

Pixii Power Shaper ID



Flexible grid tied energy storage system 50kW up to 50kWh*

The PowerShaper ID from Pixii, is an IP20 complete modular energy storage system. It is fully integrated with and ready to be connected to the grid for applications as solar self consumption, demand charge reduction, peak shaving, arbitrage and various ancillary services.

Each cabinet can house up to 50kW (49,5kW) of power conversion and 50kWh energy storage capacity in LFP batteries, to match different applications and requirements.

The PowerShaper can provide a variety of energy saving or grid supporting services. These functions can be executed autonomously or controlled by commands and settings from higher level energy management systems communicating over different protocols.

The power conversion in the PowerShaper is achieved using the PixiiBox, a bidirectional 3,3kW AC/DC converter module. There is room for up to 15 PixiiBoxes in each cabinet.

**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.*

The system includes the Pixii Gateway controller providing advanced monitoring and control applications as well as communication and interoperability via the internet, wifi or the wireless network.

For applications requiring more power or energy, additional cabinets can be installed. The PowerShaper can be used in applications from 10kW up to 1MW.

Highlights

- Modular and scalable
- Integrated & battery inverter solution
- Wide range of functions
- For applications 10kW to 1 MW
- Compact
- Fast response (charge to discharge)
- Galvanically isolated AC to DC
- 48V battery voltage for ease of service

The PowerShaper ID is modular battery energy storage system (BESS) that allows you to grow your system according to needs.



Performance data	
Nominal AC voltage	230/400VAC
Frequency	50Hz
Max AC current (TN)	80A
Nominal DC voltage	~48V
Communications protocols DC current	Modbus/RTU, Modbus/TCP, TCP/IP, MQTT, HTTPS and CAN
Cabinet protection class	IP20

Performance data	
Minimum operating temperature	0° C
Maximum operating temperature	45° C
Dimensions (w x d x h)	598 x 651 x 1 991 mm
Weight (fully equipped) - LFP 100Ah (10x battery & 15x PixiiBox)	610kg (16S 3U Battery)
Color	RAL9005
Environmental management	Fan Cooled

Typical max system performance vs SoC.

Battery type	100Ah - 16S LFP	
Max kWh ¹⁾	50kWh	
	Max power (in kW) ²⁾	
SoC	Charge	Discharge
90%	49	48
70%	49	48
50%	49	48
30%	49	47
10%	49	46



1) Nominal values 2) Values are for batteries at room temperature (25°C). If batteries are colder or warmer, this may affect the maximum power due to battery imbalance or temperature derating.

Functions

Peak shaving	Reduce your demand charges and save costs by shaving the peaks of your power consumption.
Arbitrage	Support loads from the battery when electricity rates are high, and charge the battery when electricity rates are low.
PV self-consumption	Get the most out of your solar investment and reduce your dependency on the grid through smart power management, enabling you to direct excess energy to batteries for later use during peak hours.
Local power boost	Increase maximum available power capacity by adding smart energy storage systems in parallel with the grid. In locations with temporary overloads, energy storage systems can cover the overload and avoid grid upgrades.
Voltage support	Enables grid operators (DSO's/DNO's/DNSP's) to enhance quality of supply on long weak lines significantly. Unique functionality for voltage-based phase balancing active/reactive power compensation.
Balance services/ Flexibility markets	Unlock the value of your battery energy storage system and monetize your system's flexibility by offering available capacity to ancillary services like FFR, FCR, standard ramp FCAS services and more.

Applicable standards

Safety	IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 62040-1, IEC/EN 62477, (Batteries) IEC 62619, IEC 62368, UN38.3
Grid	AS/NZS 4777-2:2020, EN50549-1:2019 Type A & B, C10/11 VDE-AR-N 4105:2018-11, VDE-AR-N 4110:2018-11 (prototype), EREC G99 Issue 1 – Amendment 6, 09 March 2020
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4
Environment	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)