Samil Power

Expert for PV Grid-tied Inverters™

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English

Samil Power

Expert for PV Grid-tied Inverters™

Better Energy   Better Life

- PV Grid-tied Inverters
- System Monitor
- Ambient Monitor
- SolarArray Combiner

CE   VDE0126-1-1 RD1663 DK5940   AS4777 G83

Company Profile

Samil Power

Expert for PV Grid-tied Inverters™

Samil Power Co., Ltd.

Who we are

Samil Power is a spring-off from the Samil Group.

Samil Group was founded in Korea in 1992 and focused on research & design, manufacture and sales of variable speed drives and lift controllers.**Samil Power** started in 2008 as an OEM manufacturer.The technology used in variable speed drives and lift controllers is similar to that of PV inverters. Based on our knowledge and expertise in this field, we are able to develop state-of-art inverters for PV industry.

Samil Power has 5 main branches worldwide, namely: Munich, Switzerland, Beijing, Shenzhen, Wuxi and Suqian. It has one factory occupying 300,000m^2 (approximately 74.13 acres) of land. Two large R&D centres in Wuxi and Shenzhen respectively.

What we offer

Samil Power is specialized in solar photovoltaic grid-tied inverters' development, manufacture, sales and service.

Our staff

The workforce comprising more than 600 professionals, 30% of which are dedicated to R&D, is a key asset to Samil Power.

