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CNAS L14457

TEST REPORT
ANSI/CAN/UL 9540A:2026
TUV SUD Test Report for
Unit Level – Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems

Report No.:	64.280.26.60069.01
Date of issue:	2026-07-10
Project handler:	Julie Liao
Testing laboratory:	TÜV SÜD New Energy Testing and Certification (Guangdong) Co., Ltd.
Address:	North-1/F, 2/F & Unit 301-3/F, TUV SUD Testing Center, D1, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou, Guangdong, China
Testing location:	TÜV SÜD New Energy Testing and Certification (Guangdong) Co., Ltd. North-1/F, 2/F & Unit 301-3/F, TUV SUD Testing Center, D1, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou, Guangdong, China
Client:	Sunwoda Energy Technology Co., Ltd.
Client number:	101183
Address:	Room 201, Building C, Sunwoda Electronic Factory, Tangjia Community, Fenghuang Street, Guangming District, 518100 Shenzhen City, PEOPLE'S REPUBLIC OF CHINA
Contact person:	Xiao Lixiang
Standard:	This TUV SUD test report form is based on the following requirements: ANSI/CAN/UL 9540A:2026 Sixth Edition (6Ed)
TRF number and revision: eDoc_ID:	TRF ANSI/CAN/UL 9540A:2026 Rev 0
TRF originated by:	TÜV SÜD New Energy Testing and Certification (Guangdong) Co., Ltd., Mrs. Zoey Liu
Copyright blank test report:	This test report is based on the content of the standard (see above). The test report considered selected clauses of the a.m. standard(s) and experience gained with product testing. It was prepared by TUV SUD Product Service. TUV SUD Group takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.
General disclaimer:	This test report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.
Scheme:	☐ TUV Mark ☐ cTUV Mark (SCC) ☐ TUVus Mark (NRTL) ☐ GS Mark ☒ without certification ☐ other: ☐ AoC/CoC for EU-Directive / EU-Regulation:
Non-standard test method:	☒ No ☐ Yes, see details under *Summary of testing*
National deviations:	N/A
Number of pages *(Report)*:	70 (including all Attachments)
Number of pages *(Attachments)*:	21 (from page 50 to 70)

Compiled by: (+ signature)	Julie Liao Julie Liao	Approved by: (+ signature)	Zoey Liu

Telephone: +86 20 3817 0580
Telefax: +86 20 3832 0478
http://www.tuv-sud.cn

TÜV SÜD New Energy Testing and Certification (Guangdong) Co., Ltd.
North-1/F, 2/F & Unit 301-3/F, TUV SUD Testing Center, D1, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou, Guangdong, China

Test sample:	Rechargeable Lithium Iron Phosphate Battery System
Type of test object:	Protype Sample
Trademark:	
Model and/ or type reference:	CIESS-261, CIESS-L-261
Rating(s):	832 Vd.c., 314 Ah

Manufacturer:	Sunwoda Energy Technology Co., Ltd.
Manufacturer number:	101183
Address:	Room 201, Building C, Sunwoda Electronic Factory, Tangjia Community, Fenghuang Street, Guangming District, 518100 Shenzhen City, PEOPLE'S REPUBLIC OF CHINA
Name and address of factory(ies)	
Huizhou Sunwoda Energy Technology Co.,Ltd. "Jiweidu" (Tuming Section), Zhenxing Street, Lixi Economic Union, Yuanzhou Town, Boluo County, 516123 Huizhou City, Guangdong Province, PEOPLE'S REPUBLIC OF CHINA	

Sub-contractors / tests (clause):	N/A
Name:	N/A
Order description:	☒ Complete test according to TRF
	☐ Partial test according to manufacturer's specifications
	☐ Preliminary test
	☐ Spot check
	☐ Others:
Date of order:	2026-02-09
Date of receipt of test item:	2026-05-28
Date(s) of performance of test:	2026-05-29 to 2026-07-09

Test item particulars:

According to Unit Level of ANSI/CAN/UL 9540A:2026 Sixth Edition.

Purpose of the product (description of intended use):

The Rechargeable Lithium Iron Phosphate Battery Systems, model: CIESS-261 and model: CIESS-L-261 are used in non-residential and residential applications:

Indoor floor mounted non-residential use BESS, outdoor ground mounted non-residential use BESS, rooftop installed non-residential use BESS, open parking garage installed non-residential use BESS and outdoor ground mounted residential use BESS.

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Characteristic data (not shown on the marking plate):

The Rechargeable Lithium Iron Phosphate Battery Systems, model: CIESS-261 and model: CIESS-L-261 consist of 5 pcs Rechargeable Li-ion Battery Modules, model: P166--52L2 connected in series. The Rechargeable Li-ion Battery Module, model: P166--52L2 consists of 52 pcs Rechargeable Li-ion Cell (model no.: SBP-01-3140) connected in series.

