太阳能离网发电系统
Solar off-grid power generation system

300KW 离网电站 – 风帆 300kW off grid power station – sail

太阳能离网发电系统的应用范围 OFW-Grid Solar Power Systems application

太阳能离网发电系统为您提供一切所需的生活用电，特别适用于无电山村、学校、医院、私人住宅、边防海岛、部队及海外作业等。

OFW-grid solar power generation system to provide you with all the necessary power consumption, especially for mountain villages without electricity, schools, hospitals, private homes, border islands, military and overseas operations and so forth.

太阳能离网发电系统的组成及作用 Functions of the Components of Solar Power Systems

太阳能离网发电系统由太阳能电池板、太阳能控制器、蓄电池（组）组成。如输出电源为交流 220V 或 110V，还需要配置逆变器。各部分的作用为：

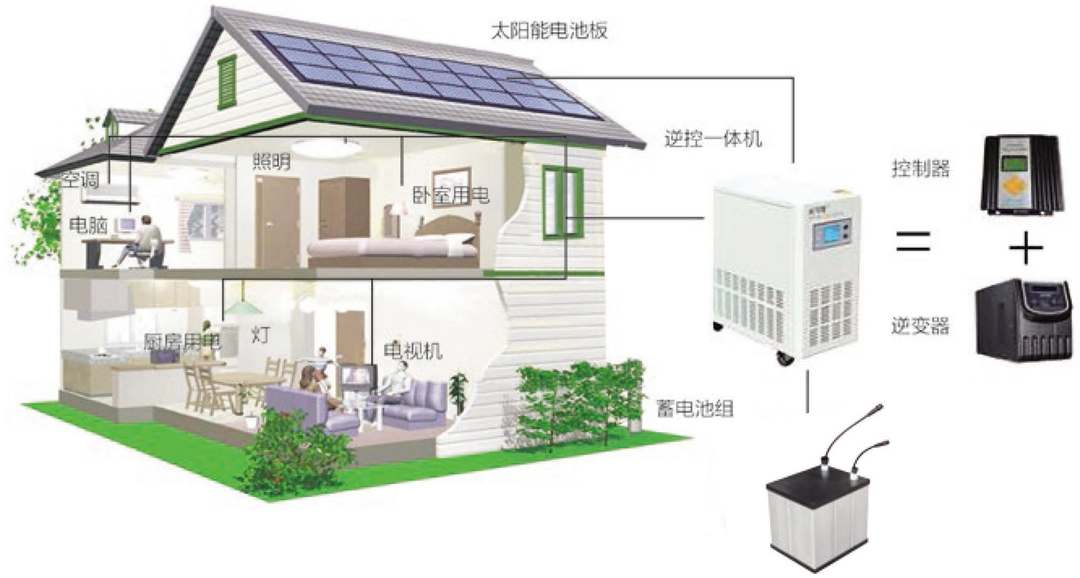
太阳能电池板：太阳能电池板是太阳能发电系统中的核心部分，其作用是将太阳的光能转换为电能，或送往蓄电池中存储起来，或推动负载工作。

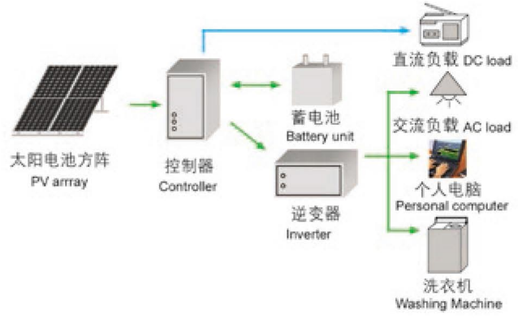
太阳能控制器：太阳能控制器的作用是控制整个系统的工作状态，并对蓄电池起到过充电保护、过放电保护的作用。控制器还具备温度补偿的功能。其他附加功能如光控开关、时控开关等。

蓄电池：一般为铅酸电池，其作用是在有光照时将太阳能电池板所发出的电能储存起来，到需要的时候再释放出来。

逆变器：当需要提供 200VAC、110VAC 的交流电源时，由于太阳能电池板的直接输出一般都是 12VDC、24VDC、48VDC 等。为能向 220VAC 的电器提供电能，需要将太阳能发电系统所发出的直流电能转换成交流电流，因此需要使用 DC-AC 逆变器。在某些场合，需要使用多种电压的负载时，也要用到 DC-DC 逆变器，如将 24VDC 的电能转换成 5VDC 的电能（注意，不是简单的降压）。

太阳能离网发电系统概要图
Solar oFW-grid power generation system schematic





OFW-grid solar power generation system consists of solar panels, solar controller, batteries (Group). Such as the output power supply for AC 220V or 110V, also need to configure inverter. The role of the various parts as follows:

Solar panels: solar panels solar power generation system in the central part of its role is to the sun's light energy is converted to electrical energy, or to the battery is stored up, or promote the work load.

