



➤ **S100 series high performance VC control Frequency Inverter**

➤ **SG600 series MPPT Solar Pump Inverter**

## Company introduction:

SHENZHEN ZUNDRIVE AUTOMATIO CO., LIMITED ( hereinafter called ZUNDRIVE ) is a national Hi-Tech company which focus on automation control and renewable engineer solution.

We supply solar pumps inverter, kinds of motor variable speed drive, motor soft starter, renewable energy products etc. Our products are enjoy hot selling in India, Pakistan, Bangladesh, Egypt, Mexico, USA...

We introduce international leading motor control algorithm, and cooperated with national motor control research Institute too keep our technology on leading level. With decades experience of “DRIVE” technology and multi-industry application, we focus on the demands from end users and make our Drives more easy and adaptable.

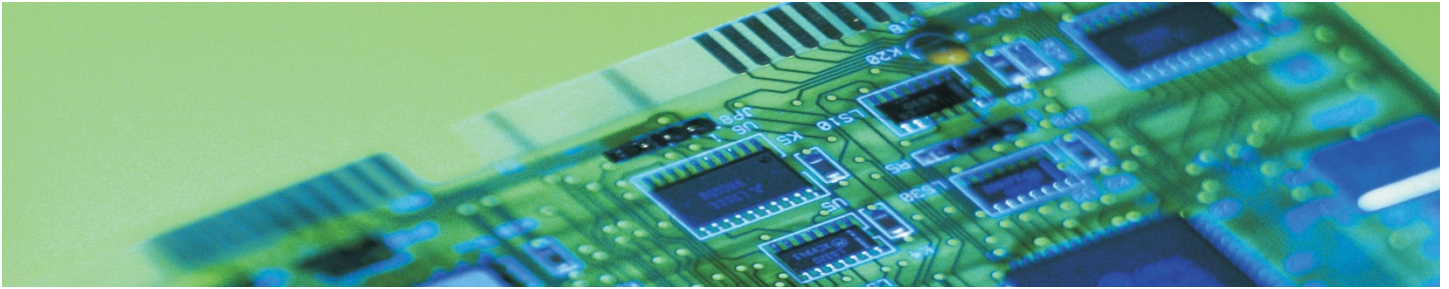
ZUNDRIVE brand high level frequency inverter, solar pump inverter with MPPT function etc, that are widely using in industrial automation, cement, textile, metallurgy, HVAC, oil & gas, water treatment, chemical , machine tools, hoisting, agriculture, farming, irrigation.

Dozens of sales center, warehouse and service center has been establishing in China that can provide quick response sales service and technical support. Now our overseas market are developing rapidly with excellent products and after service that including on-site service.

We are looking forward to cooperate with your kind company!



## General Purpose Frequency Inverter --- S100 series



S100 series is a high performance General Purpose Frequency Inverter with current vector control. It mostly used to control and adjust the speed and torque of the 3 phase induction motor and also PMSM. It adopts mature platform of software and hardware with a high level standard design.

Functional optimization, flexible application, stable performance, wide voltage range design. Match with RoHS standard, excellent EMC performance, high performance, high quality to make it more comfortable for using.

S100 adopts high performance VECTOR control technology, higher torque output in low speed. Good dynamic characteristics, super overload capacity to make it easy to meet the demands of variable applications.

### Main characteristics:

Hardware design	Excellent performance	High stability	Easy using
Optimized structural design with high level platform	Stability the speed, widen speed range	Long life design	Instantaneous stop constantly function
IGBT module equipped with full inverter	High speed output in vector control mode, fast dynamic response	New technology platform, big allowance derate design	Over excitation protection
Independent air duct design with good heat dissipation	Big torque in low speed, low torque impulse	Conformal coating PCB	V/F complete separation and half a separation
High EMC performance, small external disturbance, lower harmonic output	Speed tracking in hardware and software	Qualified temperature test	Pump and fan energy saving
CE, RoHS standard	Drive multiple motor type	Full protection function	Flexible terminal function
	High performance in auto tuning mode	Reliable thermal design	Built-in PID function

**Excellent product performance is mainly reflected in that high torque output at low frequency, high precision speed control and extremely high dynamic response**

