



SIGENERGY

Your Green Energy Partner

2024

Australia

Safe

S

Intelligent

I

Green

G

Efficient

E

New

N

Founder & CEO

Tony Xu

Created Global **No.1** PV Inverter Brand & Shipment

Created China **No.1** AI Computing chips & Framework



1999 - 2010

Head of Wireless Algorithm R&D



2010 - 2020

President of Smart PV Business



2020 - 2022

President of AI Business



2022

Founder & CEO



The Team

The

President

15 years
Huawei string
inverter architect

Chief

Operation Officer

24 years
Huawei AITO
Smart EV director

Chief

Marketing Officer

15 years
Head of Huawei
branding

500+
Total staff

Head of

Integrated R&D

30 years
Huawei Energy
Products

Head of

Hardware

15 years
Since 1st gen.
Huawei inverter

Head of

Software

10 years
Since 1st gen.
Huawei inverter

70%
R&D personnel

Investor & Financing



Shanghai HQ & Factory



10,000 sqm

34+ Global Markets

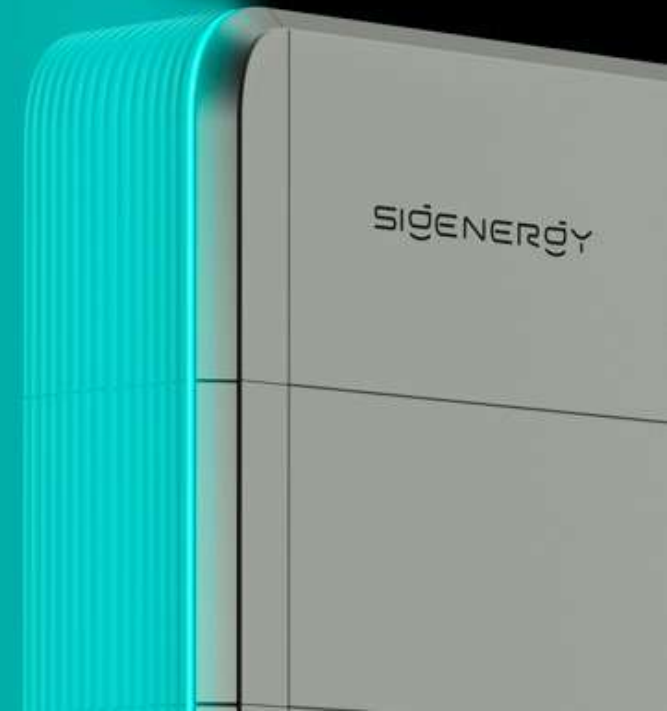


20,000 sqm

2 GWh Battery Production

4 GW Power Production

Remove industry **pain points**
with an **innovative** solution
that's **Simpler, Safer & Smarter**
in every way.



Challenges with ESS

Complex Installation

- 1 Time-consuming installation, piecing together separate devices bring additional field wiring
- 2 Complex manual settings, slow system commissioning and software upgrade
- 3 Extensive wiring & connections, increase the chance of installation error and failure rate



The number of full-time solar installers

0.46 million in 2021  1+ million needed in 2030

Challenges with ESS

Safety Issues

- 1 **High voltage** at battery pack level leads to arcing, human safety risk
- 2 Lack of thermal and electrical monitoring in critical spots at cell level to **predict potential failures**
- 3 Lack of Pack-level control / **targeted electrical isolation**
- 4 Lack of fire suppression and thermal isolation to **manage thermal runaway**

Battery Fire

Salt River Project in Chandler, Arizona, US

FIRE CREWS CONTINUE TO MONITOR LITHIUM BATTERY STORAGE FACILITY IN CHANDLER
FIRE PROMPTED TEMPORARY EVACUATIONS AS ROBOTS MONITOR AIR QUALITY

ESS Explosion

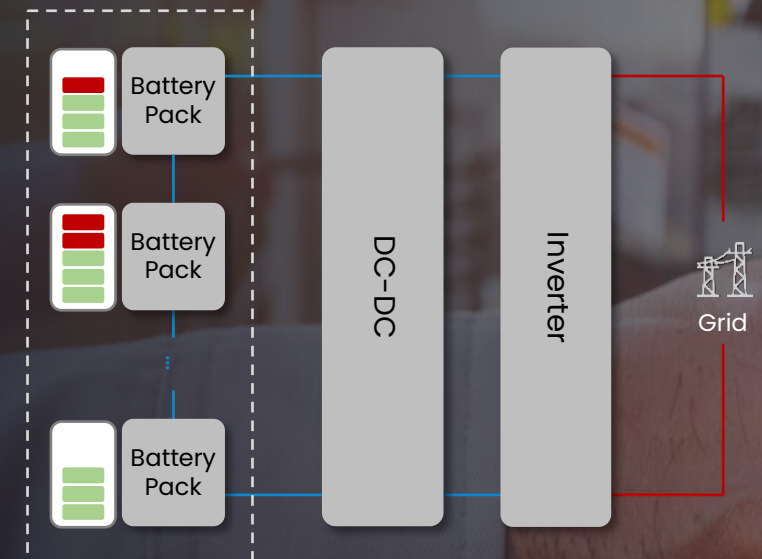
Residential Batteries, Germany

Challenges with ESS

Poor Long-Term Performance

- 1 **Mismatch** losses grow to significant levels over time and reduce battery capacity and useful life
- 2 **Low system availability**, any failure will shut down the entire system. Recovery is time and labor-intensive
- 3 Field **replacement** of partial battery never easy, resulting in high cost for each replacement

