Sigenergy C&I Products and Solutions Overview

2025/02/07

SIGENERGY

Overview of C&I Product Family

Sigen PV Inverter

Sigen PV 50/60/80/100/110/125M1

Available*
125 kW ready in April

Sigen Hybrid Inverter

Sigen PV 50/60/80/100/110/125M1-HYA

Available*
125 kW ready in April

SigenStack

SigenStack BC
Battery Controller

SigenStack BAT
SigenStack BAT 12.0

Available

SigenStor

SigenStor EC
Energy Controller

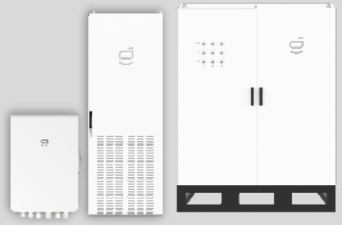
SigenStor BAT
SigenStor BAT 5.0 / 8.0

Available

Sigen Energy Gateway

C60-2
C120-6
C180-9
C300-12
C600
C1200

Available



Sigen Data Logger

Sigen Logger A1-01

Ready in April 2025

Sigen Comm. Module

Sigen CommBridge

Ready in April 2025

Sigen Comm. Module

Sigen CommMod

Sigen Power Sensor

Sigen Sensor TP-CT120-DH
Sigen Sensor TP-CT300-DH
Sigen Sensor TP-CT600-DH
Sigen Sensor TPX-CH

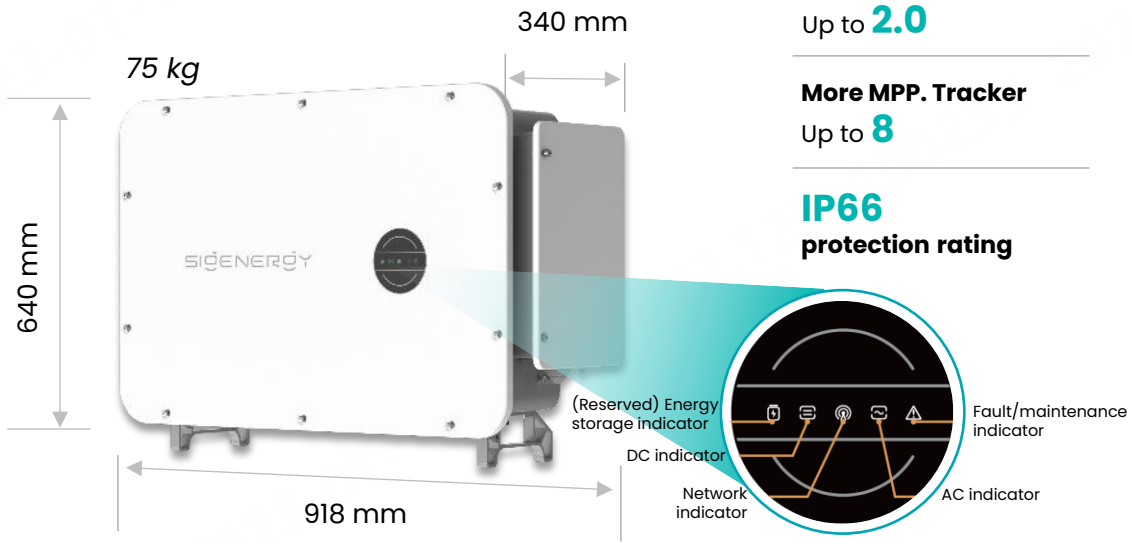
Sigen Cloud
MySigen App

C&I Recommended Portfolio

	Scenario	Reference Capacity	Recommended Portfolio
PV+ESS Integration	On/Micro/Off-grid	< 200kWh 200kWh ~ 1000kWh	SigenStor + Sigen Energy Gateway 
PV+ESS Integration	On-grid	200kWh ~ 1000kWh > 1000kWh	SigenStack + Sigen Hybrid Inverter 
Only PV	On-gird	/	Sigen PV Inverter 

Sigen PV Inverter, **Only for PV**

Sigen PV Inverter



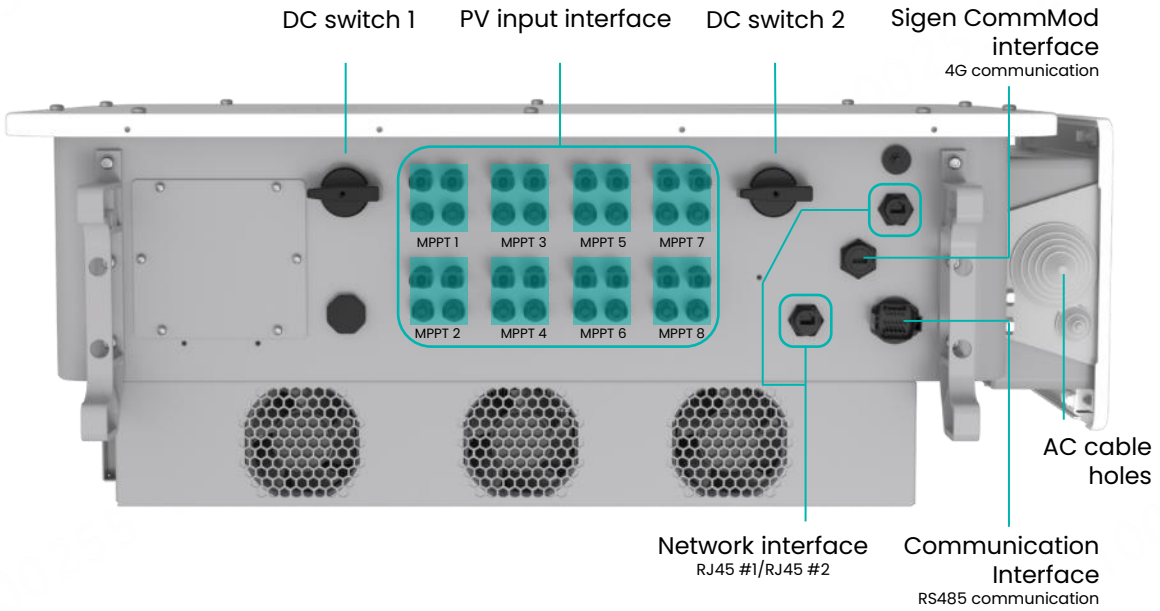
Higher DC/AC ratio
Up to **2.0**

More MPP. Tracker
Up to **8**

IP66
protection rating

Nominal output power (kW)	50	60	80	100	110	125
Max. output power (kW)	55	66	88	110	121	137.5
Max. input current per MPPT (A)	32	32	32	32	32	40
	4 MPPT	5 MPPT	6 MPPT	8 MPPT		

Sigen PV Inverter ports demonstration

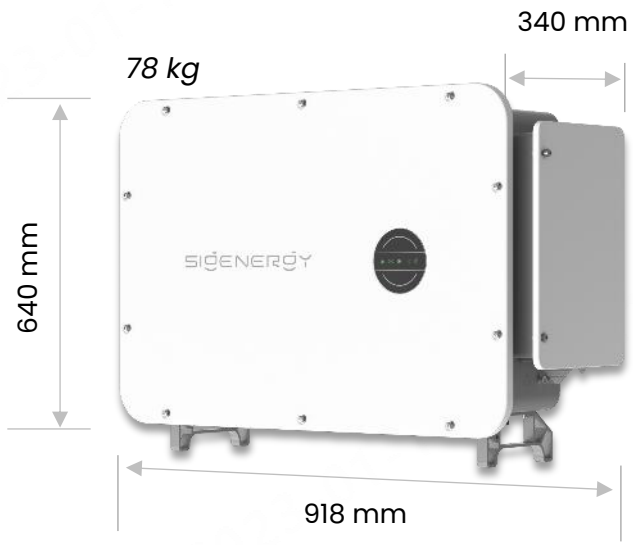


Nominal output voltage: 220/380V, 230/400V

Communication: WLAN / Fast Ethernet / RS485 / Sigen CommMod (4G/3G/2G)

