



Smart Battery, Smarter Living

# AlphaESS **SMILE G3**

More Energy. Longer Lifespan. Ultimate Safety.



Energy Storage Manufacturer  
by BloombergNEF 2025



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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 maximises 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.



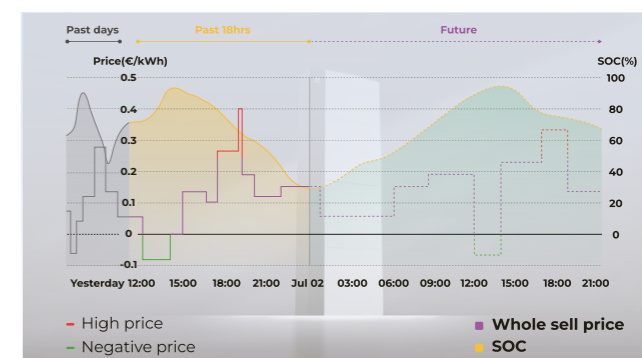
### All-in-one Solution

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% back up available through the Backup Gateway



### Built for Any Environment

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

# Power Starts with the Battery Storage Starts with AlphaESS

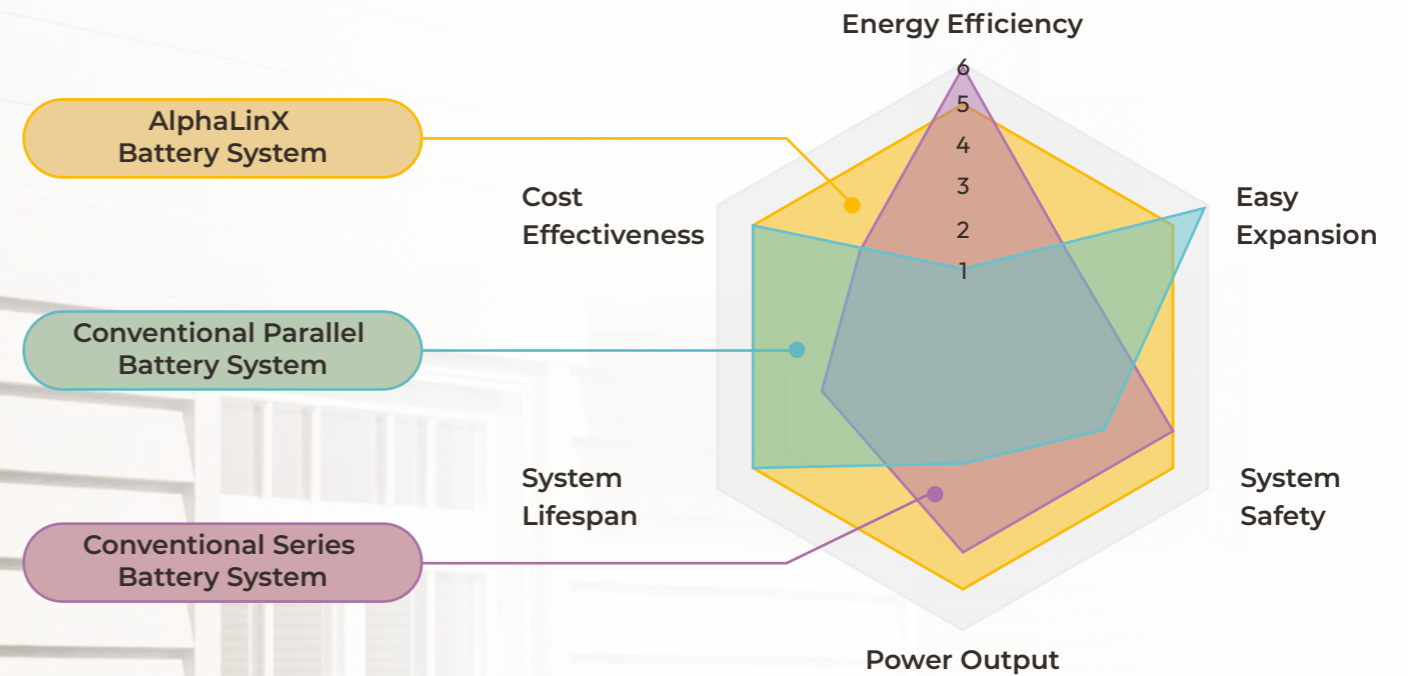
Great home energy storage begins with a great battery. That's why the SMILE G3 features unique AlphaLinX Battery, delivering superior efficiency, safety, and longevity. Smarter storage means greater savings and true energy independence.



