



中国认可
国际互认
检测
TESTING
CNAS L0095

Page 1 of 8 Pages

No.: RZUN2024-1449

检测报告

TEST REPORT

UN38.3

NAME OF SAMPLE:

Liquid cooled industrial and commercial battery cabinets

产品名称:

液冷工商业电池柜

CLIENT:

SUNGROW POWER SUPPLY CO., LTD.

委托单位:

阳光电源股份有限公司

CLASSIFICATION OF TEST:

Commission Test

检测类别:

委托测试

威凯检测技术有限公司
CVC Testing Technology Co., Ltd.

检测报告

TEST REPORT

No.: RZUN2024-1449

Page 2 of 8 Pages

Name of samples: Liquid cooled industrial and commercial battery cabinets 样品名称: 液冷工商业电池柜	Type/Model: 型号规格: ST225CS-2H 819,2V 280Ah 229kWh
Color: White 样品颜色: 白色	Physical shape: Prismatic 样品形状: 棱柱形
Commissioned by: SUNGROW POWER SUPPLY CO., LTD. 委托单位: 阳光电源股份有限公司	Commissioner address: No. 1699, Xiyou Road, New & High Technology Industrial Development Zone, Hefei, Anhui 230088, P.R. CHINA 委托单位地址: 中国合肥市高新区习友路 1699 号 (230088)
Manufacturer: SUNGROW POWER SUPPLY CO., LTD. 制造商: 阳光电源股份有限公司	Manufacturer address: No. 1699, Xiyou Road, New & High Technology Industrial Development Zone, Hefei, Anhui 230088, P.R. CHINA 制造商地址: 中国合肥市高新区习友路 1699 号 (230088)
Factory: SUNGROW ENERGY STORAGE TECHNOLOGY CO., LTD. 生产厂: 阳光储能技术有限公司	Factory address: No. 788, Mingchuan Road, Boyan Technology Park, Hi-tech Zone, Hefei City 230088 P.R. China 生产厂地址: 中国合肥市高新区柏堰科技园铭传路 788 号 (230088)
Classification of test: Commission Test 检测类别: 委托测试	Quantity of sample: 1 Battery Container+1 Battery Rack 样品数量: 1 个电池柜+1 电池簇
Tested according to: 测试标准: ST/SG/AC.10/11/Rev.7/Amend.1/Section 38.3	Sample identification: 样品标识序号: S1#, R1#
Receiving date: 接样日期: 2024-01-22	Means of receiving: Submitted by commissioner 接样方式: 委托单位送样
Completing date: 完成日期: 2024-02-04	Test item: - 测试项目: -
Test conclusion: 检测结论: <p>The Liquid cooled industrial and commercial battery cabinets submitted by SUNGROW ENERGY STORAGE TECHNOLOGY CO., LTD. complies with the requirements of Section 38.3 of the Seventh revised edition Amendment 1 of the Manual of Tests and Criteria (ST/SG/AC.10/11/Rev.7/ Amend.1/Section 38.3).</p> <p>由阳光储能技术有限公司送检的液冷工商业电池柜, 符合联合国《试验和标准手册》第七修订版修正 1 第 38.3 相关要求。</p> <p style="text-align: center;">Seal of CVC CVC 印章 Date of issue: 签发日期: 2024-02-04</p>	

Title: Manager
批准人职务: 经理

Approved by: Huang Kun Reviewed by: Zhang Siyao Tested by: Liu Zhen

批 准: *Huang Kun* 审 核: *Zhang Siyao* 检 测: *Liu Zhen*

Description and illustration of the sample/样品说明及描述:

1. The sample's status is good. / 样品状况良好;
2. Sample information and compositions/ 样品信息及组成

Name of samples 样品名称	Sample category 样品类别	Type/Model 型号	Specifications 规格参数	Composition 组成结构
Liquid cooled industrial and commercial battery cabinets 液冷工商业电池柜	Battery assembly 集成电池组	ST225CS-2H	819,2V 280Ah 229kWh	Consists of 1 Battery Rack / 由 1 个电池簇组成
Battery Rack 电池簇	Battery assembly 集成电池组	R0229BL-AHAA	819,2V 280Ah 229kWh	Consists of 4 Battery Modules / 由 4 个电池模块组 成
Battery Module 电池模块	Battery 电池组	P573AL-181, P573BL-181	204,8V 280Ah 57344Wh	Consists of 64 Cells / 由 64 个电 芯组成
Cell 电芯	Component Cell 内部电芯	L173F280A	3,2V 280Ah 896Wh	Single cell / 单电芯

3. Item information / 项目信息

Name of samples 样品名称	Item 项目	Sample No. 样品编号	State 状态	Remark 备注
Liquid cooled industrial and commercial battery cabinets 液冷工商业电池柜	38.3.3(g)	S1#	more than 6200Wh 超过 6200Wh	-
Battery Rack 电池簇	38.3.3(g)	R1#	more than 6200Wh 超过 6200Wh	-

