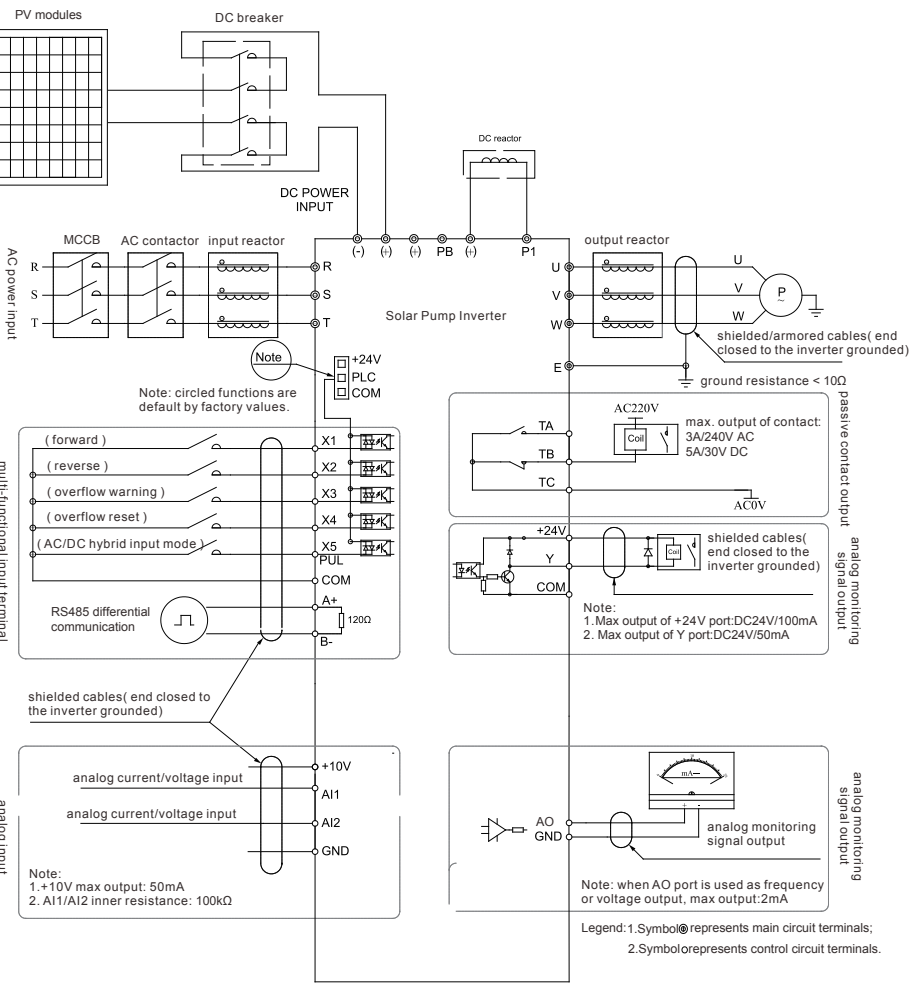


SI30 Series Electric Wiring



# SI23 Series Solar Pump Inverter

New structure | High efficiency | Reliable Performance



## Product Features

### New look, narrow body

- Book-like narrow structure saves up 60% space max.
- New keyboard with simple design appearance simplifies operation .
- European terminals raises wiring efficiency.

### Comply With Multiple International Standards Certification

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



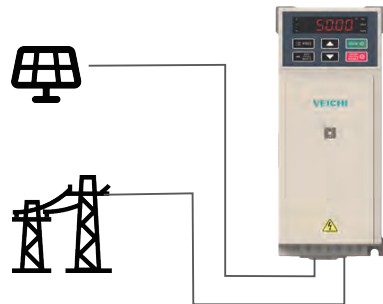
Top algorithm

- Asynchronous, single-phase, permanent magnet synchronous, synchronous reluctance etc. pump motors applicable
- Internationally leading self-learning algorithm with accurate and consistent motion control
- High-bandwidth current vector with 12 times high-precision weak magnetic output



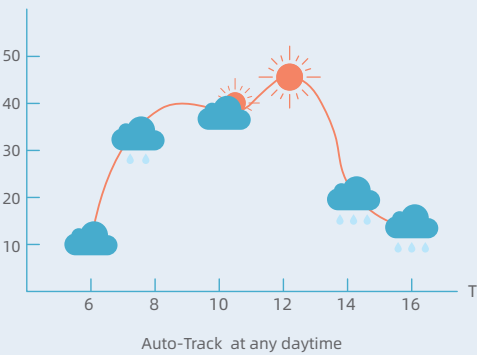
AC/DC hybrid input

When the solar panel power is lower than the set value, solar panel will be switched to the utility power to ensure the normal operation of the system until the solar panel power is restored to the set value, then the utility power will be switched back again to supply power .



