

LAZZEN  
002706.SZ

**enertronic**  
PROYECTOS Y  
SUMINISTROS S.A.

# LAZZEN New Energy Solutions





## COMPANY PROFILE

Founded in 1999 and conceptualized itself as a "Smart Electrical Solution Expert", LAZZEN\* is primarily engaged in the R&D, production, sales and service of terminal appliances, distribution appliances, control appliances, smart home, etc. Its products and solutions are applied to a wide range of scenarios from power generation, power transmission and distribution to power consumption.

Listed on Shenzhen Stock Exchange with stock code 002706.SZ, LAZZEN gained a revenue of USD 620 million in 2021, with a year-on-year growth of 33.5%, achieving continuous leapfrog growth. LAZZEN developed its products based on customer demand. In 2021, its R&D investment accounted for 8.14% of the sales revenue, its R&D center was rated as the "National Enterprise Technology Center", the "Enterprise Postdoctoral Research Workstation" was set up, and the laboratory passed the dual accreditation of CNAS and UL.

With the corporate value of "satisfying customers, taking responsibilities and making progress, staying realistic and introspective, keeping open mind and cooperative development", LAZZEN has practiced the ESG development concept for a long time, insisted on producing environment-friendly products, guaranteed the health and safety of employees and customers, actively fulfilled social responsibilities, and constantly promoted the improvement of corporate governance. Relying on the super-representative service system, LAZZEN has realized the rapid end-to-end connection, providing professional and efficient services for customers worldwide.

\* The logo of LAZZEN was changed from "Nader" to "LAZZEN" since August 2022. The existing products are still identified with "Nader", and new product series will be introduced with "LAZZEN" in the future.

## DEVELOPMENT HISTORY

### 1999-2005

- LAZZEN was founded in Pudong, Shanghai
- LAZZEN established cooperation with Huawei, Vertiv and ZTE
- LAZZEN expanded overseas markets such as Europe and North America.

### 2006-2013

- LAZZEN started to provide equipment for State Grid, and cooperated with Guodian Nanjing Automation and Nari Technology.
- The IPO passed the SFC audit in June 2012
- LAZZEN established cooperation with leading enterprises in the field of new energy, data center, refrigeration and rail transit.

### 2014 - 2021

- LAZZEN was listed on Shenzhen Stock Exchange in January 2014 (002706.SZ).
- Leading the industry, LAZZEN launched innovative products in succession for PV, power grid, 5G, new energy vehicles, etc.
- LAZZEN deepened the development of intelligent and energy-efficient management.
- With a total investment of USD 346 Million, the foundation was laid for Haiyan Intelligent Low-Voltage Electric Appliance Production Base.

### 2022-Now

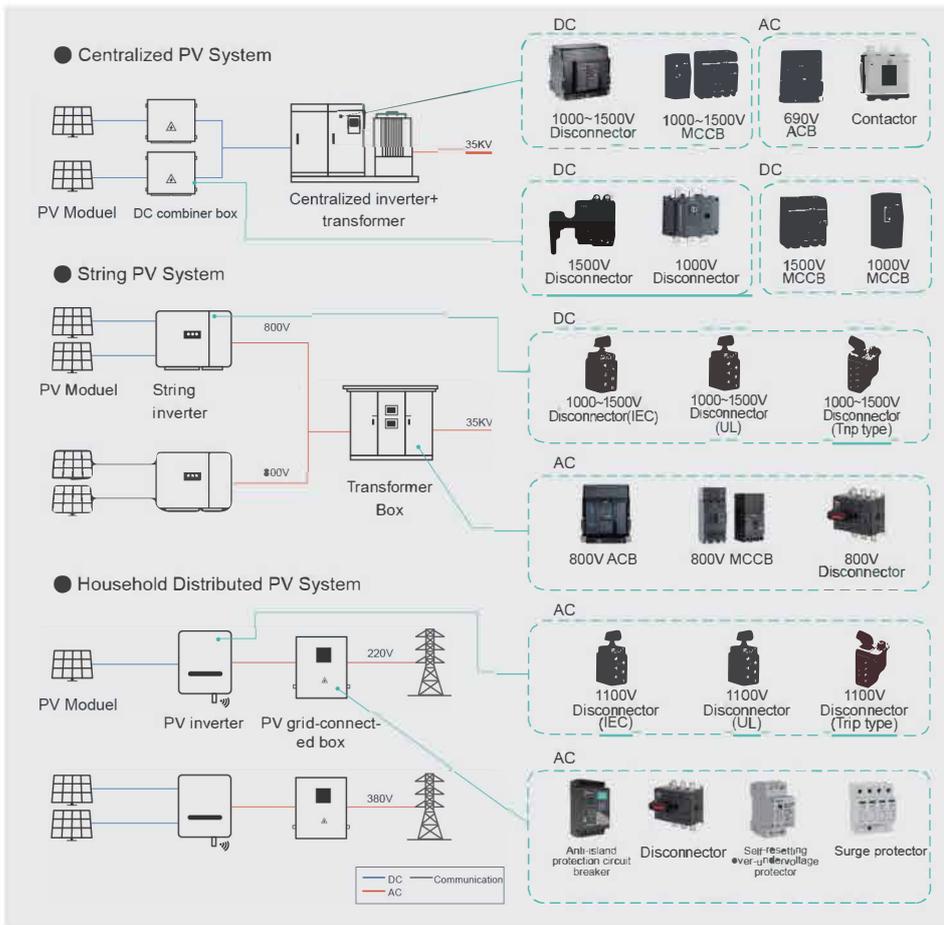
- LAZZEN focused on the strategy of "Smarthome, AI & New Energy" and accelerated the new journey of digitization and zero carbon emission.
- LAZZEN upgraded the brand and brought  LAZZEN digital totem into use.

