

Sungrow New String Inverters for C&I PV Applications — SG33/40/50/110CX

The commercial and industrial (C&I) PV plants including some rooftops of industrial parks, schools, hospitals and office buildings are recognized as an ideal way of investing. However, the diverse applications of C&I rooftops, such as various capacities, different orientations, high temperature, extreme humidity and high corrosiveness, also pose tremendous challenges to the power plants. Often called "the heart" of any PV system, inverter directly determines the plant power generation and revenue. Sungrow provides its new string inverter series SG33/40/50/110CX covering complete application scenarios, which comprehensively considering the overall system cost, power generation efficiency, return of investment and O&M, so as to ensure that the power plant operates efficiently and get higher benefits.



Fig.1 SG110CX



Fig.2 SG33/40/50CX



Fig.3 1MW PV Project Utilizing SG110CX in Yecheon, South Korea

"n + 1" Flexible Configuration, Lower Cost

For C&I power plants, Sungrow provides 33kW ~ 110kW power level string inverters to adapt to a wide range of applications. It can be seen from figure 4 that for rooftop applications with different capacities, the selection of inverters can follow the principle that the power of single inverter should be higher, and the number of inverters should be less. The flexible configuration of "n high-power string inverters + 1 low-power string inverter" can reduce the system cost effectively.

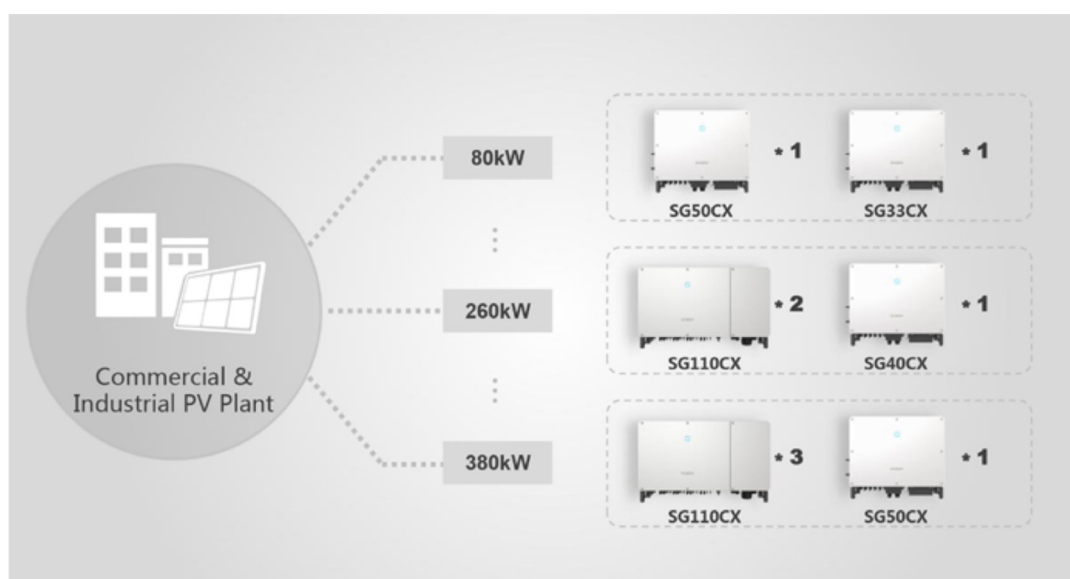


Fig.4 Flexible Configuration of Commercial and Industrial PV Plants

IP66 Protection and C5 Anti-Corrosion, Higher Protection

In recent years, more and more PV power plants have been installed in coastal and desert areas which poses challenges to inverters. Sungrow string inverter series SG33/40/50/110CX have significant function and performance improvements. Featured IP66 protection and C5 anti-corrosion, they can be installed in harsh environments such as coastal or chemical industrial region and other typical harsh conditions.

- The inverter housing adopts the golden section ratio design, combined with intelligent LED, which has both aesthetic and technological feeling. The four corners and the edge cutting all adopt the arc-shaped design and the transition treatment to avoid protruding edges and sharp trimming, which are both humanized and affinity.
- The main part of the housing adopts aluminum alloy material which is widely used in aircraft fuel tank. It is formed by integrated die casting without any holes or cracks on the surface. The whole inverter is upgraded to IP66 protection level, which can effectively prevent dust and water vapor from entering. The inverter adopts polyester resin spraying, 316 stainless steel external fastener, 480 hours strict test, and reaches C5 anti-corrosion level. Multiple high-level protection can easily cope with all kinds of harsh environments.



Fig.5 High Protection Rating Adapts to Harsh Environments

Smart Forced Air Cooling and Multiple MPPTs Compatible with Bifacial Modules, Higher Yield

General inverters often derate due to the high ambient temperature, particularly in summer the rooftop temperature will be even higher. Compared with natural cooling design, Sungrow inverter adopts smart forced air-cooling design, which can lower the internal ambient temperature and core component temperature of the inverter greatly. Figure 6 shows the commercial inverters SG110CX are used in a 500kW rooftop PV plant in Germany. With no derating at scorching heat, they significantly improve power generation efficiency and power output of the plant.



