

Datasheet:

PowerShaper 30 kW / 65 kWh

Grid tied energy storage system



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The PowerShaper from Pixii, is a complete modular energy system, with all components integrated and ready to be connected to the grid. Each cabinet can house up to 30 kW power conversion and 65 kWh energy storage capacity.

For more power or energy, additional cabinets can be installed. The PowerShaper can be used in applications from 10 kW up to 300 kW or 650 kWh.

The PowerShaper can provide a variety of energy saving or grid supporting services. These 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 done in the PixiiBox, a bidirectional 3,3 kW AC/DC converter module. There is room for up to 9 modules configured in single or 3 phase IT or TN network. The system includes the Pixii Gateway, providing advanced monitoring and control applications as well as communication and interoperability with the outside world.

Key features & services

- Modular and scalable
- For 10–300 kW applications
- Compact
- Fast response
- Integrated solution
- Wide range of functions
- Galvanically isolated
- 48V battery voltage

General data			
Max power (bi-directional)	30 kW	Maximum operating temperature	50 °C
Nominal AC voltage	230/400 Vac	Minimum operating temperature	-20 °C
Frequency	50 or 60 Hz	Dimensions (w x d x h)	710 x 865 x 2109 mm
Max AC current (fully equipped)	51 A	Weight (fully equipped) kg	550 kg
Nominal DC voltage	48 Vdc	Cabinet protection class	IP 55
Max DC current (fully equipped)	675 A	Color	RAL 7035

Key services	
TOU (Time of use) cost reduction	Support loads from battery when electricity rates are high, and charge battery when electricity rates are low
Demand charge cost reduction	Limit grid power peaks to reduce (monthly) demand charges
PV self-consumption	Charge batteries instead of curtailing or feeding-in solar energy generation. Discharge batteries when there is no or little solar energy generation
Back-up power	Support important loads from battery during grid outages
Demand Response	Provide active power according to received commands
Power congestion relief	Increase the peak power capacity beyond transformer, line or fuse constrain
Voltage support	Support grid to maintain grid voltage within set limits
Phase balancing	Feed power from higher-voltage phases to lower-voltage phases
Reactive power compensation	Adjust the grid power factor by consuming or generating reactive power
Frequency support	Adjust active power to/from the grid according to measured deviation from nominal grid frequency
Micro-grid	Provide power in an isolated grid in combination with local PV and/or generators ensuring optimal utilization of solar energy and kWh/liter diesel
Optimal generator operation	In combination with diesel generators ensure maximum useful energy per liter diesel consumed and assisting the generator to manage overloads etc.

Application standards	
Safety	IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 62040-1, IEC/EN 62477, UL1741, UL9540, AS4777-2
Grid	VDE-AR-N 4105, EN50438, IEEE 1547, IEEE 1547.1, UL1741 (others pending)
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)

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