



Smart Battery, Smarter Living

# AlphaESS **SMILE G3**

More Energy. Longer Lifespan. Ultimate Safety.



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# SMILE G3

## Residential Energy Storage System

Your perfect energy solution

**3.6 - 20** kW  
Output Power

**4.8 - 115.2** kWh  
Capacity

**10** Years  
Warranty

SMILE G3 is a versatile hybrid home energy storage system with 3.6 to 8 kW single-phase and 10 and 20 kW three-phase options. It maximizes solar self-consumption, reduces grid reliance, supports dynamic tariffs and imbalance trading. Choose energy independence and maximize your solar returns with AlphaESS.

## What Makes SMILE G3 Unique?



### AlphaLinX Battery

Smart battery technology combining series and parallel advantages for optimal performance.



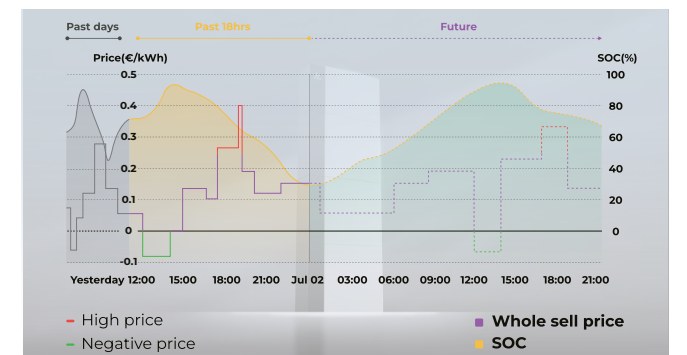
### All-in-one Solution

Complete energy system with hybrid inverter, AlphaLinX battery, BMS and EMS.



### Multi-Layer Safety Protection

Advanced safety system with cell-level monitoring and built-in fire prevention technology.



### Save More Earn More

Reduce bills with dynamic tariffs and earn through energy market participation.



### 100% Backup Power

Delivers up to **20 kW** output for three-phase systems to power your entire home.



### Built for Any Environment

Built-in heating & IP65 protection for indoor/outdoor reliability.



# Power Starts with the Battery Storage Starts with AlphaESS

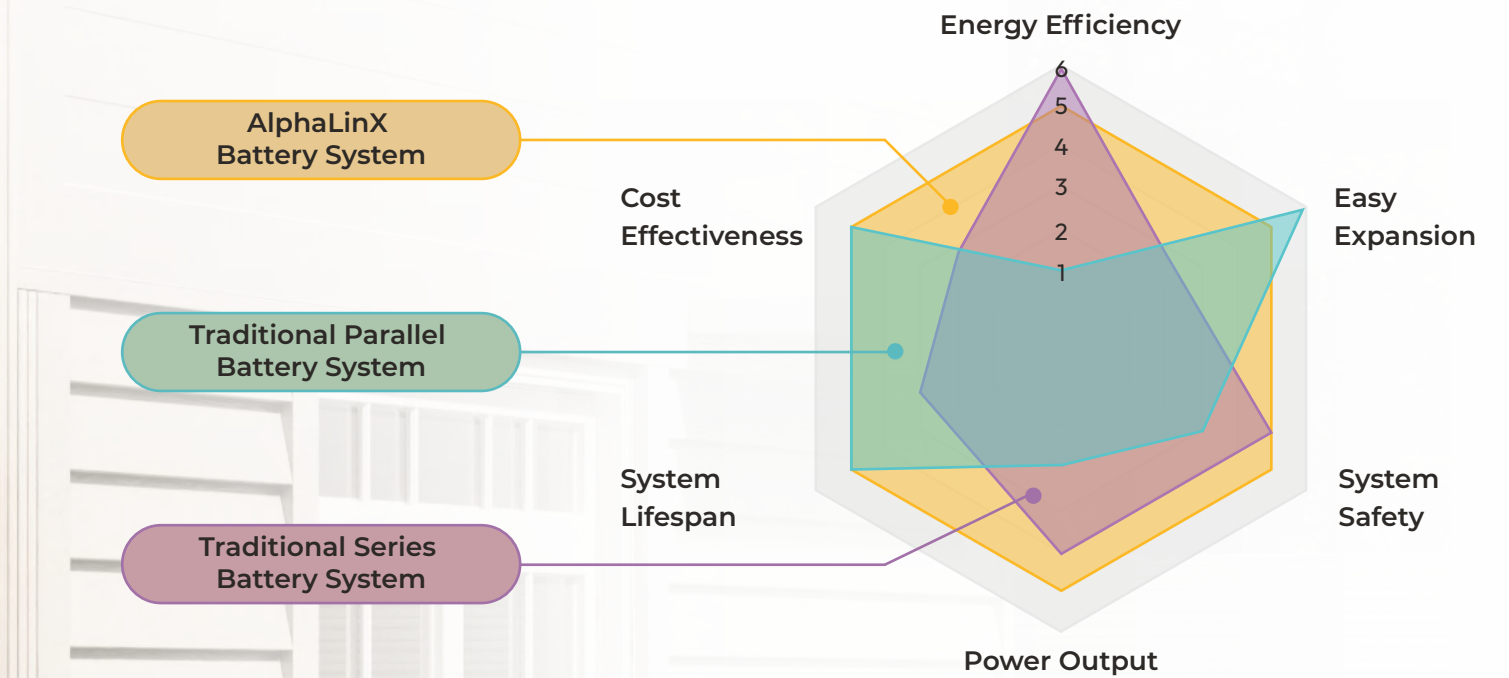
Great home energy storage begins with a great battery. That's why the SMILE G3 features unique AlphaLinX Battery, delivering superior efficiency, safety, and longevity. Smarter storage means greater savings and true energy independence.



