1MW/2MWh Energy Storage System Solution For -

Yichun Dawnice Manufacture & Trade Co., Ltd.

2024/12/23

Dawnice

Dawnice Group was established in 2021, with a team of 14 years of experience in lithium battery R&D and production. The production line is located in Yichun City, Jiangxi province,Named as the "lithium capital" of Asia.

Dawnice is a grow fast lithium battery brand with a 326% growth rate each year . After three years of development, Dawnice has become a well-known new energy enterprise , Has servied for more than 30000 families,more than 150 countries , and has built 30 + local service centers all over the world.

2021
established

27
Marketing channels

150+
Exporting
Countries

30+
Global sales center
and service center

Dawnice Structure

Dawnice Overseas Branch Office

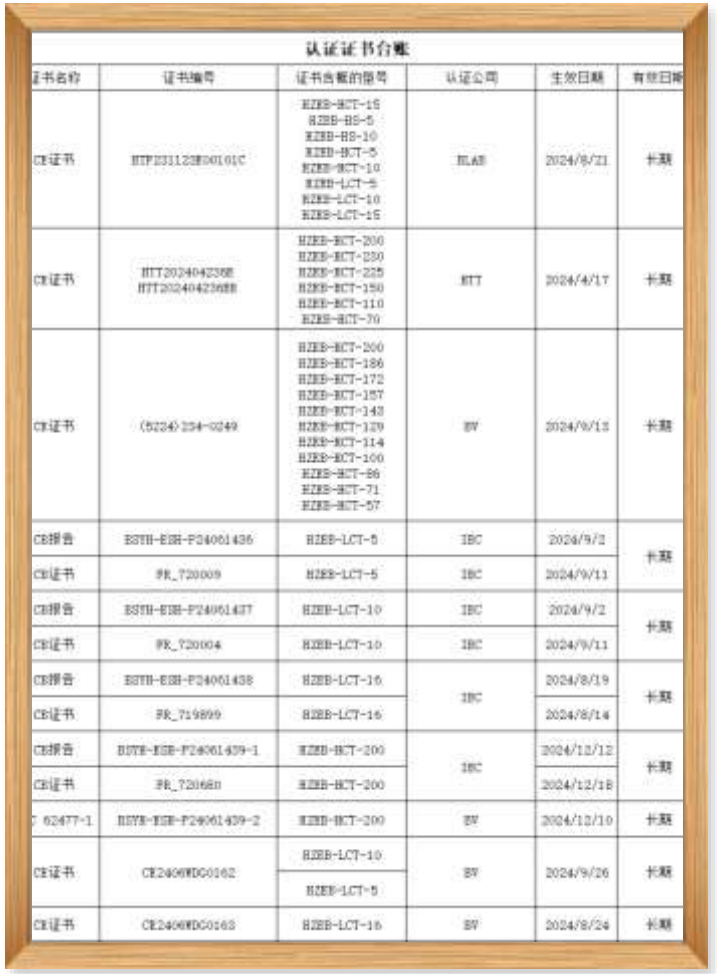
Dawnice in Uzbekistan LBS Center

Dawnice in Nigeria LBS Center

Dawnice Exhibition

Dawnice Group Customers Visiting

Certificate



认证证书台账

证书名称	证书编号	证书台账的型号	认证公司	生效日期	有效日期
CE证书	HTF2311228E01C	HZEB-HCT-15 HZEB-HS-5 HZEB-HS-10 HZEB-HCT-5 HZEB-HCT-10 HZEB-LCT-5 HZEB-LCT-10 HZEB-LCT-15	ELAB	2024/8/21	长期
CE证书	HTT2024042368 HTT2024042368B	HZEB-HCT-200 HZEB-HCT-230 HZEB-HCT-225 HZEB-HCT-150 HZEB-HCT-110 HZEB-HCT-70	HTT	2024/4/17	长期
CE证书	(SZ24)234-0249	HZEB-HCT-200 HZEB-HCT-186 HZEB-HCT-172 HZEB-HCT-157 HZEB-HCT-143 HZEB-HCT-129 HZEB-HCT-114 HZEB-HCT-100 HZEB-HCT-86 HZEB-HCT-71 HZEB-HCT-57	SV	2024/9/13	长期
CB报告	BSTH-EHB-P24061436	HZEB-LCT-5	IBC	2024/9/2	长期
CE证书	PR_720009	HZEB-LCT-5	IBC	2024/9/11	
CB报告	BSTH-EHB-P24061437	HZEB-LCT-10	IBC	2024/9/2	长期
CE证书	PR_720004	HZEB-LCT-10	IBC	2024/9/11	
CB报告	BSTH-EHB-P24061438	HZEB-LCT-16	IBC	2024/8/19	长期
CE证书	PR_719899	HZEB-LCT-16		2024/8/14	
CB报告	BSTH-EHB-P24061439-1	HZEB-HCT-200	IBC	2024/12/12	长期
CE证书	PR_720680	HZEB-HCT-200		2024/12/18	
62477-1	BSTH-EHB-P24061439-2	HZEB-HCT-200	SV	2024/12/10	长期
CE证书	CE2406WDG0162	HZEB-LCT-10 HZEB-LCT-5	SV	2024/9/26	长期
CE证书	CE2406WDG0163	HZEB-LCT-16	SV	2024/8/24	长期

