

SUN  SYNK®



## String Inverters & Accessories 2020







## Mission Statement

Our mission is to provide high quality green technology that will benefit both our customers and the environment. We will achieve this by innovative design, high standards in production and better value for money within the world market for renewable energy.

## About Us

Established over 20 years ago, Sunsynk® is part of the Global Tech China Group and is based out of Hong Kong with manufacturing and design bases in Ningbo, China. We are closely partnered with the Science Department of Ningbo University with which technology is shared and developed. The company has approximately 80 staff working on our projects at any one time.

Our key products fall into the following categories and full details can be found within this catalogue or in our website; [www.sunsynk.com](http://www.sunsynk.com).

The Global Tech China Group was founded in 2004 and is a Hong Kong registered company made up of British & Chinese engineers. We have over 30 patents and some of these inventions have directly influenced the world's electronic appliance development since 2004.

Currently, Sunsynk exports to over 20 countries including South Africa, Philippines, Thailand, Australia New Zealand and United Kingdom where solar lighting and power storage products have proven to be very popular.

## Trends in Power Generation

The world is changing and the demand for power is ever present. More than ever, people are concerned about the use of fossil fuels and the effects of global climate change.

In order to slow down the effects of climate change and reduce pollution there are several methods and these include :-

- Conservation of existing forestry and jungle  
Re planting of trees / vegetation
- Reduce use of fossil fuels
- Increase use of renewable energy

As an electronics company engaged in producing power generating and storage devices, the latter category or renewable energy concerns us the most.

In 2018, the world's consumption of renewable power grew by 14% and this provided 9% of the world's electricity.

The rapid growth of non-hydro renewable power generation continued throughout 2018 at 14% therefore we can expect a far greater proportion by the end of 2019. (Source: BP Energy - Economics)





## Homes of the Future

### Combining both Solar and LED Technology

"It seems sensible that new build houses will simply adopt solar and storage as part of the initial building of the property. If the energy prices move like I think they will do, it would be a severe disadvantage trying to sell a house without it. EV is probably going to be the big game changer as to how we think about energy.

"Up until now, we're sort of conditioned to just pay a bill and not necessarily think too much about the energy we consume. It's totally understandable. Importing electricity is still relatively cheap. But, as we stop paying tax on fuel, as we all move to EVs and our energy usage doubles, it will naturally put a spotlight onto just how

many kWh we're consuming. "Domestic properties typically don't have a Building Management System, but I believe that within 10 years we'll want homes that can make informed decisions on what to turn on and when based on energy profiles.

Things like the smart metering roll out is just the beginning of this energy ethos. And if we consider that replacing everyone's metering is not cheap by any means, you can begin to appreciate just how much energy providers believe this to be the way forward. Simply expect the technology to get smarter and more effective because it's more dynamic."

## Market growth

### Market growth

Over 9,000MWh of battery energy storage could be deployed in Britain over the next five years as the sector enjoys a trend towards "explosive growth", a market analyst has said. Lauren Cook at Solar Media's Market Research division spoke to Energy-Storage.News this week on the publication of 'UK Battery storage: Opportunities & Market Entry Strategies for 2018-2022', a new report. Cook found that in just 12 months, the UK's pipeline for new battery storage projects has grown

by over 240%, with forecasted installations in 2018 set to rise more than 200% year-on-year. Opportunities are being created by a range of drivers including a national commitment to phase out coal, falling technology costs and more than 30GW of wind and solar capacity ripe for colocation with batteries. According to Cook, this means the UK could quickly becoming a market of strategic focus for international players. "The market is growing and it's changing rapidly.

There's now projects completed on the ground. Once global companies start to see it's not just a speculative market, it will make sense for them to think about how to enter the market and what the opportunities are for them.

"They will then need to know who is active in the market, who has these opportunities and who they will have to work with to take advantage of those opportunities."

Going beyond the deployment figures, Solar Media Market Research also looked extensively at business models, another aspect of the industry analyst Cook said is changing fast. With an emphasis on projects earning long-term revenues, it is becoming commonplace to speak of a "revenue stack" – earning multiple revenues streams for providing a range of services. However, Cook said, there is no such thing as a "typical" stack in the market today. "I'm not sure there's any such thing as a typical stack because there are many factors involved, but if you look at the timeline from the EFR of 2016 you had those projects were successful, those projects then went on to apply for the Capacity

Market (CM), T-1 and T-4 in early 2017," Cook said. "Some of those were successful, some of those weren't. We then saw the FFR auctions happening throughout 2017. Those projects also participated in those auctions, new projects also came in. "Then I think the most recent phase of the Capacity Market – so again, the T-1 and the T-4 - was just another opportunity to add to those stacks. So you might see projects with an EFR contract, they may also have a T-1, they may also look to get a T-4 in the future, because of the different lengths of contracts – you can simultaneously run some contracts but you may want to have consecutive CM contracts. So you might see T-1 as a way of filling the time between a project becoming operational and the T-4 contract beginning. It's not just about stacking them in one moment – so having multiple sources at one point in time – it's about stacking the revenue streams across the lifetime of the project and having long-term revenue."