## 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	Conventional Series Battery System	Conventional 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.



\*The bypass capability of Alpha LinX does not mean disabling protection, but rather strategy-level control within clearly defined safety boundaries. All non-bypassable items represent the system's safety baseline and will not be released under any circumstances.





# All-in-one Home Energy Storage Solutions

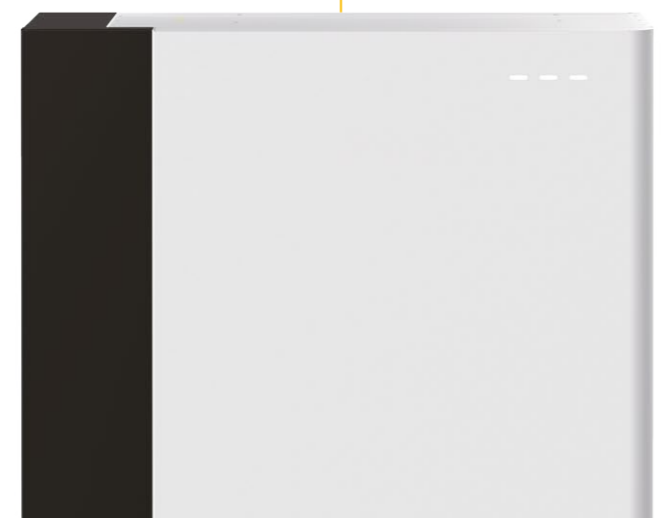
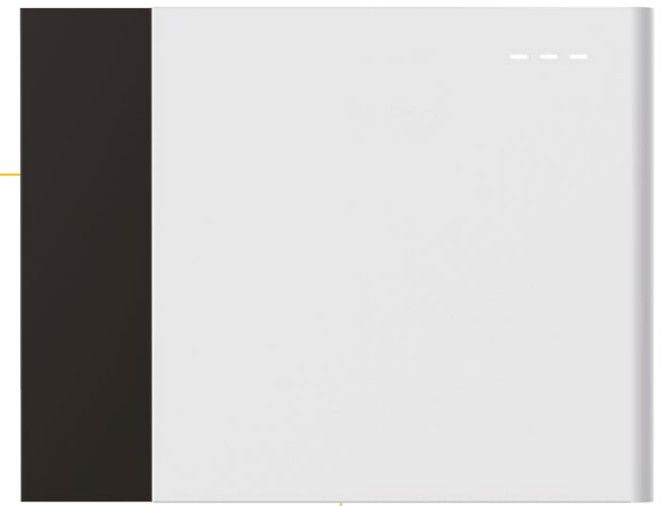
## Hybrid Inverter

