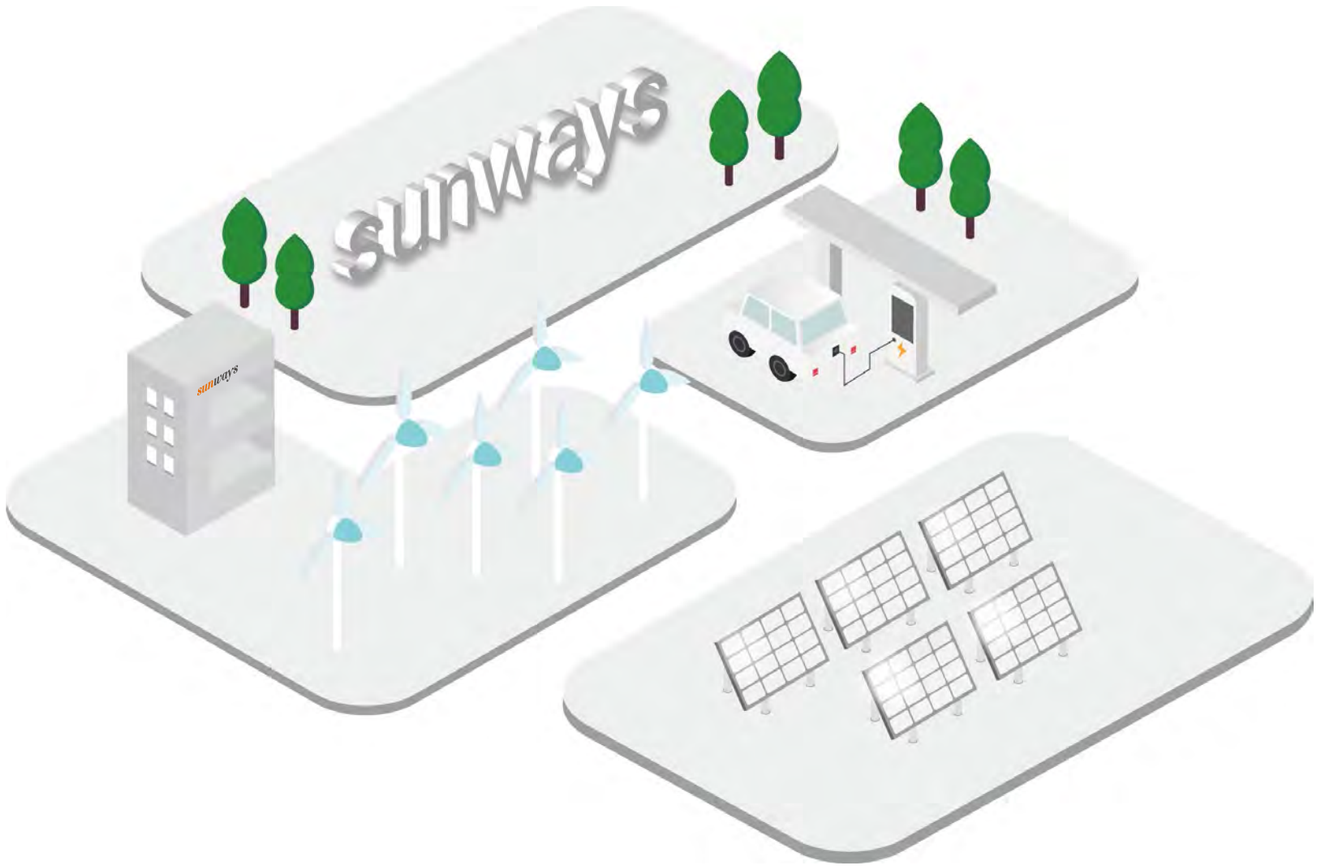
German Heritage Since 1993

sunways

Photovoltaic Technology

01 COMPANY PROFILE



WHO WE ARE

Sunways History

German Heritage Since 1993

Sunways, formerly known as Sunways AG founded in Konstanz, Germany in 1993, was acquired by Shunfeng International Clean Energy Group (SFCE) in 2014. SFCE, also Suntech' s parent company, is one of the world' s largest suppliers of low-carbon and energy-saving integrated solutions. Sunways has a long standing reputation for technological innovation in the development and manufacturing of PV inverters, solar energy storage and PV integration solutions. After nearly 30 years of research and development, Sunways high-quality PV inverters are widely used in more than 50 countries and regions making the company one of the longest established PV energy suppliers in the industry.

Production Capacity and Scale

For economies of scale reasons, Sunways production has now moved to Cixi, China while German technical standards are still in use and practice. These include the material selection criteria, software control algorithm, R&D processing procedures, test standards and production management system process. The production facility in China is around 4000m² in size, with an inverter production capacity of about 10,000 units per month. This will soon increase to 20,000 units per month through further production line expansion.

R&D Excellence

Sunways has a professional global R&D and management team and they have focused on technological innovation as one of Sunways' core competences. With two international R&D centers in Germany and China, it maintains good technical links and cooperation with many scientific research institutions, such as the Konstanz International Solar Energy Research Center in Germany and the University of Freiburg. The products are accredited to multi-national standards with certification in global markets, such as China, Germany, Poland, Spain, Australia, Brazil and India.

Quality Management

Sunways treats product quality as its life, from supplier inspection, incoming quality inspection, process inspection to finished product inspection, we are not just setting a series of strict, integrated quality control systems, but also have the most advanced testing laboratory to carry out a series of rigorous tests on batch products, and batch sampling and tracking the quality of finished products. Years of tempering and best practices contribute to the first impression of Sunways, quality assurance is guaranteed, utilising only the best in tier one components and best practice inspection processes at every stage.

WHO WE ARE

Sunways company’ s milestones

1993
Foundation of Sunways GmbH in Konstanz

1999
Transformation into "Aktiengesellschaft" (joint stock corporation)

2001
Listing on the Frankfurt stock exchange

2003
Award as "TOP 100" company for outstanding innovation management

2004
Opening of office in Barcelona (Spain)

2005
Opening of Sunways Production GmbH in Arnstadt (Germany)

2006
Opening of office in Bologna (Italy)

2008
Winner of “Solar Technology fast 50” company

2012
The innovative storage solution has been issued

2014
SFCE group takes over Sunways BIPV cells and inverter business

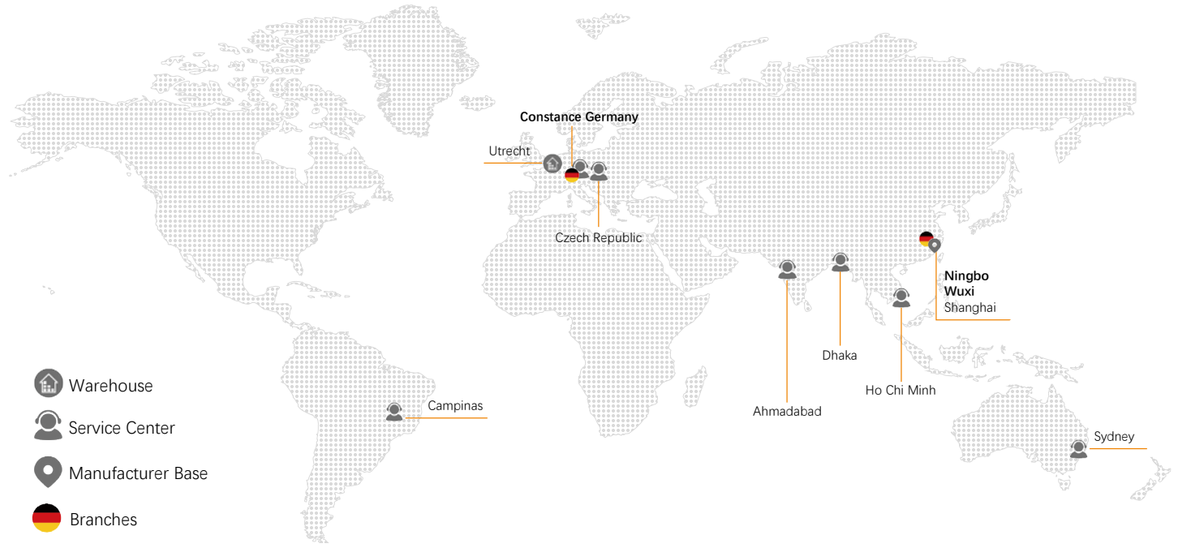
2018
Sunways experts team started new product development at its advanced facility

2019
Sunways STS & STT series string inverters certified by TUV and started testing in the market

2020
Expanded our inverter power range up to 125kW which makes our production line enter into a new stage

2021
Sunways STH three-phase hybrid inverter received a lot of attention and orders as soon as it was released to the market

OUR PRESENCE



STRATEGIC PARTNERS

PRODUCT INTRODUCTION

Sunways Single Phase with Single MPPT

STS-1K~3.3KTL-S

MAX 97.5% EFFICIENCY

IP65 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy die casting technology
- Wider working temperature and altitude, adapt to various installation environments

HIGH YIELD

- High yield with Max. 97.5% efficiency
- European weighted efficiency 97%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- Single MPPT design with precise MPPT algorithm

EASY TO USE

- Compact elegant design, light weight, one-person installation
- Plug and play connectors, easy for installation
- Support wireless and wired internet connection (RS485/WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy configuration via App or OLED display

Technical Parameters

Single Phase:STS-1K~3.3KTL-S

Model	STS-1KTL-S	STS-1.5KTL-S	STS-2KTL-S	STS-2.5KTL-S	STS-3KTL-S	STS-3.3KTL-S*
Input						
Max. Input Power (W)	1,600	2,400	3,200	4,000	4,800	4,800
Start-up Voltage (V)	60	60	60	60	60	60
Min. DC Voltage (V)	55	55	55	55	55	55
Max. DC Input Voltage (V)	500	500	500	500	500	500
Rated DC Input Voltage (V)	360	360	360	360	360	360
MPPT Voltage Range (V)	80-450	80-450	80-450	80-450	80-450	80-450
No. of MPP Trackers	1	1	1	1	1	1
No. of DC Inputs per MPPT	1	1	1	1	1	1
Max. Input Current (A)	12.5	12.5	12.5	12.5	12.5	12.5
Max. Short-circuit Current (A)	15	15	15	15	15	15
Output						
Rated Output Power (W)	1,000	1,500	2,000	2,500	3,000	3,300
Max. Output Power (W)	1,100	1,650	2,200	2,750	3,300	3,300
Max. Apparent Power (VA)	1,100	1,650	2,200	2,750	3,300	3,300
Rated Output Voltage (V)	220/230					
Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz					
Max. Output Current (A)	4.8	7.2	9.6	12	14.4	14.4
Power Factor	0.8 leading …0.8 lagging					
Max. Total Harmonic Distortion	< 3% @Rated Output Power					
DCI	< 0.5%In					
Efficiency						
Max. Efficiency	97.3%	97.3%	97.5%	97.5%	97.5%	97.5%
European Efficiency	96.4%	96.4%	97.0%	97.0%	97.0%	97.0%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Protection						
DC Reverse Polarity Protection	Integrated					
Insulation Resistance Protection	Integrated					
DC Switch	Optional					
Surge Protection	Integrated					
Over-temperature Protection	Integrated					
Residual Current Protection	Integrated					
Islanding Protection	Integrated					
AC Short-circuit Protection	Integrated					
AC Over-voltage Protection	Integrated					
General Data						
Dimensions (mm)	327W*297H*114D					
Weight (KG)	6.5					
Protection Degree	IP65					
Self-consumption at Night (W)	< 1					
Topology	Transformer less					
Operating Temperature Range (° C)	-30~60					
Relative Humidity (%)	0~100					
Operating Altitude (m)	4000 (derating@ > 3000)					
Cooling	Natural Convection					
Noise Level (dB)	< 25					
Display	OLED & LED					
Communication	RS485/WiFi/GPRS/LAN (Optional)					
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、UTE C15-712-1、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000					

* : STS 3.3KTL-S available for India only.