Description of the sampling procedure/取样程序的说明:

/

Description of the deviation from the standard, if any/测试结果不符合标准项的说明:

/

Remarks/备注:

1. Throughout this report a comma is used as the decimal separator.
本报告中以逗号代替小数点。
2. The Liquid cooled industrial and commercial battery cabinets (ST225CS-2H) described in this report is a Battery assembly composed of Battery Module (P573AL-181, P573BL-181) connected in series. The sample of Battery Module (P573AL-181, P573BL-181) has passed the testing of UN38.3. See the report RZUN2023-1355. According to the standard requirements, T.1~T.8 not need to be verified for Liquid cooled industrial and commercial battery cabinets (ST225CS-2H).
本报告所述液冷工商业电池柜 (ST225CS-2H) 是由电池模块 (P573AL-181, P573BL-181) 串联组成的集成电池组。电池模块 (P573AL-181, P573BL-181) 已通过 UN38.3 测试, 详情见报告 RZUN2023-1355。根据标准要求, 液冷工商业电池柜 (ST225CS-2H) 无需进行 T.1~T.8 测试。

样品照片 Photos of Samples

Liquid cooled industrial and commercial battery cabinets/液冷工商业电池柜
(ST225CS-2H 819,2V 280Ah 229kWh)



SUNGROW ENERGY STORAGE SYSTEM	
Type	ST225CS-2H
S/N	
Date of Manufacture	
Rated Battery Energy	229kWh
DC Voltage Range	691.2 ~ 934.4V
Max DC Current	159A
Rated Grid Voltage	400V
Number of Phases	3
Rated Grid Power	110kW
Rated Grid Frequency	50Hz
Enclosure (Battery Cabin)	IP55
Protective class	Class I
Operating Temperature Range	-30 ~ 50°C
Weight	
Dimensions(W×H×D)	1150 × 2450 × 1610mm

SUNGROW POWER SUPPLY CO., LTD.
 www.sungrowpower.com Made in China

技
★
检测

样品照片 Photos of Samples

Battery Rack/电池簇
 (R0229BL-AHAA 819,2V 280Ah 229kWh)



SUNGROW

Type: R0229BL-AHAA	NO. :
Product Name : Rechargeable Li-ion Battery System	Rated Capacity : 280Ah
Designation : IFpP/73/175/206/[(64S)4S]E/-10+50/90	Protective Class : I
DC input Rating (control circuit) : 24 ± 10%Vd.c. 1A	IP Rating : IP65
Battery Voltage : 691.2V~934.4V	Nominal Voltage : 819.2V
Maximum Battery Current : 140A	Date :
Manufacturer : Sungrow Power Supply Co., Ltd.	
Address : No.1699,Xiyou Road,New & High Technology Industrial Development Zone,HeFei City, Anhui Province,P.R.China	

样品照片 Photos of Samples

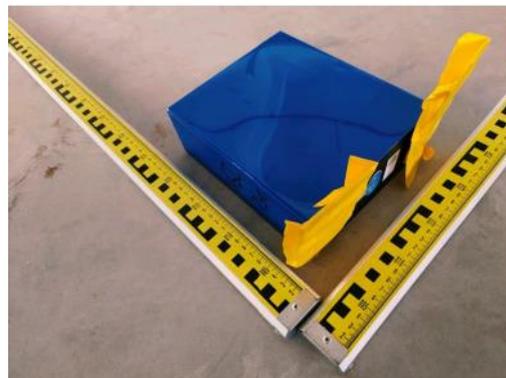
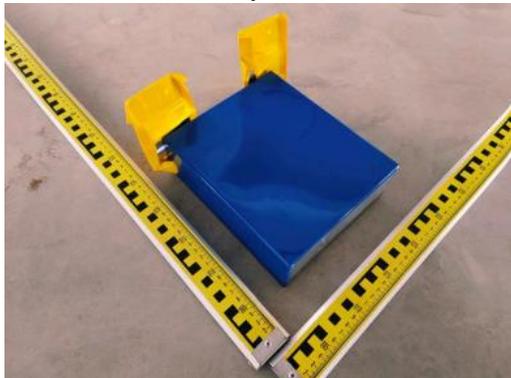
Battery Module/电池模块 (P573AL-181, P573BL-181 204,8V 280Ah 57344Wh)



SUNGROW		⚠ DANGER					
产品名称 Product Name	电池模块 Battery Module						
生产厂家 Manufacturer	阳光储能技术有限公司 Sungrow Energy Storage Technology Co., Ltd.						
产品规格 Product Specification	Li-Module-EES 204.8V-28.6kW-28.6kW-57.3kWh-57.3kWh						
产品型号 Product Model	P573BL-181						
额定电流 Rated Current	280A						
额定容量 Rated Capacity	280Ah						