Dawnice Business Map

Dawnice Service

Engineer team

24-persons engineer team

After-sales Team

24 Hours

7 Days

Online Service

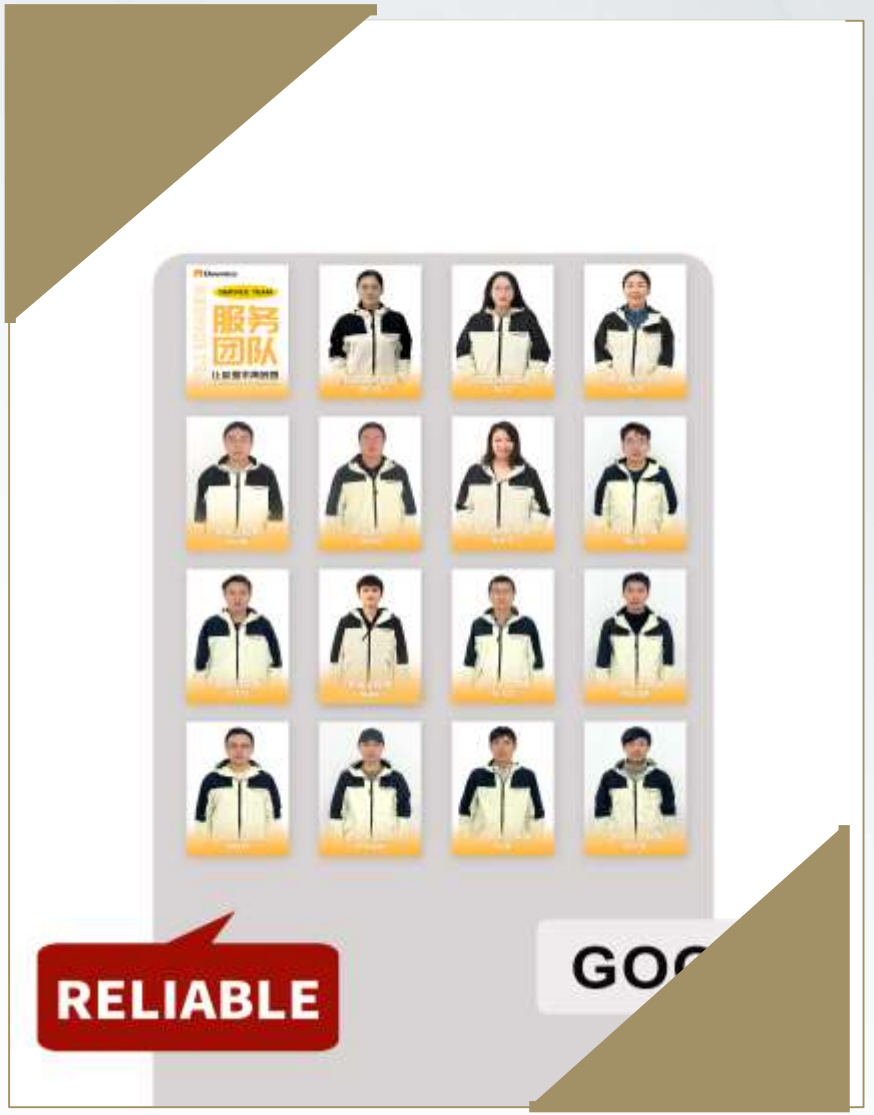
Product Training

Professional

one-to-one products training

Instsallation

Worldwide Dawnice installers



Dawnice Energy storage battery

Wall-mounted&Ground-mounted

Low voltage stackable

High voltage stackable

High Voltage Indoor Rack

High Voltage Outdoor 200kWh

All in one Outdoor
100kw/200kWh

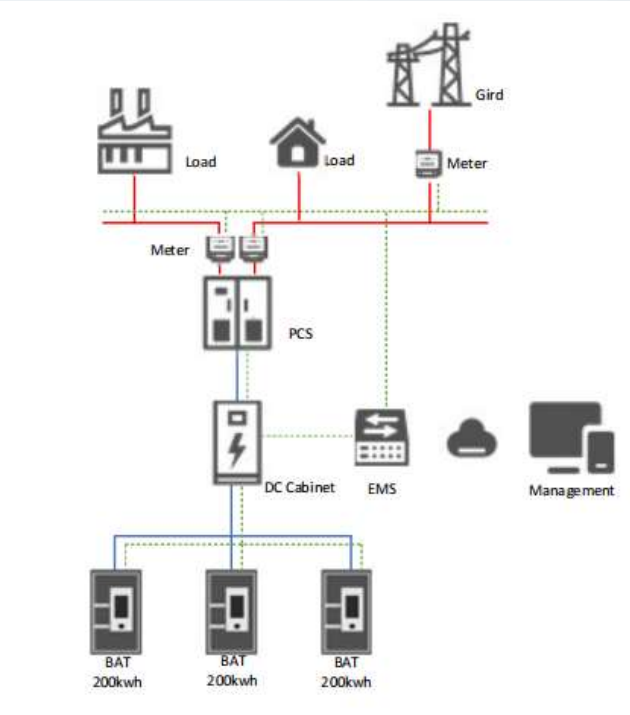
High Voltage Outdoor 100kWh

Dawnice

CONTANTS

System Architecture

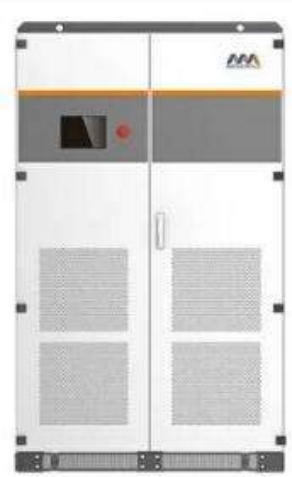
System Overview



Product Details

500KW/1.2MWh BESS

☑ Battery



☑ PCS

☑EMS

☑ DC Distributor Box

Product Details

- **Battery System （2000kWh）**

Battery Cabinet

Safe and reliable

- Self-designed 1 level BMS

Easy installation and maintenance

- Standard rack and module, front maintenance

High power density

- LFP battery ，≥132Wh/kg

Flexible customization

- For different application and installation

Design Life

- 15 years

Warranty

10 years

Product Details

Dawnice Battery（2000kWh）

Battery system configuration datasheet

Item	Description	Qty.	Supplier
200kwh Batery Systemm Rated Volage :716.8V Capaciy（Ah)：280AH Rated Energy （KWH）:200.7KWh(available at 95%DOD)) 2MWh	51.2V 280Ah battery module ,total 14 stes	10	Dawnice