PRODUCT INTRODUCTION

Sunways Single Phase with Dual MPPT

STS-3K~6KTL-P

MAX 98.1% EFFICIENCY

IP65 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy die casting technology
- Wider working temperature and altitude, adapt to various installation environments

HIGH YIELD

- High yield with Max. 98.1% efficiency
- European weighted efficiency 97.5%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- With a max input current of 15A, compatible with high-power panels

EASY TO USE

- Compact elegant design, light weight, one-person installation
- Plug and play connectors, easy for installation
- Support wireless and wired internet connection (RS485/WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy configuration via App or OLED display

Technical Parameters

Single Phase:STS-3K~6KTL-P

Model	STS-3KTL-P	STS-3.6KTL-P	STS-4.2KTL-P	STS-4.6KTL-P	STS-5KTL-P	STS-6KTL-P
Input						
Max. Input Power (W)	4,800	5,760	6,720	7,360	8,000	9,600
Start-up Voltage (V)	80	80	80	80	80	80
Min. DC Voltage (V)	100	100	100	100	100	100
Max. DC Input Voltage (V)	600	600	600	600	600	600
Rated DC Input Voltage (V)	360	360	360	360	360	360
MPPT Voltage Range (V)	100-550	100-550	100-550	100-550	100-550	100-550
No. of MPP Trackers	2	2	2	2	2	2
No. of DC Inputs per MPPT	1/1	1/1	1/1	1/1	1/1	1/1
Max. Input Current (A)	15/15①	15/15①	15/15①	15/15①	15/15①	15/15①
Max. Short-circuit Current (A)	20/20	20/20	20/20	20/20	20/20	20/20
Output						
Rated Output Power (W)	3,000	3,600	4,200	4,600	5,000/4,990②**	6,000
Max. Output Power (W)	3,300	3,960*	4,600	4,600	5,500/4,990②**	6,600
Max. Apparent Power (VA)	3,300	3,960*	4,600	4,600	5,500/4,990②**	6,600
Rated Output Voltage (V)	220/230					
Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz					
Max. Output Current (A)	15	18***	21	21	25/21.7②****	28.7
Power Factor	0.8 leading …0.8 lagging					
Max. Total Harmonic Distortion	<3% @Rated Output Power					
DCI	<0.5%In					
Efficiency						
Max. Efficiency	98.1%	98.1%	98.1%	98.1%	98.1%	98.1%
European Efficiency	97.5%	97.5%	97.5%	97.5%	97.5%	97.5%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Protection						
DC Reverse Polarity Protection	Integrated					
Insulation Resistance Protection	Integrated					
DC Switch	Optional					
Surge Protection	Integrated					
Over-temperature Protection	Integrated					
Residual Current Protection	Integrated					
Islanding Protection	Integrated					
AC Short-circuit Protection	Integrated					
AC Over-voltage Protection	Integrated					
General Data						
Dimensions (mm)	410W*360H*120D					
Weight (KG)	13					
Protection Degree	IP65					
Self-consumption at Night (W)	<1					
Topology	Transformer less					
Operating Temperature Range (° C)	-30~60					
Relative Humidity (%)	0~100					
Operating Altitude (m)	4000 (derating@ > 3000)					
Cooling	Natural Convection					
Noise Level (dB)	< 25					
Display	OLED & LED					
Communication	RS485/WiFi/GPRS/LAN (Optional)					
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、UTE C15-712-1、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000					

① STS-3~6KTL series maximum input current per string is 12.5A, and STS-3~6KTL-P version is 15A, products deliver upon the order.

② The grid feed in power for AS/NZS 4777.2 is limited 4.99kW & 4.99kVA & 21.7A.

* : 3680 for G98. ** : 5000 for C10/11. *** : 16 for G98. **** : 21.7 for C10/11.

PRODUCT INTRODUCTION

Sunways Single Phase with Dual MPPT

STS-7K~11KTL

MAX 98.1% EFFICIENCY

IP65 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy die casting technology
- Wider working temperature and altitude, adapt to various installation environments

HIGH YIELD

- High yield with Max. 98.1% efficiency
- European weighted efficiency 97.6%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- With a max input current of 15A, compatible with high-power panels

EASY TO USE

- Plug and play connectors, easy for installation
- Support wireless and wired internet connection (RS485/WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy configuration via App or OLED display

Technical Parameters

Single Phase:STS-7K~11KTL

Model	STS-7KTL	STS-8KTL	STS-9KTL	STS-10KTL	STS-11KTL
Input					
Max. Input Power (W)	11,200	12,800	14,400	16,000	16,000
Start-up Voltage (V)	80	80	80	80	80
Max. DC Input Voltage (V)	600	600	600	600	600
Rated DC Input Voltage (V)	360	360	360	360	360
MPPT Voltage Range (V)	80~550	80~550	80~550	80~550	80~550
No. of MPP Trackers	2	2	2	2	2
No. of DC Inputs per MPPT	1/2	1/2	1/2	1/2	1/2
Max. Input Current (A)	15/30	15/30	15/30	15/30	15/30
Max. Short-circuit Current (A)	20/40	20/40	20/40	20/40	20/40
Output					
Rated Output Power (W)	7,000	8,000	9,000	10,000	11,000
Max. Output Power (W)	7,700	8,800	9,900	11,000	11,000
AC output rated apparent power (VA)	7,000	8,000	9,000	10,000	11,000
Max. Apparent Power (VA)	7,700	8,800	9,900	11,000	11,000
Rated Output Voltage (V)	220/230				
Rated AC Frequency (Hz)	50/60				
AC output rated current (A)	30.4	34.8	39.1	43.5	47.8
Max. Output Current (A)	33.5	38.3	43	47.8	47.8
Power Factor	0.8 leading …0.8 lagging				
Max. total harmonic distortion	<3% @Rated Output Power				
DCI	< 0.5%In				
Efficiency					
Max. Efficiency	98.1%	98.1%	98.1%	98.1%	98.1%
European Efficiency	97.6%	97.6%	97.6%	97.6%	97.6%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
Protection					
DC Reverse Polarity Protection	Integrated				
Insulation Resistance Protection	Integrated				
DC Switch	Optional				
Surge Protection	Integrated				
Over-temperature Protection	Integrated				
Residual Current Protection	Integrated				
Islanding Protection	Integrated				
AC Short-circuit Protection	Integrated				
AC Over-voltage Protection	Integrated				
General Data					
Dimensions (mm)	550W*410H*175D				
Weight (KG)	24		26		
Protection Degree	IP65				
Self-consumption at Night (W)	< 1				
Topology	Transformer less				
Operating Temperature Range (oC)	-30~60				
Relative Humidity (%)	0~100				
Operating Altitude (m)	4000 (depreciativo@ > 3000)				
Cooling	Natural Convection		Smart Fan Cooling		
Noise Level (dB)	< 25		< 40		
Display	OLED & LED				
Communication	RS485/WiFi/GPRS/LAN (Optional)				
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、UTE C15-712-1、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000				

PRODUCT INTRODUCTION

Sunways Three Phase with Dual MPPT

S T T - 3 K ~ 6 K T L - M

MAX 98.3% EFFICIENCY

IP66 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy die casting technology
- IP66, can be used in broader variety of harsh installation environments

HIGH YIELD

- High yield with Max. 98.3% efficiency
- European weighted efficiency 98.0%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- With a max input current of 15A, compatible with high-power panels

EASY TO USE

- Compact elegant design, weight only 14kg, one-person installation
- Plug and play connectors, easy for installation
- Support wireless and wired internet connection (RS485/WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy configuration via App or OLED display

Technical Parameters

Three Phase:STT-3K~6KTL-M

Model	STT-3KTL-MS	STT-3KTL-M	STT-4KTL-M	STT-5KTL-M	STT-6KTL-M
Input					
Max. Input Power (W)	4,800	4,800	6,400	8,000	9,600
Start-up Voltage (V)	135	135	135	135	135
Max. DC Input Voltage (V)	1,100	1,100	1,100	1,100	1,100
Rated DC Input Voltage (V)	620	620	620	620	620
MPPT Voltage Range (V)	120-1000	120-1000	120-1000	120-1000	120-1000
No. of MPP Trackers	1	2	2	2	2
No. of DC Inputs per MPPT	1	1/1	1/1	1/1	1/1
Max. Input Current (A)	15	15/15	15/15	15/15	15/15
Max. Short-circuit Current (A)	20	20/20	20/20	20/20	20/20
backfeed current to the array (A)	0	0	0	0	0
Output					
Rated Output Power (W)	3,000	3,000	4,000	5,000	6,000
Max. Output Power (W)	3,300	3,300	4,400	5,500	6,600
AC output rated apparent power(VA)	3,000	3,000	4,000	5,000	6,000
Max. Apparent Power (VA)	3,300	3,300	4,400	5,500	6,600
Rated Output Voltage (V)	3 L/ N / PE，230 / 400V				
Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60
AC output rated current （A）	4.4	4.4	5.8	7.3	8.7
Max. Output Current (A)	5	5	6.7	8.4	10
Power Factor	0.8 leading …0.8 lagging				
Max. total harmonic distortion	<3% @Rated Output Power				
DCI	<0.5%In				
Efficiency					
Max. Efficiency	98.1%	98.1%	98.1%	98.1%	98.3%
European Efficiency	97.9%	97.9%	97.9%	97.9%	98.0%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
Protection					
DC Reverse Polarity Protection	Integrated				
Insulation Resistance Protection	Integrated				
DC Switch	Integrated				
Surge Protection	Integrated				
Over-temperature Protection	Integrated				
Residual Current Protection	Integrated				
Islanding protection	Frequency shift, Integrated				
AC Short-circuit Protection	Integrated				
AC Over-voltage Protection	Integrated				
General Data					
Dimensions (mm)	410W*360H*120D				
Weight (KG)	14				
Protection Degree	IP66				
Self-consumption at Night (W)	<1				
Topology	Transformerless				
Operating Temperature Range (° C)	-30~60				
Relative Humidity	0~100%				
Operating Altitude (m)	4000 (depreciativo@ > 3000)				
Cooling	Natural Convection				
Display	OLED & LED				
Communication	RS485/WiFi/ GPRS/LAN(Optional)				
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、UTE C15-712-1、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000				