Customized photovoltaic functions

- MPPT enables real-time adjustment of the optimal output frequency.
- Complete pump protections extend service life.
- Customized PQ curve offers users cumulative flow and power generation.
- AC/DC hybrid input, timing, and water pump cleaning etc. meet market demands.



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 .
- Auto identification of various APN remote data analysis devices and one-key Router connection.



SI23 Series Naming Rules

SI23 - D5 - 2R2G - A(H)

Product Category

SI:stands for the solar pump inverter

Product Series

Different series are represented by different two-digit numbers

Voltage Class

D1:155V DC, suitable for the 110V AC pumps 3PH  
D3:311V DC, suitable for the 220V AC pumps 3PH  
D5:540V DC, suitable for the 380V AC pumps 3PH  
T3:540V DC, suitable for the 380V AC pumps 3PH  
SS2: 311V DC, suitable for the 220V AC pumps 1PH

Suffix

"A" for VEICHI  
Non-A for neutral brand  
"A(H)" Support up to 850V input  
"I" IOT Module (optional)

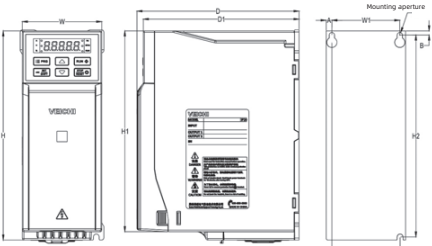
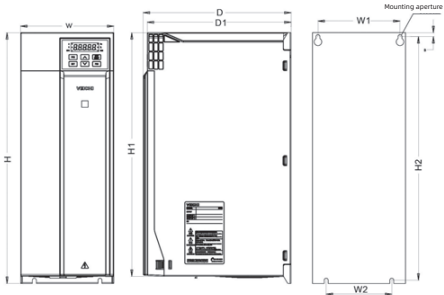
Rated Power