Sigen Hybrid Inverter, **Battery Ready for ESS**

Sigen Hybrid Inverterc



Higher DC/AC ratio
Up to **2.0**

More MPP. Tracker
Up to **8**

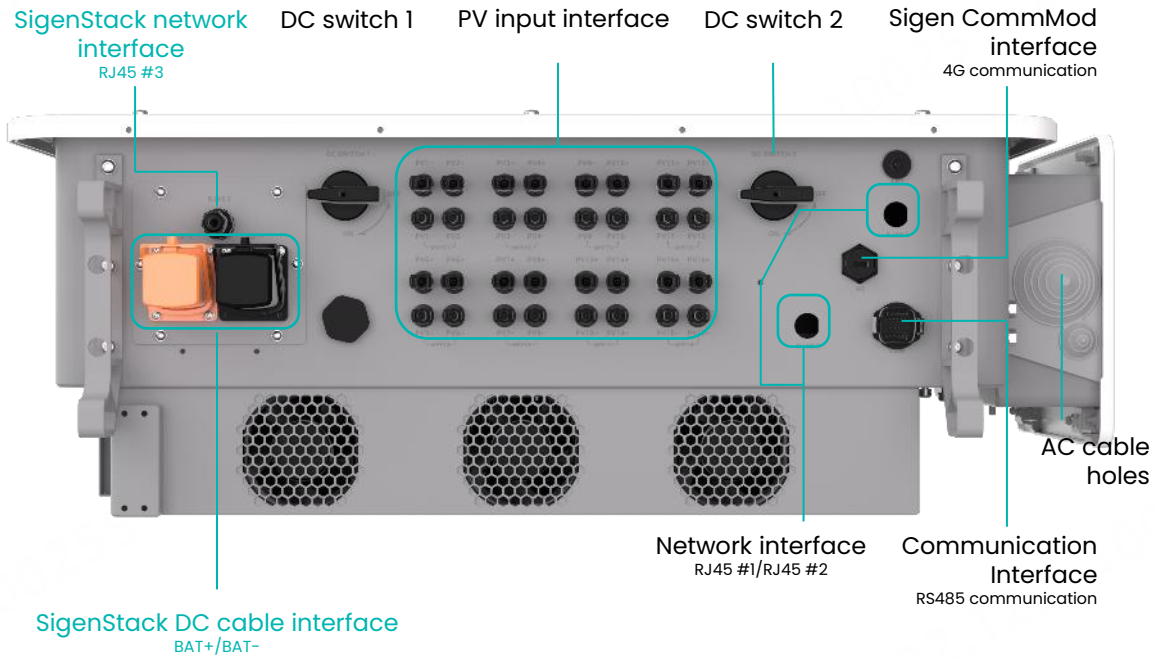
IP66
protection rating

SigenStack
Compatible Battery

Max. operating current
180 A

Nominal output power (kW)	50	60	80	100	110	125
Max. output power (kW)	55	66	88	110	121	137.5
Max. input current per MPPT (A)	32	32	32	32	32	40
	4 MPPT	5 MPPT	6 MPPT	8 MPPT		

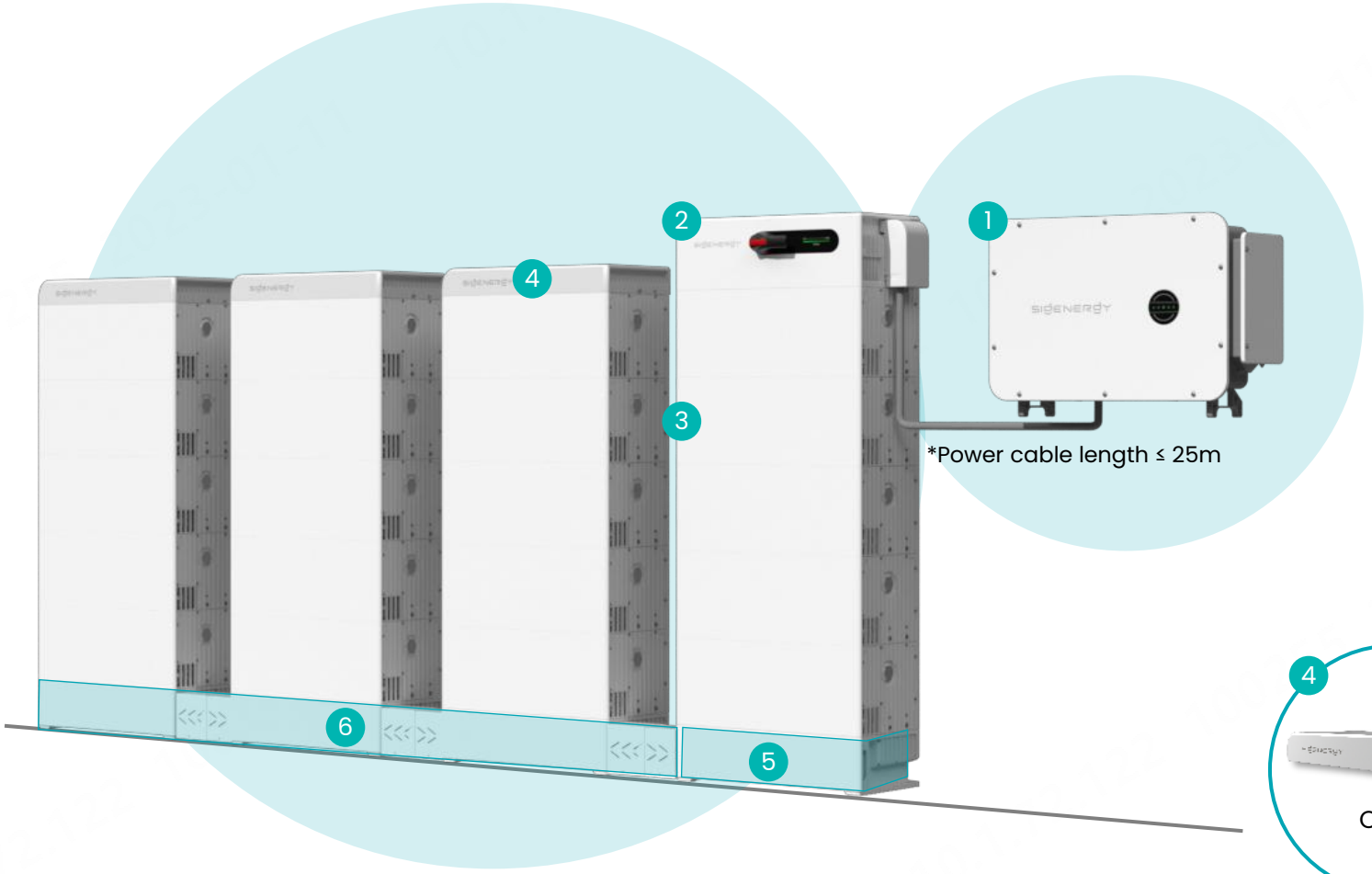
Sigen Hybrid Inverter ports demonstration



Nominal output voltage: 220/380V, 230/400V, **277/480V**

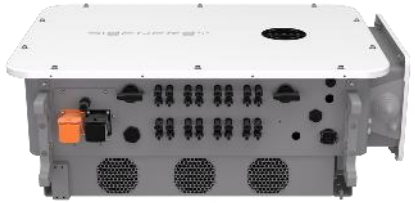
Communication: WLAN / Fast Ethernet / RS485 / Sigen CommMod (4G/3G/2G)

SigenStack, Innovative Modular BESS Energy Solution



1 Sigen Hybrid Inverter

50/60/80/100/110/125 kW



2 Battery Controller

180 A Max. output current

3 Battery Module

Model: SigenStack BAT 12.0

12.06 kWh energy capacity per module

4 ~ 21 modules connected per inverter

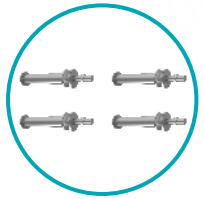
4 Cover

5 Base MAIN **0.5C/1C**

6 Base SUB **0.5C/1C**

Handles

1 inverter with 1 set *recommended*



Sigen Power Sensor, accurate power control

Sigen Power Sensor for C&I Scenario

	Product model	Number of CT	Max. operating current of CT	Supported Inverter Configurations			
				Product	Max. output current of inverter (A)	Max. No. in parallel (pcs)	Total current (A)
	Sigen Sensor TP-CT120-DH	3	120 A	Sigen PV/Hybrid Inverter 50 kW	83.6	1	83.6
				Sigen PV/Hybrid Inverter 60 kW	100.3	1	100.3
	Sigen Sensor TP-CT300-DH	3	300 A	Sigen PV/Hybrid Inverter 50 kW	83.6	3	250.8
				Sigen PV/Hybrid Inverter 60 kW	100.3	2	200.6
				Sigen PV/Hybrid Inverter 80 kW	133.7	2	267.4
				Sigen PV/Hybrid Inverter 100 kW	167.1	1	167.1
				Sigen PV/Hybrid Inverter 110 kW	183.8	1	183.8
				Sigen PV/Hybrid Inverter 125 kW	208.9	1	208.9
	Sigen Sensor TP-CT600-DH	3	600 A	Sigen PV/Hybrid Inverter 50 kW	83.6	7	585.2
				Sigen PV/Hybrid Inverter 60 kW	100.3	5	501.5
				Sigen PV/Hybrid Inverter 80 kW	133.7	4	534.8
				Sigen PV/Hybrid Inverter 100 kW	167.1	3	501.3
				Sigen PV/Hybrid Inverter 110 kW	183.8	3	551.4
				Sigen PV/Hybrid Inverter 125 kW	208.9	2	417.8
	Sigen Sensor TPX-CH	-	-	If the max. output of the inverters in parallel is higher 600A, only Sigen Sensor TPX-CH can be supported. Customers need to purchase CTs (XXX A/5 A) with a minimum precision of 0.5s.			

