Schneider Electric™ Battery Energy Storage System (BESS)

All-in-one system

Overview

The Schneider Electric BESS is a fully self-contained solution built upon a flexible, scalable, and highly-efficient architecture delivering flexibility, helping to minimize energy costs and maximize renewable energy. As part of a microgrid system, the BESS leverages onsite generation sources to optimize the entire system, delivering energy and cost savings while maximizing usage of renewables.

- Easy installation
- Easy maintenance
- Safe and UL Certified
- Standardized TVDAs available (tested, validated, documented architectures)

Key applications

- Commercial and industrial buildings
- Small and medium buildings
- Microgrid systems
- Renewable energy self-consumption

Standard conformity

All critical standards met for safety, environment, communication protocol and grid-code for ANSI market.

Scalable configuration

Various options available from 60kW to 2MW in 2h and 4h configurations.

Peace of mind

Comprehensive services available from Schneider Electric for optimal maintenance and care.

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BESS key benefits

Flexibility to generate savings

- **Demand charge reduction:** Battery storage can help to reduce demand charges by shifting energy consumption from peak hours to off-peak hours. This is done by charging the batteries during off-peak hours when electricity rates are lower and then discharging them during peak hours when electricity rates are higher. Demand charges can represent as much as 50-70% of your energy bill and reducing your peak demand charges could save 10-20% on your energy costs.
- **Time-of-use/tariff management:** Charging the battery during off-peak hours and then discharge it during peak hours can help reduce the amount of electricity used during peak hours, which can lower the electricity bill. Battery storage can be a valuable tool for tariff management. It can help to reduce costs for utilities and customers, and it can provide flexibility to the grid.

Provide resilience

- **Renewable firming:** Renewable firming is the process of ensuring that renewable energy sources, such as solar and wind, can provide reliable and consistent power to the grid. A BESS will smooth the power from solar or wind, providing a steadier output by discharging during times of low generation from onsite renewables.
- **Resilience/back-up power:** In the event of a grid outage, a BESS can provide backup power, especially when combined with on-site renewable resources.

Meet electrification needs

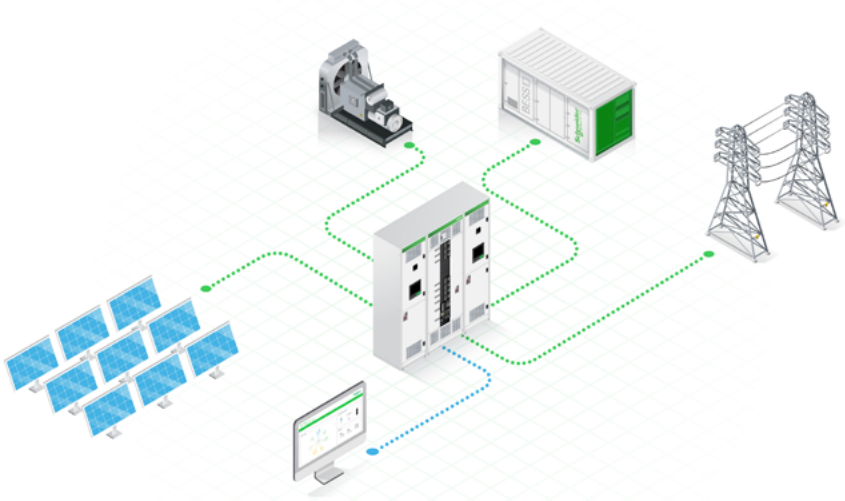
- The increase of electrification and expansion of Electric vehicles charging, and fleet management requires more charging stations at increasingly higher power levels. These power requirements often exceed a site's existing utility service. A strategically deployed BESS can add the additional power required, while also reducing site demand charges.

Participate in income generating opportunities

- **Ancillary market participation:** Depending on location, there may be options to participate in frequency regulation and wholesale energy.
- **Demand response:** Where available, BESS allows for participation in Demand Response programs from the utility to alleviate peak demand on the grid.

Support islanding

- **Microgrids:** An integral part of your microgrid, a BESS can become your anchor resource when islanding, ensuring full utilization of your renewable assets and stabilization of your microgrid.



