

离并网储能系统-方案 1

On & Off-Grid ESS

Project 1

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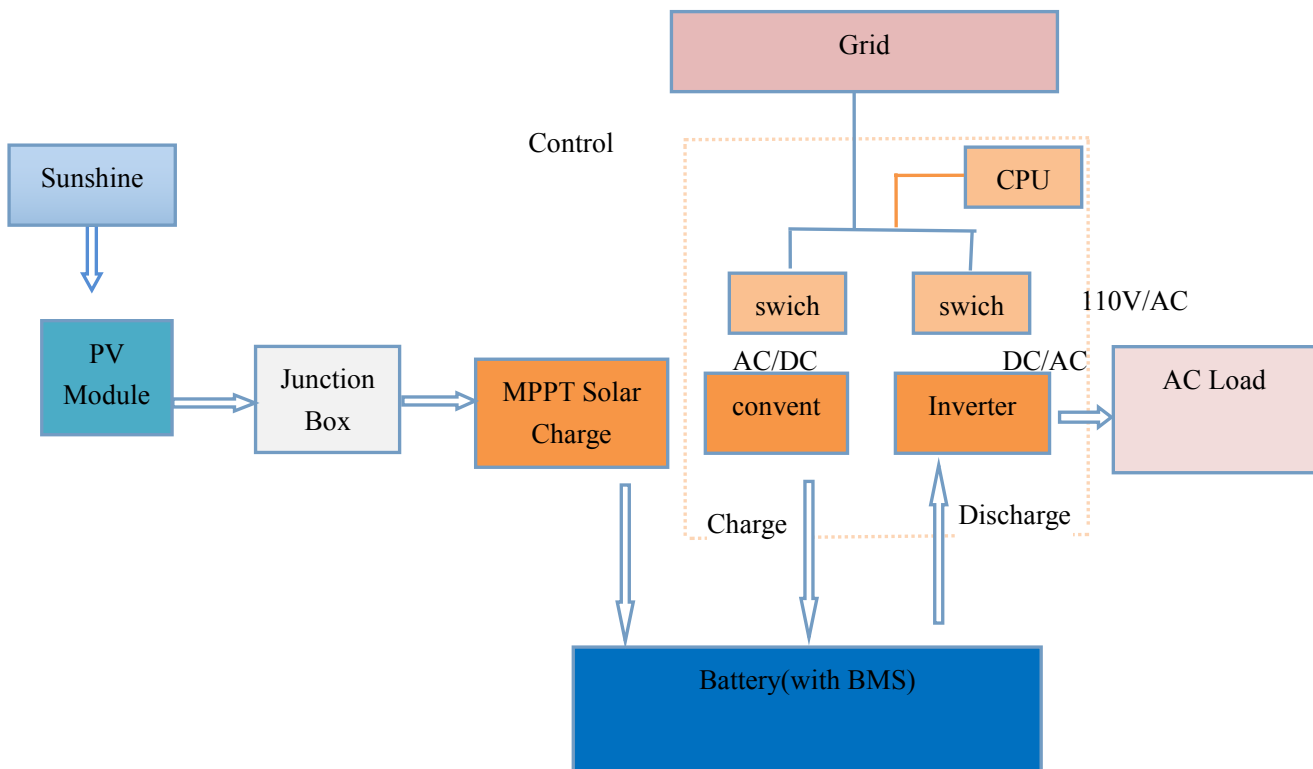
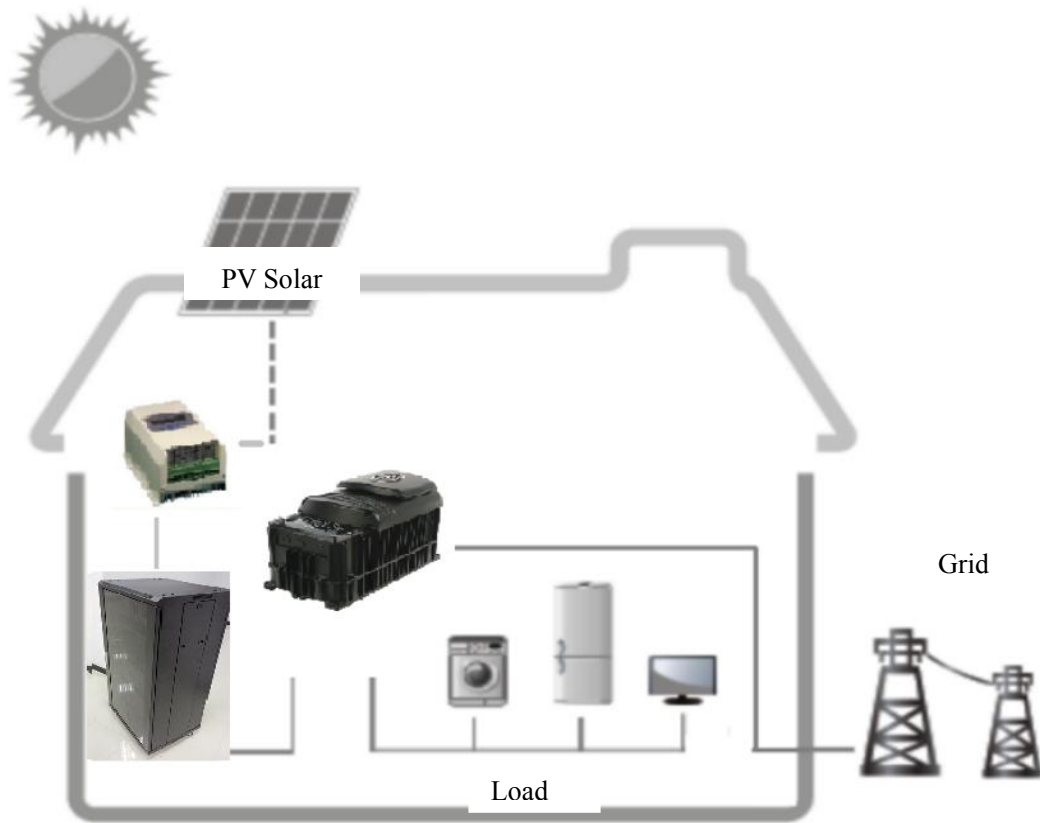
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1. 概述 Overview

