Sigenergy

C&I energy solution

SigenCube series

Alle Angaben vorläufig.
Änderungen vorbehalten.
Stand: 5.10.26



SigenCube, High Energy Density & Powerful ESS
Scale With Flexibility, Power With Reliability



SigenCube *ES261* series

Total energy capacity	261 kWh	
Nominal power	125 kW	99.99 kW
Charge/ discharge rate	0.5C	0.38C
Weight	2500 kg	
Dimensions	940 / 2380 / 1325 mm	



SigenCube *ES401* series

Total energy capacity	401 kWh	
Nominal power	200 kW	99.99 kW
Charge/ discharge rate	0.5C	0.25C
Weight	4000 kg	
Dimensions	1100 / 2450 / 1650 mm	

Next-Gen ESS: Simplified Installation, All-Round Safety, and Peak Performance for Higher Yield

1 — Simplified Deployment



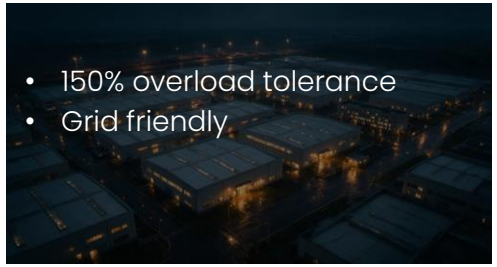
2 — All-round Safety

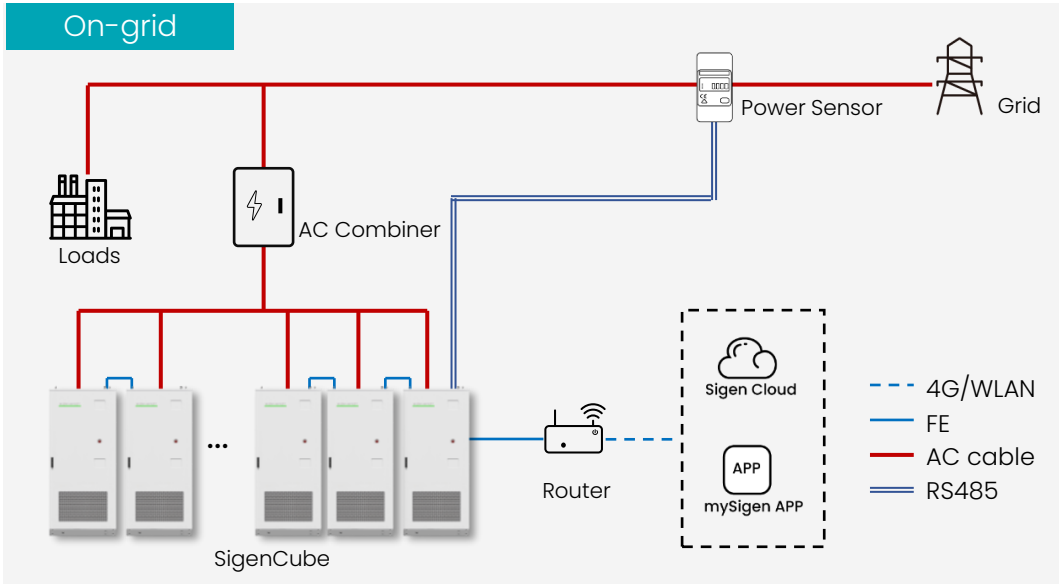


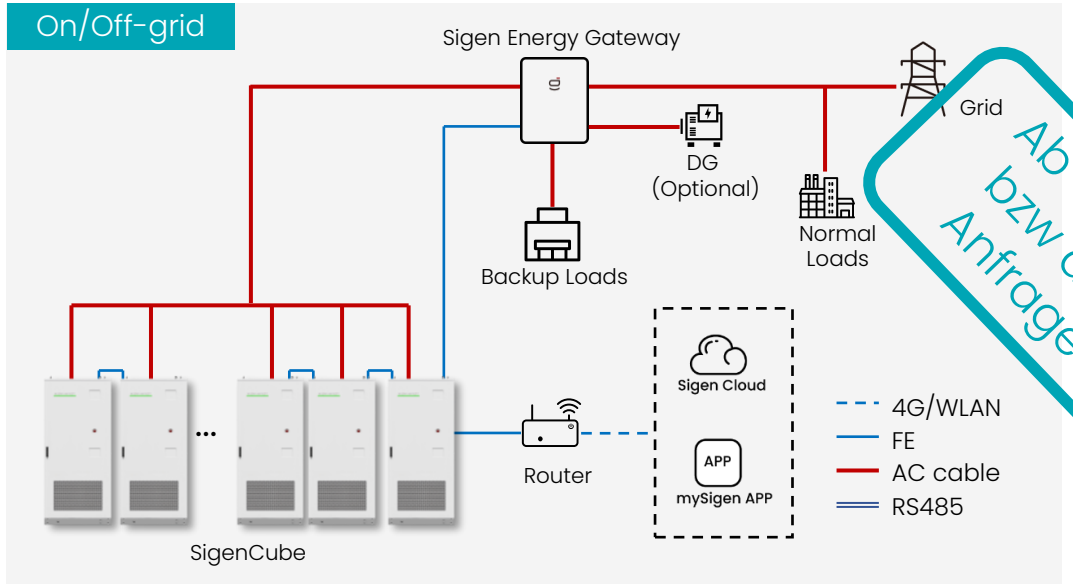