Fig.6 AC 500kW Rooftop PV Plant in Germany

With increasing attention towards the power generation and cost of the system, new PV technology are gradually applied in such as bifacial modules which require higher DC current input capacity and higher full-load operation capacity of inverter. Sungrow CX series inverters are all designed with multiple MPPTs as well as can run at full load for a long time due to components selection and advanced design, perfectly compatible with bifacial modules, which can solve the mismatch issues caused by the different orientation and partial occlusion of rooftop power plants. The perfect combination of the bifacial modules and the multiple MPPTs can further improve the power generation and bring higher yields.

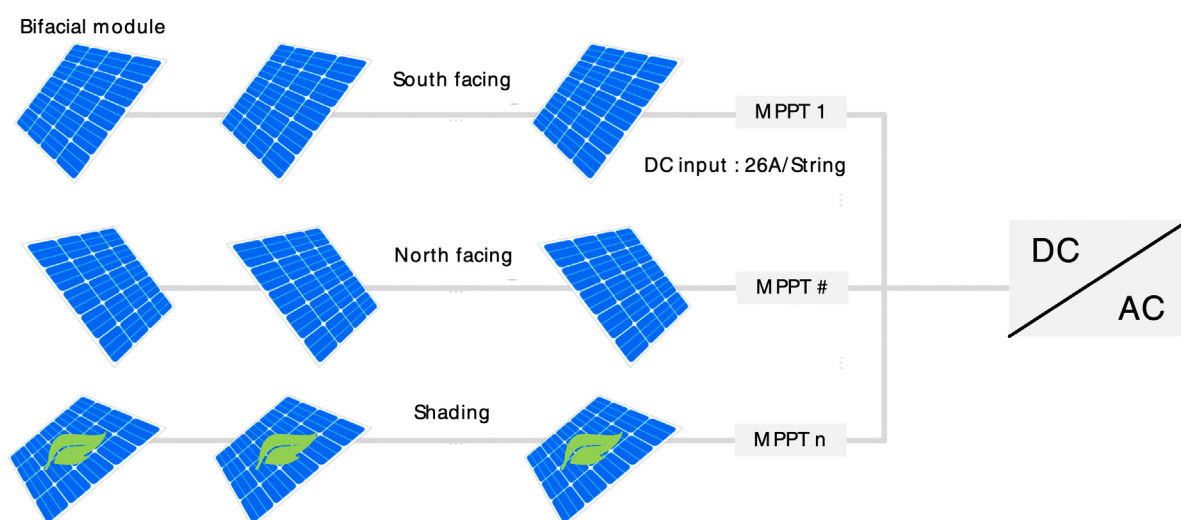


Fig.7 Multiple MPPTs Compatible with Bifacial Modules

Flexible Monitoring Solution + IV Scanning, Easier O&M

Due to the different application scenarios and requirements of C&I PV plants, Sungrow flexibly designed a complete monitoring solution including wire and wireless communication solution shown as figure 8. The whole system supports online commissioning, remote monitoring via iSolarCloud Web/APP, and it has the ability of intelligent management. Meanwhile, Sungrow's monitoring solution supports I-V curve scanning and diagnosis which can finish a full-scale plant diagnosis in 15 minutes with the test result deviation for voltage and current less than 0.5%. The solution makes it easy to locate faults caused by dust shielding, glass panel cracking, dirt shielding, diode short circuit, gate line disconnect and PID attenuation in order to reduce power generation loss.

