

UTILITY-SCALE ENERGY STORAGE



SolBank 3.0 Plus

ENERGY STORAGE SYSTEM

S-PL-5016-2H-NA | S-PL-5016-4H-NA

Nominal Capacity: 5016 kWh

e-STORAGE, a subsidiary of Canadian Solar, is a world-class energy storage solution provider, specializing in storage system design, manufacturing, and integration of battery energy storage systems for utility-scale applications.

The company offers value-added system consulting and turnkey EPC services, in addition, we provide customers with our proprietary LFP battery solution SolBank.

Together, we are building a brighter, greener future for all.

Key Benefits for SolBank 3.0 Plus

Advanced Cell Technology

- Improved cell technology enables 15+% greater energy throughput over the life time of the system
- 100% useable battery capacity during the first 4 years

Enhanced Lifetime & Energy Density

- Integrates advanced cells with product optimization enabling up to 12,000 cycles and 25 years of design life.
- Improves energy retention, cutting LCOS by ~10% over the system's lifetime.
- Compact design reduces land use by 35% for 100 MWh projects.

Mirror Design

- Provides flexible site layouts to optimize space and reduce noise.
- Cuts installation and Balance of Plant (BOP) costs.
- Simplifies site prep for faster, smoother deployment.

SolBank 3.0 Plus Highlights:

Cutting-Edge Technology: SolBank 3.0 Plus features high-density and long-life LFP cells, an active balancing BMS, and an innovative liquid cooling TMS, ensuring optimal safety.

Compliance and Certifications: adheres to all industry standards: IEC 62619, IEC 63056, IEC 62477-1, IEC 62933-5-2, IEC 61000-6-2, UL 9540A, NFPA 855, NFPA69, and optional NFPA68, UN38.3/UN3536, ensuring rigorous safety and performance criteria.

Safety

- IP67-rated pack ensures robust protection.
- BMS Detects abnormalities and initiates automatic protection 20% faster.
- Advanced thermal isolation, redundancy, and multi-level fire protection minimize risks.

Compatibility & Installation

- Supports various PCS topologies
 - Turn-key integration and stationery certification, reduce project schedule risks by up to 40%.
- Plug-and-play setup for streamlined commissioning.

Intelligent Control

- Liquid cooling cuts auxiliary consumption up to 30%
- Active balance and string-level management, guarantee high efficiency and availability.

SolBank 3.0 - Plus System Parameter

General	
Product Model	CSI-SolBank-S-PL-5016-2h-NA CSI-SolBank-S-PL-5016-4h-NA
Battery Chemistry	Lithium Iron Phosphate (LFP)
Pack Configuration	1P104S (104 Cells)
Rack Configuration	1P416S (4 Packs)
System Configuration	12P416S (12 Racks)
Nominal Capacity*	5016 kWh
Nominal DC Voltage	1331.2 V
Operation DC Voltage Range ⁽¹⁾	1164.8 V ~ 1497.6 V
Performance	
Charging/Discharging Mode	0.5 P / 0.5 P 0.25 P / 0.25 P
Nominal Capacity	5016 kWh 5016 kWh
Rated DC Power ⁽²⁾	2400 kW 1200 kW
Rated DC Capacity ⁽³⁾	4800 kWh 4800 kWh
Duration @Rated DC Power	2hrs 4hrs
Round Trip Efficiency (RTE) ⁽⁴⁾	93% 94%
Auxiliary Load (Standby/Peak)	3 kVA / 40 kVA 3 kVA / 23 kVA
Max. Short Circuit Current	10 kA*12 10 kA*12
Operating Temperature (Ambient) ⁽⁵⁾	-30 °C to 55 °C (derating from 45°C to 55°C)
Relative Humidity ⁽⁵⁾	≤95% (non-condensing)
Altitude	≤4000 m (derating from 2000 m to 4000 m)
Noise Sound Pressure Level (LPA) at 1 meter distance	≤75 dB(A)
External Communication Interface	Ethernet connection, Modbus TCP/IP protocol

Notes

- * Nominal capacity is a calculated number using the entire summation of the cells and their specified capacities.
 (1). The unit is rated at 1164.8V~1497.6V for optimized product performance, the maximum voltage range for the battery system is 1060.8V~1497.6V.
 (2). Rated DC Power is measured at the product DC terminal, the Rated DC Power and Capacity is limited to the use of two SolBank 3.0 Plus units connected in parallel.
 (3). Rated DC Capacity represents the baseline capacity for specification and performance guarantees. The product's actual usable capacity may exceed this value to support long-term performance.
 (4). DC RTE is measured during capacity test at Rated DC Power, refer to the product warranty document for the complete procedure.
 (5). Options need to be selected to fully meet the 55°C, 95% RH.

Due to ongoing innovation, improvements, and product enhancements, the technical specifications in this document are subject to change and are not guaranteed. Canadian Solar reserves the right to update or change its products or this technical data without prior notice and customers should not rely upon these or any technical specifications which are not made part of a definitive binding agreement.

Mechanical	
Enclosure	20ft. high-cube container
Dimensions (L*W*H)	6058*2438*2896 mm (238.50*95.98*114.02 in)
Weight (Battery Included)	43,000 kg (94,800 lbs)
Enclosure Ingress Rating	IP55 / NEMA 3R
Painting/Coating	RAL9003 / C4 Coating
Seismic Parameter	Zone 4
Safety	
Fire Detection and Alarm	Fire alarm panel, heat and smoke detection, alarm bell and strobe
Explosion Prevention	Combustible gas detector with active ventilation
Uninterrupted Power Reserve	Container level UPS for 2-hr control system backup; dedicated fire safety UPS for 24-hr fire alarm backup
Emergency Stop/Automatic Shut-off	Local and Remote
Fire Suppression Options	Aerosol-based suppression system. Dry pipe sprinkler system.