光伏储能系统由光伏组件、汇流箱、光伏控制器(MPPT)、离并网逆变器、电池管理系统(BMS)和磷酸铁锂电池组组成。光伏组件产生的电量通过汇流箱输送到光伏控制器中,光伏控制器转换合适电压给电池充电。当电池电量充满,多余电量通过逆变器交流 110V 供负载使用。当光伏将电池充满并且光伏功率大于负载功率时,离并网逆变器将多余电量逆变并卖到电网;当电池电量较低时,离并网逆变器使用市电供给负载并对电池进行充电。

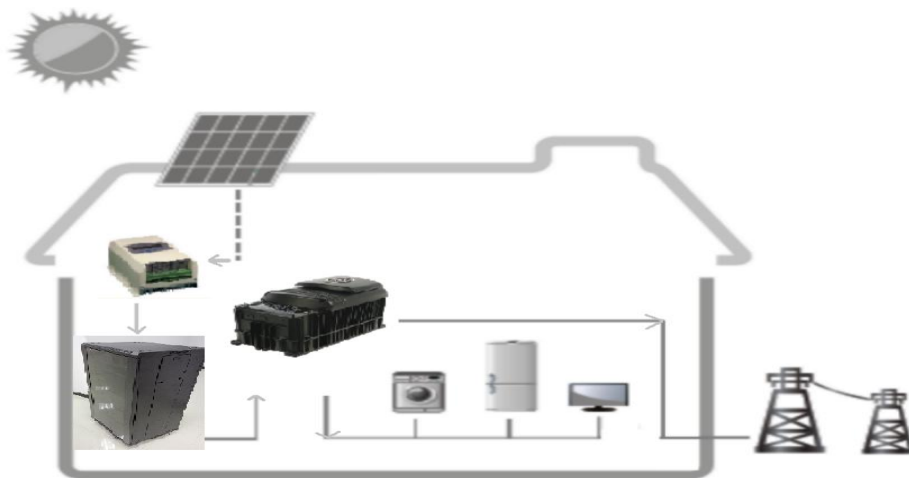
PV energy storage system consists of PV modules, junction box, MPPT, on & off-grid inverter, battery management system (BMS) and lithium ion phosphate battery. Energy from PV modules will transport to PV controller which converts suitable voltage to charge battery via junction box. When battery is fully charged, surplus energy AC 110V to load directly though inverter. The surplus energy will be sold to grid through on & off-grid inverter when battery is fully charged as well as the power of PV is more than power of load; grid energy will supply power to load and charge battery through on & off-grid inverter.

