

VEICHI

Solar Pump Inverter Comprehensive Catalog



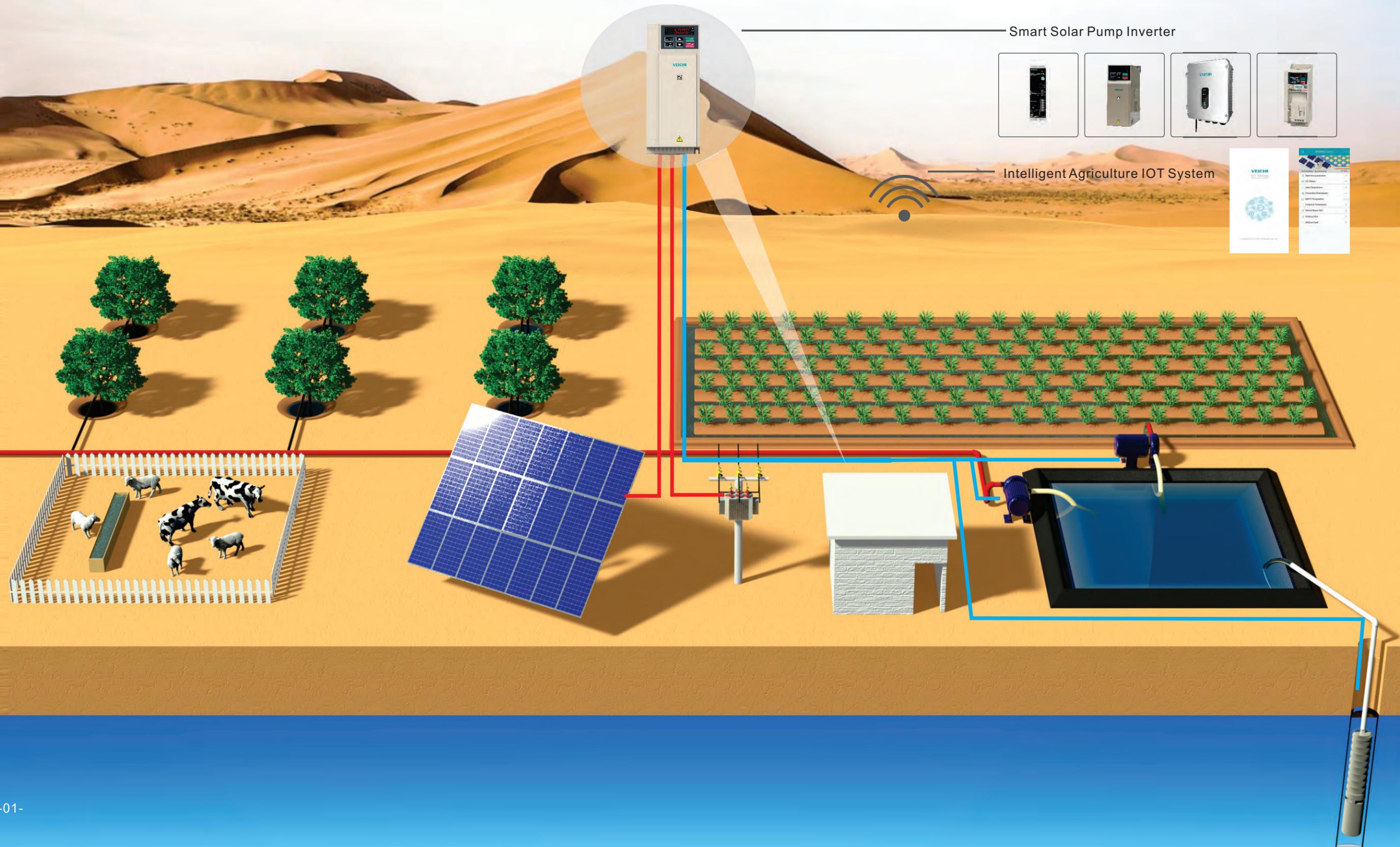
VEICHI

Suzhou Veichi Electric Co., Ltd

No.1000 Songjia road, Wuzhong Economic and Technological
Development Zone, Suzhou
Tel:+86-512-6617 1988 Fax:+86-512-6617 3610
E-mail:overseas@veichi.com
Facebook: <https://www.facebook.com/veichiglobal/>
Whatsapp: +86- 138 2881 8903 Http://www.veichi.org



*Version 2021 V1.1
Veichi Electric Co., Ltd all rights reserved,
subject to change without notice.



Core Functions of IOT Products and System



Core Function



Remote control

Remote control start/stop
Remote parameter modification
Remote fault reset



Running Data Statistics

Big data empowers smart agriculture



High precision positioning

Positioning by GPS signal or cellular mobile data network



Real-time Monitoring

0.5 second refresh rate, real-time monitoring of inverter running status



Data Storage

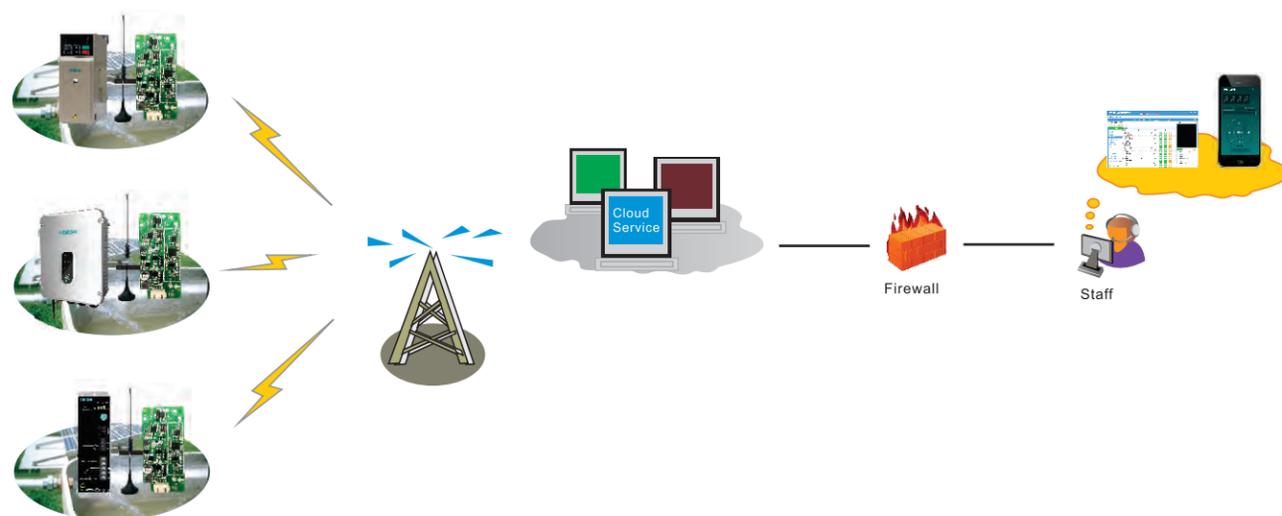
Running data store in the cloud server; switched to local storage when offline



WIFI communication function

convenient for debugging

Topological Graph of GPRS and Cloud Platform



SI30 Series Solar Pump Inverter

IP65 High Protection | One Key Start/Stop | Smart IOT



Product Features



High Protection Level

- Integral aluminum shell, up to 25 years of service life .
- Overall IP65 protection, waterproof display with one-key . start and stop, safe and reliable waterproof connector .



Smart IOT Platform

- Real time monitoring .
- Remote control .
- On/off-line storage .
- Simultaneous login on web and mobile apps .
- Support 2G networking , WLAN .



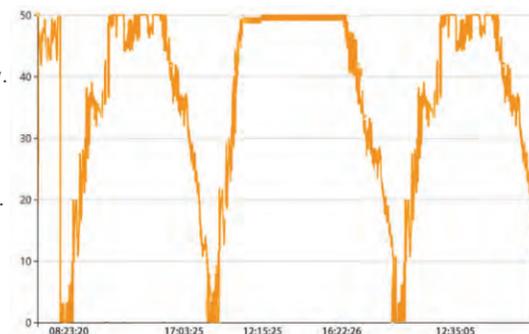
Comply With Multiple International Standards Certification

- EN 61800/EN 61000/EN IEC 61000.
- IEC 61683/IEC 62109-1/IEC62109-2.



Unattended, Automatic Operation, Remote Monitoring

- Unattended
After the system is installed, there is no need for personnel to be on duty.
- Automatic Operation
One key Start, inverter will automatically adjust the output frequency according to weather conditions, and upload fault alarm to IOT platform .
- Remote monitoring & control
Adjust operating parameters, handle and reset the fault remotely .



