

VEICHI

VHP800 Series High-Performance Hydrogen Production Power Supply System

Powering Green Hydrogen Generation



VEICHI

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Official Website

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Stock code : 688698

About Us



Veichi Electric (Stock Code: 688698) specializes in electrical transmission and industrial control, operating as an integrated high-tech enterprise in R&D, production, and sales of industrial automation products. With a vision to lead in smart industry and green energy solutions, the company leverages its R&D and manufacturing hubs in Suzhou, additional R&D centers in Shenzhen and Xi'an, and wholly-owned subsidiaries overseas, consistently serving customers worldwide with competitive and reliable solutions.

Under the "One Core, Two New Drivers" strategy, Veichi focuses on industrial automation, offering AC drives, servo systems, and control systems widely applied across heavy and light industries, as well as high-end equipment sectors, supporting the digital and intelligent transformation of manufacturing with its tailored solutions. Simultaneously, in two emerging fields, it provides one-stop solutions for humanoid, collaborative, and mobile robots in embodied intelligence, while in green energy, it delves into segments like photovoltaic, energy storage, and hydrogen energy, to "connect every device with green power," fostering a synergistic growth between core operations and new ventures.

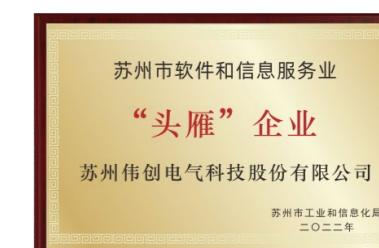
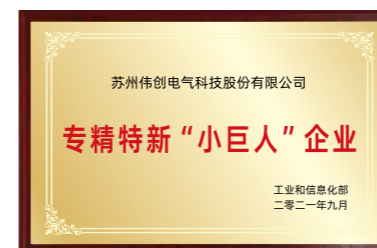
Sustained R&D has yielded a portfolio of proprietary patented technologies including silicon carbide application, HF injection, motor controls and protections (auto-tuning, flying-start, high-speed flux-weakening, V/F control, vector control), high-density water-cooling layout, and IGBT drive protection. As of September 30, 2025, Veichi holds 234 patents, with 66 for invention.

Over two decades of steady growth, Veichi has earned numerous certifications and accolades from national and regulatory authorities, including "High-Tech Enterprise," "Postdoctoral Research Workstation," and provincial honors like "Engineering Technology Research Center," "Enterprise Technology Center," and "Industrial Internet Development Demonstration Enterprise (Benchmark Factory Category)."

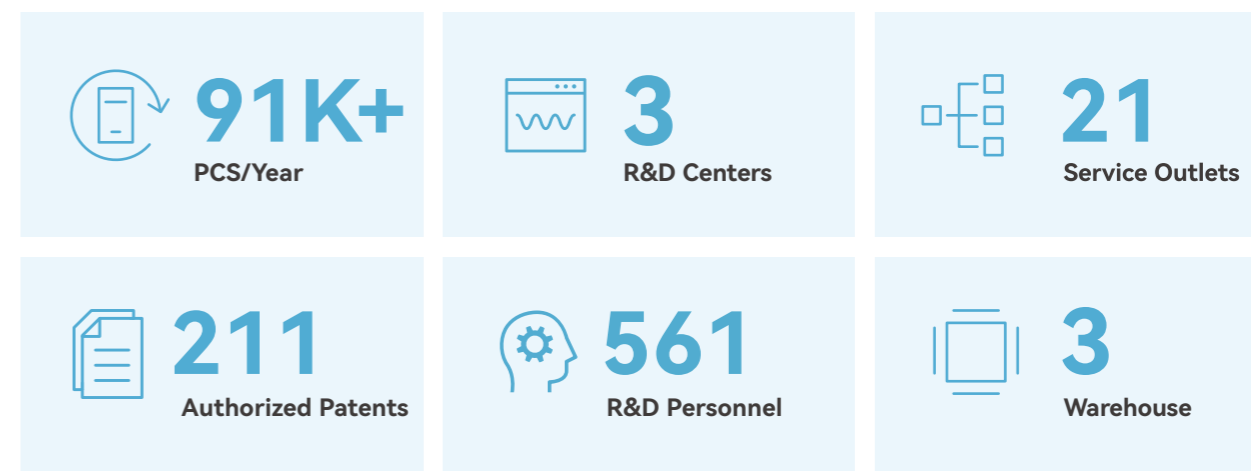
Guided by its mission to "Drive Smart Industry, Co-create a Green Future," Veichi will continue to intensify R&D and advance into high-performance, high-reliability fields to propel global progress.



Honors



Advantages



AC/DC IGBT Power Supply Cabinet

VHP800-E60/E71 Series



Product Features

- ☑ Compatible with electrolyzer applications (0V~300V)
- ☑ Modular cabinet design for flexible and adaptable configuration
- ☑ High power density with drawer-type units for smaller size
- ☑ Excellent grid compliance, meeting GB14549 standards
- ☑ System efficiency ≥94%
- ☑ Output voltage/current ripple <3%, ensuring high stability
- ☑ Fast response and stepless control of voltage, current, and power
- ☑ Efficient water cooling for easy maintenance

