

VEICHI

SI30 Series Hybrid Solar Pump Inverter



IP65——360 degrees, no dead angle, waterproof and dustproof

VEICHI

- ◉ Shell material —— using shell specialized die-casting aluminum Ai-Si-Cu alloy, code ADC12
- ◉ Die casting —— molten metal to achieve rapid casting in high pressure and speed, special casting method without cutting



Human computer interface —— support end user "one key start and stop"



- ◉ High-end protection —— "three proofings": waterproof panel, waterproof joint, waterproof enclosure.
- ◉ Surface treatment —— high speed sand blasting, electrochemical anodic oxidation



Four features of solar pump inverter

Modularization

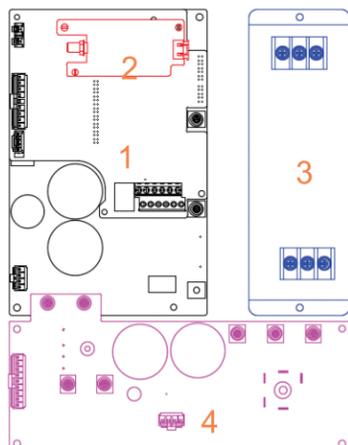
Smart IOT Module

IP65

AC110V/
220V/400V

Solar pump inverter-Product introduction

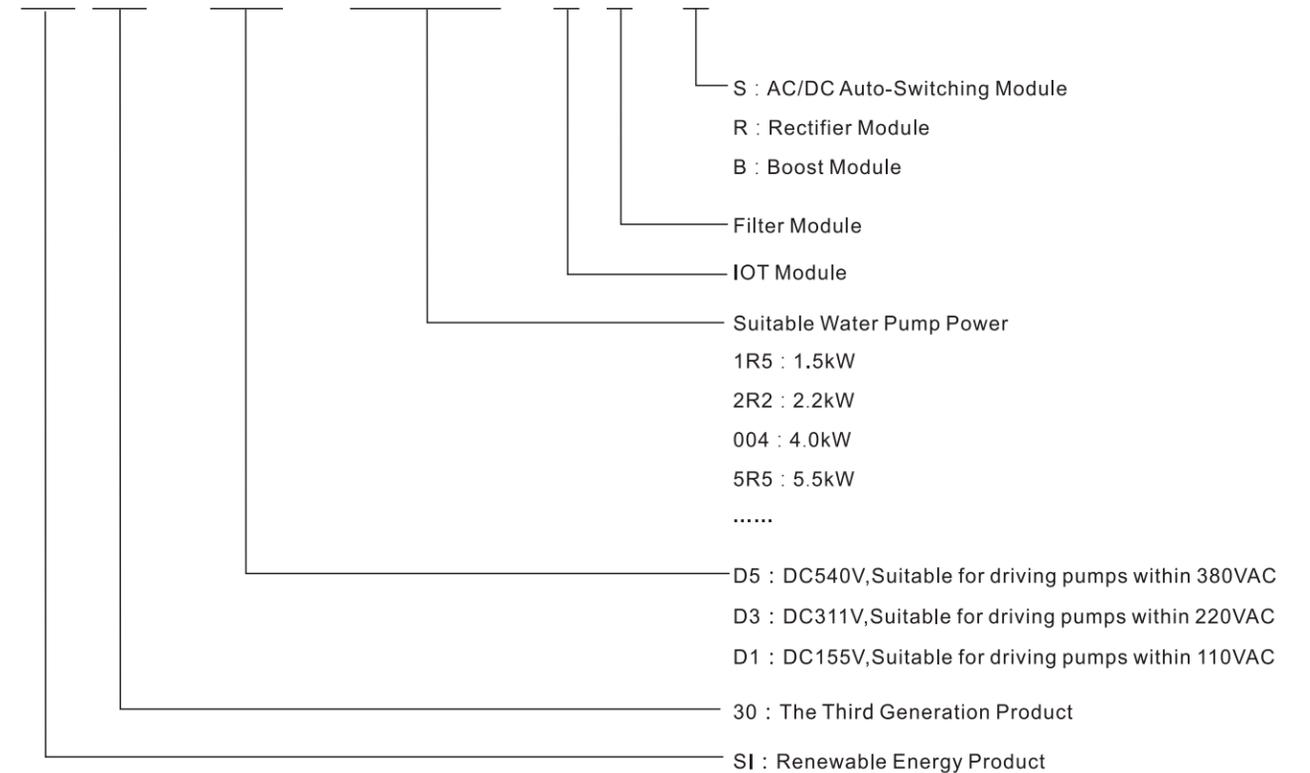
Modular Design



- Ingenious design: Small and exquisite inverter modules
- Industry 4.0 : GPRS , Bluetooth, cloud platform to build the IOT module
- Well pump assistant: Special filter takes you to interpret the world of deep well pumps
- Variety modules----AC/DC integrated (Boost) module
- IP65 protection----cool appearance, a perfect union of fashion sense and technology