Power sensor selection recommendation:

The max. operation current of CT must **be higher than** the max. output current of the inverters in parallel.

Recommended Data allowance

Sigen CommMod for C&I Scenario

Sigen CommMod — Europe version, available in 44 countries in EU

30 MB per month, for 2 years

Albania	Czech Rep	Hungary	Luxembourg	Poland	Switzerland
Andorra	Denmark	Iceland	Macedonia	Portugal	Turkey
Austria	Estonia	Ireland	Malta	Romania	UK
Belgium	Finland	Italy	Moldova	Serbia	Ukraine
Bosnia and Herzegovina	France	Kosovo	Monaco	Slovakia	*More countries will be supported in the future...*
Bulgaria	Germany	Latvia	Montenegro	Slovenia	
Croatia	Greece	Liechtenstein	Netherlands	Spain	
Cyprus	Guernesey	Lithuania	Norway	Sweden	

Sigen CommMod GL — Global version, available in 4 countries now

30 MB per month, for 2 years

Australia	Indonesia	Vietnam	South Africa	...

More countries will be supported in the future...

Sigen CommMod NS — No SIM card version

Users purchase local SIM cards by themselves
(need to confirm with Sigenergy in advance whether the telecom carrier card is supported)

		Data usage per system			Example			
No	Scenario	INV Capacity (kW)	BAT Capacity (kWh)	Data usage (MB/Month)	No. In Parallel (Pcs)	Total INV Capacity (kW)	Total BAT Capacity (kWh)	Total Data usage (MB/Month)
1	**PV only (Sigen PV 125M)**	125	0	**25**	**10**	1100	0	**250**
					20	2200	0	**500**
2	**PV+ESS (1*Sigen PV 125Mi-HYA & 21*SigenStack BAT 12.0)**	125	253	**125**	**10**	1250	2530	**1250**
					20	2500	5060	**2500**

Note:

1. The Sigen CommMod (4G/3G/2G) can be ordered from Sigenergy based on the requirement of communication method from customers. **(For better data transferring, Fast ethernet is recommended for its reliable and fast communication.)**
2. If the total data usage of the system is high than 30MB/Month, you can purchase data recharge plan and top up through MySigen App.

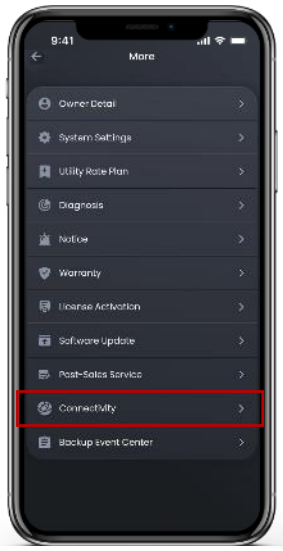
How to top-up your data plan

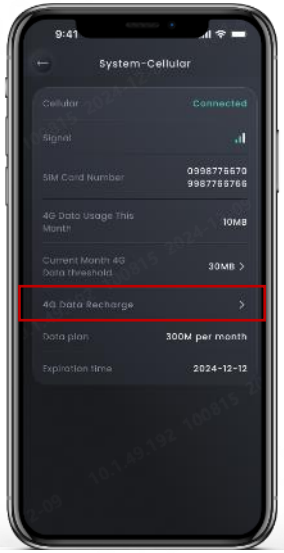
Top-up reminder

After commissioning

When data is running out or when two years are about to expire

Top-up process

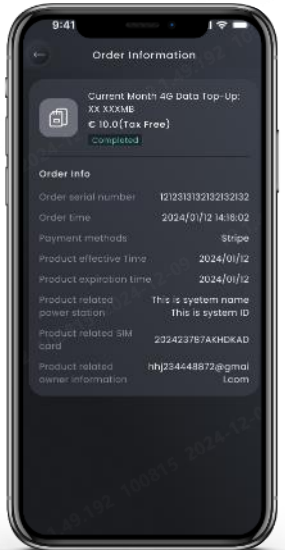




The top-up interface can be found by both installer accounts and end-user accounts