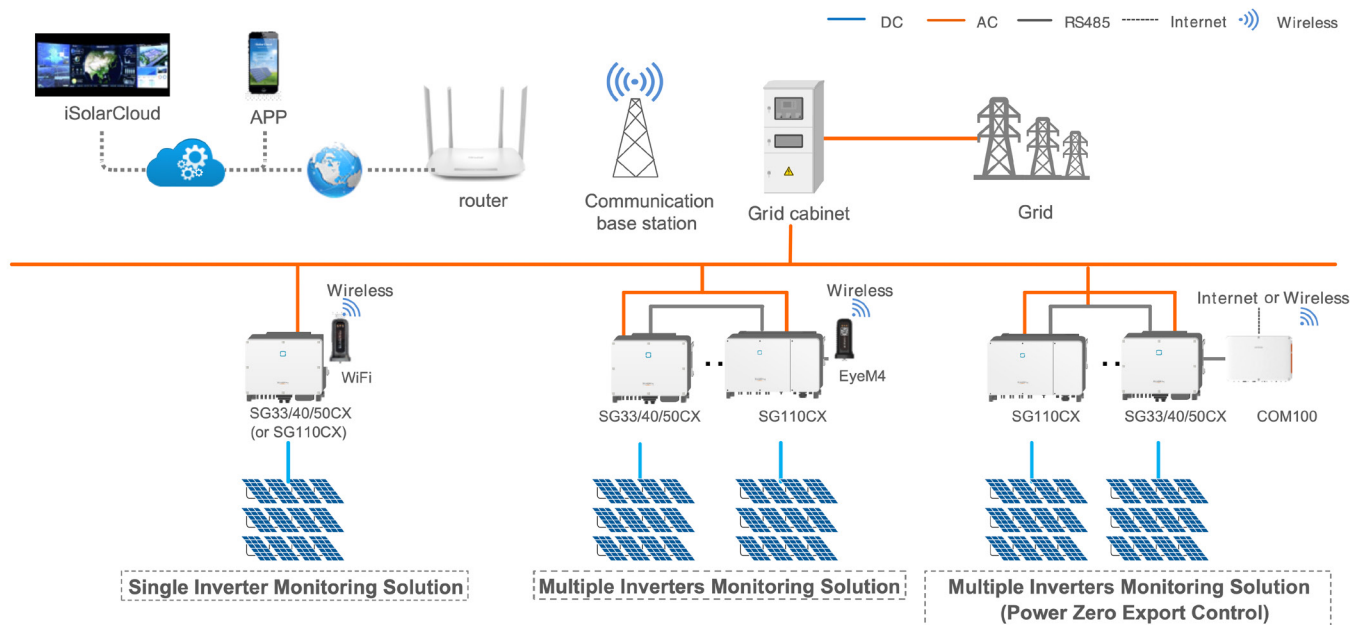


Fig.8 Commercial and Industrial PV Plants Monitoring Solution Configuration

Summary

Sungrow SG33/40/50/110CX series inverters have a wide range of application scenarios and can be flexibly configured to reduce system costs significantly. It has multiple MPPTs and is compatible with bifacial modules, which can bring higher yields. IP66 protection and C5 anti-corrosion level make it easy to adapt to harsh environments. The smart monitoring solution can adapt to different field scenarios and accurately locate faults to ensure the power generation benefits of PV power plants. Due to so many advantages, these series have been widely deployed across the globe in diverse arrays of applications and environmental conditions.

**You want to
change the world?**
Seems like you should
get to know us!



We are a green tech company unlike any other. We are a team of lateral thinkers, young professionals and creative minds.

We are **Sungrow**.
We are changing the world.
Clean Power For All!

“

Christian Welz
Director Distribution
Sungrow Central Europe



With our “Yes we can” attitude we make the impossible happen. We are fast and powerful, this is our Chinese DNA. We have a massive R&D task force to **push innovation and develop the most intuitive and persuasive products** of the whole industry. In our European team we count on

motivated talents. We aim for **new perspectives**, to **do things differently**, and to **make photovoltaics fun**. With our powerful roots in China and the continuous striving for more of our European team, we are unstoppable. We will accomplish our mission: **Clean Power For All – It’s a promise!**



Solar farm near Hefei, China:
Step by step into a clean future -
SG250HX inverters in action.

515+ GIGAWATT

You want to revolutionize the energy market, but are **still looking for the perfect match**? No worries, we got you covered!

Founded in 1997, Sungrow has become the world's leading inverter supplier with \$10.2 billion revenue in 2023.

With more than 515 gigawatts shipped, Sungrow is the global leading inverter solution supplier for renewables and the first inverter company ever to hit this particular record.

We are proud to look back to a success story that already began in 1997, but we never stopped striving for more. We want to give **fresh impulses**,

inspire and contribute to a sustainable development of our planet, that's why we constantly improve our portfolio. From floating solar plants to large-scale utility projects and to small residential products we always offer the best and most suitable solution for you.

Simply said, we are the partner for all – who want more.