Product Range

PV Grid-tied Inverters

SolarRiver String Inverters 1.5~5KW

SolarLake Series Grid-tied Inverter 10~17KW

SolarOcean Series Grid-tied Inverter 100~500KW

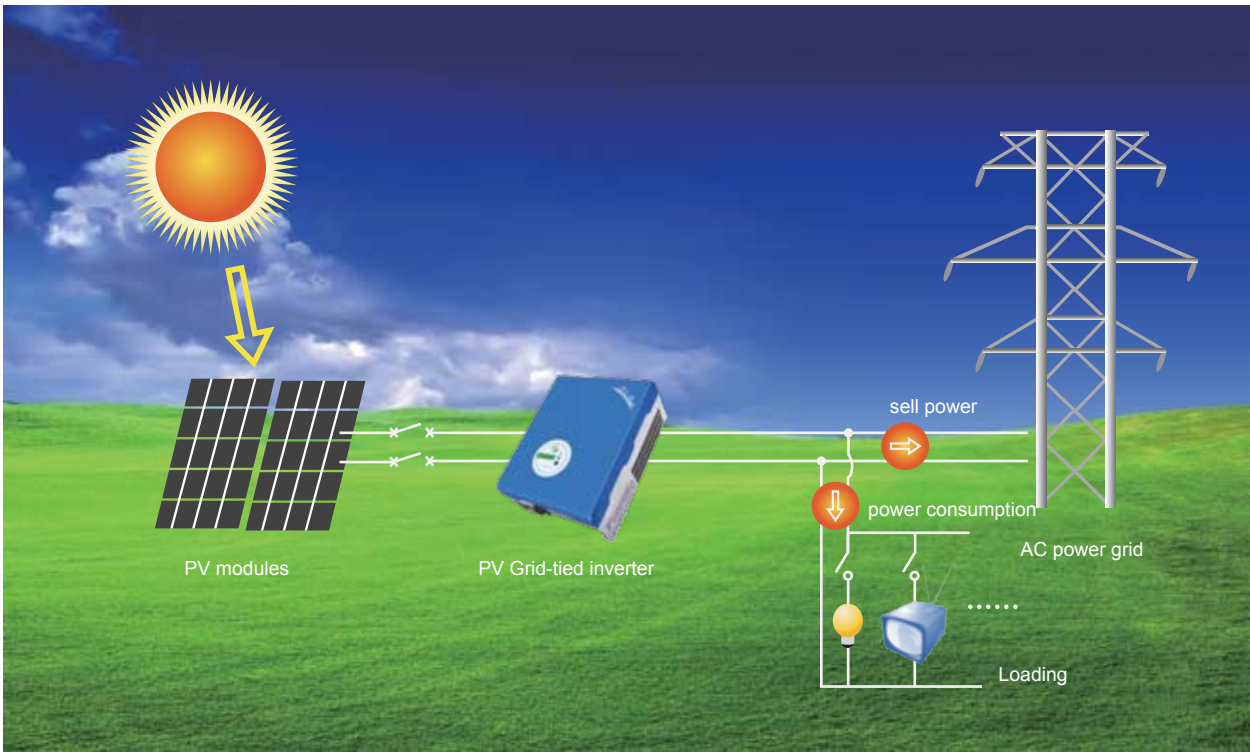## Accessories for PV System
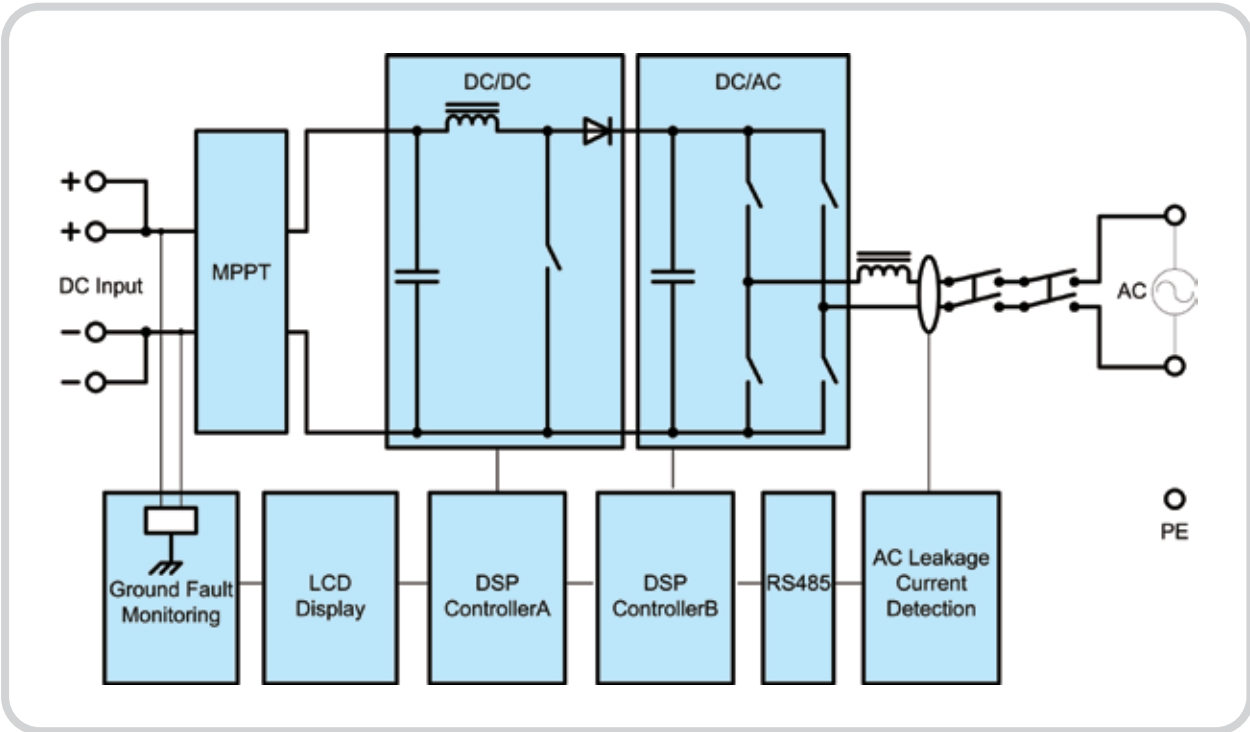
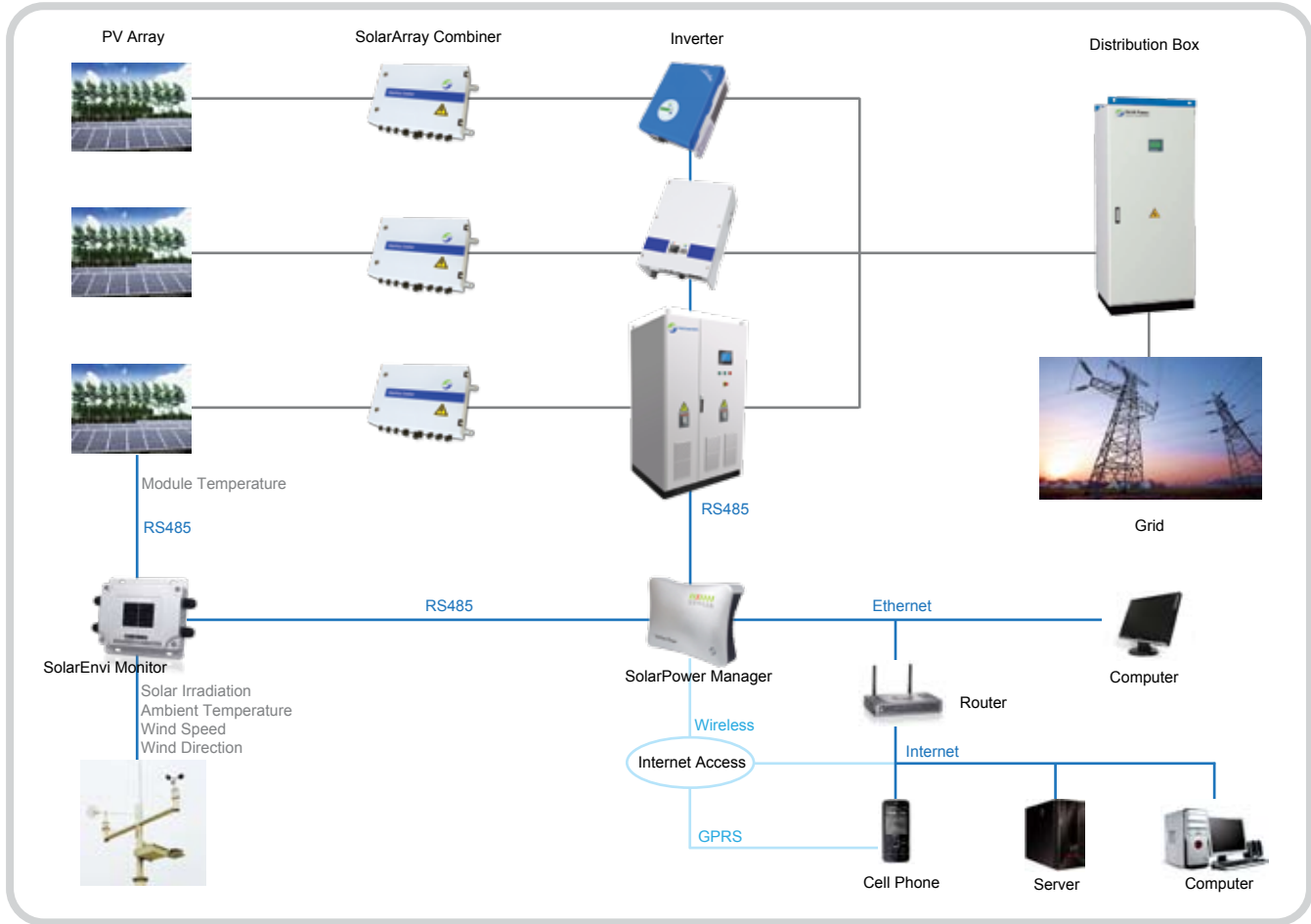SolarPower Manager

