Originated from Germany, Since 1993

sunways

Photovoltaic Technology

+ CONTENT

01 COMPANY PROFILE 04-07

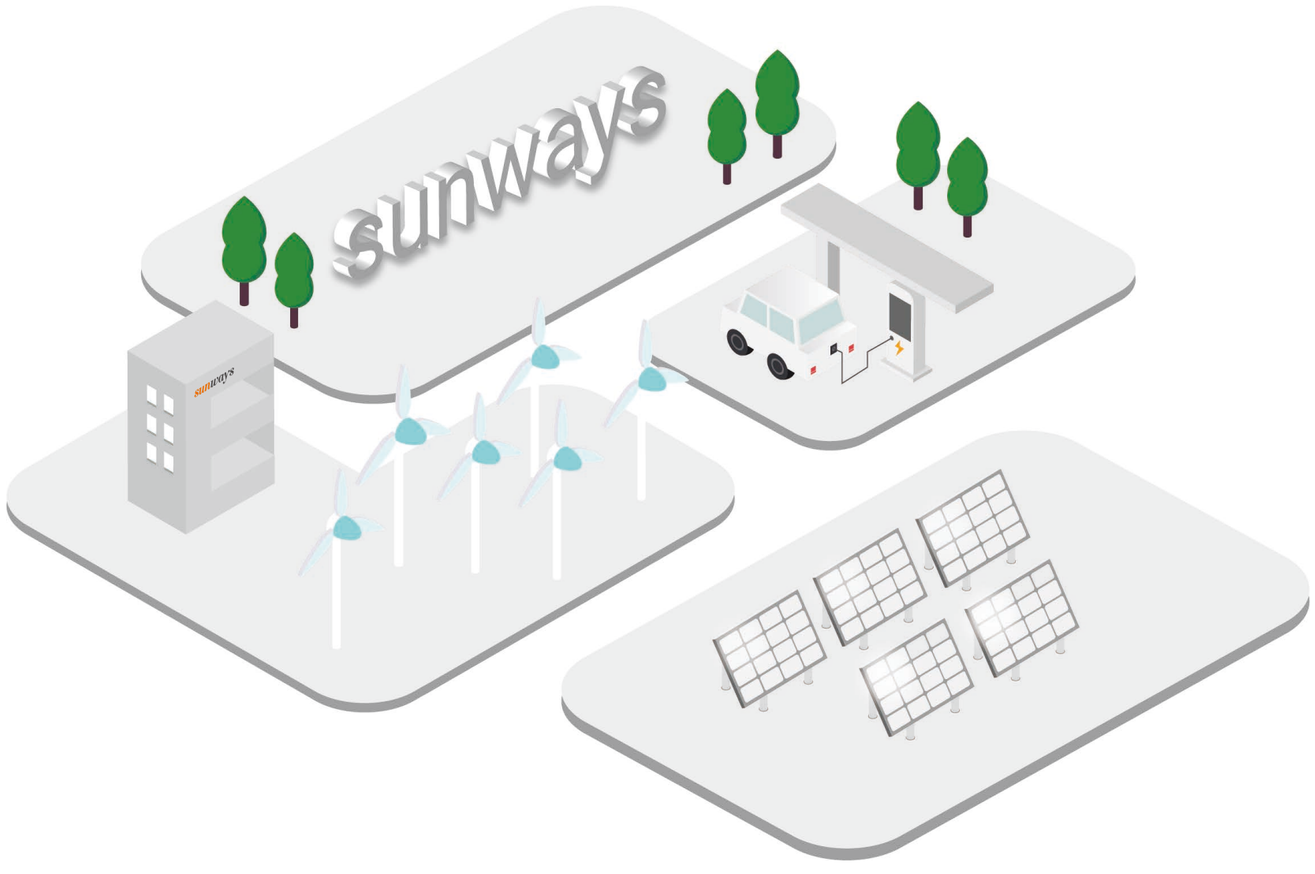
02 PRODUCTS 08-28

03 MONITORING 29-31

04 WHY US 32-33

05 CASE STUDY 34-39

01 COMPANY PROFILE



WHO WE ARE

Sunways Origination

Originated from Germany, 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 solution groups. Sunways has a beyond compare 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 40 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 4000m^2 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 set 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, from the source the quality assurance is ensured, based on the world-famous brand components, and Sunways commits to make brand-based inverter with highly standardized craft and integral quality inspection process.