3 — Peak Performance



4 — Rugged Reliability

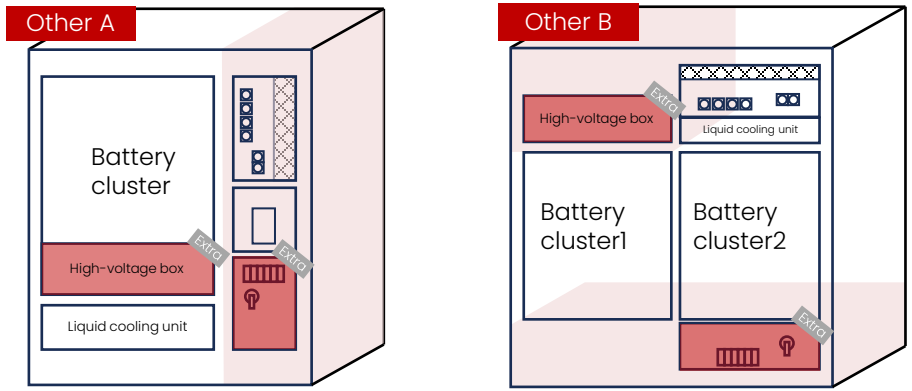






Simplified Deployment with High Density Design Reducing Footprint by 30%

Other Solution



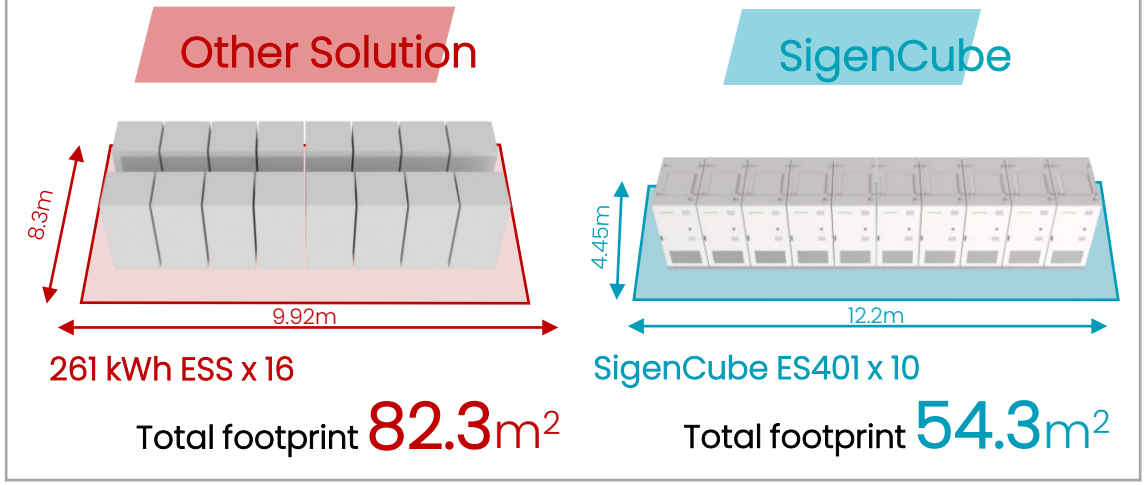
SigenCube ES401 series



- **Highly Integrated PCS**
  Eliminates HV box and distribution box for a more compact, higher-density system
- **Space-Optimized Architecture**
  Every inch of cabinet space is optimized for higher energy density

Footprint Comparison for 4 MWh Systems

Total footprint including required safety and O&M clearances

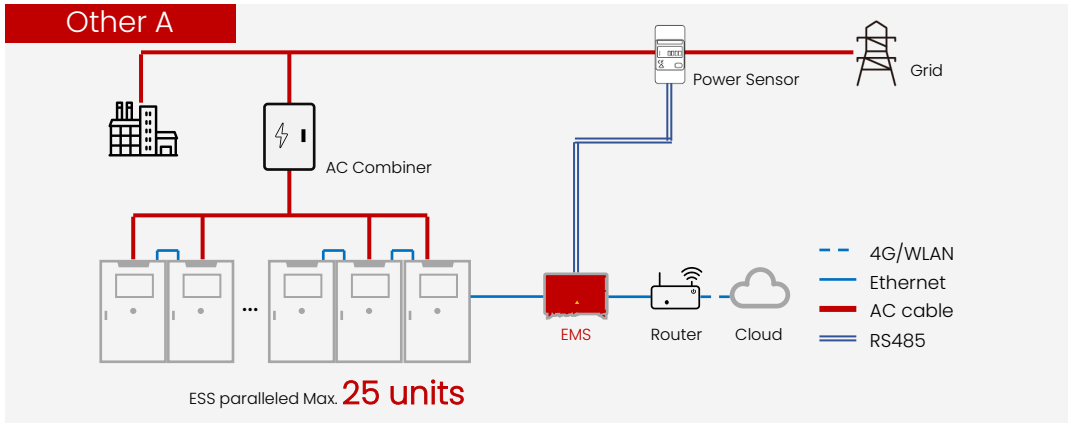


314 Ah	Battery Cell	392 Ah
261 kWh	Energy Capacity	401 kWh
1.47 m²	Unit Footprint	1.81 m²
177.3 kWh/m²	Energy Density	220.9 kWh/m²
Side-by-Side	Layout	Seamless Side-by-Side