SolarEnvi Monitor

SolarArray Combiner

One Earth Only

PV Grid-tied Power System

sell power
power consumption
AC power grid
Loading
PV modules
PV Grid-tied inverter

SolarRiver String Inverter Topology

DC/DC
DC/AC
DC Input
MPPT
AC
PE
Ground Fault Monitoring
LCD Display
DSP ControllerA
DSP ControllerB
RS485
AC Leakage Current Detection

Structure of String Grid-tied System

PV Array
SolarArray Combiner
Inverter
Distribution Box
Module Temperature
RS485
RS485
Grid
SolarEnvi Monitor
Solar Irradiation
Ambient Temperature
Wind Speed
Wind Direction
RS485
SolarPower Manager
Ethernet
Computer
Router
Wireless
Internet
Internet Access
GPRS
Cell Phone
Server
Computer

SolarRiver Series Inverter Advantages

String inverters are small scale(1-5 kW inverters). Researched and analysized by technologists, string inverters have the following advantages:

High Efficiency

1. Transformerless design, with higher operation efficiency.
2. Wide MPPT range, making system efficiency higher.
3. No need of remote DC power transmission, and low DC loss.
4. No need of large-capacity on-grid AC power distribution, lowering AC loss to get more electricity power.
5. Utilizing small-inverter generation, convenient to increase capacity.