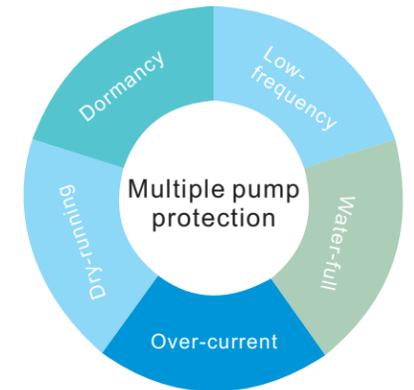
One Key To Clean The Pump

When the pump impeller is blocked due to sediment, the inverter has built-in water pump cleaning function, which can clean foreign matter and impurities in the water pump with one button.



Multiple Pump Protection

- Dormancy : When the sunshine change, the solar panel output DC voltage is too low, the controller enters the dormant protection and alerts A.LPn .
- Low-frequency : When running frequency too low, the controller will enter the low frequency protection and alert A.LFr; because the low frequency influence the pump cooling .
- Dry-running : When the inverter detects the output current to low, the pump is prevented from running, automatically enters the dry protection and alerts A.LuT .
- Over-current : When the running current is greater than the set threshold, the controller will automatically enter the overcurrent protection and alert the A.oLd .
- Water-full : Through the terminal control and the liquid level sensor, the inverter can control the start and stop of the water pump according to the liquid level of the water tank .



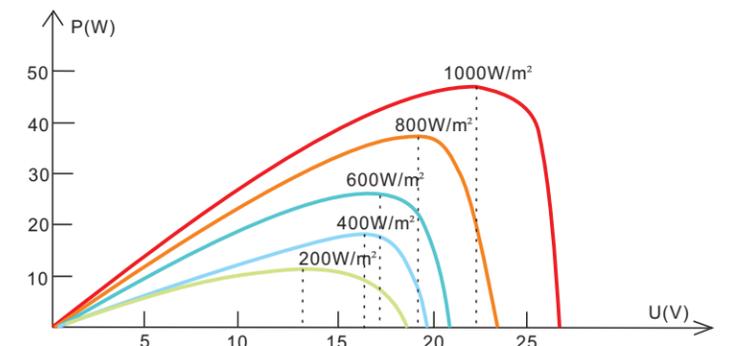
Adapt To Various Types Of Pumps

- AC Pumps: Just start it.
- PM synchronous pumps: Vector control, accurate Self - tuning of stator parameters .
- Single Phase: Single-phase/three-phase quick setting, simple operation .



Hige-efficient MPPT

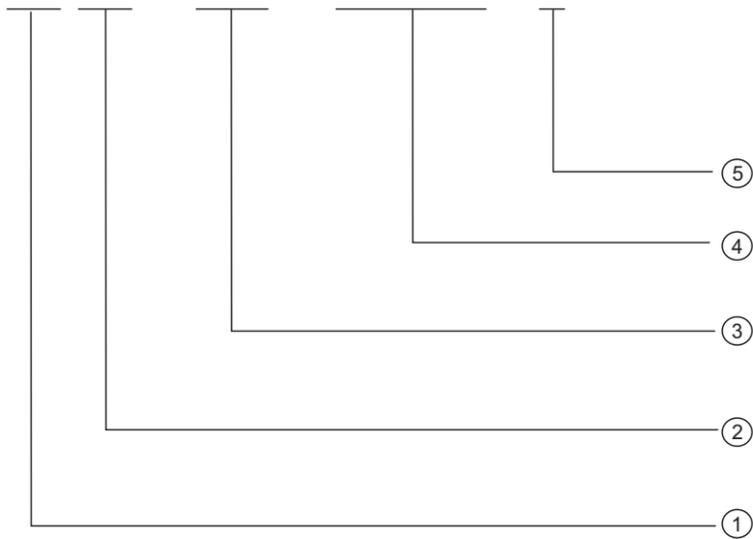
- MPPT efficiency up to 99.8% .
- The software can quickly detect changes in bus voltage and then ensure the maximum output power of Solar panels when sunlight and temperature change .



Naming Rules of SI30 Series Model



SI30 - D5 - 004G - R



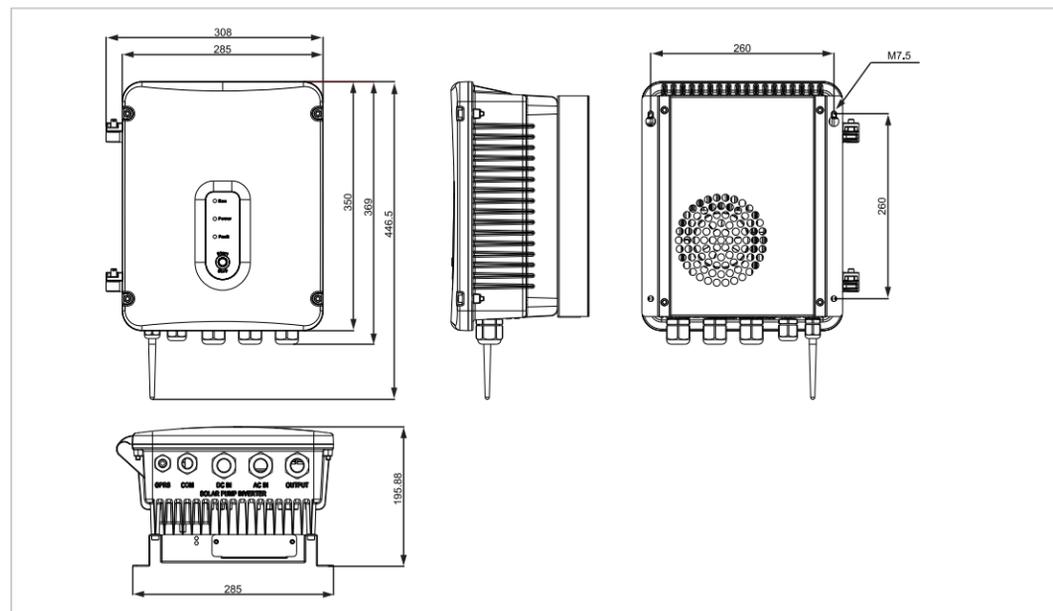
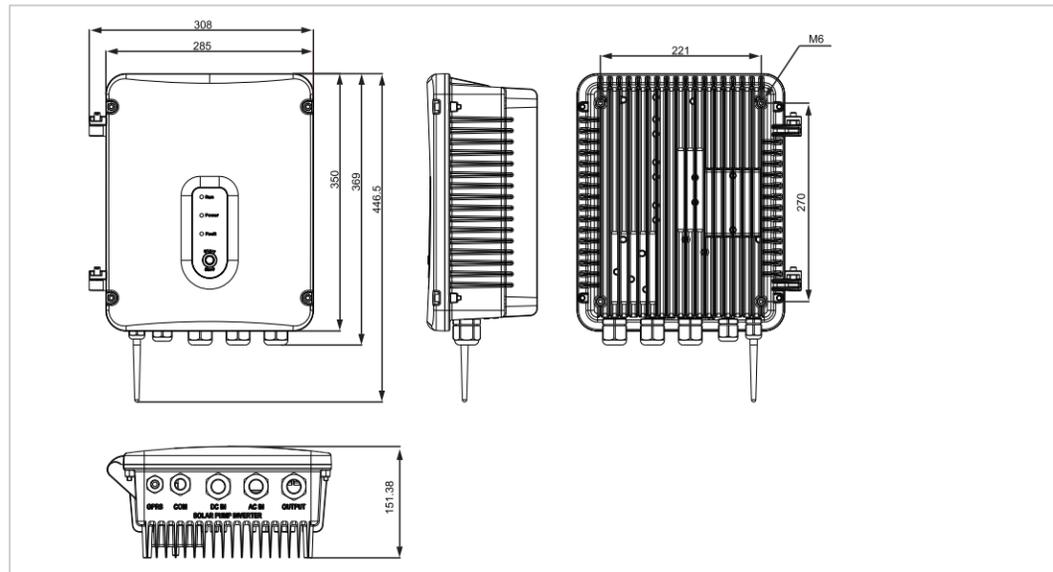
| SN | Naming Rules | Description |
|----|--------------------------|--|
| ① | Product Category | "SI" stands for the solar pump inverter |
| ② | Product Series | Different series are represented by different two-digit numbers |
| ③ | Voltage Class | "D1": 155Vdc, suitable for the 110VAc pumps 3PH/single phase |
| | | "D3": 311Vdc, suitable for the 220~230VAc pumps 3PH/single phase |
| | | "D5": 540Vdc, suitable for the 380~460VAc pumps 3PH |
| ④ | Rated Output Power | R75G=0.75KW 1R5G=1.5KW 004G=4KW 011G=11KW |
| ⑤ | Build-in Function Module | "R" stands for rectifier module "I" stands for IOT module(optional) |