SUNGROW		⚠ DANGER					
产品名称 Product Name	电池模块 Battery Module						
生产厂家 Manufacturer	阳光储能技术有限公司 Sungrow Energy Storage Technology Co., Ltd.						
产品规格 Product Specification	Li-Module-EES 204.8V-28.6kW-28.6kW-57.3kWh-57.3kWh						
产品型号 Product Model	P573AL-181						
额定电流 Rated Current	280A						
额定容量 Rated Capacity	280Ah						

内部电芯 / Component Cell (L173F280A 3,2V 280Ah 896Wh)



ST/SG/AC.10/11/Rev.7/Amend.1/Section 38.3			
Clause 章节	Requirements 标准要求	Result 结果	Verdict 判定
38.3.3(g)	<p>Requirements/标准要求</p> <p>When batteries that have passed all applicable tests are electrically connected to form a battery in which the aggregate lithium content of all anodes, when fully charged, is more than 500g, or in the case of a lithium ion battery, with a Watt-hour rating of more than 6200Wh, the assembled battery does not need to be tested if the assembled battery is of a type that has been verified as preventing:</p> <p>(i) Overcharge; (ii) Short circuits; and (iii) Over discharge between the batteries.</p> <p>/对于已通过所有适用试验的若干电池组以电路连接而成的集成电池组，如在完全充电时所有正极的合计锂含量大于 500 克，或在锂离子电池组的情况下，如额定的瓦时数超过 6200 瓦时，该集成电池组如经过验证属于可防止下列状况，即无需进行试验（T.1~T.8 测试项）：</p> <p>(一) 过度充电； (二) 短路；以及 (三) 电池组之间过度放电。</p>	<p>The watt-hour rating of Liquid cooled industrial and commercial battery cabinets (ST225CS-2H) is 229kWh (more than 6200Wh);</p> <p>该液冷工商业电池柜（ST225CS-2H）的额定瓦时数为 229kWh（超过 6200Wh）；</p> <p>After verification, Liquid cooled industrial and commercial battery cabinets (ST225CS-2H) is equipped with the energy storage system management unit, which can monitor and control each battery component. By sending instructions and cutting off the loop of Liquid cooled industrial and commercial battery cabinets, it can prevent overcharging, short circuit, and excessive discharge among the battery strings in the battery component.;</p> <p>The test report of the protection function of Battery Rack R0229BL-AHAA for overcharge, short circuit and overdischarge is WTS2024-2797.</p> <p>经验证，液冷工商业电池柜（ST225CS-2H）具备储能系统管理单元，能够监测并控制各电池组件，通过发送指令，切断液冷工商业电池柜的回路等方式，达到防止过度充电、防止短路，以及防止电池组件内各电池组之间过度放电的功能。</p> <p>电池簇 R0229BL-AHAA 的过度充电、短路和过度放电的保护功能测试详见报告 WTS2024-2797。</p>	P

内部文件

注 意 事 项

Important

1. 报告无检测单位印章无效。
The test report is invalid without the seal of CVC.
2. 未经本试验室书面同意，不得部分地复制本报告。
Nobody is allowed to photocopy or partly photocopy this test report without written permission of CVC.
3. 本报告无批准人、审核人及检测人签名无效。
The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer.
4. 本报告涂改无效。
The test report is invalid if altered,
5. 对检测报告若有异议，应于收到报告之日起十五天内向检测单位提出。
Objections to the test report must be submitted to CVC within 15 days.
6. 本报告仅对送检样品负责。
The test report is valid for the tested samples only.
7. 判定栏中“-”表示“不需要判定”，“P”表示“通过”，“F”表示“不通过”，“N/A”表示“不适用”。
As for the Verdict, “-” means “no need for judgement”, “P” means “pass”, “F” means “fail” and “N/A” means “not applicable”.

报告中未加 CMA 标志时，检测数据和结果仅供科研、教学或内部质量控制之用。
The test data and test results given in this test report should only be used for purposes of scientific research, teaching and internal quality control when the CMA symbol is not presented.

地 址： 广东省广州市科学城开泰大道天泰一路 3 号
广东省广州市黄埔区光谱东路 179 号百事高智慧园 D 栋(测试地址)
Address: No.3, Tiantai 1st Road, Kaitai Avenue, Science City, Guangzhou,
Guangdong, China.
Building D, BASIGO INTELLIGENT, No.179, Guangpu East Road,
Huangpu District, Guangzhou, P. R. China. (Testing Location)

电 话(Tel): 020 32293888
传 真(FAX): 020 32293889
邮政编码(Post Code): 510663
E-mail: office@cvc.org.cn
<http://www.cvc.org.cn>