OVER 40% R&D
WORKFORCE

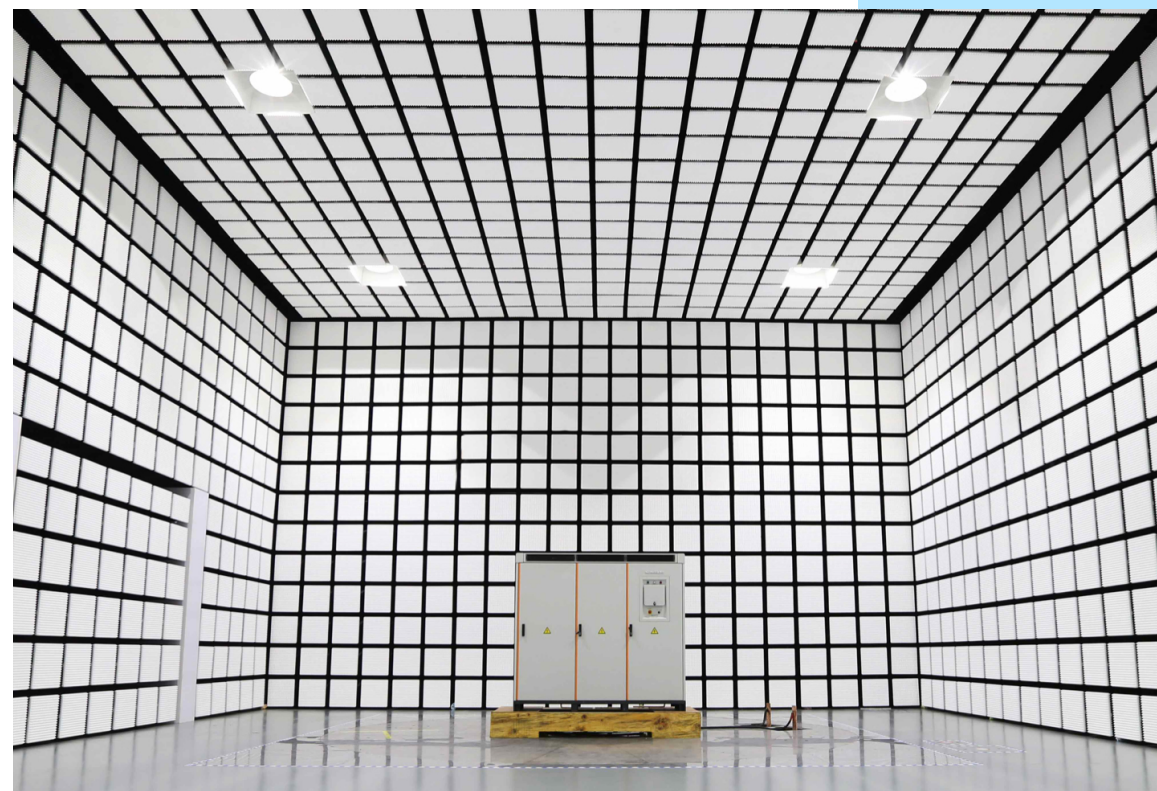
The secret of our success?
We focus on what we are good at!

Sungrow was founded back in 1997 by Prof Cao Renxian – a professor at the Hefei University of Technology.

Along the way of growth, we always stick to the roots of our founder – being innovative and never stop learning!

At Sungrow **we hold more than 4123 patents** – no wonder as we employ the **biggest research and development team of the whole industry**. 40% of all Sungrow workforce is continuously investigating on how to further improve the existing portfolio – for you.

Sungrow Headquarter Hefei, China:
Biggest EMC chamber in the solar industry



Together, we shape the
clean energy landscape,
redefining what is possible.

“

Stefan Zhao

Director Research Center Germany



Tailoring our research to meet the demands of the **European market** has never been more important. Our R&D team is always looking for new ways to drive **innovation**, enhance our **cutting-edge technology** and foster committed **partnerships** with the European market. Along with continuous work to improve, we keep in mind our goal, a cleaner and greener future.

INNOVATIVE & FAST - THAT'S US!

We always strive for more – the highest standards, the most innovative products, the best availability. So you won't have anything to worry about!



Hefei, China:
Sungrow's
production site

Our production site in Hefei opened its doors end of 2018. The area encompasses more than 300,000 m² and has been **built according to the latest technological standards**. All products Residential, Commercial, Utility and even Floating Systems are being produced there. The **annual production capacity of Sungrow amounts to 330 GW**.

And of course we never lose sight of our big picture – Clean Power For All. That's why we installed a nearly 11 MW solar system on the roofs of our production site and all offices in Hefei. Like this we are able to reduce carbon

dioxide emissions by approximately 11,000 tons every year.

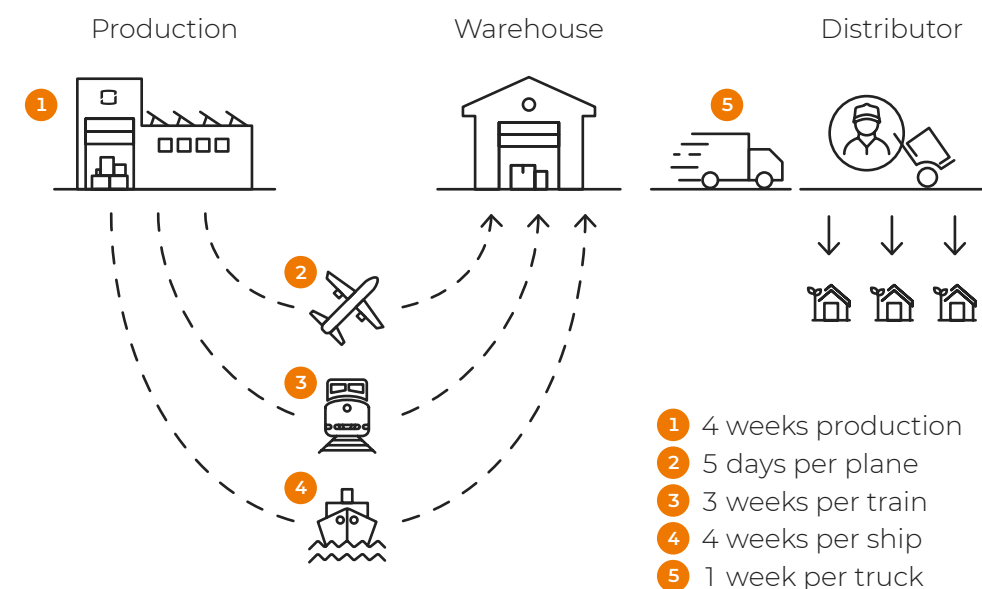
You want more? So do we!

