

smart
technology systems

MPPT Solar pumping inverter

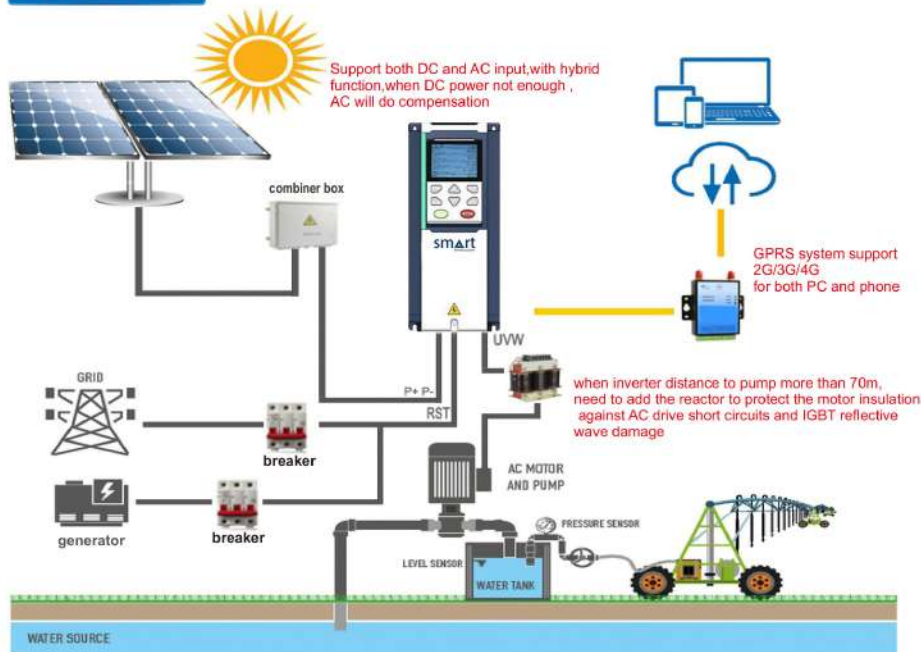
new generation

- 1-AUTO MPPT >%99
- 2-SMART DISPLAY
- 3-AC/DC HYBRID FUNCTION
- 4-REMOTE MONITORING AND CONTROL (GPRS)



MPPT Solar pumping inverter

Model reference



Electrical Specifications

Voltage	220V	380V
Max input DC voltage	450V	800V
Recommended MPPT voltage range	250~350VDC	600~650VDC
Recommended input voltage	305V	530V
MPPT efficiency	99%	
Input channel	2	
Rated output voltage	3-phase 220VAC	3-phase 380VAC
Output frequency range	0~60Hz	
Max efficiency of the machine	99%	
Ambient temperature range	-10 °C~50 °C, derating if the temperature is above 40 °C	
Cooling method	Air cooling	
Protection degree	IP20/IP68 (with cabinet)	
Altitude	Below 1000m; above 1% for every additional 100m.	
Standard	CE	

Model Range

Drive Model	Related Voltage	Max DC input voltage (V)	Rated output current (A)	Applicable water pump (KW)	SIZE	Inverter photo
VFD500M-20T00150-PV	220V	800	7	1.5	SIZE A	
VFD500M-20T00220-PV	220V	800	10.6	2.2	SIZE A	
VFD500M-40T00150-PV	380V	800	4.2	1.5	SIZE A	
VFD500M-40T00220-PV	380V	800	6	2.2	SIZE A	
VFD500-20T00150-PV	220V	800	7	1.5	SIZE A	
VFD500-20T00220-PV	220V	800	10.6	2.2	SIZE A	
VFD500-20T00400-PV	220V	800	17	4	SIZE A	
VFD500-40T00150-PV	380V	800	4.2	1.5	SIZE A	
VFD500-40T00220-PV	380V	800	6	2.2	SIZE A	
VFD500-40T00400-PV	380V	800	9.4	4	SIZE A	
VFD500-40T00550-PV	380V	800	13	5.5	SIZE B	
VFD500-40T00750-PV	380V	800	17	7.5	SIZE B	
VFD500-40T01100-PV	380V	800	25	11	SIZE C	
VFD500-40T01500-PV	380V	800	32	15	SIZE C	
VFD500-40T01850-PV	380V	800	38	18.5	SIZE D	
VFD500-40T02200-PV	380V	800	46	22	SIZE D	
VFD500-40T03000-PV	380V	800	60	30	SIZE E	
VFD500-40T03700-PV	380V	800	75	37	SIZE E	
VFD500-40T04500-PV	380V	800	96	45	SIZE F	
VFD500-40T05500-PV	380V	800	112	55	SIZE F	
VFD500-40T07500-PV	380V	800	150	75	SIZE G	
VFD500-40T09000-PV	380V	800	176	90	SIZE G	
VFD500-40T11000-PV	380V	800	210	110	SIZE H	
VFD500-40T13200-PV	380V	800	253	132	SIZE I	
VFD500-40T16000-PV	380V	800	304	160	SIZE I	
VFD500-40T18500-PV	380V	800	340	185	SIZE J	
VFD500-40T20000-PV	380V	800	377	200	SIZE J	