The Rechargeable Lithium Iron Phosphate Battery Systems, model: CIESS-261 and model: CIESS-L-261 are the same except for PCS. Among them, CIESS-L-261 has PCS, while CIESS-261 does not.

The manufacturer declared the Rechargeable Lithium Iron Phosphate Battery System, model: CIESS-L-261 with PCS as the test unit.

Detail information of the test unit is listed in the following table:

Product name	Rechargeable Lithium Iron Phosphate Battery System
Type/model	CIESS-L-261
Nominal voltage	832 Vd.c.
Rated capacity	314 Ah
End of discharge voltage	any cell voltage reaches 2.7 V
Standard charging method specified by manufacturer	Charge at constant power 125 kW AC Power (supply voltage: 400 V AC, frequency: 50 Hz, three-phase) until the any cell voltage reaches 3.6 V
Standard discharging method specified by manufacturer	Discharge at constant power 125 kW AC Power (working voltage: 400 V AC, frequency: 50 Hz, three-phase) until the any cell voltage reaches 2.7 V
Dimension	Width*Depth*Height: 980 mm*1390 mm*2350 mm
Weight	(2450±25) kg
Configuration	(52S)5S
Number of cells and configuration	260 cells, (52S)5S Cell model: SBP-01-3140

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Attachments:

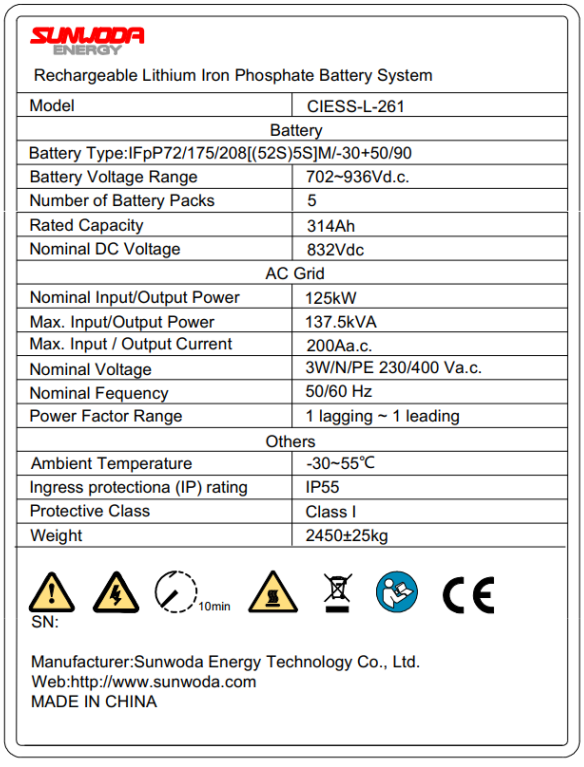
Attachment 1: Product description
Attachment 2: Exploding drawing of module & Identification/location of cells within the module
Attachment 3: Pre-conditioning profile
Attachment 4: Photo(s) for sample(s) before test and test setup with thermocouple location
Attachment 5: Photo(s) for sample(s) after test
Attachment 6: Monitored temperature chart
Attachment 7: Flammable gas generation and composition data chart
Attachment 8: Heat release rate versus time data chart
Attachment 9: Peak smoke release rate and total smoke release data chart
Attachment 10: Summary of Heat release rate & Peak smoke release rate and total smoke release data

If additional information is necessary, please provide

N/A

Copy of marking plate:

Test unit: Model: CIESS-L-261



SUNWODA ENERGY

Rechargeable Lithium Iron Phosphate Battery System

Model	CIESS-L-261
Battery	
Battery Type:IFpP72/175/208[(52S)5S]M/-30+50/90	
Battery Voltage Range	702~936Vd.c.
Number of Battery Packs	5
Rated Capacity	314Ah
Nominal DC Voltage	832Vdc
AC Grid	
Nominal Input/Output Power	125kW
Max. Input/Output Power	137.5kVA
Max. Input / Output Current	200Aa.c.
Nominal Voltage	3W/N/PE 230/400 Va.c.
Nominal Fequency	50/60 Hz
Power Factor Range	1 lagging ~ 1 leading
Others	
Ambient Temperature	-30~55℃
Ingress protectiona (IP) rating	IP55
Protective Class	Class I
Weight	2450±25kg

10min

SN:

Manufacturer:Sunwoda Energy Technology Co., Ltd.
Web:http://www.sunwoda.com
MADE IN CHINA

Remark:

The SN, for example, "SWFL1792ZJ2505001" used to trace the manufacture information of the battery system. The 11th to 14th codes of the SN "YYMM" represent the date of manufacture. For example, "2505" represents the battery system was manufactured in May 2025. And the 15th to 17th codes of the SN represent the production serial number of the battery system.

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