We can scale our production up to 1000 inverters per shift, with three shifts per day.

But what's the point of thousands of inverters, as long as they are in China? No worries, we've thought about that as well. That's why we have our **large-scale warehouse in Europe**.

This enables us to ensure short term deliveries and make sure that you will get your product whenever you need it.

35 working days
from production to
distributor? Yes, we
can!



10 YEARS WARRANTY

FEAR OF BREAKDOWN?
NO WORRIES, **WE GOT
YOU COVERED!**

Sungrow takes “customer oriented” as the company’s core value. We **offer you warranty to 10 years** for all inverters from **2,5 kW to 25 kW** in Europe. Our service network ensures support wherever and whenever you need it.

With more than two decades of experience, Sungrow stands for quality and consistency. **Only the best is good enough for our products.** Even if you can’t see them – it’s the inner values that count. We team up with the best and benefit from long lasting partnerships with industry leaders like Infineon, NMB and many more.

For your
carefree start
into a clean
future.



RESIDENTIAL HYBRID & ESS HEROES



3–6 kW

The 1-phase Hybrid

The 1-phase Hybrid inverter has proven its functionality and quality since 2015. The new generation offers seamless transition to backup mode, PID Recovery and is still light and easy to install - innovation at its best.

SH3.0RS, SH3.6RS, SH4.0RS, SH5.0RS, SH6.0RS



15–25 kW

The 3-phase Hybrid

The new hybrid is your reliable partner for larger solar systems. With 15 kW, 20 kW and 25 kW, higher power classes are now available. In addition, the entire household load can be connected with up to 43 kVA.

SH15T, SH20T, SH25T



10–40 kWh

The Battery

Customise your battery according to your needs, from 3 and up to 8 modules for 15 - 40 kWh. Allowing a higher battery capacity, the new 3-phase Solution significantly improves the backup function and ensures an uninterrupted power supply.

SBH100/150/200/250/300/350/400

More backup

The whole house load can now be **connected to the Back-Up function** (up to 43 kVA).



More power

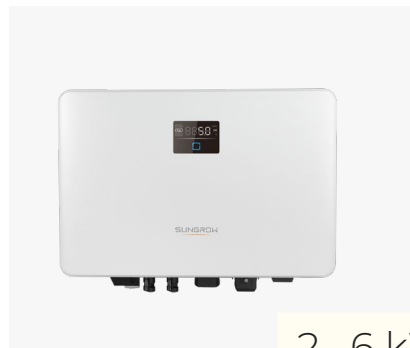
With 15 kW, 20 kW and 25 kW **higher power classes** are now available.

More storage

Higher storage capacity is now available with up to 40 kWh.



RESIDENTIAL PV HEROES

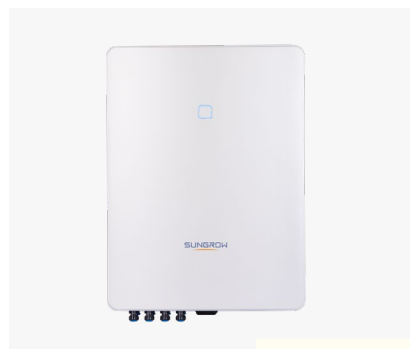


2–6 kW

The 1-phase

The 1-phase Inverter - original since its launch. The display and the push - click - go connector make this product as easy as possible to handle. The perfect solution for houses with limited rooftop size.

SG2.0RS-S, SG2.5RS-S, SG3.0RS-S, SG3.0RS, SG3.6RS, SG4.0RS, SG5.0RS, SG6.0RS



5–20 kW

The 3-phase

More power, more functions, less needed space. Compared to its functions the 3-phase PV inverter is very compact and easy to install. The perfect solution for bigger rooftops.

