Model # SVD-125K3, 125HP/93KW, 3-Ph, 380/400/415V AC, Water Pumping System

Product Description:

Magnizon SVD-125K3 is 125HP/93KW Smart VFD based solar pump inverter, efficiently drives the pump motors by advanced maximum Power Point Tracking (MPPT) technology. Magnizon solar inverters support solar panel input, and AC main power or generator input. It can work 24hours with enough power support in hybrid mode. 100% compliance with CE safety/EN/IEC 60068-2-27. Compatible with all kinds of motors & pumps including asynchronous & synchronous, submersible and surface mount.

Application:

Existing AC motor based systems can be used: Conventional AC induction motors are generally used for water pumping system, so with this advancement in technology there is no need to replace the existing pump/motor/pipes/cables. Simply user can add Solar Panel & controller to run existing AC motor during day time and at night Grid power can be used (dual input systems).

Key Features:

- With no water alarm, timing to restart functions .When the pool have no water, the will stop, and then it will restart after interval set or water level raises to safe level.
- When the pool is full, the solar inverter automatically stop, and it will show it in solar inverter`s panel.
- Reliable: Solar inverter power supply are seldom used in the moving parts, the work is reliable
- Safety: No other public nuisance. Don't have any solid, liquid and gas harmful substances, absolutely environmental protection.
- Easy installation and maintenance, suitable for unattended or automatic running needs, etc
- Good compatibility, Solar power generation can be used with other energy, also can according to the need to make the solar system easily expanded
- Input voltage: DC 100V~800V (3-Ph pumps)
- Input frequency range： 0～400Hz
- Control mode： V/F control mode
- Carrier frequency setting： 1kHz～15kHz.
- Input frequency resolution： digital setting ：0.01Hz；analogue setting：Max frequency×0.1%
- Starting torque： 0.5Hz/150%
- Overload capacity：150% Rated current-60s；180% Rated current-10s
- Torque boost :0.1%～50.0%
- V/F curve: liner type； multipoint type
- JOG control： JOG frequency range： 0.00Hz～50.00Hz；
  JOG acceleration and deceleration time 0.0s～6500.0s
- PLC Multi-speed running: By built-in PLC
- Built-in PID： Easy to realize process control closed loop control system
- Automatic voltage regulation(AVR): When voltage change, it can automatically maintain constant output voltage
- Over voltage and over current loss of speed control: During the inverter running ,the current automatic voltage limit, to prevent frequent trip through the pressure
- Communication methods : RS-485

Product Range:

SN	Models	Rate current	Output voltage (3PH VAC)	Applicable for pumps	Packing size	MPPT voltage (VDC)	GW Kgs
1	SVD-001K3	2.5A	0-440V	0.75KW	215*170*190	486 to 650	1.5
2	SVD-002K3	3.7A	0-440V	1.5KW	280*180*215	486 to 650	3
3	SVD-003K3	5A	0-440V	2.2KW	280*180*215	486 to 650	3
4	SVD-005K3	10A	0-440V	4.0KW	280*180*215	486 to 650	3
5	SVD-007K3	13A	0-440V	5.5KW	320*215*250	486 to 650	4.3
6	SVD-010K3	17A	0-440V	7.5KW	320*215*250	486 to 650	4.5
7	SVD-015K3	25A	0-440V	11KW	390*275*285	486 to 650	6.5
8	SVD-020K3	32A	0-440V	15KW	390*275*285	486 to 650	6.6
9	SVD-025K3	38A	0-440V	18.5KW	445*205*315	486 to 650	12
10	SVD-030K3	45A	0-440V	22KW	445*205*315	486 to 650	12
11	SVD-040K3	60A	0-440V	30KW	545*395*370	486 to 650	16
12	SVD-050K3	75A	0-440V	37KW	660*420*415	486 to 650	16
13	SVD-060K3	90A	0-440V	45KW	660*420*415	486 to 650	27
14	SVD-080K3	120A	0-440V	60KW	700*480*410	486 to 650	35
15	SVD-100K3	150A	0-440V	75KW	700*480*410	486 to 650	35
16	SVD-125K3	170A	0-440V	93KW	700*480*490	486 to 650	53
17	SVD-150K3	210A	0-440V	110KW	700*480*490	486 to 650	56
18	SVD-180K3	260A	0-440V	132KW	780*540*510	486 to 650	71
19	SVD-220K3	300A	0-440V	160KW	780*540*510	486 to 650	72
20	SVD-250K3	340A	0-440V	185KW	1130*580*570	486 to 650	149
21	SVD-275K3	380A	0-440V	200KW	1130*580*570	486 to 650	180