2. 系统框图 Diagram

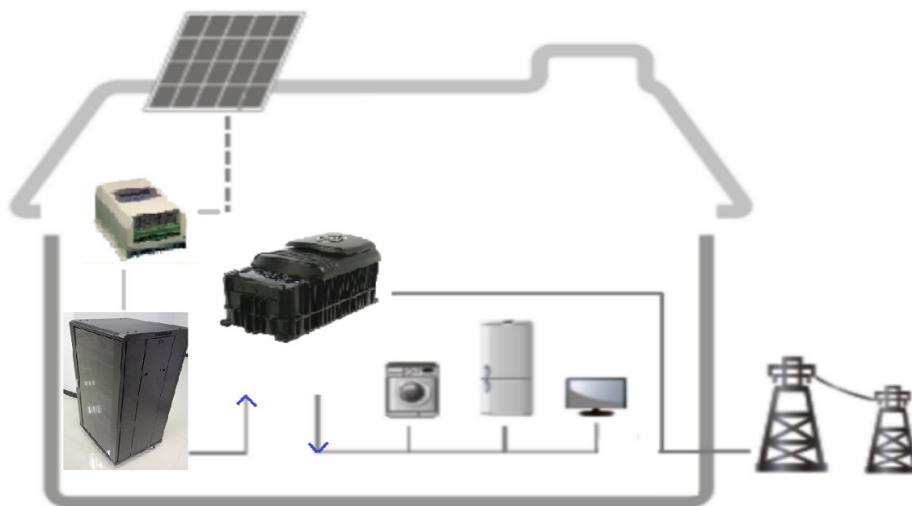


3.工作模式 Work Model

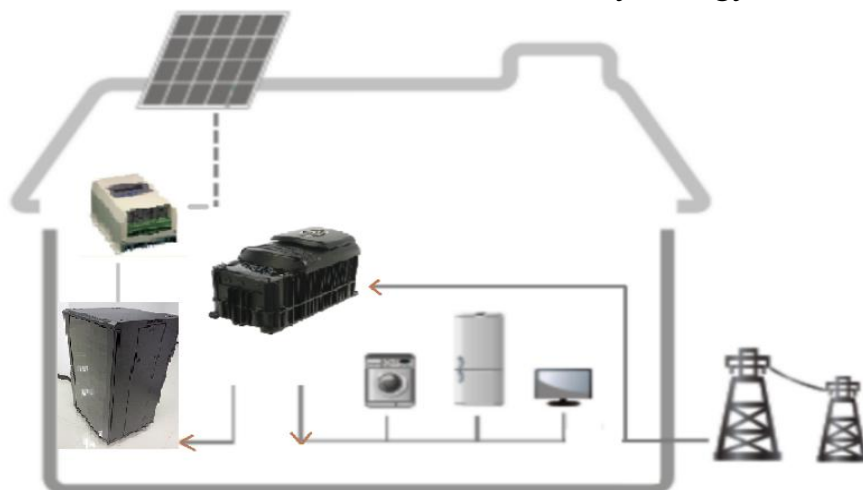
3.1 光伏工作模式 With PV



3.2.无光伏电池供电模式 Without PV



3.3 无光伏并且电池电量低模式 Without PV and Battery Energy Lower



4. 电池系统 Battery System

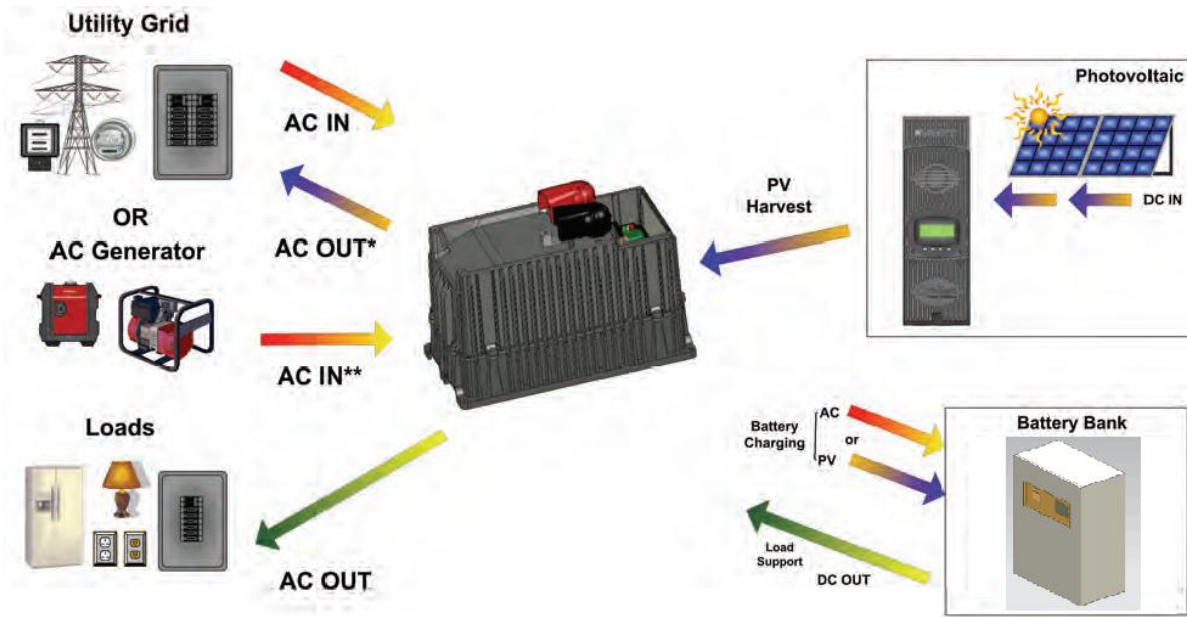
电池系统由电池组、电池箱及 BMS 系统组成。系统集成到此储能柜中，电池系统在上层，逆变器放置下层。电池系统可以做 5kWh, 7.5kWh 具体根据客户需求生产。

Battery system consists of lithium ion battery, battery case and BMS, they are compacted into one cabinet with inverter. We can make 5kWh, 7.5kWh battery for battery system, this system is also customizable.



5 离并网逆变器 On & Off-grid inverter

逆变器系统示意图 Inverter diagram



6. 产品参数 Production Parameter

技术参数\型号 Model	YES-GSI-48
额定输出功率 Rated Output Power	3kW
蓄电池输入 Lithium Ion Battery Input	
额定电压 Rated Voltage	51.2 VDC
浮充电压 Flat Charge Voltage	54.0 VDC
最大充电电压 Max. Charge Voltage	57.6 VDC