Technical Specification

Item	Requirement	Specification
Input	Input Voltage	380VAC (-15%~+20%)
	Input Frequency	50Hz/60Hz
	Rated Capacity	380kVA
	Rated Current	540A
	Efficiency	≥94%(rating)
	Power Factor	0.93
Output	Output Voltage	0V~300V
	Output Current	0A~5000A
	Output Power	300kW
	Voltage Accuracy	< 1%
	Current Accuracy	< 1%
	Ripple & Noise	< 3%
Communication	Control Mode	Constant Voltage (CV), Constant Current (CC), Constant Power (CP)
	Analog Signal	0~10V/4~20mA
	Digital Signal	DI/DO
	Communication Interface	RS485, CANopen, Profinet, DP (customizable)
Safety	Insulation Resistance	≥1MΩ
	Ground Continuity	<0.1Ω (Test under 15A, 1s)
	Dielectric Strength	2120VDC, 60S, ≤10mA
Protection	External Protection	Overheat, Input Phase Loss, Bus Over/Under-voltage, Output Over-current, Output Power Upper/Lower Limit Prompt, Output Over-voltage, etc.
Indicator	Status Indicator	Power-on (White)/Running(Green)/Error(Red)
Environment	Ingress Protection	IP31
	Working Temperature	-25°C ~+40°C
	Storage Temperature	-40°C ~+70°C
	Cooling Method	Liquid-cooling
	Coolant	Deionized Water or 40% Ethanol Antifreeze
	Humidity	5%~95%RH (non-condensing)
	Max. altitude	4000m (Derating above 2000m)
Compliance & Safety	EMC	EN IEC61000-6-2:2019
	Safety Standards	1. Designed per GB standards 2. In accordance to ROHS requirements 3. Lightning protection: for indoor use

Note: Other specifications can be customized as required.

AC/DC IGBT Power Supply Cabinet

VHP800-E8X Series



Technical Specification

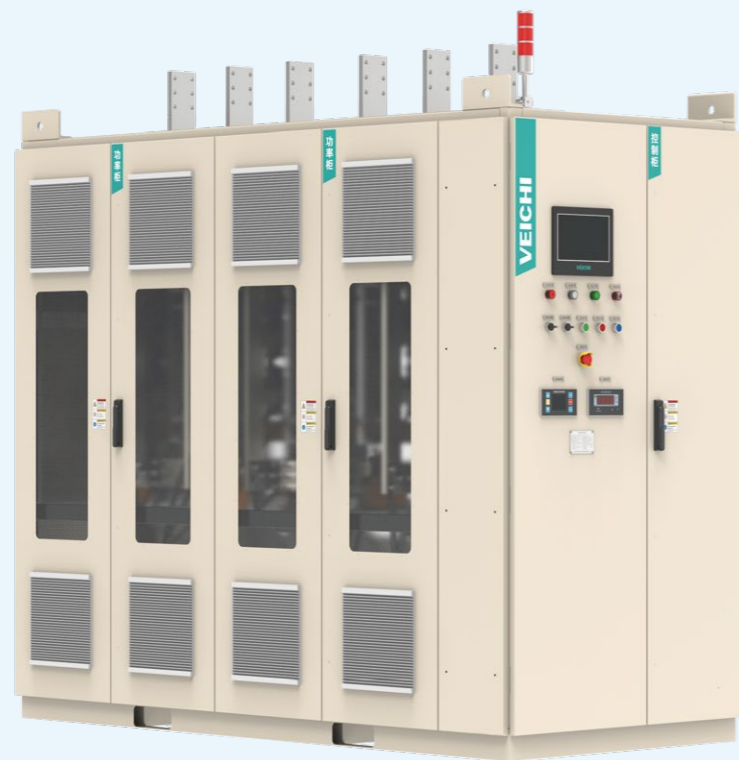
Item	Requirement	Specification
AC Parameters	Input Voltage	400V ~ 690V
	Rated Frequency	50Hz / 60Hz
	Rated Power Factor	> 0.99
	Power Factor Range	-0.95 leading~0.95 lagging
	Grid Frequency Deviation	±10%
	Grid Voltage Deviation	±10%
	Total Harmonic Distortion (THD)	<3% (at rated power)
	Connection Method	3-phase 3-wire + PE
DC Parameters	Output Voltage	0V ~ 1000V
	Output Current Range	0A ~ 20000A
	Voltage Ripple	≤1%
	Current Stabilizer Accuracy	±0.5% (steady state)
	Voltage Stabilizer Accuracy	±0.5% (steady state)
	Load Response Time	<0.1s (0%~100% of load during operation)
Control Mode	Output control	Voltage control, current control, and power control
Protections	Protections	Short-circuit, over-current, over-voltage, under-voltage, phase loss, overheat, and overload, etc.
System	Inlet/outlet Method	Bottom Entry & Exit (customizable)
	Efficiency	≥97%
Environment	Cooling Method	Liquid-cooling
	Working Temperature	-30°C ~ +60°C(Derating above 45°C)
	Storage temperature	-40°C ~ +70°C
	Electromagnetic Class	Class A
	Relative Humidity	5%~95%RH (non-condensing)
	Enclosure IP	IP54 (Customizable)
	Altitude	4000m (Derating above 2000m)
Communication	Interface	RS485, Ethernet, etc.
	Protocol	Modbus RTU, Modbus TCP, etc.
Noise	Noise (1m away)	≤70dB
Display	HMI	Touch screen (Customizable)

Product Features

- ☑ Compatible with electrolyzer applications (0V~1000V)
- ☑ Modular cabinet design for flexible and adaptable configuration
- ☑ Power factor >0.99 with dynamic reactive power compensation
- ☑ Excellent grid compliance, full-load THDi ≤3%, meeting GB14549 standards
- ☑ System efficiency ≥97%
- ☑ Output voltage/current ripple <1%, ensuring high stability
- ☑ Fast response and stepless control of voltage, current, and power
- ☑ Efficient water cooling for easy maintenance

Thyristor Power Cabinet

VHP800-E22 Series



Technical Specification

Item	Requirement	Specification
AC Parameters	Input Voltage	380V~110kV (with on-load tap changer transformer)
	Rated Frequency	50Hz/60Hz
	Rated Power Factor	≥0.94
	Grid Frequency Deviation	±10%
	Grid Voltage Deviation	±10%
DC Parameters	Output Voltage	0V~1000V
	Output Current Range	0A~20000A
	Voltage Ripple	≤1%
	Current Stabilizer Accuracy	±0.5% (steady state)
	Voltage Stabilizer Accuracy	±0.5% (steady state)
Control Mode	Output Control	Voltage control, current control, and power control
Protections	Protections	Short-circuit, over-current, over-voltage, under-voltage, phase loss, overheat, and overload, water temperature/pressure out of limit, etc.
System	Inlet/outlet Method	Bottom Entry & Exit (customizable)
	Efficiency	≥98%
Environment	Cooling Method	Liquid cooling (deionized water)
	Working Temperature	-40°C ~ +60°C(Derating above 45°C)
	Storage temperature	-40°C~+70°C
	Electromagnetic Class	Class A
	Relative Humidity	5%~95%RH (non-condensing)
	Enclosure IP	IP20 (Customizable)
	Altitude	4000m (Derating above 2000m)
External Interface	Communication Interface	RS485, Ethernet, etc.
	Communication Protocol	Modbus RTU, Modbus TCP, etc.
	Control Interface	4mA~20mA AO/AI, DO/DI, dry contact signals, etc.
Noise	Noise (1m away)	≤65dB
Display	HMI	Touch screen (Customizable)