High Reliability

1. Little influence to AC power grid when breakdown.
2. Little generation loss when single inverter breaks down.
3. DCs increasing reliability of configuration and operation.

Cost Advantages

1. Transformerless design cutting down the cost.
2. Light weight and small dimension, reducing shipping cost.
3. Integrated procurement and assembly line of operation, reducing production cost.
4. IP65 protection degree, suitable for outdoor installation, reducing construction cost.
5. Low maintenance expense and low power loss when breakdown.

Samil Power
Expert for PV Grid-tied Inverters[TM]

Technical Data

SolarRiver Series 1-5KW

SolarRiver series PV grid-tied inverters are string inverters specially designed for PV power station by Samil Power. It consists of 7 power levels, which provide more flexible choices for PV power plants. SolarRiver series string inverters are not only with high cost-effective, but also with modern appearance.
Moreover, it strictly complies with the international certifications or standards, i.e.: ISO, CE,Golden Sun, TUV, VDE, RD1663, AS4777,G83,DK5940,C10/C11 etc.

MODEL SR1KTLA1
MODEL SR1K5TLA1
MODEL SR2K2TLA1

MODEL SR2K8TLA1
MODEL SR3K3TLA1
MODEL SR4K4TLA1
MODEL SR5KTLA1

■ Features

Economic

Maximum efficiency of 97.6%

Wide range of MPPT voltage

Convenient

Suitable for indoor and outdoor applications

Plug water proof connector, easy to install and maintain

Multi-lingual LCD display, easy for module configuration

Adapt to any situation

Reliable

Modern appearance with high-quality stainle1.5~5KWss steel frame

Reliable protection for overvoltage, islanding, short-circuit, overload, overheat, etc.

Excellent after-sales services

5-year quality warranty

Adapt To Any Weather

Inverter Model	SR1KTLA1	SR1K5TLA1	SR2K2TLA1	SR2K8TLA1	SR3K3TLA1	SR4K4TLA1	SR5KTLA1
Input (DC)							
Max. DC power [W]	1100	1700	2300	3000	3480	4580	5200
Max. DC voltage [V]	550	550	550	550	550	550	550
Max. input current [A]	9	9	11	13.5	17.5	22	26
Number of MPP trackers / Strings per MPP tracker	1 / 1	1 / 1	1 / 1	1 / 1	1 / 2	1 / 2	1 / 2
MPPT voltage range (at rated power) [V]	120～500	180～500	200～500	210～500	200～500	200～500	200～500
Shutdown voltage / Start voltage [V]	70 / 100	70 / 100	70 / 100	70 / 100	70 / 100	70 / 100	70 / 100
Output (AC)							
AC nominal power [W]	1000	1500	2000	2600	3000	4000	4600
Max. AC power [W]	1000	1650	2200	2800	3300	4400	5000
Max. AC current [A]	6	8.6	11	13.8	16	22	24
Nominal AC voltage / range [V]	230 / 180~270	230 / 180~270	230 / 180~270	230 / 180~270	230 / 180~270	230 / 180~270	230 / 180~270
AC grid frequency / range [Hz]	50 / 47~52	50 / 47~52	50 / 47~52	50 / 47~52	50 / 47~52	50 / 47~52	50 / 47~52
Power factor (cosφ)	1	1	1	1	1	1	1
Total harmonic distortion (THD$_i$)(at nominal power)	<3%	<3%	<3%	<3%	<3%	<3%	<3%
Efficiency							
Max. efficiency	96.6%	96.8%	96.8%	97.0%	97.4%	97.6%	97.6%
Euro efficiency	95%	95.8%	96.2%	96.3%	96.5%	97.1%	96.8%
MPPT efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
General data							
Dimensions (W / H / D) [mm]	332 / 450 / 161	332 / 450 / 161	332 / 450 / 161	332 / 450 / 161	329 / 433 / 180	329 / 433 / 180	329 / 433 / 180
Weight [kg]	17.1	17.1	17.5	17.9	18.9	19.2	19.4
Operating temperature range [°C]	-20～+60 (derating at 55 °C)	-20～+60 (derating at 45 °C)	-20～+60 (derating at 45 °C)	-20～+60 (derating at 45 °C)	-20～+60 (derating at 45 °C)	-20～+60 (derating at 45 °C)	-20～+60 (derating at 45 °C)
Ingress protection	IP65	IP65	IP65	IP65	IP65	IP65	IP65
Topology	transformerless	transformerless	transformerless	transformerless	transformerless	transformerless	transformerless
Internal consumption(night) [W]	0	0	0	0	0	0	0
Cooling concept	Convection	Convection	Convection	Convection	Convection	Fan	Fan
Noise (typical) [dB]	<28	<30	<30	<30	<30	<40	<40
LCD display	Backlight, 16*2 Character LCD	Backlight, 16*2 Character LCD	Backlight, 16*2 Character LCD	Backlight, 16*2 Character LCD	Backlight, 16*2 Character LCD	Backlight, 16*2 Character LCD	Backlight, 16*2 Character LCD
Communication port	RS485 / RS232	RS485 / RS232	RS485 / RS232	RS485 / RS232	RS485 / RS232	RS485 / RS232	RS485 / RS232
Standard warranty [year]	5	5	5	5	5	5	5
Inverter Model	**SR1KTLA1**	**SR1K5TLA1**	**SR2K2TLA1**	**SR2K8TLA1**	**SR3K3TLA1**	**SR4K4TLA1**	**SR5KTLA1**