All Packs in Series



Weakest battery cell dictates performance of the entire pack

Pioneering ESS Innovation



Full
Integration



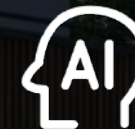
Unmatched
Safety



Exceptional
Performance



Ultra-Fast
Installation



Next-level
Intelligence

SigenStor

The world's first 5-in-1 energy system



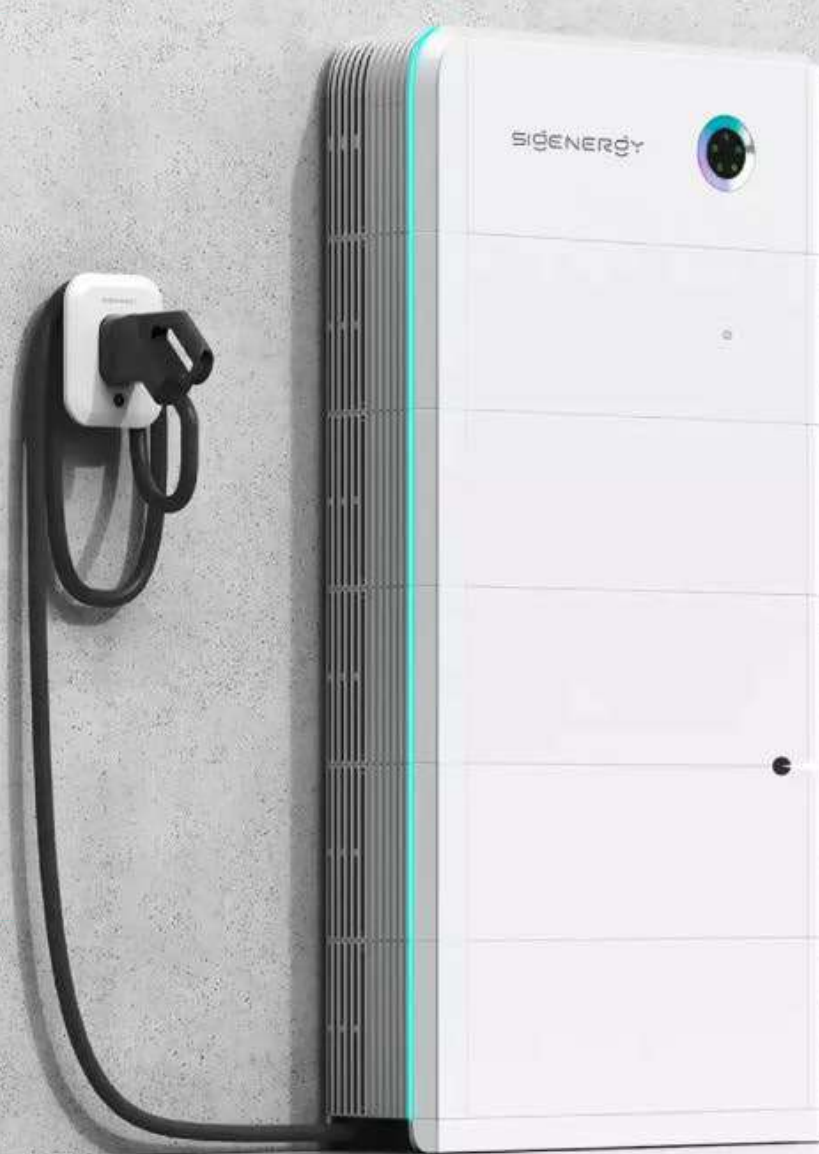
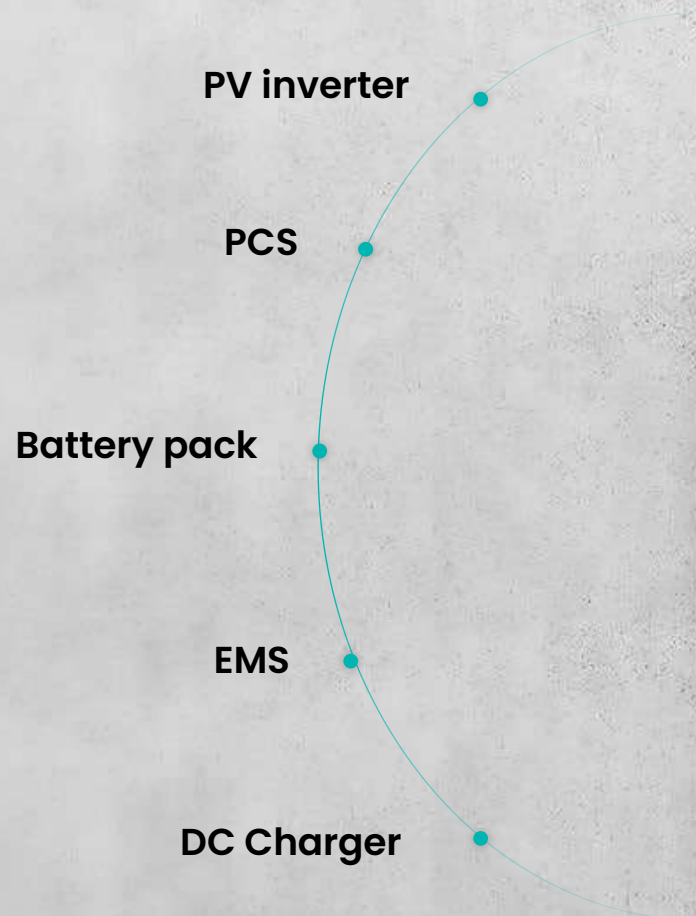
Red Dot
Design Award



IF Design
Award



International Design
Excellence Awards



Fits All Scenarios

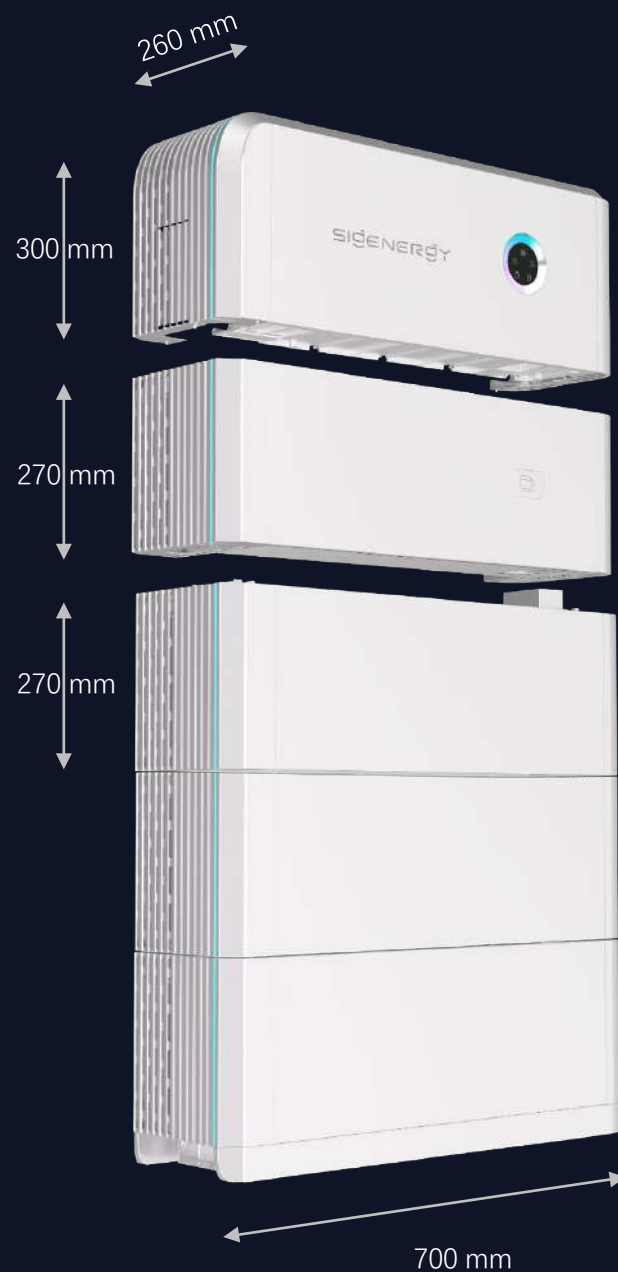
AC-Coupled

On-Grid

DC-Coupled

Off-Grid





Sigen Energy Controller

Hybrid Inverter

Sigen EV DC Charging Module

Ready for V2X

Sigen Battery

1 - 6 batteries per stack

5 - 48 kWh
energy capacity range per stack

AC output power (kW)

Single phase 5.0 6.0 8.0 10.0

Three phase 5.0 10.0 15.0 25.0

200x Oversizing

DC/AC ratio

Bi-directional charging (kW)

12.5 25.0

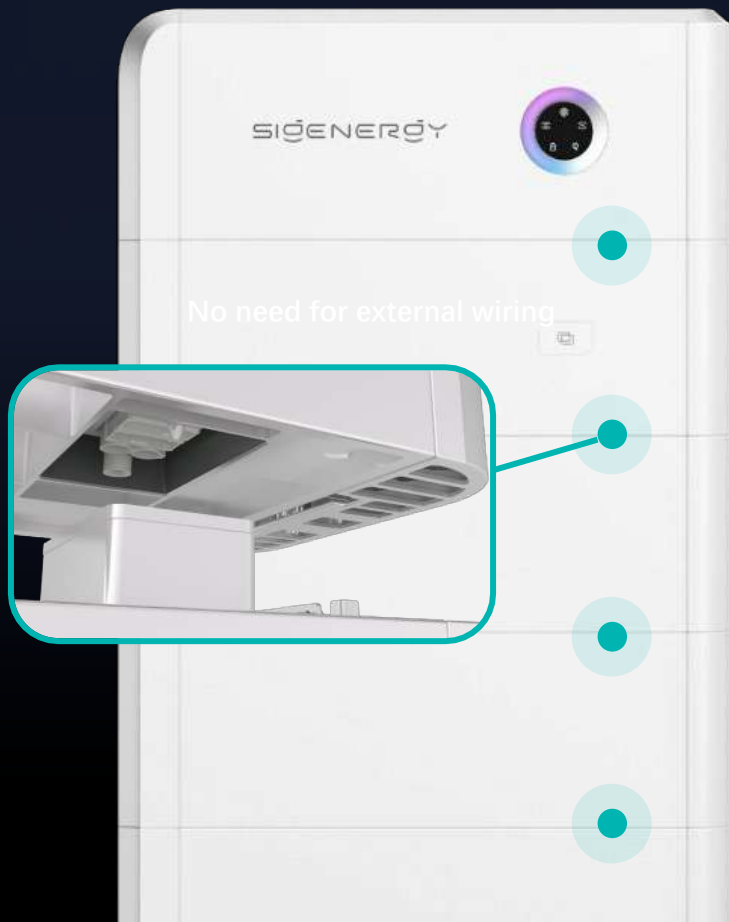
Battery capacity (kWh)