Users can only see and purchase recommended data plan

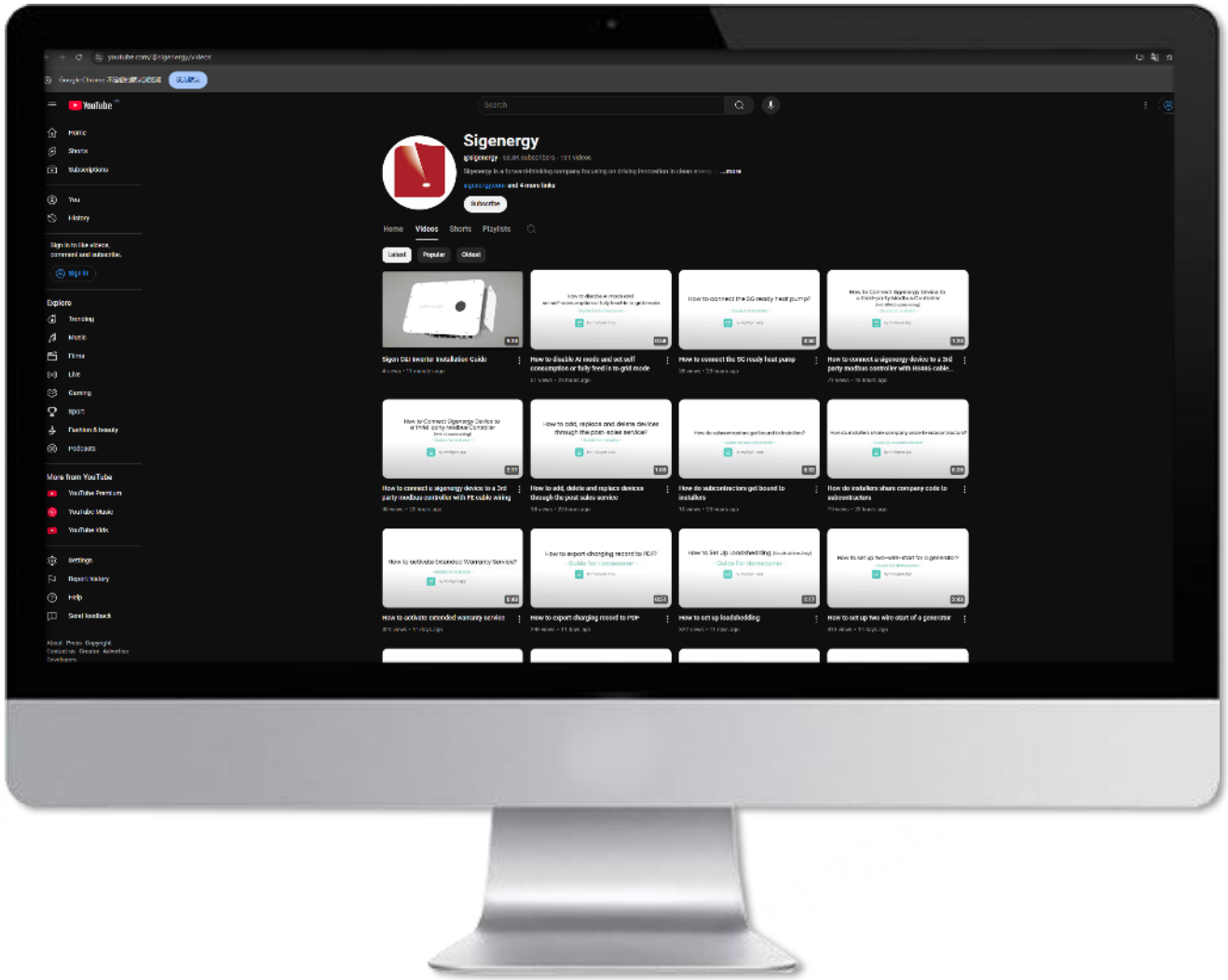
Jump to Stripe to pay

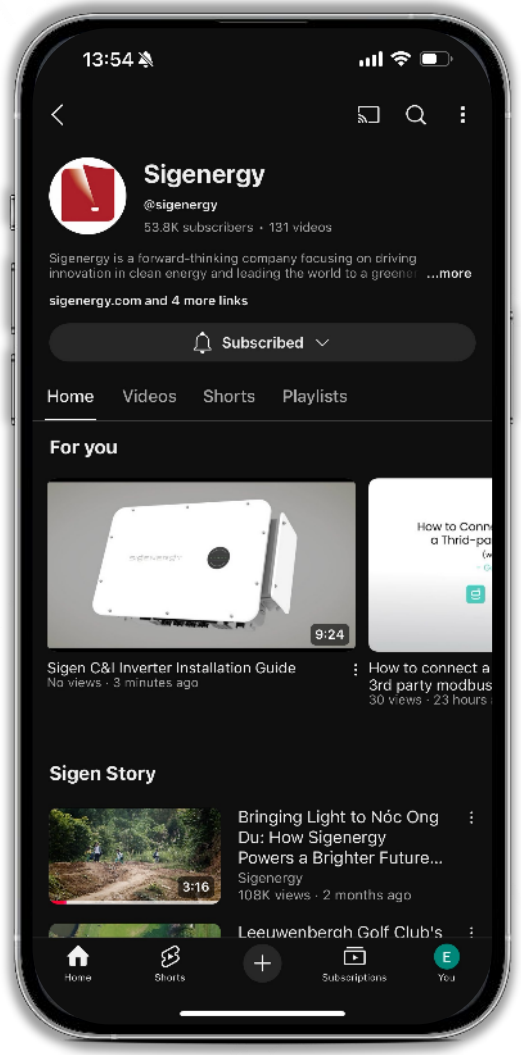


Activate within 10 minutes

Data recharge plan：Sigen CommMod 50/100/200/300/500/1000MB Data

More User Guides This Year





Three major ESS application scenarios

Power supply side

Renewable energy grid integration

Frequency regulation

Peak shaving

Transmission & distribution side

Ease transmission and distribution congestion

Transformer dynamic expansion

Reactive power support

User side

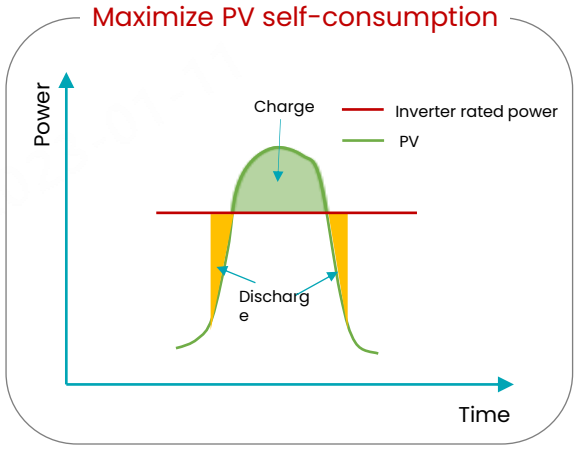
Capacity charge management

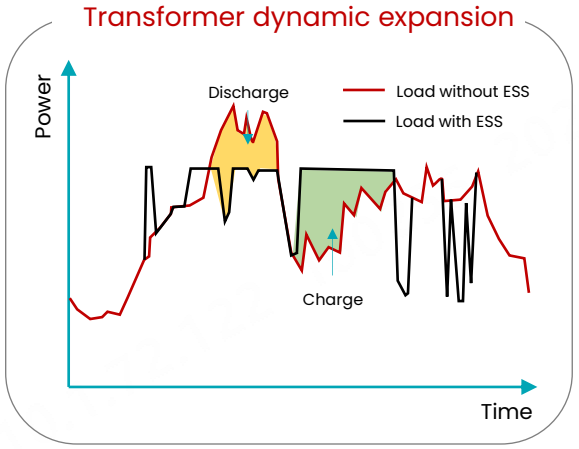
Maximize PV self-consumption

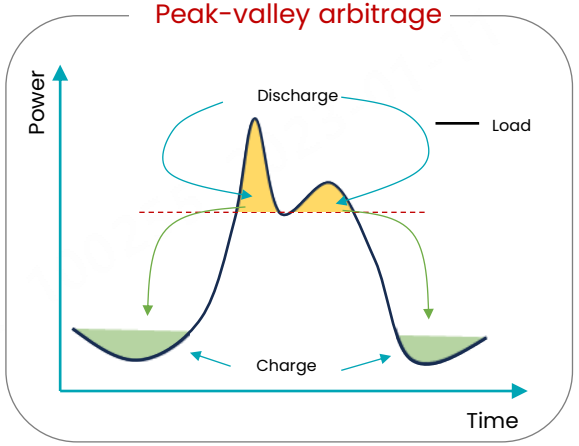
Peak valley price arbitrage

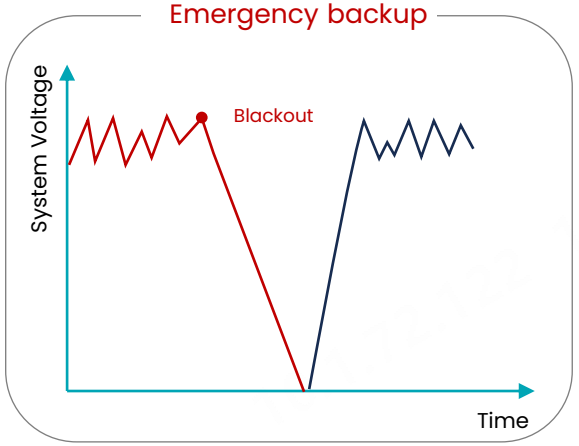
SigenStack, MW-level energy applications