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SolarLake Series

Samil Power
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Technical Data

SolarLake Series 10-17KW

SolarLake series offers two MPPT inputs and very wide input voltage range, SolarLake series mini central inverters is suited to almost any module configuration. New technology ensures SL series mini central inverters to meet all the requirements for reactive power supply, grid monitoring and support, thus it can be used up to the MW range.

MODEL   SolarLake 10000TL
MODEL   SolarLake 12000TL
MODEL   SolarLake 15000TL
MODEL   SolarLake 17000TL

■ Features

Economic

Maximum efficiency of 98 %

Wide range of MPPT voltage

Convenient

DC input voltage up to 1,000 V

Integrated grid management functions

Two MPPT inputs

Reliable

Modern appearance with high-quality stainless steel frame

Reliable protection for overvoltage, islanding, short-circuit, overload, overheat, etc.

Excellent after-sales services

5-year quality warranty

Adapt To Any Weather

English

Inverter Model	SolarLake 10000TL	SolarLake 12000TL	SolarLake 15000TL	SolarLake 17000TL
Input (DC)				
Max. PV power [W]	11500	13800	17300	19600
Max. DC power [W]	10400	12500	15600	17700
Max. DC voltage [V]	1000	1000	1000	1000
Max. input current [A]	A: 16 / B:16	A: 16 / B:16	A:20 / B:20	A:20 / B:20
Number of MPP trackers / strings per MPP tracker	2 / 2	2 / 2	2 / 2	2 / 2
MPPT voltage range (at rated power) [V]	320~800	380~800	380~800	430~800
Shutdown voltage / Start voltage [V]	200 / 250	200 / 250	200 / 250	200 / 250
Output (AC)				
AC nominal power [W]	10000	12000	15000	17000
Max. AC power [W]	10000	12000	15000	17000
Max. AC current [A]	16	19.2	24	25
Nominal AC voltage [V]	3 / N / PE,230 / 400	3 / N / PE,230 / 400	3 / N / PE,230 / 400	3 / N / PE,230 / 400
AC grid frequency / range [Hz]	50	50	50	50
Power factor (cosφ), adjustable	0.9 leading ... 0.9 lagging	0.9 leading ... 0.9 lagging	0.9 leading ... 0.9 lagging	0.9 leading ... 0.9 lagging
Total harmonic distortion (THDi) (at nominal power)	<3%	<3%	<3%	<3%
Efficiency				
Max. Efficiency	98.0%	98.0%	98.2%	98.1%
Euro-efficiency	97.6%	97.6%	97.7%	97.6%
MPPT efficiency	99.9%	99.9%	99.9%	99.9%
General data				
Dimensions(W / H / D) [mm]	520 / 756 / 230	520 / 756 / 230	520 / 756 / 230	520 / 756 / 230
Weight [kg]	50	50	50	50
Operating temperature range [°C]	-20~+60 (derating at 45°C)	-20~+60 (derating at 45°C)	-20~+60 (derating at 45°C)	-20~+60 (derating at 45°C)
Ingress protection	IP65	IP65	IP65	IP65
Topology	Transformerless	Transformerless	Transformerless	Transformerless
Internal consumption(night) [W]	<5	<5	<5	<5
Cooling concept	Fan	Fan	Fan	Fan
Noise (typical) [dB]	<56	<56	<56	<56
Display	3.5 inch,TFT-LCD	3.5 inch,TFT-LCD	3.5 inch,TFT-LCD	3.5 inch,TFT-LCD
Communication port	RS485(standard); RS232/ USB/ Ethernet / CAN	RS485(standard); RS232/ USB/ Ethernet / CAN	RS485(standard); RS232/ USB/ Ethernet / CAN	RS485(standard); RS232/ USB/ Ethernet / CAN
Standard warranty [year]	5	5	5	5
Grid management	Yes	Yes	Yes	Yes
DC switch	Integrated	Integrated	Integrated	Integrated
Inverter Model	SolarLake 10000TL	SolarLake 12000TL	SolarLake 15000TL	SolarLake 17000TL