LED & LCD keypad



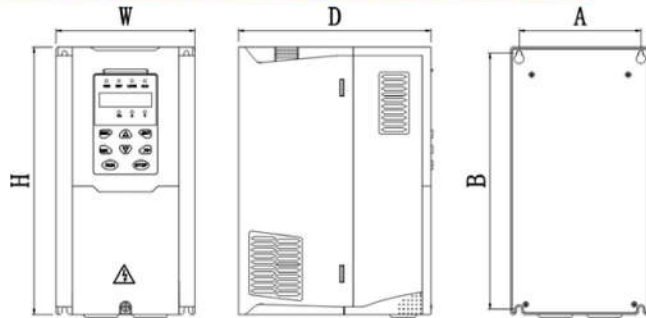
- 1, Standard inverter are with LED keypad, LCD keypad is optional.
- 2, LCD keypad can monitor 4 parameters at the same time, LED keypad show one parameter only.
- 3, LCD keypad with detailed parameter explain, no need use user manual, more user friendly.
- 4, LCD keypad with copy and update and download function, widely used for government projects and big farms.



customized solar pump control panel

MPPT Solar pumping inverter

Appearance and Mounting Hole Dimension



SIZE	Appearance and installation dimension mm							
	A	B	H	H1	W	D	Φd	Mounting screws
SIZE A	87	206.5	215	/	100	170	ø5.0	M4X16
SIZE B	114	239.5	250	/	130	180	ø5.0	M4X16
SIZE C	159	298	310	/	180	193	Ø6.0	M5X20
SIZE D	165	350	365		210	205	Ø6.0	M5X20
SIZE E	170	437	452.5		260	230	Ø7.0	M6X16
SIZE F	250	535	555		310	275	Ø10.0	M8X20
SIZE G	280	620	640		350	290	Ø10.0	M8X20

Electrical Specifications



Commercial/Agricultural irrigation system



Agricultural and animal husbandry water supply system



Barren hills governance system



Agricultural greenhouse water supply system



Landscape fountain system



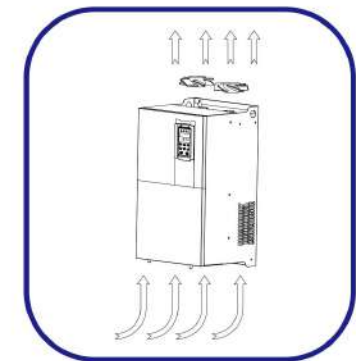
Solve water short problem

Key features

- Maximizing power generation efficiency of solar modules with the use of advanced MPPT control technology and automatic MPPT voltage tracking
- Adjust water outflow of pumps quickly on basis of sunlight intensity change
- Automatic hibernation and wake up
 - (1) Hibernate at high water level and wake up at low water lever
 - (2) Hibernate at sunrise and sunset and wake up at strong sunlight
- Built-in C3 EMC filter and DSP technology and Infineon PIM design, with functions of light weak protection, dry run and low voltage, full water warning, overvoltage and overtemperature protection
- Advanced calculation for Pump flow and LCD monitoring display
- Automatic running without any commissioning in keypad control and GPRS monitoring option (as option)
- Dual supply capability with change over switch - solar and grid compatible

Independent duct design

- ▶ Independent air duct design, effectively preventing dust entering inverter, causing short-circuit and other faults and improving reliability
- ▶ Use bigger air volume and long life cooling fan effectively reduces the internal temperature rise of the inverter and ensures reliable and stable operation of inverter.