German Design & Performance Since 1993

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

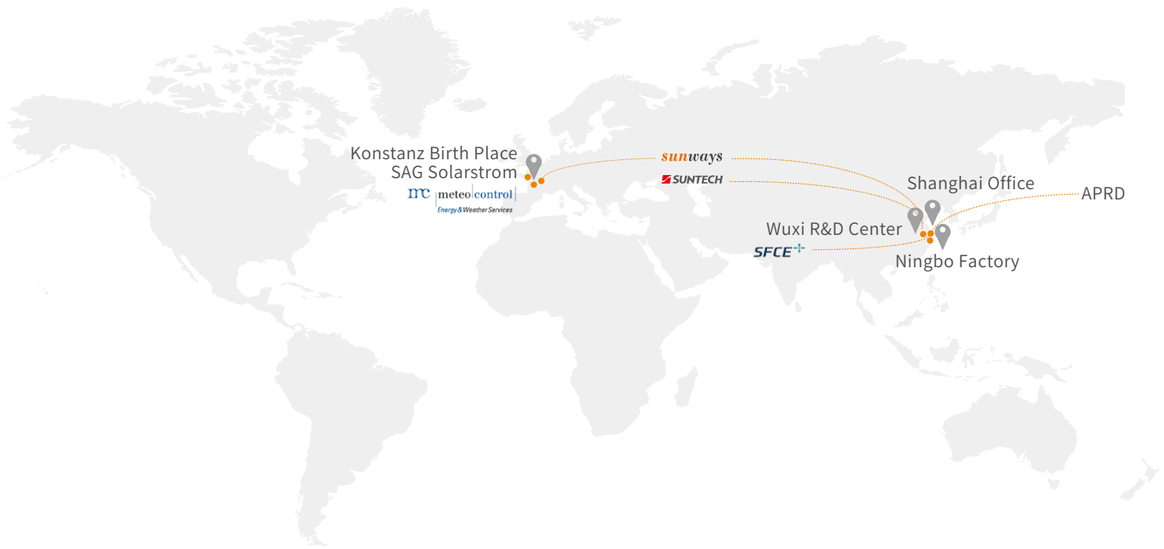
2018
Sunways experts team started new product development at its advanced facility

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

2020
Expanded our inverter power range up to 136kW 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

Rubycon · NIPPON CHEMI-CON · TDK · nichicon · Panasonic
santon · KEMET · YAGEO · ZETTLER · Amphenol
Multi-Contact · wieland · OMRON · Avago Technologies · Texas Instruments
ebmpapst · VAC · CREE · 3M · EPCOS
HF · infineon · VISHAY · ON · ST life.augmented
CPVT · CQC · TÜV SÜD

02 PRODUCTS

WHAT WE HAVE

Single Phase Series
STS-1~3.3KTL-S

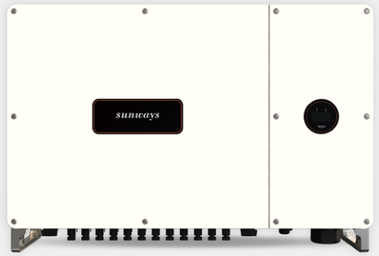
Single Phase Series
STS-3~6KTL

Single Phase Series
STS-7~8KTL

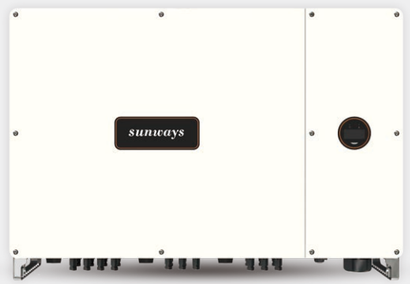
Smart Three Phase Series
STT-4~25KTL

Single Phase Storage Series
STH-3~8KTL-HS

Three Phase Storage Series
STH-4~12KTL-HT



Industrial Three Phase Series
STT-50~60KTL



Industrial Three Phase Series
STT-80~125KTL

Data Logger
ST Logger 1000

Monitoring Devices
WiFi Module

Monitoring Devices
GPRS Module

PRODUCT INTRODUCTION

Sunways Single Phase with Single MPPT

STS-1K/1.5K/2K/2.5K/3K/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
- IP65, wider working temperature and altitude, adapt to various installation environments

High Revenue

- 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
- Standard 5 years warranty, extendable to 10 or 15 years

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/Wi-Fi/GPRS/LAN optional)
- Remote upgrading available
- Intelligent positioning abnormal string with integrated I/V scan function

Technical Parameters

Single Phase:STS-1K/1.5K/2K/2.5K/3K/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)	1,300	1,950	2,600	3,250	3,900	3,900
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 (Type Ⅱ)					
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/3.6K/4.2K/4.6K/5K/6KTL

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
- IP65, wider working temperature and altitude, adapt to various installation environments

High Revenue

- High yield with Max. 98.1% efficiency
- European weighted efficiency 97.5%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- Dual MPPT design with precise MPPT algorithm
- Standard 5 years warranty, extendable to 10 or 15 years

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/Wi-Fi/GPRS/LAN optional)
- Remote upgrading available
- Intelligent positioning abnormal string with integrated I/V scan function

Technical Parameters

Single Phase:STS-3K/3.6K/4.2K/4.6K/5K/6KTL

Model	STS-3KTL	STS-3.6KTL	STS-4.2KTL	STS-4.6KTL	STS-5KTL	STS-6KTL
Input						
Max. Input Power (W)	3,900	4,680	5,460	5,980	6,500	7,800
Start-up Voltage (V)	120	120	120	120	120	120
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)	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5	12.5/12.5
Max. Short-circuit Current (A)	15/15	15/15	15/15	15/15	15/15	15/15
Output						
Rated Output Power (W)	3,000	3,600	4,200	4,600	5,000	6,000
Max. Output Power (W)	3,300	3,960	4,600	4,600	5,500 *	6,600
Max. Apparent Power (VA)	3,300	3,960	4,600	4,600	5,500 *	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 **	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 (Type Ⅱ)					
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					

* : 5000 for Belgium. ** : 21.7 for Belgium.