Technical Specification



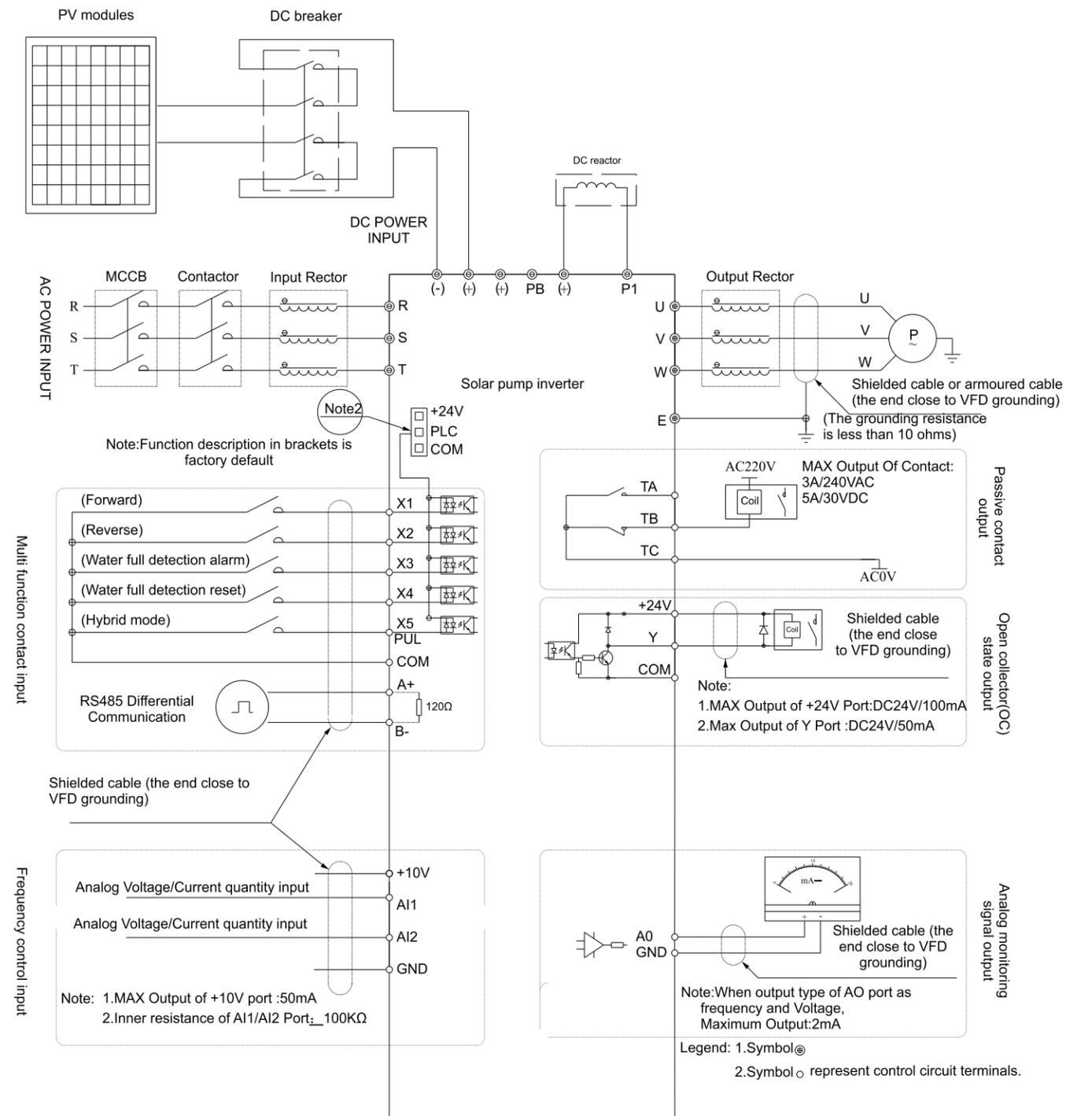
| | |
|----------------------------------|--|
| Solar panels input range (Voc) | D1 series: 90~400V DC |
| | D3 series: 150~450V DC |
| | D5 series: 300~850V DC |
| AC input voltage/frequency range | D1 series: Single/three phase 110Vac 50/60Hz |
| | D3 series: Single/three phase 220~230Vac 50/60Hz |
| | D5 series: Three phase 380Vac 50/60Hz |
| MPPT efficiency | Up to 99.8% |
| Output voltage/frequency range | D1 series: 110~230V AC 0~600Hz 0.75~1.5KW |
| | D3 series: 150~230V AC 0~600Hz 0.75~2.2KW |
| | D5 series: 230~460V AC 0~600Hz 0.75~11KW |
| Overload capacity | 1. 150% rated current 60s |
| | 2. 180% rated current 10s |
| | 3. 200% rated current 0.5s |
| Boost function | D1~D3 series model support extended boost module |
| TUV certification | Model : SI30-D5-5R5G-R/SI30-D5-7R5G-R/SI30-D5-011G-R |
| | Test specification : IEC 62109-1/62109-2 IEC 61683: 1999 |
| Solar pump inverter protection | 1. Low speed protection |
| | 2. Dormancy function |
| | 3. Undervoltage/Overvoltage protection |
| | 4. Input/output phase lose protection |
| | 5. Phase-Phase/ Phase to ground short circuit protection |
| Analog signal input/output | 0~20mA/0~10V |
| Multifunction digital terminal | 5X input 1X output |
| Build-in relay control | Control relay opening and closing according to inverter status |
| Warranty period | 18 months |

Dimension Of Solar Pump Inverter



| Inverter Model | Dimension | | | Installation Aperture | | Aperture Size |
|----------------|-----------|-------|--------|-----------------------|-----|---------------|
| | W | H | D | W1 | H1 | |
| SI30-D1-1R5G-R | 308 | 446.5 | 151.38 | 221 | 270 | ψ6 |
| SI30-D3-2R2G-R | | | | | | |
| SI30-D5-R75G-R | | | | | | |
| SI30-D5-1R5G-R | | | | | | |
| SI30-D5-2R2G-R | | | | | | |
| SI30-D5-004G-R | | | | | | |
| SI30-D5-5R5G-R | | | | | | |
| SI30-D5-7R5G-R | 308 | 446.5 | 195.88 | 260 | 260 | ψ7.5 |
| SI30-D5-011G-R | | | | | | |

Solar Pump Inverter Standard Wiring Diagram



SI23 Series Solar Pump Inverter

High Quality Reliable Power Range 750W~710KW



Product Features



New Appearance, Narrow Body Structure

- Book narrow body structure, maximum space saving 60% .
- New keyboard design, simple appearance and easy operation .
- European terminal blocks, convenient and efficient wiring .

380V 2.2kW demonstration



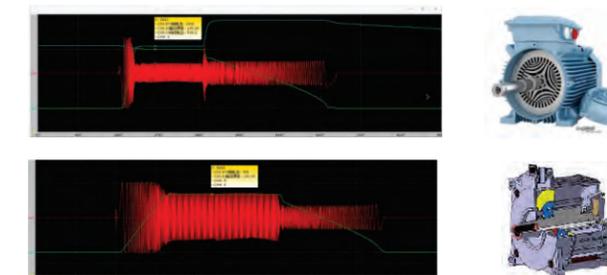
Easy To Debug And Rich In Expansion

- Professional PC software, one-key reading of debugging parameters .
- Virtual oscilloscope reads data accurately .
- Support ModBus, SPI, GPRS, PG card and other expansion interfaces .



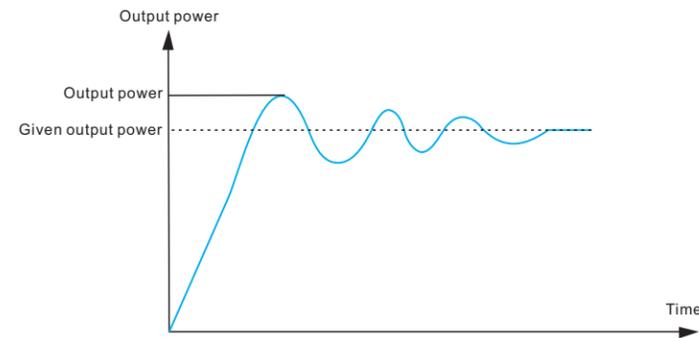
Top Level Algorithm Software

- Suitable for various types of pumps such as synchronous, asynchronous, single-phase and synchronous reluctance pumps .
- International leading self-turning algorithm to accurately measure motor parameters .
- High broadband current vector, 12 times of field weakening high precision output .