Perfect protection system

- ▶ Designed for 10 years of maintenance-free operation.
- ▶ Cooling fan, capacitors, relays, and IGBTs have been carefully selected and designed for a life expectancy up to ten years.

* Assumes the drive is running continuously for 24 hours a day at 80% load with an ambient temperature of 40



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Optional GPRS monitoring device

- * SMART solar pump inverter GPRS system is a professional monitoring system platform managing solar pump plants.
- * It supplies water volume monitoring and operation of inverter from anywhere at anytime.
- * It's convenient to visit real time and historical data via web or IOS & Android APP anytime and anywhere.
- * This easy-to-use platform make monitoring of solar pump systems simple and convenient, far reducing operate time and monitoring costs as well.



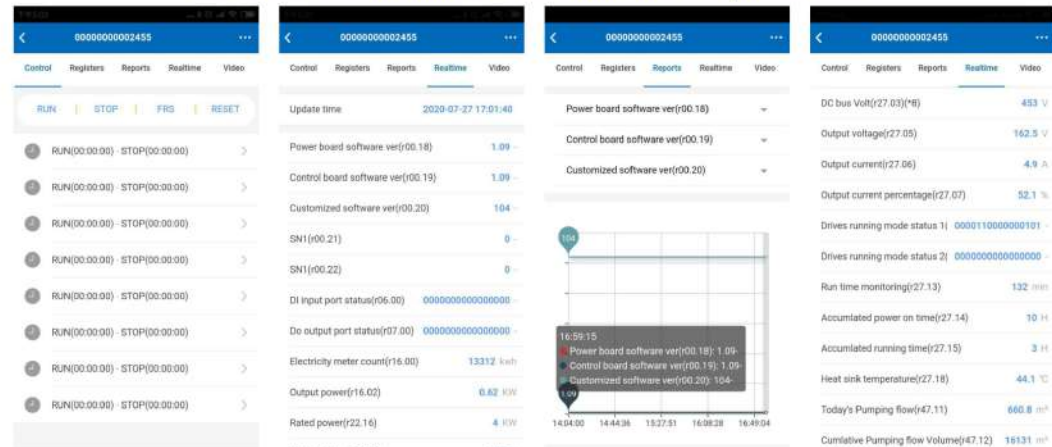
GPRS operation



Remote control and monitor from PC side

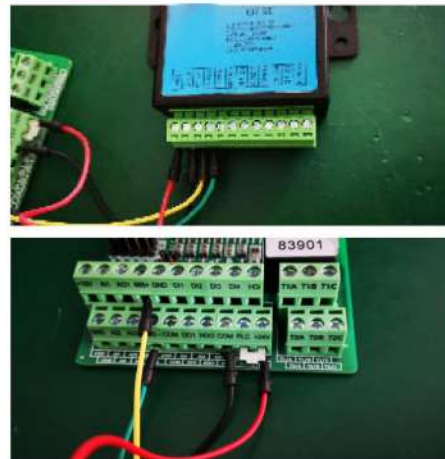


Remote control and monitor from mobile phone side



Installation and terminal connection

terminal	drive	Gprs module
Power terminal	24+	VCC
		COM GND
Communication terminal	485+	TX1/A1+
	485-	RX1/B1-



Optional output reactors

AC Output Reactor(Choke)