In megawatt-hours, battery energy storage capacities installed in the UK by the end of 2022 will be 50 times what they were as 2017 ended. The report also covers a predicted trend towards longer duration storage in future, comprehensive evaluations of leading players in the industry and analysis of stakeholders.



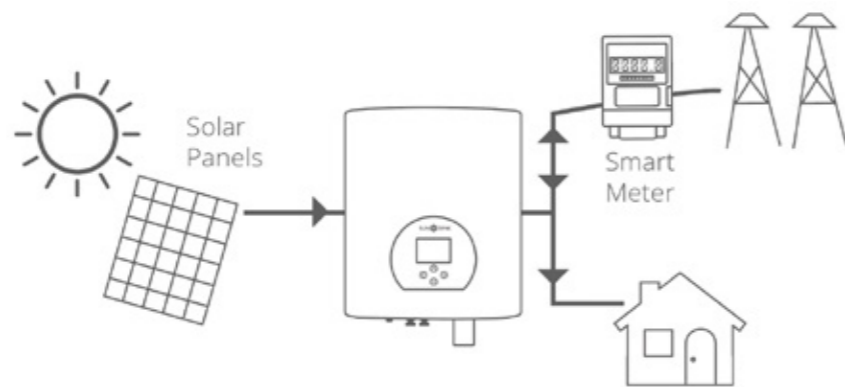


## How does a PV solar system work?

The sun's rays fall on the solar panels which employ photovoltaic cells that convert visible light into direct current (DC).

The DC current is passed through an inverter that converts it to the more useful Alternating Current (AC). The AC current then passes through a smart meter (installed by CLP or HK Electric) before entering the house power circuit or the mains grid.

Each kWh or 'Unit1 recorded passing through the meter earns HK\$5.00 per unit from the Feed-in Tariff Scheme.



**In a normal On-Grid Solar System there will be three main parts**



**SOLAR PANELS**



**INVERTER**



**SMART METER**



## 3kW Single Phase String Inverter

**SSUN-3KEXP IP65**

A small convenient inverter designed for countries operating the feed-in tariff.

It is 38.5 x 45.3 x 16.4cm in size and weighs 15kg. It is easy to install and is

designed to operate with a small 'village-house' PV array of up to 2.5kW.

**EASY TO INSTALL, USE & MAINTAIN**

### Main Features

- Maximum efficiency of 97.5% with wide input range
- Single MPPT design with precise MPPT algorithm
- Natural cooling - IP65 protection
- Compact and light design for easy installation
- Transformer-less GT technology
- RS485 Wi-Fi interface
- Built-in protection features
- Built-in anti-overflow function
- 25 years lifespan

### Single Phase 3KW String Inverter

Max Input DC Voltage	600V
Start-up DC Input Voltage	120V
Max. DC Input Current	10A
MPPT Number/Max String Number	1/1
Rated Output Power	3kW
AV Grid Voltage Range	160-270Vac
Operating Phase	Single Phase
Frequency Range	47-52Hz or 57-62Hz (Optional)
Max Efficiency	97.5%





## 5kW Single Phase String Inverter

**SSUN-5KEXP IP65**

Our medium scale inverter designed for the feed-in tariff. It is 38.5 x 45.3 x 16.4cm in size and weighs 15kg.

It is easy to install and is designed to operate with a medium dwelling PV

array between 2.8kW and 4.8kW PV arrays.

**DESIGNED FOR MEDIUM SIZE DWELLING**

### Main Features

- Maximum efficiency of 97.5% with wide input range
- Single MPPT design with precise MPPT algorithm
- Natural cooling - IP65 protection
- Compact and light design for easy installation
- Transformer-less GT technology
- RS485 Wi-Fi interface
- Built-in protection features
- Built-in anti-overflow function
- 25 years lifespan

### Single Phase 5KW String Inverter

Max Input DC Voltage	550V
Start-up DC Input Voltage	120V
Max DC Input Current	10A+10A
MPPT Number/Max String Number	2/2
Rated Output Power	5kW
AV Grid Voltage Range	180-270Vac
Operating Phase	Single Phase
Frequency Range	47-52Hz or 57-62Hz (Optional)
Max Efficiency	97.5%







# 10kW Three Phase String Inverter

## SSUN-10K IP65

Sunsynk's 10kW 3-phase Inverter is our large model aimed at large **HANDLES LARGE PV ARRAYS**

buildings operating with 3-phase wiring. It is a feed-in model and can handle considerable larger PV arrays between 5kW and 8kW.

