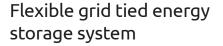# Pixii
Power Shaper
XL-P, Aircon

Flexible grid tied energy storage system

The PowerShaper XL-P from Pixii, is an IP55 complete modular energy storage system designed for energy oriented application. It is fully integrated and ready to be connected to the grid for applications such as solar self-consumption, demand charge reduction, peak shaving, arbitrage and various ancillary services.

Each cabinet can house up to 120kW peak (100kW continues) of power conversion and LFP batteries up to 225kWh. The PowerShaper XL-P can provide a variety of cost and energy saving functions as well as 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 XL-P is achieved using the Pixiibox, a bidirectional 3,3kW AC/DC converter module. There is room for up to 36 PixiiBoxes in each cabinet.

The system includes the Pixii Gateway controller providing advanced monitoring and control applications as well as communication and interoperability via the internet, Wi-Fi or mobile networks. For applications requiring more power or energy, additional cabinets can be installed.

The PowerShaper XL-P can be used in single or multiple cabinet solutions up to 1MW and beyond.

Highlights

- Modular and scalable
- Compact energy storage
- Fast response (EV charging support, frequency response etc.)
- Integrated & battery inverter solution
- Designed for shipment with batteries installed
- Wide range of functions
- Galvanically isolated AC to DC
- 48V battery voltage for ease of service

Battery details	
Technology	LFP
Module Capacity	16,1kWh
Cycle life[1]	7600
Maximum DoD (Depth of Discharge)	90%
Maxmimum number of battery modules	14
Maximum nominal system capacity	225kWh (202,5kWh at 90% DoD)

1) Down to 70% rest capacity at 90% DoD

← *The Pixii PowerBase XL-P is a complete energy storage system on a steel frame with a maximum capacity 900kW continues (1080kWp) and 2025kWh (1822kWh at 90% DoD). Prewired and preconfigured.*

Pixii **PowerShaper** XL-P, Aircon

Energy storage 100kW up to 225kWh[2]

Performance data

Max Power (bi-directional)	100kW (120kWp)
Max. Capacity	225kWh
Nominal AC voltage	400VAC
Frequency	50Hz
Max AC current (100kW)	160A
Nominal DC voltage	~48V
Max DC current (100kW)	2400 A
Communications protocols	MQTT, Modbus TCP, 4G, Wi-Fi +

Performance data

Minimum operating temperature	-20 °C
Maximum operating temperature	45 °C
Dimensions (w x d x h)	1194 x 1320 x 2324 mm
Weight (fully equipped) apx.	2450 kg
Cabinet protection class	IP 55
Color	RAL7035
Environmental management	Aircon

Functions

Voltage support	Monitor and maintain ideal line voltage in remote locations at low cost, by using our power management and storage solution as a buffer, enabling you to inject and absorb active/reactive power to and from the grid.
Peak shaving	Reduce your demand charges and save cost by shifting your power dependency from grid to battery, shaving the peaks of your power consumption. It also allows you to boost available power without having to upgrade your grid connection.
Grid support	Improve local peak power capacity by increasing maximum power capacity through smart energy storage systems. In locations with temporary overloads, energy storage systems can be installed to cover the overload to avoid having to upgrade larger parts of the grid.
Arbitrage	Support loads from battery when electricity rates are high, and charge 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 re-direct excess power generation to batteries for later use during peak hours.
Ancilliary services	Unlock the value of your energy storage system through frequency stabilising ancillary or balance services like , FFR, FCR-D up an/or down, FCR-N, FCAS etc.

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, RPEQ Mechanically certified for lifting, Load Restraint Guide 2018 for Transportation
Grid	AS/NZS 4777.2:2020[3], EN50549-1:2019 Type A & B, VDE-AR-N 4105:2018-11[3], VDE-AR-N 4110:2018-11 (prototype), EREC G99 Issue 1 – Amendment 6, 09 March 2020[3]
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)

2) 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.

3) Currently valid for PixiiBox, system approval pending