## AlphaLinX™ The Ultimate Battery That Does It All

When you can have both, why choose?

Traditional battery systems make you choose between high efficiency (series) and balanced capacity (parallel). AlphaESS AlphaLinX Technology changes the game by delivering both advantages together.



Feature	AlphaLinX Battery System	Traditional Series Battery System	Traditional Parallel Battery System
Increases system voltage, reduces losses	✓	✓	✗
Intelligently balances capacity between batteries	✓	✗	✓
Simplifies current management, reduces current load pressure, lowers overheating risk	✓	✓	✗
Small failure impact scope, strong redundancy	✓	✗	✓
Allows selection of higher inverter power	✓	✓	✗
High expansion flexibility	✓	✗	✓





### More Solar Energy for Your Home

Get every possible watt from your solar panels, our system delivers up to 15% more usable energy to your appliances compared to standard systems.



### Every Cell Works at Its Full Potential

Smart balancing gives you 12% more usable capacity and extends battery life by 20% by preventing energy loss in weak cells.



### No Interruption When Batteries Fail

Automatically isolates faulty modules without disrupting system operation. Ensures long-term reliability through hardware redundancy.



### Grow Your System Anytime

Start with what you need now and expand later, even mixing older and newer batteries. Scale up to 111.6 kWh for whole-home backup.

AlphaLinX




Always at the best performance.