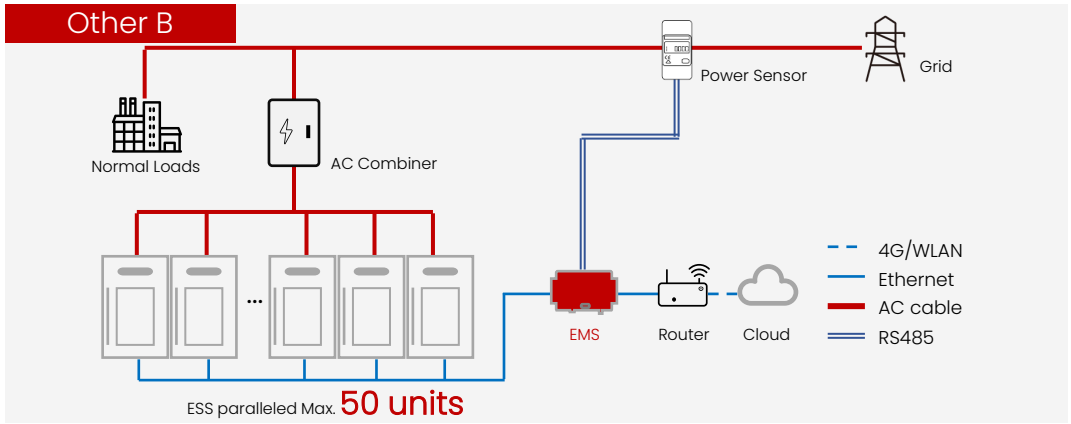
Simplified Deployment with Built-in EMS
100 units parallel without any data logger required

Other Solution

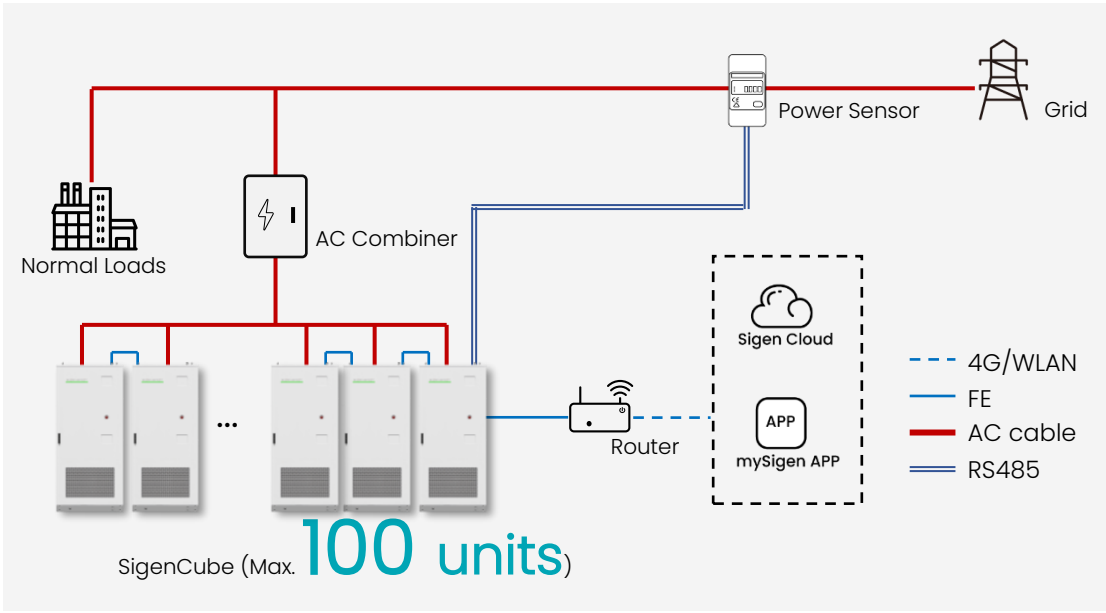
Other A



Other B



SigenCube



- ✕ **Higher CAPEX**
  Require 1 Additional EMS
  Additional 5000 USD
- ✕ **Higher failure rate**
  Additional failure node
  EMS offline, system standby

VS

- ✓ **Simplified Architecture**
  No extra device needed
- ✓ **Higher Reliability**
  Any SigenCube can be master

Simplified Deployment with Easy APP Commissioning Enables Quicker On-site Setup

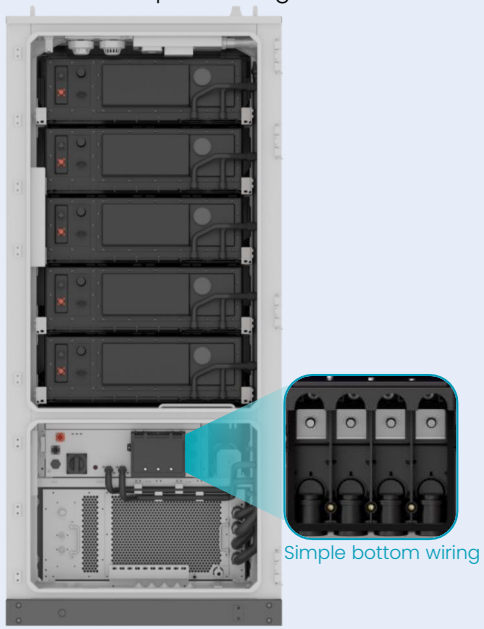
1 | Factory Pre-commissioning

- Charging/discharging test
- Communication test
- Pre-wiring



2 | Simplified On-Site Wiring

- Streamlined AC connection
- Touch-proof design



Simple bottom wiring

3 | Fast Start up

- All devices are self-detected & auto-networked

1. Scan the QR Code
   Create new plant for all devices
2. Basic setting
   Fill out Key info.
3. Update software
   Synchronized upgrade
4. One-click diagnosis
   Identify installation problems
5. Finish & confirm

3~5mins

For 1~100 sets of SigenCube

VS

Cumbersome Initialization

- Devices must be manually associated before plant creation

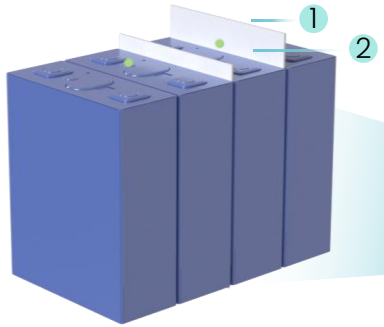
1. Scan the QR Code **one by one**
2. Set the parameters **one by one**
   - Baud rate
   - Address
   - Master / Slave
3. Enable the meter
4. Update software
   Upgrade through master unit
5. Diagnosis processing
6. Finish & confirm