# Solutions for PV System

Utilize energy in a safer and more convenient way and facilitate the realization of carbon neutral sustainable development

## PV Power Distribution System

By virtue of PV-specific product system covering all scenarios, LAZZEN can provide highly customized and cost-effective solutions for low-voltage power distribution system and has an efficient and considerate whole-process service system to actualize the intelligent operation and maintenance of the PV system and safeguard the efficient and stable operation of the PV system.



## Core Products and Highlights



### DC1500V Disconnector NDW2GZ-2500

Short-time withstand current capacity: 150kA/0.2s  
Can withstand huge current shock caused by lithium battery failure



### AC800V Air Circuit Breaker NDW3-4000HU

Fault current breaking level: 75kA  
Protection coverage: 6MW box transformer



### DC1500V Molded Case Circuit Breaker NDM3Z-630V

The width of the product is 31% smaller than the previous generation  
Meet the space requirements of compact PV convergence box



### AC800V Molded Case Circuit Breaker NDM5-250V

Extraordinary breaking performance Icu=50kA  
Provide safer protection margin

## Industry Benchmarking Projects



“  
**Abu Dhabi, UAE  
Al Dhafra PV2 PV Project**”

Project Scenario: SG250HX inverter, 3.25MW box transformer  
Project Capacity: 1.6GW



“  
**Jalisco, Mexico  
Prodiel, S.L. PV Project**”

Project Scenario: String PV inverter, 3.25MW box transformer, DC combiner box  
Project Capacity: 270MW



“  
**Tiangang Lake, Sihong, Jiangsu, China  
National PV Application Leader Project**”

Project Scenario: 90kW string inverter, 1.25MW centralized inverter, box transformer  
Project Capacity: 500MW



“  
**National 4,000m Ultra-High Altitude  
Demonstration Project in Ganzi  
Prefecture, China**”