	Air cooling system	10	Dawnice
	Fire protection system	10	Dawnice
	Explosion-proofan	10	Dawnice
	Lighting system	10	Dawnice
	Video surveillance	10	Dawnice
	Frist Brand BMS,BCU	10	Dawnice
	Wire	10	Dawnice
PCS 500KW	Includes: l)energy storage converter cabmet 1600*1050*2050mm 2)ACDC module:MEGA-500AC.modutlar	2	Dawnice
Battery bus box/Combiner Box/EMS	Battery bus box&EMS	2	Dawnice

Product Details

Dawnice Battery（2000kWh）

Battery system configuration datasheet

Battery Datasheet	716.8v 200.7kwh
Model Number	HZ-iESS-200
Battery Type	Lifepo4
Number Of Models	14
Nominal Voltage	716.8v
Voltage Range(Vdc)	627.2~806.4V
Capacity(Ah)	280AH
Rated Energy(KWH)	200.7KWH
Max. Charge/Discharge Current(A)	700A
Scalability	Up to 10 parallel
Communication	Ethemnet /RS485/CAN/USB
Cycle Life	≥6000cycles@25C. 90%DOD
Design Life	≥15 Years(25"C)

Product Details

- **Dawnice Battery（2000kWh）**

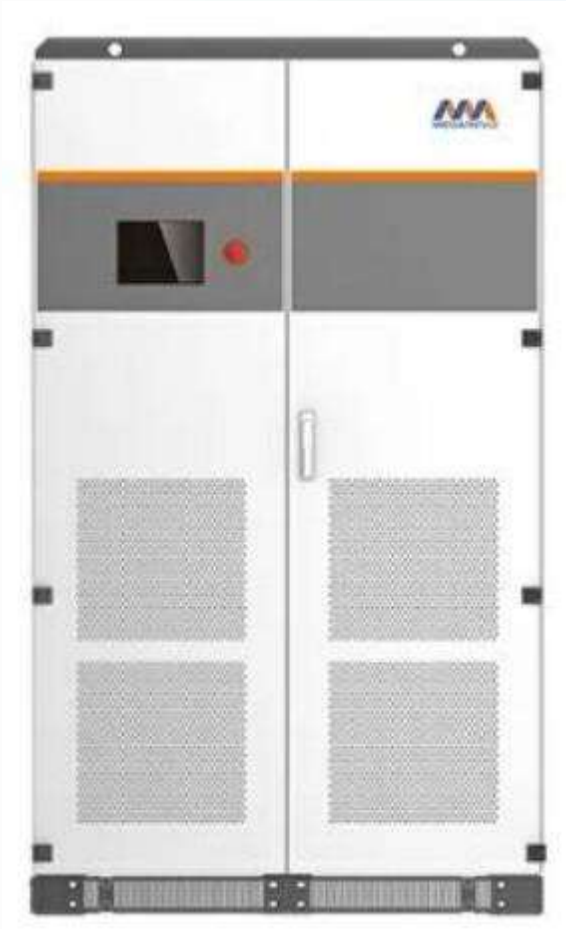
Battery system configuration datasheet

Battery system configuration datasheet						
Type	Model	Min voltage(V)	Max voltage(V)	Rated voltage(V)	Ratedenergy(Wh,	Quantity
Cell	280AH	2.8	3.6	3.2	896	2240
Battery Case	1P16S	44.8	57.6	51.2	14336	140
Battery Cluster	1P224S	627.2	806.4	716.8	200704	10
Battery System	10P224S	627.2	806.4	716.8	2007040	1