**1. High start torque characteristic**

S100 inverter could provide 150% start torque at 0.5Hz (Sensorless VC control)

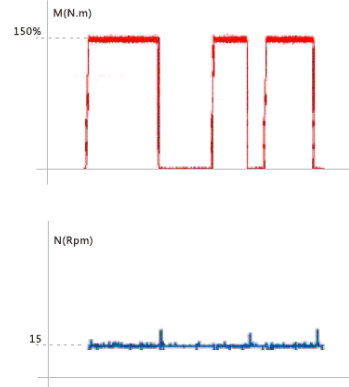
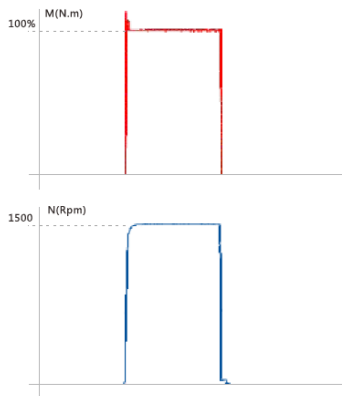
Provide 180% 0 speed torque at 0Hz(VC control with sensor)

**2. High precision control and extremely dynamic response**

Open-loop VC control, 50Hz with 100% load, 0.1S accelerate

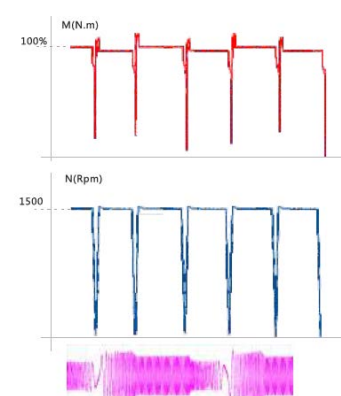
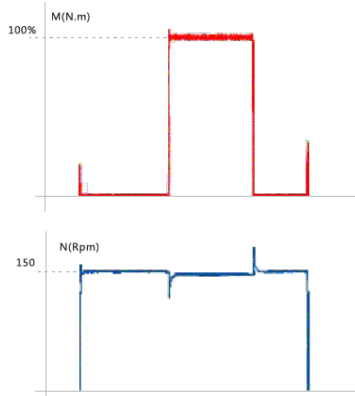
Fast response torque dynamic, high precision in speed control

Open-loop VC control, 5Hz with 150% load, high torque at low frequency


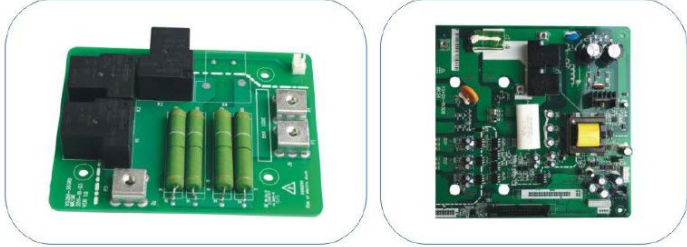

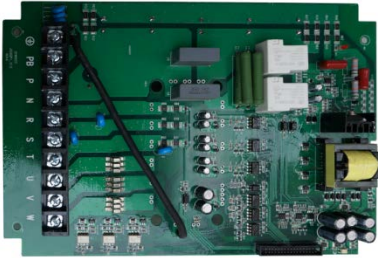

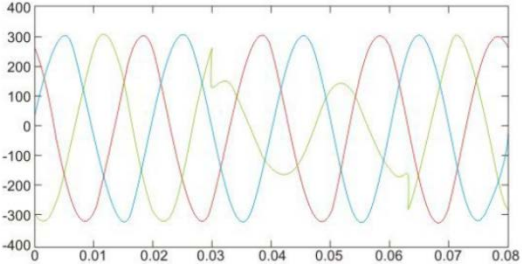


Open-loop VC control, 5Hz with 100% load, abrupt accelerate, and see its reaction capacity

Open-loop VC control, 50Hz with 100% load  
Torque waveform under switch of FWD and REV