PRODUCT INTRODUCTION

Sunways Single Phase with Dual MPPT

S T S - 7 K / 8 K T L

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
- IP65, wider working temperature and altitude, adapt to various installation environments

High Revenue

- High yield with Max. 98.1% efficiency
- European weighted efficiency 97.6%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- Dual MPPT design with precise MPPT algorithm
- Standard 5 years warranty, extendable to 10 or 15 years

Easy to use

- Remote upgrading available
- Plug and play connectors, easy for installation
- Max. DC input current up to 13.5A, compatible with high-power panels
- Support wireless and wired internet connection (RS485/Wi-Fi/GPRS/LAN optional)
- Intelligent positioning abnormal string with integrated I/V scan function

Technical Parameters

Single Phase:STS-7K/8KTL

Model	STS-7KTL	STS-8KTL
Input		
Max. Input Power (W)	10,500	12,000
Start-up Voltage (V)	80	80
Min. DC Voltage (V)	120	120
Max. DC Input Voltage (V)	600	600
Rated DC Input Voltage (V)	360	360
MPPT Voltage Range (V)	80-550	80-550
No. of MPP Trackers	2	2
No. of DC Inputs per MPPT	1/2	1/2
Max. Input Current (A)	13.5/27	13.5/27
Max. Short-circuit Current (A)	16/32	16/32
Output		
Rated Output Power (W)	7,000	8,000
Max. Output Power (W)	7,700	8,800
Max. Apparent Power (VA)	7,700	8,800
Rated Output Voltage (V)	220/230	
Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz	
Max. Output Current (A)	35	36.5
Power Factor	>0.99 (0.8 leading ⋯0.8 lagging adjustable)	
Max. Total Harmonic Distortion	<3% @Rated Output Power	
DCI	<0.5%In	
Efficiency		
Max. Efficiency	98.1%	98.1%
European Efficiency	>97.6%	>97.6%
MPPT Efficiency	99.9%	99.9%
Protection		
DC Reverse Polarity Protection	Integrated	
Insulation Resistance Protection	Integrated	
DC Switch	Optional	
Surge Protection	Integrated (Type Ⅱ)	
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)	22	
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	IEC62109、IEC62116、AS4777、NBR16149、IEC61727、IEC60068、IEC61683、EN61000	

PRODUCT INTRODUCTION

Sunways Three Phase with Dual MPPT

STT-4K/5K/6K/8K/10K/12K/15K/17K/20k/25KTL

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
- IP65, wider working temperature and altitude, adapt to various installation environments

High Revenue

- 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
- Dual MPPT design with precise MPPT algorithm
- Standard 5 years warranty, extendable to 10 or 15 years

Easy to use

- Compact elegant design, less than 25kg, easy for installation
- Support wireless and wired internet connection (RS485/Wi-Fi/GPRS/LAN optional)
- Remote upgrading available
- Intelligent positioning abnormal string with integrated I/V scan function

Technical Parameters

Three Phase:STT-4K/5K/6K/8K/10K/12K/15K/17K/20K/25KTL

Model	STT-4KTL	STT-5KTL	STT-6KTL	STT-8KTL	STT-10KTL	STT-12KTL	STT-15KTL	STT-17KTL	STT-20KTL	STT-25KTL
Input										
Max. Input Power (W)	5,200	6,500	7,800	10,400	13,000	15,600	19,500	22,100	26,000	32,500
Start-up Voltage (V)	200	200	200	200	200	200	200	200	200	200
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)	200-950	200-950	200-950	200-950	200-950	200-950	200-950	200-950	200-950	200-950
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)	11/11	11/11	11/11	11/11	11/11	11/11	11/22	22/22	22/22	22/22
Max. Short-circuit Current (A)	15/15	15/15	15/15	15/15	15/15	15/15	15/30	30/30	30/30	30/30
Output										
Rated Output Power (kW)	4	5	6	8	10	12	15	17	20	25
Max. Output Power (kW)	4.4	5.5	6.6	8.8	11	13.2	16.5	18.7	22	25
Max. Apparent Power (kVA)	4.4	5.5	6.6	8.8	11	13.2	16.5	18.7	22	25
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 (Type Ⅱ)									
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)	22						25			
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									

PRODUCT INTRODUCTION

Sunways Three Phase with Six MPPT

STT-50K/60KTL

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 technology
- IP65, wider working temperature and altitude, adapt to various installation environments

High Revenue

- High yield with Max. 98.8% efficiency
- European weighted efficiency 98.3%
- Wide MPPT voltage range
- Up to 10% continuous output overloading capacity
- Six MPPT design, lower PV string mismatch loss
- Optional anti-PID function integrated
- Standard 5 years warranty, extendable to 10 or 15 years