SG5.0RT, SG6.0RT, SG8.0RT, SG10RT, SG12RT, SG15RT, SG20RT

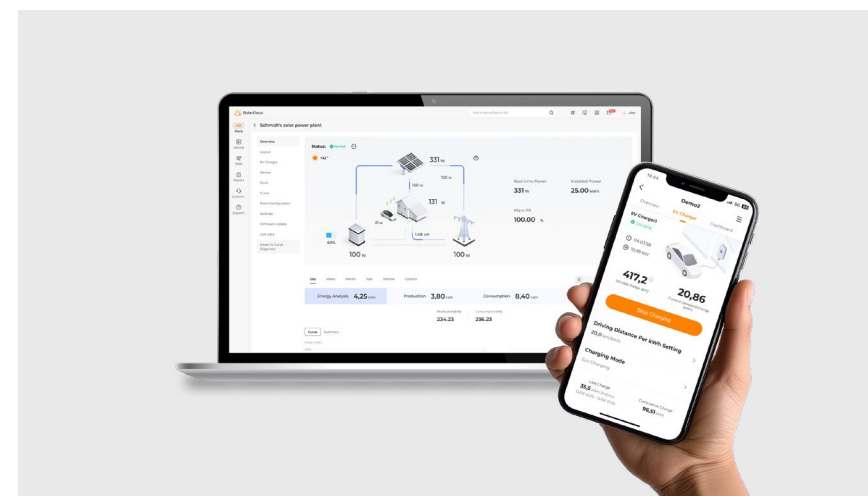
Fun

Mounting the inverter on the wall with an **integrated water level**. Always in balance, making a good impression.



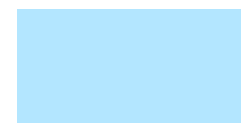
Easy

The unique **Push - Click - Go connectors** make the installation as convenient as never before.



Smart

iSolarCloud – Guided off-line commissioning and free monitoring wherever you are.



Profitable

Want to increase your power generation?

Our Residential PV Heroes together with the Sungrow Optimizers, give you the perfect solution.



COMMERCIAL EXTREME HEROES

Commercial Extreme



33 – 50 kW

This inverter combines power, safety and lightweight: The weight is reduced by 34 % and the patented external AC-connector makes installation extremely easy for one person. It's compatible with high power modules and provides more safety thanks to AFCI 2.0 technology.

SG33CX, SG50CX

Commercial Extreme



125 kVA

With 30 A MPPT current input, the inverter follows the latest market trends and is compatible with over 500 Wp PV modules. The increased amount of 12 MPPTs allows better and more flexible plant design. The new AC Side makes installation as comfortable as possible.

SG125CX

Commercial Extreme



150 kVA

“Having more power” has now a new meaning. Allowing higher yields, this powerful inverter offers 16 V of start-up voltage and 1.15 times the DC overload for low-light and complex roof conditions. The inverter will also provide increased safety, even when facing harsh environments.

SG150CX

Durable

Smart active cooling –

Durable, high-quality fans ensure the perfect operating temperature at any time. Longevity engineered.



Efficient

Patented AC-

Connector – No need to open the inverter for commissioning. Solutions that stand out!



Safe

IP66, C5 and NS-protection –

Safety is our top priority. Our integrated NS-protection isn't just safe, but also saves you a lot of money.

Productive

DC/AC ratio up to 1.4 –

Sometimes less is more. With Sungrow you need less inverters for the same amount of PV.



STAY UP TO DATE

With our MLPE, communication devices and smart meters you are perfectly equipped for every scenario.

Get the full picture with the **Sungrow Accessories.**

Micro inverters



S450S, S800S, S1600S

Flexible

The different ranges are perfectly adaptable to your rooftop installations

Adaptable

With a simple installation, these Solutions are also fully prepared for complex roof conditions and harsh environments

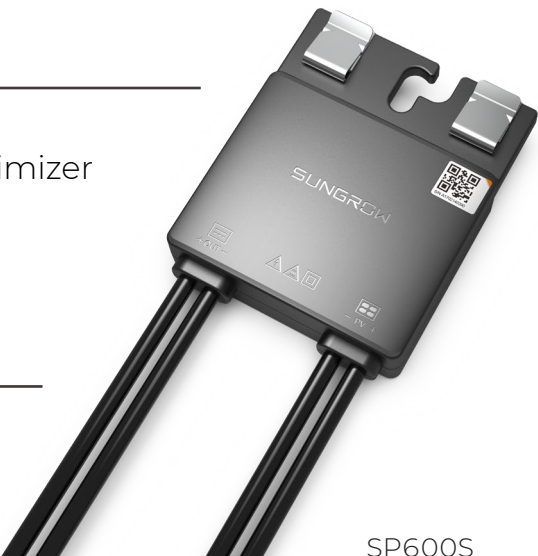
Power Optimizer

Easy

With a quick plug & play installation, the Optimizer allows real-time module level monitoring

Profitable

The Optimizer can increase your power generation up to 30%.



SP600S

WiNet



The best of both worlds combined: WiFi and Ethernet in one port. Accurate and reliable data with 10 sec. refresh rate.

EyeS4



Full online monitoring in real time. EyeS4 offers Wifi and 4G connectivity directly to your inverter.

1-phase meter



More energy transparency for single phase homes. The 1-phase meter helps to optimize your consumption.

3-phase meter



Precise determination of electrical measured values. Keep track on feed-in & consumption. The 3-phase grid solution.