## High quality hardware---quality guarantee

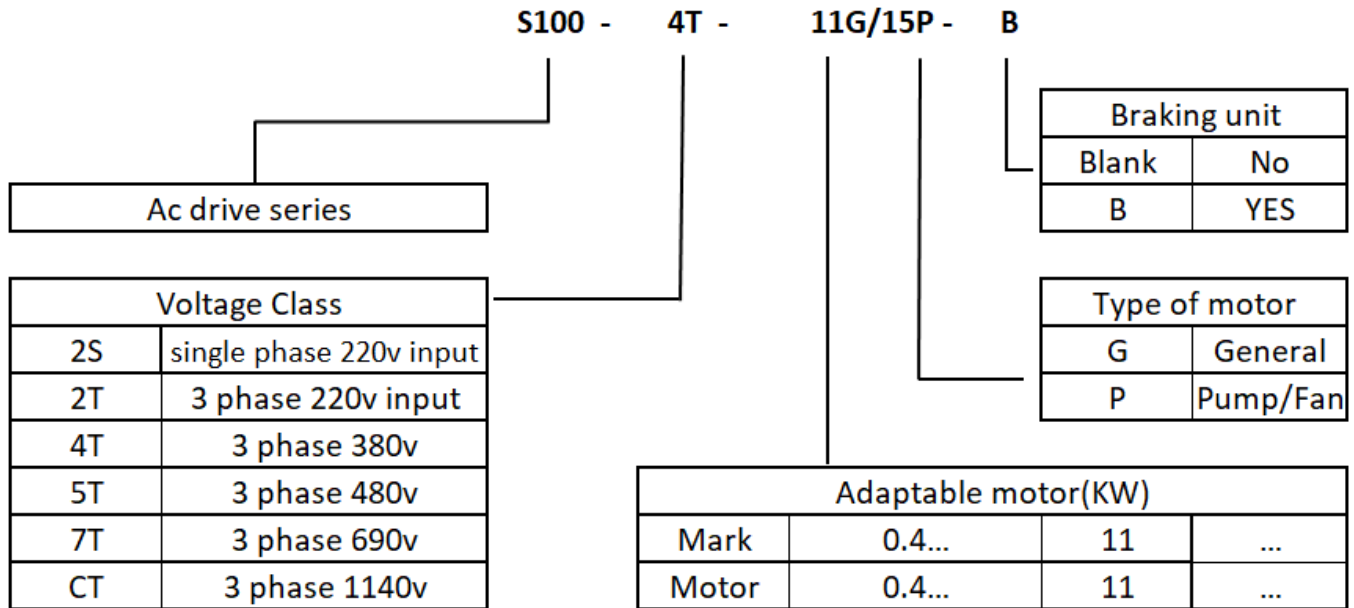
<p><b>INFINEON IGBT using</b> Using the latest generation of INFINEON brand which is the best choose for inverter application</p>	<p><b>Stronger protection</b> All-around test the components and temperature rise Output ground short circuit protection, relay (contactor) actuation fault protection, brake circuit over current, brake tube over load etc protection to improve the system security</p>
 <p>Infineon IGBT 01322 FF 200R12KS4</p>	
<p><b>Conformal coating with reliability and stabilization</b> Professional design with three proofing coating process, good EMC performance</p>	<p><b>Optimizing hardware design to reduce the fault</b> PCB board 4 layer design to reduce “fly” wire and improve stability. 3 current sensor enhance the output protection.</p>
	
<p><b>Longer life running</b> Quality components using to guarantee the inverter to have a longer life for work</p>	<p><b>Wide voltage design</b> Full consideration of the grid voltage fluctuation and unbalance</p>
	 <p>The graph shows a multi-phase AC waveform with a peak-to-peak amplitude of approximately 300V and a period of 0.02 seconds. The x-axis represents time from 0 to 0.08 seconds, and the y-axis represents voltage from -400 to 400.</p>

