Shenzhen Veichi Electric Co., Ltd. is a high-tech enterprise that is professionally engaged in the development, manufacturing and marketing of industrial automation control products, and committed to becoming a global leading provider of industrial automation control products and system solutions.

The company owns powerful R&D team, relatively perfect production system, independent intellectual property and manufacturing bases in Shenzhen and Suzhou. To improve our R&D strength, we keep on introducing advanced overseas technology and broadening our partnerships with first-class universities and research institutions.

The main products of Veichi Electric include a variety of Variable Frequency Drive (VFD), Servo Drive System, Photovoltaic Inverter, PLC, HMI, automation equipment, etc, which are widely used in industries such as oil & gas, chemical industry, ceramic, crane & hoist, metallurgy, electrical cable and wire, plastic, print and package, textile, metal work and cable, coal mining and municipal engineering. Suitable solutions and products are always ready to meet the demands and improve comprehensive competitiveness of users.

With the spirit of "Innovation is the lifeblood of Veichi", we’re committed to becoming one of the leading providers of electric drives, industrial control and green energy products. Veichi has set up more than 40 branch offices in China and dozens of partners in Asia, Europe and Africa. Veichi has been named Chinese Electric Industry’s Top Ten National Brands, Chinese Electric Industry Top Ten Satisfying Brands and Top Ten National Brands of Inverter Industry. Veichi products have become the first choice of many enterprises.

It rises with the new century concept of sustainable development, which is highly respected by governments, to benefit the global areas lack of electricity and water. Solar pumps are the most attractive water supply method in the sunny areas today, especially in remote areas without electricity. Using the inexhaustible solar energy, the system automatically works at sunrise and stops at sunset and has no need of personal care, which is a perfect green energy system with economy, reliability and environmental benefits.
Solar modules

- AM and PMSM pumps
- MPPT

- Long-term stability quality
  - World class manufacture of crystalline silicon PV module.

- Long-term reliability test.
  - Perform harsh environment test (corrosion test of salt fog, ammonia and dust storms: IEC61701, IEC62716).
  - Adopt strict system of international standard quality management.

- The leading product capacity and photovoltaic technology.
  - World class manufacture of crystalline silicon PV module.

- ISO9001:2008

- Efficiency
  - High conversion efficiency

- High efficiency

- 12 years product warranty
- 25 years warranty of linear performance

Long-term stability quality

- 5 Watt positive tolerance
- Strong endurance capacity of wind and snow
- IP68
- Strong five grating lines design

Industry leading product performance warranty based on rated power

- 97.5% in the first year, and then 0.7% of annual maximum attenuation value in the 2nd to 25th years.
- 25 years warranty of linear performance.
- 25 years warranty of linear performance.

12 years product warranty
25 years warranty of linear performance

Simple operation
- One key operation
- Smart GPRS Internet of Things: powerful GPRS Internet of Things, and users could master the system state at anytime and anywhere.

Reliable IP68 junction box

The junction box, with a safety degree of IP68, has an excellent waterproof performance and supports a full angle installation to prevent damages to the cable due to long time excessive bending. With high performance and low resistance, connector ensures the minimum loss of output energy.

Special five grating lines design

The unique battery design reduces battery’s series resistance and shading area, and promotes the battery conversion efficiency.

The stress distribution of the battery is more uniform, which reduces the risk of hidden cracks in the battery. The mechanical load performance is better, and the battery has better durability and higher reliability for a long time.

Industry leading product performance warranty based on rated power

- 97.5% in the first year, and then 0.7% of annual maximum attenuation value in the 2nd to 25th years.
- To the 25th years from the beginning of warranty period, end with a proportion of 80.7%.
- 12 years product warranty.

Solar pump inverter introduction

- Clean energy: inexhaustible energy supply, non-pollution, zero carbon dioxide emissions, actively contribute to curbing global warming.
- Economic and affordable: One-time investment to get long-term returns, and enjoy government subsidies.
- Safe and reliable: unattended, work at sunrise and stop at sunset.
- Simple operation: One key operation
- Smart Internet of Things: powerful GPRS Internet of Things, and users could master the system state at anytime and anywhere.
- Personal customized: special model supports ultra low input voltage of 30-300VDC with a specialized sine wave filter.
- International standards: in line with national standards, and access to CE certification.