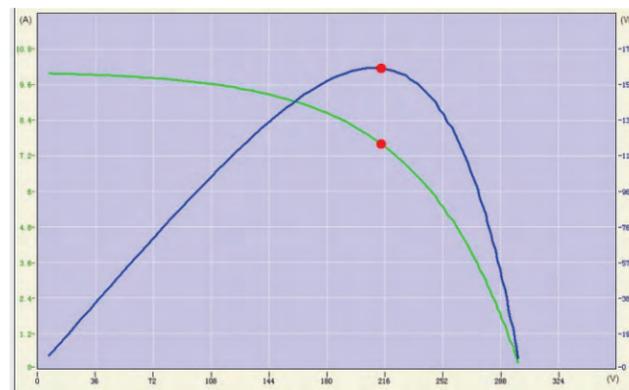
Accurate Control Of Output Power

- Accurately adjust the head and flow rate by controlling the output frequency.
- Control water pressure protection system pipelines and valves .
- Protect the pump motor to extend its service life .



PV Specific Functions

- Mppt function, real-time adjustment of the best output frequency .
- Complete pump protection function to extend the life of the pump .
- Custom PQ curve, users understand the cumulative flow and power generation .
- AC/DC mixed input, timing, water pump cleaning and other functions .



High MPPT Efficiency Max. is 99.9%

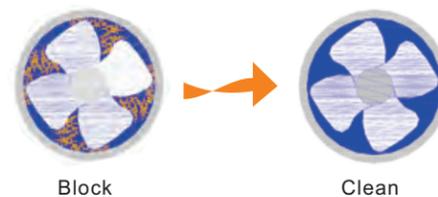
Smart IOT

- Support GPS positioning, wifi data connection, offline data storage .
- Unattended, real-time, remote control .
- Big data analysis, calculation of cumulative power generation and flow .

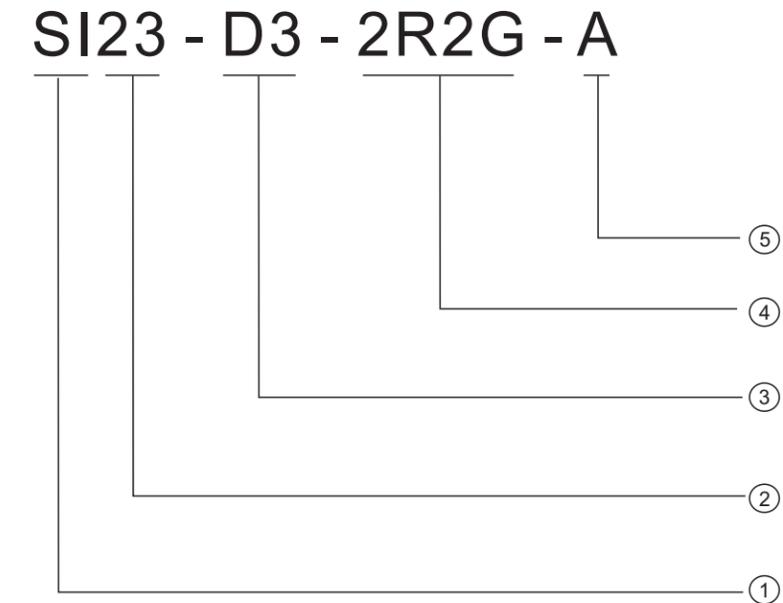


One Key To Clean The Pump

When the pump impeller is blocked due to sediment, the inverter has built-in water pump cleaning function, which can clean foreign matter and impurities in the water pump with one button.



Naming Rules of SI23 Series Model



| SN | Naming Rules | Description |
|----|--------------------------|--|
| ① | Product category | "SI" stands for the solar pump inverter |
| ② | Product series | Different series are represented by different two-digit numbers |
| ③ | Voltage class | "D1": 155Vdc, suitable for the 110VAc pumps 3PH/Single phase "D3": 311Vdc, suitable for the 220~230VAc pumps 3PH/Single phase "D5": 540Vdc, suitable for the 380~460VAc pumps 3PH "T3": 540Vdc, suitable for the 380~460VAc pumps 3PH |
| ④ | Rated output power | R75G=0.75KW 1R5G=1.5KW 004G=4KW 011G=11KW |
| ⑤ | Build-in function module | "A" stands for Standard Model without "A" stands for Neutral Brand Model "I" stands for IOT module(Optional) |

Technical Specification

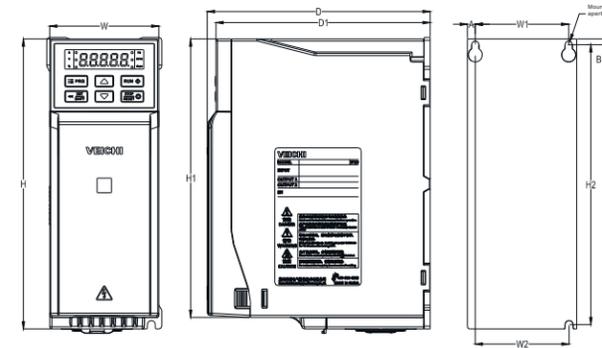


| | |
|------------------------------------|--|
| Total solar panels Voc input range | D1 series: 60~400V DC |
| | D3 series: 150~450V DC |
| | D5 series: 250~780V DC |
| | T3 series: 350~780V DC |
| AC input voltage/frequency range | D1 series: Single/three phase 110Vac 50/60Hz |
| | D3 series: Single/three phase 220/230Vac 50/60Hz |
| | D5 series: Three phase 380Vac 50/60Hz |
| | T3 series: Three phase 380Vac 50/60Hz |
| Output voltage/frequency range | D1 series: 110~230V AC 0~600Hz 0.75~1.5KW |
| | D3 series: 150~230V AC 0~600Hz 0.75~4KW |
| | D5 series: 230~460V AC 0~600Hz 0.75~30KW |
| | T3 series: 230~460Vac 0~600Hz 37~500KW |
| Overload capacity | 1. 150% rated current 60s |
| | 2. 180% rated current 10s |
| | 3. 200% rated current 0.5s |
| MPPT efficiency | Up to 99.8% |
| Solar pump inverter protection | 1. Low speed protection |
| | 2. Dormancy function |
| | 3. Undervoltage/Overvoltage protection |
| | 4. Input/output phase lose protection |
| | 5. Phase-Phase/ Phase to ground short circuit protection |
| Analog signal input/output | 0~20mA/0~10V |
| Multifunction digital terminal | 5X input 1X output |
| Build-in relay control | Control relay opening and closing according to inverter status |
| Warranty period | 18 months |

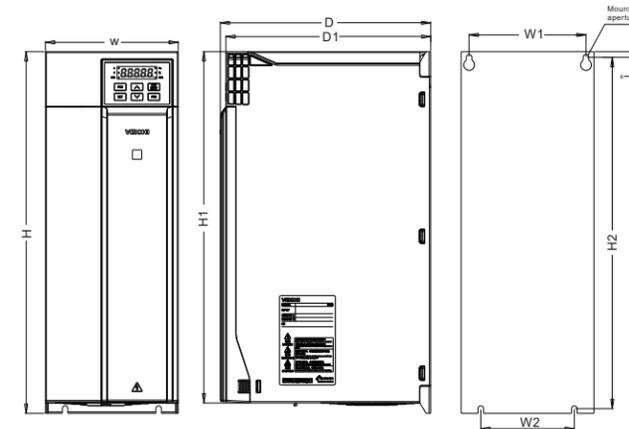
Dimension Of Solar Pump Inverter



Plastic model

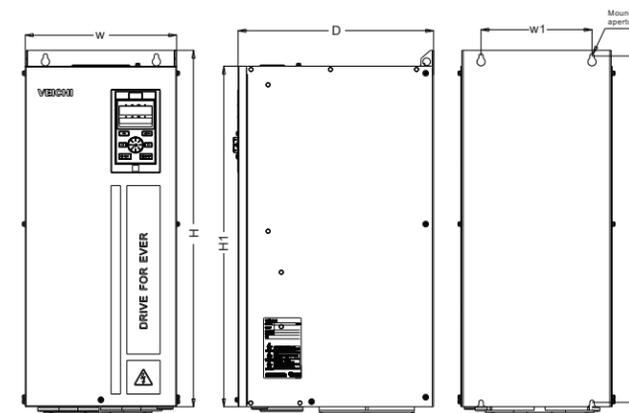


| Model | Overall dimension(mm) | | | | | Installation dimension (mm) | | | | | Installation aperture |
|----------------|-----------------------|-----|-------|-----|-----|-----------------------------|------|-------|-----|-----|-----------------------|
| | W | H | H1 | D | D1 | W1 | W2 | H2 | A | B | |
| SI23-D3-R75G-A | 76 | 200 | 192 | 155 | 149 | 65 | 65 | 193 | 5.5 | 4 | 3-M4 |
| SI23-D3-1R5G-A | | | | | | | | | | | |
| SI23-D3-2R2G-A | 100 | 242 | 231 | 155 | 149 | 84 | 86.5 | 231.5 | 8 | 5.5 | 3-M4 |
| SI23-D3-004G-A | | | | | | | | | | | |
| SI23-D5-R75G-A | 76 | 200 | 192 | 155 | 149 | 65 | 65 | 193 | 5.5 | 4 | 3-M4 |
| SI23-D5-1R5G-A | | | | | | | | | | | |
| SI23-D5-2R2G-A | 100 | 242 | 231 | 155 | 149 | 84 | 86.5 | 231.5 | 8 | 5.5 | 3-M4 |
| SI23-D5-004G-A | | | | | | | | | | | |
| SI23-D5-5R5G-A | 116 | 320 | 307.5 | 175 | 169 | 98 | 100 | 307.5 | 9 | 6 | 3-M5 |
| SI23-D5-7R5G-A | | | | | | | | | | | |
| SI23-D5-011G-A | | | | | | | | | | | |