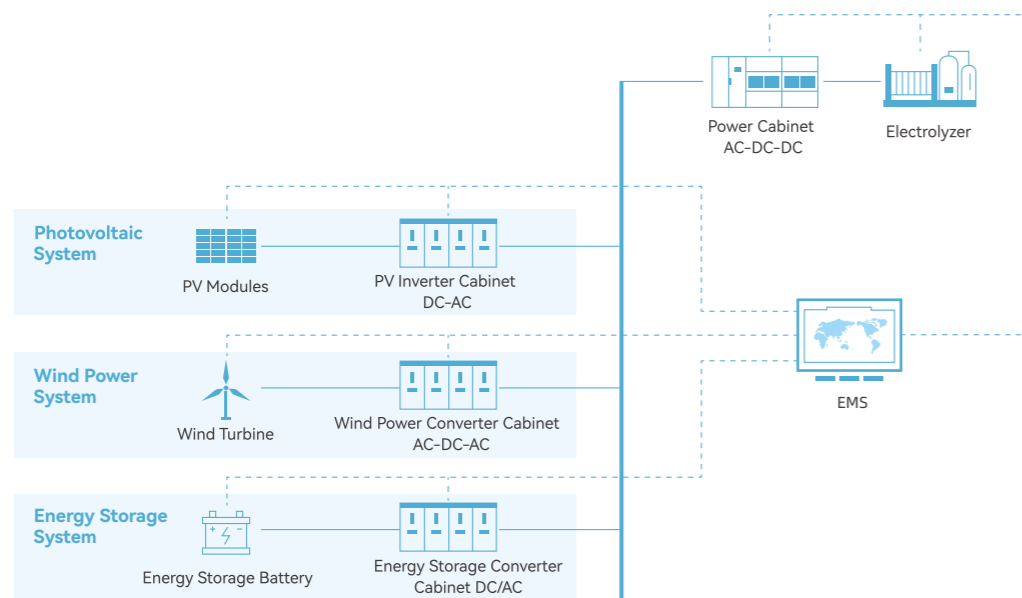
Product Features

- ☑ Compatible with electrolyzer applications (0V~1000V)
- ☑ Power factor >0.94
- ☑ System efficiency ≥98%
- ☑ Output voltage and current ripple <1%
- ☑ Over 30 hardware and software protection mechanisms
- ☑ Efficient water cooling for easy maintenance
- ☑ Reliable thyristor components with long lifespan
- ☑ Easy fault diagnosis on simple circuit topology

Hydrogen Production Power Supply System Solution

01 Off-grid Hydrogen Production Solution

This hydrogen production solution directly powers electrolysis with renewable electricity. Integrated through an intelligent Energy Management System (EMS), it coordinates all components to guarantee a reliable power supply, significantly enhancing the system's production efficiency, responsiveness, and operational reliability.



Flexible expansions

- Scalability adaptable to renewable resources and hydrogen production demand.
- Short construction cycles with high adaptability.

Zero-Carbon & Eco-Friendly

- Entire process powered by wind and solar energy for electrolysis Hydrogen production via water electrolysis with zero fossil fuel consumption throughout the entire process.

Energy Self-Sufficiency

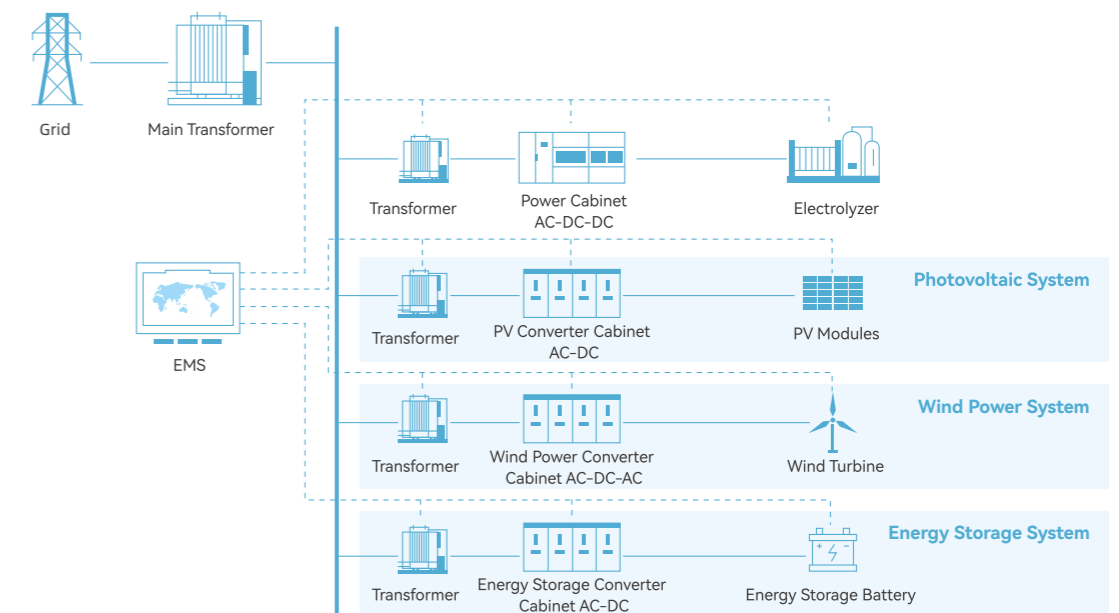
- Application for remote, island, or mining areas with weak/no grid Integrated energy storage for continuous, stable hydrogen production

High Efficiency Utilization

- Conversion of curtailed wind/solar power into storable hydrogen.