Easy to use

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

Technical Parameters

Three Phase:STT-50K/60KTL

Model	STT-50KTL	STT-60KTL
Input		
Max. Input Power (W)	65,000	78,000
Start-up Voltage (V)	200	200
Min. DC Voltage (V)	180	180
Max. DC Input Voltage (V)	1,100	1,100
Rated DC Input Voltage (V)	620	620
MPPT Voltage Range (V)	200-950	200-950
No. of MPP Trackers	6	6
No. of DC Inputs	12	12
Max. Input Current (A)	22/22/22/22/22/22	22/22/22/22/22/22
Max. Short-circuit Current (A)	30/30/30/30/30/30	30/30/30/30/30/30
Output		
Rated Output Power (kW)	50	60
Max. Output Power (kW)	55	66
Max. Apparent Power (kVA)	55	66
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 (Type Ⅱ)	
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	

PRODUCT INTRODUCTION

Sunways Three Phase with Eight/Ten MPPT

STT-80K/100K/110K/125KTL

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 Revenue

- 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
- Max 13A input, compatible with bifacial panel

Convenience

- Support wireless and wired internet connection (RS485, Wi-Fi/GPRS/LAN optional)
- Remote upgrading available
- App+Oled dual displaying module, user friendly

Technical Parameters

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

Model	STT-80KTL	STT-100KTL	STT-110KTL	STT-100KTL-HV	STT-125KTL-HV
Input					
Max. Input Power (W)	104,000	130,000	143,000	130,000	162,500
Start-up Voltage (V)	200	200	200	200	200
Min. DC Voltage (V)	180	180	180	180	180
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 (kW)	80	100	110	100	125
Max. Output Power (kW)	88	110	121	110	137.5
Max. Apparent Power (kVA)	88	110	121	110	137.5
Rated Output Voltage (V)	3L/N/PE, 230/400V			3L/N/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 (Type Ⅱ)				
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				
Noise Level (dB)	< 55				
Display	OLED & LED				
Communication	RS485, WiFi/GPRS/LAN (Optional)				
Compliance	NB/T32004、IEC62109、IEC62116、IEC61727、IEC60068、IEC61683、EN50549、EN61000				

PRODUCT INTRODUCTION

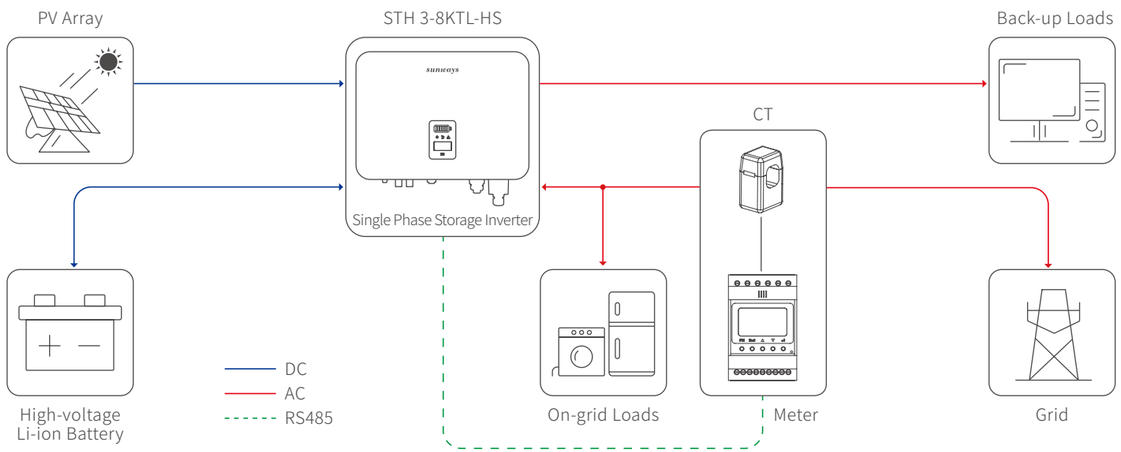
Sunways Single Phase Storage Inverter

STH-3K/3.6K/4.2K/4.6K/5K/6K/7K/8KTL-HS

MAX 97.6% EFFICIENCY

IP65 PROTECTION

Max. efficiency up to 97.6%	With AC output ranging from 3kW to 8kW	Fanless design, ultra-silence
Powerful load adaptability, support multiple loads stable access	Oled display+App, two ways for data checking and management	85~500V super wide battery voltage range, adapt to bigger capacity battery
Up to 30A charging and discharging current allows bigger capacity battery accessing and faster charging	Intelligent EMS management, power dispatching from PV, Battery and Grid is more flexible	Uninterruptible power supply, switch to off-grid mode within 10ms