市电输入 Grid Input	
输入电压范围 Voltage Range	110±15% VAC
输入频率 Frequency	60±3% HZ
切换时间 Swift Time	≤15ms
充电电流 Charge Current	5A
并网输出 Grid Output	
输出电压 Output Voltage	110V+15%
输出频率 Output Frequency	60Hz
并网方式 Grid type	Auto. Collect Grid
交流输出 AC Output	
输出波形 Wave	纯正弦波 Pure Sine Wave
输出电压 Output Voltage	110VAC±1% (Customized)
输出频率 Output Frequency	60±1%
输出波形失真率 Output Wave Distortion Rate	≤2% (Liner Load)
逆变效率(80% 阻性负) Efficiency	≥88%
电流峰值系数 Current Peak Factor	3:1
过载能力 Filter Capacity	105-110%, 600s; 110-125%, 60s; >125% 1s
显示及保护 Display & Protect	
显示方式 Display	LCD/LED
通讯功能 Telcom Function	RS485 (optional)
工作环境 Work Environment	
防护等级 IP Level	IP31
使用海拔 Usage Altitude	≤4000m (Reduce 1% per 100m above 1000m)
环境温度 Environment Temp.	-20~+45 °C
噪音 (1米) Noise	≤60dB

Remark: The system will be updated later, the invetter will be wall-hanging type.

(attached photo for your reference)

