



# YOUR BEST CHOICE FOR AC STORAGE, HYBRID SOLUTIONS AND STRING INVERTERS



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Shenzhen SOFARSOLAR Co.,Ltd.

# MASS ENERGY INVERTER Single Phase Inverter

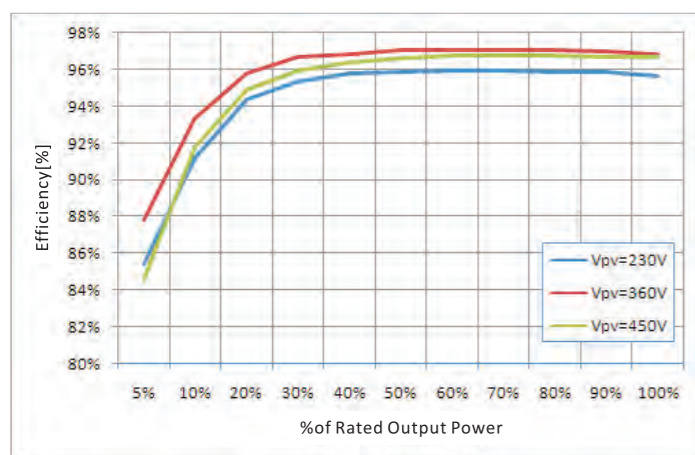
1100TL/1600TL/2200TL/2700TL/3000TL



## Datasheet

	SOFAR 1100TL	SOFAR 1600TL	SOFAR 2200TL	SOFAR 2700TL	SOFAR 3000TL
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<b>Input(DC)</b>					
Max. Input Power	1200W	1800W	2400W	2900W	3300W
Number of MPPT/String per MPPT	1/1				
Max. input voltage	450V		500V		
Start-up input voltage	100V		120V		
Rated input voltage	360V				
MPPT voltage range	80-450 V		100-500 V		
Full load DC voltage range	110-450 V	165-450 V	170-500 V	200-500 V	
Max. input current	10A		13A	13.5A	15A
<b>Output(AC)</b>					
Rated Power	1000W	1550W	2100W	2600W	3100W
Max. AC Power	1000VA	1550VA	2100VA	2600VA	3100VA
Max.AC Output Current	4.5A	7A	9.5A	11.5A	13A
Nominal Grid Voltage	230V				
Grid Voltage Range	180~270 V(According to local standard)				
Nominal Frequency	50/60Hz				
Grid frequency Range	47~53 / 57~63Hz (According to local standard)				
THDi	<3%				
Power factor	1 ( adjustable +/-0.8)				
Grid connection	Single phase				
Power Limit export	Zero export or adjustable power limit export				
<b>Efficiency</b>					
Max. efficiency		97%		97.1%	97.2%
Euro efficiency	95.2%	95.9%	96.1%	96.4%	96.5%
MPPT adaptation efficiency	>99.9%				
<b>Standard</b>					
EMC	EN 61000-6-1,EN 61000-6-2,EN 61000-6-3,EN 61000-6-4				
Safety standards	IEC 62116,IEC 61727,IEC 61683,IEC 60068(1,2,14,30),IEC62109-1/2				
Grid standards	AS 4777, VDE V 0124-100, VDE V 0126-1-1, VDE-AR-N 4105, EN50438, G83/2, C10/11, RD1699				
<b>Protection</b>					
Anti-Islanding Protection	Yes				
DC Reverse Polarity Protection	Yes				
Over Temp Protection	Yes				
Leakage Current Protection	Yes				
Over Voltage Protection	Yes				
Over Current Protection	Yes				
Earth Fault Protection	Yes				
SPD	MOV : Type III standard				
<b>Communication</b>					
Standard Communication Mode	WiFi , RS485 , GPRS(optional) , SD card				
Operation Data Storage	25 years				
I/O	Yes				
<b>General Date</b>					
DC Switch	optional				
Ambient temperature range	-25°C...+60°C				
Topology	Transformerless				
Cooling	Natural				
Allowable relative humidity range	0...100% no condensing				
Max.operating altitude	2000m				
Noise	<25db@1m				
Degree of Protection(per IEC 60529)	IP65				
Dimension	405*314*135mm				
Weight	11kg			12kg	
Self-consumption at night	<1w				
Display	LCD display				
Warranty	5 years/7 years/10 years				



Efficiency Curve

### High-yield

- Max 97.2% efficiency
- Real time precise MPPT algorithm for max harvest
- Wide input voltage operation range

### All in one,flexible and economical system solution

- Free site selection due to IP65
- Easy installation and maintenance due to "Plug & Play" connection
- Interface selection – Wi-Fi / RS485 /GPRS
- 4"LCD display
- Built in zero export function(optional)