PRODUCT INTRODUCTION

Sunways Three Phase with Dual MPPT

S T T - 4 K ~ 2 5 K T L - P

MAX 98.6% EFFICIENCY

IP65 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy die casting technology
- Wider working temperature and altitude, adapt to various installation environments

HIGH YIELD

- High yield with Max. 98.6% efficiency
- European weighted efficiency 98.2%
- Longer working hours due to the lower start-up voltage and wider MPPT range
- Up to 10% continuous output overloading capacity
- With a max input current of 15A, compatible with high-power panels

EASY TO USE

- Support wireless and wired internet connection (RS485，WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy configuration via App or OLED display

Technical Parameters

Three Phase:STT-4K~25KTL-P

Model	STT-4KTL-P	STT-5KTL-P	STT-6KTL-P	STT-8KTL-P	STT-10KTL-P	STT-12KTL-P	STT-15KTL-P	STT-17KTL-P	STT-20KTL-P	STT-25KTL-P
Input										
Max. Input Power (W)	6,400	8,000	9,600	12,800	16,000	19,200	24,000	27,200	32,000	40,000
Start-up Voltage (V)	180	180	180	180	180	180	180	180	180	180
Min. DC Voltage (V)	150	150	150	150	150	150	150	150	150	150
Max. DC Input Voltage (V)	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Rated DC Input Voltage (V)	620	620	620	620	620	620	620	620	620	620
MPPT Voltage Range (V)	160-1000	160-1000	160-1000	160-1000	160-1000	160-1000	160-1000	160-1000	160-1000	160-1000
No. of MPP Trackers	2	2	2	2	2	2	2	2	2	2
No. of DC Inputs per MPPT	1/1	1/1	1/1	1/1	1/1	1/1	1/2	2/2	2/2	2/2
Max. Input Current (A)	15/15 ①	15/15 ①	15/15 ①	15/15 ①	15/15 ①	15/15 ①	15/30 ①	30/30 ①	30/30 ①	30/30 ①
Max. Short-circuit Current (A)	20/20	20/20	20/20	20/20	20/20	20/20	20/40	40/40	40/40	40/40
Output										
Rated Output Power (W)	4,000	5,000	6,000	8,000	10,000	12,000	15,000	17,000	20,000	25,000
Max. Output Power (W)	4,400	5,500	6,600	8,800	11,000	13,200	16,500	18,700	22,000	25,000
Max. Apparent Power (VA)	4,400	5,500	6,600	8,800	11,000	13,200	16,500	18,700	22,000	25,000
Rated Output Voltage (V)	3L/N/PE, 230/400V									
Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz									
Max. Output Current (A)	6.7	8.4	10	13.3	16.5	20	25	28.4	31.9	39
Power Factor	0.8 leading …0.8 lagging									
Max. Total Harmonic Distortion	< 3% @Rated Output Power									
DCI	< 0.5%In									
Efficiency										
Max. Efficiency	98.1%	98.1%	98.3%	98.3%	98.6%	98.6%	98.6%	98.6%	98.6%	98.6%
European Efficiency	97.9%	97.9%	98.0%	98.0%	98.2%	98.2%	98.2%	98.2%	98.2%	98.2%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Protection										
DC Reverse Polarity Protection	Integrated									
Insulation Resistance Protection	Integrated									
DC Switch	Optional									
Surge Protection	Integrated									
Over-temperature Protection	Integrated									
Residual Current Protection	Integrated									
Anti-islanding Protection	Integrated									
AC Short-circuit Protection	Integrated									
AC Over-voltage Protection	Integrated									
General Data										
Dimensions (mm)	550W*410H*175D									
Weight (KG)	23						26		29	
Protection Degree	IP65									
Self-consumption at Night (W)	< 1									
Topology	Transformer less									
Operating Temperature Range (° C)	-30~60									
Relative Humidity (%)	0~100									
Operating Altitude (m)	4000 (derating@ > 3000)									
Cooling	Natural Convection								Smart Fan Cooling	
Noise Level (dB)	< 25								< 40	
Display	OLED & LED									
Communication	RS485，WiFi/GPRS/LAN (Optional)									
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、UTE C15-712-1、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000									

① STT-4~25KTL series maxmium input current per string is 11A, products deliver upon the oder

PRODUCT INTRODUCTION

Sunways Three Phase with Four MPPT

STT-30K~60KTL

MAX 98.8% EFFICIENCY

IP66 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy enclosure
- IP66, can be used in broader variety of harsh installation environments

HIGH YIELD

- High yield with Max. 98.8% efficiency
- European weighted efficiency 98.3%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- DC 2 in 1 connection enabled, compatible with high-power panels

EASY TO USE

- Plug and play connectors, easy for installation
- Support wireless and wired internet connection (RS485/WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy configuration via App or OLED display

Technical Parameters

Three Phase:STT-30K~60KTL

Model	STT-29.9KTL	STT-30KTL	STT-33KTL	STT-36KTL	STT-40KTL	STT-45KTL	STT-50KTL-M	STT-60KTL-M
Input								
Max. Input Power (W)	47,840	48,000	52,800	57,600	64,000	72,000	80,000	96,000
Start-up Voltage (V)	180	180	180	180	180	180	180	180
Max. DC Input Voltage (V)	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Rated DC Input Voltage (V)	620	620	620	620	620	620	620	620
MPPT Voltage Range (V)	180-1000	180-1000	180-1000	180-1000	180-1000	180-1000	180-1000	180-1000
No. of MPP Trackers	4	4	4	4	4	4	4	4
No. of DC Inputs per MPPT	2	2	2	2	2	2	2	2
Max. Input Current (A)	26/26/26/26	26/26/26/26	26/26/26/26	26/26/26/26	26/26/26/26	26/26/26/26	26/26/26/26	26/26/26/26
Max. Short-circuit Current (A)	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40	40/40/40/40
Output								
Rated Output Power (W)	29,900	30,000	33,000	36,000	40,000	45,000	50,000	60,000
Max. Output Power (W)	29,900	33,000	36,300	39,600	44,000	49,500	55,000	60,000
AC output rated apparent power(VA)	29,900	30,000	33,000	36,000	40,000	45,000	50,000	60,000
Max. Apparent Power (VA)	29,900	33,000	36,300	39,600	44,000	49,500	55,000	60,000
Rated Output Voltage (V)	3 L/ N / PE，380 / 400V							
Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
AC output rated current （A）	43.3	43.5	47.8	52.2	58.0	65.2	72.5	87.0
Max. Output Current (A)	43.3	47.8	52.6	57.4	63.8	71.7	79.7	87.0
Power Factor	0.8 leading …0.8 lagging							
Max. total harmonic distortion	<3% @Rated Output Power							
DCI	<0.5%In							
Efficiency								
Max. Efficiency	98.8%	98.8%	98.8%	98.8%	98.8%	98.8%	98.8%	98.8%
European Efficiency	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%	98.3%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Protection								
DC Reverse Polarity Protection	Integrated							
Insulation Resistance Protection	Integrated							
DC Switch	Integrated							
Surge Protection	Integrated							
Over-temperature Protection	Integrated							
Residual Current Protection	Integrated							
Islanding protection	Frequency shift, Integrated							
AC Short-circuit Protection	Integrated							
AC Over-voltage Protection	Integrated							
General Data								
Dimensions (mm)	600W*400H*270D							
Weight (KG)	42							
Protection Degree	IP66							
Self-consumption at Night (W)	<1							
Topology	Transformerless							
Operating Temperature Range (° C)	-30~60							
Relative Humidity (%)	0~100							
Operating Altitude (m)	4000 (derating@ > 3000)							
Cooling	Smart Fan Coolling							
Display	OLED & LED							
Communication	RS485/WiFi/ GPRS/LAN(Optional)							
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、UTE C15-712-1、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000							

PRODUCT INTRODUCTION

Sunways Three Phase with Six MPPT

STT-50K/60KTL-P

MAX 98.8% EFFICIENCY

IP65 PROTECTION

SAFE & RELIABLE

- High reliability due to good heat dissipation design
- Integrated lightning protection for both DC and AC
- Adapt to complex power grid
- High anti-corrosion ability with aluminum alloy enclosure
- Wider working temperature and altitude, adapt to various installation environments

HIGH YIELD

- High yield with Max. 98.8% efficiency
- European weighted efficiency 98.3%
- Up to 10% continuous output overloading capacity
- Six MPPT design, lower PV string mismatch loss
- Optional anti-PID function integrated
- DC 2 in 1 connection enabled, compatible with high-power panels

EASY TO USE

- String monitoring, improve O&M efficiency
- Support wireless and wired internet connection (RS485, WiFi/GPRS/LAN optional)
- Remote upgrading available
- Intelligent positioning abnormal string with integrated I/V scan function