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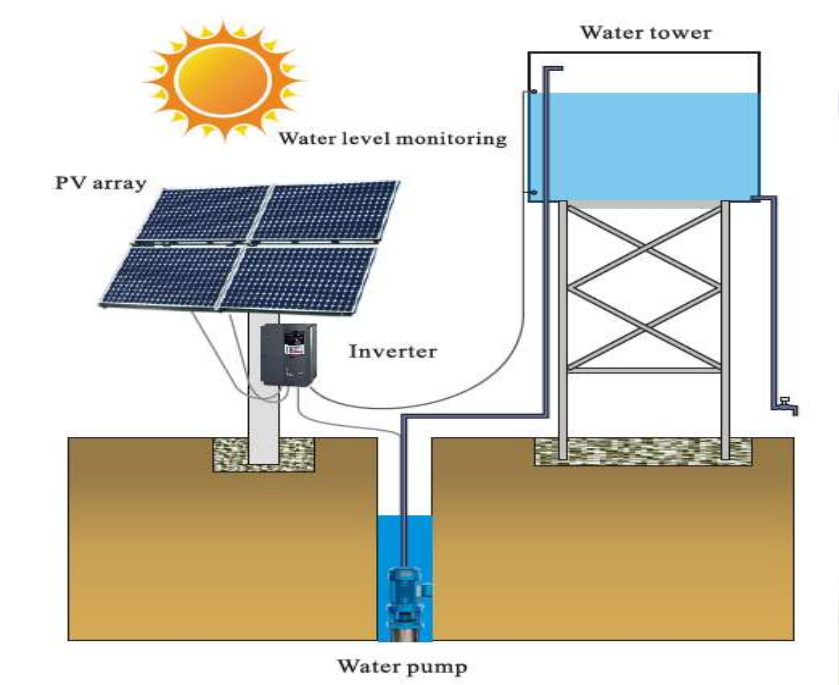
System Layout:



Specifications:

Recommended MPPT voltage range	Vmp 486 to 650 VDC For driving >380VAC pumps
Recommended input Voc and Vmpp voltage	Voc 620(VDC), Vmpp 540(VDC) for > 380V AC pumps
Motor(pump) type	Control for permanent magnet synchronous motor (PMSM)and asynchronous motor pumps (all type 3 phase induction motor)
Rated output voltage	3-Phase,110V/160V/220V. 3-phase, 220V/380V/460V
Output frequency range	0~Maximum frequency 400Hz.
Efficiency	99.2 to 99.6%
Over load capacity	For submersible pumps, 150% rated current for 60s, 180% rated current for 3s For surface pump, 120% rated current for 60s, 150% rated current for 2s.
Solar pump control special performance	MPPT (maximum power point 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.

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Protection function	Phase loss protection, phase short circuit protection, ground to phase circuit protection, input and output short circuit protection. Stall protection, lightning protection, over heat protection.
Protection degree	IP20, Air force cooling
Running mode	MPPT or CVT
Altitude	Below 1000m; above 1000m, de-rated 1% for every additional 100m.
Standard **AC input backup circuit**	CE, Design based on AD800 series high performance inverter, more specification please refer to AD800 series vector control inverter operation manual

Control mode	**Control mode**	**SVC in open loop**	**V/F control**	**Close loop vector control***
	Starting torque	0.5Hz 180%	0.5Hz 150%	0.00Hz 180%*
	Speed adjust range	1:100	1:100	1:1000*
	Speed stabilizing precision			±0.02%*
	Torque precision	NO	NO	±5%
	Motor type	General induction motor, Permanent magnet synchronous motor (PMSM)*		
Function design	**Highest frequency**	General vector control :400Hz V/f control:4000Hz		
	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./deceleration 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 4T22GB(22kw), optional built it for 4T37G～4T75G (18.5kw to 75kw), external built for above 4T93G (95kw).		
	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.		

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	PLC multiple speed	To achieve 16 segment speed running through built in PLC or terminal control
	Common Dc bus	Multiple inverters use one DC bus for energy balance.
	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 inverter, 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 AI1 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 de-rated for 40～50℃, rated current de-rated 1% for 1℃ increasing.
	humidity	Less than 95%, no water condense.
	Compliance standards	EN61800-5-1, EN61800-3:2004+A1:2012, EN55011:2016, EN61000-3-2:2014, EN61000-4-4:2012, EN61000-4-8:2010, EN61000-4-6:2014, IEC62253:2011; EN62253:2012
	Quality Standards	ISO9001:2015, ISO:14001-:2015, RoHs, CE

	Warranty	5 years

System Schematics: