

Europe Headquarters

SUNGO Energy Technology B.V.

Add: Hoofdweg-Noord 9T, 2913LB Nieuwerkerk aan den IJssel, The Netherlands

Global Headquarters

SUNGO Energy Technology (Jiangsu) Co., Ltd.

Add: Unit 01, Floor 1, NO.179 Suhong West Road, Suzhou Industrial Park, Suzhou City, Jiangsu Province, China

Optimizer&Energy Storage Production base

KONKA&SUNGO Smart Energy (Zhejiang) Co., Ltd.

Add: Building 3#, Small and Micro Industrial Park, No. 69 Xingmei Avenue, Chengtan Street, Xinchang County, Shaoxing City, Zhejiang Province, China

Sungo Energy UK

Add: 60 Windsor Avenue, London SW19 2RR, United Kingdom

Sungo Energy Japan

SungoEnergy株式会社

Add: 4-16-5-206 Sekimae, Musashino City, Tokyo

Sungo Energy USA

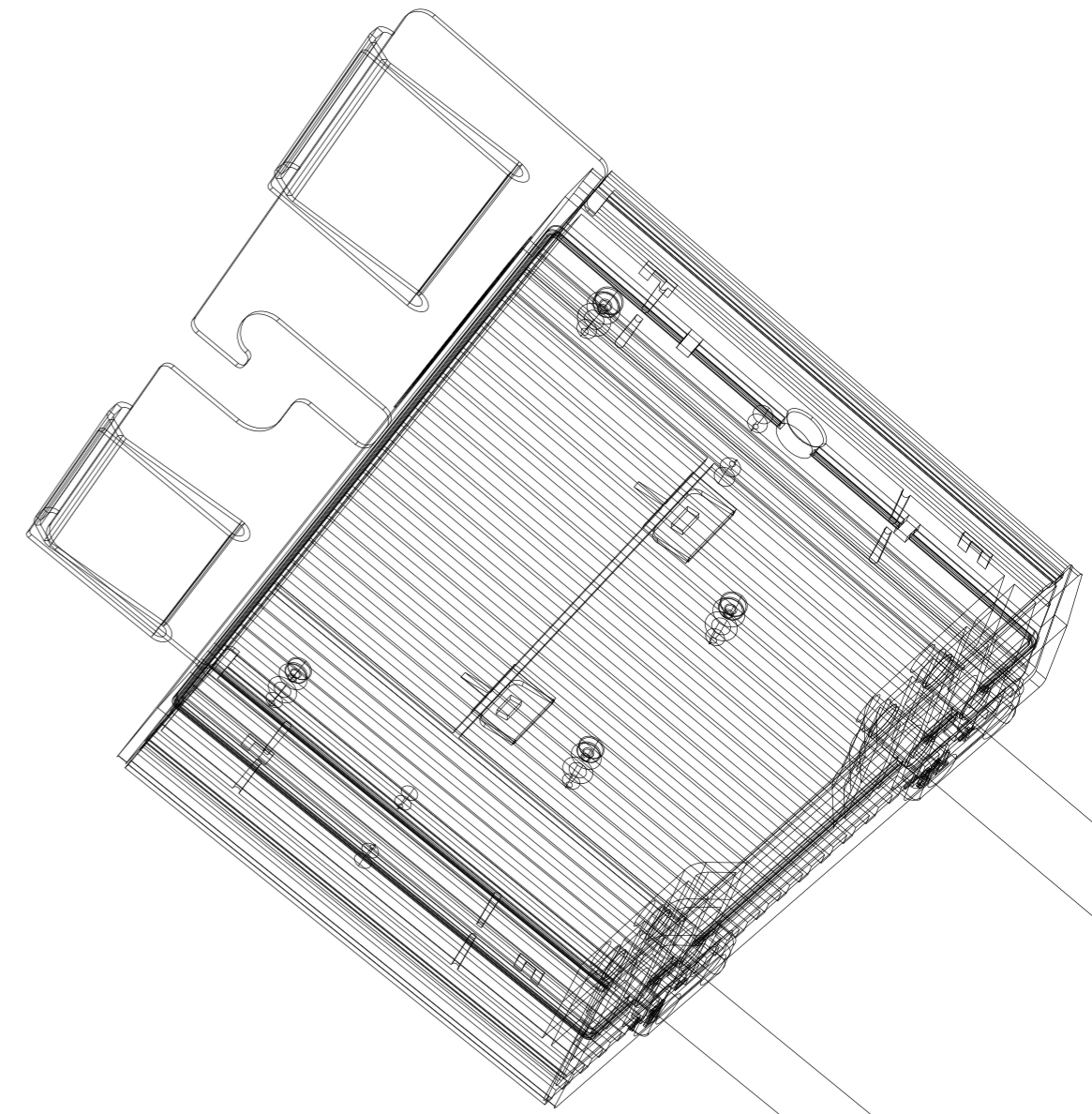
SUNGO ENERGY TECHNOLOGY INC.

Add: 5900 Balcones Drive, STE 100 Austin TX 78731



Smart Optimizer Product Brochure

GO WITH SUNSHINE, ALWAYS OPTIMIZED



Web: www.sungoess.com

E-mail: sales@sungoess.com

Europe Headquarters Tel: +31 (0)10 307 21 68

Global Headquarters Tel: +86 (0)512 6512 2036

SUNGO Energy UK Tel: +44 (0) 330 122 6559

After-sales e-mail: after-sales@sungoess.com



LinkedIn



Facebook



Tiktok



Youtube

© Sungo reserves all rights. All other trademarks mentioned in this document are trademarks of their respective owners.

The information in this document is for reference only and does not constitute any offer or commitment.

Sungo may modify the above information without prior notice.

SUNGO Energy

SUNGO Energy Technology focuses on the R&D and application of user-side solar+storage products, and is committed to providing global clients with excellent performance, leading-edge solar+storage products and comprehensive energy solutions. We have wide range product lines, including smart optimizers, and lithium-ion battery energy storage systems, which covers the entire industrial chain to meet users' requirements. In the future, we will continue to increase investment in R&D, continuously improve our competitive advantages, and provide global clients with products which are more integrated, easier to install and maintain.

Your green energy keep optimizing 



1.5 million
Annual production capacity of smart optimizers



2GW
Optimizer installed capacity



15 years
Industry experience



More than 15%
Average gain per customer



30%
Percentage of R&D staff



30+
Exported countries

Optimizer Application Scenarios



Blocking Shadow



Damage/Smudge



Differentiation Orientation



PV Module Differentiation Attenuation

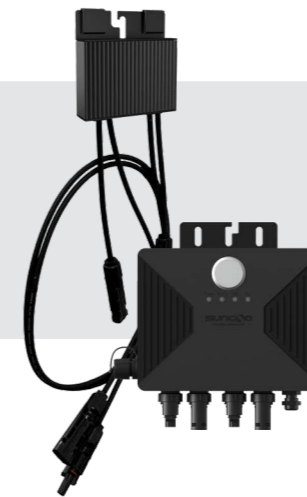
Optimizer Product Solutions

SUNGO Energy has been committed to the application and popularization of PV intelligent optimizer to produce more clean energy for users. The autonomously R & D optimizer products integrate optimization, rapid shutdown and module-level monitoring functions, which can effectively help PV systems to realize multi-generation and multi-installation and accurate management.



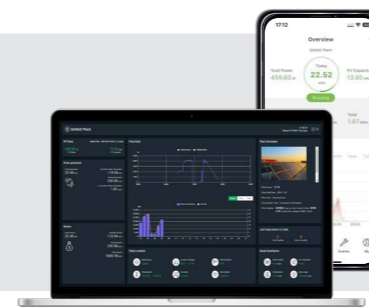
SUNGO OPT 600W SUNGO OPT PRO 800W

Smart optimizer
(optimization)



SUNGO iOPT 800W

Smart optimizer
(optimization + shutdown + monitoring)



iSungo





Smart Management System

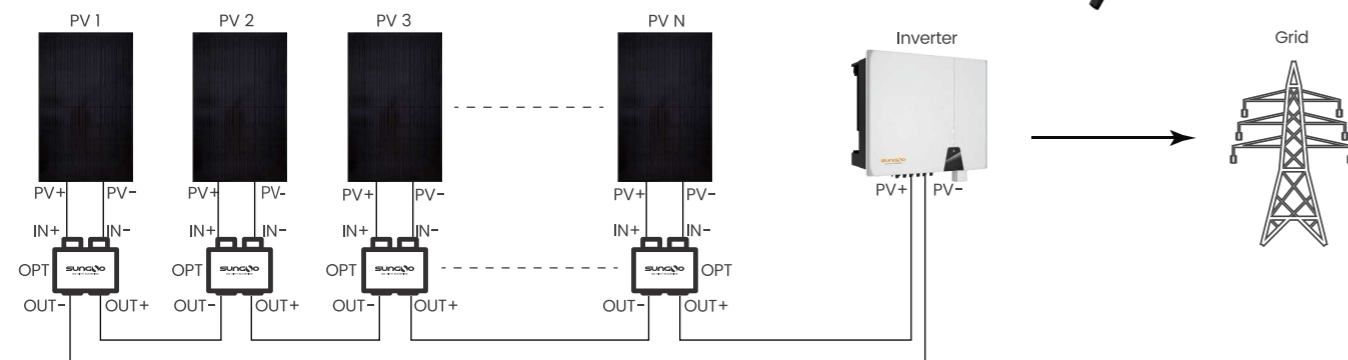
Smart Optimizer SUNGO OPT

Optimize Power Generation
Fearless of Shading



Features

-  Module-level MPPT, no more worries of shading, power generation increased by **5%~30%**
-  Easy to install, widely adapt, suitable for retrofitting existing power station and installing new PV power station
-  Compatible with mainstream PV modules and various inverters
-  12-year standard warranty, high stability, service life over 25 years




Technical Parameters


Model	SUNGO OPT
DC Input	
Max input power	600W
Max voltage	60V
MPPT voltage range	7~60V
Max continuous input current	16A
Max input short-circuit current	18A
Night self-consumption	0W
DC Output	
Rated output voltage	42V
Max continuous output current	16A
Max output power	600W
Max system voltage	1500V
Efficiency	
Peak efficiency	99.7%
General Data	
Dimensions(W*D*H)	103*21.3*105.3mm
Weight	0.65kg
Input/output cable length	IN+ 200 / IN- 1100 / OUT+ 750 / IN- 750mm
Input/output cable size	4mm ² (12AWG) / 4mm ² (12AWG)
Terminals	MC4(Compatible)
Protection rating	IP67/NEMA6
Operating temperature range	-40~+65°C
Certification	CE
EMC	EN IEC 61000-6-1:2019EN IEC 61000-6-2:2019EN IEC 61000-6-3:2021EN IEC 61000-6-4:2019
Packaging	20pcs/CTN 900pcs/pallets

Smart Optimizer SUNGO OPT PRO


Optimize Power Generation
Fearless of Shading

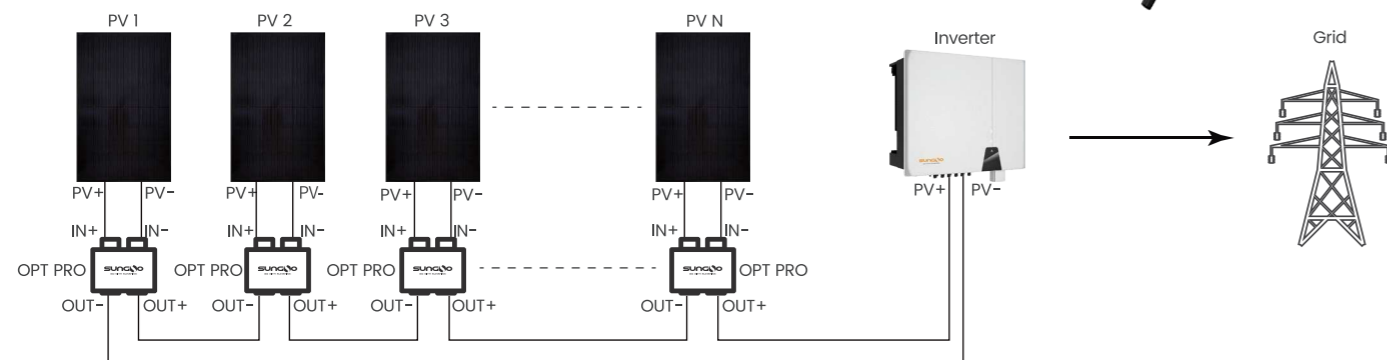
Features

 Module-level MPPT, no more worries of shading, power generation increased by **5%~30%**

 Easy to install, widely adapt, suitable for retrofitting existing power station and installing new PV power station

 Compatible with mainstream PV modules and various inverters

 12-year standard warranty, high stability, service life over 25 years









Technical Parameters

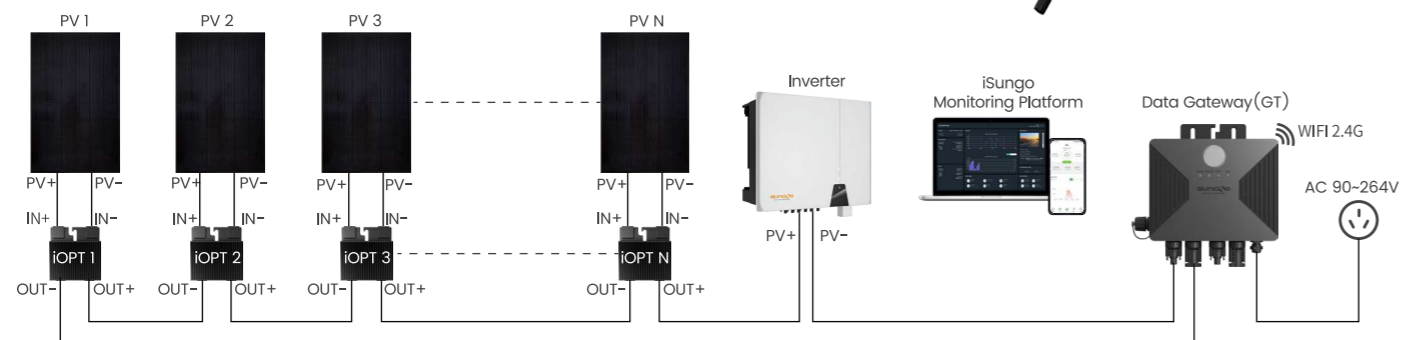
Model	SUNGO OPT PRO
DC Input	
Max input power	800W
Max voltage	70V
MPPT voltage range	7~60V
Max continuous input current	21A
Max input short-circuit current	23A
Night self-consumption	0W
DC Output	
Rated output voltage	58V
Max continuous output current	21A
Max output power	780W
Max system voltage	1500V
Efficiency	
Peak efficiency	99.7%
Power loss @5A	0.9W
Power loss @8A	1.4W
Power loss @12A	2.9W
Power loss @15A	4.5W
Power loss @20A	7.2W
General Data	
Dimensions (W*D*H)	103*21.3*105.3mm
Weight	0.65Kg
Input/output cable length	IN+ 200 / IN- 1100 / OUT+ 750 / IN- 750mm
Input/output cable size	4mm ² (12AWG) / 4mm ² (12AWG)
Terminals	MC4(compatible)
Protection rating	IP67/NEMA6
Relative humidity	0~100%RH
Operating temperature range	-40~+60°C
Cooling	Natural cooling
Overtoltage category	OVC II
Maximum altitude	≤4000m
Certification	CE
EMC	EN IEC 61000-6-1:2019EN IEC 61000-6-2:2019EN IEC 61000-6-3:2021ENIEC 61000-6-4:2019
Packaging	20pcs/CTN 900pcs/pallets

Smart Optimizer SUNGO iOPT 800W

Optimize Power Generation
Intelligent Management

Features

-  Module-level MPPT, no more worries of shading, power generation increased by **5%~30%**
-  Module-level rapid shutdown, ensuring fire and maintenance safety
-  Module-level data intelligent monitoring and accurate management
-  Fully utilize roof space to achieve system maximization
-  Suitable for retrofitting existing power station and for installing new PV power station
-  12-year standard warranty, high stability, service life over 25 years



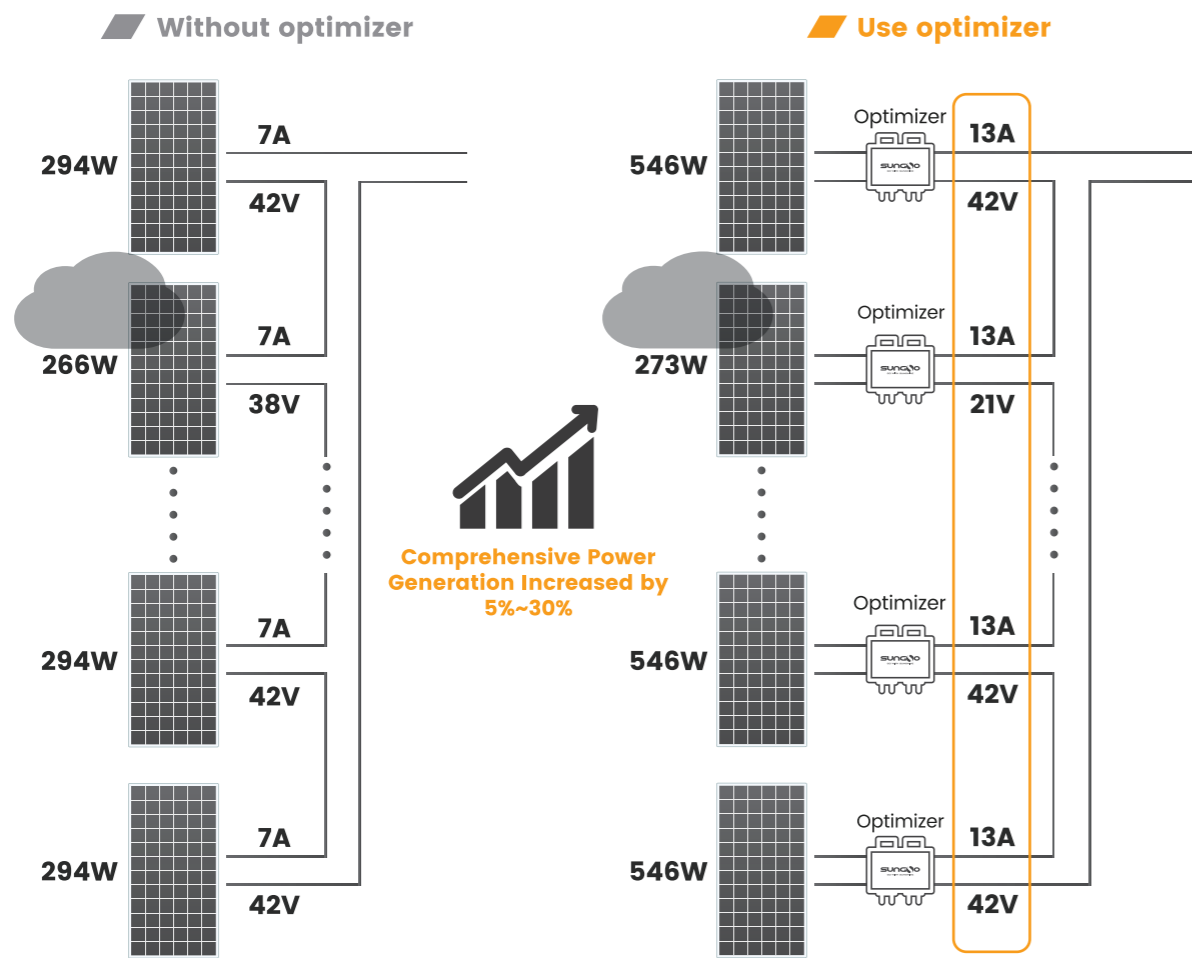
Optimizer Technical Parameters

Model	SUNGO iOPT 800W
DC Input	
Max input power	800W
Max voltage	70V
MPPT voltage range	12~60V
Max continuous input current	21A
Max input short-circuits current	23A
Night self-consumption	0W
DC Output	
Output voltage	0~60V
Max continuous output current	21A
Max output power	780W
Max system voltage	1500V
DC Output During Shutdown	
Output voltage (without SUNGO GT)	1±0.1V
Efficiency	
Peak MPPT efficiency	≥99.7%
Communication	
Communication Method	PLC
Communication parameter	PV Voltage, Output Voltage, Output Current, Output Power, Temperature, State
Advanced Protection	
Input overvoltage protection	>75V
Output overcurrent protection	>22A
Output overload protection	>800W
High temperature protection	>110 C
General Data	
Dimensions (W*D*H)	116*31.5*123mm
Weight	0.865kg
Input/output cable length	IN+ 200 / IN- 1100 / OUT+ 750 / IN- 750mm
Input/output cable size	4mm ² (12AWG) / 4mm ² (12AWG)
Terminals	MC4(Compatible)
Protection rating	IP68
Relative humidity	0~100%RH
Operating temperature range	-40~+65°C
Cooling	Natural cooling
Certification	CE
Packaging	28pcs/CTN 840pcs/pallets

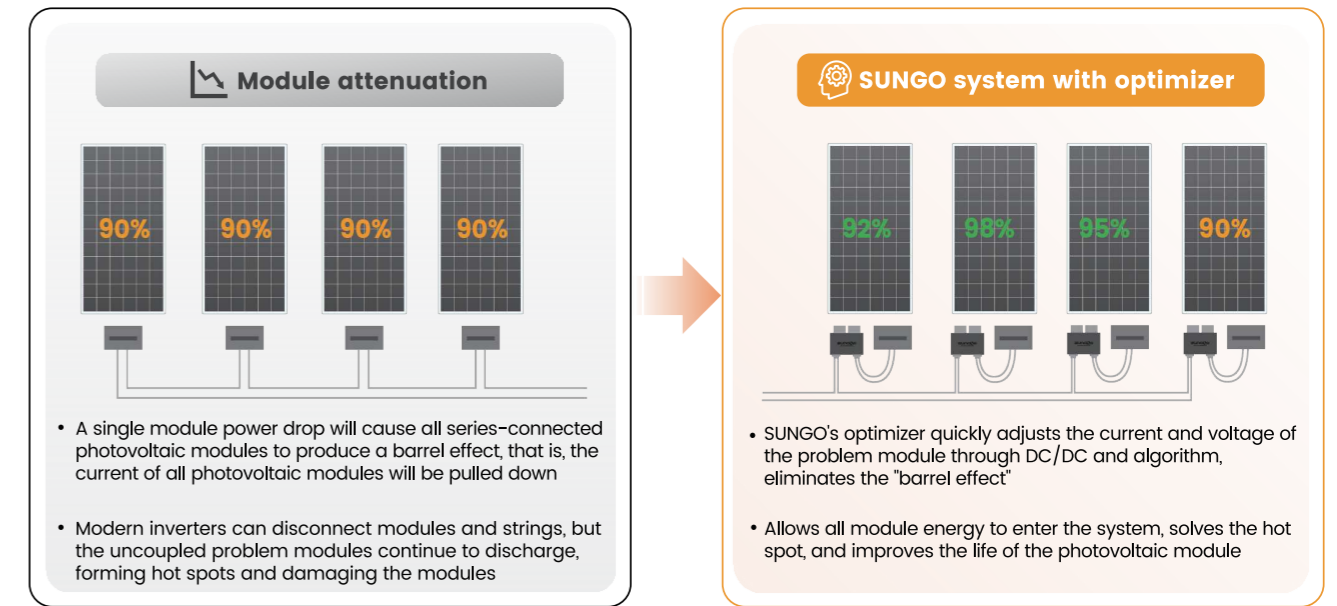
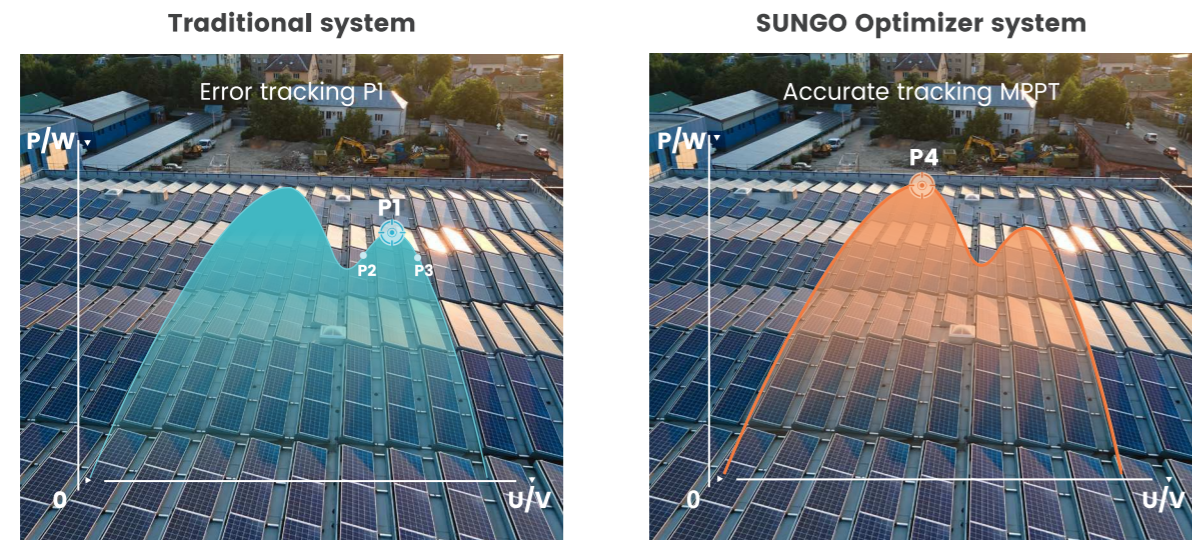
Data Gateway Technical Parameters