SI30 Product Model

SI30 - D5 - 004G - I F S



Technical Specification

| Solar Pump Inverter Power (KW) | Pump | | Maximum Input Power of Solar panel (KW) | Maximum Input DC Voltage(V) | Total Voc Range of Recommended Panels(V) | Rated Output Current(A) | Output Frequency Range(Hz) |
|---|------------------|-------------------|---|-----------------------------|--|-------------------------|----------------------------|
| | Rated Power (KW) | Rated Voltage (V) | | | | | |
| SI30-D1 Series: Input 90-400VDC, 3 Phase 110-230VAC Output, MPPT Voltage Range 90-400VDC, Suitable for AC110V Pumps | | | | | | | |
| 0.75 | 0.75 | 110 | 1.0 | 400 | 175-380 | 7A | 0-320 |
| 1.5 | 1.5 | 110 | 1.95 | 400 | 175-380 | 10A | 0-320 |
| SI30-D3 Series: Input 150-450VDC, 3 Phase 150-230VAC Output, MPPT Voltage Range 150-450VDC, Suitable for AC220V Pumps | | | | | | | |
| 0.75 | 0.75 | 220 | 1.0 | 450 | 360-430 | 4A | 0-320 |
| 1.5 | 1.5 | 220 | 1.95 | 450 | 360-430 | 7A | 0-320 |
| 2.2 | 2.2 | 220 | 2.86 | 450 | 360-430 | 10A | 0-320 |
| SI30-D5 Series: Input 300-800VDC, 3 Phase 230-460VAC Output, MPPT Voltage Range 300-780VDC, Suitable for AC380V Pumps | | | | | | | |
| 0.75 | 0.75 | 380 | 1.0 | 800 | 620-750 | 2.3A | 0-320 |
| 1.5 | 1.5 | 380 | 2.2 | 800 | 620-750 | 3.7A | 0-320 |
| 2.2 | 2.2 | 380 | 3.3 | 800 | 620-750 | 5.0A | 0-320 |
| 4.0 | 4.0 | 380 | 5 | 800 | 620-750 | 10A | 0-320 |
| 5.5 | 5.5 | 380 | 8 | 800 | 620-750 | 13A | 0-320 |
| 7.5 | 7.5 | 380 | 10 | 800 | 620-750 | 17A | 0-320 |
| 11 | 11 | 380 | 14.3 | 800 | 620-750 | 25A | 0-320 |
| 15 | 15 | 380 | 19.5 | 800 | 620-750 | 32A | 0-320 |

Solar panel recommended configuration

| Solar pump inverter model | Solar panel model 1 | | | Solar panel model 2 | | | Solar panel model 3 | | | |
|---------------------------|---------------------|-------|---------------|---------------------|-------|---------------|---------------------|-------|---------------|------------------------|
| | Voc: 21V±2V | | | Voc: 33V±2V | | | Voc: 43V±2V | | | |
| | P±3W | Isc | configuration | P±3W | Isc | configuration | P±3W | Isc | configuration | Inverter rated current |
| SI30-D1-R75G | 30W | 2.75A | 11*3 | | | | | | | 7A |
| SI30-D1-1R5G | 60W | 3.48A | 10*3 | | | | | | | 10A |
| SI30-D3-R75G | 30W | 2.75A | 17*2 | | | | | | | 4A |
| SI30-D3-1R5G | 60W | 3.48A | 17*2 | | | | | | | 7A |
| SI30-D3-2R2G | 90W | 5.5A | 17*2 | | | | | | | 10A |
| SI30-D5-R75G | 30W | 2.75A | 30*1 | | | | | | | 2.3A |
| SI30-D5-1R5G | 60W | 3.48A | 30*1 | | | | | | | 3.7A |
| SI30-D5-2R2G | 90W | 5.5A | 30*1 | | | | 150W | 4.45A | 16*1 | 5A |
| SI30-D5-004G | 85W | 4.7A | 28*2 | | | | 300W | 8.00A | 16*1 | 10A |
| SI30-D5-5R5G | | | | 180W | 6.82A | 19*2 | 200W | 6.12A | 16*2 | 13A |
| SI30-D5-7R5G | | | | 240W | 8.81A | 20*2 | 200W | 7.32A | 15*3 | 17A |
| SI30-D5-011G | | | | 180W | 7.33A | 20*4 | 240W | 7.32A | 15*4 | 25A |
| SI30-D5-015G | | | | 240W | 8.81A | 20*4 | 240W | 7.32A | 15*5 | 32A |