Solar Controller: Solar controller's role is to control the entire system working state, and played off battery charge protection, over discharge protection role. Controller also has temperature compensation function. Other additional features such as light-control switch, when the control switch.

Batteries: lead-acid batteries generally, their role is when there is light emitted by solar panels save energy, to be released when needed.

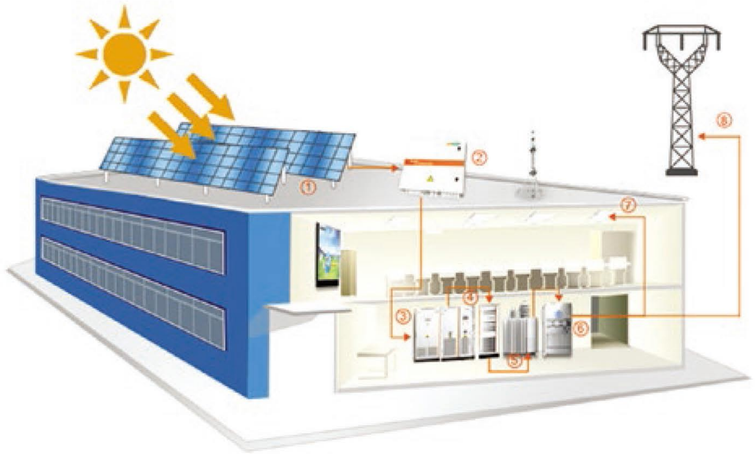
Inverter: when the need to provide 200VAC, 110VAC AC power, due to the direct output of solar panels are generally 12VDC, 24VDC, 48VDC and so on. In order to provide electrical power to the 220VAC electrical needs to be issued by the solar power system to convert DC to AC current, so need to use the DC-AC inverter. In some cases, need to use a variety of voltage load, but also used in DC-DC inverter, if the 24VDC to 5VDC power converted into electrical energy (note that is not a simple step-down).

太阳能并网发电系统
Solar energy grid generation system

工厂式太阳能光伏发电系统 Plant type solar photovoltaic power generation system

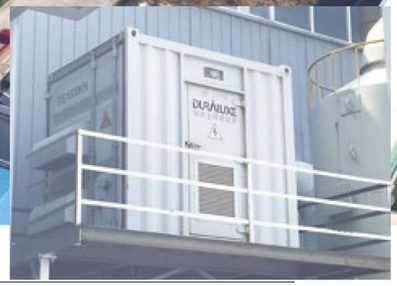
适用于白天用电量大，电价较高的企事业单位及商业建筑等，如工矿企业车间、厂房、学校、酒店、办公楼等。

Applicable to enterprises and institutions and commercial buildings with large electricity consumption and high electricity prices.



☆光伏组件 Photovoltaic modules
☆汇流箱 Junction box
☆光伏逆变器 Photovoltaic inverter
☆ 光 伏 发 电 系 统 监 控 Photovoltaic power generation system monitoring
☆变压器 Transformer
☆环网柜 Ring network cabinet
☆厂区用电 The factory electricity
☆电网 The grid

5 兆瓦 并网电站——风帆 5 MW grid connected power station – Fengfan



工厂式屋顶发电系统特点 Factory roof power generation system

☆一次性投资，25 年稳定获得 15% 左右投资回报率，比钱存银行划算
☆享国家补贴，经济收益高，减轻用户负担，节约电力成本
☆屋顶隔热效果良好，优于其他常规隔热措施
☆不占用建筑用地，工期短

☆ One-time investment, a stable return on investment of about 15% in 25 years,more cost-effective than saning money in banks.
☆ Enjoy state subsidies, high economic benefits, reduce the financial burden on the user, save electricity costs
☆ Roof insulation effect is good, Superior to other conventional insulation measures
☆ Do not take up land for construction, short time limit

太阳能并网发电系统概要图 Solar energy grid generation system schematic