5.0 8.0

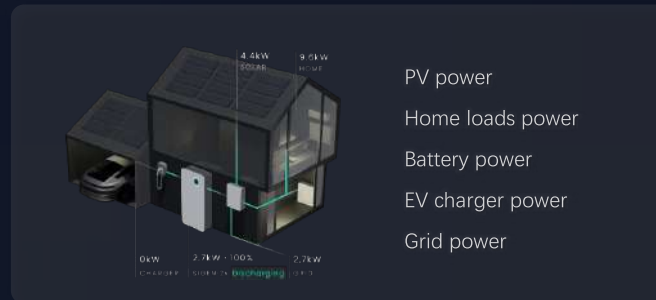


Simple & Fast Installation

1 Quick connectors
70%+ Time Saved



2 Auto-networking
Fast commissioning



3 One-click diagnosis
Eliminates user error



15 mins Stackable Installation



5 mins Fast Commissioning



Architecture of Safety

Low voltage = Safety

Reduces hazardous level during installation, failure and replacement

Reduces electrical arcing within pack

✓ Longer cycle life

✓ Higher energy density

280 Ah

Battery Cells

32.85 V

Static battery voltage
human safe



5-layer Battery Protection

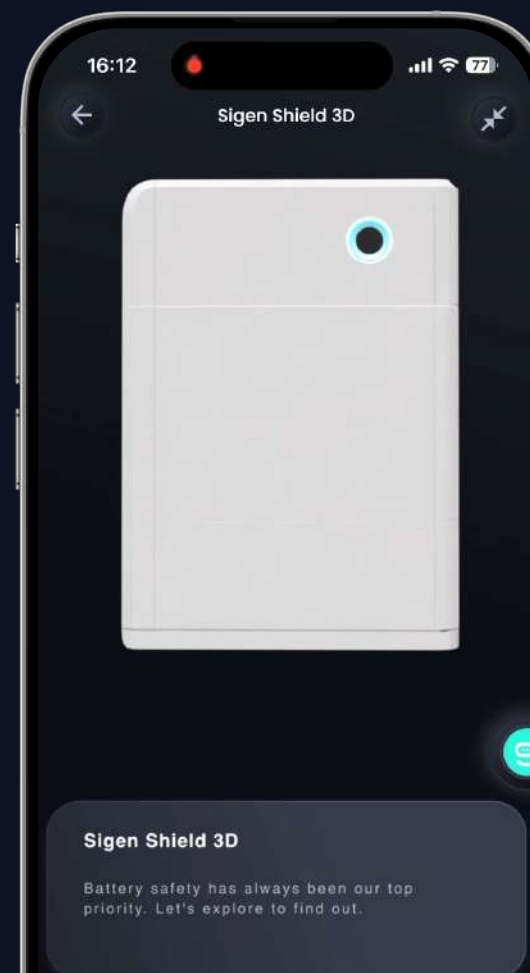
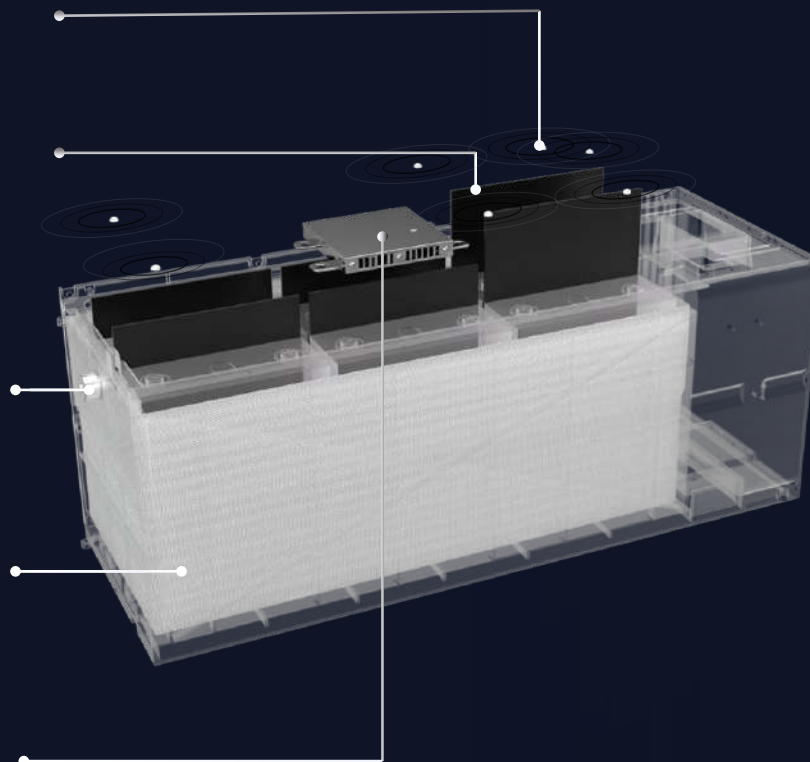
1 Cell-level temp. monitoring
7 active temp. sensors