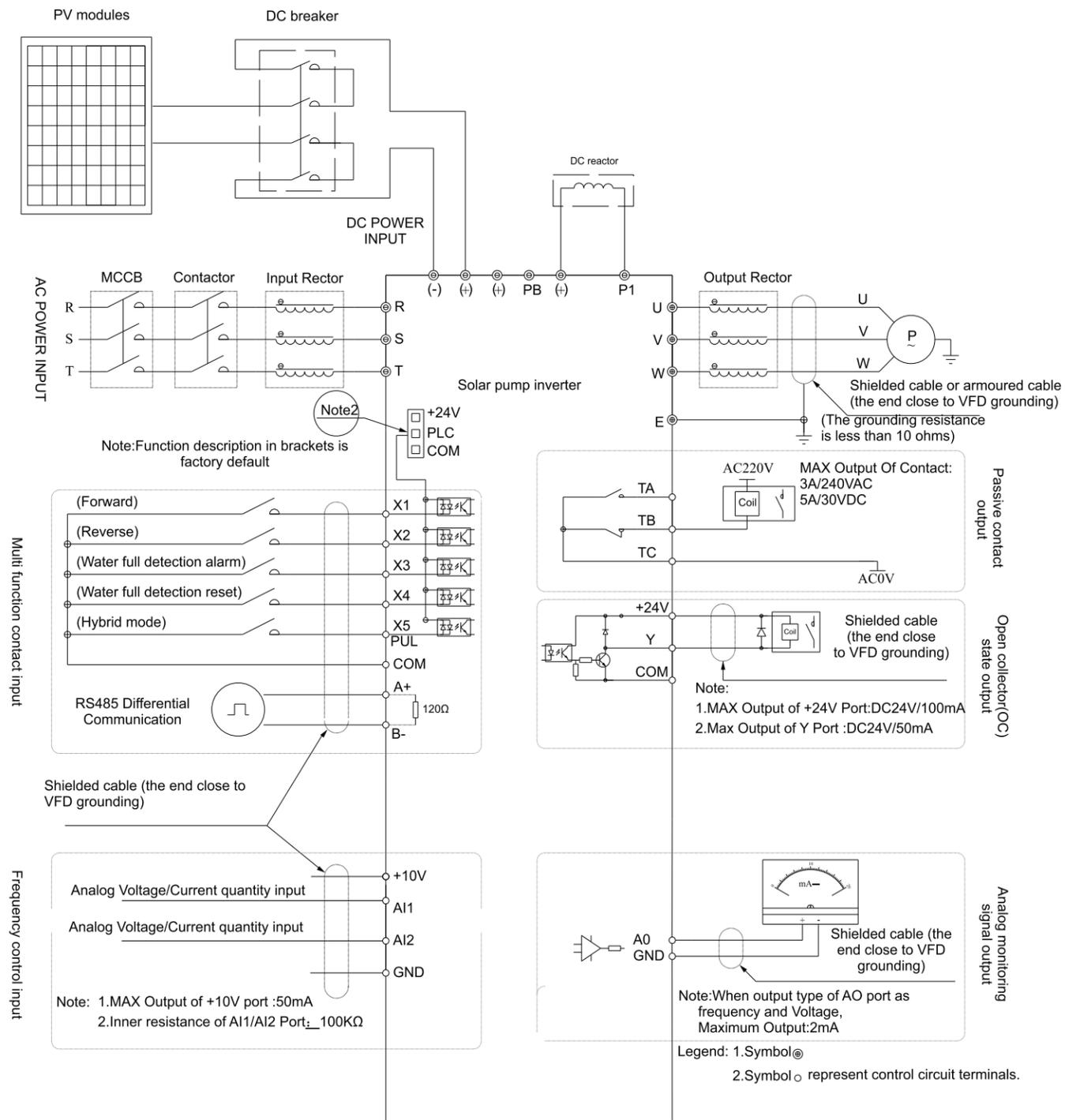
| Model | Overall dimension(mm) | | | | | Installation dimension (mm) | | | | Installation aperture |
|----------------|-----------------------|-----|-----|-----|-----|-----------------------------|-----|-------|-----|-----------------------|
| | W | H | H1 | D | D1 | W1 | W2 | H2 | B | |
| SI23-D5-015G-A | 142 | 383 | 372 | 225 | 219 | 125 | 100 | 372 | 6 | 4-M5 |
| SI23-D5-018G-A | | | | | | | | | | |
| SI23-D5-022G-A | | | | | | | | | | |
| SI23-D5-030G-A | | | | | | | | | | |
| SI23-T3-037G-A | | | | | | | | | | |
| SI23-T3-037G-A | 172 | 430 | / | 225 | 219 | 150 | 150 | 416.5 | 7.5 | 4-M5 |

Steel model



| Model | Overall dimension(mm) | | | | Installation dimension(mm) | | Installation aperture |
|----------------|-----------------------|------|------|-----|----------------------------|------|-----------------------|
| | W | H | H1 | D | W1 | H2 | |
| SI23-T3-045G-A | 240 | 560 | 535 | 310 | 176 | 544 | 4-M6 |
| SI23-T3-055G-A | | | | | | | |
| SI23-T3-075G-A | | | | | | | |
| SI23-T3-090G-A | 270 | 638 | 580 | 350 | 195 | 615 | 4-M8 |
| SI23-T3-110G-A | | | | | | | |
| SI23-T3-132G-A | 350 | 738 | 680 | 405 | 220 | 715 | 4-M8 |
| SI23-T3-160-A | | | | | | | |
| SI23-T3-185-A | 360 | 940 | 850 | 480 | 200 | 914 | 4-M16 |
| SI23-T3-200-A | | | | | | | |
| SI23-T3-220-A | | | | | | | |
| SI23-T3-250-A | 370 | 1140 | 1050 | 545 | 200 | 1110 | 4-M16 |
| SI23-T3-280-A | | | | | | | |

Standard Wiring Diagram



Note: When connect solar panel, both AC input (R, T) and DC input (+, -) is okay, AC input is prefer.

SI22 Series Solar Pump Inverter

Small | Mighty



Product Features



Minimum Size, Remain All the Function

- Palm size, saving installation space and transportation costs .
- Save volume while retaining all functions to meet various solar pumping requirements.



SI23 series inverter with same power



The SI22 inverter with the same power can save about two-thirds of the volume

Save up to 66% transportation costs

Concise Style , Tech & Art

- One-key start/stop , convenient for operation .
- New designed terminals , easy to wire.
- Shell shape correspond with fan , good for ventilation .



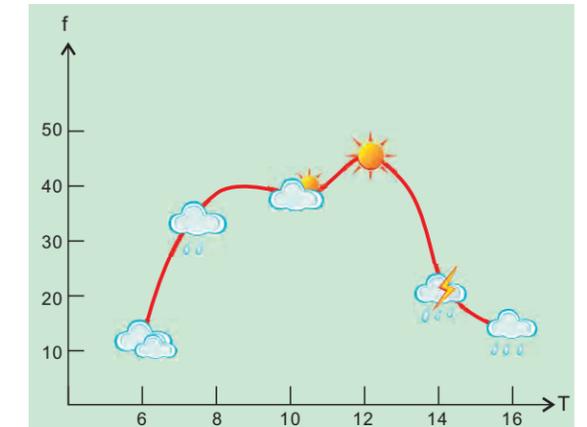
Intelligent Monitoring Brings Smart Irrigation

- Integrated online , offline and WIFI function .
- Support wide frequency band for global application .
- Powerful IOT platform , free to manage field equipment .



Powerful Software Functions Brings Multiple Protection For The Pump

- MPPT>99% : According to the intensity of sunlight , adjust the output frequency and get the maximum power point in real time .
- Solar pump special protection functions : dormancy , low-frequency , dry , over-current , minimum power to ensure the pump running safe and reliable .
- Wide voltage range , support 60V~400V , pumping time is longer .