Model	SUNGO GT
Match with	SUNGO iOPT 800W
AC Input Parameters	
AC input voltage range	90~264V
AC Input frequency	50/60Hz
Maximum AC input power	5W
Maximum AC input current	0.1A@90Vac
PV Input Parameters	
Terminals	MC4(Compatible)
Maximum system voltage	1500V
Nos of input strings	2
Max current of each string	21A
Max Module Nos per string	30
Communication Method	
Communication with optimizer	PLC
Communication with upper machine	2.4GHz Wi-Fi / RS485
Rapid Shutdown	
Initial state	1. OFF when AC is not connected 2. ON when AC is connected
Switch-on	Press the button once until the Running light is on
Switch-on time	<5s
Shut-down	1. Press the button once until the RSD indicator lights up 2. Controller AC power off, all indicator lights off
Shut-down time	<30s
Standards	
Electromagnetic compatibility (EMS)	IEC61000-6-1, IEC61000-6-2, IEC61000-6-3
Safety	IEC62109-1
RoHs	Yes
Installation Specification	
Dimension (W*D*H)	140*33.5*175mm
Weight	0.88kg
AC input cable length	1m
Protection level	IP67
Working temperature range	-40~+70°C
Cooling	Natural cooling
Form of installation	Wall hanging/holding, screw locking
Certification	CE
Packaging	5pcs/CTN 40pcs/pallets

How the Optimizer Works

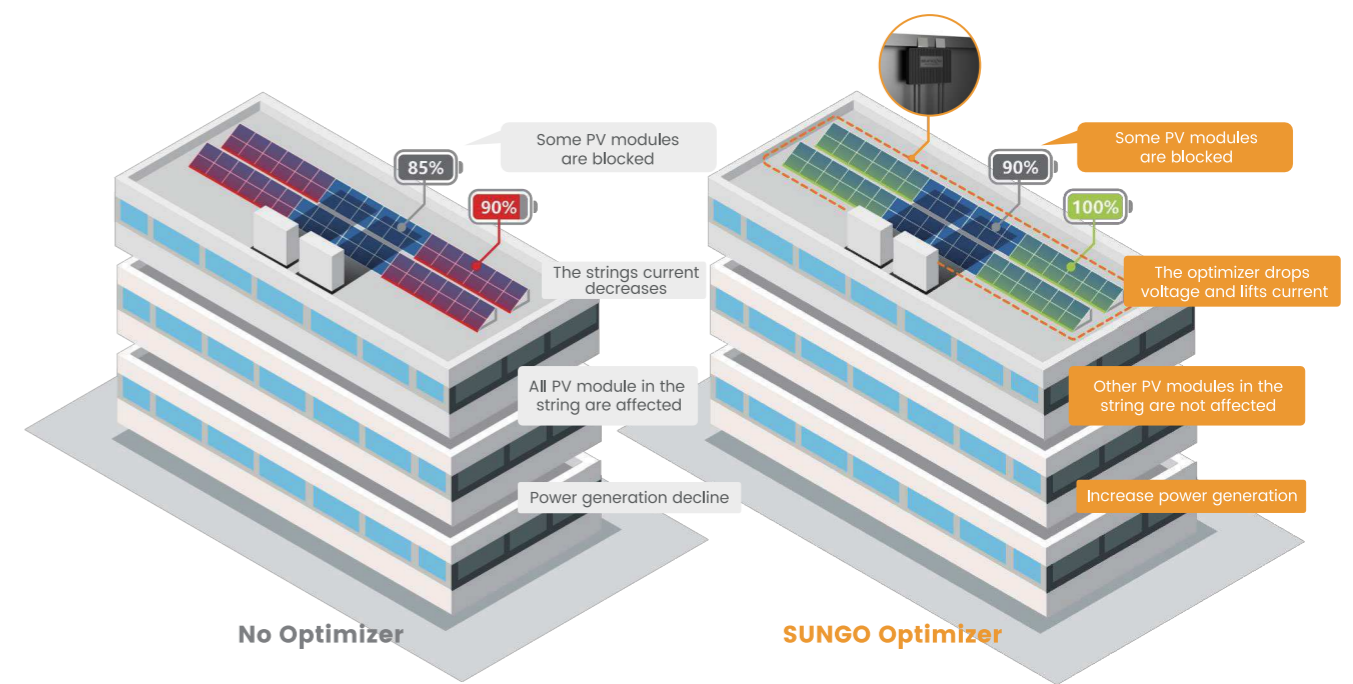


Accurate tracking of the maximum power point, increase the system power generation.



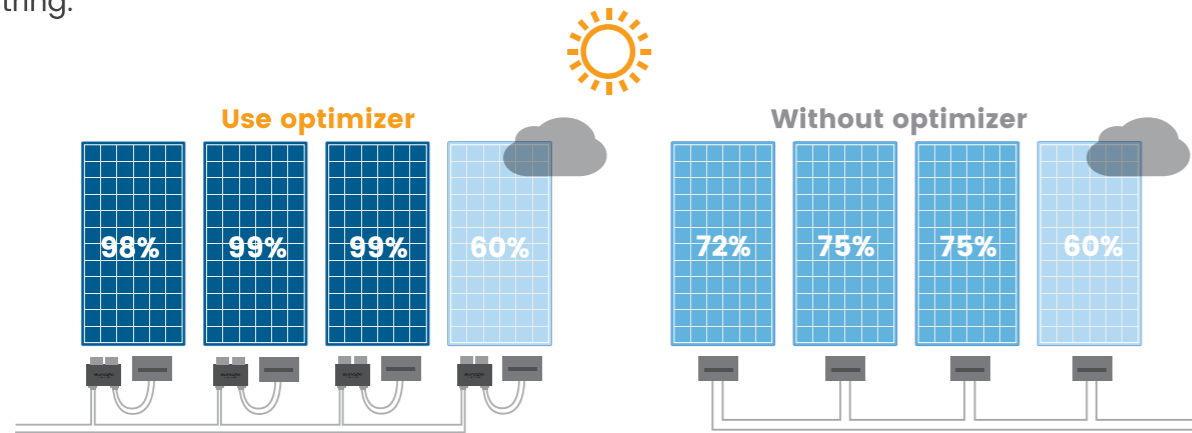
Module-level Optimization

Individual optimizations at the module level ensure that each module works at its own optimum operating condition and tracks the maximum current of the string.



