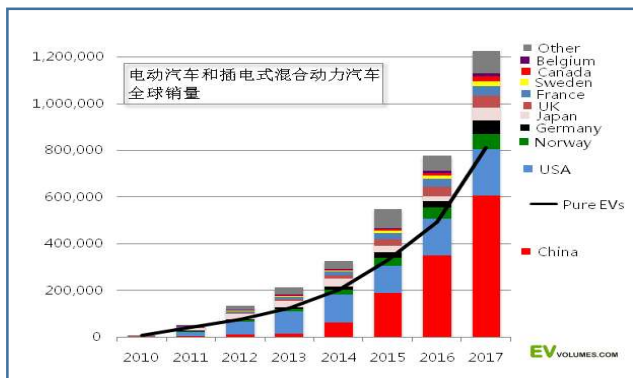


Emerging Microgrid Technologies- EV Charging Microgrid





- EV 1.9M/World 2018
- EV 0.9266M/China 2018
- EV 60K/SZ 2018
- EV CP 10K/SZ 2018



Business and performance

南方和顺

Shenzhen has the advantages of electric vehicle market and good development prospects. In order to meet the growing demand for charging and accelerate the layout of charging facilities, Shenzhen Power Supply Bureau Co., Ltd has established Shenzhen Southern Heshun Electric Vehicle Industry Service Co., Ltd. to develop electric vehicle charging services and other industries.



Shenzhen Southern Heshun Company has innovated and realized seven major charging business scenarios mode in half a year. At present, 5275 charging piles have been put into operation, ranking among the mainstream charging operators in Shenzhen.

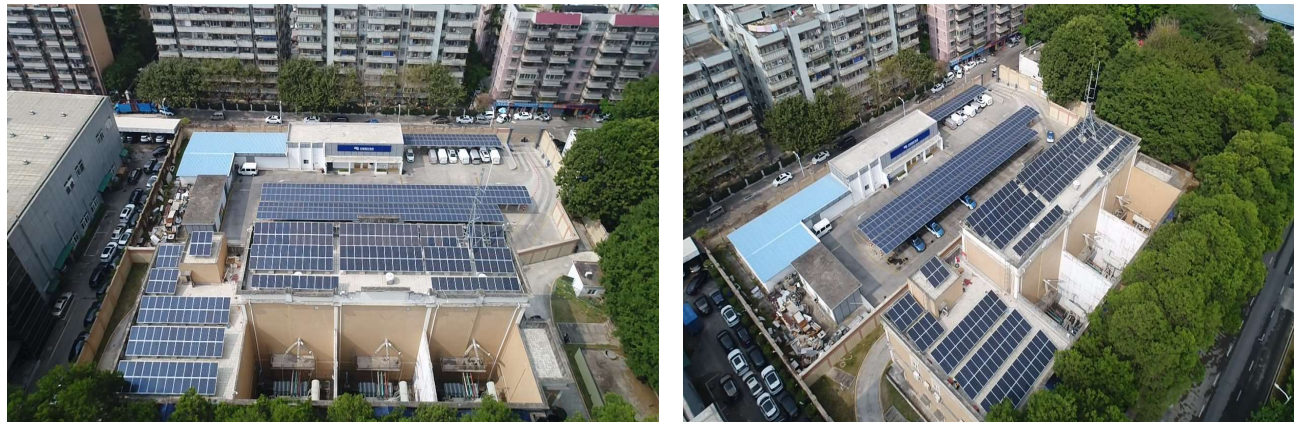
The two is the first nationwide initiative, and the largest in the country.



Substation + Microgrid

南方和顺

- Phase1 980 square meters; 98.28kWp;
- Phase2 700 square meters; 70.11 kWp;
- Total168.39 kWp;
- The operation mode of “spontaneous self-use and surplus power online”
- The transformation and upgrading of traditional substations to integrated energy stations;