Product Details

PCS: MEGA0500

- (Without isolation transformer)



Model	MEGA0030TS	MEGA0050TS	MEGA0100TS	MEGA0150TS	MEGA0250TS	MEGA0500TS
Voltage range (V)	250~850	320~850	420~850	420~850	420~850	500~850
Max. current (A)	137	178	270	405	673	1,128
AC(on-grid)						
Max. output power (kVA)	33	55	110	165	275	550
Rate output power (kW)	30	50	100	150	250	500
Rated voltage (V)	400					
Voltage range (V)	320~460					
Rated current (A)	43	72	144	216	361	722
Max. output current (A)	48	80	159	238	397	794
Rated frequency (Hz)	50/60					
Frequency range (Hz)	45~55/55~65					
THDi	<3%					
Power factor	1lagging-1leading (Settable)					
AC connection	3W+N+PE					
AC(off-grid)						
Rated voltage (V)	400					
THDu	<1% Linear <5% Nonlinear					
Rated frequency (Hz)	50/60					
Overload capacity	110%long-term					
General data						
Max.efficiency	96.3%	96.5%	97.1%	97.1%	97.3%	97.5%
Ingress protection	IP21					
Noise emission (dB)	<70					
Operating temperature (℃)	-30 ~ 55					
Cooling	Forced air					
Relative humidity	0 ~95% non-condensing					
Operating altitude	5,000m(>3,000 Derating)					
Dimension W*D*H (mm)	800*800*1,900	800*800*1,900	800*800*1,900	800*800*1,900	1,200*800*2,050	1,600*1050*2,050
Net weight(kg)	621	712	936	1,057	1,582	2,665
Transformer ratio	100/400	200/400	270/400	270/400	270/400	315/400
Self-consumption (W)	<100					<208
On/ Off grid switching	Automatic					
Display and communication						
Display	LCD touch-screen					
BMS communication	RS485, CAN					
EMS communication	RS485, TCP/IP					
Certificates	IEC/EN62109-1/-2, IEC/EN 62477-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4, CGC					

Product Details

EMS (Please see the specification for details)

DC distributor Box

Configuration :5 Input 1 Output

Current :800A
Voltage Range: 100-1000V

Product Details

Custom container

* Battery rack;

* EMS;

* Fire protection system;

* Intelligent auxiliary system: Including explosion-proof lighting, access control, etc;

* Cabinet copper cables;

* Air conditioning: 10kw;

* size: 3500*2438*2896mm, including power distribution, lightning protection, etc

Subdivision criteria

AF-X fire blocker AF-X	√
CO, smoke and thermal & H2 hydrogin, gas-detection & H2	√
Transport is according to CE,MSDS,UN38.3,Safety performance sheet	√
Aerosol fire protection system	√
90 minutes WBDBO fire resistance	√
explosion-proof LED lighting	√
overpressure protection	√
air conditioning	√
Subdivision of 16A 230V standard	√
Lightning protection	√
fire-resistant penetrations	√
Emergency stop External & Internal	√
Mechanical ventilation system At least 6X the gross EOS content per hour in combination with an interlock	√

Cooling system overview

- 储能储能柜配置有空调散热系统，并配置有散热风道，并在电池包散热风扇的配合下，对储能柜 内温度进行调控。空调系统通过 RS485 通信协议接入总控，除实现空调与消防系统联动外，还 可设置空调的启动制冷点、制冷偏差，启动制热点、制热偏差，电池单体温度开启制冷点、电池 单体温度开启制热点等参数，具备手动启动空调运行以及可以根据电池单体 温度进行空调控制的 功能.

- The energy storage cabinet is equipped with an air-conditioning cooling system and a cooling air duct, and with the cooperation of the battery pack cooling fan, the temperature inside the energy storage cabinet is controlled. The air conditioning system is connected to the main control through the RS485 communication protocol. Except to linking the air conditioning and fire protection systems, it can also set the air conditioner's starting cooling point, cooling deviation, starting heating point, heating deviation, battery cell temperature to start cooling point, battery cell it has the function of manually starting the air conditioning operation and controlling the air conditioning according to the battery cell temperature .

Battery pack fan

- 每个电池包有2个风扇用于散热，每个风机风量为 30CFM，两个风机风量为 60CFM，风扇采用24V DC 供电,单个 功耗≤4W，启动功耗≤6W。
- 电池箱散热风扇以电池簇为单元，可以独立由电池管理主控单元按簇统一控制启停。电池管理系统可根据采集电芯 温度自行控制风扇启停，温度控制阈值可通过BMS显示屏设置。
- 默认当 BMS检测到单体温度高于30度时，启动相应电池簇内的风扇，当整簇电池温度低于25度时关闭风扇。
- Each battery pack has 2 fans for heat dissipation. The air volume of each fan is 30CFM, and the air volume of the two fans is 60CFM. The fans are powered by 24V DC. The single power consumption is ≤4W, and the starting power consumption is ≤6W.
- The battery pack cooling fan takes the battery cluster as a unit and can be started and stopped independently by the battery management main control unit according to the cluster. The battery management system can automatically control the start and stop of the fan based on the collected cell temperature, and the temperature control threshold can be set through the BMS display.
- By default, when the BMS detects that the cell temperature is higher than 30℃, it starts the fan in the corresponding battery cluster, and turns off the fan when the temperature of the entire battery cluster is lower than 25 ℃.