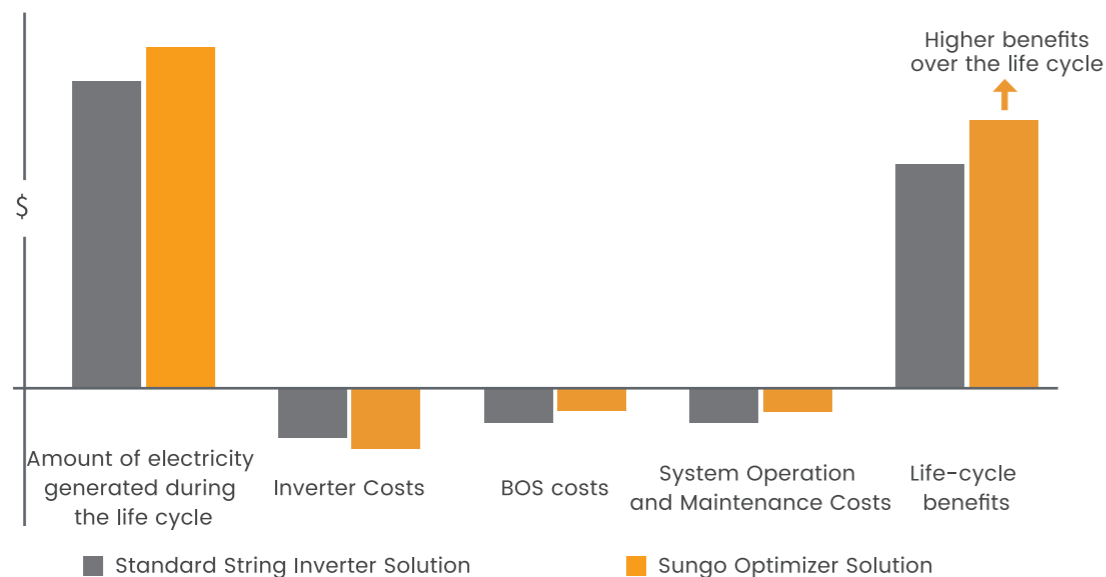
What Problem to Solve

Module-level MPPT tracking to prevent one PV module from affecting the entire string.



More Cost-effective Optimizer Solutions

Sungo's PV Smart Optimizer allows customers to optimize the cost of power generation over the life cycle of the system by increasing the amount of power generation and reducing the cost. It is able to optimize the power generation of each module, thus increasing the amount of power generation within the life cycle of the PV system. Compared to the traditional inverter system, the initial investment of the Sungo system is slightly higher, but the overall installation cost and the maintenance cost within the life cycle are lower, thus making Sungo's overall solution more attractive economically.



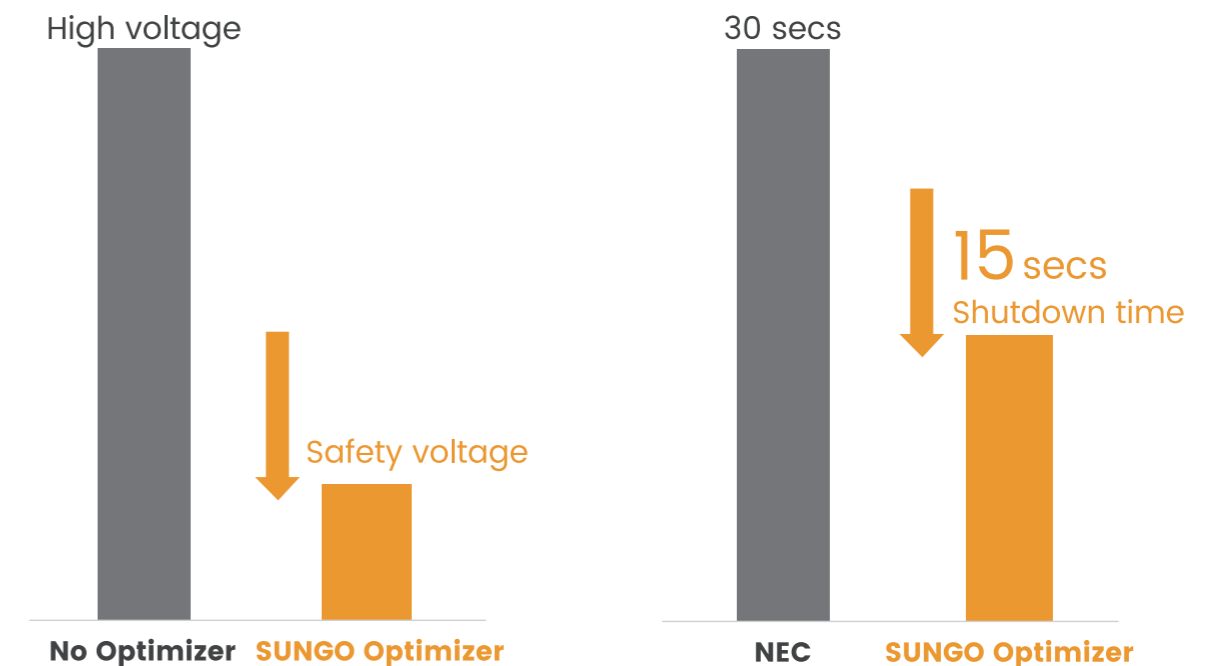
Avoid PV Module Factory Mismatch

The manufacturers indicate that the module has 0~3% power tolerance, which will bring power generation loss of the system. The optimizer can solve it effectively.



PV Module Protection and Comprehensive Roof Safety Solutions

Shutdown time of 15s, which is significantly faster than the 30s required by the NEC standard.

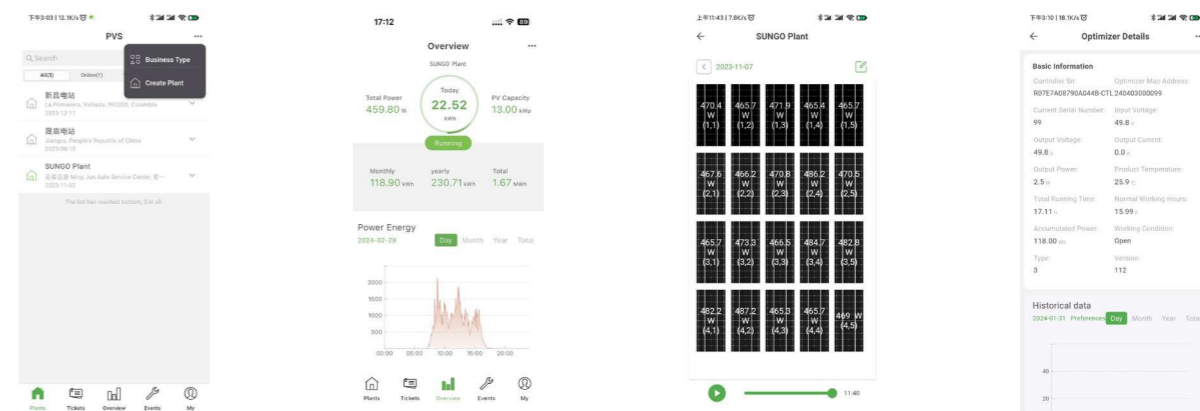


Smart Management System iSungo

Intelligent Operation and Maintenance
Better Experience



App



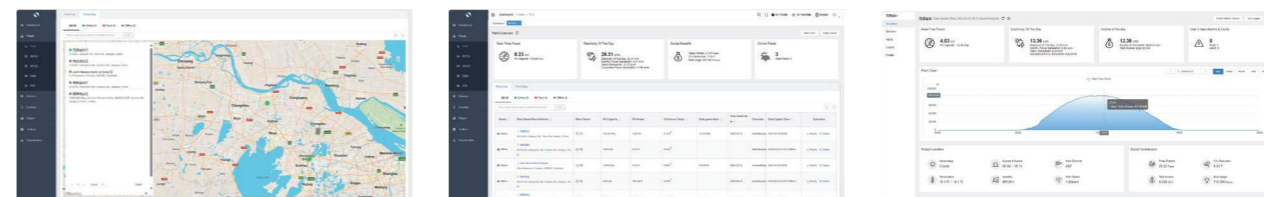
Station interface for creating new stations and viewing station information