02 On-grid Hydrogen Production Solution

Engineered for efficiency and reliability, this system integrates multiple renewable energy sources to guarantee a stable power supply for hydrogen production. Its intelligent Energy Management System (EMS) enables seamless coordination across wind, solar, storage, and electrolysis units, creating a unified, multi-energy complementary solution optimized for continuous energy balance and maximum hydrogen output.



Excess Power Revenue

- Excess green electricity return to the grid for revenue through electricity pricing.

Clean and Low-Carbon

- Renewable-based hydrogen production for significant carbon reduction and energy-system decarbonization.

Reduced Hydrogen Production Cost

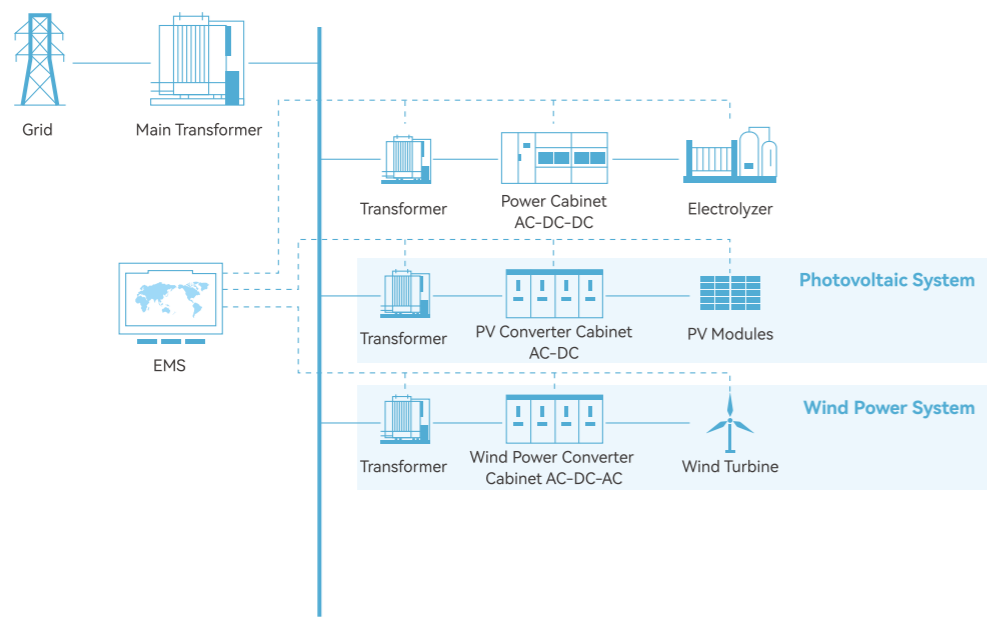
- Continuous reduction in green hydrogen costs amid declining renewable energy prices.
- Economic enhancement through energy storage-optimized power utilization strategies.

Grid Stability

- Storage-grid coordination to smooth fluctuations, maintaining grid-side volatility below 5%.

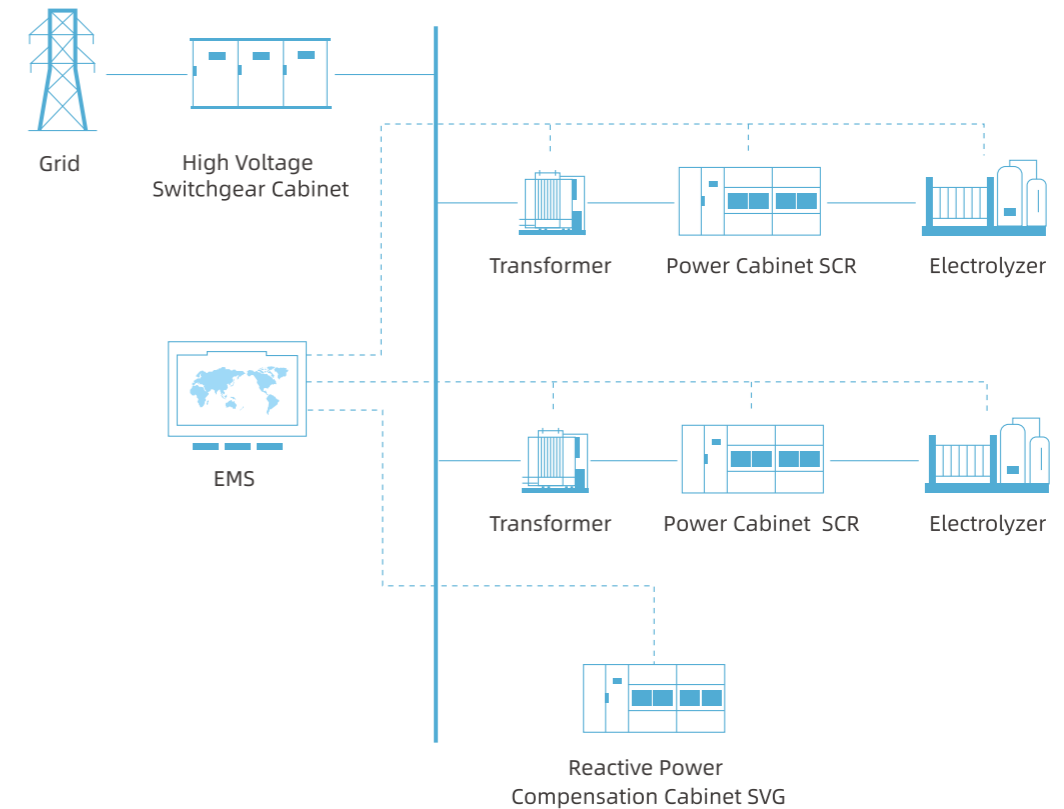
03 On/Off-grid Hydrogen Production Solution

This solution utilizes wind and solar energy to power hydrogen production. Managed by an intelligent Energy Management System (EMS), it adapts to grid fluctuations while maintaining stable operation, enabling flexible hydrogen production and effectively reducing equipment investment costs.