Maximized benefits with innovative DC-coupling system

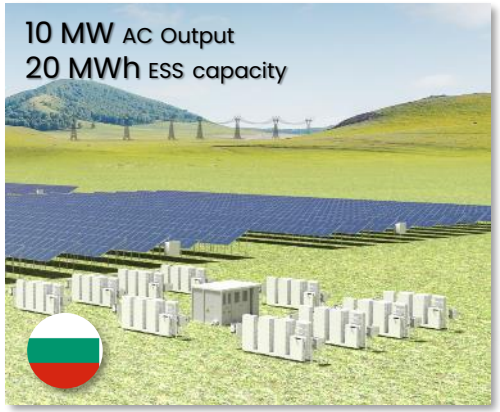






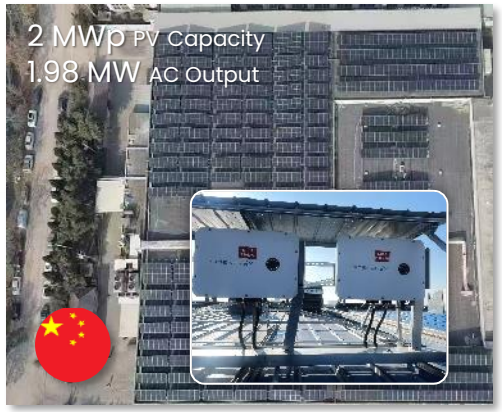


Utility-scale



Shopping mall

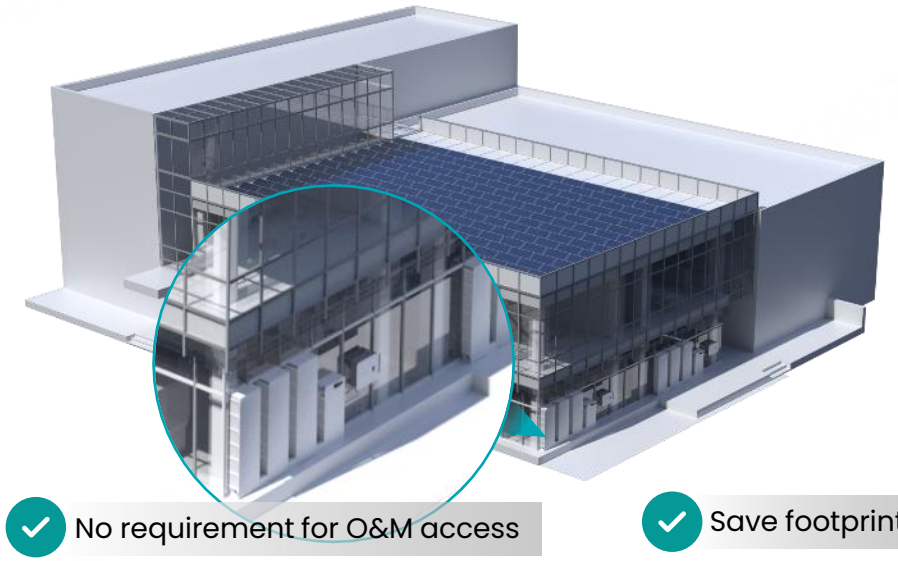
Factory



Factory

Modular design
Simpler site selection, smaller footprint

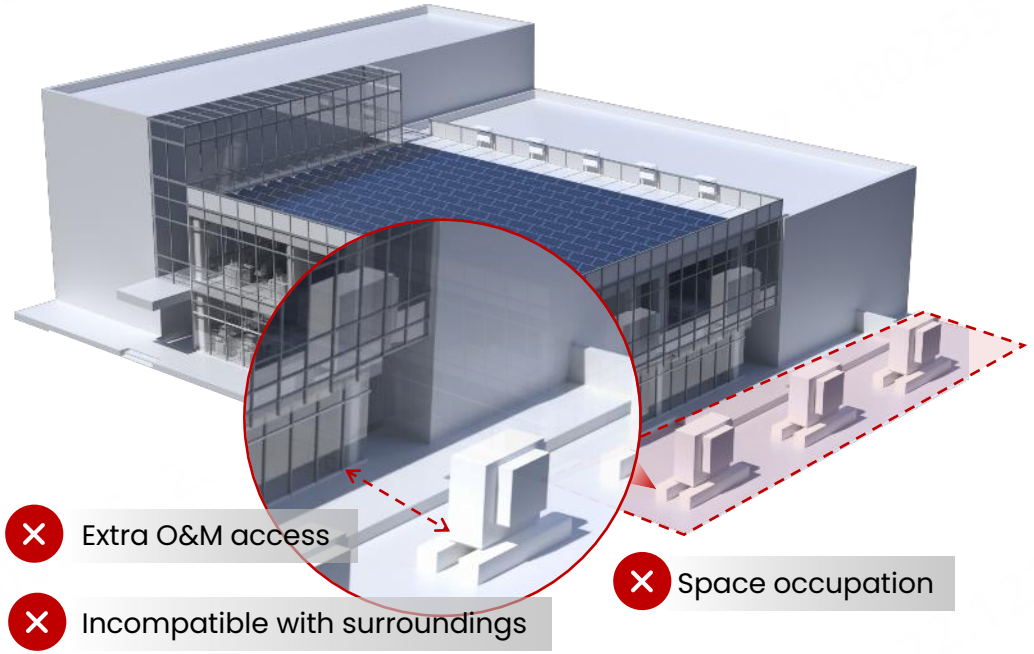
SigenStack, fewer requirements on surroundings



- No requirement for O&M access
- Save footprint
- Harmonize with the environment

Integration with the buildings

Traditional cabinet ESS, Larger footprint



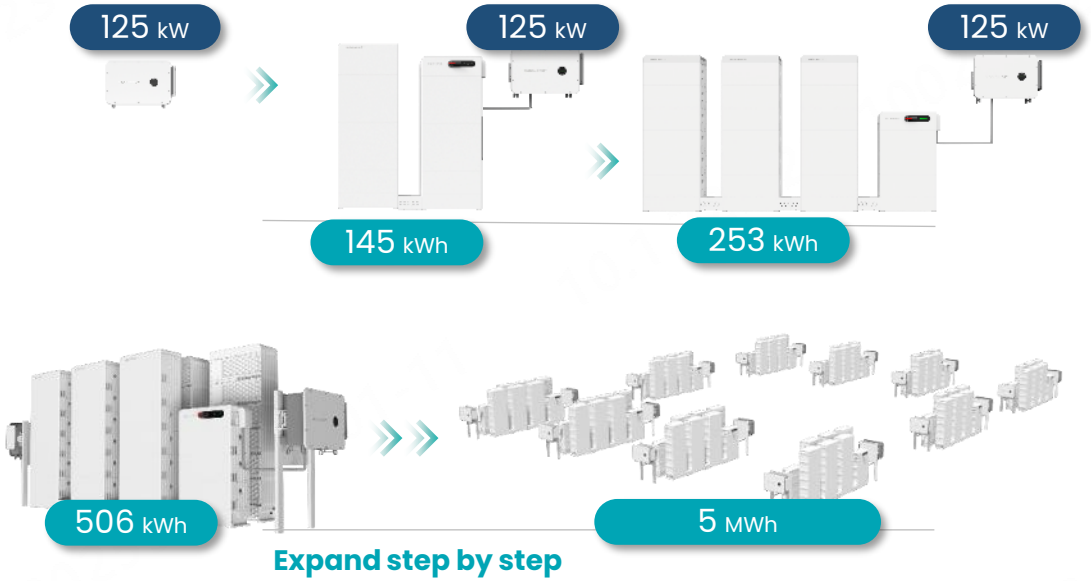
- Extra O&M access
- Space occupation
- Incompatible with surroundings

Need additional space **140 m²**

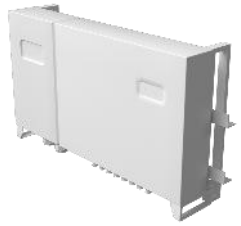
*Calculation based 600 kWh ESS project

Modular design,
Flexible System Configuration, precise investment

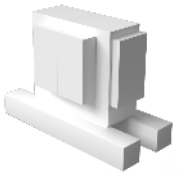
SigenStack fully modular design



Traditional solar + ESS energy solutions

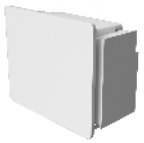


Vendor A
PV Inverter
100 kW

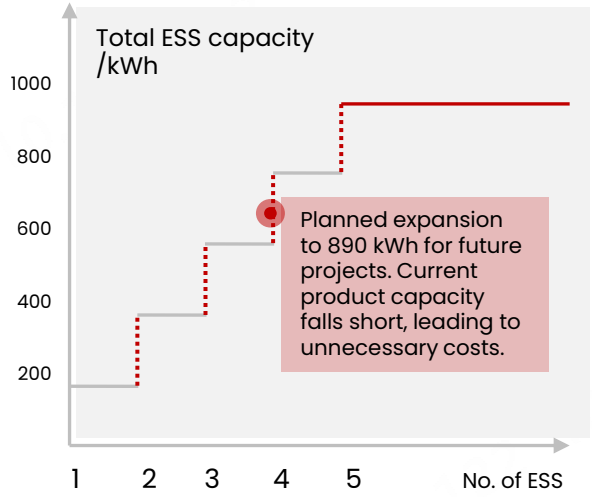


Vendor B
ESS Cabinet
200 kWh

+

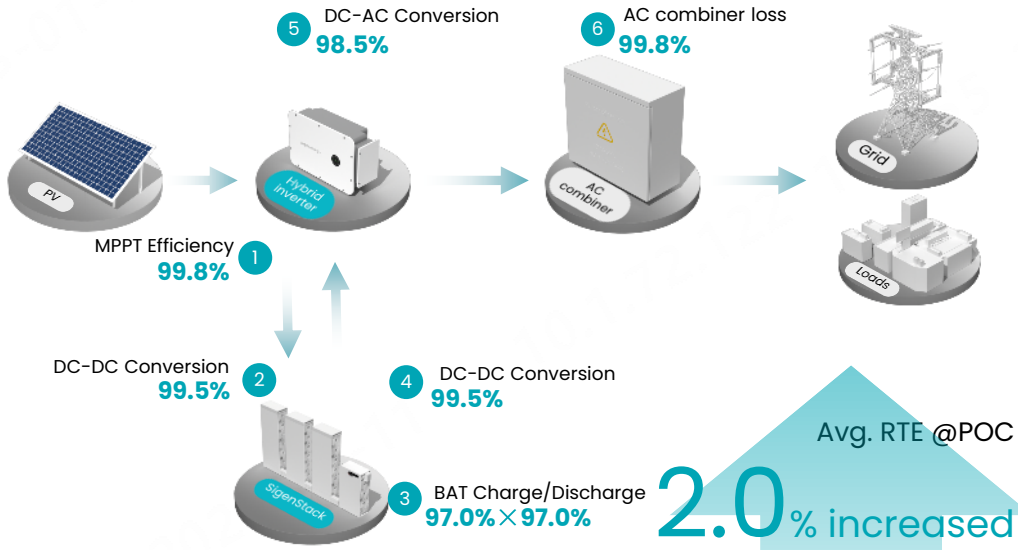


Vendor B
PCS
only 100 kW



Higher RTE efficiency with DC Coupling, save more, get more

Sigenergy BESS Solution, DC coupling



Avg. RTE @POC

2.0% increased

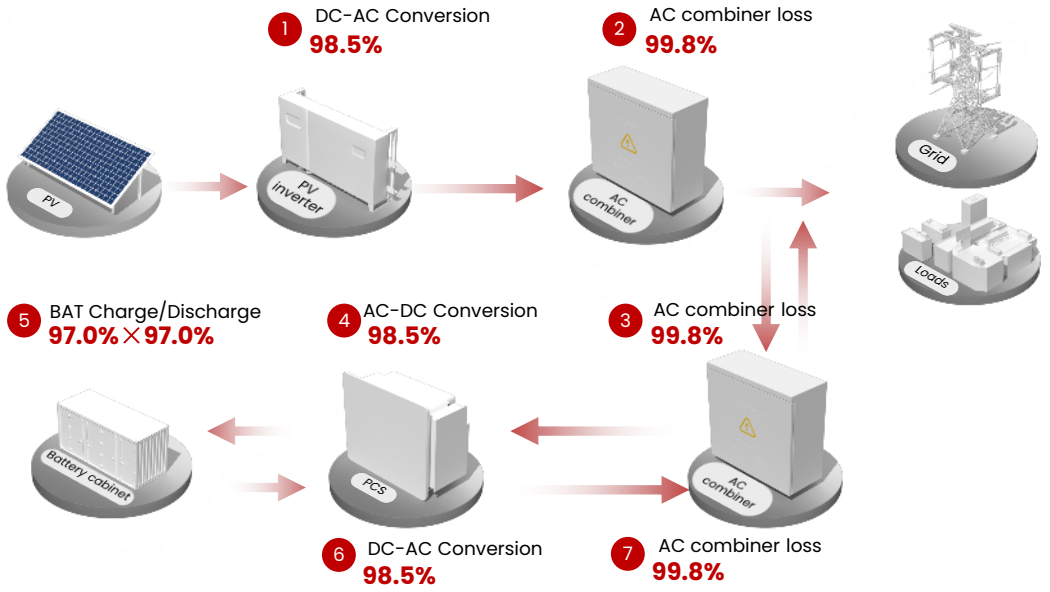
equivalent to an increase in revenue

€1,100+ /year*

**calculation condition:*
PV capacity = 4 MWp
PV power equivalent operating hours = 1500 hrs
Percentage of PV power generation to ESS since AC clipping = 3%
Electricity price = 0.3 Euros/kWh