Project Scenario: 3.25MW box transformer  
Project Capacity: 200MW

## References



### Cooperative Inverter Manufacturers



### Owners/EPC Partners



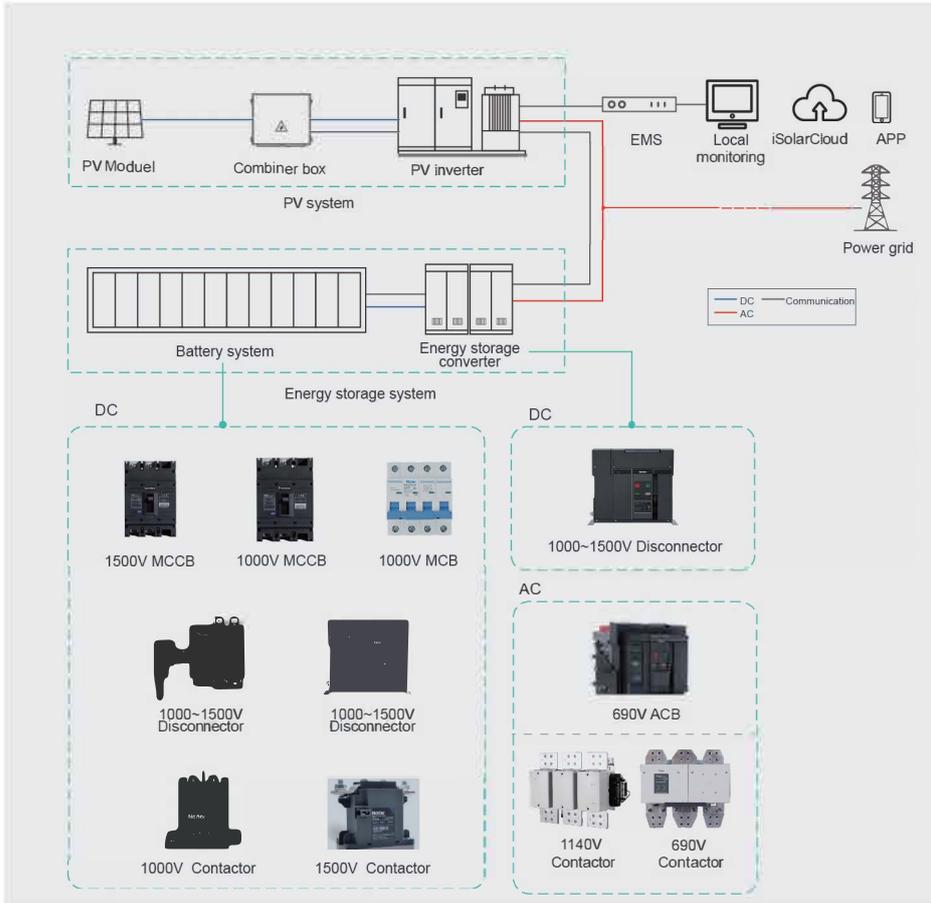
# Solutions for Energy Storage System

Utilize energy in a safer and more convenient way and facilitate the realization of carbon neutral sustainable development



## Energy Storage Power Distribution System

LAZZEN is committed to meeting the needs of industry users for the reliability, economical efficiency and sustainable development of low-voltage products, providing one-stop low-voltage electrical products and services for the new energy storage industry.



## Core Products and Highlights



### DC1500V Disconnecter NDG3VH

- 250A, 400A shell frame
- UL certified, matching global demand



### DC1500V Disconnecter NDW3AGZ-2500

- Short-time withstand current capacity: 125KA/50ms
- UL certification
- Match the high short-time withstand current requirement of energy storage battery system



### DC1500V Contactor NDZ3AT-H

- 250A ~ 600A, UL certification
- Hydrogen arc extinguishing inside the chamber
- One normally open auxiliary contact
- Ensure the safety of system current start/stop control



### DC1000V Miniature Circuit Breaker NDB2NZ-80H

- Shunt and auxiliary contact accessories
- UL1077 Certification
- Non-polarity design for main contact arc-extinguishing
- Meet the household energy storage conditions and match the system needs better

## Industry Benchmarking Projects



“  
70MW/130MWh Wind Power Storage Project in Texas, USA

Scope of Cooperation: Wind power storage station on power generation side  
Application: high-voltage battery box, combiner box  
Cooperative Customer: Narada Power Source



“  
50MW/32.44MWh Power Grid Frequency-Modulated Energy Storage Project, Ireland

Scope of Cooperation: Frequency modulated power plant on grid side  
Application: High-voltage battery box, combiner box  
Cooperative Customer: Narada Power Source



“  
7MW/23.5MWh PV-Diesel-BESS Microgrid Project, Shuanghu, Tibet

Scope of Cooperation: Power plants on power generation side  
Application: PCS  
Cooperation Customer: Sungrow Power Supply  
Cooperative Customer and Performance Data

## References

**Top 1**  
Ranking in China's energy storage market segment  
The sales volume ranked first in China's energy storage market segment in 2022.