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



## AlphaLinX Battery

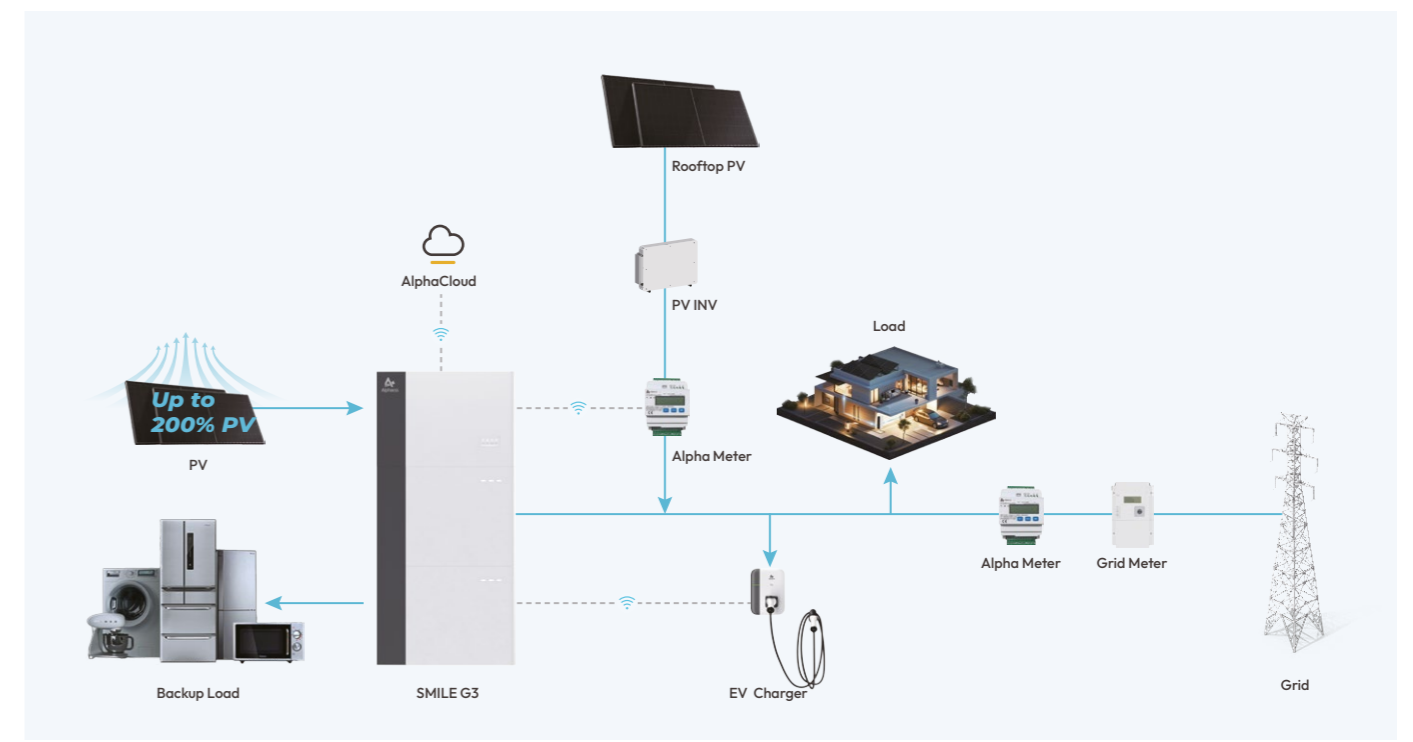
-  Built-in Smart BMS
-  Aerosol Fireproof
-  High 1C Charge/Discharge
-  LiFePO4 Battery Chemistry



# Hybrid Inverter

The SMILE G3 Hybrid Inverter delivers 98% efficiency to maximise 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
- <20ms**  
EPS Switch