### Low maintenance cost

- Detachable cover for easy installation
- Rust-free Aluminum covers
- Flexible monitoring solution

### Intelligent grid management

- Reactive power capability
- Self power reducer when over frequency
- Remote active/reactive power limit control

# MASS ENERGY INVERTER Single Phase Inverter

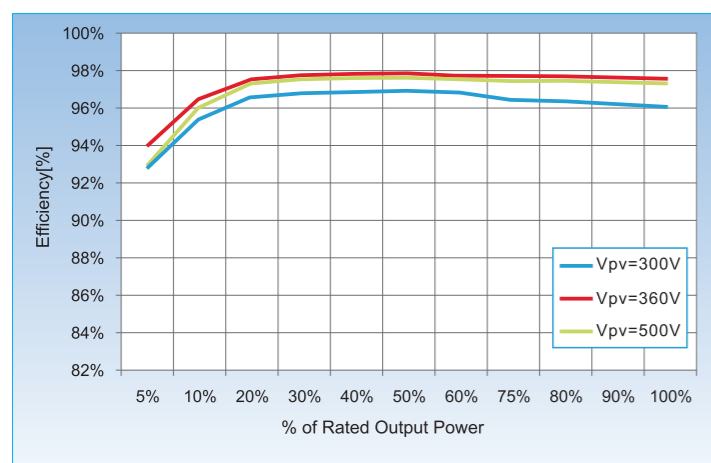
3KTLM-G2/3.6KTLM-G2/4KTLM-G2/4.6KTLM-G2/5KTLM-G2/6KTLM-G2/7.5KTLM  
(New upgrade)



## Datasheet

	SOFAR 3KTLM-G2	SOFAR 3.6KTLM-G2	SOFAR 4KTLM-G2	SOFAR 4.6KTLM-G2	SOFAR 5KTLM-G2	SOFAR 6KTLM-G2	SOFAR 7.5KTLM
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Input(DC)							
Max. Input power	3500W	4000W	4400W	5000W	5500W	6600W	8300W
Max DC power for single MPPT	2000W(160V-520V)	2400W(180V-520V)	2600W(200V-520V)	3000W(250V-520V)		3500W(300V-520V)	
Number of independent MPPT	2						
Number of DC inputs	1/1						2/1
Max. input voltage	600V						
Start-up input voltage	120V						
Rated input voltage	360V						
MPPT voltage range	90V-580V						
Full load DC voltage range	160V-520V	180V-520V	200V-520V	230V-520V	250V-520V	300V-520V	250V-520V
Max. input current per MPPT	11A/11A						2*11A/11A
Output(AC)							
Rated power	3000W	3680W	4000W	4600W	5000W	6000W	7500W
Max. AC power	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA	7500VA
Max. output current	13.7A	16.8A	18.2A	21A	22.8A	27.3A	32.6A
Nominal Grid Voltage	L/N/PE, 220, 230, 240						
Grid Voltage Range	180~276 V(According to local standard)						
Nominal Frequency	50/60Hz						
Grid frequency range	47~55 / 54~66Hz (According to local standard)						
Active power adjustable range	0~100%						
THDi	<3%						
Power factor	1 (adjustable +/-0.8)						
Power Limit export	Zero export or adjustable power limit export						
Performance							
Max. efficiency	98.0%						98.2%
Weighted eff. (EU/CEC)	97.5%						97.6%
Self-consumption at night	<1W						
Feed-in start power	50W						
MPPT efficiency	>99.9%						
Protection							
DC reverse polarity protection	Yes						
DC switch	optional						
Protection class /overvoltage category	I/III						
Input / output MOV (III)	Yes						
Safety protection	Anti islanding, RCMU, Ground fault monitoring						
Certification	NB/T32004-2013, AS4777, VDE0126-1-1, G83/2, G59/3, C10/11, RD1699/UTEC15-712-1, EN50438, VDE-AR-N4105 IEC 62116, IEC 61727, IEC 61683, IEC 60068(1,2,14,30), IEC 62109-1/2						
SPD	MOV : Type III standard						
Communication							
Power management unit	According to certification and request						
Standard Communication Mode	RS485 , WiFi/GPRS(optional) , SD card						
Operation Data Storage	25 years						
General data							
Ambient temperature range	-25°C~+60°C						-30°C~+60°C
Topology	Transformerless						
Degree of protection	IP65						
Allowable relative humidity range	0...100% no condensing						
Max. operating altitude	4000m						
Noise	<25dB						
Weight	11.5kg						18kg
Cooling	Natural convection						
Dimension	405*315*135mm						467*352*157mm
Display	LCD display						
Warranty	5 years / 7 years / 10 years						