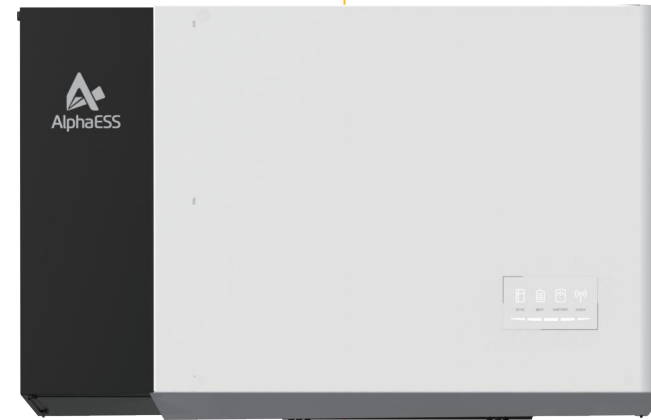









# All-in-one Home Energy Storage Solutions

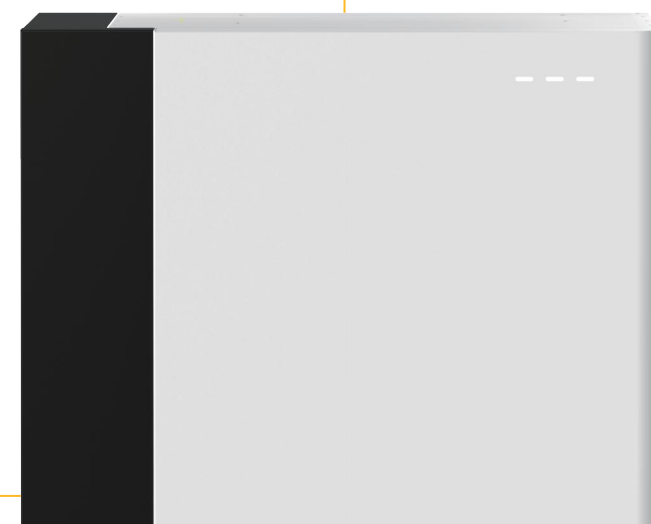
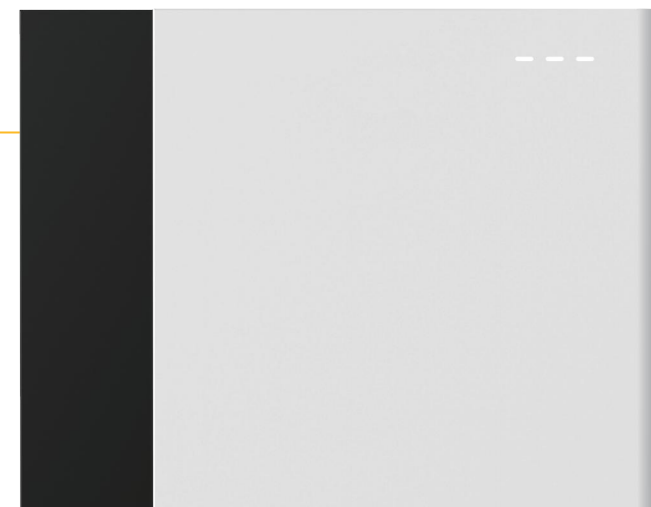
## Hybrid Inverter

-  Built-in Smart EMS
-  200% PV Input
-  MPPT Shadow Scanning
-  Dynamic Tariff
-  VPP Ready



## AlphaLinX Battery

-  Built-in Smart BMS
-  Aerosol Fireproof
-  High 1C Charge/Discharge
-  LiFePO4 Battery Chemistry
-  10,000 Life Cycles



# Hybrid Inverter

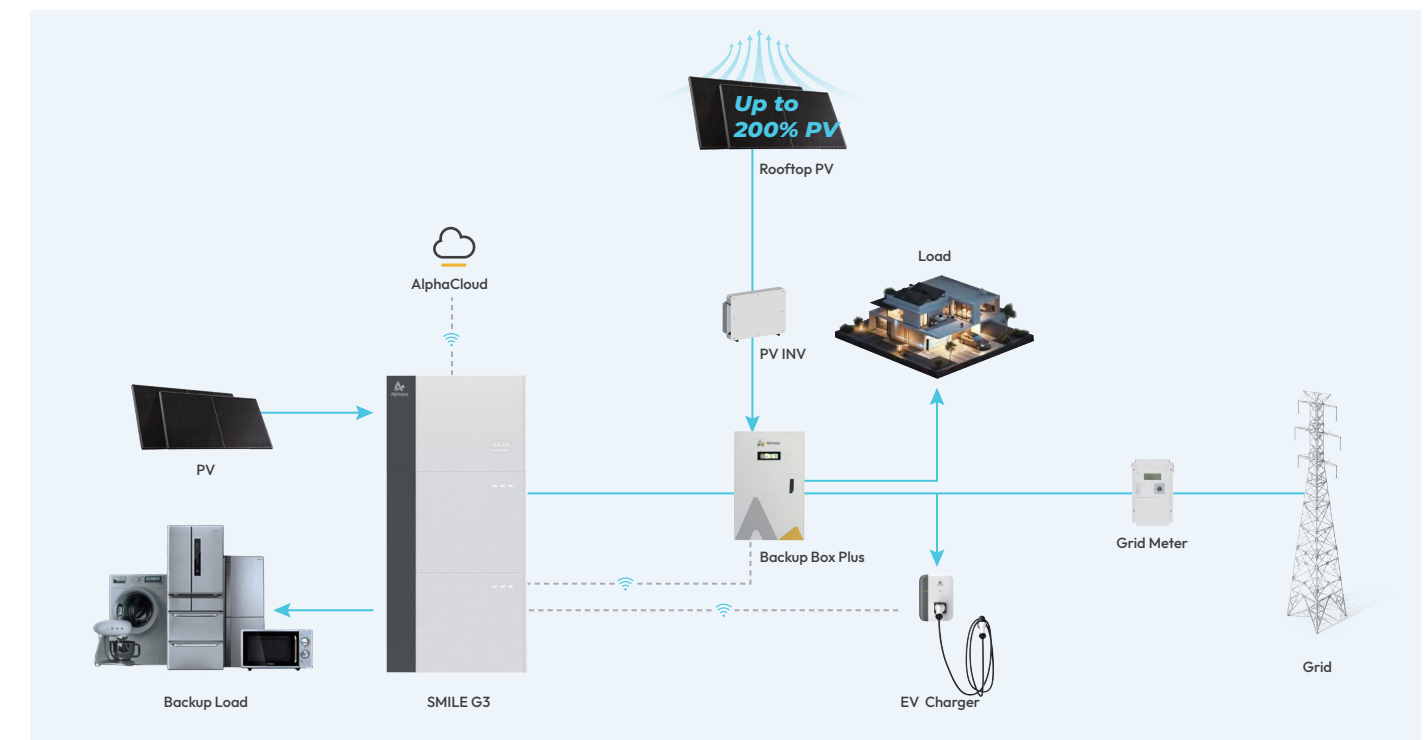
The SMILE G3 Hybrid Inverter delivers 98% efficiency to maximize solar investment, provides 10 ms backup for seamless power during outages, and supports single or three-phase homes from 3.6 to 20 kW, ensuring reliable energy for everything from small apartments to large houses.