15~30mins

For 1~20 sets of ESS

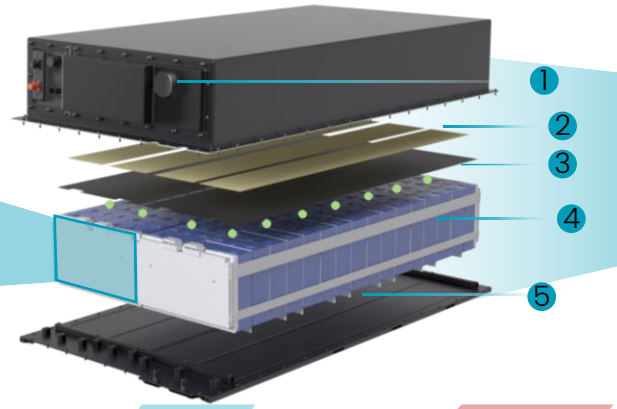
All-round Safety from Cell to System (SigenCube ES261/ES401)
Protecting Value Across the System's Full Lifecycle

Cell-level safety protection



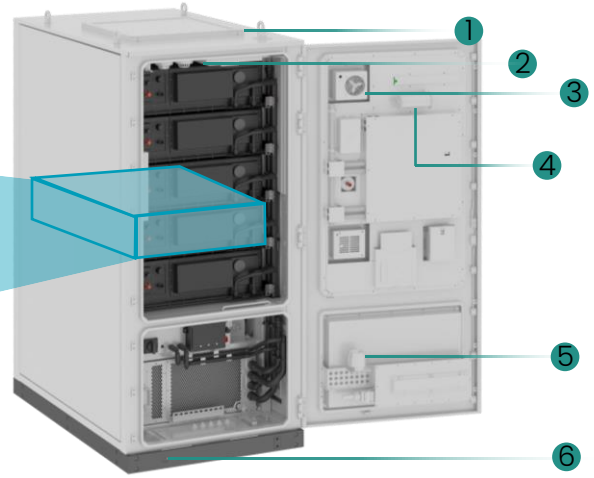
SigenCube	Other C&I ESS
1 Cell-to-cell Isolation	1 Cell-to-cell Isolation
2 NTC Temperature Sensor *40 NTC/Cell: 0.625	2 NTC Temperature Sensor *12 NTC/Cell: <0.23

Pack-level safety protection



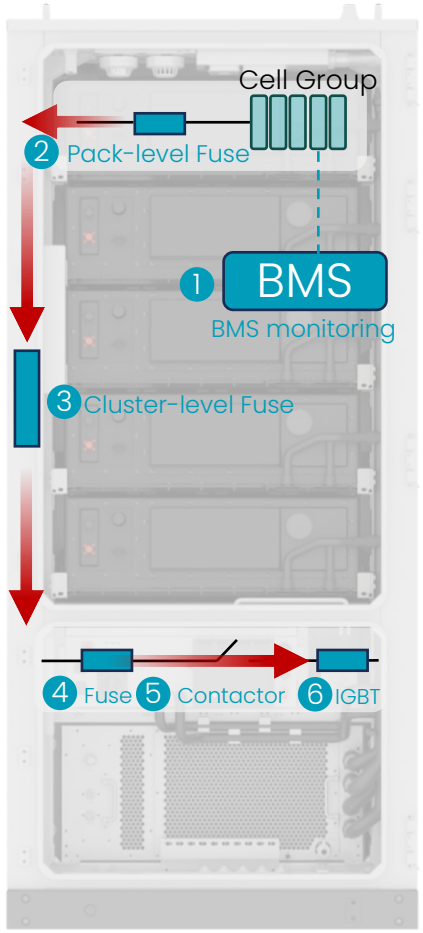
SigenCube	Other C&I ESS
1 Pressure relief valve	1 Pressure relief valve
2 Mica insulation sheets	2 Mica insulation sheets
3 Electrical insulation sheet	3 Electrical insulation sheet
4 Crash frame	4 Crash frame
5 High-strength crossbeam	x High-strength crossbeam