Note:

- The recommended solar panel total Voc is at least 1.15 times of inverter bus voltage
As in the D5 series, the minimum Voc voltage is 540V*1.15=621V (620V);
As in the D3 series, the minimum Voc voltage is 311*1.15=357V (360V);
As in the D1 series, the minimum Voc voltage is 155*1.15=178V (175V);
- The recommend total power of solar panel should be at least 1.2 times of the inverter power(drive the same power pump); such as the recommend total power of solar panel for 7.5kW water pump system: 7500*1.2=9000W;
- The maximum withstand voltage of D1 model products is 400VDC; of D3 model products is 450VDC; and of D5 model products is 850VDC;

Technical Specification

| Items | | Specification |
|---------------------------------|---|--|
| Power Supply Input | voltage, frequency | D1 Type:90-400VDC/1*110VAC 50/60Hz D3 Type:150-450VDC/1*220VAC 50/60Hz D5 Type:300-850VDC/3*380VAC 50/60Hz |
| | Allowable Fluctuations | Voltage Imbalance Rate:<3% Frequency Fluctuation :±5% Distortion Rate: confirm to IEC 61800-2 |
| | VFD Efficiency | ≥97% |
| | Total Voc range (V) of recommended panels | D1 Type:175-380VDC D3 Type:360-430VDC D5 Type:620-750VDC |
| Output | MPPT efficiency | up to 99.9% |
| | Output frequency range | 0 ~ 320Hz (320Hz or more can be customized) |
| | Overload capacity | 150% of rated current for 1 minute; 180% of rated current for 10 seconds; 200% of rated current for 0.5 seconds |
| Protection function | Solar pump protection function | Dry run, low frequency, low power, dormancy, water full, pump over current protection |
| | AC/DC switching function | Self identification light intensity, automatic switching AC and DC power supply |
| | IOT function | Support VEICHI cloud service, scan code to connect APP keyboard |
| | Boost function | Only for D1, D3 models, support built-in Boost function |
| | Water pump type | Three-phase AC AM pump, three-phase AC PMSM pump, BLDC(5.5kW or below), single-phase water pump(2.2kW or below) |
| | Multi function input | Supports 4 way X input |
| | Analog input | Support 2 analog AI input, Can choose 0-10V/0-20mA |
| | Basic protection function | Bus overvoltage, under voltage, inverter over current, module fault, inverter overload, motor overload, current detection zero drift fault, hall fault, E2RCM fault, motor grounding short circuit fault, input phase loss, output phase loss, inverter overheat, communication fault, motor parameter self-tuning fault |
| | Motor grounding short-circuit detection | Automatically detect whether the motor is short-circuit to ground. Auto detection while electrify |
| | Communication network | Support 485 / Modbus protocol Support Modbus free protocol; can realize the network, linkage control among VEICHI inverters |
| Remote and monitoring functions | Support remote program upgrade, remote monitoring, and remote lock function, can be connected to VEICHI GPRS module; support VEICHI virtual oscilloscope monitoring and debugging | |
| Environment | Installation site | Outdoor, altitude less than 1000m, free corrosive gases and direct sunlight |
| | Temperature, humidity | -10 ~ +60°C , 20% to 95% RH (No condensation) |
| | Vibration | Less than 0.5g when frequency less than 20Hz |
| | Storage Temperature | -20~60°C |
| | Installation mode | Hanging machine |
| | Ingress Protection | IP65 |
| Cooling Method | Natural cooling / forced air cooling | |
| International Certificate | CE | |

Saleint Features of VEICHI SI-30

- o True IP65 - 360 degrees Water proof and Dust proof (100%)
- o Supports all kinds of pumps/Motor
- o Hybrid operation (AC / DC Automatic Switch)
- o One Key Start and Stop operations
- o Efficient working in dusty vaporable environment
- o Rigid Aluminium Body
- o Wide MPPT Range with smaller search interval
- o Latest IGBT module technology
- o User friendly human interface
- o Advanced IOT monitoring and data logging
- o Enhanced protections
- o Excellent performance with high temperature at high altitude
- o Comply to Quality Standards of Govt. of Pakistan. (Can be provided)
- o Certification and compliance to IEC: 62109-1/62109-2/61683 (Can be provided)
- o TUV Certified. (Can be provided)
- o CE Certification. (Can be provided)