Four features of solar pump inverter

- AC110V/220V/400V
- Smart GPRS
- MPPT>99%
Solar pump drive model analysis

<table>
<thead>
<tr>
<th>Product model</th>
<th>Voltage level</th>
<th>Input power</th>
<th>Power range</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI20-D0-xxG</td>
<td>110V</td>
<td>30-300VDC</td>
<td>Single-phase 110VAC, Maximum power 1.5kW</td>
</tr>
<tr>
<td>SI20-D1-xxG</td>
<td>110V</td>
<td>90-400VDC</td>
<td>Single-phase 110VAC, 0.75-1.5kW</td>
</tr>
<tr>
<td>SI20-D3-xxG</td>
<td>220V</td>
<td>150-450VDC</td>
<td>Single-phase 220VAC, 0.75-4.0kW</td>
</tr>
<tr>
<td>SI20-D5-xxG</td>
<td>380V</td>
<td>250-780VDC</td>
<td>Three-phase 380VAC, 0.75-30.0kW</td>
</tr>
<tr>
<td>SI20-T3-xxG</td>
<td>380V</td>
<td>350-780VDC</td>
<td>Three-phase 380VAC, 37.0-200.0kW</td>
</tr>
</tbody>
</table>

Solar pump IOT monitoring system

- Ultra low voltage: With the incredible ultra low input voltage of 30VDC, 300W three-phase AC pumps could be driven perfectly, “a panel, a pump, will no longer be a dream.”
- Super Compatibility: Can drive three-phase AC AM and PMSM pumps.
- Ingenious design: powerful Boost function and specialized sine wave output filter.
- Electrical parameters: Input power of 30-300V DC or 1 * 90-240V AC; maximum output power of 1.5kW, maximum output current of 10A, output voltage of 3 * 90-230V AC

Submersible pump (deep well pump) with its exceptional natural advantages, is widely used in water resources extraction situations, such as groundwater, deep well or rivers, which is the best choice of solar pump system.

- Suitable for water pumping from deep well or water tank.
- Household, civil and industrial applications.
- Suitable for garden irrigation.

Solar pump

The global cumulative online volume of more than 100000 units

Real-time monitoring, remote expert consultation, large data automatic calculation of the power generation and pumping capacity and other energy-saving status, PC support, mobile APP query.
Solar pump model analysis

<table>
<thead>
<tr>
<th>Constitution</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pump shaft</td>
<td>AIS1304SS</td>
</tr>
<tr>
<td>Guide housing</td>
<td>Castings - Cu ASTM280</td>
</tr>
<tr>
<td>Suction device</td>
<td>Castings - Cu ASTM280</td>
</tr>
<tr>
<td>Diffuser</td>
<td>PC</td>
</tr>
<tr>
<td>Impeller</td>
<td>POM</td>
</tr>
<tr>
<td>Pump shaft</td>
<td>AIS1316SS, AIS1304SS</td>
</tr>
<tr>
<td>coupling</td>
<td>AIS1304SS, AIS1304SS</td>
</tr>
<tr>
<td>Wear ring</td>
<td>AIS1304SS</td>
</tr>
<tr>
<td>Motor housing</td>
<td>AIS1304SS</td>
</tr>
<tr>
<td>Cover</td>
<td>Cast - Cu ASTM280</td>
</tr>
<tr>
<td>base</td>
<td>AIS1304SS</td>
</tr>
<tr>
<td>Mechanical seal</td>
<td>Special seal for deep well - (carbon - SiC/TC)</td>
</tr>
<tr>
<td>Pump shaft</td>
<td>AIS1304SS - C1045</td>
</tr>
<tr>
<td>Bearing</td>
<td>NSK</td>
</tr>
<tr>
<td>Sealing lubricant</td>
<td>Food machinery and medicinal oils</td>
</tr>
</tbody>
</table>

Rated power (kW) | Impeller stage | Rated flow (m³/h) | Single-phase motor | Submersible deep-well pump | Minimum well diameter: 3"
### Solar pump system assembly

**Common system configuration**

<table>
<thead>
<tr>
<th>Water pump power (kW)</th>
<th>Drive Model</th>
<th>Solar modules and configurations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Module type</td>
</tr>
<tr>
<td>2.2</td>
<td>SI20-D5-2R2G</td>
<td>SZYL-P100-18</td>
</tr>
<tr>
<td>4</td>
<td>SI20-D5-004G</td>
<td>SZYL-P250-30</td>
</tr>
<tr>
<td>5.5</td>
<td>SI20-D5-5R5G</td>
<td>SZYL-P200-30</td>
</tr>
<tr>
<td>7.5</td>
<td>SI20-D5-7R5G</td>
<td>SZYL-P250-30</td>
</tr>
<tr>
<td>11</td>
<td>SI200-D5-011G</td>
<td>SZYL-P250-30</td>
</tr>
</tbody>
</table>

Input voltage DC250-780V, adaptive MPPT search, the best operating voltage range 530-650VDC

### Application cases of VEICHI photovoltaic pump system

- **The recommended configuration of 2.2kW deep-well pump system**
  - SZYL-P100-18×30; Total power: 3kW

- **The recommended configuration of 4.0kW deep-well pump system**
  - SZYL-P250-30×20; Total power: 5kW

- **The recommended configuration of 5.5kW deep-well pump system**
  - SZYL-P200-30×19×2; Total power: 7.6kW