## Technical specification

Items		Specification		
Control mode	Control mode	V/F control	Sensorless in open loop	Close loop vector control
	Starting torque	0.5Hz 150%	0.5Hz 180%	0.00Hz 180%
	Speed adjust range	0: 50	1:100	1:1000
	Speed stabilizing precision	±1%	±0.1%	±0.02%
	Torque precision	NO	NO	±5%
	Motor type	General induction motor permanent magnet synchronous motor (PMSM)		
Function design	Highest frequency	General vector control :320Hz V/f control: 3200Hz		
	frequency resolution	Digital setting: 0.01Hz Analog setting:maximum×0.025%		
	Carrier frequency	0.5K ~ 16KHz, the carrier frequency can be adjusted by temperature automatically		
	Frequency reference setting method	Digital of Control panel, analog AI1, AI2, potentiometer of control panel, UP/DN control, communication, PLC pulse frequency		
	Acceleration./dec eleration characteristic	Linear curve and S curve accel. /decel. mode, range of time: 0.0 to 65000S.		
	V/F curve	3 mode: linear, multiple points, N Power		
	V/F separation	2 times separation: totally separation, half separation		
	DC braking	DC braking frequency: 0.0 to 300Hz, DC braking current: 0.0% to 100%		
	Braking unit	Standard built in for up to 4T22G (22kw), optional built it for 4T30G~ 4T110G (30kw to 110kw), external built for above 4T160kw .		
	Jog function	Job frequency range: 0.0 to 50.0Hz, the acceleration and deceleration time of Jog		
	Configured PID function	Easy to perform pressure, flow, temperature close loop control.		
	PLC multiple speed	To achieve 16 segment speed running through built in PLC or terminal control		
	Common Dc bus	Multiple drives use one DC bus for energy balance.		

Items		Specification
	Auto voltage regulation (AVR)	Enable to keep output voltage constant when grid fluctuation
	Over load tolerance capability	G type model: 150% rated current for 60s, 180% rated current for 3s, P type Model: 120% rated current for 60s, 150% rated current for 3s.
	Stall protection control when over current, over voltage	Carry out limiting automation for running current, voltage to prevent over current, over voltage frequently
	Rapid current limit function	Minimize the IGBT module broken to protect the AC Drive, maximum reduce the over current fault.
	Torque limit and torque control	"Excavator" characteristics , torque limit automatically during motor running. Torque control is available in close loop vector control mode.
Features	Friendly interface	Display "Hello" when power on.
	Multiple function key JOG button	It can set for Forward Jog, reverse Jog, forward/reverse switch
	Timing control function	A total running time and total running time calculating
	2 group motor parameters	To achieve two motor switchover freely, control mode is selectable
	Motor over heat protection	Accepting motor temperature sensor signal input via A11 terminals.
	Multiple kinds encoder *	Compatible collector PG, differential PG, and rotary transformer Encoder( resolver).
	Command source	Control panel, control terminals, series communication, switch freely.
	Frequency source	Digital setting, analog current/voltage, pulse setting, serial communication, main and auxiliary combination.
	Protection function	Short circuit detect when power on, input/output phase loss, over voltage, over current, under voltage, over heat, over load protection.
Environment	Application site	Indoor, free of exposure to sunlight, no dusty, no corrosive, no inflammable gas, no oil and water vapor, and water dipping
	Altitude	Lower 1000m
	Environment temperature	-10℃ ~ +40℃, power derated for 40~50℃, rated current derated 1% for 1℃ increasing.
	humidity	Less than 95%, no water condense.
	storage	-40 ~ +70℃
	IP degree	IP20

## The designation rules of S100 series:



## Models and specification:

### Single phase 220v, 50/60Hz

Model	KVA	Input current(A)	Output current(A)	Adaptable motor(KW)
S100-2S-0.4GB	1	3.4	2.1	0.4
S100-2S-0.7GB	1.5	5	3.8	0.75
S100-2S-1.5GB	3	5.8	5.1	1.5
S100-2S-2.2GB	4	10.5	9	2.2
S100-2S-4.0GB	5.9	14.6	13	4