Technical Parameters

Three Phase:STT-50K/60KTL-P

Model	STT-50KTL-P	STT-60KTL-P
Input		
Max. Input Power (W)	80,000	96,000
Start-up Voltage (V)	200	200
Max. DC Input Voltage (V)	1,100	1,100
Rated DC Input Voltage (V)	620	620
MPPT Voltage Range (V)	160-1000	160-1000
No. of MPP Trackers	6	6
No. of DC Inputs	12	12
Max. Input Current (A)	26/26/26/26/26/26①	26/26/26/26/26/26①
Max. Short-circuit Current (A)	40/40/40/40/40/40	40/40/40/40/40/40
Output		
Rated Output Power (W)	50,000	60,000
Max. Output Power (W)	55,000	66,000
Max. Apparent Power (VA)	55,000	66,000
Rated Output Voltage (V)	3L/N/PE, 230/400V	
Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz	
Max. Output Current (A)	83.6	95.3
Power Factor	0.8 leading…0.8 legging	
Max. Total Harmonic Distortion	< 3% @ Rated Output Power	
DCI	< 0.5% In	
Efficiency		
Max. Efficiency	98.8%	98.8%
European Efficiency	98.3%	98.3%
MPPT Efficiency	99.9%	99.9%
Protection		
DC Reverse Polarity Protection	Integrated	
Insulation Resistance Protection	Integrated	
DC Switch	Optional	
Surge Protection	Integrated	
Over-temperature Protection	Integrated	
Residual Current Protection	Integrated	
Anti-islanding Protection	Integrated	
AC Short-circuit Protection	Integrated	
AC Over-voltage Protection	Integrated	
PID Protection	Optional	
General Data		
Dimensions (mm)	850W*520H*290D	
Weight (KG)	58	
Protection Degree	IP65	
Self-consumption at Night (W)	< 1	
Topology	Transformer less	
Operating Temperature Range (° C)	-30~60	
Relative Humidity (%)	0~100	
Operating Altitude (m)	4000 (derating@ > 3000)	
Cooling	Smart Fan Coolling	
Noise Level (dB)	< 55	
Display	OLED & LED	
Communication	RS485, WiFi/GPRS/LAN (Optional)	
Compliance	NB/T32004、IEC62109、IEC62116、VDE4105、VDE0126、AS4777、C10/11、CEI0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000	

① STT-50/60KTL series maxmium input current per MPPT is 22A, products deliver upon the oder

PRODUCT INTRODUCTION

Sunways Three Phase with Eight/Ten MPPT

STT-80K~110KTL、100K/125KTL-HV

MAX 98.8% EFFICIENCY

IP65 PROTECTION

INTELLIGENT

- Intelligent positioning abnormal string with integrated I/V scan function
- Real-time fault curve recording, improve O&M efficiency
- IP68 intelligent fans, lower operation temperature, longer lifespan
- Intelligent quad-core processor, information processing more comprehensive, fast, and efficient

HIGH YIELD

- High yield with Max. 98.8% efficiency
- Up to 10% continuous output overloading capacity
- 8/10 MPPT design, lower PV string mismatch loss
- Optional PID recovery function
- DC 2 in 1 connection enabled, compatible with high-power panels

CONVENIENCE

- Support wireless and wired internet connection (RS485, WiFi/GPRS/LAN optional)
- Remote upgrading available
- Fast and easy commissioning via App or OLED display

Technical Parameters

Three Phase:STT-80K~110KTL、100K/125KTL-HV

Model	STT-80KTL	STT-100KTL	STT-110KTL	STT-100KTL-HV	STT-125KTL-HV
Input					
Max. Input Power (W)	128,000	160,000	176,000	160,000	200,000
Start-up Voltage (V)	200	200	200	200	200
Max. DC Input Voltage (V)	1,100	1,100	1,100	1,100	1,100
Rated DC Input Voltage (V)	620	620	620	750	750
MPPT Voltage Range (V)	200-950	200-950	200-950	200-950	200-950
No. of MPP Trackers	8	10	10	10	10
No. of DC Inputs	16	20	20	20	20
Max. Input Current (A)	8*26	10*26	10*26	10*26	10*26
Max. Short-circuit Current (A)	8*40	10*40	10*40	10*40	10*40
Output					
Rated Output Power (W)	80,000	100,000	110,000	100,000	125,000
Max. Output Power (W)	88,000	110,000	121,000	110,000	137,500
Max. Apparent Power (VA)	88,000	110,000	121,000	110,000	137,500
Rated Output Voltage (V)	3L/N/PE, 230/400V			3/PE,288/500V	
Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz				
Max. Output Current (A)	127	158.8	174.8	127	158.8
Power Factor	0.8 leading…0.8 legging				
Max. Total Harmonic Distortion	< 3% @ Rated Output Power				
DCI	< 0.5% In				
Efficiency					
Max. Efficiency	98.8%	98.8%	98.8%	98.8%	98.8%
European Efficiency	98.3%	98.3%	98.3%	98.3%	98.3%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
Protection					
DC Reverse Polarity Protection	Integrated				
Insulation Resistance Protection	Integrated				
DC Switch	Optional				
Surge Protection	Integrated				
Over-temperature Protection	Integrated				
Residual Current Protection	Integrated				
Anti-islanding Protection	Integrated				
AC Short-circuit Protection	Integrated				
AC Over-voltage Protection	Integrated				
PID Protection	Optional				
General Data					
Dimensions (mm)	975W*680H*290D				
Weight (KG)	79	82			
Protection Degree	IP65				
Self-consumption at Night (W)	< 1				
Topology	Transformer less				
Operating Temperature Range (° C)	-30~60				
Relative Humidity (%)	0~100				
Operating Altitude (m)	4000 (derating@ > 3000)				
Cooling	Smart Fan Coolling				
Display	OLED & LED				
Communication	RS485, WiFi/GPRS/LAN (Optional)				
Compliance	NB/T 32004、IEC62109、IEC62116、VDE 4105、VDE 0126、AS4777、C10/11 CEI 0-21、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000				

PRODUCT INTRODUCTION

Sunways Single Phase Storage Inverter with Two MPPT

STH-3K~3.6KTL-HSS、STH-4.2K~8KTL-HS

MAX 97.6% EFFICIENCY

IP65 PROTECTION

Max. efficiency up to 97.6%

With AC output ranging from 3kW to 8kW

Powerful load adaptability, support multiple loads stable access

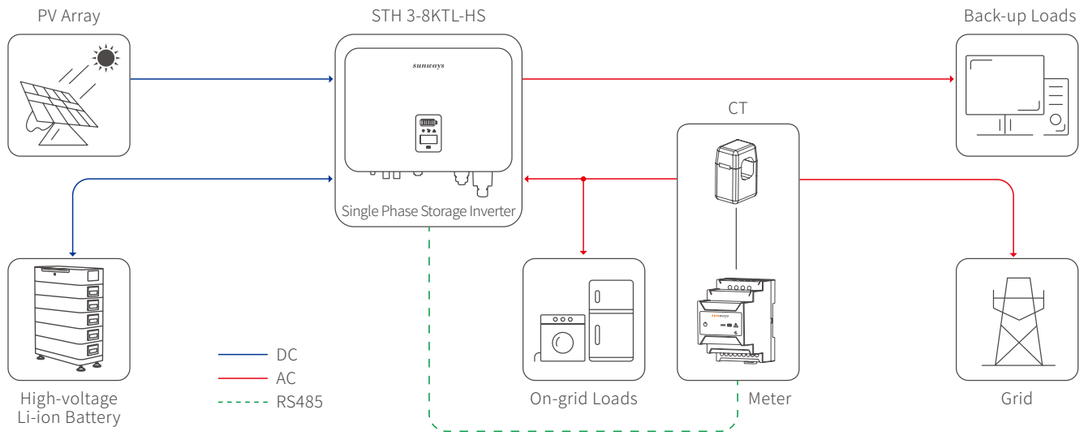
Fast and easy data checking and commissioning via App or OLED display

Wide battery voltage range allows more battery modules connection and increases self consumption rate.

Fast charging/discharging of up to 30A to meet the demand of higher consumption and energy trading.

Up to 15A maximum PV input current allows most higher current PV panels connection and lowers the system LCOE.

Uninterruptible power supply, switch to off-grid modve within 10ms



Technical Parameters

Single Phase:STH-3K~3.6KTL-HSS、STH-4.2K~8KTL-HS

Model		STH-3KTL-HSS	STH-3.6KTL-HSS	STH-4.2KTL-HS	STH-4.6KTL-HS	STH-5KTL-HS	STH-6KTL-HS	STH-7KTL-HS	STH-8KTL-HS
PV Input	Max. Input Power (W)	4,800	5,760	6,720	7,360	8,000	9,600	11,200	12,800
	Start-up Voltage (V)	80	80	80	80	80	80	80	80
	Max. DC Input Voltage (V)	600	600	600	600	600	600	600	600
	Rated DC Input Voltage (V)	360	360	360	360	360	360	360	360
	MPPT Voltage Range (V)	100-550	100-550	100-550	100-550	100-550	100-550	100-550	100-550
	No. of MPP Trackers	1	1	2	2	2	2	2	2
	No. of PV Inputs per MPPT	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	Max. Input Current (A)	15	15	15/15	15/15	15/15	15/15	15/15	15/15
	Max. Short-circuit Current (A)	20	20	20/20	20/20	20/20	20/20	20/20	20/20
Battery	Battery Type	Lithium Battery (with BMS)							
	Battery Communication Mode	CAN / RS485							
	Battery Voltage Range (V)	85-500							
	Max. Charge/Discharge Current (A)	30/30							
	Rated Current of Built-in Fuse (A)	63							
Output (Grid)	Rated Output Power (W)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Output Power (W)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Max. Apparent Power (VA)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Max. Input Apparent Power (VA)	6,000①	7,200①	8,400①	9,200①	10,000①	12,000①	12,000①	12,000①
	Max. Charging Power of Battery (W)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Rated Output Voltage (V)	L/N/PE, 220/230/240V							
	Rated AC Frequency (Hz)	50/60							
	Max. Output Current (A)	15	18	21	21	25/21.7	28.7	35	36.3
	Power Factor	0.8 leading…0.8 lagging							
	Max. Total Harmonic Distortion	<3% @Rated Output Power							
	DCI	<0.5%In							
Output (Back-up)	Rated Output Power (W)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Output Power (W)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Back-up output rated apparent power (VA)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Apparent Power (VA)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Back-up output rated current (A)	13	15.7	18.3	20	21.7	26.1	31.8	36.3
	Max. Output Current (A)	15	18	21	21	25/21.7	28.7	35	36.3
	UPS switching time	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms
	Rated Output Voltage (V)	L/N/PE，220/230/240							
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
	Peak output apparent power (VA)	3,900②，60s	4,700②，60s	5,500②，60s	6,000②，60s	6,500②，60s	7,800②，60s	9,100②，60s	10,000②，60s
	Voltage harmonic distortion	<3% @Linear load							
Efficiency	Max. Efficiency	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%
	European Efficiency	97.0%	97.0%	97.0%	97.0%	97.0%	97.0%	97.0%	97.0%
	Max. Battery Charging Conversion Efficiency	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%
	Max. Battery Discharge Conversion Efficiency	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%

Protection	
DC Reverse Polarity Protection	Integrated
Battery Input Reverse Connection Protection	Integrated
Insulation Resistance Protection	Integrated
DC Switch	Optional
Surge Protection	Integrated
Over-temperature Protection	Integrated
Residual Current Protection	Integrated
Islanding Protection	Frequency Shift, Integrated
AC Over-voltage Protection	Integrated
Overload Protection	Integrated
AC Short-circuit Protection	Integrated

General Data	
Over Voltage Category	PV: II ; Main : III
Dimensions (mm)	550W*410H*175D
Weight (KG)	26
Protection Degree	IP65
Self-consumption at Night (W)	< 15
Topology	Transformer less
Operating Temperature Range (° C)	-30~60
Relative Humidity (%)	0~100
Operating Altitude (m)	4000 (derating@ > 3000)
Cooling	Natural Convection
Noise Level (dB)	< 25
Display	OLED & LED
Communication	WiFi / LAN (Optional)

Compliance
IEC62109、IEC62116、VDE4105、VDE0126、AS4777、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000

① Max apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery.
② The output power will exceed the rated value only when the power in the PV array is sufficient, and the duration of the overload is relating to the overload power.