04 Thyristor Hydrogen Production Solution

This solution employs a phase-shifting transformer and thyristor power supply to achieve multi-pulse rectification, delivering electricity compatible with electrolyzers. The hydrogen production smart management system (EMS) regulates power output to accommodate grid fluctuations and meet load demands, ensuring high efficiency and safety of the hydrogen production system.



Improved Energy Conversion Efficiency

- Eliminating storage efficiency loss, shortening conversion chain, and boosting hydrogen efficiency by 5%.
- Direct response to renewable fluctuations and stable hydrogen production without energy storage buffering.

Rapid Deployment

- Elimination of energy storage system design, procurement, and installation, reducing project timeline by 30%~50%.

Reduced Initial Investment Costs

- Initial investment reduction by 20%~40% without energy storage and flexible hydrogen production based on renewable power generation conditions.
- Simplified system structure and streamlined maintenance processes reduce annual maintenance costs by 15%~25%.

Efficient and Stable Power Conversion

- High-efficiency AC-DC conversion for reduced energy losses and improved economic performance.

High Reliability and Long Service Life

- Industrial-grade thyristor components for continuous operation, lowering maintenance costs.

Excellent Grid Compatibility

- Optimized control strategies to reduce grid interference.
- Industrial grid integration with minimized grid modification.

Wide-Range Power Regulation

- Precise and continuous adjustment of output current and voltage for various electrolyzer operating conditions.

Application

Customer Application in Xinjiang

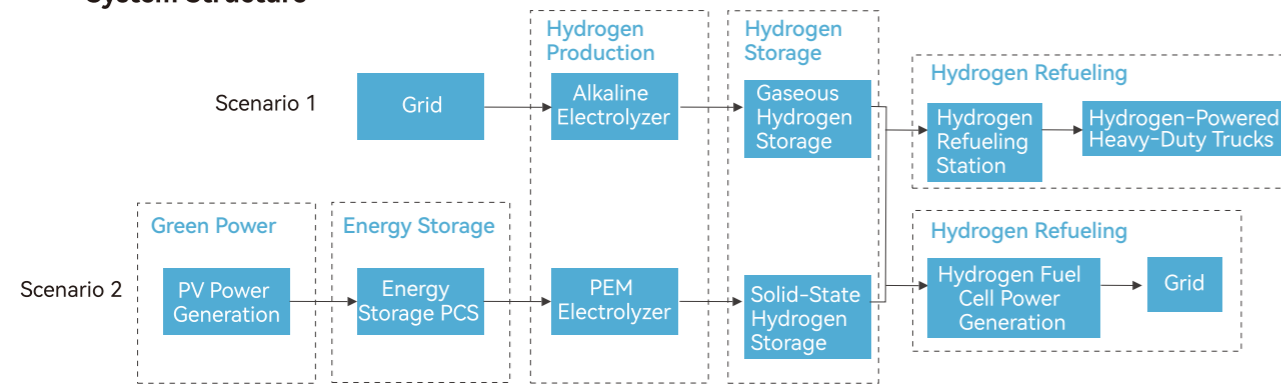
Veichi Electric's hydrogen production system and VHP800 power supply served as the high-performance "energy engine" for a groundbreaking integrated green hydrogen demonstration project in Xinjiang. This project established a closed-loop ecosystem combining off-grid/on-grid photovoltaic power generation with hydrogen production, storage, refueling, and utilization—powering heavy-duty trucks and providing combined heat and power. A benchmark for green hydrogen development in Northwest China, the system exceeded all key performance indicators, delivering outstanding reliability and efficiency.

Field-Tested Performance:

Liquid-level control accuracy: $\pm 1\text{mm}$; Pressure control accuracy: $< 0.001\text{MPa}$
 Temperature control accuracy: $\pm 1^\circ\text{C}$; Hydrogen purity: up to 99.999%



System Structure



Customer Application in Beijing

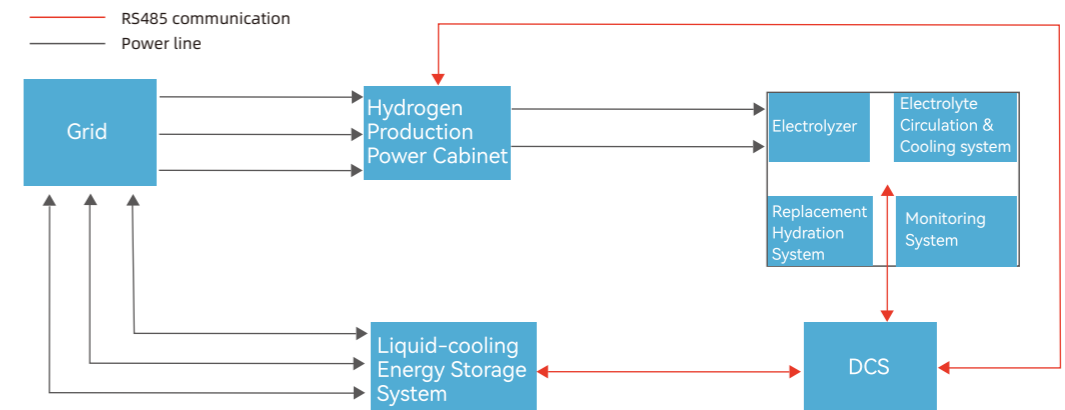
A new energy hydrogen production demonstration project in Beijing integrates alkaline and PEM electrolyzers with liquid-cooled energy storage to form a complete "photovoltaic/wind power-energy storage-hydrogen production" cycle. Veichi's four VHP800 power cabinets, featuring customized control algorithms and modular design, successfully met the distinct power requirements of both electrolyzer types, helping establish this project as an industry-leading benchmark for green electricity-to-hydrogen conversion.