System-level safety protection

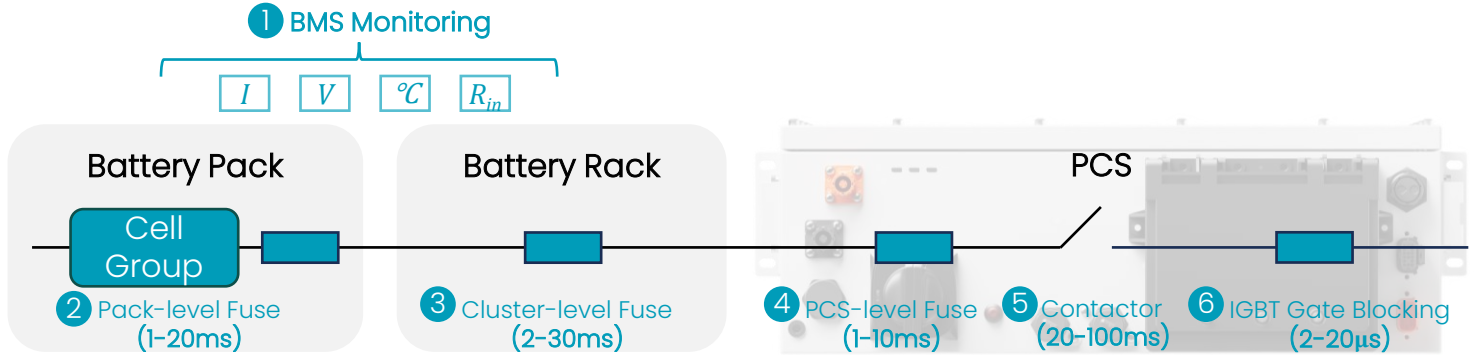


SigenCube	Other C&I ESS
1 Top explosion vent	1 Top explosion vent
2 Combustible gas/Smoke/ Heat detector	2 Combustible gas/Smoke/ Heat detector
3 Emergency ventilation fan	3 Emergency ventilation fan
4 Aerosol	4 Aerosol
5 Audible and visual alarm	5 Audible and visual alarm
6 water firefighting interface	x water firefighting interface

All-round Safety with Overcurrent Protection Isolates Faults Rapidly, Ensuring Stable Operation



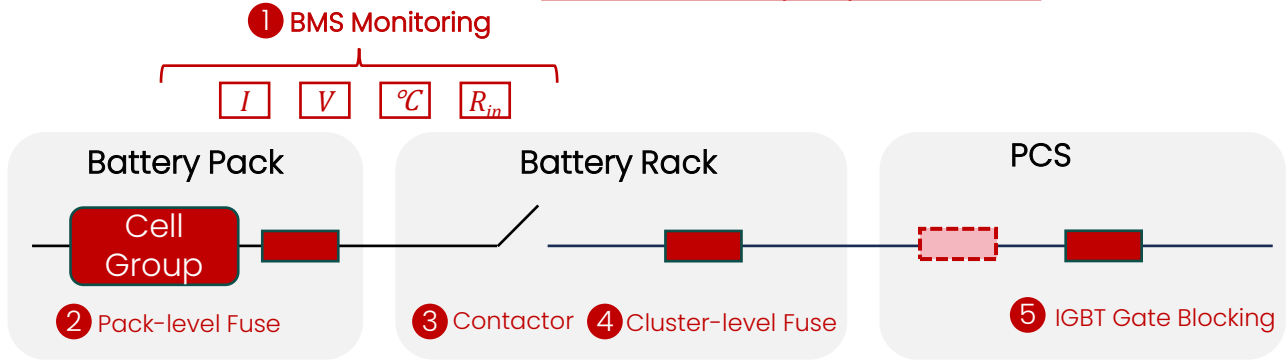
SigenCube – 6 Layer protection



With PCS Fuse

Isolate faults
- Protect power module
- Fast replacement

others – 5 Layer protection



Lack of PCS Fuse

Fault propagates
- Secondary damage
- Longer downtime

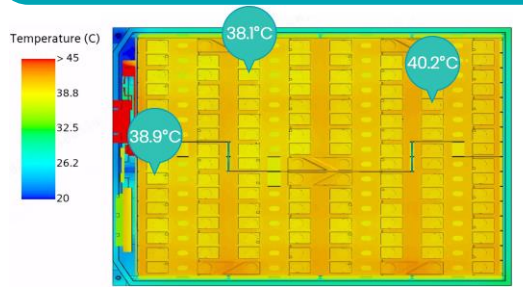
Peak Performance with AI Thermal Management Elevating Power Plant Value Across the Full Lifecycle

Innovated Thermal Mgmt. system

Hybrid cooling Optimization



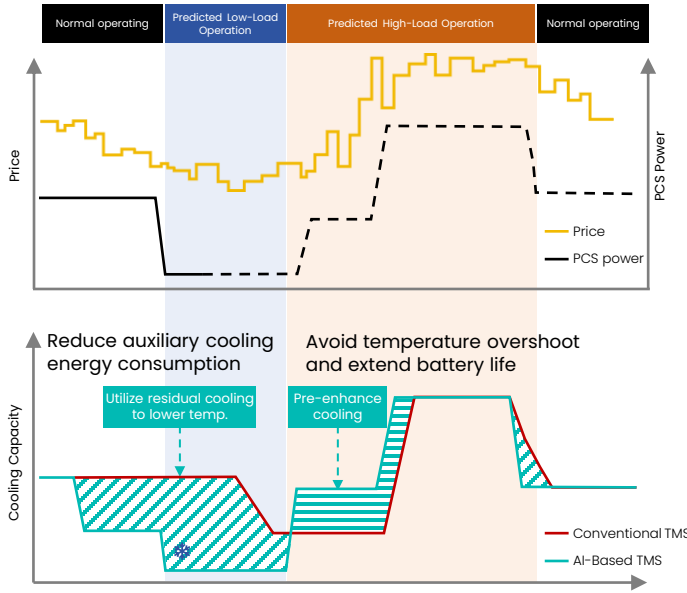
Advanced Liquid Cooling: Securing Long-Term Yields