**3.6 - 20 kW**  
Backup Power

**1 & 3-Phase**  
Support

**98% Max.**  
Conversion Efficiency

**<10ms**  
UPS Switch



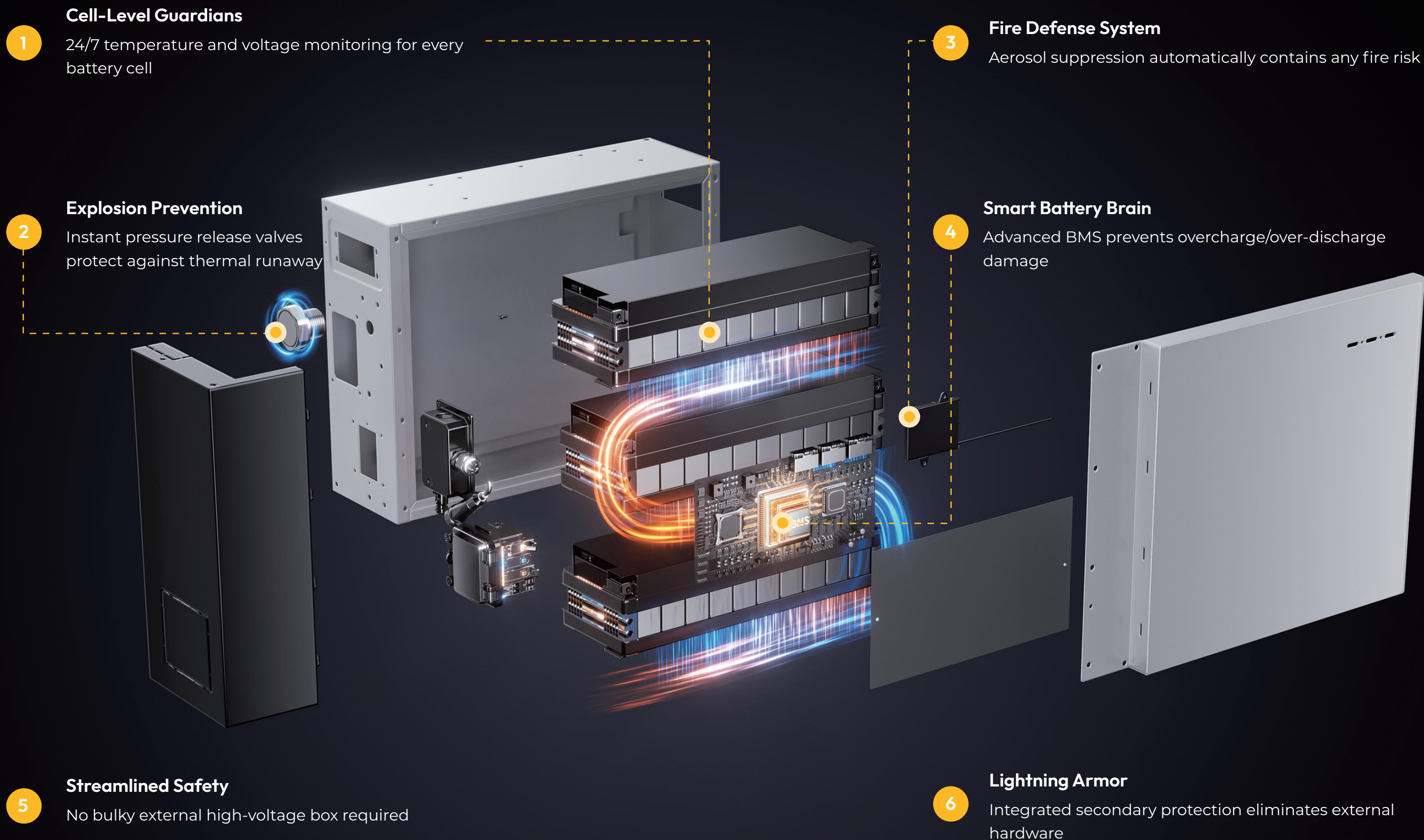
## Maximize Your Solar ROI

- 3×MPPT Inputs - Optimizes uneven shading
- 200% PV Over-Sizing - Doubles solar utilization
- Auto Shadow Scan - Maintains peak production





# Built-In Battery Protection at Every Level





# Blackout? Your Lights Stay On.

When the grid fails during storms, SMILE G3 instantly becomes your home's power hub. With 20kW backup power and seamless switching, your fridge stays cold, lights stay on, and wifi keeps working — no flickers, no restart delays. Even heavy appliances like well pumps keep running with smart overload protection.

**20** kW  
Instant Backup

**10** ms  
Auto-Switch

**200%**  
OverLoad Boost



# Smart Savings with Dynamic Tariffs

SMILE G3 automatically charges when electricity is cheap and powers your home during peak rates, reducing bills by up to 40%.