2 Aerogels insulated pads
In between cells

3 Decompression valve
Pressure release

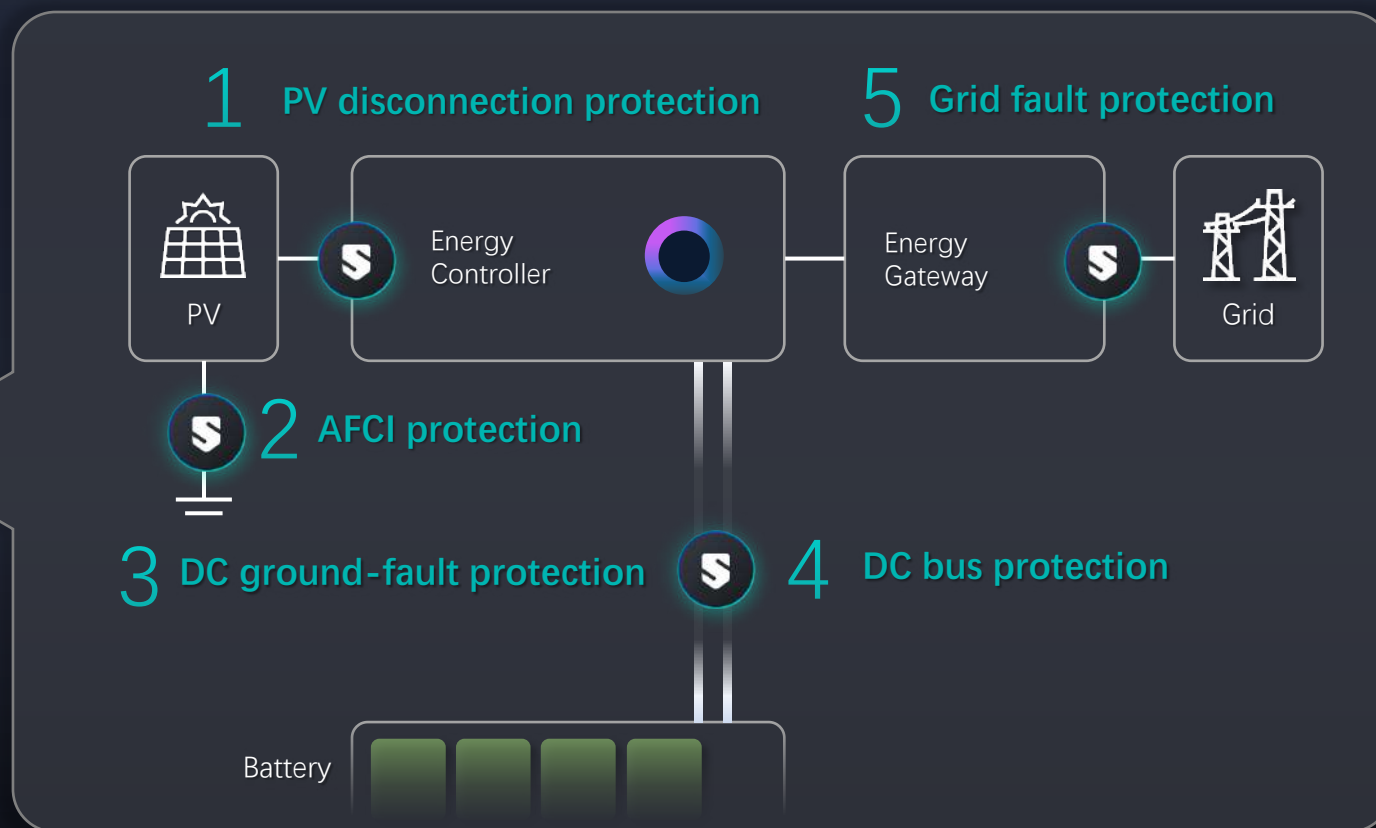
4 High-temp. resistance insulated pads
Inner pack wall

5 Internal fire extinguisher
Last defense



Real-time monitoring of **battery status** on **mySigen App**

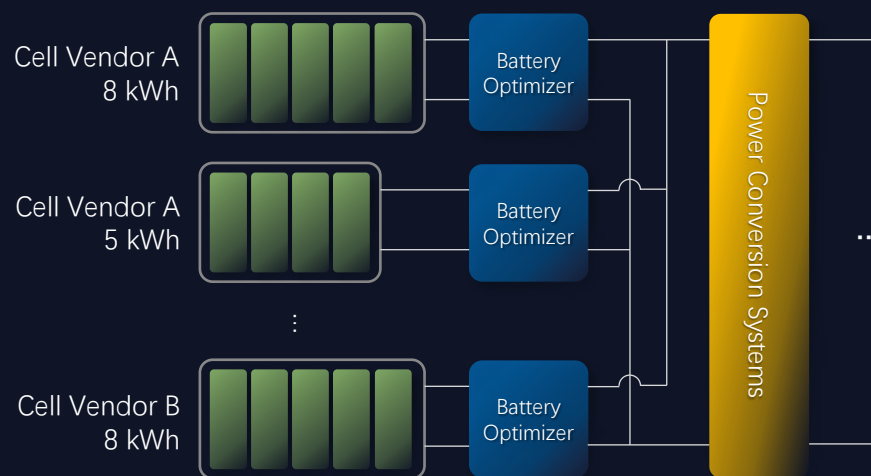
5-layer System Protection



Parallel Connection, Simplify Warehouse Mgmt.



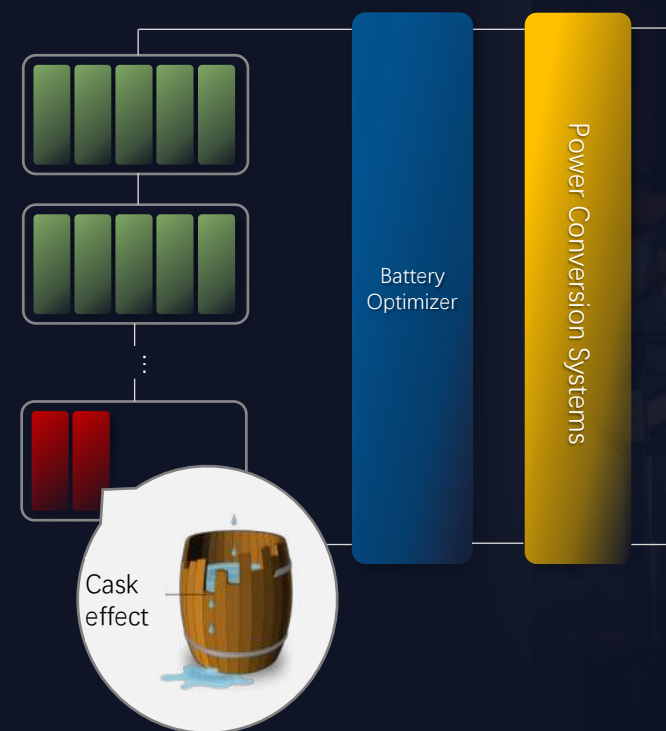
Battery Packs Connection in **Parallel**