PRODUCT INTRODUCTION

Sunways Three Phase Storage Inverter with Two MPPT

S T H - 4 K ~ 1 2 K T L - H T

MAX 98.2% EFFICIENCY

IP65 PROTECTION

Max. efficiency up to 98.2%

Up to110% phase unbalanced output available on both on-grid and back-up outputs.

Support back-up paralleling connection of up to 10 units.

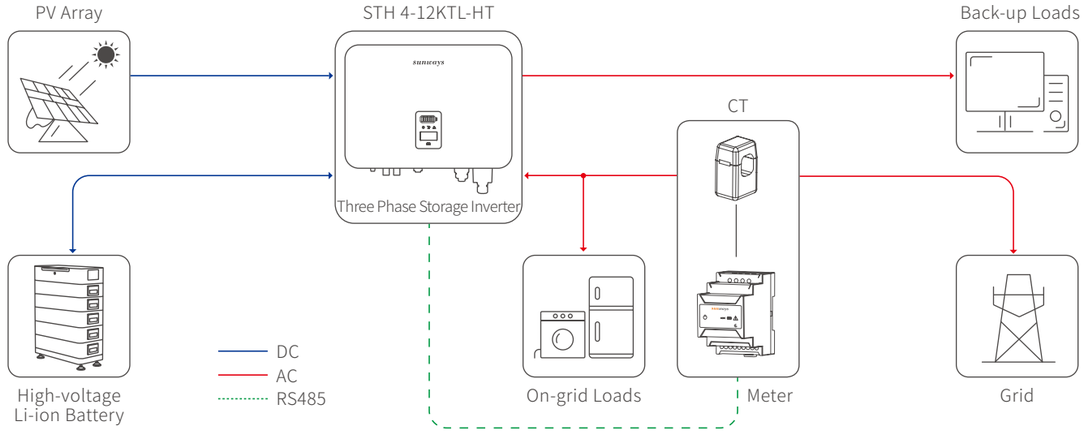
Oled display+App, two ways for data checking and management

180-750V wide battery connection range to store more energy and optimize self-sufficiency rate.

Arbitrary phase of back-up output allows up to 125% overloading ability.

Maximum 200% back-up output overloading @60s.

Uninterruptible power supply, switch to off-grid mode within 10ms



Technical Parameters

Three Phase:STH-4K~12KTL-HT

Model		STH-4KTL-HT	STH-5KTL-HT	STH-6KTL-HT	STH-8KTL-HT	STH-10KTL-HT	STH-12KTL-HT
PV Input	Max. Input Power (W)	6,400	8,000	9,600	12,800	16,000	19,200
	Start-up Voltage (V)	150	150	180	180	180	180
	Max. DC Input Voltage (V)	1,000	1,000	1,000	1,000	1,000	1,000
	Rated DC Input Voltage (V)	620	620	620	620	620	620
	MPPT Voltage Range (V)	150-850	150-850	200-850	200-850	200-850	200-850
	No. of MPP Trackers	2	2	2	2	2	2
	No. of PV Inputs	1/1	1/1	1/1	1/1	1/1	1/1
	Max. Input Current (A)	13/13	13/13	13/13	13/13	13/13	13/13
	Max. Short-circuit Current (A)	18/18	18/18	18/18	18/18	18/18	18/18
Battery	Battery Type	Lithium Battery (with BMS)					
	Battery Communication Mode	CAN / RS485					
	Battery Voltage Range (V)	180-750 ①					
	Max. Charge/Discharge Current (A)	25/25					
	Rated Current of Built-in Fuse (A)	63					
Output (Grid)	Rated Output Power (W)	4,000	5,000	6,000	8,000	10,000	12,000
	Max. Output Power (W)	4,400	5,500	6,600	8,800	11,000	13,200
	Max. Apparent Power (VA)	4,400	5,500	6,600	8,800	11,000	13,200
	Max. Input Apparent Power (VA)	8,000 ②	10,000 ②	12,000 ②	16,000 ②	16,500 ②	16,500 ②
	Max. Charging Power of Battery (W)	4,000	5,000	6,000	8,000	10,000	12,000
	Rated Output Voltage (V)	3L/N/PE, 230/400V					
	Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz					
	Max. Output Current (A)	6.7	8.3	10	13.3	16.5	20
	Power Factor	0.8 leading…0.8 lagging					
	Max. Total Harmonic Distortion	< 3% @Rated Output Power					
	DCI	< 0.5%In					
Output (Back-up)	UPS Switching Time	< 10ms					
	Rated Output Voltage (V)	3L/N/PE, 230/400V					
	Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz					
	Max. Apparent Output Power (VA)	4,400	5,500	6,600	8,800	11,000	13,200
	Peak Overload Apparent Power (VA)	8,000 ③, 60s	10,000 ③, 60s	12,000 ③, 60s	16,000 ③, 60s	20,000 ③, 60s	20,000 ③, 60s
	Peak Output Apparent Power/per Phase (VA)	1,600 ④	2,100 ④	2,600 ④	3,300 ④	4,000 ④	5,000 ④
	Voltage Harmonic Distortion	< 3% @Linear Load					
Efficiency	Max. Efficiency	98.1%	98.1%	98.1%	98.2%	98.2%	98.2%
	European Efficiency	97.3%	97.3%	97.3%	97.4%	97.4%	97.4%
	Max. Battery Charging Conversion Efficiency	97.2%	97.2%	97.2%	97.3%	97.3%	97.3%
	Max. Battery Discharge Conversion Efficiency	97.2%	97.2%	97.2%	97.3%	97.3%	97.3%

Protection	
DC Reverse Polarity Protection	Integrated
Battery Input Reverse Connection Protection	Integrated
Insulation Resistance Protection	Integrated
DC Switch	Optional
Surge Protection	Integrated
Over-temperature Protection	Integrated
Residual Current Protection	Integrated
Islanding Protection	Frequency Shift, Integrated
AC Over-voltage Protection	Integrated
Overload Protection	Integrated
AC Short-circuit Protection	Integrated

General Data	
Dimensions (mm)	550W*410H*175D
Weight (KG)	26~28
Protection Degree	IP65
Self-consumption at Night (W)	< 15
Topology	Transformer less
Operating Temperature Range (° C)	-30~60
Relative Humidity	0~100%
Operating Altitude (m)	4000 (derating@ > 3000)
Cooling	Natural Convection
Noise Level (dB)	< 25
Display	OLED & LED
Communication	WiFi / LAN (Optional)

Compliance
IEC62109、IEC62116、VDE4105、VDE0126、AS4777、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000、NRS097-2-1、IEC/EN 62477-1

① The battery configuration range can be lowered to 135V in actual practice.
② Max apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery.
③ The output power will exceed the rated value only when the power in the PV array is sufficient, and the duration of the overload is relating to the overload power.
④ Only one of the three phases can reach up to 1.25 times, and the other two phases should be less than 1.1.

PRODUCT INTRODUCTION

Sunways Three Phase Storage Inverter with Two MPPT

STH-15K~33KTL-HT

MAX 98.2% EFFICIENCY

IP66 PROTECTION

Max. efficiency up to 98.2%

Up to 110% phase unbalanced output available on both on-grid and back-up outputs.

Back-up paralleling available of up to 3 units

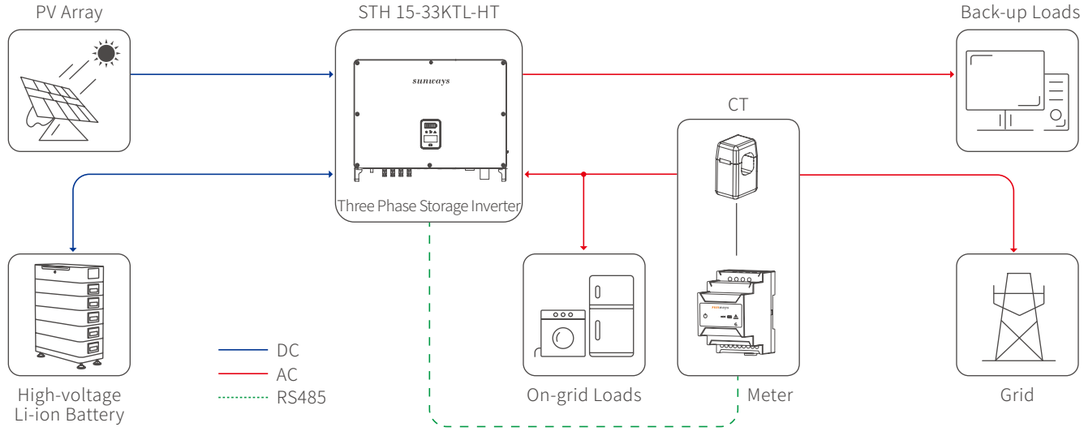
Fast and easy data checking and commissioning via App or OLED display

135~800V wide battery connection range to store more energy and optimize self-sufficiency rate.

Support continuous 110% AC output overloading on both on-grid and back up sides

Diversified work modes that are compatible with the majority of application scenarios.