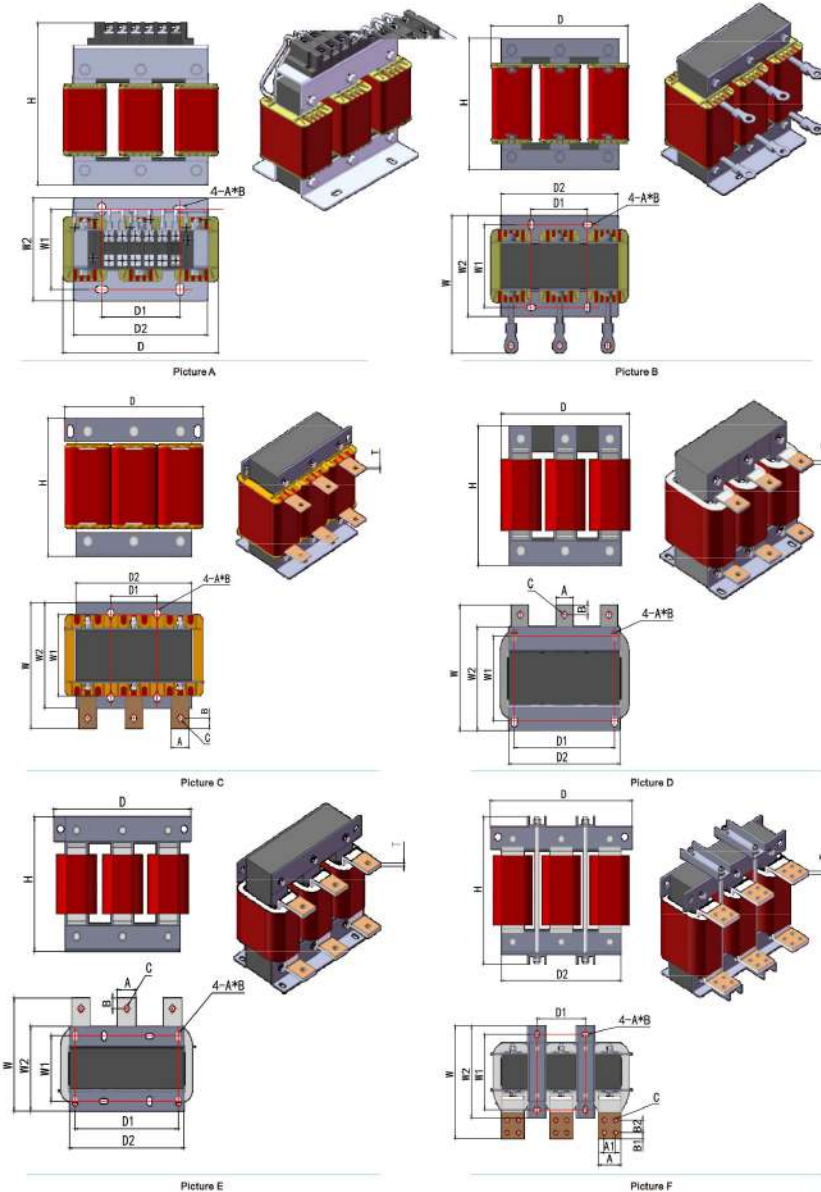
Product Profile

Smoothing circuit, efficient from IGBT motor drives, so as to extending service life of electric motors. Reduce motor noise and eddy loss. Reduce the leakage current resulted from the output of high harmonic. Protect the electronic power switch within the inverters.

Product Features

Selection of silicon steel, ferrite magnetic material of amorphous core according to the frequency of application ;Excellent property due to foil winding structure, small DC resistance .strong resistance .strong resistance to electromagnetic force, good overload ability in short time ; First class insulation materials are used .which ensure products maintain reliable performance in harsh working conditions; Designed with low magnetic flux density ,the reactor is of high linearity, powerful overload capacity .More over, combined with VPI process, the noise is low.