### Main Features

- Maximum efficiency of 97.5% with wide input range
- Single MPPT design with precise MPPT algorithm
- Natural cooling - IP65 protection
- Compact and light design for easy installation
- Transformer-less GT technology
- RS485 Wi-Fi interface
- Built-in protection features
- Built-in anti-overflow function
- 25 years lifespan

### Three Phase 10KW String Inverter

Mode 1	SUN-10K-G
DC Input Voltage Range	200V - 1000VDC
MPPT Voltage Range	200-800VDC
Max DC Input Current	2*17A
Rated AC Operating Voltage	3W/PE 380V
Rated AC Operating Frequency	50/60Hz
Rated AC Operating Current	3*15.2A
Rated AC Operating Power	10Kw
Operating Temperature	-25°C - +60°C
IP Rating	IP65
Protection Standard	Class 1
Grid Tied Standard	NB/T32004-2013





# Inverter Monitoring System

WI-FI: SSWIFIPK - GSM:GPRS\_IPK

The ability to collect information from the inverters remotely has made the monitoring of PV systems more efficient than ever before. The Wi-Fi or GSM module ensures stable and efficient monitoring of a user's Solar power system.

It measures by collecting information from inverters such as status and performance, data collecting devices make the long-term monitoring of PV systems feasible and efficient.

The Wi-Fi or GSM module can ensure the stable and efficient performance of PV systems, while minimising the monitoring costs as well, therefore enabling users to achieve great increase in ROI with only a little investment. Our residential monitoring system helps take care of your PV system, it makes sure that the system is working to its full

capacity and in excellent working condition. It monitors your inverter throughout its entire life-cycle.

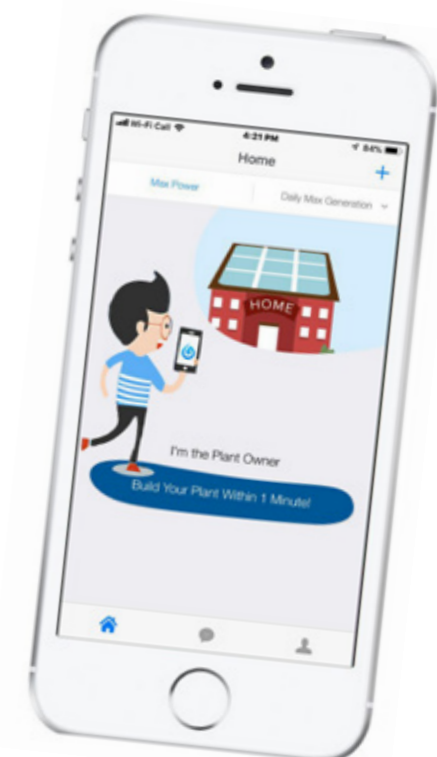
You will receive detailed information on your inverter including the energy used that day. You will also receive monthly, yearly energy and total energy updates through its wireless communication with your router to the internet by an smart Wi-Fi plug.

## PLUG AND PLAY DATA LOGGER

You can easily access the monitoring page via PC or phone APP.

### Main Features

- Integrated in inverters with "Plug & Play" function, no additional external hardware.
- Compatible with all Sunsynk inverters
- Wi-Fi or GPRS communication according to users' requirements
- Remote monitoring via the SolarMAN portal







# Three Phase 55kW String Inverter

## SUNSYNK 50K-G

The 55kW Inverter is our largest model and can handle large PV arrays or combinations of wind turbine and solar arrays. It has the ability of being

placed in a circuit thereby increasing the system to 100kW or even larger.