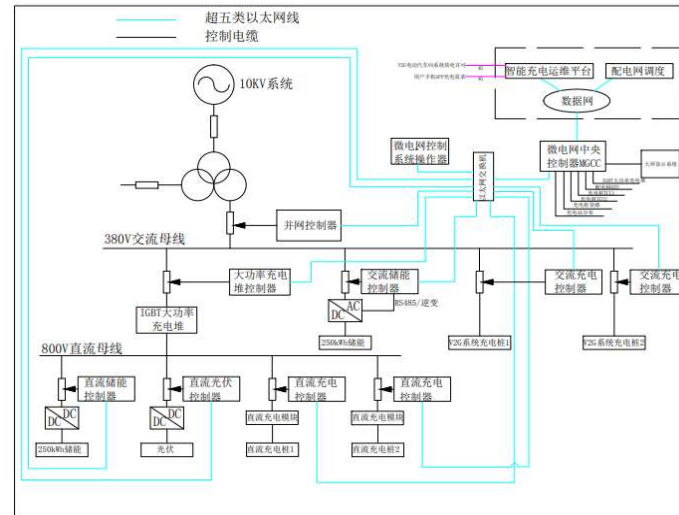


Min le P+R

Topology diagram



The largest transportation hub charging station in China

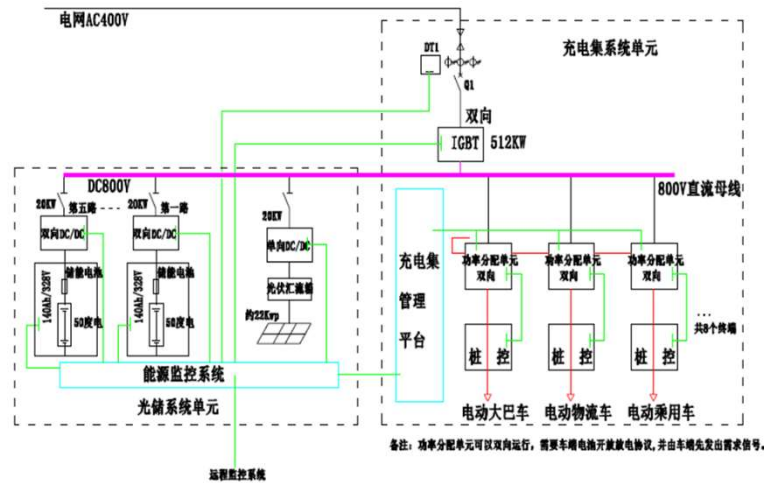


- ◆ The 10KV voltage of distribution network is reduced to 380V, and the 250KWh energy storage system is connected to 380V AC side bus by inverter
- ◆ The AC side is connected to two 43KW AC charging piles for slow charging of electric vehicles with V2G function.
- ◆ By using high-power charging stack technology, AC is converted into DC, and PV system, 250KWh energy storage system and high-power charging stack are assembled on 800 V DC bus.

Charging Cube (DC Microgrid)

南方和顺

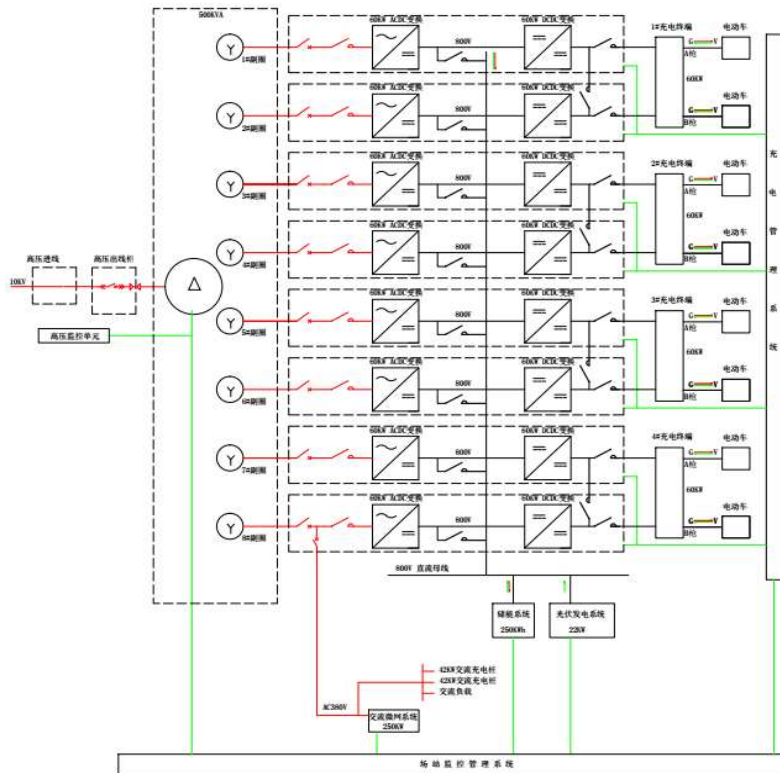
IGBT充电集-共直流光储充一体系统结构示意图



-
- Based on IGBT high-power rectifier technology, DC busbar is formed by AC/DC in the charging set, which can be directly connected to photovoltaic, energy storage and other energy sources. Energy can be absorbed locally without feeding back to the grid.

Charging Cube System solution

南方和顺



- Adaptability: Automatically select the power output according to the BMS information of the vehicle, power allocation with "call first" and "pile first" mode, can be controlled manually or intelligently. Based on IGBT high-power rectifier technology, DC busbar is formed by AC/DC in the charging set, which can be directly connected to photovoltaic, energy storage and other energy sources. Energy can be absorbed locally without feeding back to the grid.
- Power dispatching level: 30kW (based on 30kV adaptive intelligent scheduling for power allocation).

Thanks!