**Three-phase 380v±20%, 50/60Hz**

Model	Power capacity (KVA)	Input current(A)	Output current(A)	Adaptable motor(KW)
S100-4T-0.7GB	1.5	3.4	2.1	0.75
S100-4T-1.5GB	3	5	3.8	1.5
S100-4T-2.2GB	4	5.8	5.1	2.2
S100-4T-4.0G/5.5PB	5.9	10.5	9	3.7
S100-4T-5.5G/7.5PB	8.9	14.6	13	5.5
S100T-4T-7.5G/11PB	11	20.5	17	7.5
S100-4T-11G/15PB	17	26	25	11
S100-4T-15G/18.5PB	21	35	32	15
S100-4T-18.5G/22PB	24	38.5	37	18.5
S100-4T-22G/30PB	30	46.5	45	22
S100-4T-30G/37P	40	62	60	30
S100-4T-37G/45P	57	76	75	37
S100-4T-45G/55P	69	92	91	45
S100-4T-55G/75P	85	113	112	55
S100-4T-75G/90P	110	153	150	75
S100-4T-90G/110P	130	182	180	90
S100-4T-110G/132P	160	214	210	110
S100-4T-132G/160P	192	232	253	132
S100-4T-160G/185P	200	290	304	160
S100-4T-185G/200P	220	330	340	185
S100-4T-200G/220P	250	360	380	200
S100-4T-220G/250P	280	385	426	220
S100-4T-250G/280P	355	437	470	250
S100-4T-280G/315P	396	498	530	280
S100-4T-315G/355P	455	586	600	315
S100-4T-355G/400P	500	624	660	355
S100-4T-400G/450P	560	680	690	400
S100-4T-450G/500P	630	755	770	450
S100-4T-500G/560P	700	840	860	500

## Applications:

S100 series frequency inverter are widely used in many industrial machinery, like textile machine (like spinning machine, dyeing machine), HVAC, conveyor, chemical etc also the energy saving for pump and fan.



## SG600 series Solar Pump Inverter



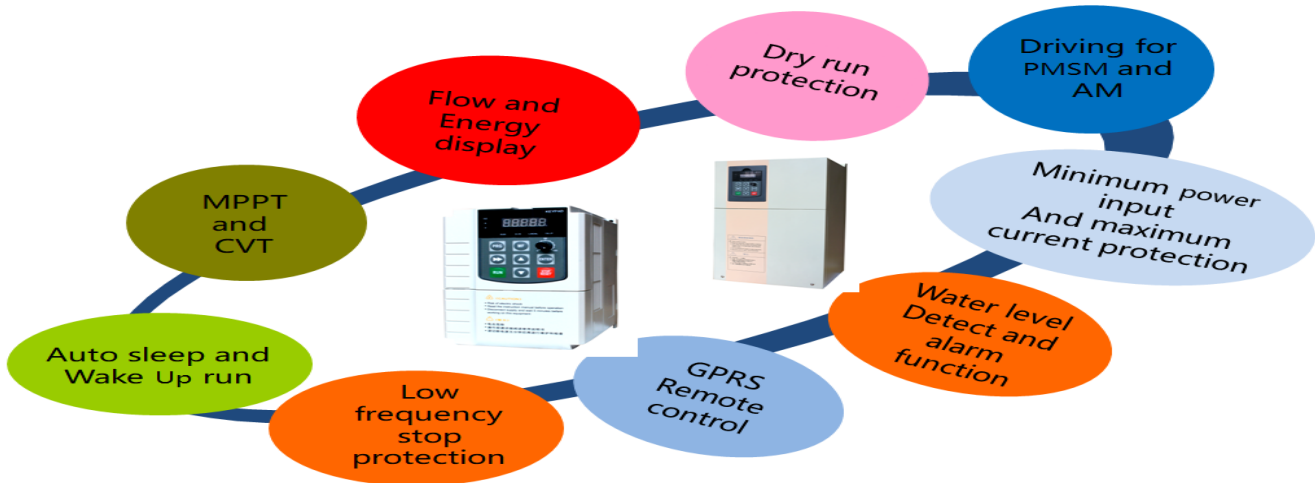
SG600 series solar pump inverter is based on S100 series frequency inverter and widely used for solar pump system.

Nowadays,SG600 are hot selling in the countries who are lack of water and want to use solar energy to get more water for home-use, irrigation, farming etc...

SG600 are suitable with the solar pump system well due to our experienced R&D team and customers. It always helps our agent/dealer to get a good reputation from their market, like USA, Middle East, Africa etc...