Precise thermal Management

Life expectancy increased

2.5°C Temp. difference VS **3°C** Temp. difference



Predictive Cooling Strategy

Based on Day-ahead price

Aux-Power Reduction **20%**

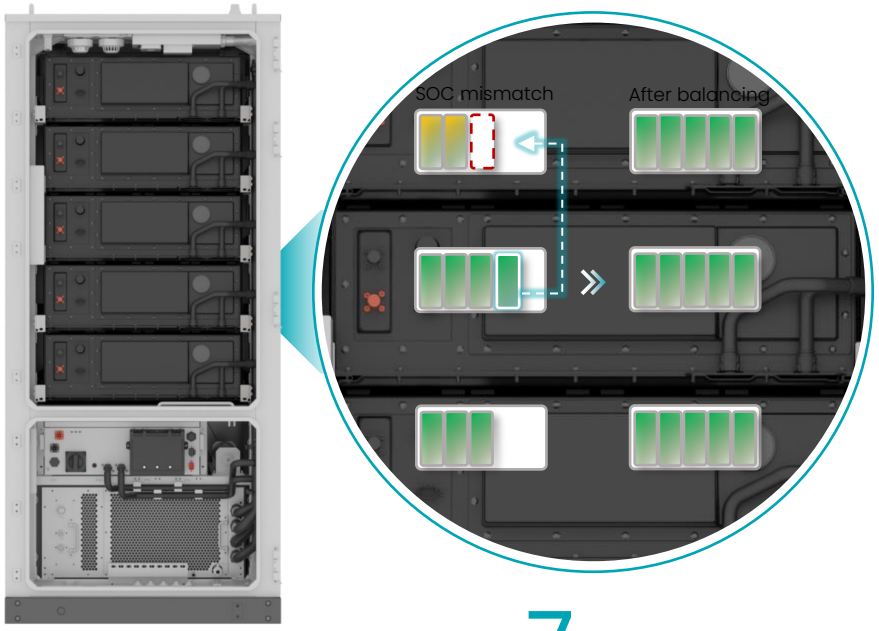
Dynamic Aux-Power Optimization

System RTE boosted

91.4% Peak RTE VS **90%** Peak RTE

Peak Performance with Pack Active Balancing Eliminates SOC Calibration, More Usable Energy

Active Balancing Function

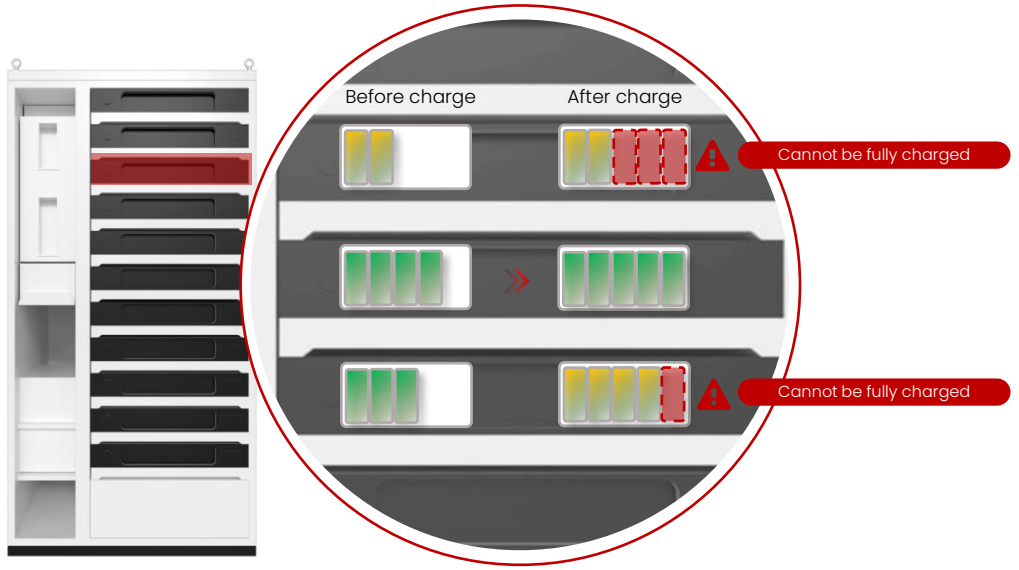


Pack-level Active Balancing Capability **7** A balance current

Free of SOC calibration

No manpower required

Other Solution



Others balancing capability **2~3** A balance current

Without Active Balancing

€5,760 Annual Cost

Monthly SOC Calibration

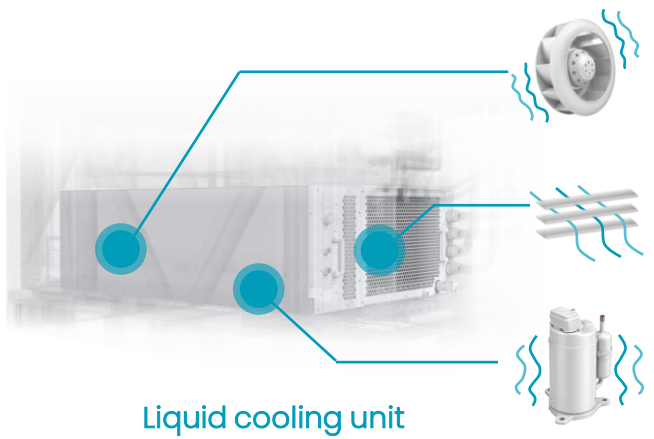
Need technical staff

Need charge & discharge machine

Peak Performance with Ultra-low Noise Design ≤60 dB Low Noise for More Scenarios.

