KEYWATT®
Battery Systems

KBS Battery

KEYWATT® Battery Systems

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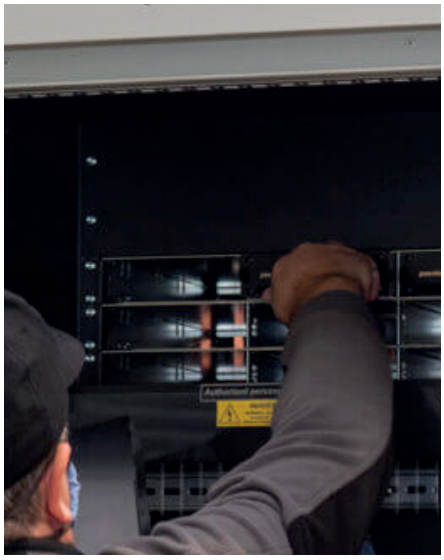
KEYWATT® Battery Systems (KBS) by IES Synergy

Flexible grid tied energy storage system

Overview



- Fully integrated modular energy storage system
- Designed for outdoor installation
- Applications: solar self-consumption, demand charge reduction, peak shaving, arbitrage, ancillary services
- Integrated with PixiiBox inverters and batteries
- Ready to be connected to the grid

Modular and scalable

Low operating cost

Easy installation

KEYWATT® Services

Features

The KEYWATT® Battery Systems (KBS) offers a modular and scalable energy storage solution. Designed to meet growing energy needs, it integrates battery inverters for simplified installation and maintenance. Compact and responsive, the system supports a wide range of energy functions, from 10 kW to several megawatts applications.

KEYWATT® Battery Systems

48V battery voltage for easy maintenance

Integrated solution with battery inverter

20-foot base, pre-wired, and including an AC connection cabinet

Galvanic isolation from AC to DC

KEYWATT® KBS

KEYWATT® KBS meets the demand for a powerful grid-tied flexible energy storage system.

Non-contractual images for illustrative purposes

PERFORMANCE DATA

Nominal AC voltage: 230/400VAC

Frequency: 50Hz

Max AC current (TN): 83A

Nominal DC voltage: 48Vdc

Communication protocols: Modbus/RTU, Modbus/TCP, TCP/IP, MQTT, HTTPS, and CAN

Audible noise: 66.6 dBA[1], 49.6 dBA[2]

Enclosure protection class: IP55

Color: RAL7035

ENVIRONMENTAL DATA

Minimum operating temperature: -20°C
Maximum operating temperature: 45°C
Dimensions (L x W x H): 706 x 932 x 2,115 mm
Weight (fully equipped) - LFP 100Ah (10x battery & 15x PixiiBox): 680 kg (Shoto 3U Battery), 630 kg (Polarium 3U Battery)
Weight (fully equipped) - NMC 250Ah (8x battery & 12x PixiiBox): 756 kg (Polarium 4U Battery)
Environmental management: Fan-cooled (air conditioning optional)

FUNCTIONS

Peak shaving: Reduction of demand charges

Arbitrage: Use of the battery during high tariff periods, recharge during low tariff periods

PV self-consumption: Optimization of solar investment, reduction of grid dependency

Local power boost: Increased maximum power capacity

Voltage support: Enhancement of power quality for grid operators

Balancing services / Flexibility markets: Monetization of system flexibility

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, VDE-AR-N 4105, 50549-1, TF 3.3.3 B1, EREC G99, CEI-021

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)

Typical max system performance vs SoC.

Battery type	Shoto 100Ah - 16S LFP		Polarium 100Ah - 15S LFP		Polarium 250Ah - 14S NMC	
Max kWh[3]	50kWh		48kWh		100kWh	
	Max power[4]					
SoC	Charge	Discharge	Charge	Discharge	Charge	Discharge
90%	49	48	40	40	10	40
70%	49	48	40	40	40	38
50%	49	48	40	40	40	37
30%	49	47	40	40	40	35
10%	49	46	40	40	40	24

3) Nominal values
4) 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.

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