About **91%** RTE

Traditional solution, AC coupling

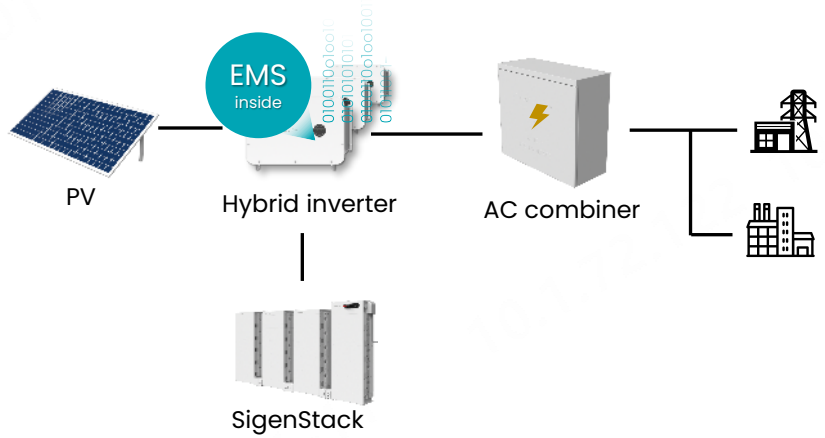


Complex system with high power loss

About **89%** RTE

DC coupling, fewer devices purchased

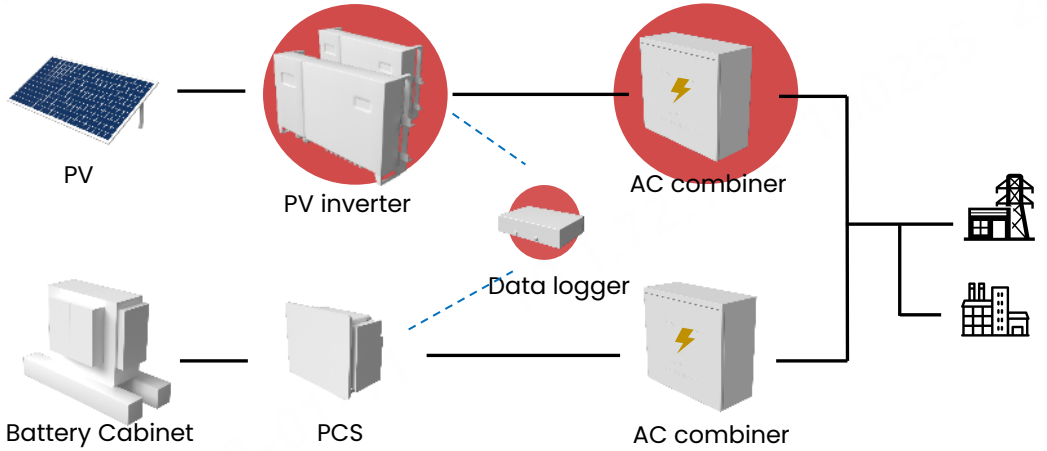
Sigenergy solution, DC coupling



Simplify PV power generation system

- Save PV Inverters
- Save a data logger
- Save an AC combiner

Traditional solutions, AC coupling



Extra devices needed

€14,000

additional devices cost

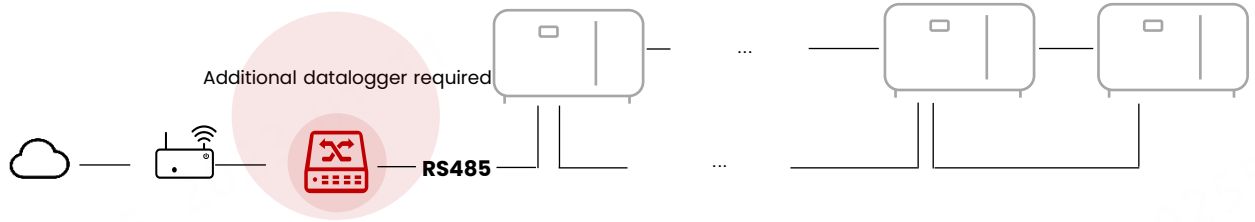
*For 400 kWac/1000 kWh PV+ESS project

Free of datalogger, improves comm. reliability

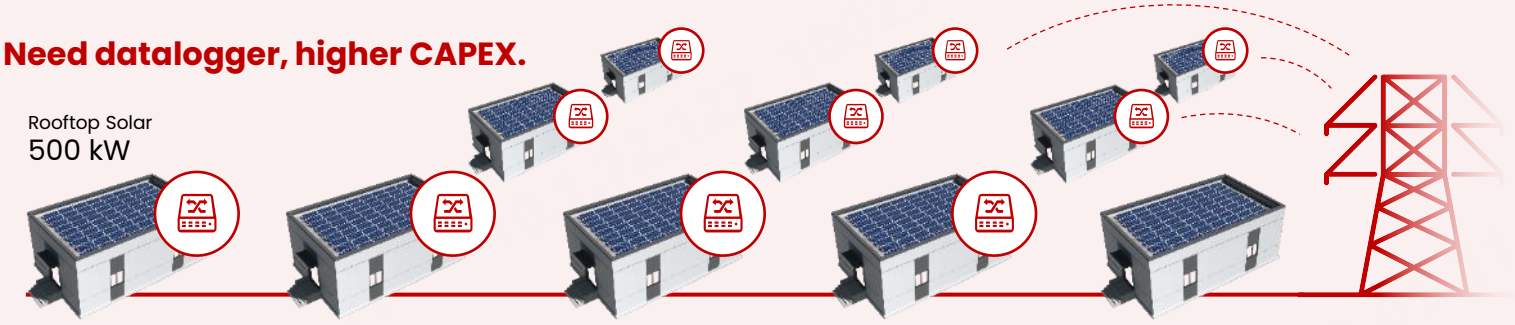
Traditional comm. solutions

Additional Data logger/Dongle required,

Additional Communication Node = Additional Failure Node



Need datalogger, higher CAPEX.



C&I projects totaling ***100 MWac***

Require **200** datalogger

x 2000 EUR/unit

Logger-Free comm. solutions

Reliable communication,

any inverter can be the master

Lightweight Design, Save shipping & installation cost

Lightweight body for easier installation

Easier to carry and install, saving installation labor costs

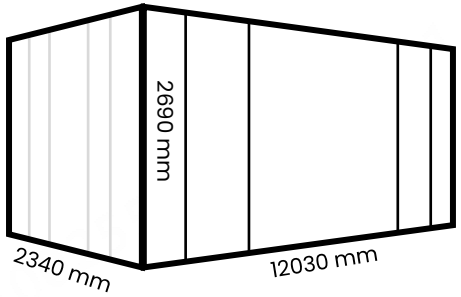
Weight **75 kg**

Dimension

918/640/340 mm

19% Less weight

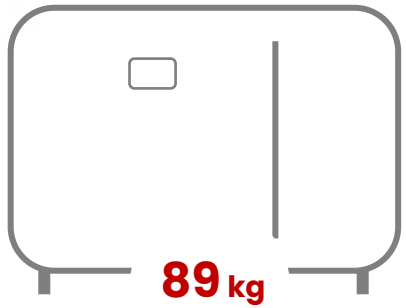
36% Smaller size



Transport costs saving

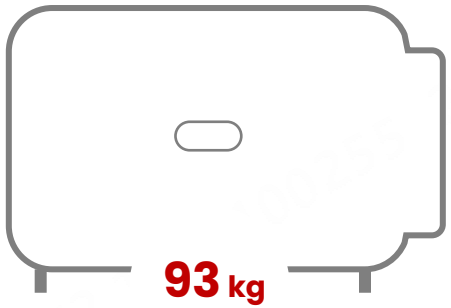
Reduce transport costs by transporting more equipment in the same containers