Auto-Track at any daytime

Drive Forever And Perfect Compatibility With Various Motors

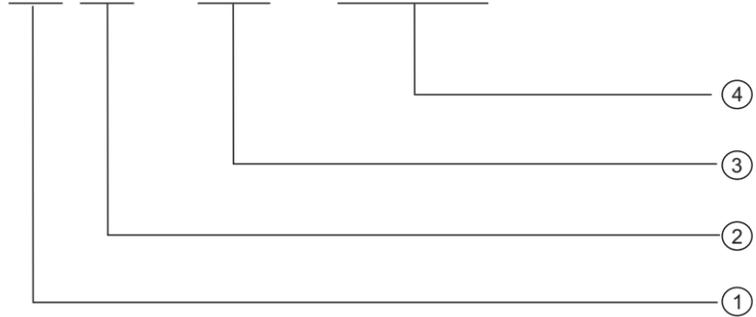
- PMSM Pump : Perfectly driving high-efficiency PMSM pump by open-loop and sensor-less vector control .
- AM Pump : One-key operation at default setting .
- BLDC : Compliantly driving 10A or below BLDC pump .



Naming Rules of SI22 Series Model

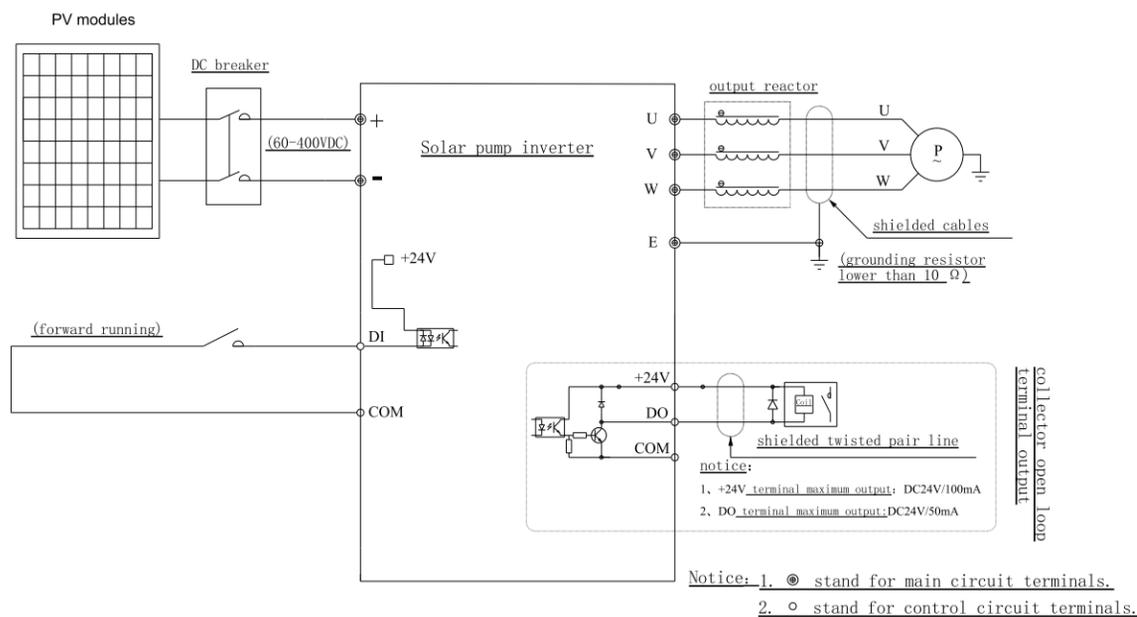


SI22 - D1 - 1R5G



| SN | Naming rules | Description |
|----|--------------------|---|
| ① | Product category | "SI" stands for the solar pump inverter |
| ② | Product series | Different series are represented by different two-digit numbers |
| ③ | Voltage class | "D1": 155Vdc, Suitable for the 110VAc pumps 3PH/Single phase |
| | | "D3": 311Vdc, Suitable for the 220~230VAc pumps 3PH/Single phase |
| ④ | Rated output power | R75G=0.75KW 1R5G=1.5KW 2R2G=2.2KW Note : Maximum power of D1 : 1.5kW ; Maximum power of D3 : 2.2kW |

Solar Pump Inverter Standard Wiring Diagram

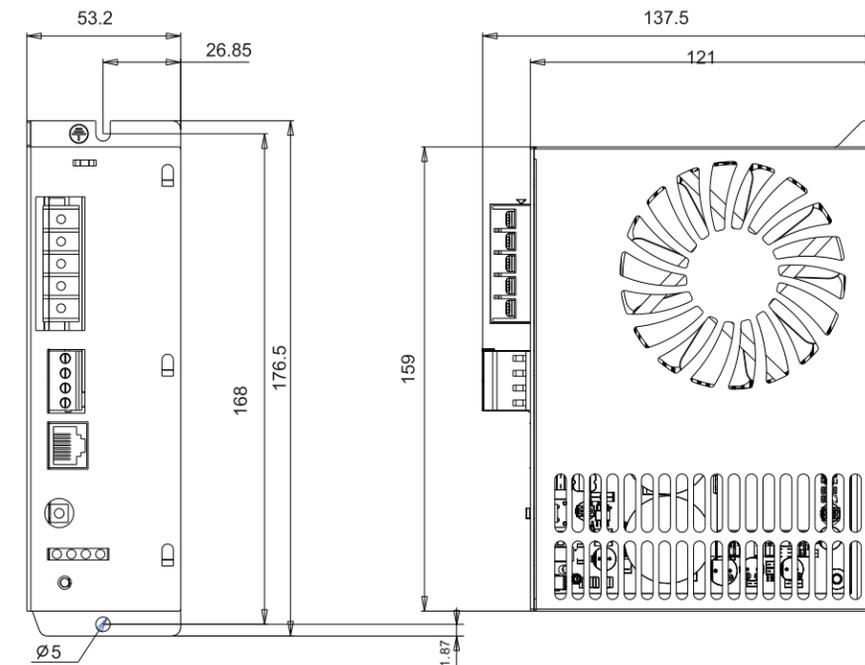


Technical Specification



| | |
|------------------------------------|--|
| Total Solar Panels Voc input range | D1 series: 60~400V DC |
| | D3 series: 60~450V DC |
| Overload Capacity | 1. 150% rated current 60s |
| | 2. 180% rated current 10s |
| | 3. 200% rated current 0.5s |
| MPPT efficiency | Up to 99.8% |
| Solar Pump Inverter Protection | 1. Low speed protection |
| | 2. Dormancy function |
| | 3. Undervoltage/Overvoltage protection |
| | 4. Output phase lose protection |
| | 5. Phase-Phase/ Phase to ground short circuit protection |
| Multifunction Digital Terminal | 1X DI and 1X DO |
| Warranty Period | 18 Months |

Dimension Of SI22 Solar Pump Inverter



SI21 Series Solar Pump Inverter

Mini | Economic



Product Features



Flexible & Various Installation

MINI & Various installation methods



Side by side installation, no need to reserve clearance



Rail mounting, plug into it then use it



Side mounting, sideways installation if vertical space is not compatible

Advanced Technology

- S.R.M. & P.M.S.M. & A.M. Driving .
- Energy Saving & Pump more water .

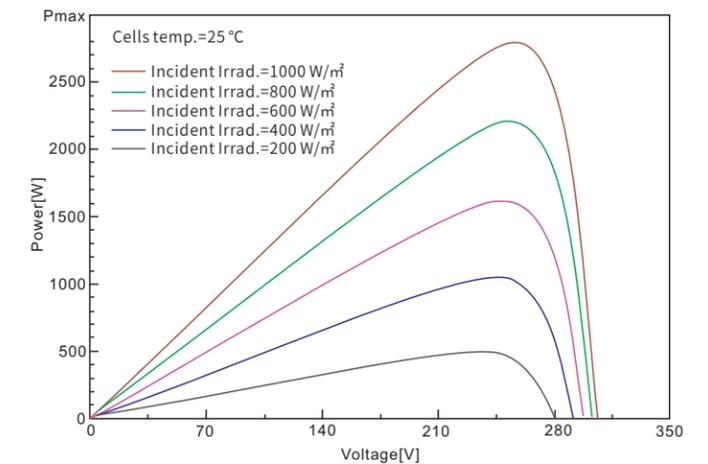


S.R.M.

P.M.S.M.

MPPT Technology

- Whole voltage range .
- Efficiency up to 99.8% .