**3GW**  
Global installed capacity of energy storage equipment  
LAZZEN low-voltage switchgear was installed and put into operation in 3GW energy storage equipment in 2022

**40%**  
Market share in China's energy storage market  
The market share of low-voltage switchgear in China's energy storage market segment was 40% in 2022

Cooperative Battery PCS Manufacturers



Cooperative Energy Storage System Integration Companies



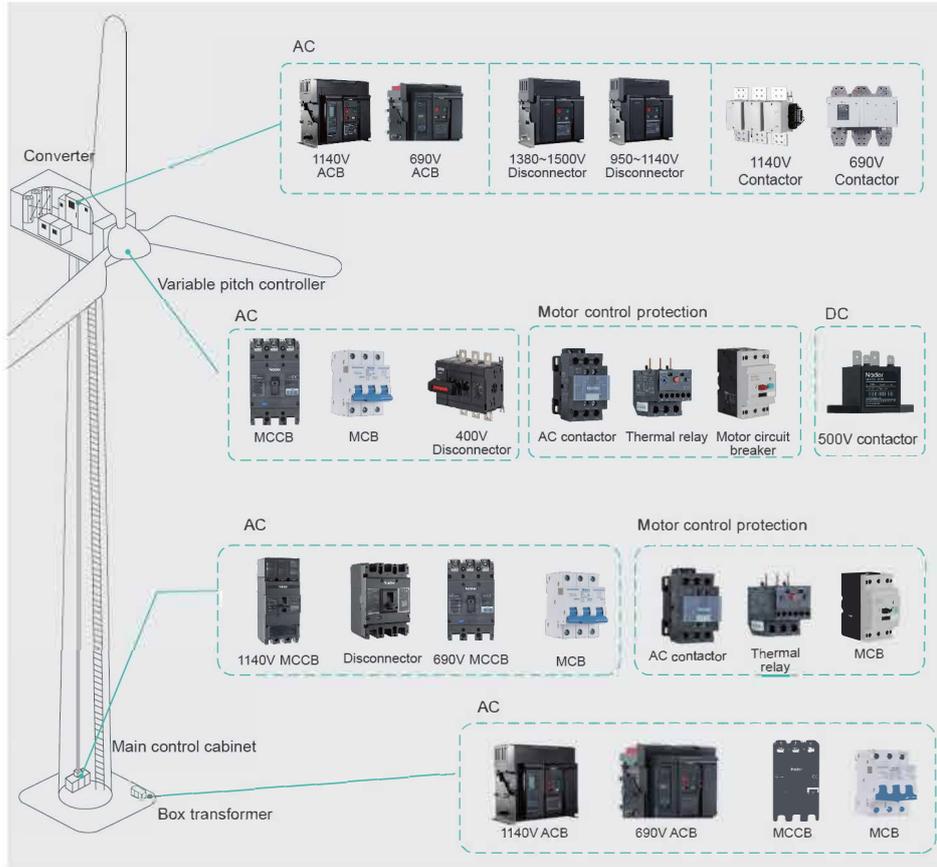
# Solutions for Wind Power System

Utilize energy in a safer and more convenient way and facilitate the realization of carbon neutral sustainable development



## Wind Power Distribution System

LAZZEN is committed to meeting the needs of industry users for the reliability, economical efficiency and sustainable development of low-voltage products, providing one-stop low-voltage electrical products and services for the new energy wind power industry.



## Core Products and Highlights



### AC1140V Air Circuit Breaker NDW3-4000HU

Ultra-high protective breaking capacity of 75kA at 1140V, meeting the demand of 7MW units



### AC1500V Disconnector

Full verification of low-frequency 14.8Hz /10Hz equivalent DC/120Hz high-frequency performance, matching direct-drive/semi-direct drive wind turbine generation system



### AC1140V Contactor (vacuum type) NDC5K-3200HU

Current carrying capacity up to 3200A, with vacuum contact Arc extinguishing technology, with higher reliability of breaking heavy load



### AC400V Miniature Circuit Breaker NDB2T Series

Meet the ICE 60947.2 certification standard for industrial circuit breakers in complex scenarios, greatly improving the reliability of wind power applications

## Industry Benchmarking Projects



“**GOLDWIND 16MW Offshore Wind Turbine Generator with the World's Highest Unit Capacity**”