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SolarOcean series offers central inverters with power range from 100kW to 500kW, and offers more flexible choices for PV power plants.

SolarOcean series central inverters have the "state-of-the-art", with leading edge efficiency, even working under non-full load conditions, and offer a cost-effective guarantee for the PV power plant system. It has friendly interface, easy to use, modern appearance, and wide DC voltage features.

MODEL SolarOcean 100TL
MODEL SolarOcean 100
MODEL SolarOcean 250TL
MODEL SolarOcean 250
MODEL SolarOcean 500TL

■ Features

Using effective IGBT power module

Optimal MPPT technology

Suitable for applications under harsh power grid conditions

Multilingual LCD monitoring, easy for local setting

High frequency transformer for isolation

Multi communication interfaces

Advanced DSP digital control techniques

Reliable protection for overvoltage, islanding, short-circuit, overload, overheat, etc.

Friendly interface, easy to install and maintain

Inverter Model	SolarOcean 100TL	SolarOcean 100	SolarOcean 250TL	SolarOcean 250	SolarOcean 500TL
Input (DC)					
Max. DC power [kW]	115	115	285	285	570
Max. DC voltage [V]	880 / 1000 (optional)	880 / 1000 (optional)	880 / 1000 (optional)	880 / 1000 (optional)	880 / 1000 (optional)
Max. input current [A]	250	250	600	600	1200
MPPT voltage range [V]	450 ~ 820	450 ~ 820	450 ~ 820	450 ~ 820	450 ~ 820
Number of MPP trackers / strings per MPP tracker	1 / 2	1 / 2	1 / 8	1 / 8	1 / 16
Output (AC)					
AC nominal power [kW]	100	100	250	250	500
Max. AC power [kW]	110	110	275	275	550
Nominal AC current [A]	213	144	535	360	1070
Max. AC current [A]	235	160	590	400	1200
Nominal AC voltage [V]	270	400	270	400	270
AC grid frequency [Hz]	50	50	50	50	50
Power factor (cosφ)	0.95lagging… 0.95leading	0.95lagging… 0.95leading	0.95lagging… 0.95leading	0.95lagging… 0.95leading	0.95lagging… 0.95leading
Total harmonic distortion (THD$_i$) (at nominal power)	<3%	<3%	<3%	<3%	<3%
Efficiency					
Max. efficiency	98.0%	97.1%	98.6%	97.1%	98.6%
Euro-efficiency	97.7%	96.3%	98.3%	96.7%	98.3%
MPPT efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
General data					
Dimensions(W / H / D) [mm]	1156 / 1952 / 900	1156 / 1952 / 900	2200 / 2180 / 850	2200 / 2180 / 850	2600 / 2180 / 850
Weight [kg]	530	935	1700	2200	2100
Operating temperature range [°C]	-20 ~ +50	-20 ~ +50	-20 ~ +50	-20 ~ +50	-20 ~ +50
Ingress protection	IP20	IP20	IP20	IP20	IP20
Topology	Transformerless	Low frequency transformer	Transformerless	Low frequency transformer	Transformerless
Internal consumption(night) [W]	<100	<100	<100	<100	<100
Cooling concept	Fan	Fan	Fan	Fan	Fan
Noise (typical) [dB]	65	65	70	70	70
Display	Touch screen LCD	Touch screen LCD	Touch screen LCD	Touch screen LCD	Touch screen LCD
Communication port	RS485 / RS232/ CAN	RS485 / RS232/ CAN	RS485 / RS232/ CAN	RS485 / RS232/ CAN	RS485 / RS232/ CAN
Standard warranty [year]	5	5	5	5	5
Grid management	Yes	Yes	Yes	Yes	Yes
Inverter Model	**SolarOcean 100TL**	**SolarOcean 100**	**SolarOcean 250TL**	**SolarOcean 250**	**SolarOcean 500TL**