Efficiency Curve

### High-yield

- Max 97.8% efficiency
- Real time precise MPPT algorithm for max harvest
- Wide input voltage operation range
- Independent dual MPPT tracking, better to adapt to the various roof power plant designs

### All in one, flexible and economical system solution

- Real-time monitoring using mobile phone APP
- Easy installation and maintenance due to "Plug & Play" connection
- RS485 and External WiFi/GPRS(Optional)
- Built-in sound and light alarm function
- Free site selection due to IP65

### Low maintenance cost

- Small size, lightweight
- Detachable cover for easy installation
- Rust-free Aluminum covers
- Flexible monitoring solution

### Intelligent grid management

- Reactive power capability
- Self power reducer when over frequency
- Remote active/reactive power limit control

# MASS ENERGY INVERTER Three Phase Inverter

3.3KTL-X/4.4KTL-X/5.5KTL-X/6.6KTL-X/8.8KTL-X/11KTL-X/12KTL-X



## Datasheet

	SOFAR 3.3KTL-X	SOFAR 4.4KTL-X	SOFAR 5.5KTL-X	SOFAR 6.6KTL-X	SOFAR 8.8KTL-X	SOFAR 11KTL-X	SOFAR 12KTL-X
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### Input(DC)

	3600W	4800W	6000W	7200W	9600W	12000W	14400W
Typical PV Power	3600W(300V-850V)	4800W(440V-850V)	6000W(545V-850V)	7200W(660V-850V)	9600W(800V-850V)	12000W(800V-850V)	14400W(800V-850V)
Max DC power per MPPT	3600W(300V-850V)	4800W(440V-850V)	6000W(545V-850V)	7200W(660V-850V)	8800W(800V-850V)	8800W(800V-850V)	8800W(800V-850V)
Number of independent MPPT	2						
Number of DC inputs	1 for each MPPT						
Max. input voltage	1000V						
Start-up input voltage	180V						
Rated input voltage	600V						
MPPT voltage range	160V-960V						
Full load DC voltage range	190V-850V	190V-850V	240V-850V	290V-850V	380V-850V	480V-850V	575V-850V
Max. input current per MPPT	11A/11A						
Input short circuit current for each MPPT	14A						

### Output(AC)

	3000W	4000W	5000W	6000W	8000W	10000W	12000W
Rated power	3000W	4000W	5000W	6000W	8000W	10000W	12000W
Max. AC power	3300VA	4400VA	5500VA	6600VA	8800VA	11000VA	13200VA
Max. output current	4.8A	6.4A	8.0A	9.6A	12.8A	15.9A	19.1A
Nominal Grid Voltage	3/N/PE,220/380			3/N/PE,230/400	3/N/PE,240/415		
Grid Voltage Range	184V-276V(According to local standard)						
Nominal Frequency	50/60Hz						
Grid frequency range	50Hz, +/-5Hz (According to local standard)						
Active power adjustable range	0~100%						
THDi	<3%						
Power factor	1 (adjustable +/-0.8)						

### Performance

Max. efficiency	98%	98.3%
Weighted eff. (EU/CEC)	97.5%	98%
Self-consumption at night	<1W	
Feed-in start power	45W	
MPPT efficiency	>99.9%	

### Protection

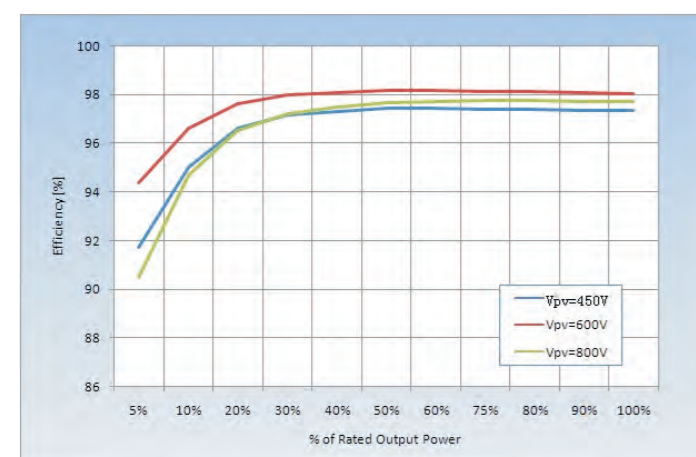
DC reverse polarity protection	Yes
DC switch	Yes
Safety protection	Anti islanding, RCMU, Ground fault monitoring
Certification	IEC 62116, IEC 61727, IEC 61683, IEC 60068(1, 2, 14, 30), IEC 62109-1/2, CE, CGC, AS4777, AS3100, VDE4105, C10-C11, G83/G59 (more available on request)
ARPC	Anti Reverse Power Controller(optional)