R75G=0.75KW  
1R5G=1.5KW  
004G=4KW  
011G=11KW

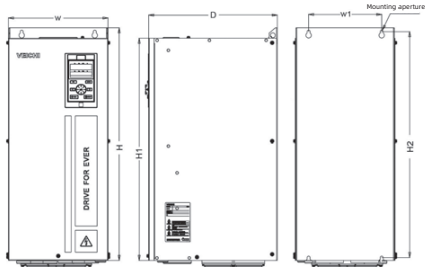
Technical Specification

| MODEL                                                          |                                                                                                                                                                                     | D1                                                                                        | D3                 | SS2               | D5                                                                                        | T3                                                                                        |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------|-------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| PV Input (D5 and T3 with suffix "H" support up to 850V input ) |                                                                                                                                                                                     |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Input voltage range                                            |                                                                                                                                                                                     | 60~400V                                                                                   | 150~450V           | 150~450V          | 250~780V                                                                                  | 350~780V                                                                                  |
| Recommended Voc voltage                                        |                                                                                                                                                                                     | 175~380V                                                                                  | 360~430V           | 360~430V          | 620~750V                                                                                  | 620~750V                                                                                  |
| Maximum MPPT efficiency                                        |                                                                                                                                                                                     | up to 99.8%                                                                               | up to 99.8%        | up to 99.8%       | up to 99.8%                                                                               | up to 99.8%                                                                               |
| AC Input                                                       |                                                                                                                                                                                     |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Input voltage range                                            |                                                                                                                                                                                     | 1PH/3PH 110V                                                                              | 1PH/3PH 220V~240V  | 1PH/3PH 220V~240V | 3PH 380~480V                                                                              | 3PH 380~480V                                                                              |
| Input voltage frequency                                        |                                                                                                                                                                                     | 50/60Hz                                                                                   | 50/60Hz            | 50/60Hz           | 50/60Hz                                                                                   | 50/60Hz                                                                                   |
| Output                                                         |                                                                                                                                                                                     |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Output voltage range                                           |                                                                                                                                                                                     | 110~230V                                                                                  | 150~230V           | 150~230V          | 230~460V                                                                                  | 230~460V                                                                                  |
| Output frequency range                                         |                                                                                                                                                                                     | 0~600Hz                                                                                   | 0~600Hz            | 0~600Hz           | 0~600Hz                                                                                   | 0~600Hz                                                                                   |
| Output power range                                             |                                                                                                                                                                                     | 0.75~1.5KW                                                                                | 0.75~55kW          | 0.75~55kW         | 0.75~30KW                                                                                 | 37~500KW                                                                                  |
| Power                                                          |                                                                                                                                                                                     | Rated output current                                                                      |                    |                   |                                                                                           |                                                                                           |
| 0.75kW                                                         | 7A                                                                                                                                                                                  | 4A                                                                                        | 7A                 | 3A                | -                                                                                         |                                                                                           |
| 1.5kW                                                          | 10A                                                                                                                                                                                 | 7A                                                                                        | 10A                | 4A                | -                                                                                         |                                                                                           |
| 2.2kW                                                          | -                                                                                                                                                                                   | 10A                                                                                       | 16A                | 6A                | -                                                                                         |                                                                                           |
| 4kW                                                            | -                                                                                                                                                                                   | 16A                                                                                       | 30A                | 10A               | -                                                                                         |                                                                                           |
| 5.5kW                                                          | -                                                                                                                                                                                   | 20A                                                                                       | 42A                | 13A               | -                                                                                         |                                                                                           |
| 7.5kW                                                          | -                                                                                                                                                                                   | 30A                                                                                       | 55A                | 17A               | -                                                                                         |                                                                                           |
| 11kW                                                           | -                                                                                                                                                                                   | 42A                                                                                       | -                  | 25A               | -                                                                                         |                                                                                           |
| 15kW                                                           | -                                                                                                                                                                                   | 55A                                                                                       | -                  | 32A               | -                                                                                         |                                                                                           |
| 18.5kW                                                         | -                                                                                                                                                                                   | 70A                                                                                       | -                  | 38A               | -                                                                                         |                                                                                           |
| 22kW                                                           | -                                                                                                                                                                                   | 80A                                                                                       | -                  | 45A               | -                                                                                         |                                                                                           |
| 30kW                                                           | -                                                                                                                                                                                   | 110A                                                                                      | -                  | 60A               | -                                                                                         |                                                                                           |
| 37kW                                                           | -                                                                                                                                                                                   | 130A                                                                                      | -                  | -                 | 75A                                                                                       |                                                                                           |
| 45kW                                                           | -                                                                                                                                                                                   | 160A                                                                                      | -                  | -                 | 90A                                                                                       |                                                                                           |
| 55kW                                                           | -                                                                                                                                                                                   | 200A                                                                                      | -                  | -                 | 110A                                                                                      |                                                                                           |
| 75kW                                                           | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 150A                                                                                      |                                                                                           |
| 90kW                                                           | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 180A                                                                                      |                                                                                           |
| 110kW                                                          | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 210A                                                                                      |                                                                                           |
| 132kW                                                          | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 250A                                                                                      |                                                                                           |
| 160kW                                                          | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 310A                                                                                      |                                                                                           |
| 185kW                                                          | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 340A                                                                                      |                                                                                           |
| 200kW                                                          | -                                                                                                                                                                                   | -                                                                                         | -                  | -                 | 380A                                                                                      |                                                                                           |
| Control Performance                                            |                                                                                                                                                                                     |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Motor type                                                     | Asynchronous motors<br>Permanent magnet synchronous motor<br>Synchronous reluctance motor                                                                                           | Asynchronous motors<br>Permanent magnet synchronous motor<br>Synchronous reluctance motor | Single phase motor |                   | Asynchronous motors<br>Permanent magnet synchronous motor<br>Synchronous reluctance motor | Asynchronous motors<br>Permanent magnet synchronous motor<br>Synchronous reluctance motor |
| Control mode                                                   | V/F control, open-loop vector control, closed-loop vector control, voltage-frequency separated control                                                                              |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Overload capacity                                              | 150% of rated load for 60s, 180% of overload capacity for 10s, 200% of overload capacity for 0.5s                                                                                   |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| System                                                         |                                                                                                                                                                                     |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Installation                                                   | Hitch mounting                                                                                                                                                                      |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Protection class                                               | IP20                                                                                                                                                                                |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Working temperature                                            | -10~60℃                                                                                                                                                                             |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Cooling method                                                 | Forced air cooling                                                                                                                                                                  |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Humidity                                                       | 20%~95%RH (condensation free)                                                                                                                                                       |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Installation environment                                       | Altitude lower than 1000m. Derate 1% for each 100m rise when above 1000m.No condensation, icing, rain, snow, hail, etc., solar radiation below 700W/m2, air pressure 70kPa ~ 106kPa |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Protection                                                     |                                                                                                                                                                                     |                                                                                           |                    |                   |                                                                                           |                                                                                           |
| Common protection                                              | Undervoltage / overvoltage                                                                                                                                                          | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Input/output phase loss                                                                                                                                                             | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Overload                                                                                                                                                                            | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Overcurrent                                                                                                                                                                         | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Drive overheat                                                                                                                                                                      | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Short circuit between phases and to ground                                                                                                                                          | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
| Specialized protection                                         | Low frequency                                                                                                                                                                       | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Pump overcurrent                                                                                                                                                                    | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Dryout                                                                                                                                                                              | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Min. power                                                                                                                                                                          | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
|                                                                | Overflow                                                                                                                                                                            | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |
| Sleep protection                                               |                                                                                                                                                                                     | √                                                                                         | √                  | √                 | √                                                                                         | √                                                                                         |