Field-Tested Performance:

PEM Electrolyzer: Handles 20-100% power fluctuation with $\leq 2\%$ current ripple and > 0.99 V-I linearity, meeting strict power purity requirements for noble metal electrodes.
 Alkaline Electrolyzer: Stably operates for 72 hours continuously at both 600A (half load) and 1200A (full load) with $\leq \pm 0.5\%$ voltage/current accuracy.



System Structure



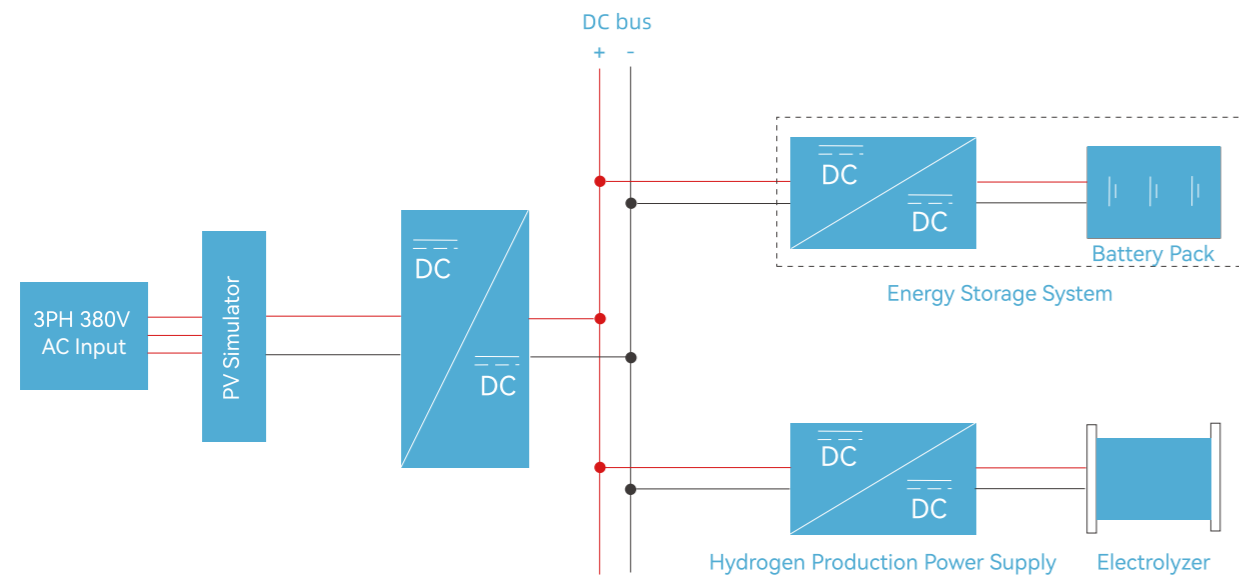
Customer Application in Shenzhen

A Shenzhen-based customer upgraded its PV simulation lab to accelerate R&D in green electricity-to-hydrogen technology, establishing an integrated test platform for "PV simulation – energy storage – electrolytic H₂ production" to validate H₂ production system stability under fluctuating renewable energy inputs. The project required high-performance hydrogen power supplies to precisely control electrolyzers during cold starts, hot standby, and dynamic power changes.

VEICHI delivered a customized power cabinet solution that resolved key challenges in communication integration and current control, enabling the lab to build a stable, efficient green-hydrogen test platform.



System Structure

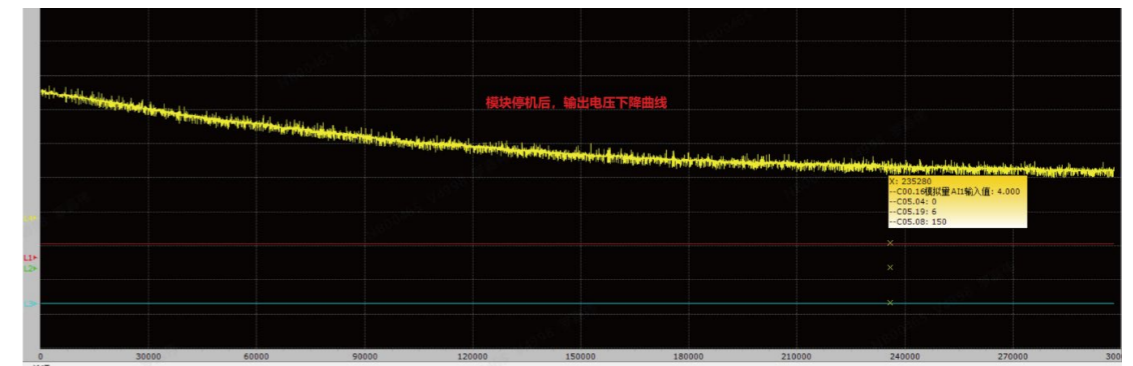


Customer Application in Shandong

A customer in Shandong required a high-performance hydrogen production power system to achieve efficient synergy between "photovoltaic/wind power – electrolytic hydrogen production." The alkaline electrolyzer in the project placed stringent demands on power supply stability, control precision, and dynamic response.

VEICHI supplied five VHP800-E60-T3-015/0090 hydrogen production power cabinets along with a customized power solution, successfully addressing core challenges such as electrical isolation, dynamic response, and safety operation and maintenance for the alkaline electrolyzer. In particular, the rapid discharge solution resolved long-standing safety and operational pain points for the customer, demonstrating the technical capabilities of domestically produced high-end power equipment in the green hydrogen sector.