### Communication

Power management unit	According to certification and request
Standard Communication Mode	wifi (optional), GPRS(optional), SD card, RS485
Operation Data Storage	25 years

### General data

Ambient temperature range	-25°C...+60°C	
Topology	Transformerless	
Degree of protection	IP65	
Allowable relative humidity range	0...100% no condensing	
Max. operating altitude	2000m	
Noise	<29dB	
Weight	21kg	22kg
Cooling	Natural	
Dimension	483*452*200mm	
Display	LCD display	
Warranty	5 years / 7 years / 10 years	



Efficiency Curve

### High-yield

- Max 98.3% efficiency
- Real time precise MPPT algorithm for max harvest
- Wide input voltage operation range from 160V to 960V

### All in one, flexible and economical system solution

- DC switch
- 4 inch screen, English display
- Optimum selection for big PV plants, commercial buildings...

### Low maintenance cost

- High powered density
- Rust-free aluminum covers
- Flexible monitoring solution
- Small size, lightweight

### Intelligent grid management

- Reactive power adjustable
- Self power reducer when over frequency
- Remote active/reactive power limit control



# SOLARMAN PORTAL

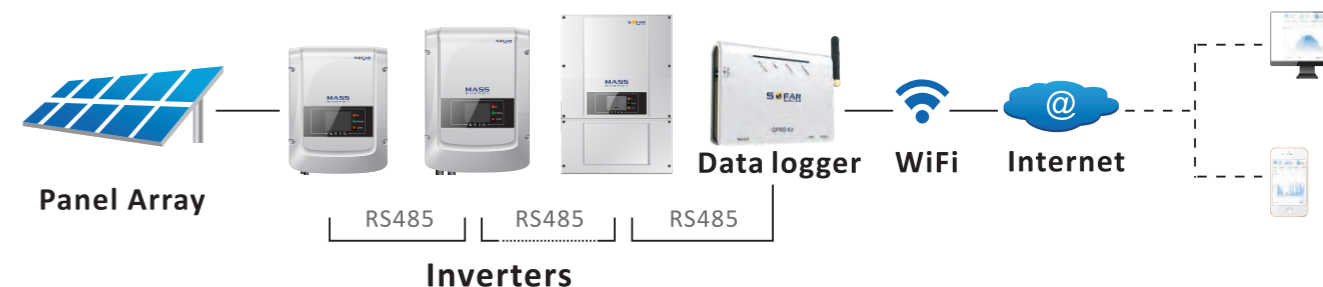
# SOLUTIONS



SolarMAN Portal is a web-based platform for PV monitoring, enabling analysis and presentation of PV systems. Data collected from PV systems are transmitted to and analyzed by SolarMAN Portal, and then displayed in various formats that are easy to understand. Automatic alarms are available so that any malfunctions or abnormal conditions can be identified and reported immediately. Users can easily access SolarMAN Portal to monitor PV systems at anytime and from anywhere. This easy-to-use platform makes monitoring of PV systems simple and convenient, far reducing time and costs as well.

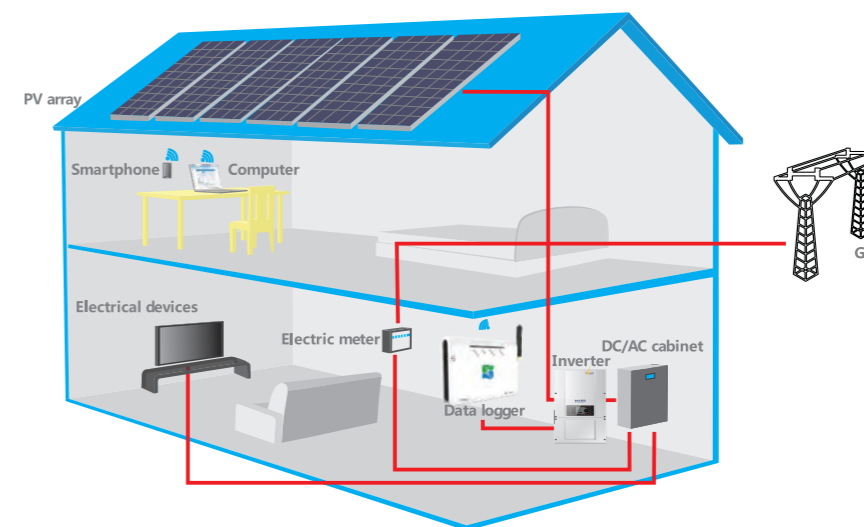
- User-friendly and multilingual interface
- Web-based remote management
- Easy access via Internet by computer and smartphone
- Visualized real-time data and historical data for analysis and easy understanding
- A variety of formats for better presentation
- Automatic alarms as customized by users
- Data and event reports sent via email regularly as specified
- Demonstration power stations for reference, system information available to share through the portal
- Perfect integration into corporate or personal websites