## Smart Price Tracking

Syncs with real-time EPEX market data



## Day/Night Optimization

Prioritizes free PV energy before grid power



## Negative Price Shield

Stops feeding energy when prices turn negative

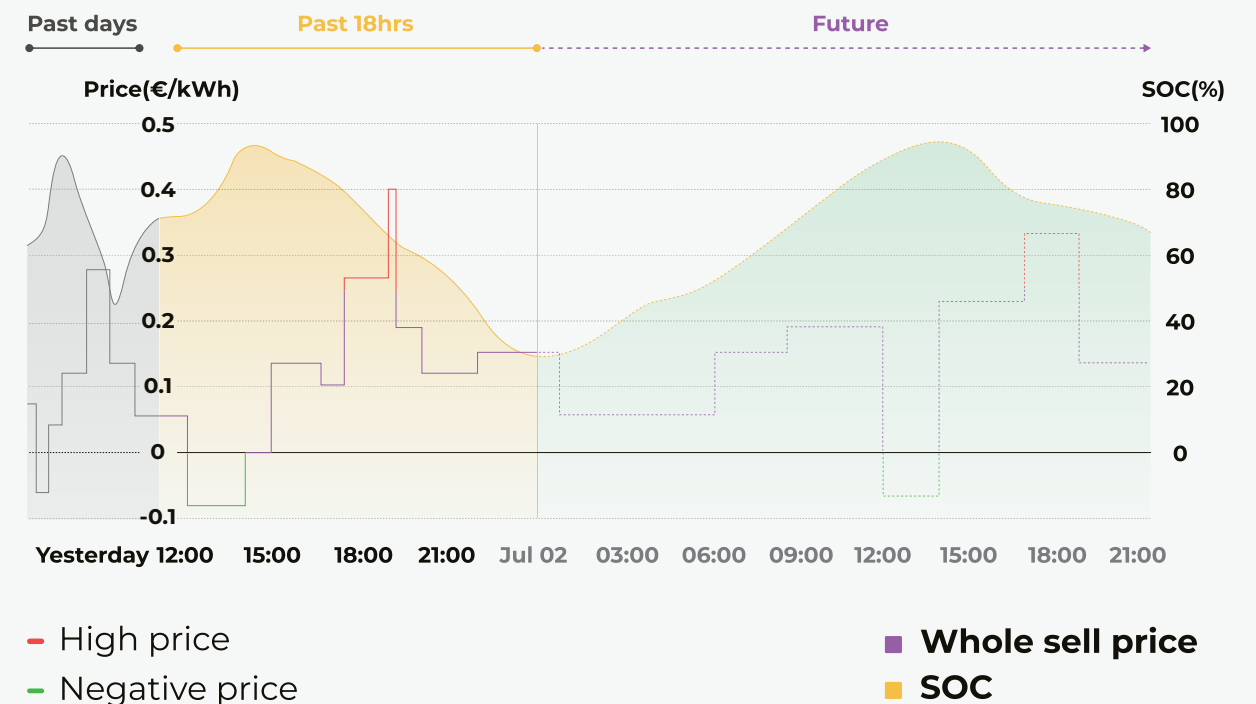


## App Control

Set preferences via smartphone

# Turn Your Battery Into a Money Maker

The SMILE G3 helps you profit from energy markets by automatically selling stored energy when prices peak. As a VPP-ready energy storage system, it connects directly with local energy aggregators, generating income while stabilizing the grid, all automatically with zero effort from you.



frank  
energie

HEGG

Jabba

Next  
Energy

octopus  
energy

ostrom



## Your Energy, At Your Fingertips

Control your SMILE G3 energy storage system anytime, anywhere. Monitor solar production, track energy usage patterns, and optimize savings with intuitive dashboards.