VS

Others

Battery Packs Connection in **Series**

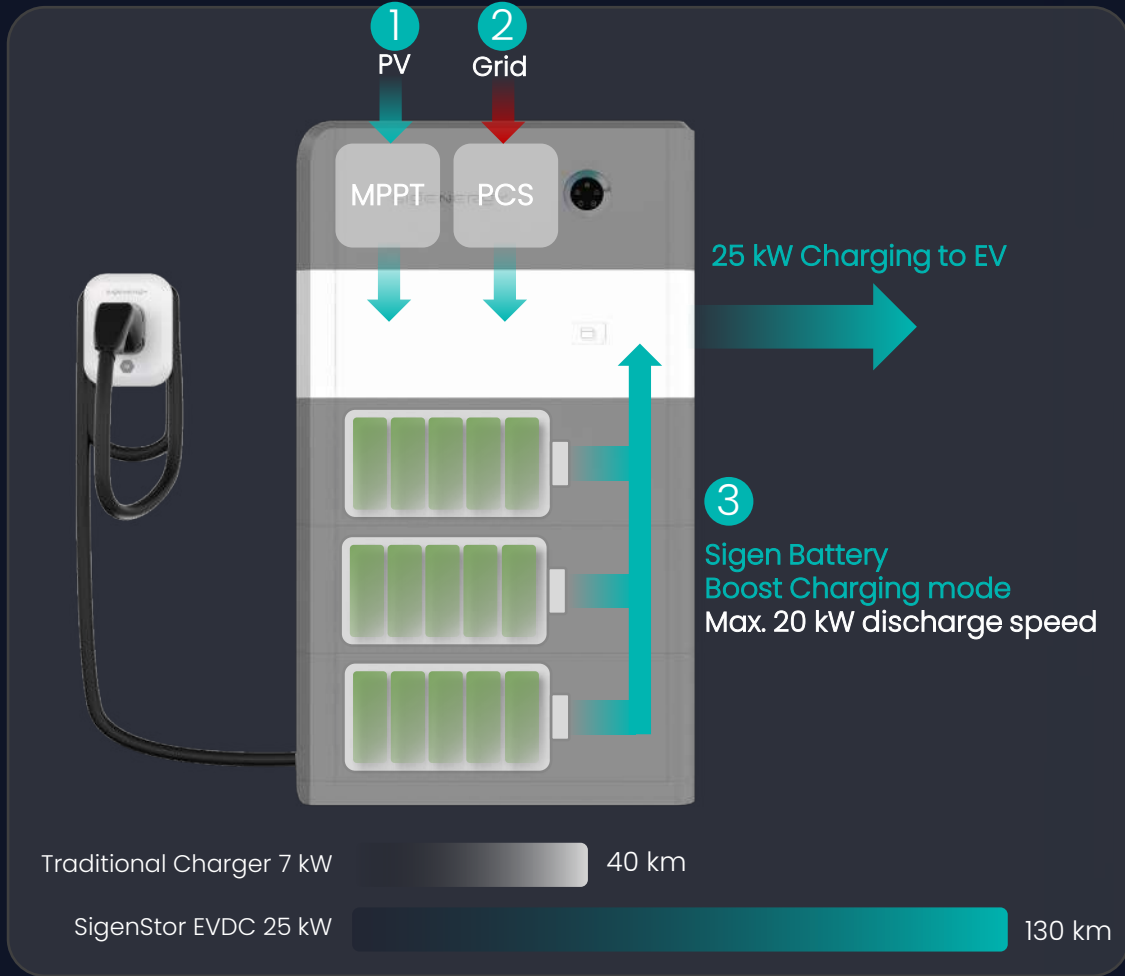


Better battery equalization

Flexible mix of packs for different battery SOH or SOC

Pack-level controllers reduce mismatch losses, isolate failed pack and enable low-cost easy replacement

Diversity energy sources of EVDC



V2X

Bi-directional charging



V2H: backup your home with your EV



V2G: peak shaving and VPP dispatch

Smart control via mySigen App

- Real-time charging status & remote control
- Multiple charging modes

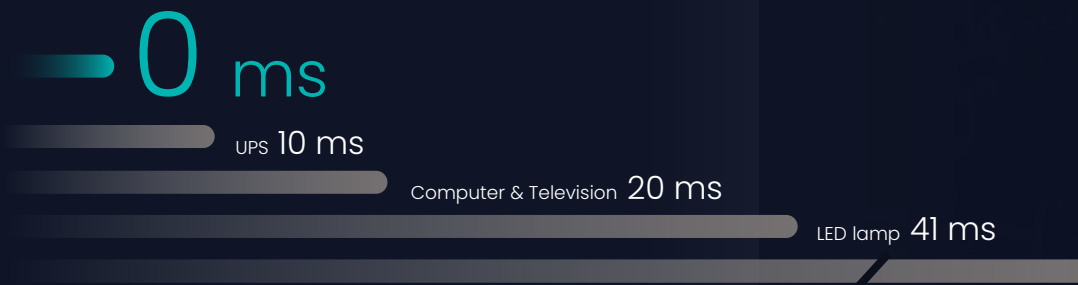
The EV-Home Energy Bridge

Versatile Energy Hub

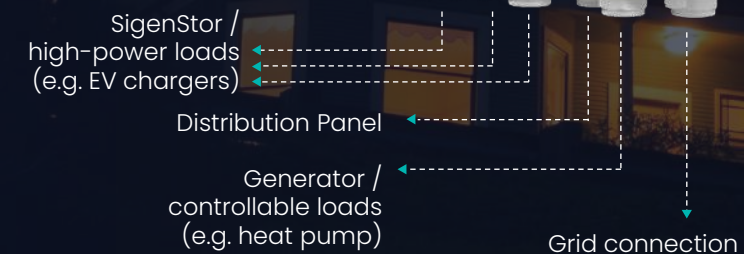
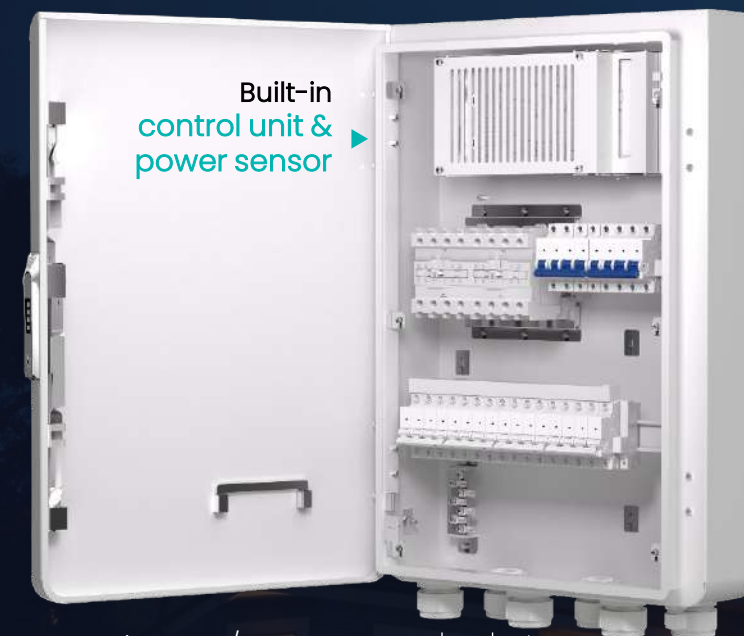
1 ph homemax - up to 3 Systems

3 ph homemax - up to 2 Systems

Uninterrupted 3 sources of hybrid power



Both whole home & partial backup supported







Powerful EV AC Charger



Sigen EV AC Charger

7 kW / 11 kW / 22 kW

One platform for all

-  PEN disconnection protection
-  Split-phase, NEMA Pluggable wiring
-  Emergency stop switch
-  Case B with Shutter

Innovative charging mode



Green power charging

To save energy cost



10kW



7kW

Dynamic charging

To prevent overload, user-friendly charging

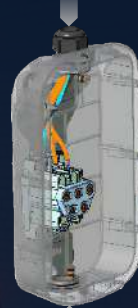
Highly integrated for easy installation

- 1 Bracket fixing
- 2 Wiring
- 3 Align the rear cover
- ✓ Finish

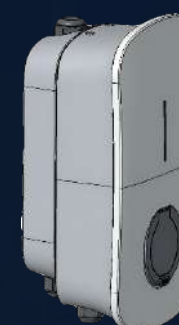
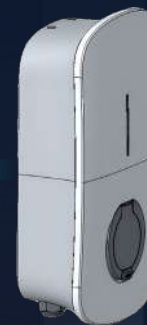


Top/Bottom Entry

Meet different installation scenarios



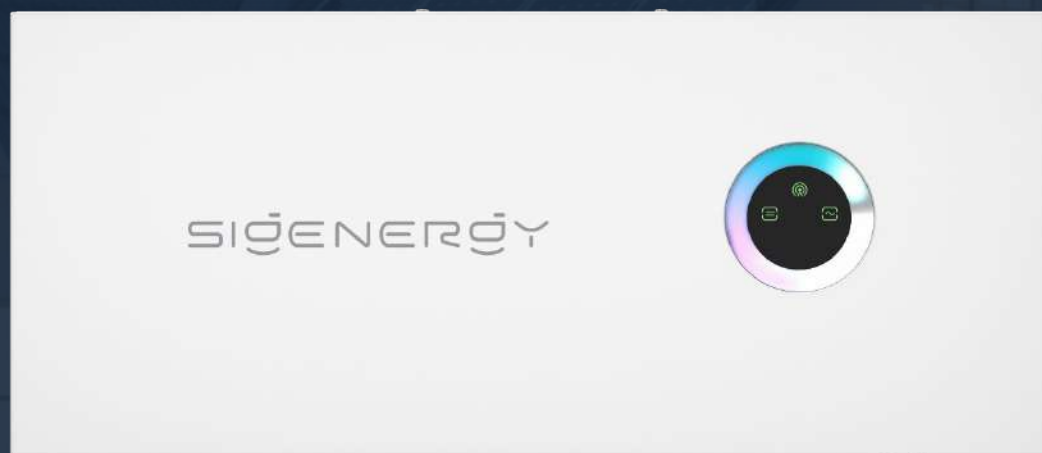
“Click-in”