Battery pack fan control strategy

Battery box fan control strategy:

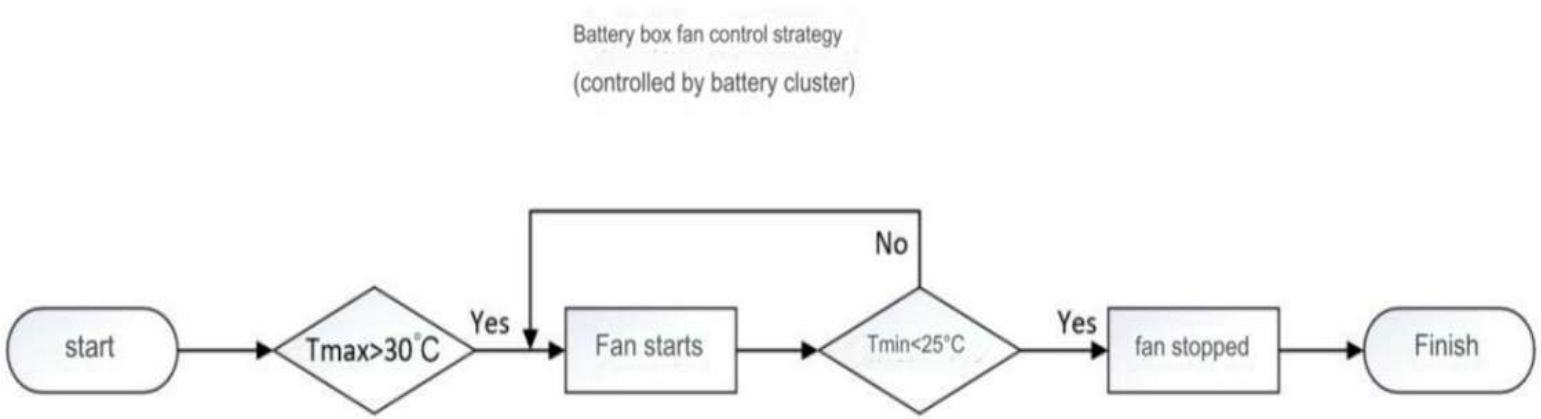


Figure fan control strategy

Air conditioning design

- 储能空调是一种针对储能系统而设计的工业空调，采用一体化结构、大风量设计，为储能系统提 供安全可靠、 高效节能的精密温控解决方案。储能空调选择冷暖型 ，满足不同环境的应用需求。