## Monitoring of utility-scale power plants



- Clearly identify the efficiency and earnings of PV systems by records and analysis of historical and real-time data;
- Present the ambient environment with data collected from weather station, including temperature sensor, anemoscope, and solar radiometer, etc;
- Real-time alarms via E-mail or SMS enable immediate trouble shooting;
- Display the electricity consumption of electric devices with data collected from electric meters;
- Easy access to data and analysis reports via SolarMAN Portal or smartphone App;
- Display the runtime status of PV systems on touchscreen or LED screen.

## Monitoring of residential roof top PV systems



### Data display



- Daily, monthly, annual and total yield
- Historical data records
- Log records
- Malfunction records
- Daily, monthly and annual reports
- Display of weather information

### Data analysis



- Analysis on generating efficiency
- Analysis on performance of systems and devices
- Total earnings of systems
- Total reduction of CO<sub>2</sub> emission
- Comparison of system performance

# WITH WORLD-CLASS COMPONENTS SUPPLIERS

# CERTIFICATION(SECTION)

IGBT	  	America Germany
IC	 	America
FUSE	 	America
Capacitor	  	Japan
Current Transducer	  	Switzerland Japan Germany
Relay	 	Japan
Diode	 	America
MCU	 	America Nederland
PV connector	 	Switzerland America
DC Isolator	 	Nederland Germany
MOV		America
Cooling Fan	 	Japan

## Inmetro (Brasil)



## EMC



## IEC 62109



## IEC 60068 (India)



## IEC 61727 (India)



## IEC 62116 (India)



## Poland



## Australia



## Denmark



## Germany



## Belgium



## France



## Netherlands



## Greece



## Turkey



## Spain



## UK





## PROJECT CASES



<b>Location</b>	Luoyang, Henan, China
<b>Project Volume</b>	50MW
<b>Model Used</b>	SOFAR 30000TL/40000TL/50000TL



<b>Location</b>	Brazil
<b>Project Volume</b>	2MW
<b>Model Used</b>	SOFAR 60000TL



<b>Location</b>	Korea
<b>Project Volume</b>	10MW
<b>Model Used</b>	SOFAR 30000TL/40000TL/50000TL



<b>Location</b>	Korea
<b>Project Volume</b>	2.4MW
<b>Model Used</b>	SOFAR 40000TL



<b>Location</b>	South Africa
<b>Project Volume</b>	6MW
<b>Model Used</b>	SOFAR 30000TL/40000TL



<b>Location</b>	Taizhou, Zhejiang, China
<b>Project Volume</b>	1.2MW
<b>Model Used</b>	SOFAR 30000TL



<b>Location</b>	Brazil
<b>Project Volume</b>	3MW
<b>Model Used</b>	SOFAR 60000TL



<b>Location</b>	Brazil
<b>Project Volume</b>	1MW
<b>Model Used</b>	SOFAR 25000TL

## PROJECT CASES



<b>Location</b>	Wuxi, Jiangsu, China
<b>Project Volume</b>	1.1MW
<b>Model Used</b>	SOFAR 20000TL



<b>Location</b>	India
<b>Project Volume</b>	300kW
<b>Model Used</b>	SOFAR 20000TL



<b>Location</b>	Gujarat province, India
<b>Project Volume</b>	1MW
<b>Model Used</b>	SOFAR 50000TL



<b>Location</b>	Netherlands
<b>Project Volume</b>	180kW
<b>Model Used</b>	SOFAR 60000TL



<b>Location</b>	Nanchang, Sichuan, China
<b>Project Volume</b>	720kW
<b>Model Used</b>	SOFAR 20000TL



<b>Location</b>	Brazil
<b>Project Volume</b>	300kW
<b>Model Used</b>	SOFAR 30000TL



<b>Location</b>	Santa Rita, Paraíba, Brazil
<b>Project Volume</b>	500kW
<b>Model Used</b>	SOFAR 30000TL



<b>Location</b>	Australia
<b>Project Volume</b>	80kW
<b>Model Used</b>	SOFAR 20000TL