



# PowerShaper

50kW/51kWh, LFP



Save costs through battery services like peak shaving, PV self-consumption, power boost and backup power.



The BESS that pays for itself by generating revenue from various electricity markets to maximize ROI.

## Flexible grid tied battery energy storage

The PowerShaper product family is a modular and scalable all-in-one energy storage solution. Cabinets integrate PixiiBox converter modules, battery modules, and Pixii Gateway, and can be tailored to your needs for on- or off-grid use with local or EMS control.

### Built for future-proof performance

Designed and manufactured in Europe. Combining robust engineering with high-quality components to deliver modular, scalable and reliable energy storage for critical applications and demanding environments.

### Secure, connected, and compliant

Our 48V systems are built for always-on operation. Encrypted communications, secure remote access, and full GDPR compliance, enabling uninterrupted connectivity, real-time insight, and maximum ROI through value stacking.

### Resilient by design, reliable in use

Pixii BESS feature built-in redundancy, active monitoring, and automated recovery protocols. This ensures secure operation even under failure or cyber threat, ideal for mission-critical energy storage needs.

### Modular and scalable BESS platform

PowerShaper is available in outdoor, indoor, and air-conditioned versions. Scales easily from kW/kWh to MW/MWh with multi-cabinet configurations.

### Comprehensive Service Level Agreement (SLA) and support

Proactive maintenance, fast response, and certified installers help maximize uptime and extend lifespan. SLAs secure optimal performance and ROI throughout the system lifetime.

### Reliable and stable power supply

Maintain operations during power interruptions. The system supports off-grid functionality to keep essential loads running when the grid is down. No extra hardware needed.

## Highlights

- Robust IP55 industrial cabinet
- Safe and stable LFP batteries
- Modular and scalable
- Galvanic isolation (AC-DC)
- European quality & GDPR compliance
- Safe ~48V installation and operation

## Key functions

- Dynamic load balancing
- Backup & off-grid operation support
- Peak shaving
- Electricity market participation



*Multiple PowerShapers can be delivered as a skid solution for larger applications*

# PowerShaper 50kW/51kWh, LFP

AC specifications	
Grid connection type <sup>2</sup>	IT / TT / TN
Phase config. (grid) <sup>3</sup>	1ph / 3ph
Nominal AC voltage	230V / 400V
Nominal AC voltage range	207 - 260V
Nominal frequency (grid)	50Hz
Nominal AC current	72Arms (3Ph+N+PE)
Max. AC current (input)	83Arms (3Ph+N+PE)
Nom. cont. AC power (±2%) <sup>1</sup>	50kW
Max. AC power (±2%)	50kWp
Max. apparent power	50kVA
Max. reactive power	45kVAr
Power factor (Cos φ leading)	0.5 - 1
Power factor (Cos φ lagging)	0.5 - 1
THDi (grid connection)	5%
Off-grid operation support <sup>4</sup>	Yes
Generator backup support	Yes
Phase config. (genset) <sup>5</sup>	1ph, 3ph
Frequency range (genset)	45 - 66Hz

1. The stated power and energy capacities are baseline, or nominal, values. Actual performance can vary and may be constrained by several factors, including the state of charge (SoC), state of health (SoH) of the system, as well as thermal conditions.

2. IT/TT connection requires connection kit.

3. A 3-phase connection requires at least three PixiiBoxes, one for each phase.

4. Single cabinet only. Requires off-grid control system. Local modification for load prioritization.

5. A 3-phase connection requires at least three PixiiBoxes, one for each phase.

DC specifications	
Installed capacity	51.2kWh
Usable capacity	41kWh
Max. system capacity	51.2kWh
Nominal DC voltage	~48V

Efficiency	
Max. efficiency (inverter)	96.9%

Communication and connectivity	
Wired interfaces	Ethernet LAN, RS 485 (Modbus), Digital IO
Wireless interfaces	Wi-Fi hotspot (local AP), 4G (optional kit)
Internal comm. protocols	CAN bus, Modbus TCP/RTU
External comm. protocols	MQTT

Safety	
Ingress Protection (IP)	IP55
Protection class	I
Overvoltage category (OVC)	III
Max. short-circuit current	10kA
Min. required SC current	1kA

Operating conditions	
Operating environment	Outdoor
Thermal management	Fan, Heater
Acoustic noise 1m distance	<66.2dB(A)
Operating amb. temp. range <sup>1</sup>	-20 - +45°C
Operating relative humidity <sup>2</sup>	5 - 95% NC
Max. operating altitude	2000m

1. Derating from 45°C

2. Non-condensing.

Physical specifications	
Dimensions (HxWxD)(mm)	2115x706x932
Net. weight (cabinet only)	220kg
Net weight (equipped) <sup>1</sup>	676kg
Color	RAL 7035
Status indicator (type)	-
Installed batteries (3U)	10
Max. batt. capacity (3U)	10
Installed PixiiBoxes	18
Max. PixiiBox capacity	15

1. Includes PixiiBoxes and batteries.

Battery	
Battery ID	LFP 100Ah 16S 3U 19in S
Battery chemistry	LFP
Cells in series (qty)	16
Battery block capacity (Ah)	100Ah
Battery block capacity (kWh)	5.12kWh
Max. depth of disch. (DoD)	80%
Max. charge/discharge cur.	100/100A
Max. C-rate	1C
Rack height (Units)	3U
Over-current protection	Breakers, Electronic
Dimensions (HxWxD)(mm)	133x442x440
Net. weight (battery block)	42kg
Battery connection type	Screw
Cycle life (cycles @%DoD) <sup>1</sup>	4000 (80%)

1. Temp. 25±5°C and 0.5 C-rate, EOL: 70% SoH

Warranty and compliance	
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## Security and safety standards

IEC/EN 62477-1, RED (2014/53/EU) - Cybersecurity (effective Aug 2025)

## Grid standards<sup>1</sup>

AS/NZS 4777.2 (AU+NZ), EREC G99 (Type A & B) (UK), IEC/EN 50549-1 (Type A & B) (EU), TF 3.3.1 (Type A & B) (NO), VDE-AR-N 4105 (DE), VDE-AR-N 4110 - Pending (DE), Wymogi ogólnego stosowania (Type A) (PL)

## EMC standards

IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4

## Environment standards

ETSI EN 300 019-2-1 (Class 1.2), ETSI EN 300 019-2-2 (Class 2.3), ETSI EN 300 019-2-3 (Class 3.2)

## Battery standards

IEC/EN 62619, UN38.3

Warranty (years/cycles) <sup>2</sup>	See note
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1. Designed in accordance with the relevant national and international standards listed above. Certification to specific revisions available on request. Additional local requirements may apply. AS/NZS 4777.2, EREC G99 (Type A & B) and VDE-AR-N 4105 currently valid for PixiiBox. System approval pending.

2. Warranty terms may vary based on your SLA agreement. Please review the [warranty document](#) for details