Ultra-low Noise Design

The Only Noise Source



Vibration damping design

Optimized air duct design
Minimal flow turbulence

Advanced acoustic design

Liquid cooling unit

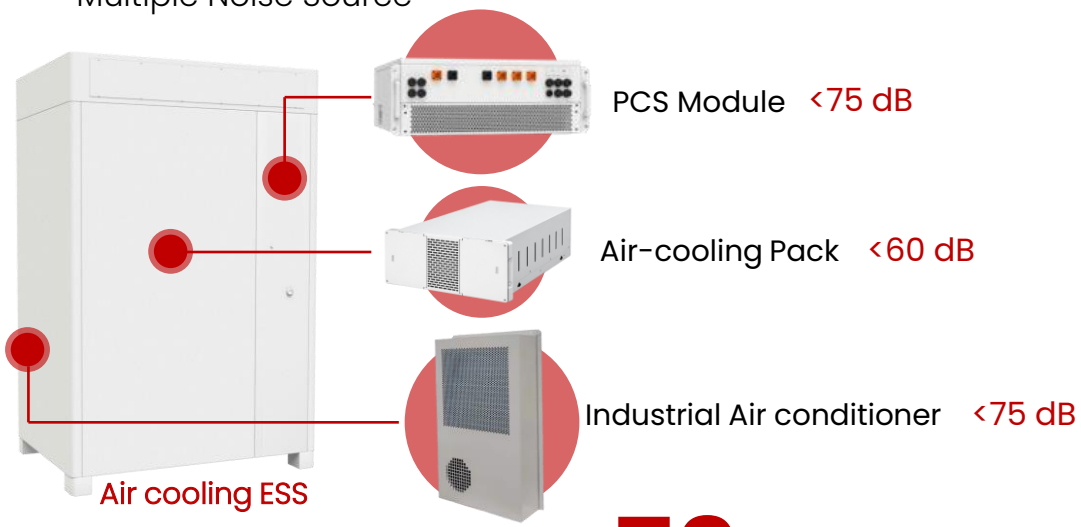
Total noise level **<60 dB**

Available scenarios

- Neighborhood — Required <60dB
- Office building — Required <63dB
- Shopping center — Required <63dB
- Factory — Required <70dB

Other Solution

Multiple Noise Source



PCS Module <75 dB

Air-cooling Pack <60 dB

Industrial Air conditioner <75 dB

Air cooling ESS

Total noise level **~70 dB**

Available scenarios

- Factory — Required <70dB

Rugged Reliability with 150% Overload for 10s Handling Impact Loads for Smooth Device Startup



SigenCube

10s duration 150% peak power*

* Available for all SigenCube series



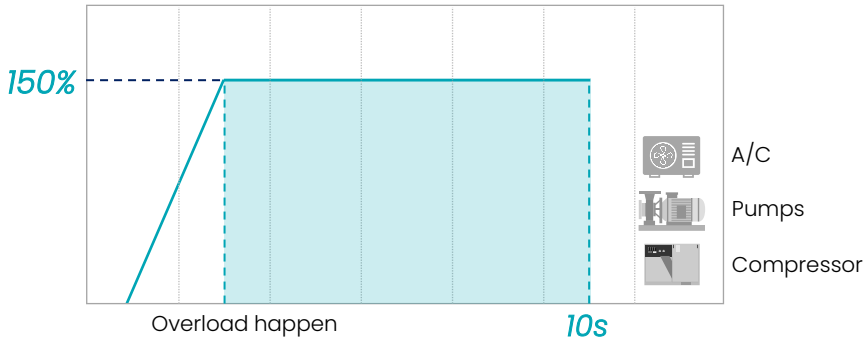
Traditional PCS

5s duration 130% peak power

Impact load will be supported

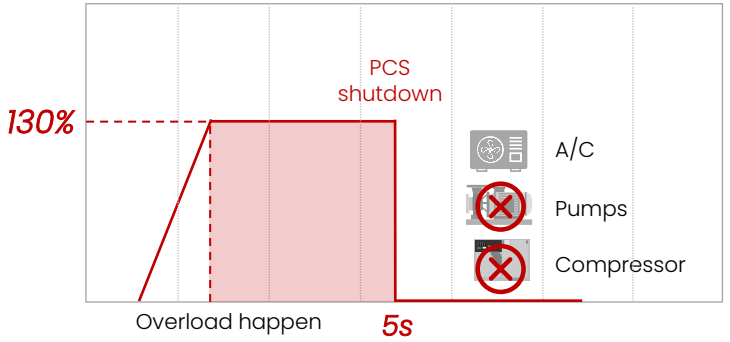
Air conditioner	Industrial motors	Elevator
3~4 x nominal power	5~7 x nominal power	2~3 x nominal power

SigenCube, stable support for system overloads



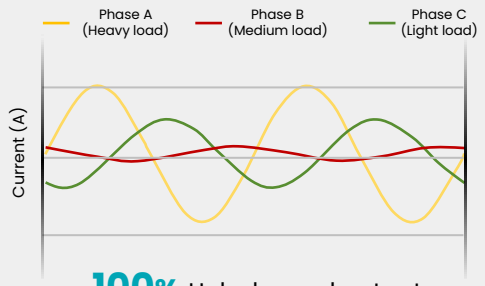
VS

Traditional PCS, cannot support enough load and time



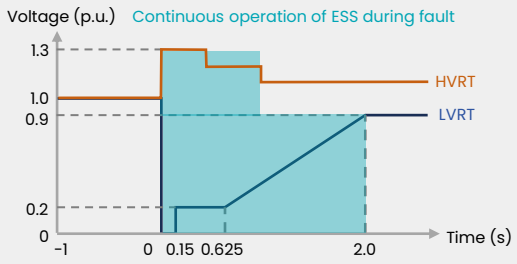
Rugged Reliability with Grid-forming All-Scenario Grid Adaptability