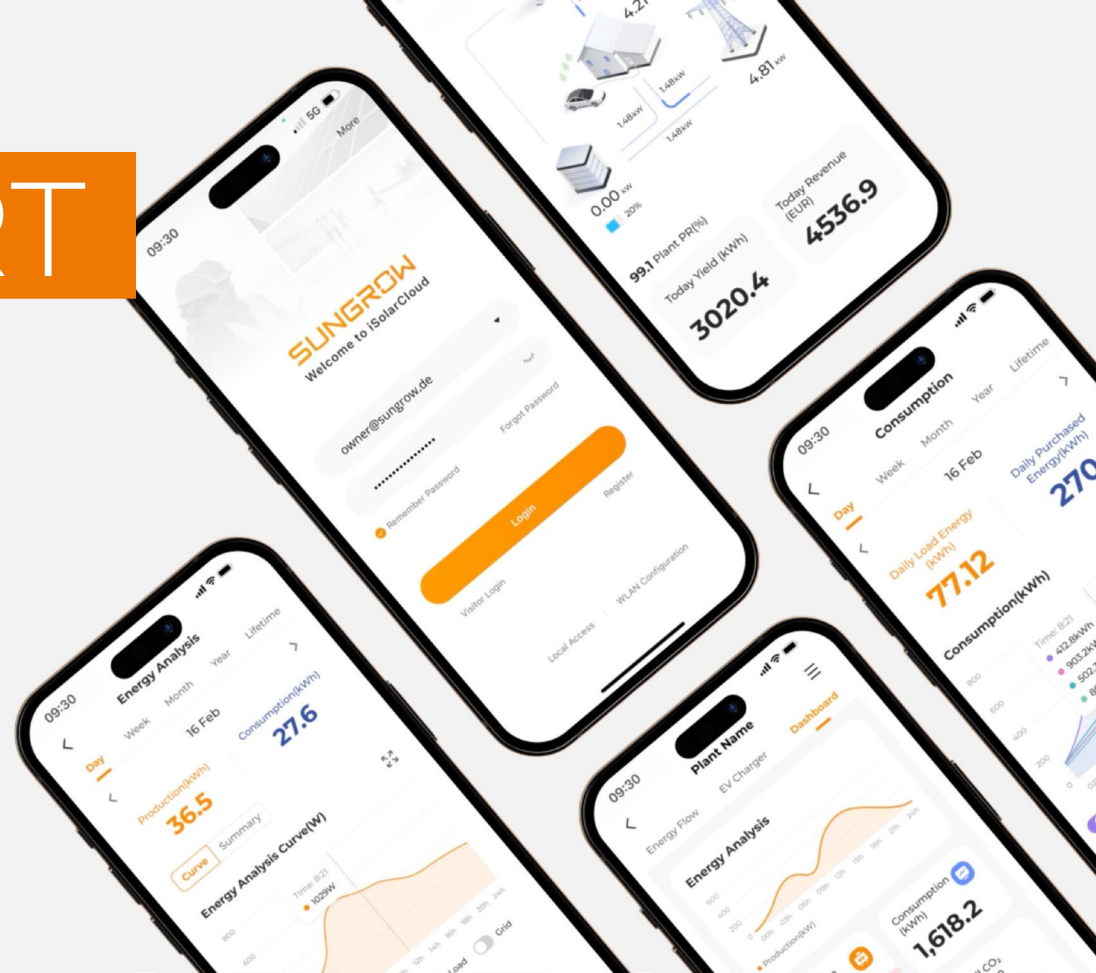
COM100D



Plant maintenance as simple as it can be! With Logger1000A inside, it supports RS485, Ethernet and WLAN communication and 4G.

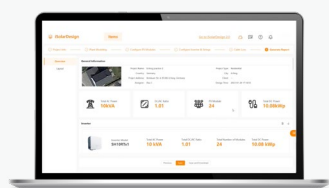
FREE, SMART AND EASY TO USE

Stay tuned, no matter where you are!



iSolarCloud
Web & App

Superior Monitoring, higher yield. Get the most out of your PV installations with our free of charge platform. No matter if App or for desktop, we care about data security. All data is stored on European servers.



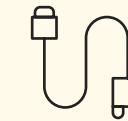
iSolarDesign
Web

Validate your plant design or generate a harmonics report in the blink of an eye. With the help of the new features, such as 3D modeling with obstacles or the integration of iSolarDesign with iSolarCloud, you can take your planning to the next level.



iSolarCloud

Superior monitoring.
Higher yield.



Fast

The iSolarCloud wizard guides you through commissioning in a breeze.



Safe

Your data is secured on a European server; 100% GDPR compliant.



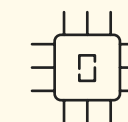
Smart

Benefit from remote parameter setting and troubleshooting from wherever you are.



Easy

Enjoy the most user-friendly monitoring with lucid tables and automated reports.



Future-proof

Be always up to speed and get new features and frequent updates.



Connected

Share your solar plants with colleagues and your family..