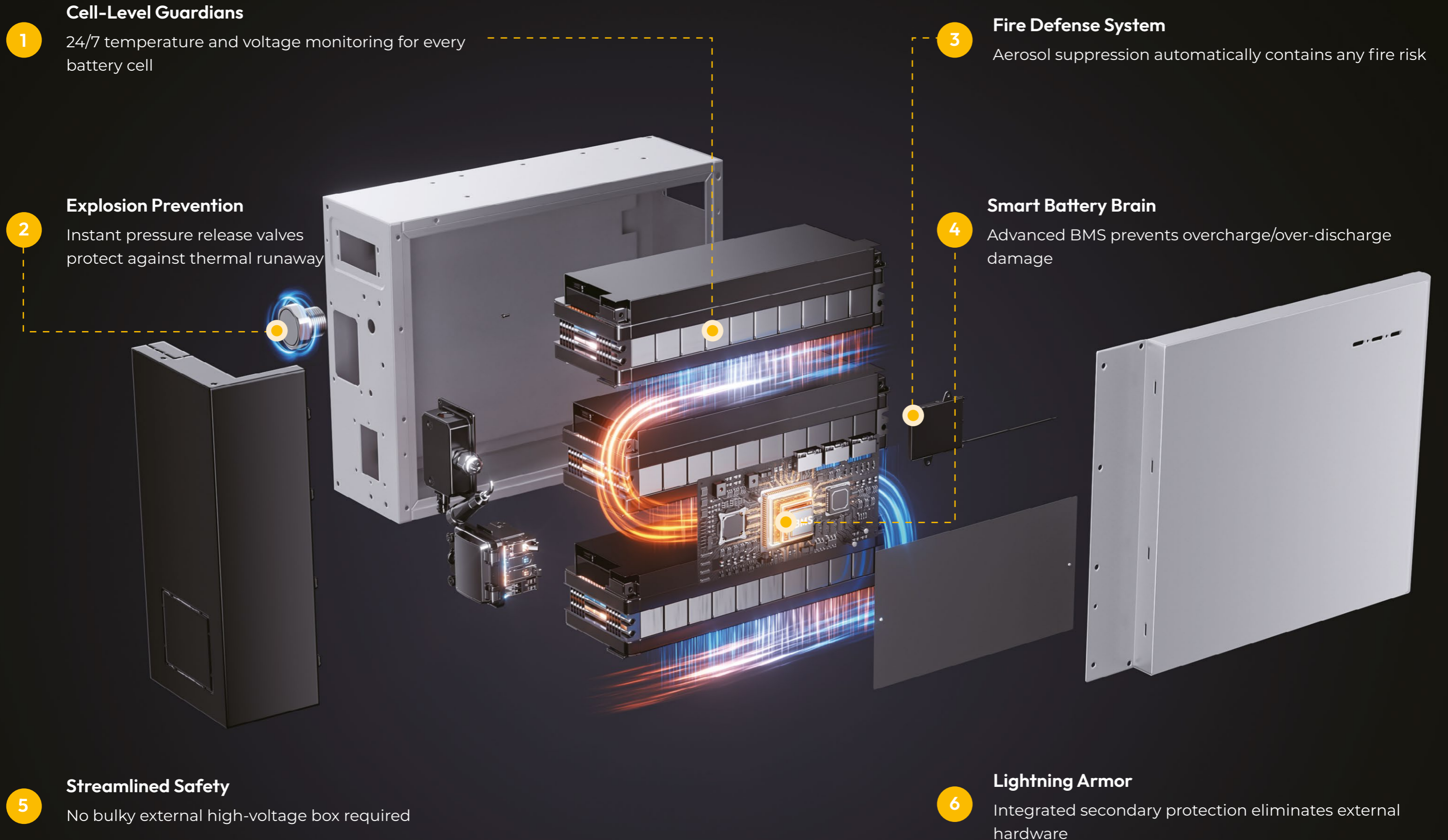


### Maximise Your Solar ROI

- 2×MPPT Inputs on single phase, 3×MPPT on three-phase - Optimises uneven shading
- 200% PV Over-Sizing - Doubles solar utilisation
- 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 via the backup gateway providing seamless switching — your fridge stays cold, lights stay on, and Wi-Fi keeps working — no flickers, no restart delays.