### Several advantages of SG600 solar pump inverter:

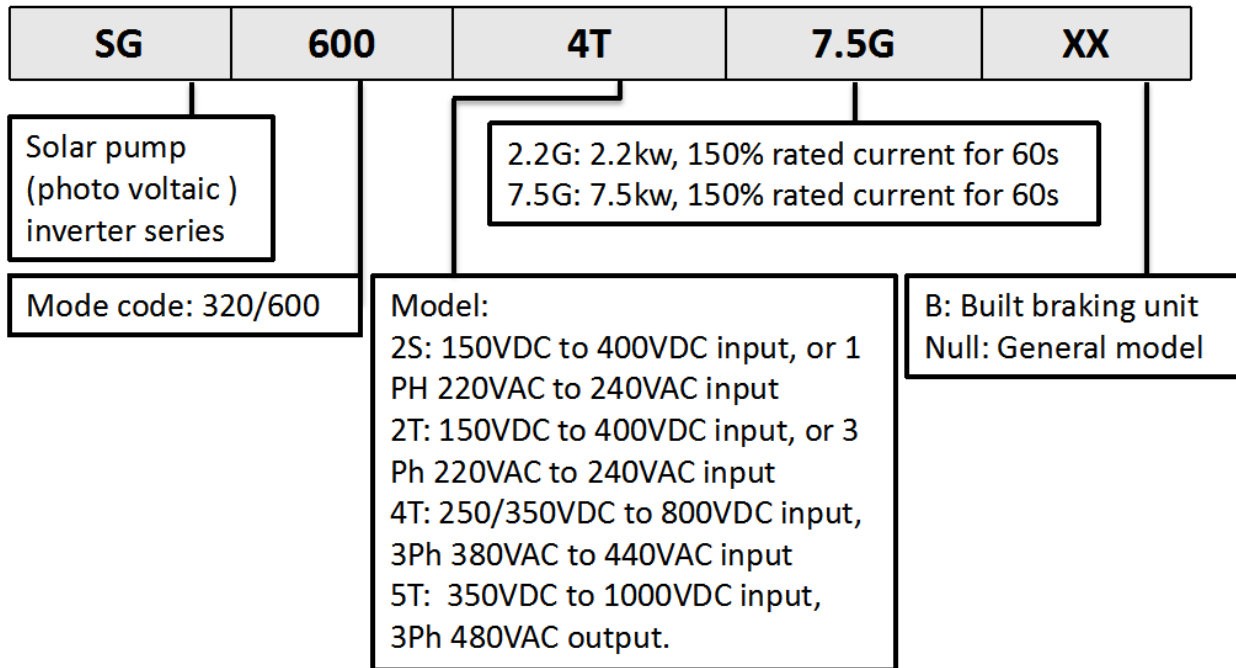
- ✧ Maximum power point tracking (MPPT) with fast response speed and stable operation
- ✧ Enable to drive for PMSM high speed and high efficiency pumps without motor ID auto tuning
- ✧ Dry run (under load ) protection, lowest speed auto tuning , Pumps maximum current protection, Minimum power input protection...
- ✧ The PQ (power/flow) performance curve enables to calculate the flow output from the pump
- ✧ Dual mode AC and DC power supply input is available
- ✧ Digital signal of water level sensor and analog signal of water level sensor for water tank fulling detect
- ✧ Dedicated hardware design with dual CPU, independent air duct design
- ✧ Import IGBT module such as Infineon, Fuji, TYCO to ensure good quality
- ✧ Enhanced lightning protection module
- ✧ GPRS remote control module for distance monitoring, control, parameters modification, and history data record..
- ✧ Efficiency is higher than 99.5%, power factory not less than 0.96 for below 15kw inverter