Field-Tested Performance:



Voltage decreased from 42V to 14V in 270s (within 5 minutes)



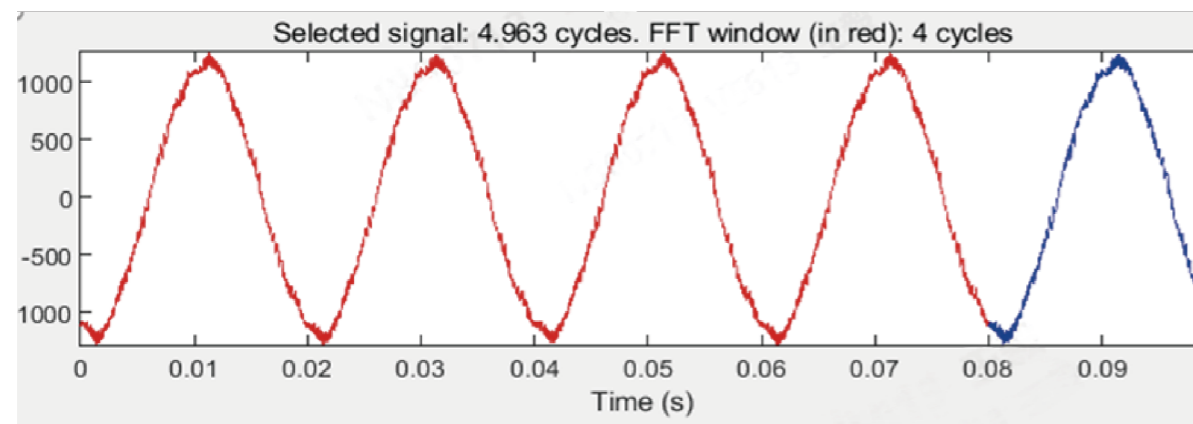
Customer Application in Suzhou

A Suzhou-based customer developed a capacitive-resistive electrolyzer (0V~200V/ 0A~4000A) that required a high-performance hydrogen production power supply to validate its stability and efficiency under dynamic operating conditions.

VEICHI supplied a VHP800 power cabinet for this application. Utilizing its innovative three-level power topology and rapid response capability, the solution met the demanding test requirements of the newly developed electrolyzer. This achievement demonstrated the competitiveness of domestically produced high-end hydrogen production power supplies in high-current, capacitive-resistive load scenarios, setting a collaborative innovation benchmark for China's green hydrogen equipment industry.

Field-Tested Performance:

The DCDC module operates stably at 3500A, with voltage/current accuracy $\leq \pm 0.5\%$ and response time $< 100\text{ms}$; the overall system efficiency of the AC/DC + DCDC configuration reaches 96.8%.



Customer Application in Fujian

To validate the efficiency, response, and stability of its self-developed alkaline electrolyzer under dynamic conditions, a Fujian customer required a high-performance hydrogen production power supply for its off-grid PV hydrogen lab.

VEICHI supplied the VHP800-E71 isolated IGBT power supply and delivered full-process technical support, achieving performance breakthroughs through coordinated hardware and software optimization.



Field-Tested Performance:

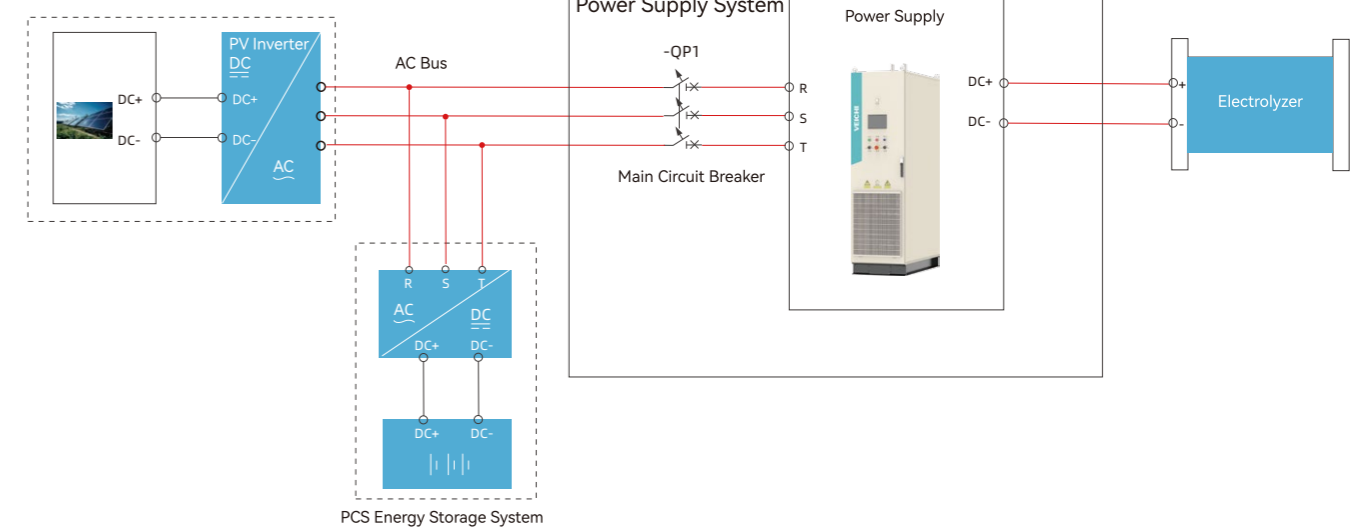
Voltage/Current accuracy $\leq 0.5\%$; Response time $< 100\text{ms}$; Efficiency 96.2%.

Topology

A two-stage topology combining three-level Buck and LLC, integrated with digital PID control algorithms, achieves a current-loop bandwidth of up to 2kHz

System Structure

Off-grid Hydrogen Production Energy Storage System



Customer Application in Inner Mongolia

A customer in Inner Mongolia required a stable and reliable DC power supply system to enhance hydrogen purity and production yield while reducing energy consumption.