Technical Parameters

Single Phase:STH-3K/3.6K/4.2K/4.6K/5K/6K/7K/8KTL-HS

Model		STH-3KTL-HS	STH-3.6KTL-HS	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)	3,900	4,680	5,460	5,980	6,500	7,800	9,100	10,400
	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	2	2	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)	13.5/13.5	13.5/13.5	13.5/13.5	13.5/13.5	13.5/13.5	13.5/13.5	13.5/13.5	13.5/13.5
	Max. Short-circuit Current (A)	18/18	18/18	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)	85-500							
	Max. Charge/Discharge Current (A)	30/30							
	Rated Current of Built-in Fuse (A)	63							
Output (Grid)	Rated Output Power (kW)	3	3.6	4.2	4.6	5/4.99①	6	7	8
	Max. Output Power (kW)	3.3	3.96	4.6	4.6	5.5/4.99①	8.8	11	13.2
	Max. Apparent Power (kVA)	3.3	3.96	4.6	4.6	5.5/4.99①	8.8	11	13.2
	Max. Input Apparent Power (kVA)	6②	7.2②	8.4②	9.2②	10②	11②	11②	11②
	Max. Charging Power of Battery (kW)	3	3.6	4.2	4.6	5/4.99①	6	7	8
	Rated Output Voltage (V)	L/N/PE, 220/230/240V							
	Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz							
	Max. Output Current (A)	15	18	21	21	25/21.7①	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)	UPS Switching Time	< 10ms							
	Rated Output Voltage (V)	L/N/PE, 220/230/240V							
	Rated AC Frequency (Hz)	50/60Hz 45-55Hz/55-65Hz							
	Max. Apparent Output Power (kVA)	3.3	3.96	4.6	4.6	5.5/4.99①	8.8	11	13.2
	Peak Overload Apparent Power (kVA)	6③, 60s	7.2③, 60s	8.4③, 60s	9.2③, 60s	10③, 60s	10③, 60s	10③, 60s	10③, 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	Integrated
Surge Protection	Integrated (Type Ⅱ)
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 The grid feed in power for AS/NZS 4777.2 is limited 4.99kW & 4.99kVA & 21.7A.
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.

PRODUCT INTRODUCTION

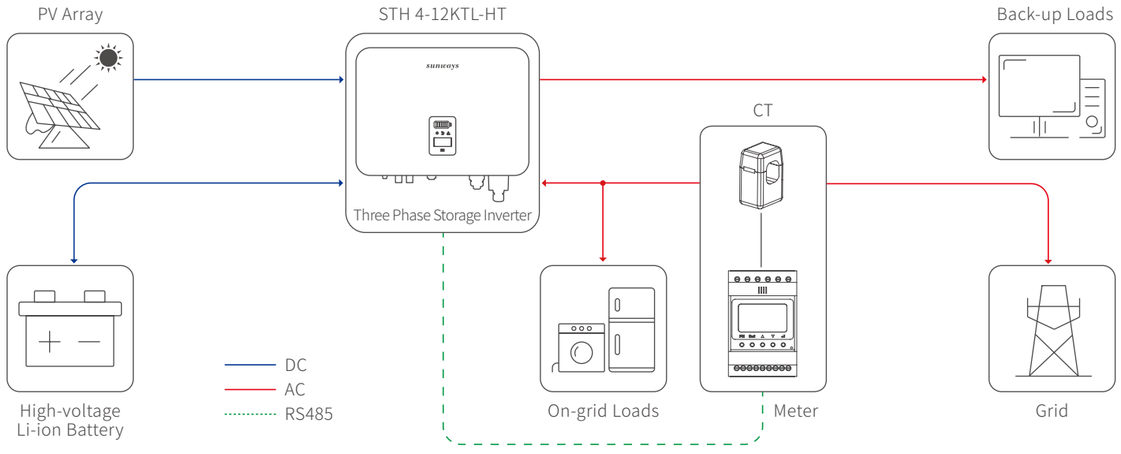
Sunways Three Phase Storage Inverter

STH-4K/5K/6K/8K/10K/12KTL-HT

MAX 98.2% EFFICIENCY

IP65 PROTECTION

Max. efficiency up to 98.2%	Support unbalance output on both on-grid and back-up side	Fanless design, ultra-silence
Powerful load adaptability, support multiple loads stable access	Oled display+App, two ways for data checking and management	180~750V super wide battery voltage range, adapt to bigger capacity battery
New pin type AC connector introduced, easy to use and safer	Intelligent EMS management, power dispatching from PV, Battery and Grid is more flexible	Uninterruptible power supply, switch to off-grid mode within 10ms



Technical Parameters

Three Phase:STH-4K/5K/6K/8K/10K/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)	5,200	6,500	7,800	10,400	13,000	15,600
	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					
	Max. Charge/Discharge Current (A)	25/25					
	Rated Current of Built-in Fuse (A)	63					
Output (Grid)	Rated Output Power (kW)	4	5	6	8	10	12
	Max. Output Power (kW)	4.4	5.5	6.6	8.8	11	13.2
	Max. Apparent Power (kVA)	4.4	5.5	6.6	8.8	11	13.2
	Max. Input Apparent Power (kVA)	8①	10①	12①	16①	16.5①	16.5①
	Max. Charging Power of Battery (kW)	4	5	6	8	10	12
	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 (kVA)	4.4	5.5	6.6	8.8	11	13.2
	Peak Overload Apparent Power (kVA)	8②, 60s	10②, 60s	12②, 60s	16②, 60s	20②, 60s	20②, 60s
	Peak Output Apparent Power/per Phase (kVA)	1.6③	2.1③	2.6③	3.3③	4③	5③
	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 (Type Ⅱ)
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

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.
③ Peak output apparent of power per phase is the max output apparent power that won' t trigger the overload protection.