Core data presented succinctly and at a glance

PV Module Layout View
Module Information Status

Optimizer details are used to view the status of optimizer information

Web

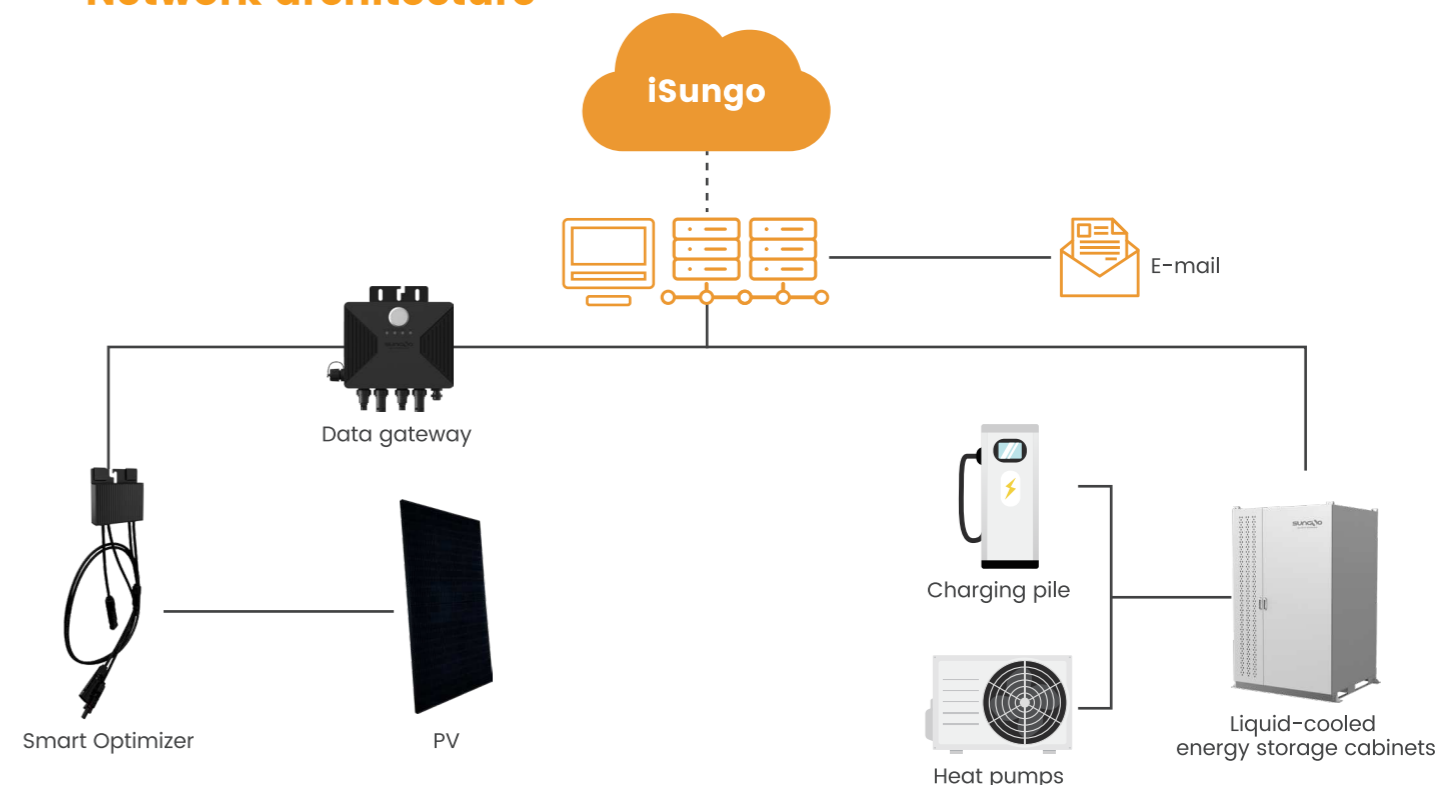


Multi-view display at a glance, easy to manage all your power stations





Fast access to component-level performance data to pinpoint component problems

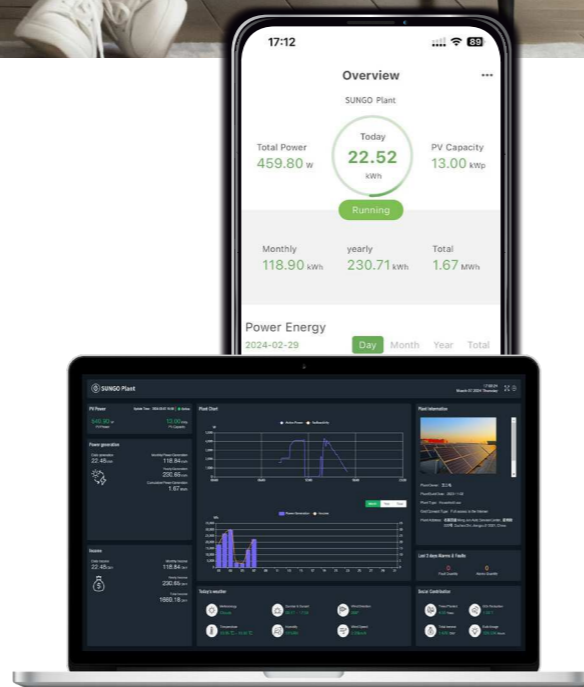
View current and historical data by day, week, month, and year, with earnings automatically calculated