## Technical specification:

Recommended MPPT voltage range	Vmp 260 to 355VDC for 2S (150V to 450VDC input, 3PH 220 to 240VAC output) Vmp 486 to 650 VDC for 4T (250V to 800VDC input, 3PH 380 to 460VAC output)
Recommended input VOC and Vmp (voltage at Max Power point voltage)	VOC 372(VDC), Vmpp 310(VDC) for 2S model or 220V AC pumps VOC 648(VDC), Vmpp 540(VDC) for 4T model or 380V AC pumps
Motor type	Control for permanent magnet synchronous motor and asynchronous motor pumps.
Rated output voltage	3-Phase,110V/160V/220V. 3-phase, 220V/380V/460V
Output frequency range	0~maximum frequency 320Hz. Resolution 0.01 Hz
MPPT efficiency	99.7%, more efficiency if use to drive PMSM pumps
Ambient temperature range	G-type for submersible pumps, 150% rated current for 60s, 180% rated current for 2s . P type for general pumps, 120% rated current for 60s, 150% rated current for 2s
Solar pump control special performance	MPPT ( maximum power point tracking), CVT (constant voltage tracking), auto/manual operation, dry run protection, low stop frequency protection, minimum power input, motor maximum current protection, flow calculating, energy generated calculating and water tank level detected
Protection function	Phase loss protection, phase short circuit protection, ground to phase circuit protection , input and output short circuit protection. Stall protection, lightning protection
Protection degree	IP20, Air force cooling
Running mode	MPPT or CVT
Altitude	Below 1000m; above 1000m, derated 1% for every additional 100m.
Standard AC input backup circuit	CE, Design based on vector control drive S100 series, more specification please refer to S100 vector control drive operation manual
Auto stop and auto restart	Control by external switch, float switch, Rs485 communication. It will auto start at morning when get enough power from sunlight, and stop at sunset when power is less from solar panel under terminals control mode

## The designation rules of SG600 solar pump inverter:



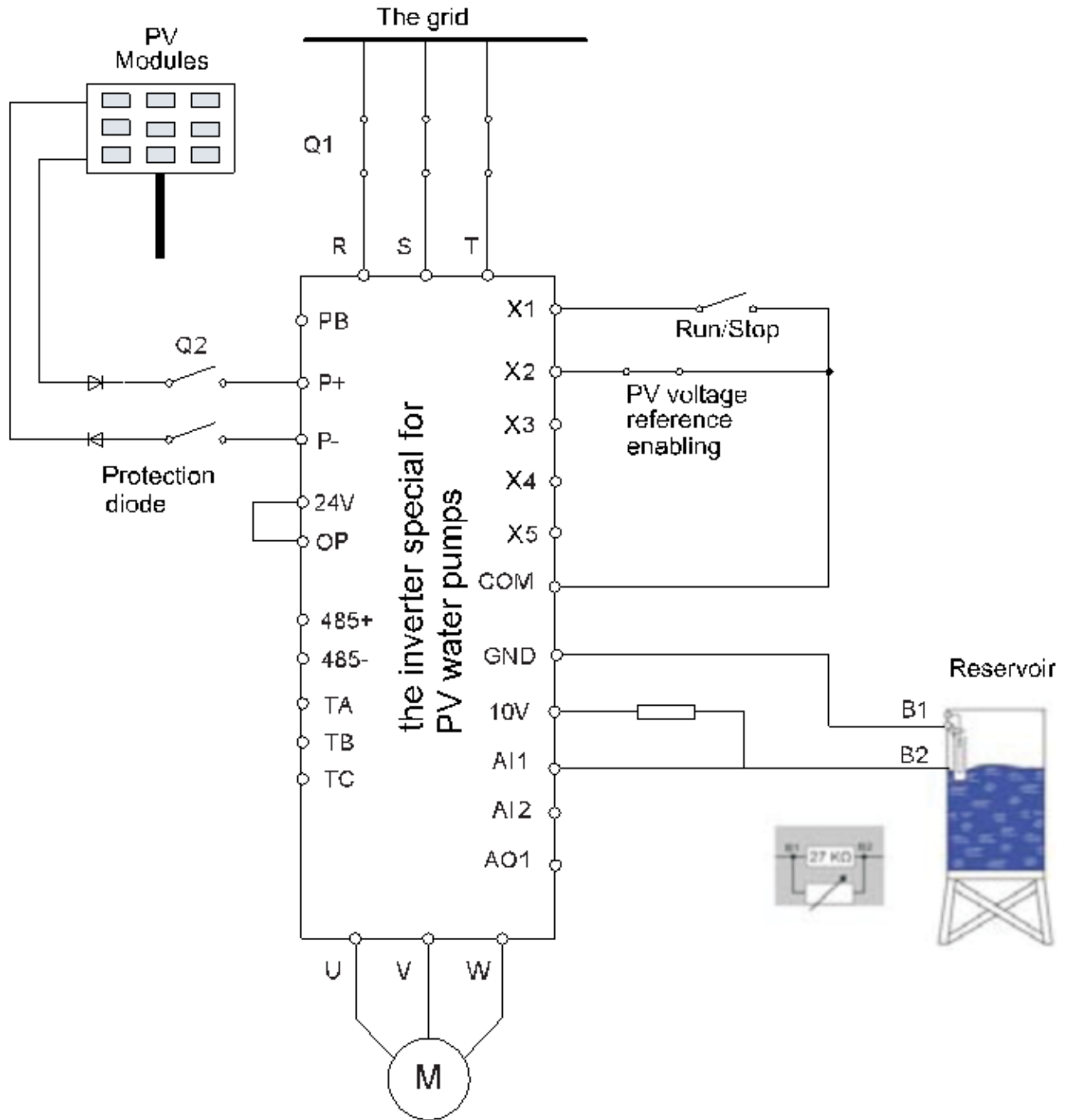
### SG600 solar pump inverter voltage range

