices
- Proactive reports of yields and alarms

✧ **Simple**

- Easy & simple to get started
- Fault alarms via E-mail

✧ **Safe**

- Centralized management on all PV systems
- Up to 20 years data storage



Network Structure