Plastic model



Steel model



| Model           | Overall dimension(mm) |     |       |     |     | Installation dimension(mm) |      |       |     |     | Installation aperture |
|-----------------|-----------------------|-----|-------|-----|-----|----------------------------|------|-------|-----|-----|-----------------------|
|                 | W                     | H   | H1    | D   | D1  | W1                         | W2   | H2    | A   | B   |                       |
| SI23-D1-R75G-A  | 76                    | 200 | 192   | 155 | 149 | 65                         | 65   | 193   | 5.5 | 4   | M4                    |
| SI23-D1-1R5G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D3-R75G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D3-1R5G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-SS2-R75G-A |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D5-R75G-A  | 100                   | 242 | 231   | 155 | 149 | 84                         | 86.5 | 231.5 | 8   | 5.5 | M4                    |
| SI23-D5-1R5G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D5-2R2G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D3-2R2G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D3-004G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-SS2-1R5G-A | 116                   | 320 | 307.5 | 175 | 169 | 98                         | 100  | 307.5 | 9   | 6   | M5                    |
| SI23-SS2-2R2G-A |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D5-004G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D5-5R5G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |
| SI23-D3-5R5G-A  |                       |     |       |     |     |                            |      |       |     |     |                       |

| Model           | Overall dimension(mm) |     |     |     |     | Installation dimension(mm) |     |       |     |   | Installation aperture |
|-----------------|-----------------------|-----|-----|-----|-----|----------------------------|-----|-------|-----|---|-----------------------|
|                 | W                     | H   | H1  | D   | D1  | W1                         | W2  | H2    | A   | B |                       |
| SI23-D3-7R5G-A  | 142                   | 383 | 372 | 225 | 219 | 125                        | 100 | 372   | 6   |   | M5                    |
| SI23-D3-011G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-SS2-7R5G-A |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-D5-015G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-D5-018G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-D5-022G-A  | 172                   | 430 | /   | 225 | 219 | 150                        | 150 | 416.5 | 7.5 |   | M5                    |
| SI23-D3-015G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-D3-018G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-D3-022G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-D5-030G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |
| SI23-T3-037G-A  |                       |     |     |     |     |                            |     |       |     |   |                       |

| Model          | Overall dimension (mm) |     |     |     | Installation dimension (mm) |     | Installation aperture |
|----------------|------------------------|-----|-----|-----|-----------------------------|-----|-----------------------|
|                | W                      | H   | H1  | D   | W1                          | H2  |                       |
| SI23-D3-030G-A | 240                    | 560 | 535 | 310 | 176                         | 544 | M6                    |
| SI23-D3-037G-A |                        |     |     |     |                             |     |                       |
| SI23-D3-045G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-045G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-055G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-075G-A | 270                    | 638 | 580 | 350 | 195                         | 615 | M8                    |
| SI23-D3-055G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-090G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-110G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-132G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-160G-A | 350                    | 738 | 680 | 405 | 220                         | 715 | M8                    |
| SI23-T3-185G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-200G-A |                        |     |     |     |                             |     |                       |
| SI23-T3-200G-A | 360                    | 940 | 850 | 480 | 200                         | 914 | M16                   |