Uninterruptible power supply, switch to off-grid mode within 10ms



Technical Parameters

Three Phase:STH-15K~33KTL-HT

Model		STH-15KTL-HT	STH-17KTL-HT	STH-20KTL-HT	STH-25KTL-HT	STH-29.9KTL-HT	STH-30KTL-HT	STH-33KTL-HT
PV Input	Max. Input Power (W)	24,000	27,200	32,000	40,000	47,840	48,000	52,800
	Start-up Voltage (V)	135	135	135	135	135	135	135
	Max. DC Input Voltage (V)	1000	1000	1000	1000	1000	1000	1000
	Rated DC Input Voltage (V)	620	620	620	620	620	620	620
	MPPT Voltage Range (V)	200-850	200-850	200-850	200-850	200-850	200-850	200-850
	No. of MPP Trackers	2	2	2	2	2	2	2
	No. of DC Inputs per MPPT	2/2	2/2	2/2	2/2	2/2	2/2	2/2
	Max. Input Current (A)	26/26	26/26	26/26	26/26	26/26	26/26	26/26
	Max. Short-circuit Current (A)	40/40	40/40	40/40	40/40	40/40	40/40	40/40
	backfeed current to the array (A)	0	0	0	0	0	0	0
Battery	Battery Type	Lithium battery (with BMS)						
	Battery communication mode	CAN / RS485						
	Battery voltage range (V)	135-800						
	Maximum charging current (A)	50						
	Maximum discharge current (A)	50						
	Rated current of built-in fuse (A)	125						
Output (Grid)	Rated Output Power (W)	15,000	17,000	20,000	25,000	29,900	30,000	33,000
	Max. Output Power (W)	16,500	18,700	22,00	27,500	29,900	33,000	36,300
	AC output rated apparent power (VA)	15,000	17,000	20,000	25,000	29,900	30,000	33,000
	Max. Apparent Power (VA)	16,500	18,700	22,000	27,500	29,900	33,000	36,300
	Max. Input Apparent Power (VA)	20,000①	22,000①	26,000①	33,000①	39,000①	39,000①	42,000①
	Rated Output Voltage (V)	3L / N / PE，230 (400)						
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60
	AC output rated current (A)	21.7	24.6	29.0	36.2	43.3	43.5	47.8
	Max. Output Current (A)	25.0	28.3	33.3	41.7	49.8	50.0	55.0
	Power Factor	0.8 leading …0.8 lagging						
	Max. total harmonic distortion	<3% @Rated Output Power						
	DCI	<0.5%In						
Output (Back-up)	Rated Output Power (W)	15,000	17,000	20,000	25,000	29,900	30,000	33,000
	Max. Output Power (W)	16,500	18,700	22,000	27,500	29,900	33,000	36,300
	Back-up output rated apparent power (VA)	15,000	17,000	20,000	25,000	29,900	30,000	33,000
	Max. Apparent Power (VA)	16,500	18,700	22,000	27,500	29,900	33,000	36,300
	Back-up output rated current (A)	21.7	24.6	29.0	36.2	43.3	43.5	47.8
	Max. Output Current (A)	25.0	28.3	33.3	41.7	49.8	50.0	55.0
	UPS switching time	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms
	Rated Output Voltage (V)	3L/N/PE，230 (400)						
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60
	Voltage harmonic distortion	<3% @Linear load						
Effeiciency	Max. Efficiency	98.1%	98.1%	98.1%	98.2%	98.2%	98.2%	98.2%
	European Efficiency	97.3%	97.3%	97.3%	97.4%	97.4%	97.4%	97.4%
	MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
	Max battery charging conversion efficiency	97.2%	97.2%	97.2%	97.3%	97.3%	97.3%	97.3%
	Max battery discharge conversion efficiency	97.2%	97.2%	97.2%	97.3%	97.3%	97.3%	97.3%

Protection	
DC Reverse Polarity Protection	Integrated
Battery input reverse connection protection	Integrated
Insulation Resistance Protection	Integrated
DC Switch	Optional
Surge Protection	Integrated
Over-temperature Protection	Integrated
Residual Current Protection	Integrated
Islanding protection	Frequency shift, Integrated
AC Over-voltage Protection	Integrated
overload protection	Integrated
AC Short-circuit Protection	Integrated

General Data	
Over voltage category	PV: Ⅱ； Main: Ⅲ
Dimensions (mm)	600W*400H*280D
Weight (KG)	45
Protection Degree	IP66
Self-consumption at Night (W)	<15
Topology	Transformer less
Operating Temperature Range (° C)	-30~60
Relative Humidity (%)	0~100
Operating Altitude (m)	4000 (derating@ > 3000)
Cooling	Smart Fan Cooling
Noise Level (dB)	<50
Display	OLED & LED
Communication	WiFi/LAN (Optional)

Compliance
IEC62109、IEC62116、VDE4105、VDE0126、AS4777、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000、NRS097-2-1、IEC/EN 62477-1

① Max apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery.

PRODUCT INTRODUCTION

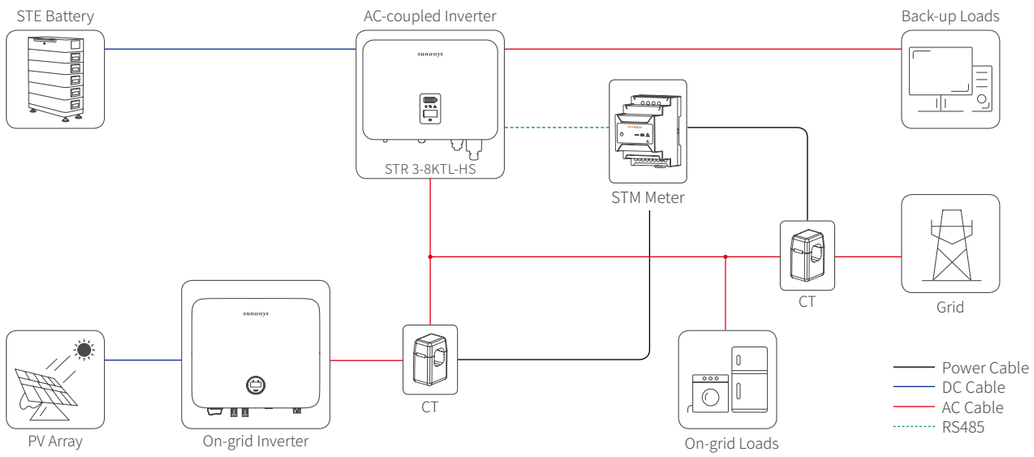
Sunways Single Phase AC-coupled Inverter with Two MPPT

STR-3~8KTL-HS

MAX 98.0% EFFICIENCY

IP65 PROTECTION

- Max. efficiency up to 98.0%
- With AC output ranging from 3kW to 8kW
- Powerful load adaptability, support multiple loads stable access
- Fast and easy data checking and commissioning via App or OLED display
- Wide battery voltage range allows more battery modules connection and increases self consumption rate.
- Fast charging/discharging of up to 30A to meet the demand of higher consumption and energy trading.
- Compatible with most on-grid inverters in the market
- UPS: Uninterruptible power supply, switch to off-grid modve within 10ms



Technical Parameters

Single Phase:STR-3K~8KTL-HS

Model		STR-3KTL-HS	STR-3.6KTL-HS	STR-4.2KTL-HS	STR-4.6KTL-HS	STR-5KTL-HS	STR-6KTL-HS	STR-7KTL-HS	STR-8KTL-HS
Battery	Battery Type	Lithium battery (with BMS)							
	Battery Communication Mode	CAN / RS485							
	Battery Voltage Range (V)	85-500	85-500	85-500	85-500	85-500	85-500	85-500	85-500
	Maximum Charging Current (A)	30	30	30	30	30	30	30	30
	Maximum Discharge Current (A)	30	30	30	30	30	30	30	30
	Rated Current Of Built-In Fuse (A)	63	63	63	63	63	63	63	63
Output (Grid)	Rated Output Power (W)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Output Power (W)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	AC Output Rated Apparent Power (VA)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Apparent Power (VA)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Max. Input Apparent Power (VA)	6,000①	7,200①	8,400①	9,200①	10,000①	11,000①	11,000①	11,000①
	Rated Output Voltage (V)	L/N/PE，220/230/240							
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
	AC Output Rated Current (A)	13	15.7	18.3	20	21.7	26.1	31.8	36.3
	Max. Output Current (A)	15	18	21	21	25/21.7	28.7	35	36.3
	Power Factor	0.8 leading…0.8 lagging							
	Max. Total Harmonic Distortion	<3% @Rated Output Power							
	DCI	<0.5%In	<0.5%In	<0.5%In	<0.5%In	<0.5%In	<0.5%In	<0.5%In	<0.5%In
Output (Back-up)	Rated Output Power (W)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Output Power (W)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Back-up output rated apparent power (VA)	3,000	3,600	4,200	4,600	5,000	6,000	7,000	8,000
	Max. Apparent Power (VA)	3,300	3,960	4,600	4,600	5,500	6,600	7,700	8,000
	Back-up output rated current (A)	13	15.7	18.3	20	21.7	26.1	31.8	36.3
	Max. Output Current (A)	15	18	21	21	25/21.7	28.7	35	36.3
	UPS switching time	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms
	Rated Output Voltage (V)	L/N/PE，220/230/240							
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
	Peak output apparent power (VA)	6,000②，60s	7,200②，60s	8,400②，60s	9,200②，60s	10,000②，60s	10,000②，60s	10,000②，60s	10,000②，60s
	Voltage harmonic distortion	<3% @Linear load							
Efficiency	Battery Charged By PV Max. Efficiency	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
	Battery Charged By AC Max. Efficiency	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%
	Max Battery Discharge Conversion Efficiency	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%	96.6%

Protection	
Battery input reverse connection protection	Integrated
Insulation Resistance Protection	Integrated
Surge Protection	Integrated
Over-temperature Protection	Integrated
Residual Current Protection	Integrated
Islanding protection	Frequency shift, Integrated
AC Over-voltage Protection	Integrated
Overload protection	Integrated
AC Short-circuit Protection	Integrated

General Data	
Over voltage category	Main: III
Dimensions (mm)	550W*410H*175D
Weight (KG)	23
Protection Degree	IP65
Self-consumption at Night (W)	<15
Topology	Transformer less
Operating Temperature Range (° C)	-30~60
Relative Humidity (%)	0~100
Operating Altitude (m)	3000
Cooling	Natural Convection
Noise Level (dB)	<25
Display	OLED & LED
Communication	WiFi/LAN (Optional)

Compliance
IEC62109、IEC62116、VDE 4105、VDE 0126、AS4777、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000

① Max apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery.
② The output power will exceed the rated value only when the power in the PV array is sufficient, and the duration of the overload is relating to the overload power.