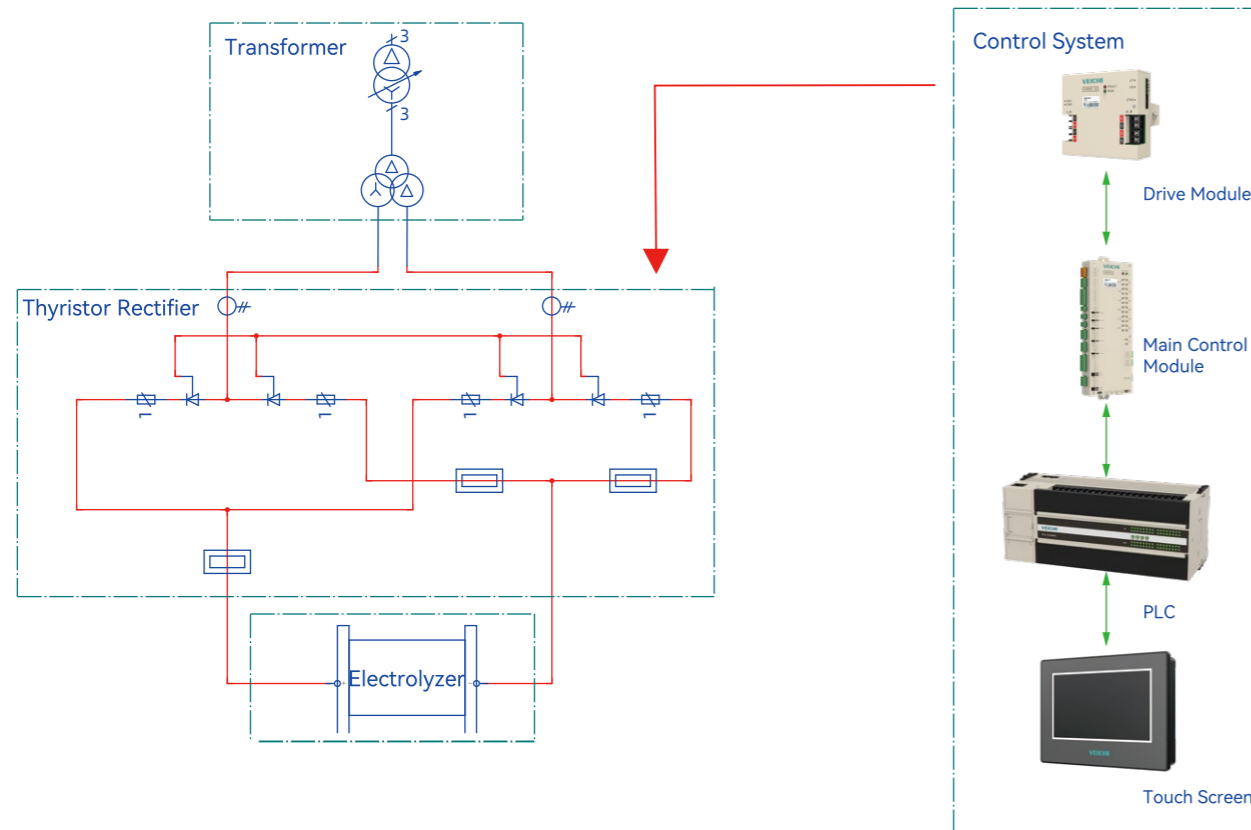
VEICHI provided one 6.3MW thyristor hydrogen production power supply, addressing issues such as low output accuracy, unstable hydrogen purity, and frequent maintenance.

Field-Tested Performance:

Output current accuracy $\pm 0.5\%$, voltage accuracy $\pm 0.5\%$, DC voltage ripple $\leq 1\%$, hydrogen purity 99.999%.



System Structure



Research and Production

R&D and Technology Platform

- > Consolidating a dynamic force of top-tier professionals and technical experts in domestic industrial control, our R&D team represents 37.16% of our workforce, with 74.62% of our technical staff boasting bachelor's degrees or higher.
- > Guided by philosophy of "Innovate with technology and strive for excellence," VEICHI is deeply customer-centric by providing stable and reliable products and technologies designed to the evolving needs of our clients.
- > Investing 10% of our revenue into R&D, VEICHI has crafted advanced labs for EMC, safety, reliability, and performance testing to ensure product quality.
- > In-depth cooperation with many famous universities and research institutions in China has been established and "Jiangsu Postdoctoral Innovation Practice Base" and "Jiangsu Postgraduate Workstation" are set up successively.

Intelligent Automation

- > Digitally driven from inception to production, VEICHI boasts an annual capacity of 914,600 units with streamlined efficiency.
- > 5 imported SMT placement lines, 5 automated coating lines, 4 DIP test lines, a robotic arm-equipped automated line, and 12 production lines are equipped with the latest intelligent manufacturing tools.
- > All of the product checks are carried out automatically by the management mode of 3 (tri-inspection system)+ 1 (proportional inspection) during the whole process for standard performance.
- > Three major production management system WMS, MES and ERP together ensure that the unique code of each product is traceable in the system to manage product quality.



Service & Support

Innovation Leads, Service Accelerates

- Customer-Centric Philosophy – Implementing "Five Hearts" service excellence system
- Dual-Channel Support – 24/7 network & telephone platforms with real-time monitoring
- Professional Care – Delivering attentive, patient and dedicated service at every touchpoint
- Worry-Free Experience – Ensuring customers purchase with complete confidence and satisfaction



Service Scope

Pioneering Technology , Unmatched Service

VEICHI Electric has established an integrated global service network through its innovative "Region + Industry" marketing strategy, which synergizes cross-sector resources and distribution channels to deliver comprehensive solutions. With permanent business and technical support teams strategically located across 22 major Chinese cities and overseas operations including Indian subsidiaries, the company is supported by an extensive network of 334 domestic and international distributors that ensure seamless market coverage. By consistently delivering superior product quality backed by professional technical support and service excellence, VEICHI Electric continues to enhance its global brand reputation while driving sustainable international growth through reliable, customer-centric solutions.



International Presence

Offices/service centers in South-East Asia, South Asia, CIS, Middle East, Europe, Africa and the Americas

China Coverage

21 local service centers nationwide, 22 provinces/municipalities and Hong Kong/Macau/Taiwan covered distribution network

22 domestic stations

6 overseas offices

300+ dealers