AlphaESS APP



iOS



Android

## Commissioning Smarter, Service Faster

Speed up commissioning with one-tap system registration and remote diagnostics. Access real-time troubleshooting tools and client history to deliver faster, smarter support—all from your mobile device.



One-click commissioning wizard



Remote fault diagnosis tools



Complete technical documentation library



Client management portal

## Alpha Cloud: Smart Monitoring for All

Alpha Cloud enables real-time monitoring and control for both users and installers through a unified web portal.



AlphaESS Partner APP



iOS



Android





# AlphaESS SMILE G3 Series

SMILE-G3-S8

SMILE-G3-S3.6/S5/B5

SMILE-G3-T10/T20

## Technical Specifications



## SMILE-G3-S8

8 kW | Brand new single-phase product exclusive to the UK



Model	SMILE-G3-S8	
System Specification		
Battery Chemistry	LFP ( LiFePO4 )	
Nominal Output Power	8000 W	
Capacity Range	4.8 ~ 38.4 kWh	
Warranty	10 Years	
PV Input Technical Specification		
Max PV Input Power	10000 W	
Max PV Input Current	15 A / 15 A	
Max. PV Input Voltage	580 V	
MPPT Number / Strings per MPPT	2 / 1	
MPPT Voltage Range	100 ~ 550 V	
Max. PV Short-Circuit Current	22.5 A / 22.5 A	
MPPT Efficiency	>99 %	
Inverter Technical Specification		
AC Input & Output Data (Grid Side)		
Rated AC Output Power	8000 W	
Max. AC Input Power	11500 W	
Rated Frequency	50 / 60 Hz	
Rated Voltage	230 V	
Grid Voltage Range	150 ~ 287 V	
Backup Output Data		
Rated Output Power (Off-grid)	8000 W	
Rated Output Voltage (Off-grid)	230 V ± 10 %	
On/Off Grid Switch Time	≤20 ms	
Peak Power (Off-grid)	8800 W 60 s; 16000 W 30 s	
Max. Continuous AC Passthrough	50 A	
Rated Output Current ( off-grid )	34.8 A	
General Specification		
Dimension ( W x D x H )	610 x 212 x 366 mm	
Weight	19.5 kg	
Communication	Ethernet / WiFi	
Relative Humidity	0 ~ 90% ( Non-Condensing )	
Operation Temperature	-25 ~ 60°C	
Noise	<35 dB	
Over Voltage Category	DC Type III / AC Type II	
Ingress Protection(IP) Rating	IP 65	
Operation Altitude	3000 m	
Safety	IEC62109-1/-2, IEC62477, IEC62040-1	
EMC	IEC61000-6-1/-2/-3/-4	
Grid Regulation	AS 4777.2, NRS 097, VDE 4105, EN 50549, G99	
Battery Technical Specifications		
Module Model	SMILE-G3-BAT-4.8S	SMILE-G3-BAT-9.6S
Rated Capacity	4.8 kWh	9.6 kWh
Usable Capacity	4.56 kWh	9.3 kWh
Depth of Discharge (DoD)	95 % *	95 % *
Nominal Voltage	96 V	96 V
Max. Charging/Discharging Current	50 A	52.5 A
Operating Temperature Range	-20°C ~ 50°C **	-20°C ~ 50°C **
Battery Modules Quantity	1 ~ 4	1 ~ 4
IP Protection	IP 65	IP 65
Dimensions (W x D x H)	610 x 212.5 x 435 mm	610 x 210 x 634 mm
Weight	53 kg	81 kg
Fire-Fighting	Aerosol + Anti-explosion Valve	Aerosol + Anti-explosion Valve

\* Test condition: Max. 0.5C charge/discharge at 25±2°C.

\*\* Max. charge/discharge current derating may occur with changes in temperature and SoC.