BESS standard configurations

Schneider Electric offers standardized configurations from 60kW to 2MW for 2–4-hour systems. All-in-one enclosure BESS is connection-ready and fully integrated with inverters/batteries, cooling, electrical distribution, output transformer, and safety features.

Configurations Product image for illustration purposes only	**7ft. BESS** 	**20ft. BESS** 
Introduction	All-in-one enclosure BESS – connection-ready Fully integrated with inverters/batteries, cooling, output transformer, safety features	
Nameplate power	60 kW and 90kW AC-Coupled and DC-DC/Hybrid options available	250kW, 375 kW and 500kW AC-Coupled options only
Nameplate energy	2hr, 4hr configurations 266 kWh max.	2hr, 4hr configurations 1720 kWh max.
Enclosure dimensions (L x D X H mm)	7 feet NEMA 3R 2100 x 1300 x 2350 (mm) 6.9 x 4.2 x 7.7 (ft) 82.8 x 50.4 x 92.4 (in)	20 feet high Cube NEMA 3R 6058 x 2438 x 2896 (mm) 19.9 x 8.0 x 9.5 (ft) 238.8 x 96 x 114 (in)
Est. weight—Tons (battery loaded)	3.6 metric ton (max.) depending on the configuration	25 metric ton (max.) depending on the configuration
Battery	**Lithium-Ion Iron Phosphate (LFP),** 15–20 calendar life, 6000+ cycles (calendar and cycle life are application and temperature dependent)	
AC voltage	480 VAC (+/-10%), 3-phase, 4-wire **Note:** 480 VAC system has an isolation transformer integrated The four-quadrant inverter capable of **grid-tie** and **grid-forming** operation	
Overload capability	110% unlimited, 110-125% 1 min, 125–150% 200mS	105–115% 10 min, 115–125% 1 min, 125–150% 200mS
Current imbalance	Current imbalance: 100%	Current imbalance: 100%
Communications	Protocol: Modbus TCP Ethernet port: Copper RJ45 Port (< 100m distance) Data logging	
Operating temperature range	-20°C to 50°C	
Certifications	**BESS:** UL9540 (scheduled) **Power conversion system:** UL1741 incl. supplement SA/SB/CRD, CSA 22.2, IEC 62109-1, EMC: EN61800-3, Harmonics: IEEE 1547, IEEE 519 **Battery:** UL9540A scheduled, UL1973, UN38.3	
Warranty/Services	**Warranty:** Onsite parts and labor (duration = 3 years) **Services:** Startup, preventive maintenance, extended warranty, spare parts kits, and remote support	

Hardware Commercial References (CRs)

Standard Commercial Reference only (only attached SKUs mix can be ordered)

kW	kWh	Configuration	Short description
60	266	AC Coupled	BESS 60KW 266KWH NEMA 3R
90	266	AC Coupled	BESS 90KW 266KWH NEMA 3R
60	246	DC Coupled	BESS 60KW 246KWH HYBRID 90KW NEMA 3R
90	246	DC Coupled	BESS 90KW 246KWH HYBRID 135KW NEMA 3R
250	860	AC Coupled	BESS 250KW 860KWH NEMA 3R
250	1147	AC Coupled	BESS 250KW 1147KWH NEMA 3R
250	1434	AC Coupled	BESS 250KW 1434KWH NEMA 3R
250	1720	AC Coupled	BESS 250KW 1720KWH NEMA 3R
375	860	AC Coupled	BESS 375KW 860KWH NEMA 3R
375	1147	AC Coupled	BESS 375KW 1147KWH NEMA 3R
375	1434	AC Coupled	BESS 375KW 1434KWH NEMA 3R
375	1720	AC Coupled	BESS 375KW 1720KWH NEMA 3R
500	1147	AC Coupled	BESS 500KW 1147KWH NEMA 3R
500	1434	AC Coupled	BESS 500KW 1434KWH NEMA 3R
500	1720	AC Coupled	BESS 500KW 1720KWH NEMA 3R

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