

e-STORAGE

A subsidiary of Canadian Solar

UTILITY-SCALE ENERGY STORAGE



SolBank 3.0

ENERGY STORAGE SYSTEM

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

Capacity: 5.0 MWh



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.

SolBank 3.0 Highlights

- **Cutting-Edge Technology:** SolBank 3.0 features high-density LFP cells, an active balancing BMS, and an innovative liquid cooling TMS, ensuring optimal safety.
- **Compliance and Certifications:** SolBank 3.0 adheres to all industry standards: NFPA855, NFPA69, NFPA72, NFPA70E, and optional NFPA68. Certified under UL1973, UL9540, UL9540A, UN38.3/UN3536, ensuring rigorous safety and performance criteria.

Key Features

Enhanced Energy Density

- Utilizes 314 Ah battery cells and compact integration, increases single container energy density up to 45%
- Reduces land cost by up to 35% in a 100MWh project

Safety

- IP67-rated pack design
- Up to 20% faster detection of abnormal and automatic protection
- Advanced pack thermal isolation, electrical redundancy protection, and multi-level fire protection, effectively minimize potential issues
- Tested and passed large-scale fire testing with verified, no enclosure level propagation

Intelligent Control

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

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

SolBank 3.0 System Parameter

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General	
Product Model	CSI-SolBank-S-5016-2h-NA CSI-SolBank-S-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
Rated DC Power ⁽²⁾	2350 kW	1200 kW
Rated DC Capacity ⁽³⁾	4700 kWh	4800 kWh
Duration @Rated DC Power	2hrs	4hrs
Round Trip Efficiency (RTE) ⁽⁴⁾	93%	94%
Auxiliary Load (Standby/Peak)	1.5 kVA / 50 kVA	1.5 kVA / 22 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)	

Auxiliary Systems	
Auxiliary Power Interface	AC480 V / 60 Hz, 3P5W
Thermal Management System	Smart liquid cooling/heating
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 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.