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	115200bps
Communication Distance	100M (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	DC 5V
Working Current	80mA (200mA 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	2.412GHz-2.484GHz
Environmental Data	
Operating Temperature (°C)	-10~+60
Operating Humidity	0%-90% relative humidity, no condensation
Storage Temperature (°C)	-40~+85
Storage Humidity	< 40%
Protection Degree	IP65
Other Data	
Dimensions (L*W*H)	156*52*30mm
Weight	130g
Certificates	CE
Warranty	2 years

PRODUCT INTRODUCTION

GPRS Module

Reliability　Flexibility　Easy to use

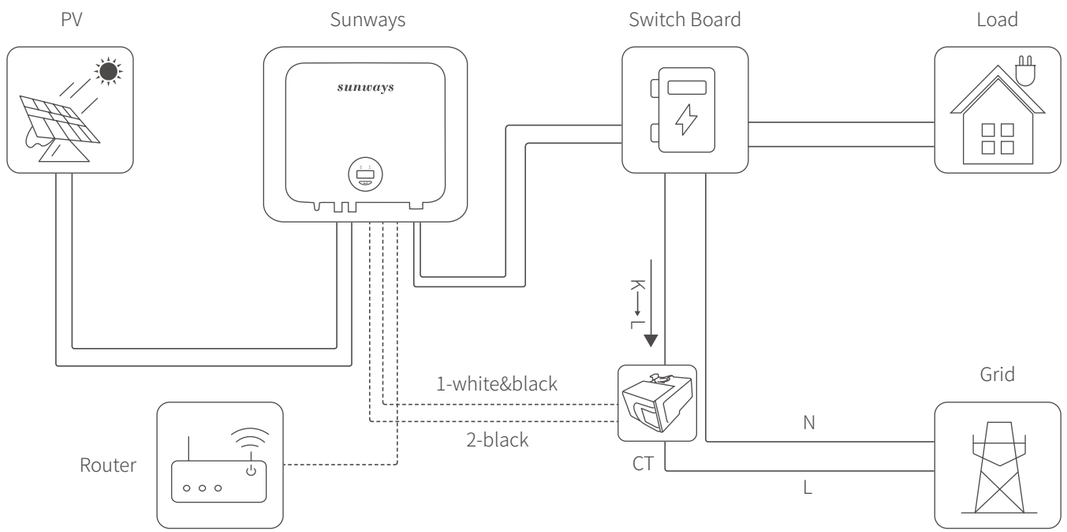
- Metal body, beautiful and long durable
- Plug and play 1s installation, no need to set
- Support local and remote monitoring
- IP65, for both indoor and outdoor installation
- External SIM card slot, easier for SIM card replacement
- External antenna, stronger signal and reliable communication
- Enable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

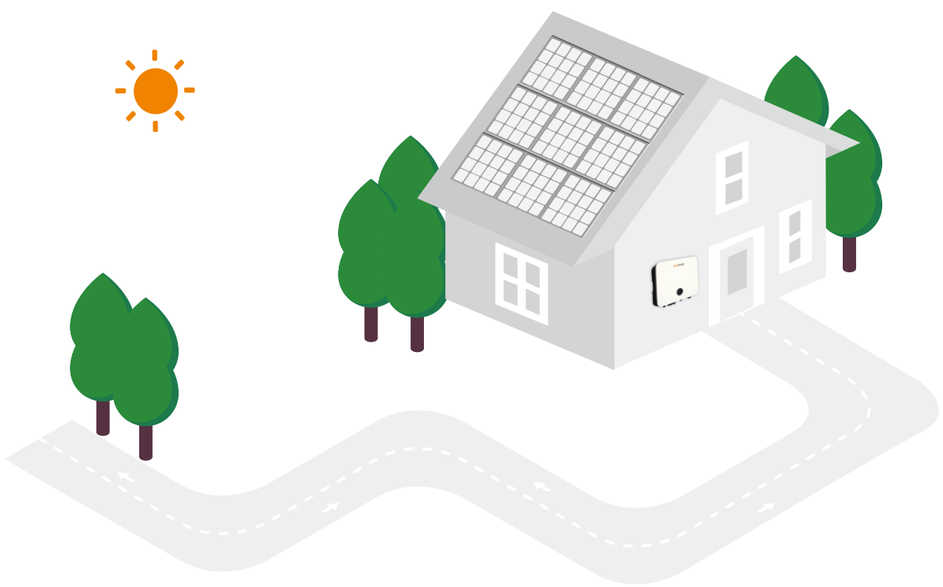
Technical Parameters

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	DC 5V
Working Current	130mA (600mA Peak)
Wireless Data	
WirelessTransmitting Power	GSM850/EGSM900：5dbm ～ 32.5dbm、DCS1800/PCS1900：0dbm ～ 29.5dbm
Wireless Receiving Sensitivity	< -108.5dBm
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 (°C)	-10~+60
Operating Humidity	0%-90% relative humidity, no condensation
Storage Temperature (°C)	- 40~+85
Storage Humidity	< 40%
Protection Degree	IP65
Other Data	
Dimensions (L*W*H)	156*52*30mm
Weight	140g
Certificates	SRRC
Warranty	2 years