CHARGING, UTILITY & MORE

At **Sungrow Clean Power** is made to fit any size.

For every application and system size, Sungrow has the solution for your project. Our turn-key container solutions come with versatile application possibilities and integrated features to meet the requirements of the grid.

We know that the PV inverter may not be the only thing you need for your solar park – with our **Sungrow storage solutions** you will have power whenever you need it. All in all a care-free package.



Fast Charging while shopping in Groningen, Netherlands:
ten IDC30E pole-mounted DC Chargers

Solar plus Storage in Theilheim, Germany: A ground mounted system with one SG3125HV-30 inverter and two Sungrow PowerTitan ST2752UX storage systems



But **Clean Power** can also fit all needs.

From Residential to High power Charging Solutions, our EV portfolio will serve multiple and different purposes. **Combining Charging infrastructures with solar energy** has never sounded so good.

CUSTOMER CARE



Things don't stop with the product purchase. What matters most is you!

Some companies may consider **in-depth service** to be nothing but a cost factor. We like to think of it as a **welcome chance to reconnect** and build a long-lasting and mutually beneficial relationship with you.

With numerous **Sungrow service outlets** all over Europe we have a massive manpower ready to

tackle all the challenges that you may face.

We built regional **spare part warehouses fully stocked** with original parts for fast delivery. We will train you in all aspects of operation, maintenance and project management required for your installation. So don't worry whatever it may be – **we are here for you!**



16 Service
Outlets



14 Local
Teams



7 Regional
Warehouses

We believe in absolute **reliability, top quality** and the **long-term success** of renewable energies.

Sungrow is the perfect partner for that mission. During the past **8 years of our strong partnership**, Sungrow has more than proven that we can fully rely on their expertise and support.



Stefan Müller
COO Enerparc



WE CREATE MEMORIES

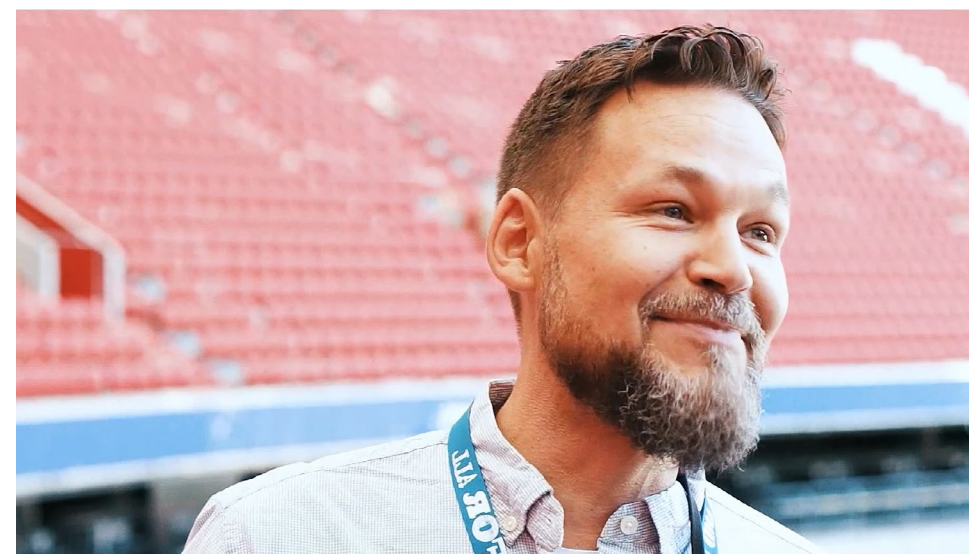
It's time to get to know each other and have some fun together!

With the **Sungrow Power Day** we want to give you the possibility to get to know us in an inspiring and fun way. A day packed with excellent conversations and great people is waiting for you.

Product Hands-On
R&D Experts
Social Drinks & Snacks
Networking
Experience Tour



Visit a Sungrow Power Day and become **Sungrow Power Partner**.



That's
spectacular,
outstanding!

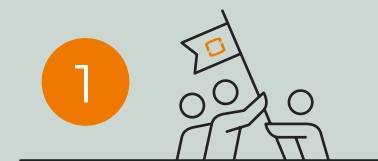


Erasmus Lob
Founder | Lob Solar



HOP ON BOARD AND JOIN OUR MISSION: CLEAN POWER FOR ALL

We offer the highest value for
the most competitive pricing.
We work with the best.
We are ready – are you?



Get your personal Partner
Success Manager to boost
your business.



Enjoy an exciting
onboarding experience and
get latest industry insights.



Get access to the Sungrow
Power Kit with cutting-
edge info material for
professionals and end users.



Experience hands-on
workshops, a factory visit
and Chinese culture in the
Sungrow Headquarter.

30 pages of Sungrow but you still want more? **So do we!**

Let's join forces and conquer the world.
We are sure, together nobody can stop us.
We can't wait to get to know you!

Learn more on

www.sungrowpower.com

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