1 100% Three-phase Unbalance



100% Unbalanced output

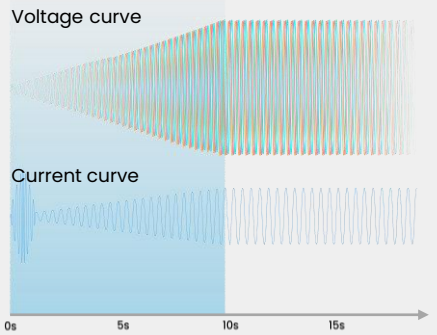
2 Fault Ride-through



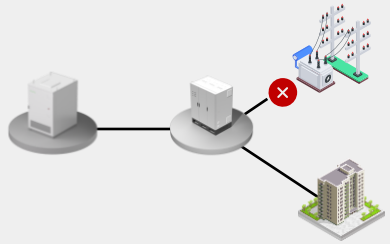
Unbalanced fault ride-through

1.5-time reactive power support

3 MWh-level Black Start



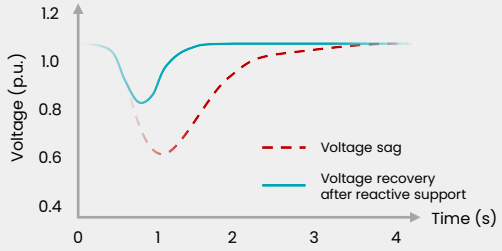
4 Seamless On/Off-grid Switching



≈0ms switchover in Grid open-circuit

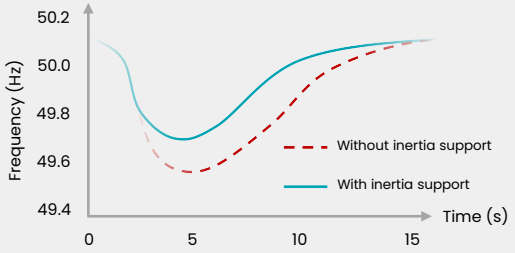
<20ms switchover in Grid short-circuit

5 Reactive Power Response



<10ms response time

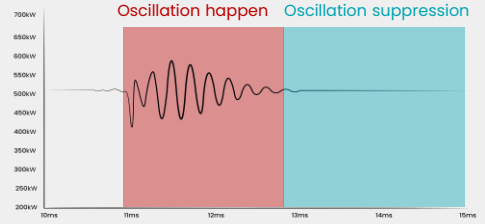
6 Inertia Support



<10ms response time

0~30s Inertial time constant

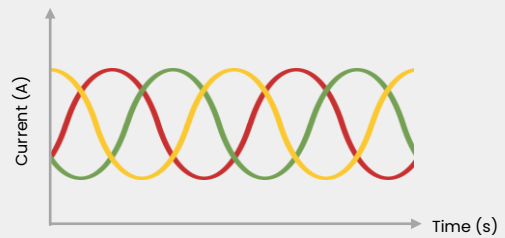
7 Frequency Oscillation Suppression



Support **0.1~100Hz** active & reactive POD

Support positive damping during **0.1~2kHz**

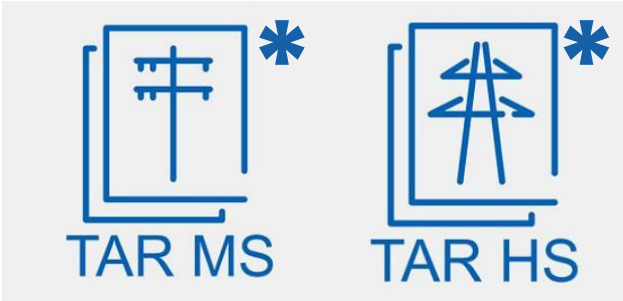
8 Weak Grid Adaptation

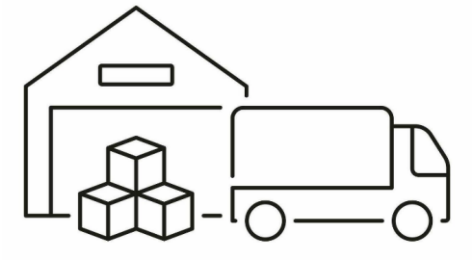


THDi<1.5% at full output

SigenCube Timeline CNEU

Stand: 05/10/2026





Prototype Certificate VDE4110 */ VDE 4120 *

Dez. 2026



Okt. 2026 → 1st batch: 40 M Cubes + 50 S Cubes

Jan. 2027 → Mass Production



Certificate VDE4105 / VDE4110 / VDE 4120

April 2027

TOR Erzeuger 1.2 A/B/C

Mai 2027

C&I&U Portfolio Overview

Stand: 05/10/2026

DC-Coupling

SigenStack / HYA
DC Coupled Battery



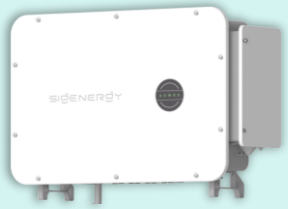
PV 50 ~ 125 M1-HYA @ 400/480Vac
MPPT: **4 – 8** x 2 x 20A @ 1100Vdc

(1~4) x **48 – 253 kWh** @ 0,5C / 1 C

2,5 MVA (23 MCCB) M1 Transformer
5 MVA (46 MCCB) M1 Transformer

LV AC-Coupling

C&I PV
Pure PV inverter



PV 50 – 166 M1 @ 400Vac
MPPT: **4 – 9** x 2 x 20A @ 1100Vdc

SigenCube
LV AC coupled Battery



ES261 / ES401: 100 ~ 200 @ 400Vac
261 / 401 kWh @ 0,25 ~ 0,5C
9 MVA (26 MCCB) H2 Transformer

MV AC-Coupling

Utility PV
Pure PV inverter



PV 500- H1 / PV 400-H2 @ 1000Vac / 800Vac
MPPT: **14 / 18** x 2 x 20A @ 1500Vdc

4 MVA (10 MMCB) H1 Transformer
9 MVA (20 MMCB) H1 Transformer
11 MVA (24 MMCB) H1 Transformer
3 MVA H2 Transformer
6 MVA H2 Transformer

SigenTerra
MV AC coupled Battery



ES6262-2H: 3,2MW @ 690Vac
6,25 MWh @ 0,25 ~ 0,5C

3 MVA H3 Transformer
6 MVA H3 Transformer

SIGENERGY

Thank you!

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