APPLY SCENARIOS

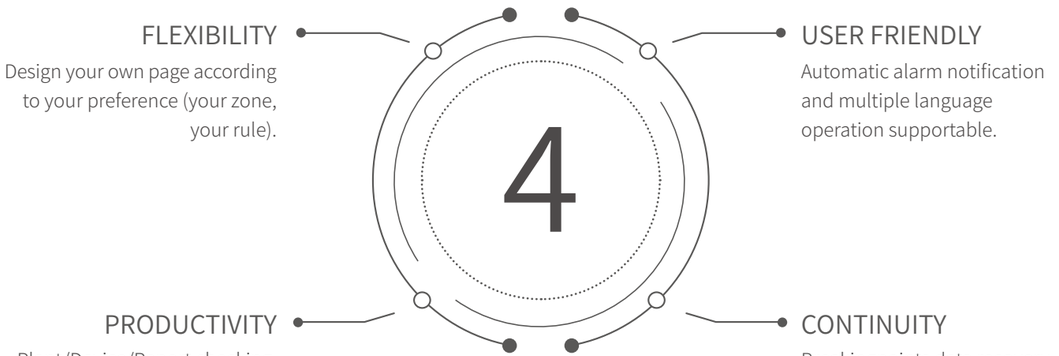
Grid connected PV inverter is mostly used in the residential and commercial roof where the grid is running stably in most times. The system consists of photovoltaic array, grid-connected inverter, grid, and load. According to the application scenarios which you chose is all power exported to grid or only surplus power exported to the grid to decide whether the load should be connected to the system.





MONITORING 03

WEB See what our portal offers you



MONITOR.SUNWAYS-TECH.COM

APP

Key features

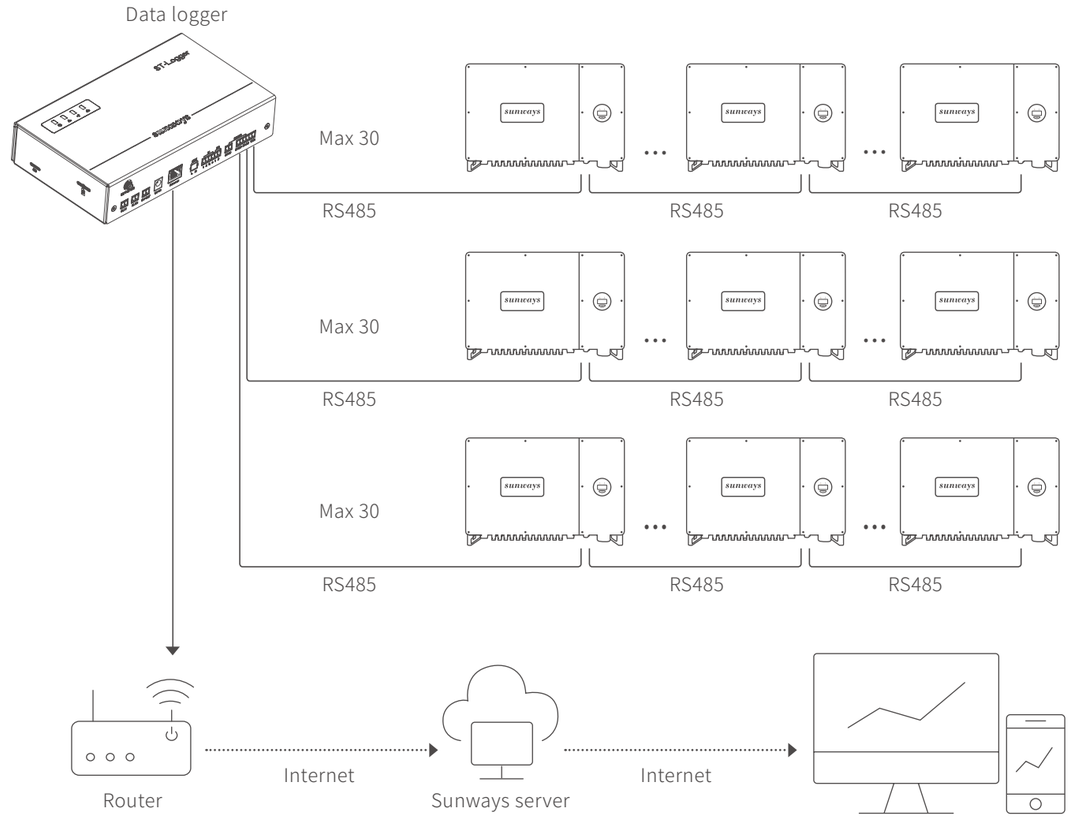
7

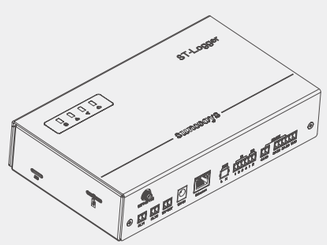
- Warranty Check
- Rich Reports Realtime/Day/Month/Year
- Alarm Management
- Wi-Fi Configure
- Weather Forecast
- Check & Manage your plant at anytime & anywhere
- One-click to share plant on social media