15 mins

Installation time

Hybrid as Grid-tied



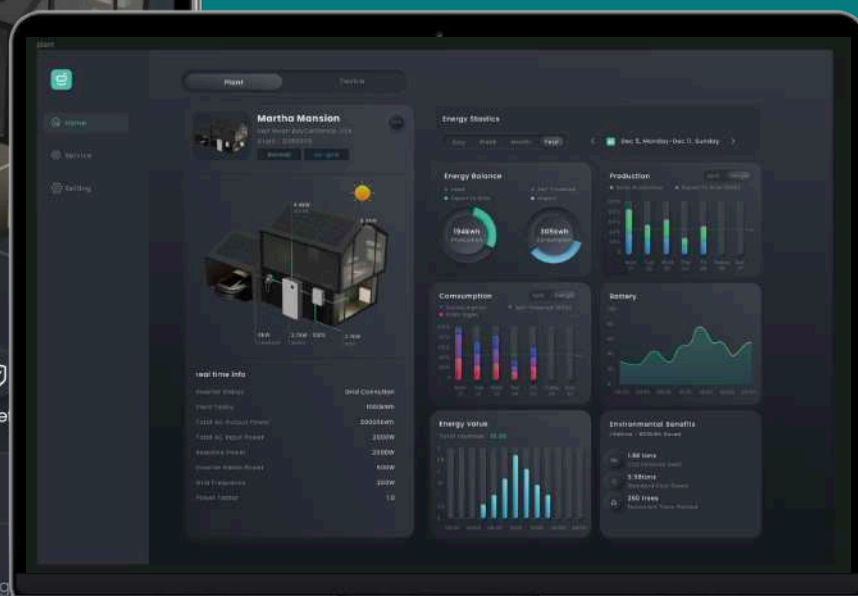
Add battery modules anytime.



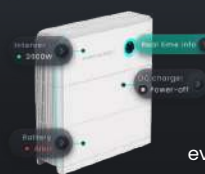
mySigen App



One experience on all devices




Real-time Monitoring of System Status




Data refresh every 10 seconds

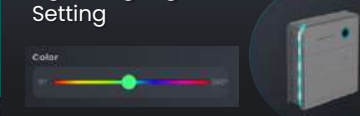
One click-diagnosis for System health Check



