



BOS battery X

The BOS battery X integrates smoothly into modern energy systems. With intelligent connectivity at its core, it enables effortless system integration, real-time monitoring, and predictive maintenance—all supported by a true plug-and-play setup. Its advanced battery management system, combined with comprehensive protection mechanisms, delivers consistently high performance and exceptional operational reliability, even in the most demanding environments.



	BOS battery X 12V 120Ah	BOS battery X 12V 180Ah
Nominal voltage	12.8 V	12.8 V
Nominal capacity	120 Ah / 1.5 kWh	180 Ah / 2.3 kWh
Continuous charging/discharging current	120 A (1C)	180 A (1C)
Peak current (< 60s)	240 A (2C)	360 A (2C)
Weight	12.6 kg	17.2 kg

	BOS battery X 24V 90Ah
Nominal voltage	25,6 V
Nominal capacity	90 Ah / 2,3 kWh
Continuous charging/discharging current	90 A (1C)
Peak current (< 60s)	180 A (2C)
Weight	17.2 kg

	BOS battery X 48V 45Ah
Nominal voltage	51,2 V
Nominal capacity	45 Ah / 2,3 kWh
Continuous charging/discharging current	45 A (1C)
Peak current (< 60s)	90 A (2C)
Weight	17.2 kg

Cell Chemistry	LiFePO4 (LFP)
Cell Format	Cylindrical 32140
Cycle life at 0.3C / 25 °C	5,000 full cycles (80% remaining capacity after 5,000 cycles)
Charging temperature	-20°C to 60°C (integrated heater active between -30°C and 10°C)
Discharging temperature	-20°C to 60°C
Warehousing ambient temperature	-20°C to 45°C
Dimensions	175 mm width x 177 mm height x 353 mm length
Connection terminals	M8 screw terminals, JAE MX80 (communication)
Communications	Communication is customizable. The options are: Bluetooth 5.2 LE, CI-Bus or LIN 2.2A, RV-C, Victron BMS.Can, NMEA 2000 or other CANopen based communication protocols
Protection features	Overcurrent, overvoltage, short circuit, overcharge, deep discharge, wrong polarity, overtemperature, undertemperature
Smart features	Integrated BMS with balancing, soft start function, customizable digital handshake, OTA Software Updates
Protection class	IP65 according to IEC 60529
Certifications	E1 according to UN/ECE R10
Compliance	CE according to EU directives, UN 38.3, IEC 62619



Safety as a priority

The advanced battery management system continuously identifies potential risks at an early stage and actively protects the battery through integrated safety shutdown mechanisms. Additional temperature sensors at the positive and negative terminals monitor increased contact resistance caused by improper or degraded connections. A flame-retardant enclosure rated UL94 V-0, combined with IP67 protection and an integrated Gore membrane for pressure equalization, ensures exceptional operational safety and long-term reliability.



Over-the-air updates provide continuous security enhancements and ongoing performance improvements. The BOS battery X fully meets the requirements of the forthcoming EU Cyber Resilience Act. Its system architecture is built on encrypted communication and verified software integrity.



Fully integrated into the production line

Battery 360° enables comprehensive track-and-trace across the entire value chain, consolidating end-of-line (EOL) data from all production stages to ensure complete traceability down to the individual cell. EOL testing systems can be seamlessly integrated into customer assembly lines, linking each battery directly to the serial number of the final product (e.g. vehicle identification number (VIN)).



German Engineering with Full Product Ownership

Manufactured in Germany with a dedicated local point of contact. Electronic design and software development — including the battery management system (BMS) — are carried out entirely in-house. This ensures maximum reliability and full design control.