Model	Applicable for pumps	Input DC voltage	Over voltage point	Under voltage point	Suggest Vmp	Suggest Voc
SG600-2S	For 220V AC	150V – 450V	450V	100V	310VDC	380VDC
SG600-4T	For 400V AC	250V– 800V	800V	200V	520VDC	650VDC

## Models and specification:

S N	Models	Rate curren t	Output voltage ( 3PH VAC)	Applicable for pumps	MPPT voltage (VDC)
General type: 2S, 150 to 450 VDC or 220/ 240VAC input, Vmp 310, Voc 380					
7	SG600-2S-0K7GB	3.8A	220V/240V	0.75KW	260 to 375
8	SG600-2S-1K5GB	7A	220V/240V	1.5KW	260 to 375
9	SG600-2S-2K2GB	9A	220V/240V	2.2KW	260 to 375
10	SG600-2S-4K0GB	17A	220V/240V	4.0KW	260 to 375
General type: 4T, 250/350 to 800 VDC or 380/ 440VAC input, Vmp520, Voc650					
11	SG600-4T-0K7GB	2.3A	380V-440V	0.75KW	486 to 750
12	SG600-4T-1K5GB	3.8A	380V-440V	1.5KW	486 to 750
13	SG600-4T-2K2GB	5.1A	380V-440V	2.2KW	486 to 750
14	SG600-4T-4K0GB	9A	380V-440V	4.0KW	486 to 750
15	SG600-4T-5K5GB	13A	380V-440V	5.5KW	486 to 750
16	SG600-4T-7K5GB	17A	380V-440V	7.5KW	486 to 750
17	SG600-4T-011GB	25A	380V-440V	11KW	486 to 750
18	SG600-4T-015GB	32A	380V-440V	15KW	486 to 750
19	SG600-4T-018GB	37A	380V-440V	18KW	486 to 750
20	SG600-4T-022GB	45A	380V-440V	22KW	486 to 750
21	SG600-4T-030G	60A	380V-440V	30KW	486 to 750
22	SG600-4T-037G	75A	380V-440V	37KW	486 to 750
23	SG600-4T-045G	91A	380V-440V	45KW	486 to 750
24	SG600-4T-055G	110A	380V-440V	55KW	486 to 750
25	SG600-4T-075G	150A	380V-440V	75KW	486 to 750
26	SG600-4T-090G	180A	380V-440V	90KW	486 to 750
27	SG600-4T-110G	220A	380V-440V	110KW	486 to 750

**Diagram for SG600:**



## Applications:

SG600 series solar pump inverter are widely used in Solar Pump System which are popular in irrigation, agriculture, fountain and as a key part of whole system controller.





**Please feel free to contact with us for any enquiry or question:**

**SHENZHEN ZUNDRIVE AUTOMATION CO.,LTD**

Address: No.47 YangTanShan Road,Bao'an District,ShenZhen,China 518000

Tel/Fax:+86-0755-23283620 +8613424310478

Email: [serive@zundrive.com](mailto:serive@zundrive.com)

Web: [www.zundrive.com](http://www.zundrive.com)