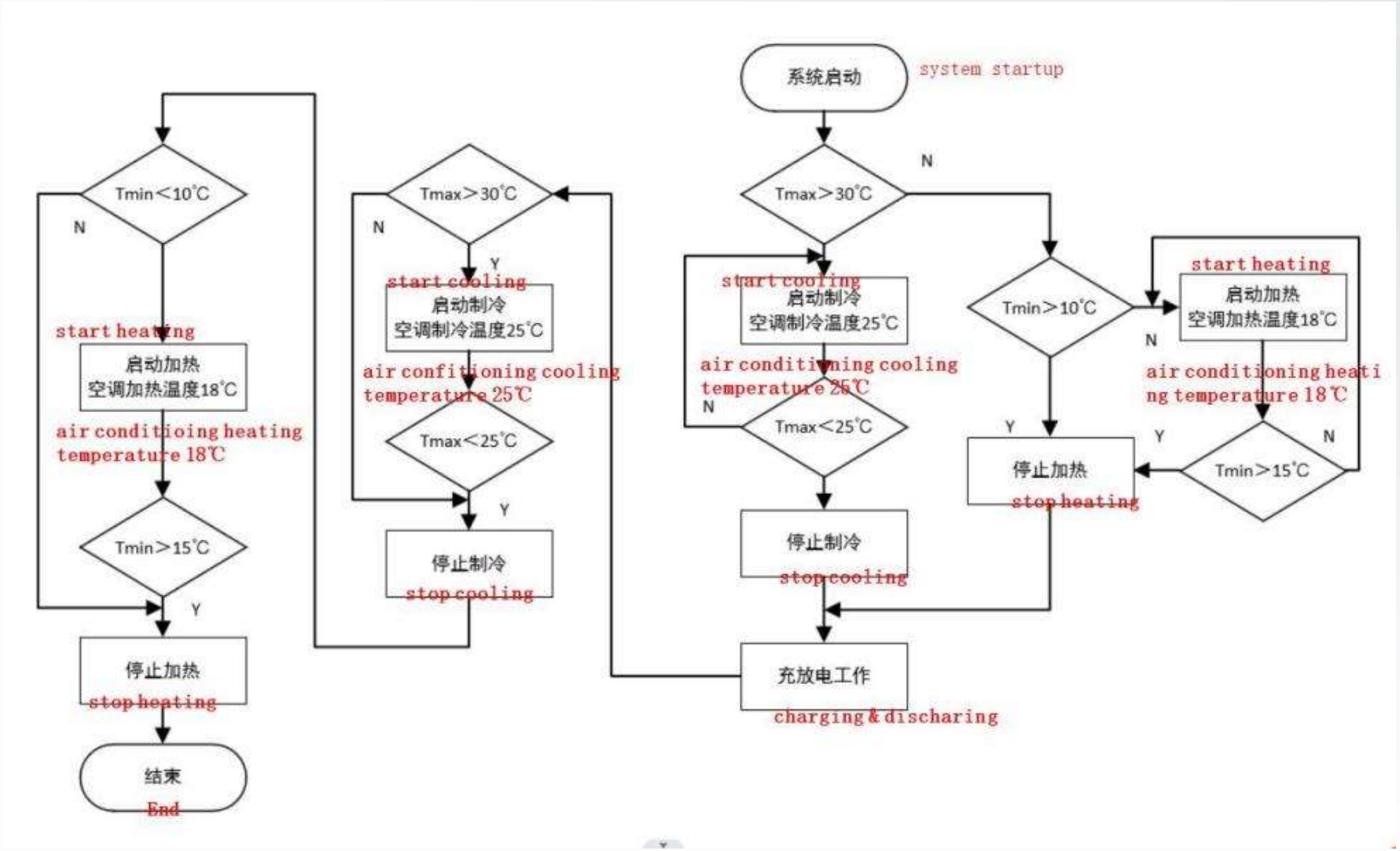
- 空调控制策略：控制策略数值可根据客户需求调整

- Energy storage air conditioner is an industrial air conditioner designed for energy storage systems. It adopts an integrated structure and large air volume design to provide safe, reliable, efficient and energy-saving precision temperature control

  solutions for energy storage systems. Energy storage air conditioners are available in heating and cooling types to meet the application needs of different environments.

- Air conditioning control strategy: The control strategy value can be adjusted according to customer needs.

Air conditioning control strategy



Air conditioning datasheet

Air conditioner	Datasheet
Rated voltage	AC 220V
Rated power	1.6/1.2kW
Rated current	7.1/5.4A
Rated cooling capacity	3.2kW
Heating power	1kW
Max working current	9.5A
Internal fan air volume	1300m^3/h
Outdoor fan air volume	1300m^3/h
temperature control range	20~50℃
Use ambient temperature	-40~50℃
refrigerant	R134a
noise	70dB
Installation method	Wall mounted
Protection level	IP55
Size	550×276×1350mm
N.G	75kg

Fire Fighting System

本系统使用簇级 + 电池包级气溶胶消防方案 ；采用复合式火灾防控传感器检测联动的方式 ，其广泛适用于磷酸铁锂电池箱等新能源领域。

首先，基于烟雾/温度探测器构建了可燃气体传感器和Pack温度传感器，这是一种准确可靠、经济实用的多层 预警技术。 二是在七氟丙烷灭火系统的基础上增加了锂离子电池灭火系统 ，满足锂电池灭火及国家标准电气、 消防设计要求。 设计的消防设备支持多点包多次启动 ，可有效抑制锂电池火灾复燃。 灭火系统与灭火系统的 结合 ，全方位保证了锂电池储能系统的安全。

This system uses a cluster-level + battery pack-level aerosol fire protection solution; it adopts a composite fire prevention and control sensor detection linkage method, which is widely applicable to new energy fields such as lithium iron phosphate battery boxes.

First, a combustible gas sensor and Pack temperature sensor, which is an accurate, reliable, economical and practical multi-layer early warning technology, were built based on smoke/temperature detector. Second, lithium-ion battery fire-suppression system was added based on a heptafluoropropane fire-suppression system to meet the requirements of fire suppression of lithium batteries and the national standard electrical and fire protection design. The designed fire-fighting equipment supports multiple start of multi-point packs, which can effectively inhibit the re ignition of lithium battery fire. The combination of a fire-extinguishing system and a fire-suppression system ensure the safety of lithium battery energy storage system in all aspects.

Figure system layout (Front)