 x 165  x 100



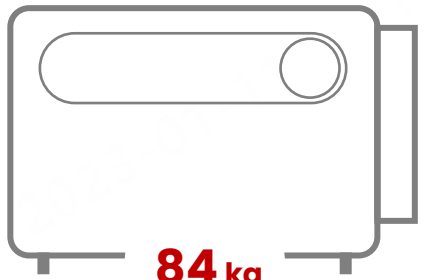
89 kg

1051 / 660/ 362.5 mm



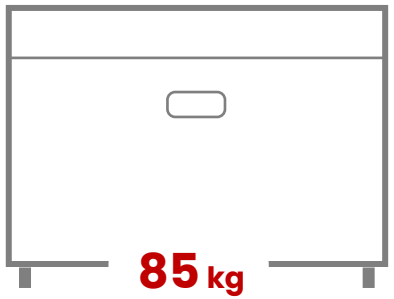
93 kg

1035 / 700 / 365 mm



84 kg

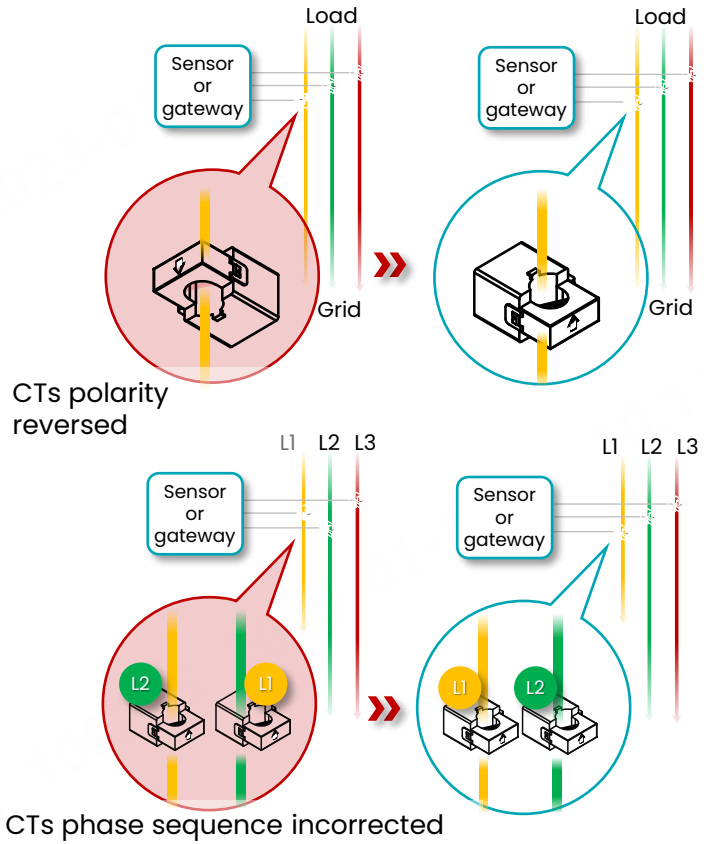
970 / 640 / 345 mm



85 kg

1018 / 630 / 339 mm

Self-adaptive phase sequence, wiring without worries



Traditional solution

Take 0.5 days

Each Rectification

Positioning

Determine the location of the error, power down the system, and record the current wiring status.

Inspection

Test and check that overload and short-circuit protection devices have not been affected.

Correction

Rewire and calibrate, correct and verify meter and protective device functionality, and finally restore power.

Sigenergy | **Lower wiring difficulty, no manual correction required**

The inverter is automatically adjusted during commissioning:

Input perturbation ▶ Collect signals ▶ Algorithm processing and analysis

Find the target value and determine the phase sequence

Accuracy > 99.9% — Achieve self-adaptation

Arbitrary Wiring **Automatic Adjust**

*Note: The phase voltage sampling of the power sensor must correspond to the current sampling.

Fast commissioning with system self-networking

SigenStack, ultra-fast commissioning

Auto. networking

about **15** mins
on the whole system

Traditional solutions, time-consuming
with one-by-one devices connecting

about **2** days
commissioning, extensive manual parameter setting

Need supervisor service

Project site requires professional installation guidance

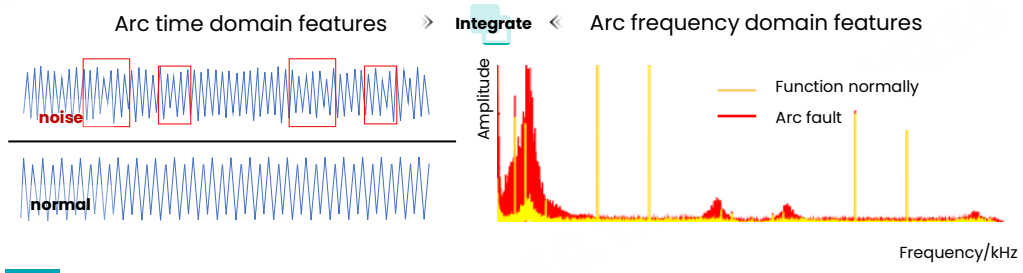
- Onsite technical disclosure &training
- Installation and construction guide
- Grid-connection commissioning guide
- ...

About €3,840 For 1 MWh project

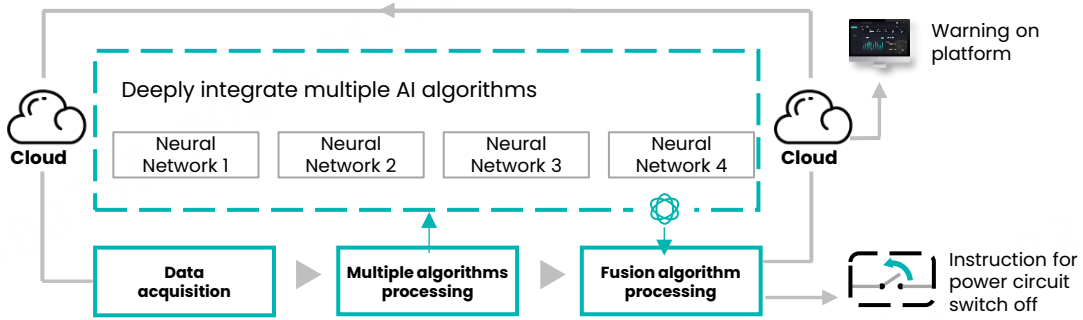
Super AFCI detection, Enables all-application scenarios

Sigenergy software detection strategy

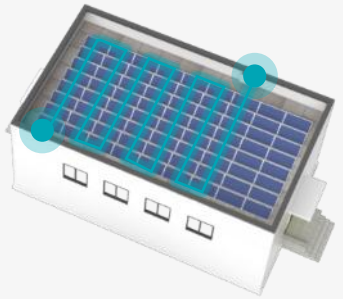
1 Feature fusion



2 Algorithm fusion



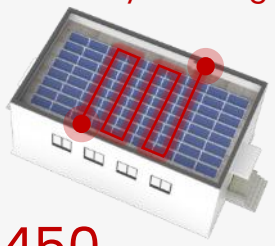
Sigenergy solution



Detecting arc faults with
higher accuracy & speed

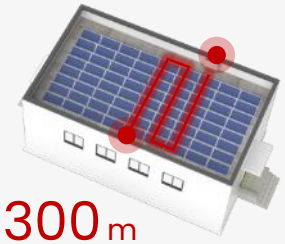
500 m
Max. detection distance*

Industry-leading solution



450 m
Max. detection distance*

Others solution

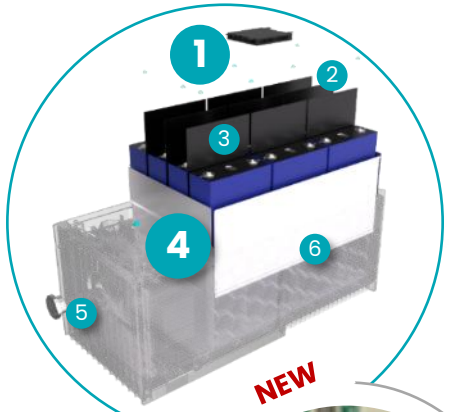


300 m
Max. detection distance

* Scenario-specific measured distances

Pack-level safety protection, accurate safety control

Pack-level fire extinguisher



6-layer safety protection

1. **Fire extinguishing kit**
2. Full-coverage temp. detection
3. High-temp. resistant insulated pad
4. **Smoke Sensor**
5. Decompression valve
6. Insulation and heat isolation layer

NEW

Smoke Sensor

The real-time detection of thermal runaway reduces response time by **60** seconds