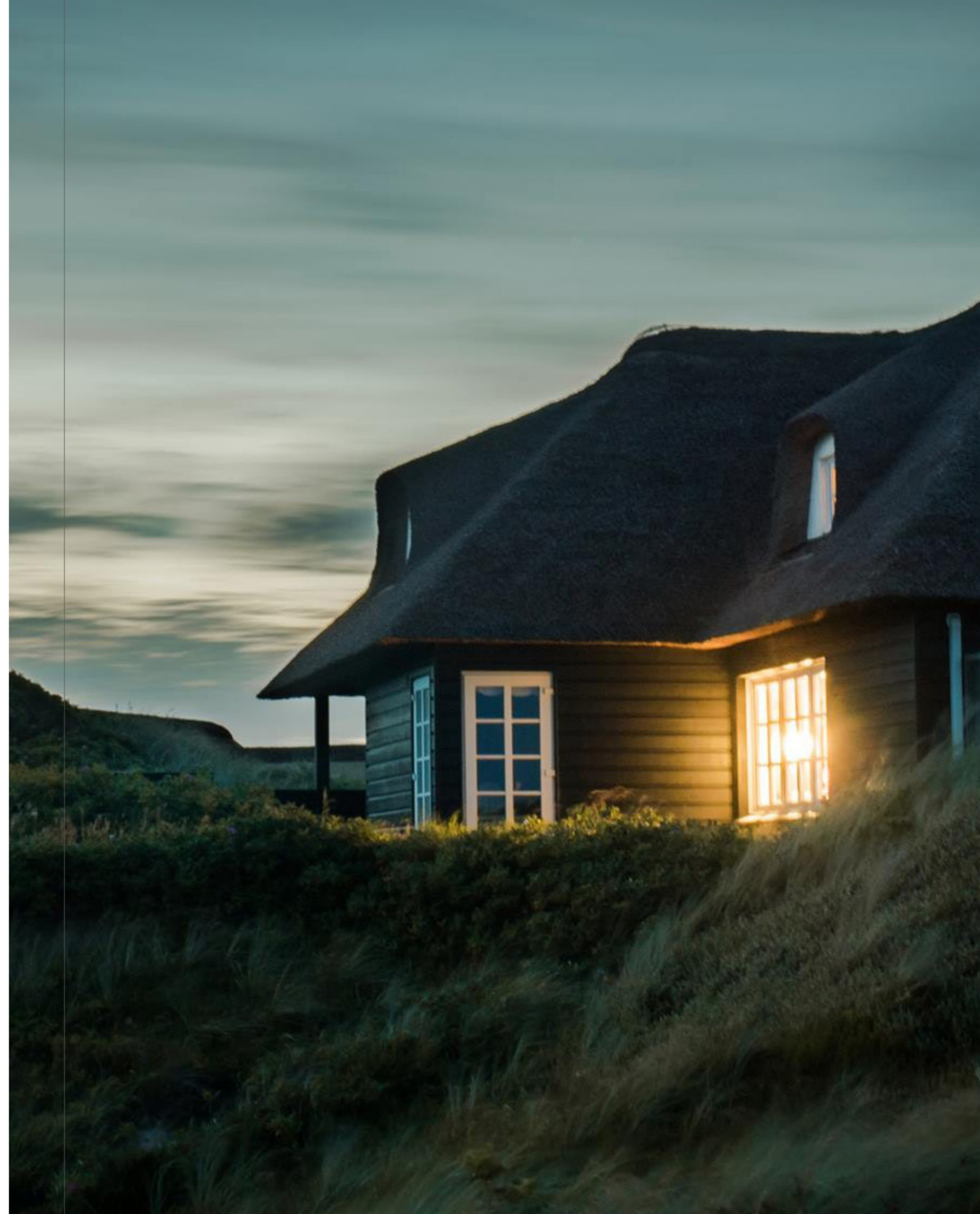
**OUR LARGEST INVERTER**

### Main Features

- Maximum efficiency of 98.7% and wide input range
- Multiple MPPT design with precise MPPT algorithm
- Natural cooling - IP65
- Compact and light design for easy installation
- Transformer-less GT technology
- RS485 Wi-Fi interface
- Numerous protection functions.
- Phone App available
- 25 years lifespan
- Weight 55kg
- Size 70 x 57.5 x 30.9cm

### Three Phase 55KW String Inverter

Max Input DC Voltage	1000VDC
Start-up DC Input Voltage	300V
MPPT Voltage Range	200-800VDC
Max DC Input Current	28A + 28A + 28A
MPPT Number/Max String Number	4/12
Rated Output Power	55kW
Rated AC Grid Voltage	380/400V
AC Grid Voltage Range	277--460VAC
Operating Phase	Three Phase
Frequency Range	47-52Hz or 57-62Hz (Optional)
Max Efficiency	97.3%
Weight	55kg
Size	700 x 575 x 309mm







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GT website: [www.globaltechchina.com](http://www.globaltechchina.com)