Project Scenario: Goldwind GWH252-16MW Sets  
Unit Capacity: 16MW (8MW inverter × 2)



“**Reed Bridge 50MW Wind Power Project in Loja Province, Ecuador**”

Project Scenario: Dongfang Electric DEW-D4000-148 Sets  
Project Capacity: 50MW



“**National Large-scale Grid-Parity Wind Power Demonstration Project in Ulanqab, China**”

Project Scenario: Shanghai Electric W4500-155 Sets  
Project Capacity: 500MW

## References

**Top 1**  
Ranking in China's wind power market segment  
The sales volume ranked first in China's wind power market segment in 2022.

**24GW**  
Global installed capacity of wind turbine generator  
LAZZEN low-voltage switchgear was installed and put into operation in 21GW wind turbine generator in 2022.

**26%**  
Market share in global wind power market  
The market share of low-voltage switchgear in global wind power market segment was 26% in 2022.

### Cooperative Converter Manufacturers



### Cooperative Wind Power Plants



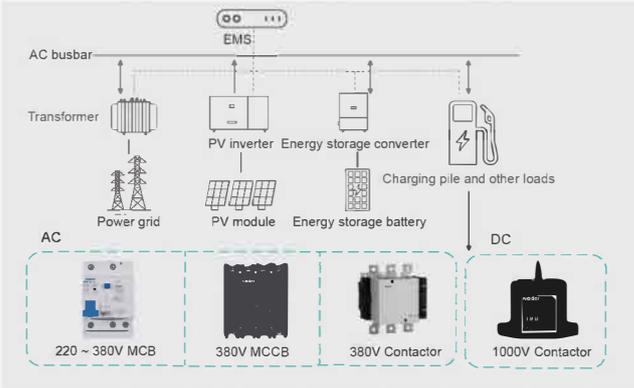
# Solutions for EV Charge Station

Utilize energy in a safer and more convenient way and facilitate the realization of carbon neutral sustainable development



## Power Distribution System for EV Charge Stations

LAZZEN is committed to meeting the needs of industry users for the reliability, economical efficiency and sustainable development of low-voltage products, providing one-stop low-voltage electrical products and services for the new energy charging pile industry.



## Core Products and Highlights

### AC380V Molded Case Circuit Breaker NDM2L



- Type A leakage function
- Lower incoming wire (N-pole type B/C for 4P products), saving bronze plate consumption and reducing the cost for the system

### AC380V Contactor NDC1



- Wide voltage coil range from 65% to 110%
- Match the working conditions of the system better to avoid coil damage due to great voltage fluctuation of the power grid

### DC1000V Contactor NDZ3AT-R



- DC1000V electrical life of 1000 times, Non-polarity main contact
- Comply with the latest requirements of high-voltage charging pile system, with longer service life

### AC220/380V Miniature Circuit Breaker NDB1LE



- Type A and B leakage type (RCBO)
- Comply with the requirements of charging pile standards at home and abroad to ensure human and machine safety in operation

## Industry Benchmarking Projects



Charging Station in Geely Auto Research Institute

Scope of Cooperation: Charging stations in parking lots  
Application: AC pile, DC pile  
Cooperative Customer: CSG



BYD Aerial Charging Tower

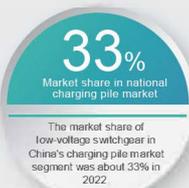
Scope of Cooperation: Charging stations in parking lots  
Application: AC pile  
Cooperative Customer: BYD



Benz-StarCharge Charging Service Stations in Beijing Daxing International Airport

Scope of Cooperation: Charging stations in parking lots  
Application: AC pile  
Cooperative Customer: StarCharge

## References



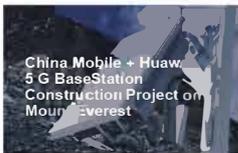
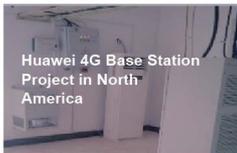
### Cooperative Manufacturers



### Cooperative Operators



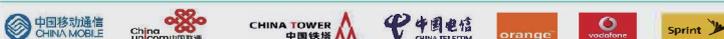
## Delivering Leading Solutions for The Telecommunications Industry



## References



### Operator



### Equipment Manufacturer