Fire suppression system per **12 kWh**

Cabinet-level fire extinguisher

Fire suppression system per **200 kWh**

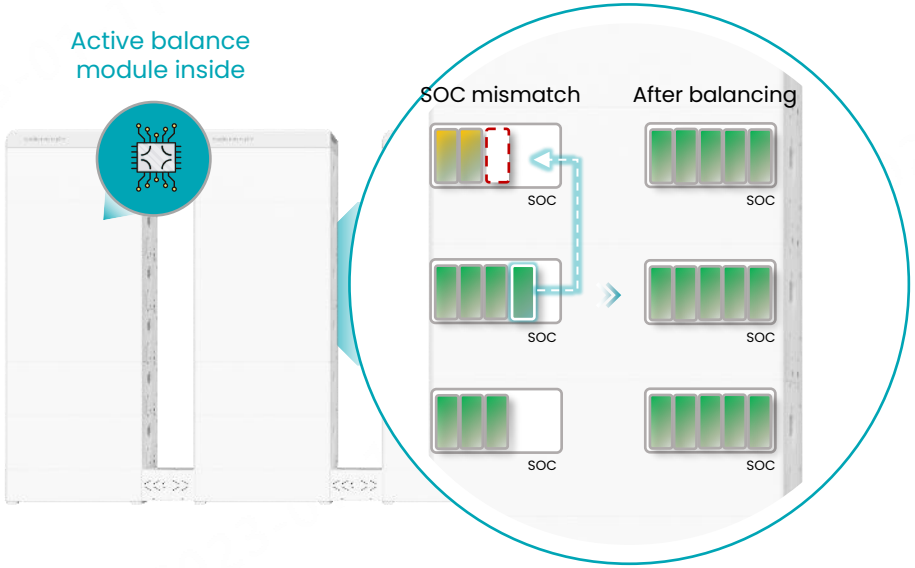
Fire extinguisher

Thermal runaway

will spread throughout the whole cabinet.

Active battery balancing, free of SOC calibration

Active Balancing Function



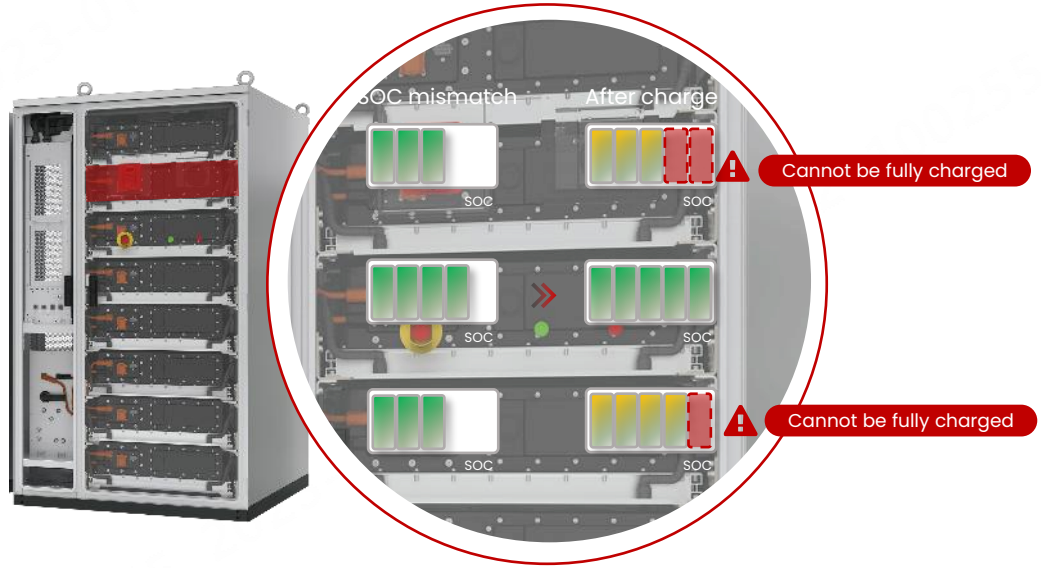
SigenStack balancing capability

5 A balance current

Free of SOC calibration

No manpower required

Traditional Solution



Others balancing capability

2~3 A balance current

Without Active Balancing

€5,760

Annual Cost

Monthly SOC Calibration

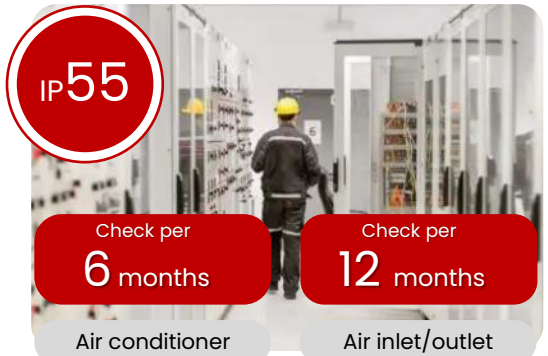
Need technical staff

Need charge & discharge machine

Free of complex and regular cabinet ESS O&M

SigenStack, High protection rating

Multiple check items brings high OPEX



Check per 6 months	Check per 12 months
Air conditioner	Air inlet/outlet
Smoke sensors	Wire connection
Power supply	Safety function
Temp. sensors	Software version
...	...

Check per 12 months	Check per 24 months
Earthing	Battery capacity
SPD	Internal resistance
Fan	Switch box
Screw	Refrigerant

Annual Maintenance Cost

€22,610

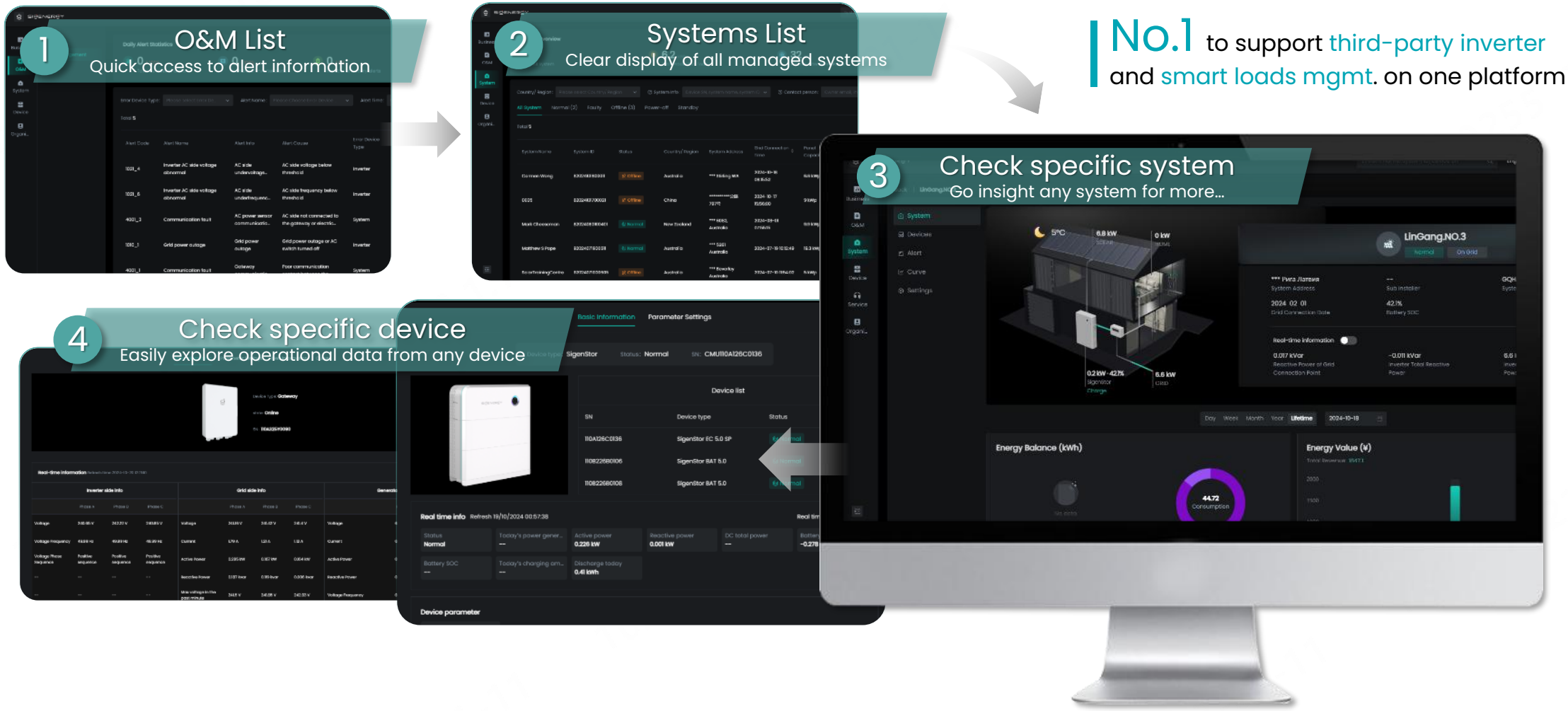
**Take a 1000 kWh ESS (200 kWh cabinet x 5) as an example*

Gain clear business insights on dashboard

As distributors, improve your business management efficiency by intelligent BI

An easier O&M platform for installers

As installers, you can easily monitor and manage all systems



No.1 to support third-party inverter and smart loads mgmt. on one platform

Thank you.

Enjoy Green Energy