**100%** power  
Instant Backup

**20** 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

Prioritises free PV energy before grid power



## Negative Price Shield

Stops feeding energy when prices turn negative

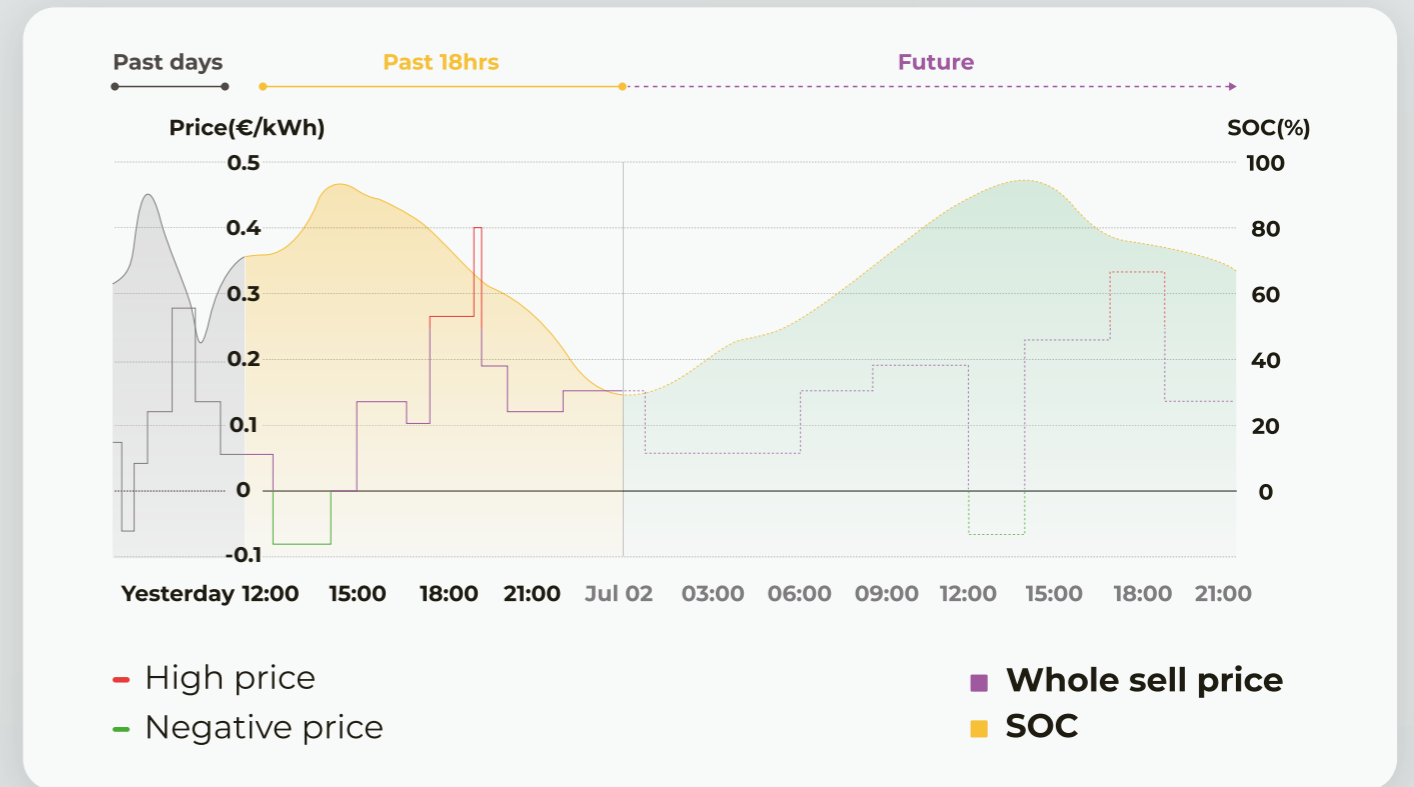


## App Control

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 stabilising 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 optimise 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-S3.6/S5

SMILE-G3-S8

SMILE-G3-T10/T20

## Technical Specifications



# SMILE-G3-S3.6 / S5

3.6/5 kW | Single-phase



Model	SMILE-G3-S3.6	SMILE-G3-S5
<b>System Specifications</b>		
Nominal Output Power	3.68 kW	5 kW
Capacity Range	4.8 - 38.4 kWh (95% DoD)	
Battery Chemistry	LFP (LiFePO4)	
Warranty	10 Years	
<b>Inverter Technical Specifications</b>		
Model	SMILE-G3-S3.6-INV	SMILE-G3-S5-INV
Coupling	Hybrid	Hybrid
Max. PV Input Power	7.36 kW	10 kW
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	18.75 A / 18.75 A	24 A / 24 A
Max. Charging/Discharging Current	60 A	
Max. Charging/Discharging Power	3.68 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
Rated Output Current (Backup Port)	16 A	21.7 A
Max. AC Input Power (On-Grid)*	7.36 kW	10 kW
Backup	≤ 20 ms (EPS)	
Communication	Ethernet / WiFi / Modbus / API	
Relative Humidity	0 - 90% (No Condensation)	
Dimensions (W x D x H)	610 x 212 x 366 mm	
Weight	19.5 kg	
IP Protection	IP65	
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 %	
<b>Battery Technical Specifications</b>		
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	IP65	IP65
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-S8

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



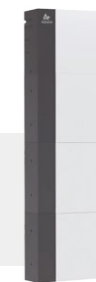
Model	SMILE-G3-S8	
<b>System Specification</b>		
Battery Chemistry	LFP (LiFePO4)	
Nominal Output Power	8000 W	
Capacity Range	4.8 - 38.4 kWh	
Warranty	10 Years	
<b>PV Input Technical Specification</b>		
Max PV Input Power	10000 W	
Max PV Input Current	15 A / 15 A	
Max. PV Input Voltage	580 V	
MPPT Number / 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 %	
<b>Inverter Technical Specification</b>		
<b>AC Input &amp; Output Data (Grid Side)</b>		
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	
<b>Backup Output Data</b>		
Rated Output Power (Off-grid)	8000 W	
Rated Output Voltage (Off-grid)	230 V ± 10 %	
On/Off Grid Switch Time	≤ 20 ms (EPS)	
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	
<b>General Specification</b>		
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	
<b>Battery Technical Specifications</b>		
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 **	
Battery Modules Quantity	1 - 4	1 - 4
IP Protection	IP65	IP65
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.  
 \*\*\* Maximum 6 Batteries for each cluster in series, up to 2 clusters in parallel.



# SMILE-G3-T10/T20

10/20 kW | Three-phase



Model	SMILE-G3-T10	SMILE-G3-T20		
<b>System Specifications</b>				
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			
<b>Inverter Technical Specifications</b>				
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	≤ 20 ms (EPS)			
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 250 x 610 mm		
Weight	26.7 kg	44 kg		
IP Protection	IP65			
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 %		
<b>Battery Technical Specifications</b>				
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 **			
Battery Modules Quantity	1 - 6	1 - 6,8,10,12 ***	2 - 6	2 - 6,8,10,12 ***
IP Protection	IP65		IP65	
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