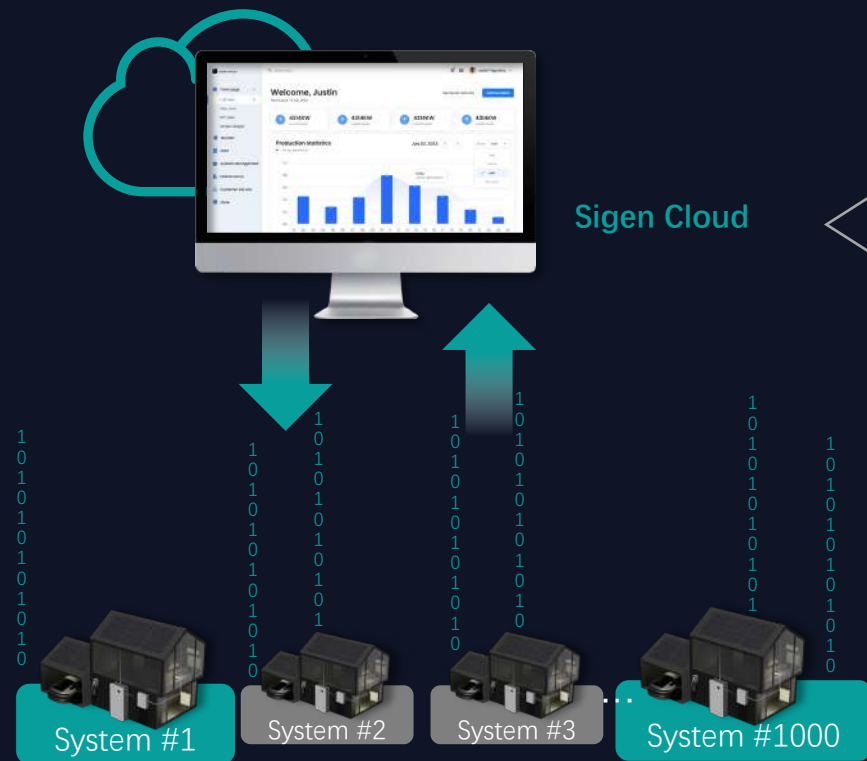
GPT-4
Integrated in Service



Light language Setting



VPP Capable



Flexible Open API. Ready for VPP integration

1 Instructions

Indicator signal

- Real (Active) power
- Reactive power
- Frequency

Control signal

- Low/High voltage ride through
- Storage operation Mode
- TOU settings

Attribute signal

- Rated voltage
- Rated frequency
- Maximum absorbed power

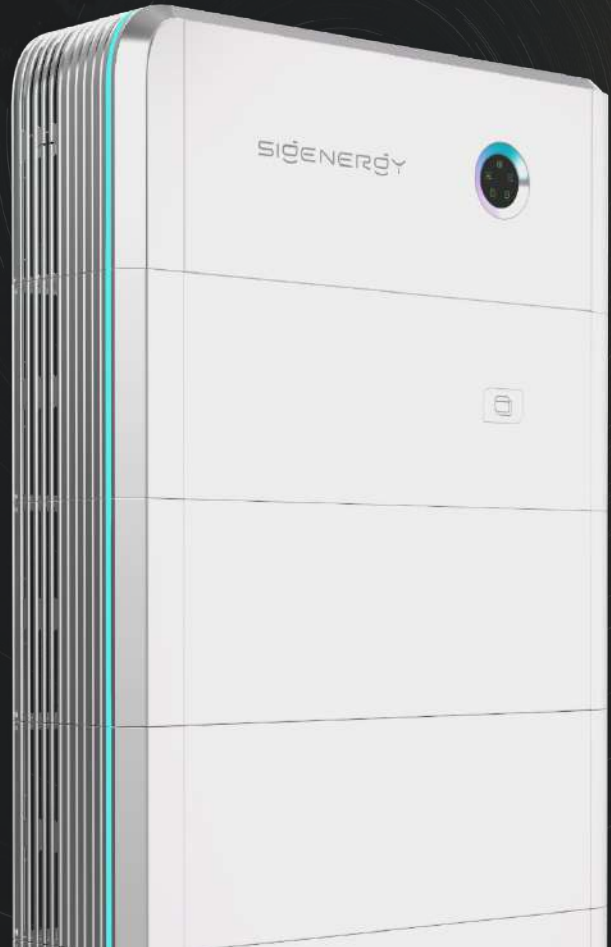
* More instructions not listed

2 Send instructions **in groups**

3 **Subscription** for auto data push

SigenStor

The world's first
5-in-One



DC Charging

Integrated into solar + ESS
system for **the first time**

Sigen AI

The world's first GPT-4
empowered energy APP

0 ms

Load side disruption

V2X

Bi-directional charging

5-layer

Battery safety protection

280 Ah

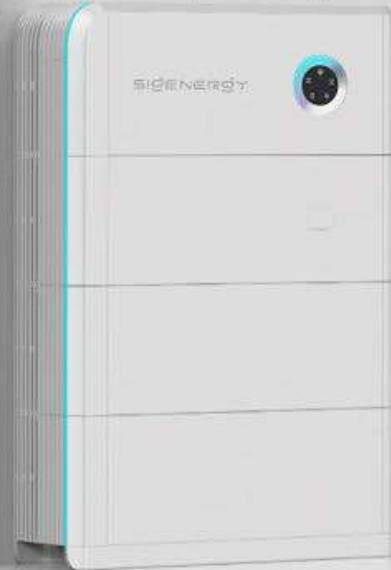
Long cycle-life battery cell

15 mins

Stackable installation

5 mins

Fast commissioning



Also perfect for
commercial use

Flexible configuration

Sigenergy flexible solution

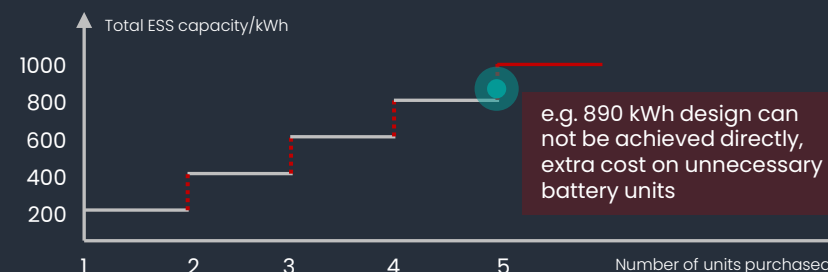
Farms Shed about 300 m ²	x 2	Max. DC input power 80 kW _{dc}	Max. ESS capacity 96 kWh
Communities about 1,000 m ²	x 4	Max. DC input power 160 kW _{dc}	Max. ESS capacity 192 kWh
Charging Carports about 2,000 m ²	x 7	Max. DC input power 280 kW _{dc}	Max. ESS capacity 336 kWh
Factory about 3,000 m ²	x 10	Max. DC input power 400 kW _{dc}	Max. ESS capacity 480 kWh
Large Winery about 20,000 m ²	x N	Max. DC input power 2400 kW _{dc}	Max. ESS capacity 3000 kWh

Traditional solution, poor flexibility



VS

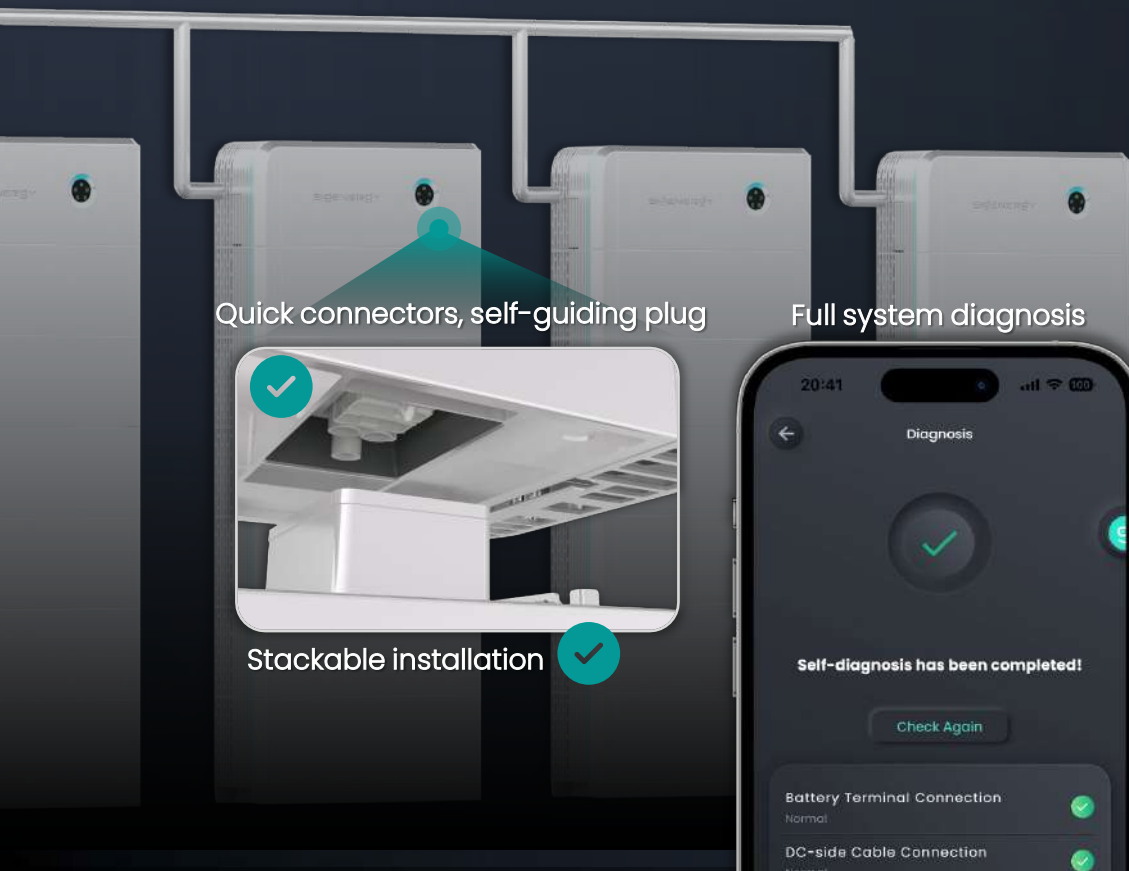
Inflexible product portfolio



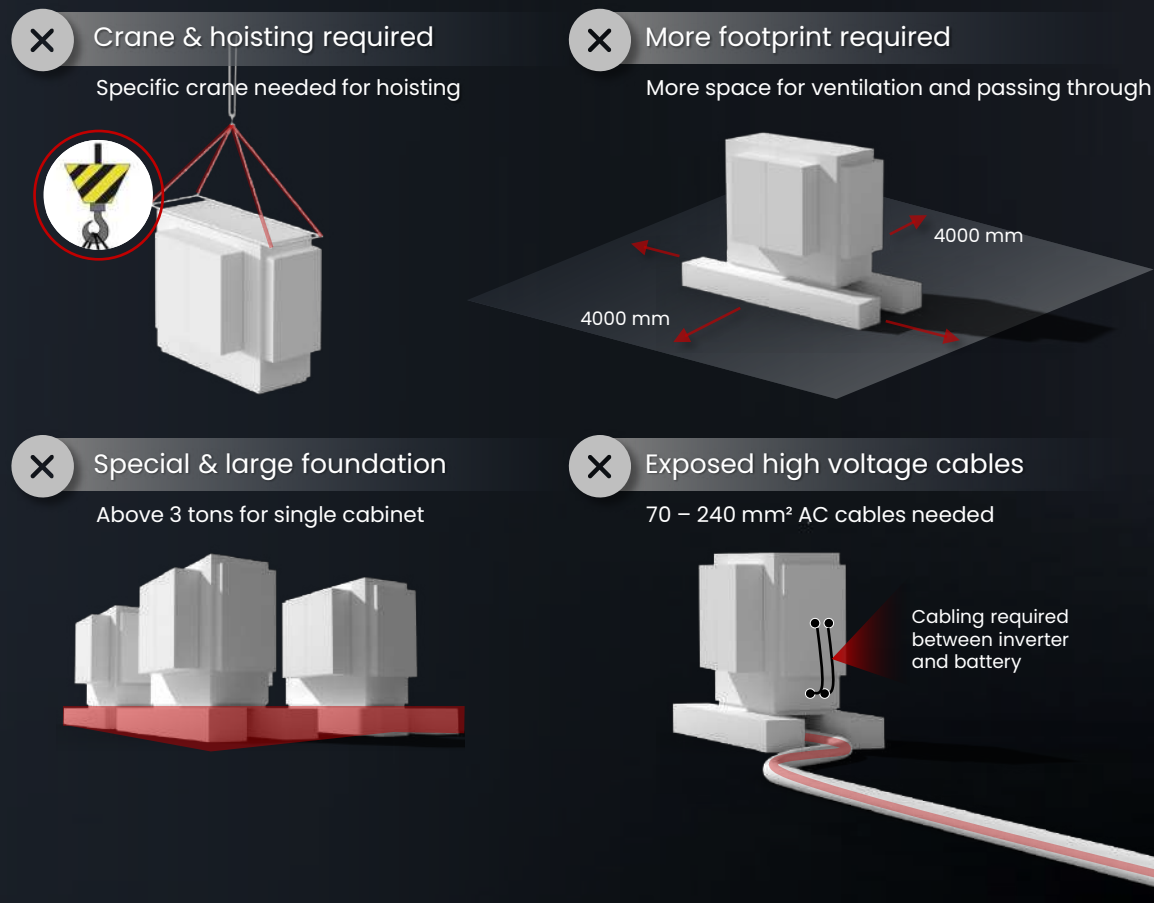
Easy installation

Sigenergy, Simple and stackable

Easier to install | Lighter per stack | Thinner AC cables



Traditional solution, Complex installation



Boosted ROI

CAPEX saving

about **20.0%** ↓

- Flexible in ESS capacity
- Fast installation & commissioning
- 50% footprint saved
- Cable and labor saving