# SMILE-G3-S3.6 / S5 / B5

3.6/5 kW | Single-phase



Model	SMILE-G3-S3.6	SMILE-G3-S5	SMILE-G3-B5
System Specifications			
Nominal Output Power	3.68 kW	5 kW	5 kW
Capacity Range	4.8 ~ 38.4 kWh (95% DoD)		
Battery Chemistry	LFP (LiFePO4)		
Warranty	10 Years		
Inverter Technical Specifications			
Model	SMILE-G3-S3.6-INV	SMILE-G3-S5-INV	SMILE-G3-B5-INV
Coupling	Hybrid	Hybrid	AC
Max. PV Input Power	7.36 kW	10 kW	N/A
Max. PV Input Current	15 A / 15 A		N/A
Max. PV Input Voltage	580 V		N/A
MPPT Number / Strings per MPPT	2 / 1		N/A
MPPT Voltage Range	100 ~ 550 V		N/A
Max. PV Short-Circuit Current	18.75 A / 18.75 A	24 A / 24 A	N/A
Max. Charging/Discharging Current	60 A		
Max. Charging/Discharging Power	3.68 kW	5 kW	5 kW
Rated Frequency	50 / 60 Hz		
Rated Voltage	220 V / 230 V		
Phase	Single Phase		
Rated Output Current (Grid Port)	16 A	21.7 A	21.7 A
Rated Output Current (Backup Port)	16 A	21.7 A	21.7 A
Max. AC Input Power (On-Grid)*	7.36 kW	10 kW	10 kW
Backup	UPS		
Communication	Ethernet / WiFi / Modbus / API		
Relative Humidity	0 ~ 90% (No Condensation)		
Dimensions (W x D x H)	610 x 212x 366 mm		
Weight	19.5 kg		
IP Protection	IP 65		
Safety	IEC 62109, IEC62040		
EMC	IEC 61000-6-1/-2/-3/-4		
Overvoltage Category	DC II		
Noise	≤35 dB		
Grid Regulation	VDE 4105, VDE 0126-01-01, EN 50549-1, CEI 0-21, RD 1699, G98/G99, AS 4777.2, NRS 097		
Maximum / European Efficiency	95.94 % / 94.71 %		
Battery Technical Specifications			
Module Model	SMILE-G3-BAT-4.8S		SMILE-G3-BAT-9.6S
Rated Capacity	4.8 kWh		9.6 kWh
Usable Capacity	4.56 kWh		9.3 kWh
Depth of Discharge (DoD)	95 % *		95 % *
Nominal Voltage	96 V		96 V
Max. Charging/Discharging Current	50 A		52.5 A
Operating Temperature Range	-20°C ~ 50°C **		-20°C ~ 50°C **
Battery Modules Quantity	1 ~ 4		1 ~ 4
IP Protection	IP 65		IP 65
Dimensions (W x D x H)	610 x 212.5 x 435 mm		610 x 210 x 634 mm
Weight	53 kg		81 kg
Fire-Fighting	Aerosol + Anti-explosion Valve		Aerosol + Anti-explosion Valve

\* Test condition: Max. 0.5C charge/discharge at 25±2°C.

\*\* Max. charge/discharge current derating may occur with changes in temperature and SoC.