PRODUCT INTRODUCTION

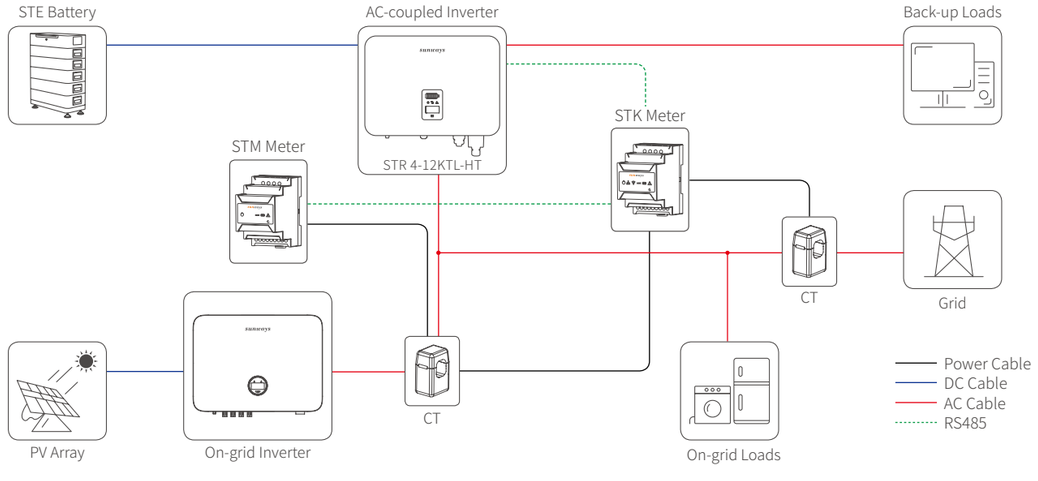
Sunways Three Phase AC-coupled Inverter with Two MPPT

STR-4K~12KTL-HT

MAX 97.3% EFFICIENCY

IP65 PROTECTION

- Max. efficiency up to 97.3%
- Up to 110% phase unbalanced output available on both on-grid and back-up outputs.
- Support back-up paralleling connection of up to 10 units.
- Fast and easy data checking and commissioning via App or OLED display
- 135~750V wide battery connection range to store more energy and optimize self-sufficiency rate.
- Arbitrary phase of back-up output allows up to 125% overloading ability.
- Maximum 200% back-up output overloading @60s.
- Uninterruptible power supply, switch to off-grid mode within 10ms



Technical Parameters

Three Phase:STR-4K~12KTL-HT

Model		STR-4KTL-HT	STR-5KTL-HT	STR-6KTL-HT	STR-8KTL-HT	STR-10KTL-HT	STR-12KTL-HT
Battery	Battery Type	Lithium battery (with BMS)					
	Battery communication mode	CAN / RS485					
	Battery voltage range (V)	135-750	135-750	135-750	135-750	135-750	135-750
	Maximum charging current (A)	25	25	25	25	25	25
	Maximum discharge current (A)	25	25	25	25	25	25
	Rated current of built-in fuse (A)	63	63	63	63	63	63
Output (Grid)	Rated Output Power (W)	4,000	5,000	6,000	8,000	10,000	12,000
	Max. Output Power (W)	4,400	5,500	6,600	8,800	11,000	13,200
	AC output rated apparent power (VA)	4,000	5,000	6,000	8,000	10,000	12,000
	Max. Apparent Power (VA)	4,400	5,500	6,600	8,800	11,000	13,200
	Max. Input Apparent Power (VA)	8,000 ①	10,000 ①	12,000 ①	16,000 ①	16,500 ①	16,500 ①
	Rated Output Voltage (V)	3L/N/PE，230 (400)					
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
	AC output rated current (A)	5.8	7.3	8.7	11.6	14.5	17.4
	Max. Output Current (A)	6.7	8.3	10	13.3	16.5	20
	Power Factor	0.8 leading⋯0.8 lagging					
	Max. total harmonic distortion	<3% @Rated Output Power					
	DCI	<0.5%In	<0.5%In	<0.5%In	<0.5%In	<0.5%In	<0.5%In
Output (Back-up)	Rated Output Power (W)	4,000	5,000	6,000	8,000	10,000	12,000
	Max. Output Power (W)	4,400	5,500	6,600	8,800	11,000	13,200
	Back-up output rated apparent power (VA)	4,000	5,000	6,000	8,000	10,000	12,000
	Max. Apparent Power (VA)	4,400	5,500	6,600	8,800	11,000	13,200
	Back-up output rated current (A)	5.8	7.3	8.7	11.6	14.5	17.4
	Max. Output Current (A)	6.7	8.3	10	13.3	16.5	20
	UPS switching time	<10ms	<10ms	<10ms	<10ms	<10ms	<10ms
	Rated Output Voltage (V)	3L/N/PE，230 (400)					
	Rated AC Frequency (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
	Peak output apparent power (VA)	8,000 ②，60s	10,000 ②，60s	12,000 ②，60s	16,000 ②，60s	20,000 ②，60s	20,000 ②，60s
	Voltage harmonic distortion	<3% @Linear load					
Efficiency	Max battery charging conversion efficiency	97.2%	97.2%	97.2%	97.3%	97.3%	97.3%
	Max battery discharge conversion efficiency	97.2%	97.2%	97.2%	97.3%	97.3%	97.3%

Protection	
Battery input reverse connection protection	Integrated
Insulation Resistance Protection	Integrated
Surge Protection	Integrated
Over-HTemperature Protection	Integrated
Residual Current Protection	Integrated
Islanding protection	Frequency shift, Integrated
AC Over-voltage Protection	Integrated
Overload protection	Integrated
AC Short-circuit Protection	Integrated

General Data	
Over voltage category	Main: III
Dimensions (mm)	550*410*175
Weight (KG)	23
Protection Degree	IP65
Self-consumption at Night (W)	<15
Topology	Transformer less
Operating Temperature Range (° C)	-30~60
Relative Humidity (%)	0~100
Operating Altitude (m)	3000
Cooling	Natural Convection
Noise Level (dB)	<25
Display	OLED & LED
Communication	WiFi/LAN (Optional)

Compliance
IEC62109、IEC62116、VDE 4105、VDE 0126、AS4777、RD1699、NBR16149、IEC61727、IEC60068、IEC61683、EN50549、EN61000

① Max apparent power from the grid means the maximum power imported from the utility grid used to satisfy the backup loads and charge the battery.
② The output power will exceed the rated value only when the power in the PV array is sufficient, and the duration of the overload is relating to the overload power.

PRODUCT INTRODUCTION

WIFI Module

Reliability **Flexibility** **Extensibility**

- Plug and play 1s installation
- Metal body, beautiful and long durable
- Easy to configure with Sunways Monitoring App
- Support local and remote monitoring
- IP65, for both indoor and outdoor installation
- Enable mobile monitoring at anytime anywhere

Technical Parameters

General Data	
Max. No. of Inverters	1
Inverter Communication	USB3.0
Remote Communication	WIFI (802.11 b/g/n)
Serial Port Communication Rate (bps)	115200
Communication Distance (M)	100 (without obstacles)
External Antenna	SMA water-proof glue stick antenna
Data Intervals	Remote configuration available
Preference Setting	Remote Web、APP
Data Access	Remote server
Working Voltage (V)	DC 5
Working Current (mA)	80 (200 Peak)
Wireless Data	
WiFi Transmitting Power	802.11b: +16 +/-2dBm (@11Mbps)、 802.11g: +14 +/-2dBm (@54Mbps)、 802.11n: +13 +/-2dBm (@HT20, MCS7)
WiFi Receiving Sensitivity	802.11b: -87 dBm (@11Mbps ,CCK)、 802.11g: -73 dBm (@54Mbps, OFDM)、 802.11n: -71 dBm (@HT20, MCS7)
WiFi Operating Frequency (GHz)	2.412-2.484
Environmental Data	
Operating Temperature (℃)	-10~+60
Operating Humidity	0%-90% relative humidity, no condensation
Storage Temperature (℃)	-40~+85
Storage Humidity (%)	< 40
Protection Degree	IP65
Other Data	
Dimensions (mm)	156L*52W*30H
Weight (g)	130
Certificates	CE
Warranty	2 years

PRODUCT INTRODUCTION

GPRS Module

Reliability **Flexibility** **Easy to use**

- Metal body, beautiful and long durable
- Plug and play 1s installation, no need to set
- Support local and remote monitoring
- IP65, for both indoor and outdoor installation
- External SIM card slot, easier for SIM card replacement
- External antenna, stronger signal and reliable communication
- Enable mobile monitoring at anytime anywhere

Technical Parameters

General Data	
Max. No. of Inverters	1
Inverter Communication	USB3.0
External Antenna	SMA water-proof glue stick antenna
Data Intervals	Remote configuration available
Preference Setting	Remote Web、APP
Data Access	Remote server
Working Voltage (V)	DC 5
Working Current (mA)	130 (600 Peak)
Wireless Data	
WirelessTransmitting Power (dbm)	GSM850/EGSM900：5～32.5、DCS1800/PCS1900：0～29.5
Wireless Receiving Sensitivity (dBm)	< -108.5
Wireless Operating Frequency	GSM850, EGSM900, DCS1800, PCS1900
GPRS Connection Features	GPRS multi-slot class is 10 (default), GPRS mobile station class B
Environmental Data	
Operating Temperature (℃)	-10~+60
Operating Humidity (%)	0-90 relative humidity, no condensation
Storage Temperature (℃)	- 40~+85
Storage Humidity (%)	< 40
Protection Degree	IP65
Other Data	
Dimensions (mm)	156L*52W*30H
Weight (g)	140
Certificates	SRRC
Warranty	2 years

PRODUCT INTRODUCTION

LAN Module

Reliability **Flexibility** **Easy to use**

- Plug and play 1s installation
- Data encrypted to ensure data security
- Supports breakpoint retransmission
- Remote upgrade available
- Stable and reliable data transmission via wired internet cable
- Default dynamic IP mode and static IP commissioning available

Technical Parameters

General Data	
Max. No. of Inverters	1
Inverter Communication	USB3.0
Remote Communication	IEEE802.3 10
Serial Port Communication Rate(bps)	115200
Communication Distance(M)	100 (MAX)
Data Intervals	Remote configuration available
Preference Setting	Remote Web、APP
Data Access	Remote server
Working Voltage(V)	DC 5
Working Current (mA)	100 (220 Peak)
Environmental Data	
Operating Temperature (°C)	-30~+75
Operating Humidity	0%-90% relative humidity, no condensation
Storage Temperature (°C)	-40~+85
Storage Humidity	< 40%
Protection Degree	IP65
Other Data	
Dimensions (mm)	116L*52W*30H
Weight (g)	100
Certificates	CE
Warranty	2 years

PRODUCT INTRODUCTION

Sunways Smart Meter

S T M

Export limitation & control

Various models of CT are available

Compatible with various grid types

High current measurement precision

Technical Parameters

MODEL		STM
Voltage		85~265V
Frequency		50/60Hz
Rated Current		90A/120A/300A（With CT）
Self-consumption		<3W
Data Detection		Current/Voltage/Active Power/Reactive Power/Power Factor/Frequency
Energy Calculation		Bidirectional Active/Reactive Power Energy
Precision	Active Power	Class 1 (IEC 62053-22)
	Reactive Power	Class 1 (IEC 62053-23)
Communication		Modbus RTU (RS485)
Interface		3 LED, Reset Button
Mechanical Parameters	Terminal capacity	0.5~4mm^2
	Size (L*W*H)	85*54*75mm
	Weight	150g
	Protection Class	IP20 (For Indoor Use)
	Installation Method	35mm DIN Rail
Operating Temperature		-25 ~ +60° C
Operating Humidity		<95%, No Condensation
Altitude		<2500m