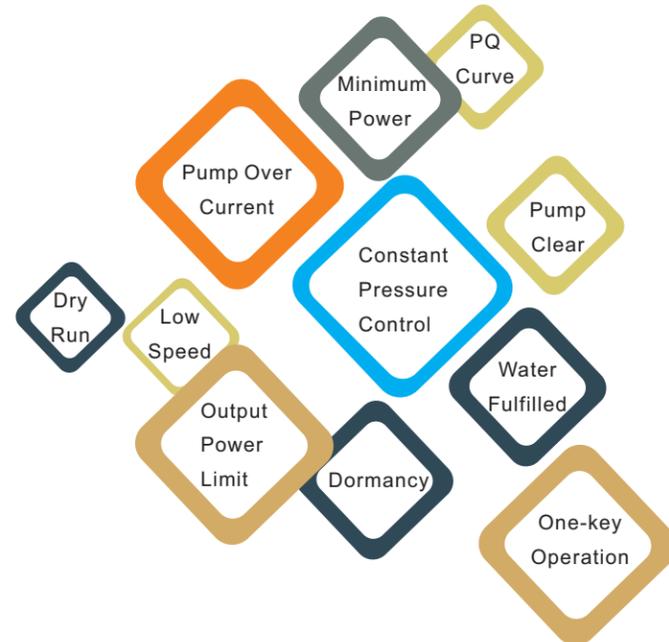
Functional PC Monitor Software

- Parameters monitoring & Settings .
- Virtual oscilloscope .



Various Specific Functions

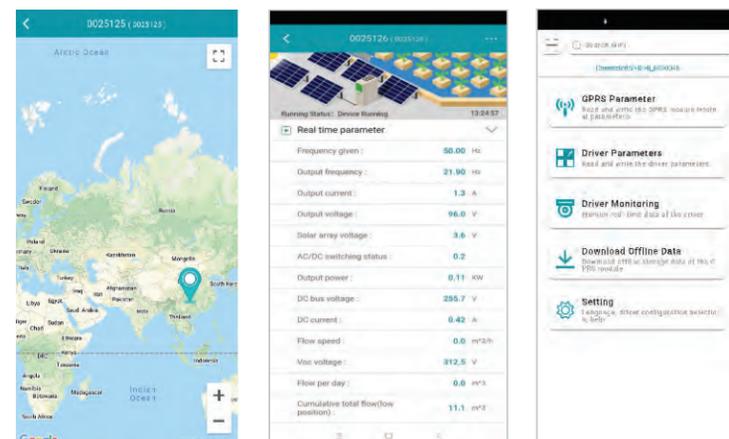
- One-key operation .
- Dormancy, dry run, low speed, minimum power, pump over current .
- Water fulfilled, output power limit, PQ curve, pump clear, constant pressure control .



Intelligent IOT



Smart IOT

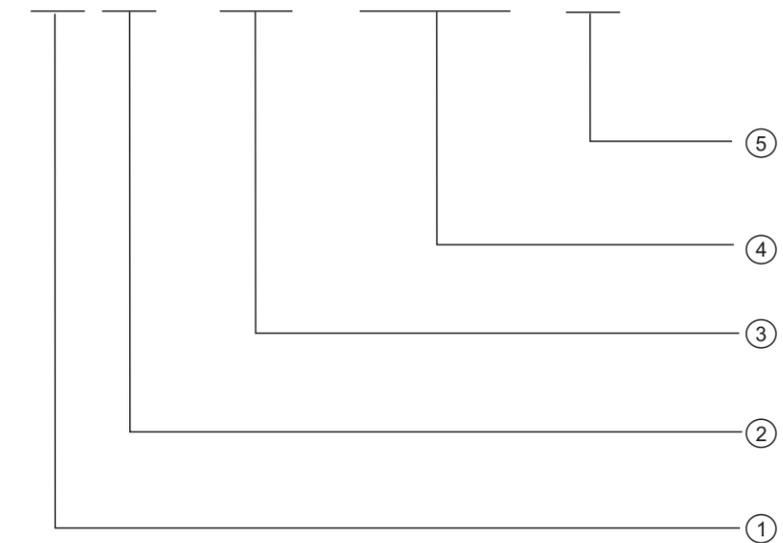


Various Mobile Applications

Naming Rules of SI21 Series Model

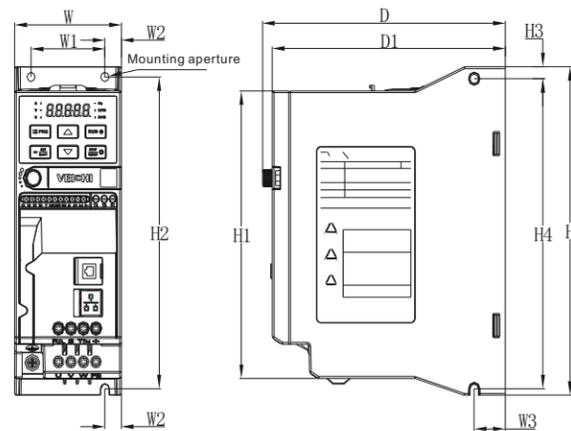


SI21 - D1 - 1R5G - A



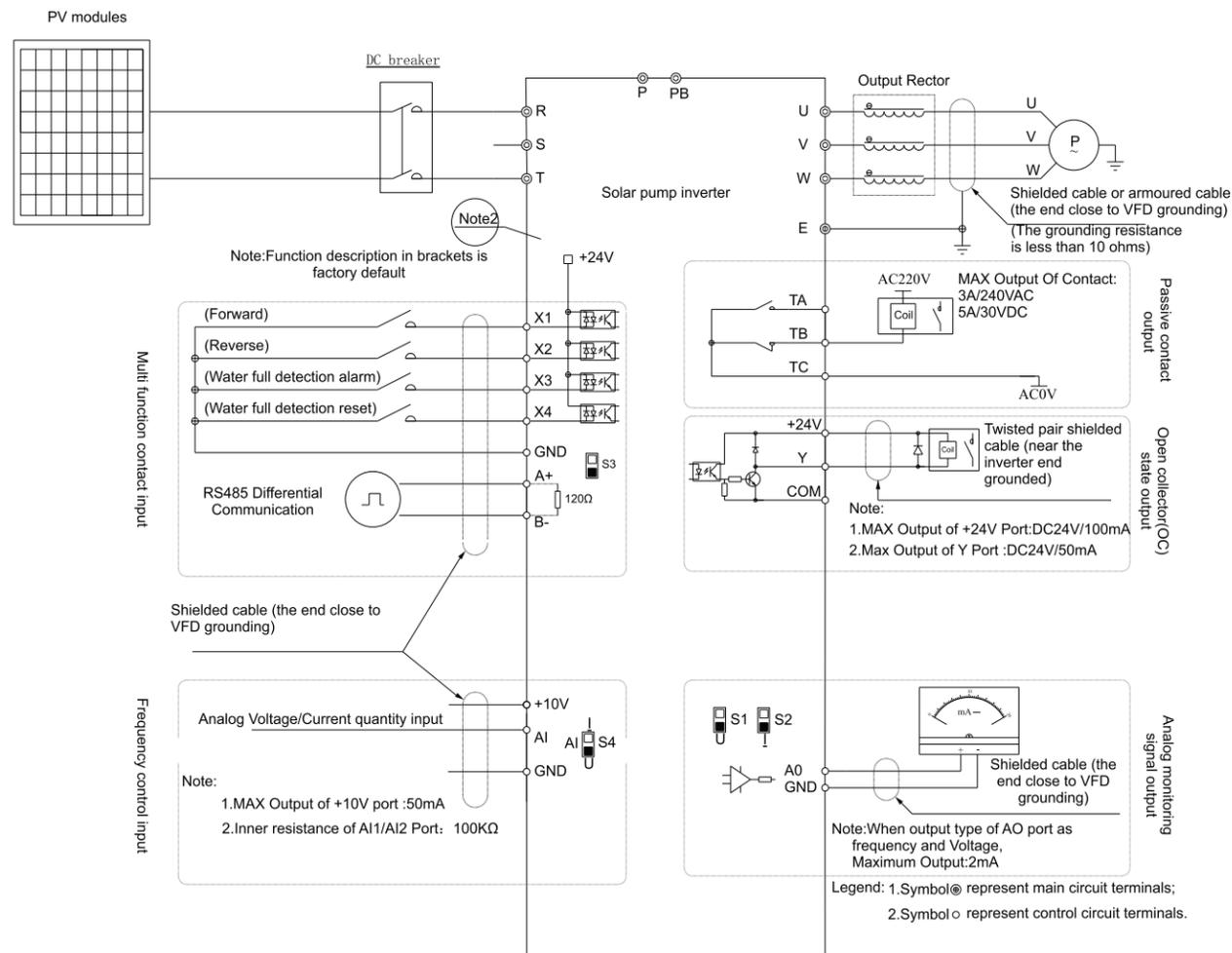
| SN | Naming rules | Description |
|----|--------------------------|--|
| ① | Product category | "SI" stands for the solar pump inverter |
| ② | Product series | Different series are represented by different two-digit numbers |
| ③ | Voltage class | "D1": 155V DC, Suitable for the 110~220VAc pumps 3PH/Single phase |
| | | "D3": 311V DC, Suitable for the 150~230VAc pumps 3PH/Single phase |
| | | "D5": 540V DC, Suitable for the 230~460VAc pumps 3PH |
| ④ | Rated output power | R75G=0.75KW 1R5G=1.5KW 004G=4KW |
| ⑤ | Build-in function module | "A" stands for Standard Model without "A" stands for Neutral Brand Model |