SunwaysHome

SunwaysPro

MONITORING SYSTEM





Data logger

Flexible Networking

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

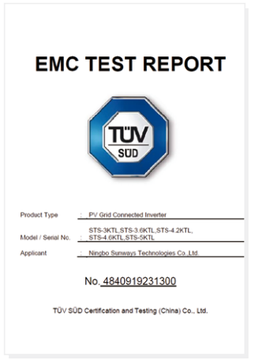
Convenient O&M

- 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

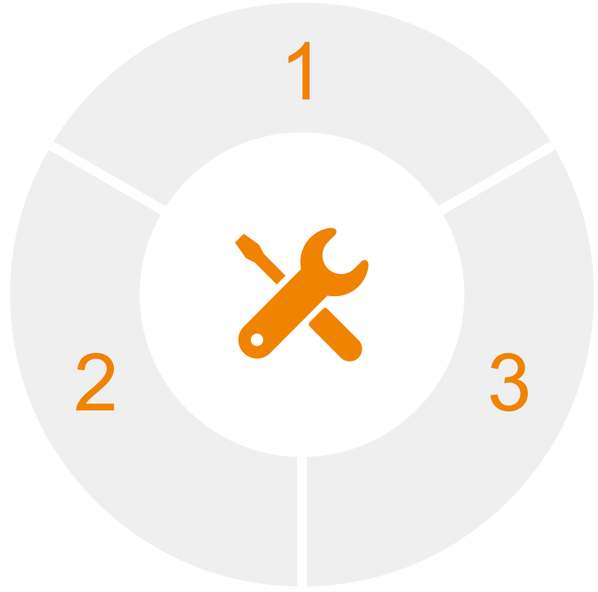
CEI 0-21

RD1699

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

SUPPORT

One-stop Solution



Convenient

Fast

Convenient

SUNTECH	SUNWAYS	METEO CONTROL
Panel	Inverter	Monitoring

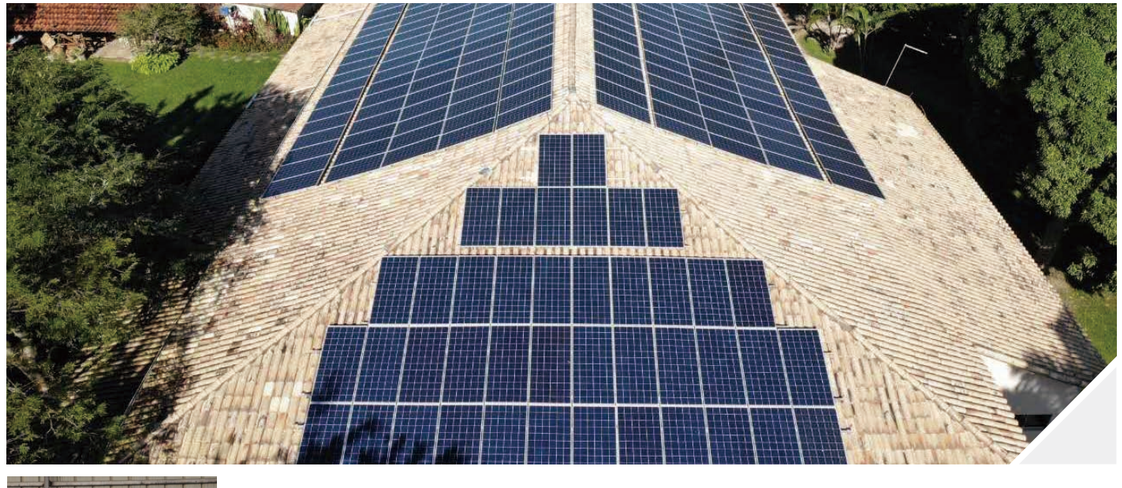
Fast

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

Project Address: Kunshan, China

Project Capacity: 22kW

Inverter: 1 set of Sunways STT 20kW inverter

Project Address: Cixi, China

Project Capacity: 1MW

Inverter: 16 sets of Sunways STT 60kW inverter

Project Address: Shandong, China
Project Capacity: 60kW
Inverter: 1 set of Sunways STT 60kW inverter

Project Address: Island Vir, Croatia
Project Capacity: 8kW
Inverter: 1 set of Sunways STT 10kW inverter

Project Address: Prague, Czech Republic
Project Capacity: 8kW
Inverter: 1 set of Sunways STH 8kW inverter

Project Address: Tzaneen, South Africa
Project Capacity: 120kW
Inverter: 8 sets of Sunways STT 17kW inverter

sunways

SunwaysHome

SunwaysPro

V3.1-EN 20210413 Edition