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System Monitor
SolarPower Manager

SolarPower Manager is the communication centre of PV power system, which can monitor the system's operation, remote diagnostics and data acquisition conveniently. All data of the inverters connected with SolarPower Manager can be obtained continuously, and customers can get real-time running status of the PV power system at any time

■ Features

- Monitoring the PV power system constantly
- Detecting and recording system faults automatically
- Recording and storing PV power system data at presetting tim
- Analysizing and storing PV operation data by Microsoft Excel
- Data diagnostics and system configuration by PC

Ambient Monitor
SolarEnvi Monitor

The weather station for your solar power system

■ Features

- Comprehensive performance analysis of the PV power system
- Precise acquisition of solar irradiation, module temperature, ambient temperature, wind speed and wind direction values
- Communication with the SolarPower Manager via RS-485
- Easy to install on the PV power system

SolarArray Combiner

SolarArray Combiner developed by Samil Power, which is suitable for collecting the DC current delivered by PV arrays. It connects a number of PV arrays to inverters (i.e.: SolarLake series inverters from Samil Power). SolarArray Combiner can greatly simplify the wiring and protect inverters.

■ Features

- Wide DC input voltage range
- IP65 protection degree, for outdoor using
- Reliable lighting proof protection
- Possible to connect 6 PV strings at one time

■ SolarPower Manager

■ Interfaces

Inverter communication	RS485 (up to 32 inverters, max.1200m cable)
Ethernet	10/100M LAN
Wireless	GPRS

■ Storage

Internal storage	32MB in a ring memory configuration
External storage	SD card 2GB

■ Mechanical Data

Width/height/depth	222 /153/45 mm
Weight	720g

■ Power Supply

Plug-in power supply	115V-230V 50/60Hz
Power consumption	3W (Typ.)/10W (Max.)

■ Operation Conditions

Ambient temperature	-20°C～+55°C
Relative air humidity	5%～95%, non-condensing

■ Other Data

Status display	Built-in LED
Installation	DIN rail installation, Wall-mounting, tabletop device

■ SolarEnvi Monitor

■ Interfaces

Data logger communicationr	RS-485	Wind direction	Precision: ±3°
			Range: 0~360°

■ Sensors

Solar irradiation	Precision: ±8%	
	Range: 0~1500W/m²	**■ Power Supply**
Module temperature(PT100)	Precision：±0.5°C	External power adaptor 5±0.3V/3W
	Range: -20°C~+100°C	
Ambient temperature(PT100)	Precision：±0.5°C	Protection degree IP65
	Range: -20°C~+100°C	**■ Mechanical Data**
Wind speed	Precision: ±(0.3+0.03V)m/s	Width/height/depth 120X90X50 mm
	Range: 0~75m/s	Weight 500g

■ SolarArray Combiner

Model	SAC-6C-A1	Input waterproof connector	M12
Max. Input voltage	1000Vdc	Output waterproof connector	M20
Max. number of inputs	6	Width/height/depth	510 X 355 X 180 mm
Max. input current	10A	Weight	12kg

English