Dimension Of SI21 Solar Pump Inverter



| VFD model | Dimensions (mm) | | | | | Installation size (mm) | | | | | | Mounting aperture |
|----------------|-----------------|-----|-----|-----|-----|------------------------|----|-----|----|-----|-----|-------------------|
| | W | H | H1 | D | D1 | W1 | W2 | H2 | W3 | H3 | H4 | |
| SI21-D1-1R5G-A | 75 | 202 | 180 | 163 | 157 | 55 | 10 | 193 | 19 | 6.5 | 192 | 3-M4 |
| SI21-D3-2R2G-A | | | | | | | | | | | | |
| SI21-D5-R75G-A | 65 | 177 | 155 | 148 | 142 | 45 | 10 | 168 | 19 | 6.5 | 167 | 3-M4 |
| SI21-D5-1R5G-A | | | | | | | | | | | | |
| SI21-D5-2R2G-A | | | | | | | | | | | | |
| SI21-D5-004G-A | 75 | 202 | 180 | 163 | 157 | 55 | 10 | 193 | 19 | 6.5 | 192 | 3-M4 |
| SI21-D5-5R5G-A | | | | | | | | | | | | |

Solar Pump Inverter Standard Wiring Diagram

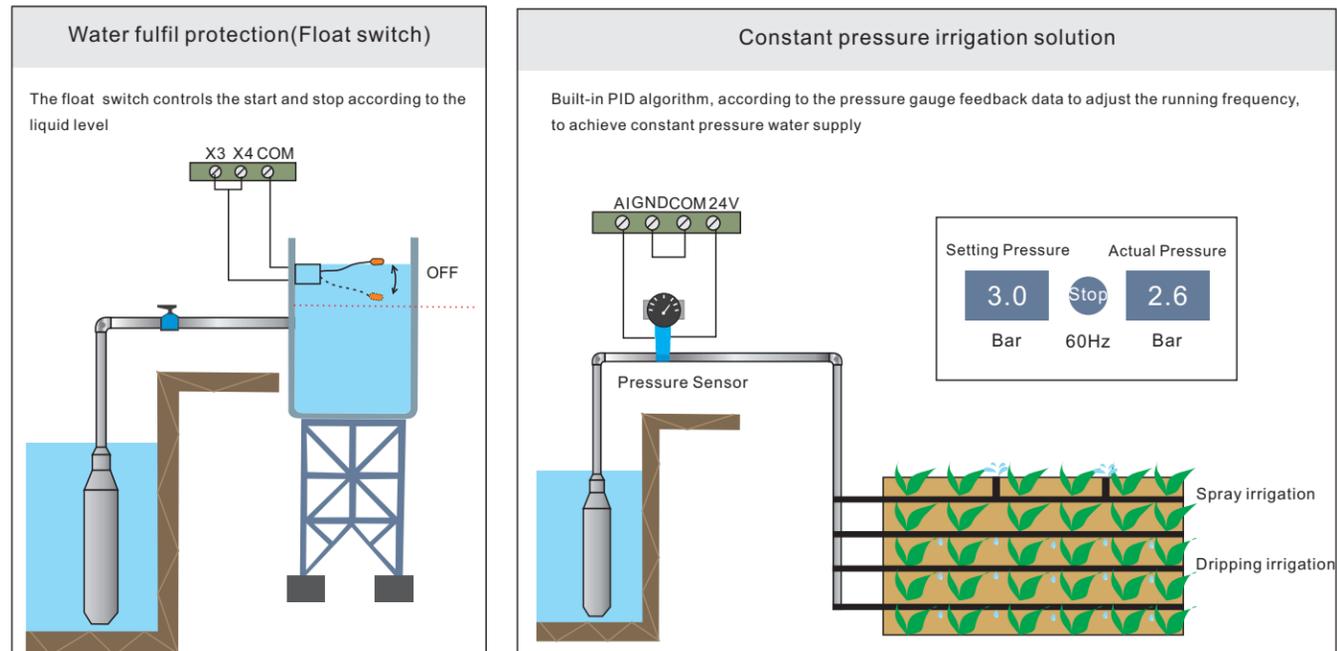
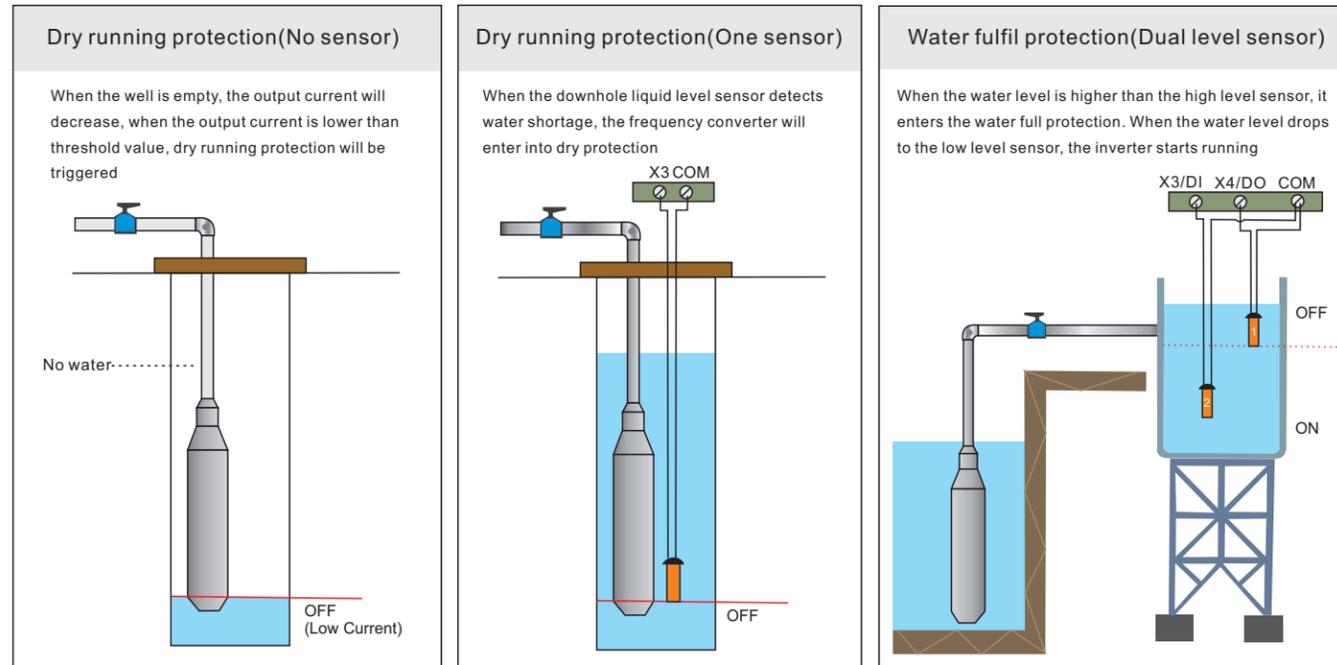


Technical Specification



| | |
|------------------------------------|--|
| Total solar panels Voc input range | D1 series: 60~400V DC |
| | D3 series: 150~450V DC |
| | D5 series: 250~780V DC |
| AC input voltage/frequency range | D1 series: Single/three phase 110Vac 50/60Hz |
| | D3 series: Single/three phase 220/230Vac 50/60Hz |
| | D5 series: Three phase 380Vac 50/60Hz |
| Output voltage/frequency range | D1 series: 110~230V AC 0~600Hz 0.75~1.5KW |
| | D3 series: 150~230V AC 0~600Hz 0.75~2.2KW |
| | D5 series: 230~460V AC 0~600Hz 0.75~5.5KW |
| Overload capacity | 1. 150% rated current 60s |
| | 2. 180% rated current 10s |
| | 3. 200% rated current 0.5s |
| MPPT efficiency | Up to 99.8% |
| Solar pump inverter protection | 1. Low speed protection |
| | 2. Dormancy function |
| | 3. Undervoltage/Overvoltage protection |
| | 4. Input/output phase lose protection |
| | 5. Phase-Phase/ Phase to ground short circuit protection |
| Analog signal input/output | 0~20mA/0~10V |
| Multifunction digital terminal | 4X input 1X output |
| Build-in relay control | Control relay opening and closing according to inverter status |
| Warranty period | 18 months |

Exclusive Solutions For Water Pump Applications



Domestic Marketing Services Network



Veichi Electric was established in 2005 and headquartered in Shenzhen, China. In October 2013, Suzhou Veichi Electric Co., Ltd. was founded in Suzhou, Jiangsu province which formed two major production bases. Our sales and service network spread all over the country including more than 40 offices and service centers to ensure timely response of customer needs.

International Marketing Services Network