Product Size



380V AC output reactor (2% impedance)selection table

Type	Power (kw)	Inductance Value (mH)	Current (A)	Weight (kg)	Dimension 尺寸(mm)										Connection		Linear aperture	Pic. NO.
					D(Max)	D1±1	D2±2	W±10	W1±1	W2±2	H (Max)	A*B	Terminal	Cu flat				
VKS-OCL-0005-CL/4-2	1.5	2.80	5	1.3	100	35	80	/	59	77	125	7x12	√	/	/	A		
VKS-OCL-0007-CL/4-2	2.2	2	7	1.4	100	35	80	/	59	77	125	7x12	√	/	/	A		
VKS-OCL-0010-CL/4-2	3.7	1.4	10	1.5	100	35	80	/	59	77	125	7x12	√	/	/	A		
VKS-OCL-0015-AL/4-2	5.5	0.93	15	2.5	150	70	120	/	72	92	150	7x12	√	/	/	A		
VKS-OCL-0020-AL/4-2	7.5	0.70	20	2.5	150	70	120	/	72	92	150	7x12	√	/	/	A		
VKS-OCL-0030-AL/4-2	11	0.47	30	3.5	180	70	145	/	68	88	170	7x12	√	/	/	A		
VKS-OCL-0040-AL/4-2	15	0.35	40	5	180	70	145	/	81	101	170	7x12	√	/	/	A		
VKS-OCL-0050-AL/4-2	18.5	0.28	50	5	180	70	145	130	81	101	135	7x12	√	/	/	B		
VKS-OCL-0060-AL/4-2	22	0.24	60	6.5	180	70	145	140	90	110	145	7x12	√	/	/	B		
VKS-OCL-0080-AL/4-2	30	0.17	80	9	210	80	170	155	91	111	160	7x12	√	/	/	B		
VKS-OCL-0090-AL/4-2	37	0.16	90	9	210	80	170	155	91	111	160	7x12	√	/	/	B		
VKS-OCL-0120-AL/4-2	45	0.12	120	13	245	80	200	160	94	130	210	12x20	√	30*13	φ11	C		
VKS-OCL-0150-AL/4-2	55	0.095	150	15	245	80	200	160	94	130	210	12x20	√	30*13	φ11	C		
VKS-OCL-0200-AL/4-2	75	0.07	200	20	245	80	200	185	120	156	210	12x20	√	30*13	φ11	C		
VKS-OCL-0240-AB/4-2	90	0.056	240	25	240	180	200	195	132	162	220	11x20	√	30*7	φ11	D		
VKS-OCL-0250-AB/4-2	110	0.056	250	25	240	180	200	195	132	162	220	11x20	√	30*7	φ11	D		
VKS-OCL-0290-AB/4-2	132	0.048	290	31	310	225	250	215	122	158	255	12x20	√	40*8	φ13	E		
VKS-OCL-0330-AB/4-2	160	0.042	330	32	310	225	250	215	122	158	255	12x20	√	40*8	φ13	E		
VKS-OCL-0390-AB/4-2	187	0.036	390	42	310	225	250	220	125	161	285	12x20	√	40*8	φ13	E		
VKS-OCL-0490-AB/4-2	220	0.028	490	45	310	225	250	220	125	161	285	12x20	√	40*8	φ13	E		
VKS-OCL-0530-AB/4-2	250	0.026	530	42.5	310	225	250	220	125	161	285	12x20	√	40*8	φ13	E		
VKS-OCL-0600-AB/4-2	280	0.023	600	55	310	225	250	245	145	181	280	12x20	√	40*9	φ13	E		
VKS-OCL-0660-AB/4-2	315	0.021	660	55	310	225	250	245	145	181	280	12x20	√	40*9	φ13	E		
VKS-OCL-0800-AB/4-2	380	0.0175	800	85	390	130	320	305	230	270	400	12x20	√	50*11	2-φ11	G		
VKS-OCL-1000-AB/4-2	450	0.014	1000	85	390	130	320	305	230	270	400	12x20	√	50*11	2-φ11	G		
VKS-OCL-1250-AB/4-2	550	0.011	1250	110	385	130	320	305	210	250	470	12x20	√	60*13	4-φ13	F		
VKS-OCL-1600-AB/4-2	630	0.009	1600	110	385	130	320	305	210	250	470	12x20	√	60*15	4-φ13	F		

Note: (1) Picture C (Tolerance) D: max D1: ±1 D2: ±2 W: max W1: ±2 W2: ±2 H: max H1: ±5 H2: ±5 E: ±10, (others): 0.5mm;
 Picture D (Tolerance) D: max D1: ±1 D2: ±2 W: max W1: ±2 W2: ±2 H: max H1: ±5 H2: ±5 E: ±10, (others): 0.5mm;
 (2) Can be customized.
 (3) Class H Can be customized.