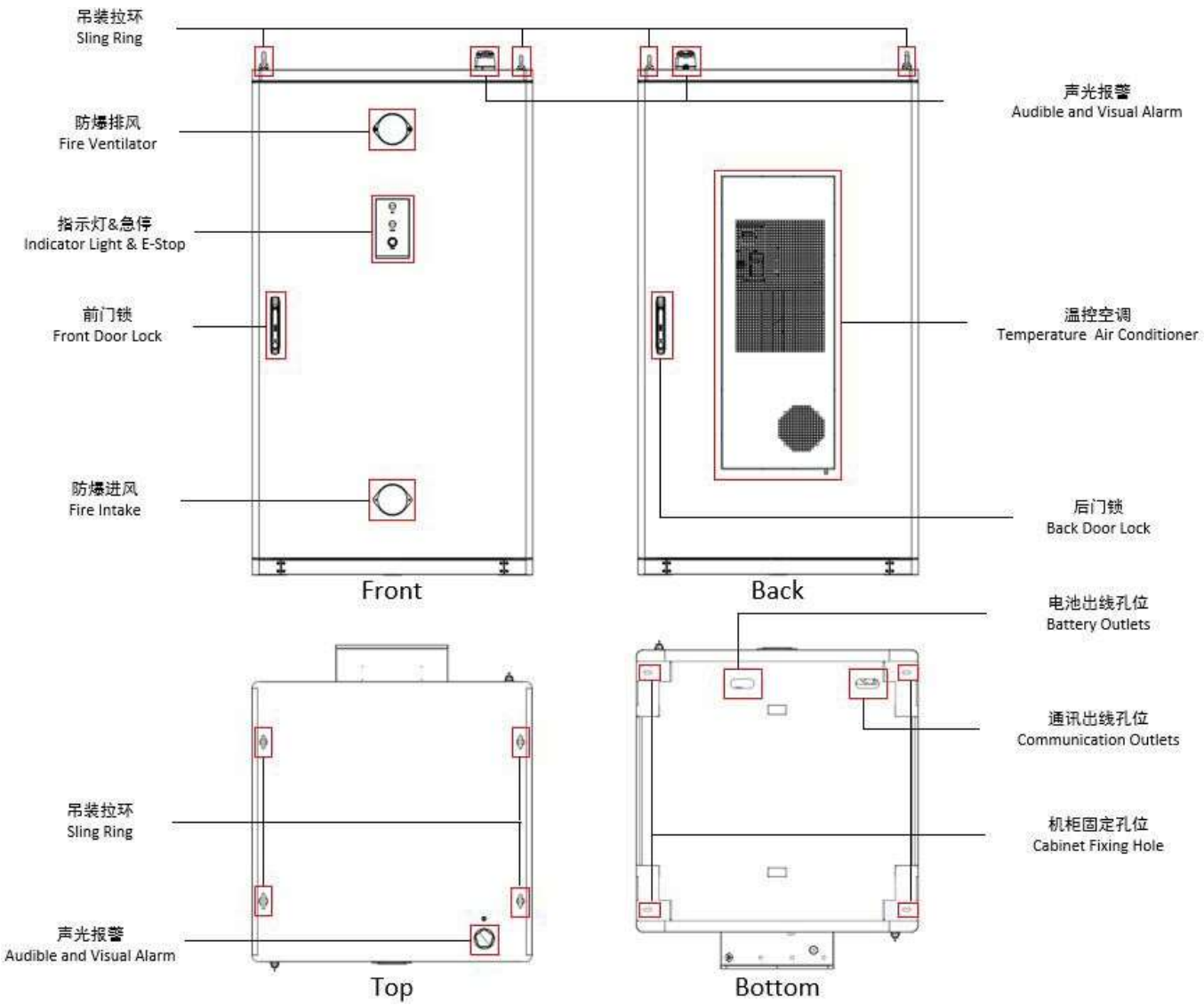
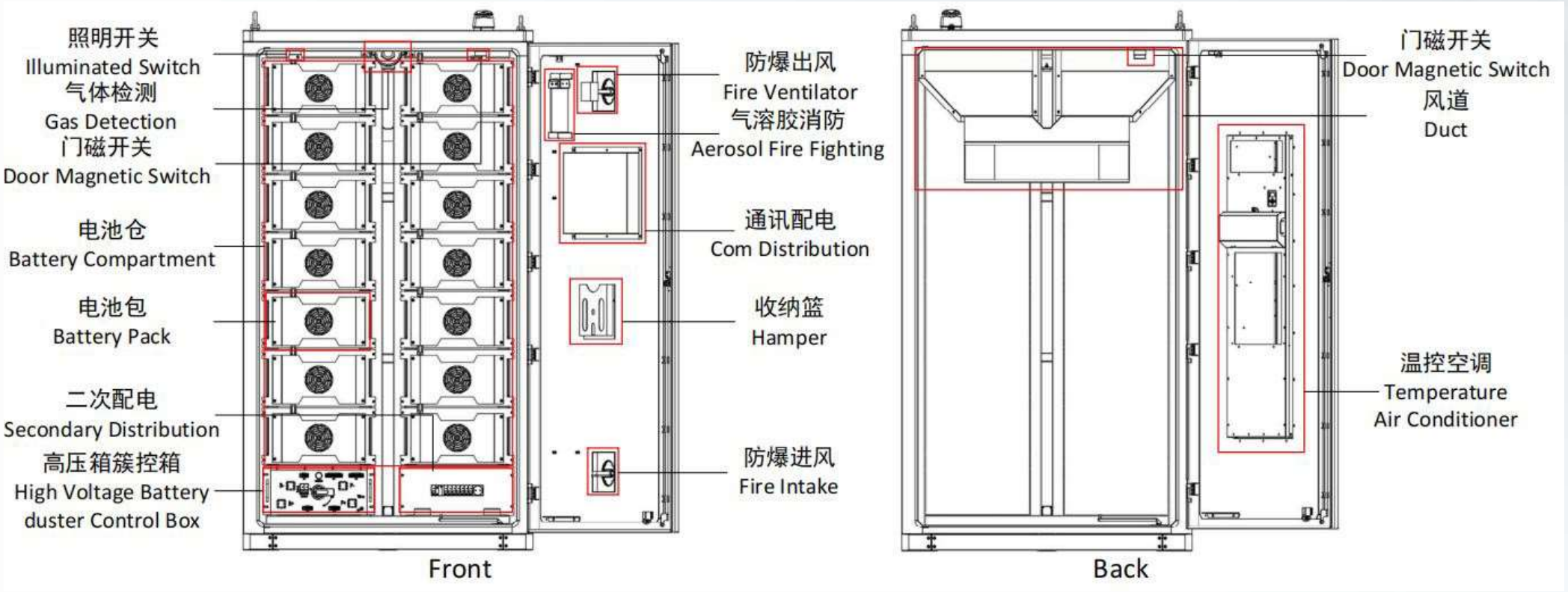