OPEX saving

about **85.0%** ↓

- 5-layer safety protection
- 1-click system diagnosis
- IP66, free of maintenance
- Mixed use of new & old batteries

Higher Yields

about **5.0%** ↑

- Multi-MPPT for higher yields
- Battery pack-level optimizing
- 0 ms load-side disruption
- AI Mode, intelligent operation

Sigenergy First MWh-level C&I system in Spain



A legacy of a century,
one of the largest wineries in Spain

VIÑAS FAMILIA
GIL
FAMILY ESTATES
VINOS OFICIALES



Bodegas Hijos de Juan Gil, Spain



PV+ESS system **500 kW** **960 kWh**

ESS only system **1 MW** **2.04 MWh**



Natural organic soil fermentation



Recycling of production wastewater

Sigenergy Industrial ESS on Manufacturing Center



China (Shanghai) Lingang New Area

Estimated annual power generation

398,200 kWh

Save on electricity expenses

32,000 Euro/year



Sigenergy Commercial ESS in Office Campus



Pujiang High-tech Plaza, Shanghai, China

Estimated annual generation

210,540 kWh

PV footprint 1050 m²

PV capacity 191.4 kWp

Carbon emissions reduction

209,908 kg/year

AC output power 250 kWac

ESS capacity 448 kWh



Off-grid ESS system for a High-end Villa, Australia



Panton Hill, Australia

AC Output Power
70 kW

ESS capacity
336 kWh

Annual diesel
reduction
17,922 Litre

Diesel cost savings
32,797 AUD/year

*Virtual power expansion
Cutting diesel usage first and phasing out diesel power
with solar power*

Hybrid Solar + ESS Plant in Chicken farm, Myanmar



Mandalay, Myanmar



Estimated Annual Generation **96,000** kWh

Fuel cost savings **41,400** USD/year



Power supply instead of diesel generators during daytime outages.

Hybrid Solar + ESS Plant in Shopping Mall, South Africa



Worcester, Cape Town, South Africa



PV capacity **72** kW

ESS capacity **96** kWh

AC Output Power **50** kW



Estimated annual generation

113,760 kWh

Electricity bill savings

374,498 ZAR/year

20136 USD/year

191.4 kWp
PV Capacity

250 kWac
AC Output Power

448 kWh
Storage Capacity



2024 Roadmap: Enrich C&I Solutions

○ 2024 Q1

○ 2024 Q2

○ 2024 Q3

○ 2024 Q4

AFCI Upgraded 8/10/12 kW Single Phase

- Energy Controller
- Hybrid Inverter



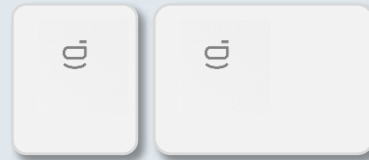
29.9 kW Three Phase

- Energy Controller
- Hybrid Inverter
- PV Inverter



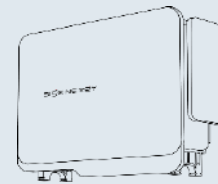
C&I Gateway

- C120-6
- C300-12



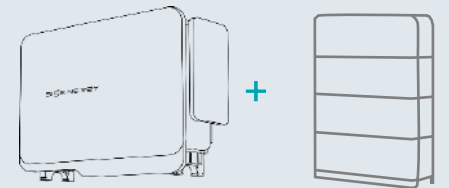
99.9 kW Three Phase

- PV Inverter



99.9 kW Three Phase

- Hybrid Inverter
- 12 kWh Battery



SigenStor

Multi-parallel connection supported
Flexible, Suitable, Scalable



Compatible with both

Hybrid & on-grid



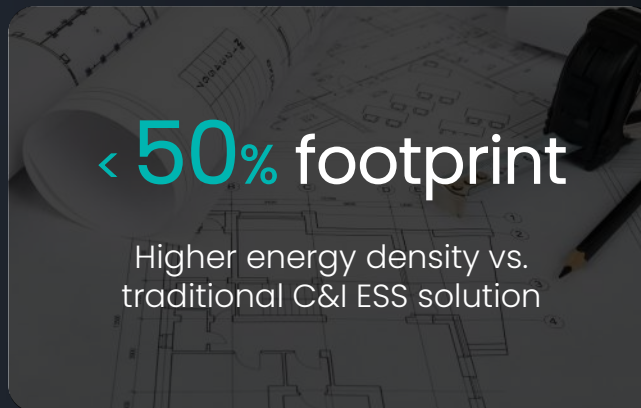
EMS inside

Industry-leading 350 ms
reverse power flow control



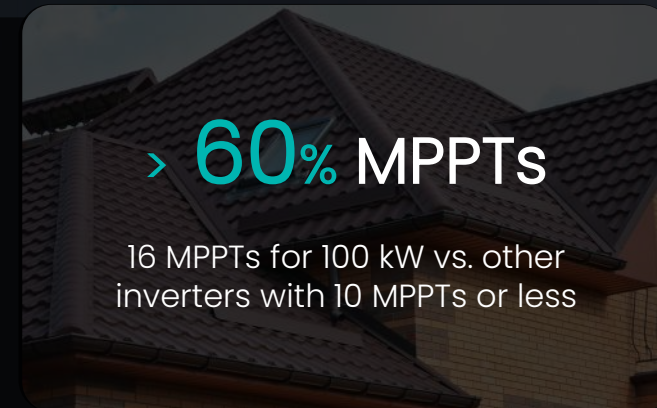
IP66

Free of maintenance
during lifetime



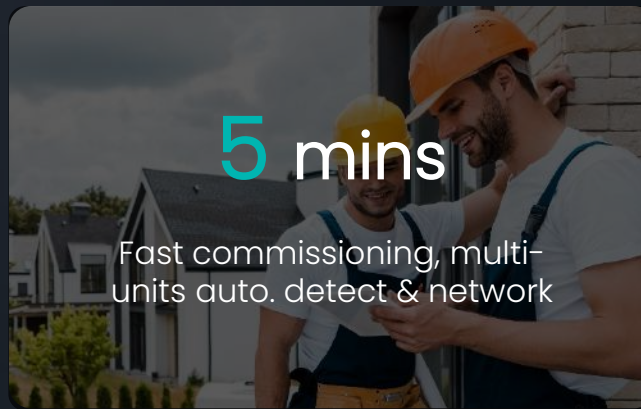
< 50% footprint

Higher energy density vs.
traditional C&I ESS solution



> 60% MPPTs

16 MPPTs for 100 kW vs. other
inverters with 10 MPPTs or less



5 mins

Fast commissioning, multi-
units auto. detect & network



1 click

Full system diagnosis, check
on cabling & battery status



SIGENERGY

Thank You.



SIGENERGY



SIGENERGY



PACADU US

INCLINO PRO
INCLINO CONTACT



SIGENERGY