Network architecture



Features

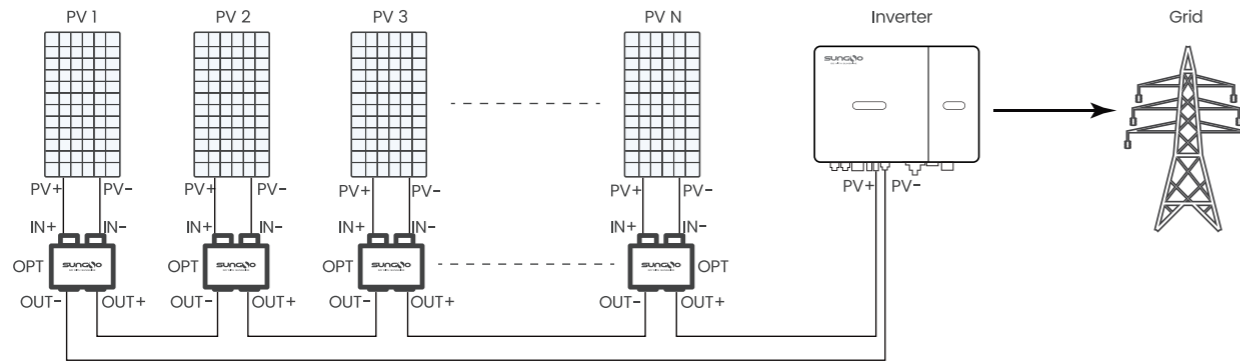
-  Intelligent management, data at a glance
-  Module-level data management for easier operation and maintenance
-  Comprehensive control of power station operation to realize maximum benefits
-  Remote fault analysis to reduce O&M costs



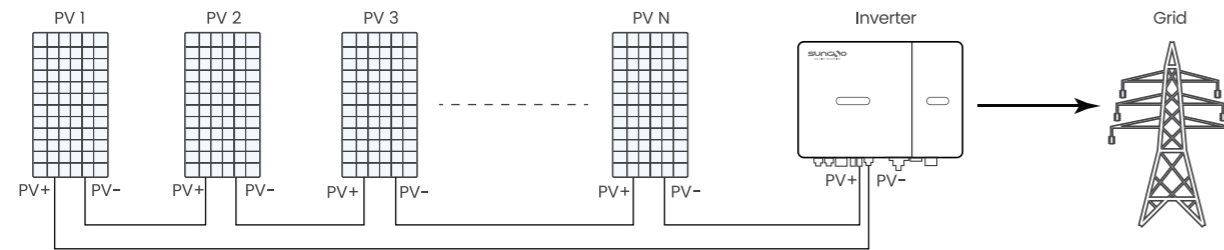
Typical Project Case Introduction

Comparison of two adjacent power stations with and without the optimizer installed.

Average power generation increase: **17.34%**



Optimizer installed **VS** No optimizer installed



Optimizer installation date: July 1, 2020



Installed pv capacity: < 50kw for both systems



Number of optimizer installations: 143 pcs

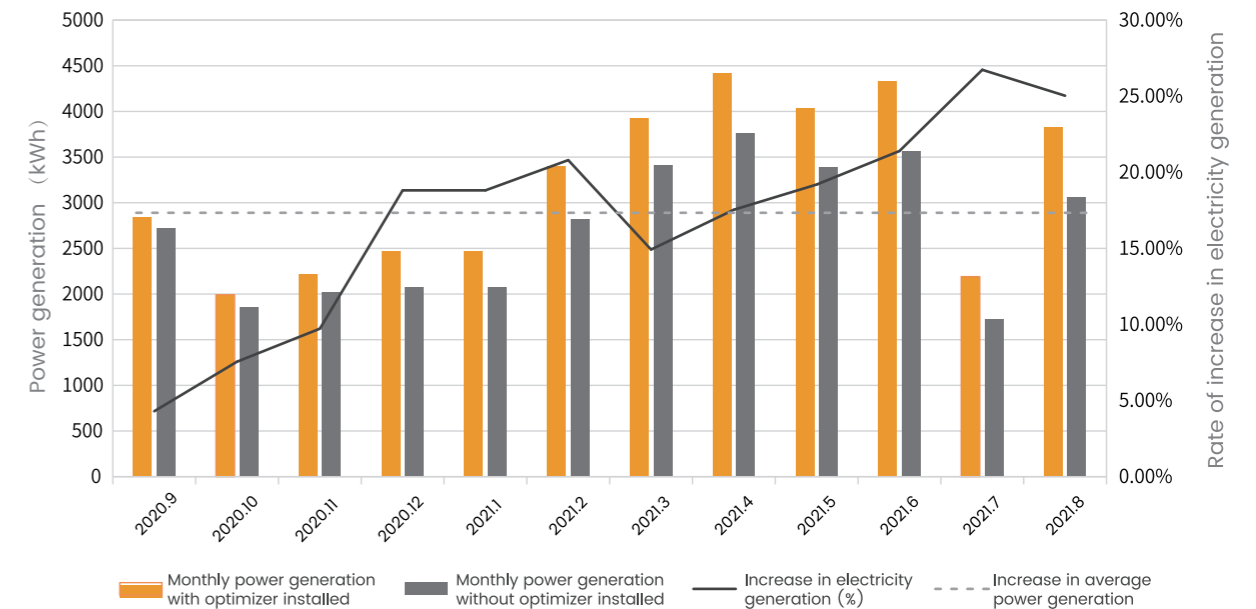


Average power generation increase: 17.34%

Comparative Data for Two Neighboring Power Stations

Improvement effect within one year (measured value).

Effect of installing an optimizer (increase in monthly power generation)



Note: This data is collected from actual measurements taken from September 2020 to August 2021 by the customer.

The graph presented visually contrasts the power output of the Gunma Solar PV project in Japan, highlighting the substantial enhancement that occurred when an optimizer was incorporated. The optimizer proved to be highly efficacious, boosting the solar power generation by an impressive margin. Specifically, it enhanced the power generation efficiency from a baseline of 4.30% to a peak of 26.74% within the period spanning September 2020 to August 2021. On average, the installation of the optimizer led to a substantial average improvement of 17.34%, demonstrating its profound positive impact on the overall performance of the system.

Overall, the efficiency of PV power generation tends to improve with optimizers. However, the degree of improvement varies depending on the actual internal and external environment of the project, but the longer the life of the PV panels, the greater the optimization effect. According to a large amount of actual data, the average power generation has increased by more than 15% with Sungo's optimizers.

Project Cases



March 2021 – Fukuoka, Japan – 32 pieces
– comprehensive power generation increased by 22.3%



April 2021 – Czech Republic – 200 pieces
– comprehensive power generation increased by 17.2%



May 2021 – Slovenia – 200 pieces
– comprehensive power generation increased by 10.8%



January 2022 – Switzerland – 22 pieces
– comprehensive power generation increased by 10.2%



July 2022 – Munich, Germany – 18 pieces
– comprehensive power generation increased by 13.5%



September 2022 – Italy – 1,500 pieces
– comprehensive power generation increased by 15.9%

Professional and Comprehensive Service



Fast Response

12-hour agreement signing, 24-hour accurate quotation



Professional R&D Team

Structural, electrical, software, industrial design engineers to satisfy the diverse requirements of clients

After-sales service



Remote Support Troubleshooting



On-site support: Global projects, 24 hours arrival



Follow up & Customer Satisfaction Survey



Adhere to the concept of global localized operation and service

Tel: +31 (0)10 307 21 68

After-sales e-mail: after-sales@sungoess.com