# SMILE-G3-T10/T20

10/20 kW | Three-phase





Model	SMILE-G3-T10		SMILE-G3-T20	
System Specifications				
Nominal Output Power	10 kW		20 kW	
Capacity Range	4.8 ~ 115.2 kWh		9.6 ~ 115.2 kWh	
Battery Chemistry	LFP (LiFePO4)			
Warranty	10 Years			
Inverter Technical Specifications				
Model	SMILE-G3-T10-INV		SMILE-G3-T20-INV	
Coupling	Hybrid		Hybrid	
Max. PV Input Power	20 kW		40 kW	
Max. PV Input Current	16 A / 16 A / 16 A		18A / 18 A / 18 A	
Max. PV Input Voltage	1000 V		1000 V	
MPPT Number / Strings per MPPT	3 / 1			
MPPT Voltage Range	140 ~ 950 V		200 ~ 850 V	
Max. PV Short-Circuit Current	24 A / 24 A / 24 A		22.5 A / 22.5 A / 22.5 A	
Max. Charging/Discharging Current	40 A		60 A	
Max. Charging/Discharging Power	10 kW		20 kW	
Rated Frequency	50 / 60 Hz		50 / 60 Hz	
Rated Voltage	220 V / 380 V, 230 V / 400 V		220 V / 380 V, 230 V / 400 V	
Phase	Three Phase			
Rated Output Power (Grid Port)	10 kW		20 kW	
Rated Output Current (Grid Port)	14.5 A		29 A	
Rated Output Power (Backup Port)	10 kW		20 kW	
Rated Input Power (on-grid)	20 kW		25 kW	
Backup	UPS			
Communication	Ethernet / WiFi / Modbus / API			
Relative Humidity	0 ~ 90% (No Condensation)			
Dimensions (W x D x H)	610 x 212.5 x 416 mm		610 x 250x 610 mm	
Weight	26.7 kg		44 kg	
IP Protection	IP 65			
Safety	IEC 62109-1/-2			
EMC	IEC 61000-6-1/-3			
Overvoltage Category	DC II			
Noise	≤ 30 dB		≤ 50 dB	
Grid Regulation	VDE 4105, EN 50549-1, VDE0126-01-01, NC RFG, G99		VDE 4105, EN 50549-1, G99	
Maximum / European Efficiency	97.6 % / 96.8 %		98 % / 97.5 %	
Battery Technical Specifications				
Module Model	SMILE-G3-BAT-4.8S	SMILE-G3-BAT-9.6S	SMILE-G3-BAT-4.8S	SMILE-G3-BAT-9.6S
Rated Capacity	4.8 kWh	9.6 kWh	4.8 kWh	9.6 kWh
Usable Capacity	4.56 kWh	9.3 kWh	4.56 kWh	9.3 kWh
Depth of Discharge (DoD)	95 % *		95 % *	
Nominal Voltage	96 V		96 V	
Max. Charging/Discharging Current	50 A	52.5 A	50 A	52.5 A
Operating Temperature Range	-20°C ~ 50°C **		-20°C ~ 50°C **	
Battery Modules Quantity	1 ~ 6	1 ~ 6,8,10,12 ***	2 ~ 6	2 ~ 6,8,10,12 ***
IP Protection	IP 65		IP 65	
Dimensions (W x D x H)	610 x 212.5 x 435 mm	610 x 210 x 634 mm	610 x 212.5 x 435 mm	610 x 210 x 634 mm
Weight	53 kg	81 kg	53 kg	81 kg
Fire-Fighting	Aerosol + Anti-explosion Valve		Aerosol + Anti-explosion Valve	

\* Test condition: Max. 0.5C charge/discharge at 25±2°C.

\*\* Max. charge/discharge current derating may occur with changes in temperature and SoC.

\*\*\* Maximum 6 Batteries for each cluster in series, up to 2 clusters in parallel.





# About AlphaESS

AlphaESS is a leading global provider of green energy storage solutions and services. With expertise in BMS, EMS, system integration, and cloud monitoring, we deliver tailored solutions for residential, commercial & industrial, and utility-scale applications. Our solutions empower millions to access reliable, clean energy while mitigating rising utility costs and reducing global carbon emissions.



**130 +**  
Countries & Regions



**200,000 +**  
Systems Installed Globally



**300 +**  
Global Service Network



**13 +**  
Years of Industry Experience



# AlphaESS Cares for Your Energy Freedom

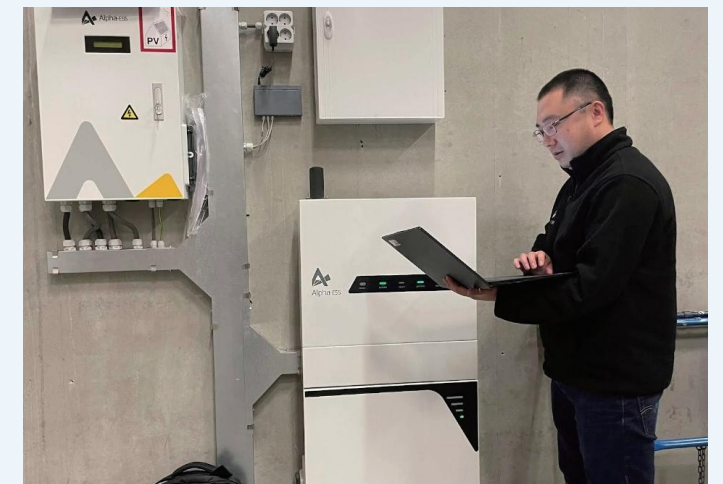


## Reliable Local Support

- Local Engineer teams in Europe
- Quick on-site response
- Local spare parts for faster repairs

## 24/7 Protection

- Remote monitoring prevents issues
- Emergency support in your language
- Regular check-ups for long-term performance



## Easy & Transparent

- Real-time service tracking
- Clear process from start to finish
- Feedback after every service