Figure system layout (back)



QUATATION

PROJECT REFERENCE

Project Reference

ESS——1MW PCS +2MWh Battery

Project date :2024/6/4

Project Background :Solar EV Charging Station

Installation Location : Netherlands

Installation method: Outdoor

Supplier : Dawnice

Project Reference

ESS——500kW PCS + 1MWh Battery

Project date :2024/7/23

Project Background :Factory backup power

Installation Location : Dinosaur Parks in Austria

Installation method: Outdoor

Supplier : Dawnice

Project Reference

ESS——100kW PCS +200kWh Battery

Project date :2024/11/10

Project Background :Back up

Installation Location : Yemen

Installation method: Outdoor

Supplier : Dawnice

Project Reference

ESS——800kW/1.6MWh all in one BESS

Project date :2024/6/17

Project Background :Peak Shaving

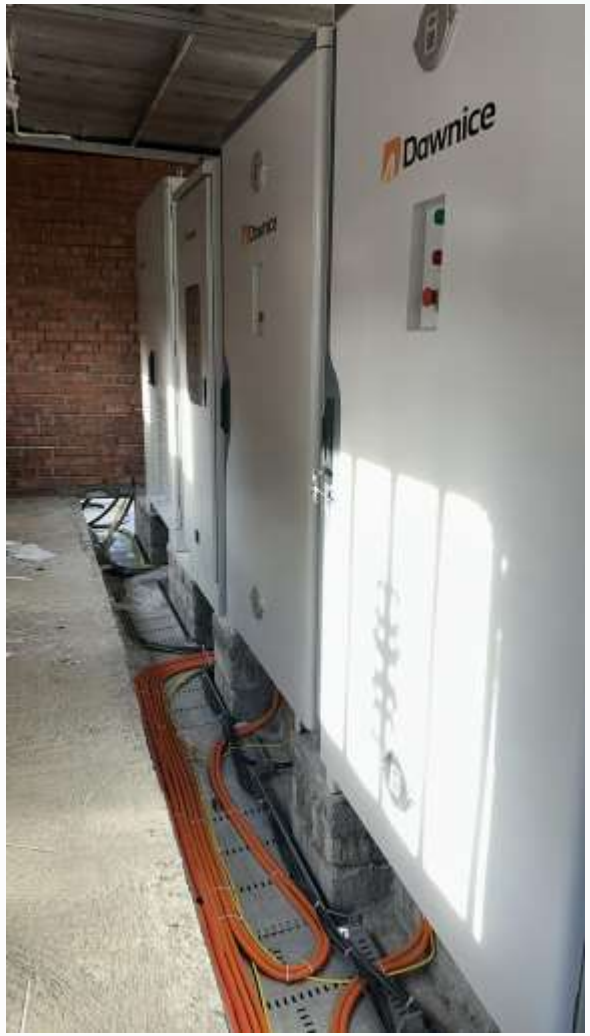
Installation Location : Republic of Lithuania

Installation method: Outdoor

Supplier : Dawnice

Project Reference

ESS——250kW PCS & 600kWh Battery



- **Project date :2025/2/12**
- **Project Background : Villa Backup System**
- **Installation Location : Hadramaut, Mukalla**
- **Installation method: Outdoor**
- **Supplier : Dawnice**
- **Equipment :Dawnice High Voltage Outdoor Cabinet &250kW Inverter**

Dawnice

ESS——100kW Inverter & 572kWh Battery

- **Project date :2024/6/8**
- **Project Background : Hotel Backup System**
- **Installation Location : Tarim, Mukalla**
- **Installation method: Indoor**
- **Supplier : Dawnice**

Project Reference

ESS——100kW Inverter & 200kWh Battery

Project date :2025/1/10

Project Background : Villa Backup System

Installation Location : Hadramaut, Mukalla

Installation method: Outdoor

Supplier : Dawnice

Equipment :Dawnice High Voltage Outdoor Cabinet &100kW Inverter

Project Reference

ESS——500kW PCS &1MWh Battery

- **Project date :2024/12/26**
- **Project Background :Grid expansion +Energy Storage**
- **Installation Location : Austria**
- **Installation method: Outdoor**
- **Supplier : Dawnice**
- **Supplier : Dawnice High Voltage Outdoor Cabinet &500kW PCS**

Dawnice

ESS——5MW/10MWh Container battery system

Project Reference

Project date :2023/1/25

Project Background :Peak cutting and valley filling Station

Installation Location : Guangdong,China

Installation method: Outdoor

Supplier : Dawnice

Enjoy sunrise,
Go with Dawnice

Reporter：

Date：2025.02