



Certificate of Compliance

Certificate: 80117111

Master Contract: 300254

Project: 80139278

Date Issued: 2023-02-02

Issued To: Sunwoda Energy Technology Co., Ltd.
Room 201, Building C,
Sunwoda Electronic Factory,
Tangjia Community, Fenghuang Street,
Guangming District
Shenzhen, Guangdong, 518000
China

Attention: Xia Min

The products listed below are eligible to bear the CSA Mark shown with adjacent indicator 'US' for US Only

Issued by: Elly Ai
Elly Ai



PRODUCTS

CLASS - C370182 - BATTERY SYSTEM FOR USE IN STATIONARY APPLICATIONS Certified to US Standards

Battery pack B051100P02, B051100P03, and Battery system for Use in Stationary Electrical Energy Storage Application, Lithium-ion, Stack Up Mounting, models **SunESS-5, SunESS-10, SunESS-15, SunESS-20**; and Rack Mounting models Atrix-5, Atrix-10, Atrix-15 and Atrix-20.

Refer to the following table for the product electrical ratings



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Battery System Model No.	Battery Pack Ratings				Battery Pack No.
	Normal Voltage, Vdc	Normal Capacity, Ah/Wh	Battery Pack Configuration*	Enclosure IP Rating	
Atrix-5	51.2	5kWh	(16S1P)*1	IP20	B051100P02
Atrix-10	51.2	10kWh	(16S1P)*2	IP20	B051100P02
Atrix-15	51.2	15kWh	(16S1P)*3	IP20	B051100P02
Atrix-20	51.2	20kWh	(16S1P)*4	IP20	B051100P02
SunESS-5, RES0505BS-51LFP, SBESS5	51.2	5kWh	(16S1P)*1	IP55	B051100P03
SunESS-10, RES1009BS-51LFP, SBESS10	51.2	10kWh	(16S1P)*2	IP55	B051100P03
SunESS-15, RES1510BS-51LFP, SBESS15	51.2	15kWh	(16S1P)*3	IP55	B051100P03
SunESS-20, RES2010BS-51LFP, SBESS20	51.2	20kWh	(16S1P)*4	IP55	B051100P03

Manufacturer's Specified Charging/Discharging Parameters for Battery System

Battery System Model No.	Working Temperature Range, °C		Rated Charging/Discharging Current, A	Maximum Charging/Discharging Current, A
	Charge	Discharge		
Atrix-5	-10~50	-20~50	50	100
Atrix-10	-10~50	-20~50	100	180
Atrix-15	-10~50	-20~50	150	200
Atrix-20	-10~50	-20~50	200	200
SunESS-5, RES0505BS-51LFP, SBESS5	-10~50	-20~50	50	100
SunESS-10, RES1009BS-51LFP, SBESS10	-10~50	-20~50	100	180
SunESS-15, RES1510BS-51LFP, SBESS15	-10~50	-20~50	150	200
SunESS-20, RES2010BS-51LFP, SBESS20	-10~50	-20~50	200	200



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Manufacturer's Specified Charging Parameters for Battery Pack

Battery Pack Model	Temperature Range, °C	Normal Charging Voltage, Vdc	Normal Charging Current, A	Maximum Charging Voltage, Vdc	Maximum Charging Current, A
B051100P02, SB51V100Ah-R	-10~50	51.2	50	55.2	100
B051100P03, RES0505BT-51LFP, SB51V100Ah	-10~50	51.2	50	55.2	100

Manufacturer's Specified Discharging Parameters for Battery Pack:

Battery Pack Model	Temperature Range, °C	Normal Discharging Current, A	Discharging Cut-off Voltage, Vdc	Maximum Discharging Current, A
B051100P02, SB51V100Ah-R	-20~50	50	44.8	100
B051100P03, RES0505BT-51LFP, SB51V100Ah	-20~50	50	44.8	100



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Notes:

1. Refer to the following table for the model identification and differences:

Model Name	Alternate Model Name	Difference
SunESS-5	RES0505BS-51LFP	Identical except for model name from different customer
SunESS-10	RES1009BS-51LFP	
SunESS-15	RES1510BS-51LFP	
SunESS-20	RES2010BS-51LFP	
B051100P02	RES0505BT-51LFP, SB51V100Ah	Identical except for model name from different customer
B051100P03	SB51V100Ah-R	Identical except for model name from different customer

2. The battery system including its battery management system has been tested according to the functional-safety requirements of ANSI/CAN/UL-1973:2018, Second Edition.
3. The enclosure for each battery system was evaluated only to establish an IP rating of its own enclosure rating in accordance with the Standard for Degrees of Protection Provided by Enclosure (IP Code) IEC 60529.

Condition of Acceptability

1. Solid state circuits and software controls relied upon as the primary safety protection, have been evaluated to the Standard for Safety: Automatic Electrical Controls – Part 1, UL 60730-1. Any change to the software and electronic controls of the BMS may require additional testing.
2. Product is evaluated for indoor use for battery system models Atrix-5, Atrix-10, Atrix-15 and Atrix-20, indoor and outdoor use for models SunESS-5, SunESS-10, SunESS-15 and SunESS-20, additional enclosure shall be provided for Atrix series battery system to be used in moisture environment. Further evaluation shall be considered for both Atrix and SunESS series models when being used near sea environments.
3. Further evaluation for Resistance of Moisture and Salt Fog may be required for the battery pack intended to be used in the end product where moisture and salt fog condition were applied.
4. Corrosion due to electrochemical action is to be determined for conductive parts in contact with terminals when subjecting to the installation of the end products.
5. Bluetooth and Wi-Fi with its function was not evaluated, further consideration may be required on the end product.
6. Equipment Application Location: Stationary
7. Access Location: Operator Accessible.
8. The installation was not evaluated. The battery system shall be installed in accordance with NFPA 70 or other applicable installation code.
9. Overvoltage Category(OVC): 2
10. Pollution Degree(PD): 2
11. Altitude for Operation: Up to 2000 m.



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APPLICABLE REQUIREMENTS

ANSI/CAN/UL-1973:2018, Second Edition - Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications.

MARKINGS

See CSA report

Notes:

Products certified under Class C370182 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80117111	2022-09-02	Original Certification Battery pack B051100P02, B051100P03, and Battery system for Use in Stationary Electrical Energy Storage Application, Lithium-ion, Stack Up Mounting, models SunESS-5, SunESS-10, SunESS-15, SunESS-20; and Rack Mounting models Atrix-5, Atrix-10, Atrix-15 and Atrix-20 under CSA WMTC program. (CSA us mark)
80139278	2023-02-02	Update report 80117111 to include alternate cell to Battery pack B051100P02, B051100P03, and Battery system Stack Up Mounting, models SunESS-5, SunESS-10, SunESS-15, SunESS-20; and Rack Mounting models Atrix-5, Atrix-10, Atrix-15 and Atrix-20. under CSA WMTC program. (CSA us mark) Correct the model names from SunESS5, SunESS10, SunESS15, SunESS20 to SunESS-5, SunESS-10, SunESS-15, SunESS-20 due to typo. Client revised the account name from Sunwoda Energy Solution Co., Ltd to Sunwoda Energy Technology Co., Ltd.