PRODUCT INTRODUCTION

Sunways Energy Manager

S T K

Export limitation & control

Various models of CT are available

Compatible with various grid types

High current measurement precision

24/7 Real-time consumption monitoring

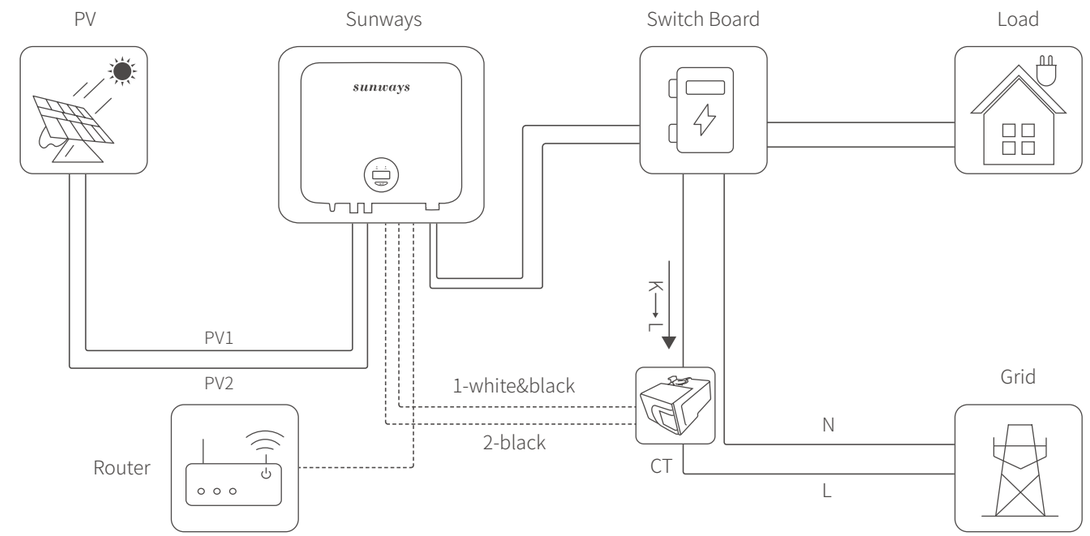
Integrated features of WiFi/LAN/RS485

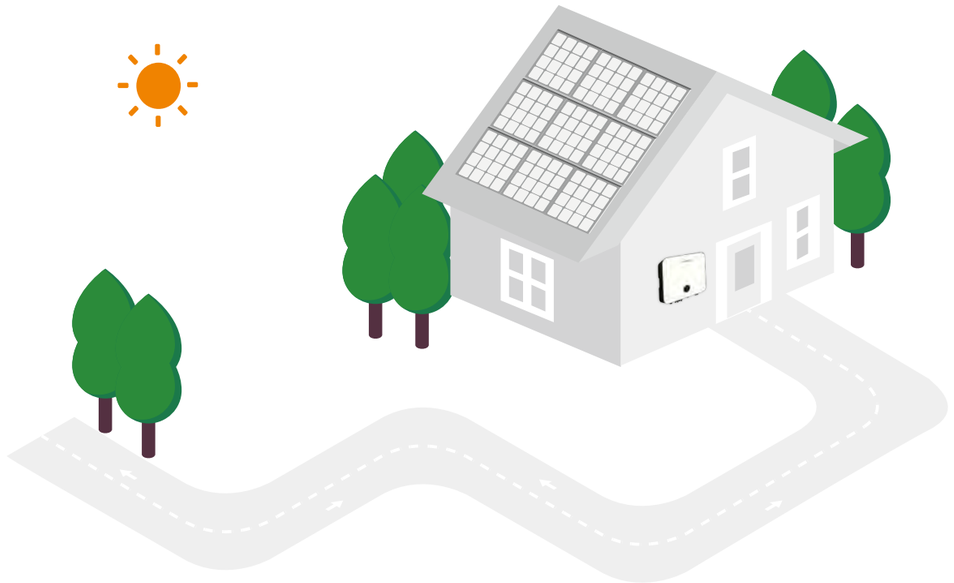
Technical Parameters

MODEL		STK
Voltage		85~265V
Frequency		50/60Hz
Rated Current		90A/120A/300A（With CT）
Self-consumption		<5W
Data Detection		Current/Voltage/Active Power/Reactive Power/Power Factor/Frequency
Energy Calculation		Bidirectional Active/Reactive Power Energy
Precision	Active Power	Class 1 (IEC 62053-22)
	Reactive Power	Class 1 (IEC 62053-23)
Communication		Modbus RTU (RS485)、WiFi/LAN/Bluetooth
Interface		5 LED, Reset Button
Mechanical Parameters	Terminal capacity	0.5~4mm^2
	Size (L*W*H)	85*54*75mm
	Weight	150g
	Protection Class	IP20 (For Indoor Use)
	Installation Method	35mm DIN Rail
Operating Temperature		-25 ~ +60° C
Operating Humidity		<95%, No Condensation
Altitude		<2500m

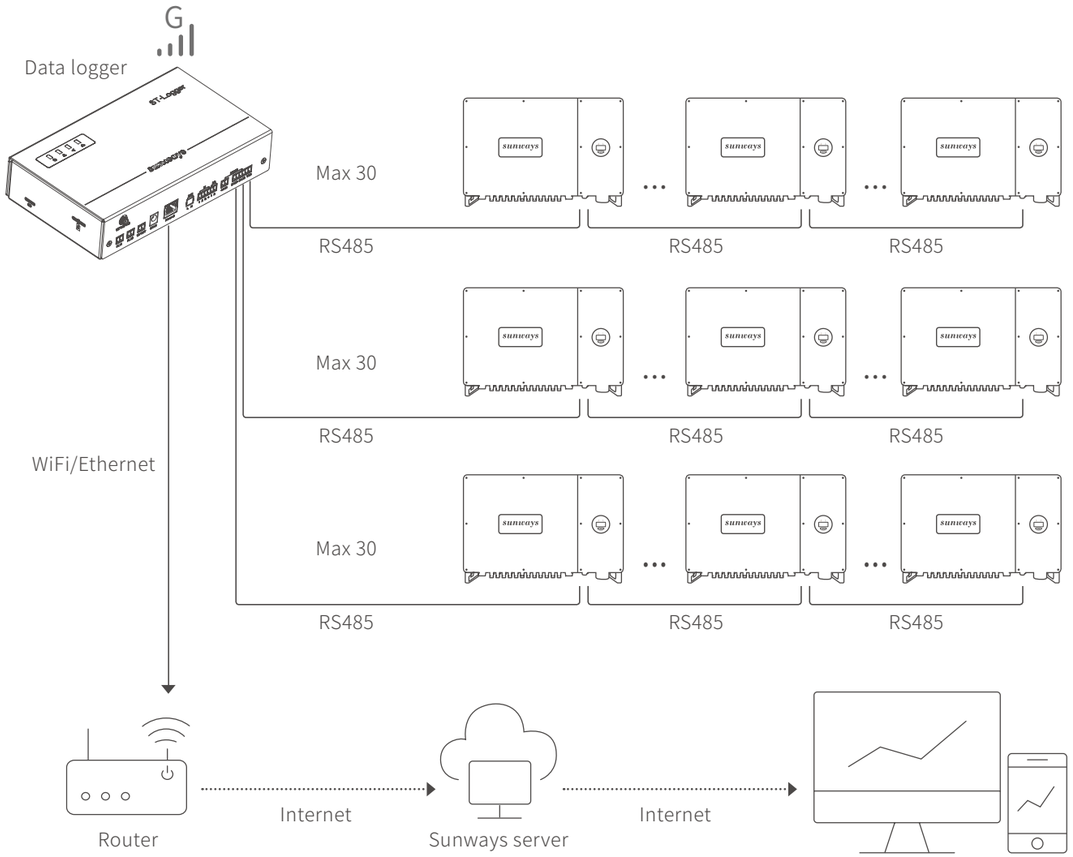
APPLY SCENARIOS

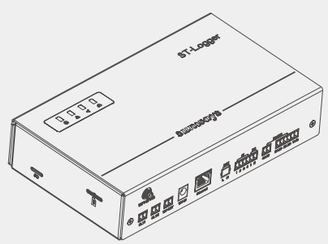
Generally, Grid connected PV inverters are used on the residential and commercial roof. The PV system consists of photovoltaic array, grid-connected inverter, grid, and load. According to the application scenarios which has been choosen is all power exported to grid or only surplus power exported to the grid to decide whether the load should be connected to the system.





MONITORING SYSTEM





Data logger

Flexible Networking

- Monitoring of up to 90 devices
- Support of RS485, Ethernet, WiFi and GPRS communication
- Support of energy meter, meteo station, sensors and other equipment access

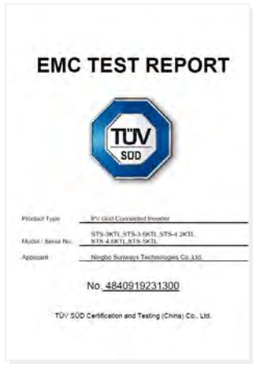
Convenient O&M

- Active and reactive power control
- 100% data availability through 24/7 operations
- Inverter batch parameter setting and firmware updates
- Plant maintenance by remote Web access, optimized OPEX

04 WHY US

CERTIFICATES

C10-11



EN61000

EN50549

SAA

EN62109

IEC62109

CEI 0-21

RD1699

For more latest certificates, please visit us at www.sunways-tech.com to download.

SUPPORT

Convenient

SUNTECH	SUNWAYS	METEO CONTROL
Panel	Inverter	Monitoring

Fast

7×24H	Local Support	Within 24H	Training
Hotline	Provide professional and rapid local service	Quick response	Provide quality and comprehensive products training

05 CASE STUDY

Project Address: Lishui, China

Project Capacity: 3.168MW

Inverter: 48 sets of Sunways STT 60kW inverter

Project Address：Cixi, China

Project Capacity：1.1MW

Inverter：20 sets of Sunways STT 50kW inverter

Project Address：Serra, Brazil

Project Capacity：390kW

Inverter：6 sets of Sunways STT 60kW inverter

Project Address：Gujarat, India

Project Capacity：5kW

Inverter：1 set of Sunways STS 5kW inverter