

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.

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

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.

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

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 DC Voltage	1331.2 V	
Operation DC Voltage Range	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	2350 kW	1200 kW
Initial Storage Capacity	4700 kWh	4800 kWh
Duration @Rated DC Power	2hrs	4hrs
Round Trip Efficiency (RTE)	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)	-30 °C to 55 °C (derating from 45°C to 55°C)	
Relative Humidity	≤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

- 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
- Rated DC Power is measured at the product DC terminal, the Rated DC Power and Initial Storage Capacity is limited to the use of two SolBank 3.0 units connected in parallel
- Initial Storage Capacity is the usable product capacity at FAT, contact e-STORAGE for capacity at COD per project schedule
- DC RTE is measured during capacity test at Rated DC Power, refer to the product warranty document for the complete procedure

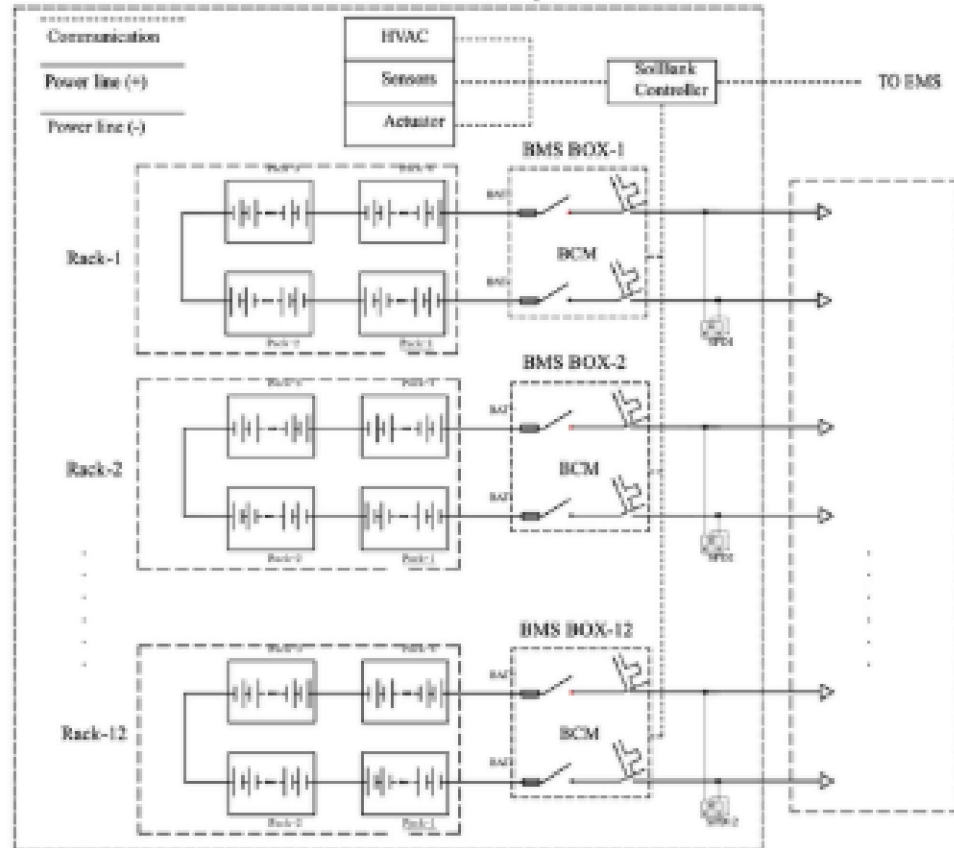
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Canadian Solar SSES (US) Inc. 545 Speedvale Avenue West, Guelph Ontario | Canada N1K1E6, support@csestorage.com

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.

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Circuit Diagram



SolBank 3.0 Datasheet, Version 1.4 June, 2024

PROJECT FOR

DARTMOUTH
BESS

BRISTOL COUNTY, MA

A	08/19/2026	PRELIMINARY BESS SITE PLAN
MARK	DATE	DESCRIPTION

PROJECT NUMBER
ORIGINAL ISSUE

PROJECT MANAGER RICHARD WANG

PROJECT DESIGNER HDR
PROJECT ARCHITECT
LANDSCAPE ARCHITECT
CIVIL ENGINEER
STRUCTURAL ENGINEER
ELECTRICAL LEAD CHUCK LADD
ELECTRICAL ENGINEER CHRISTIAN SHEPHERD
INTERIOR DESIGNER
EQUIPMENT PLANNER
WAYFINDING
DRAWN BY HDR

SHEET NAME

EQUIPMENT
DATASHEET - BESS

SCALE NONE

SHEET NUMBER

BES-E1000A

FILE NAME BES-E1000A.dwg

CONCEPTUAL