Test Report issued under the responsibility of:

TÜVNORD

TEST REPORT
IEC 62619
Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for secondary lithium cells and batteries, for use in industrial applications

Report Number..... :	**BL-DG2580037-301 A1**
Date of issue ..... :	**2026-02-09**
Total number of pages ..... :	**18**
Name of Testing Laboratory preparing the Report ..... :	Dongguan BALUN Testing Technology Co., Ltd.
Applicant's name..... :	Zhonghe Digital Energy (Jiangsu) Co., Ltd.
Address ..... :	No.86 Jianshe North Road, Sihong County, Suqian City, Jiangsu Province, China
Test specification:	
Standard ..... :	IEC 62619:2022
Test procedure..... :	CB Scheme
Non-standard test method..... :	N/A
TRF template used ..... :	IECEE OD-2020-F1:2022, Ed.1.5
Test Report Form No..... :	IEC62619B
Test Report Form(s) Originator.... :	UL Solutions (Demko)
Master TRF ..... :	Dated 2023-02-24

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Test item description ..... :	Energy Storage DC Cabinet
Trademark(s) ..... :	
Manufacturer ..... :	Same as applicant.
Model/Type reference ..... :	1) Zpower-DC-418L-2H; 2) Zpower-DC-366L-2H; 3) Zpower-DC-313L-2H; 4) Zpower-DC-261L-2H
Ratings ..... :	1) 1331.2V, 314Ah, 418kWh; 2) 1164.8V, 314Ah, 366kWh; 3) 998.4V, 314Ah, 313kWh; 4) 832V, 314Ah, 261kWh

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	Dongguan BALUN Testing Technology Co., Ltd.	
Testing location/ address.....:		Room 104, 204, 205, Building 1, No. 6, Industrial South Road, Songshan Lake District, Dongguan, Guangdong Province, China	
Tested by (name, function, signature).....:		Yinghua Qin (Engineer)	Yinghua Qin
Approved by (name, function, signature)...:		Hui Yin (Reviewer)	Hui. Yin
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name + signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature)...:			
Supervised by (name, function, signature) :			

List of Attachments (including a total number of pages in each attachment):

See previous report BL-DG2580037-301.
This report contains 18 pages, incl. Annex 1: Photos with 6 pages.

Summary of testing:

Tests performed (name of test, test clause and date test performed):	**Testing location:**
N/A This report includes 4 models of Energy Storage DC Cabinet: 1) Zpower-DC-418L-2H; 2) Zpower-DC-366L-2H; 3) Zpower-DC-313L-2H; 4) Zpower-DC-261L-2H respectively consist of 8, 7, 6, 5 battery module with model no. 166.4V314Ah and one main control box ZHHVB-A-H-25CAF-IP65-KC-XN-CLS_V1.0.	N/A

Summary of compliance with National Differences (List of countries addressed):

See previous report BL-DG2580037-301.

Use of uncertainty of measurement for decisions on conformity (decision rule) :

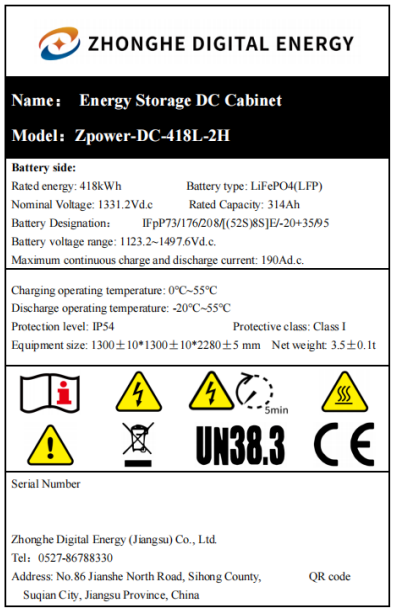
☒ No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

☐ Other: (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

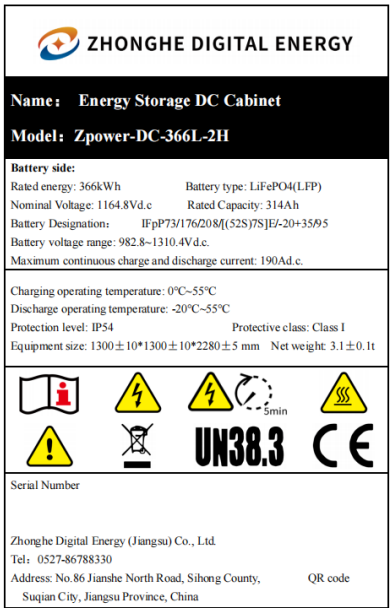
Information on uncertainty of measurement:
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.
IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

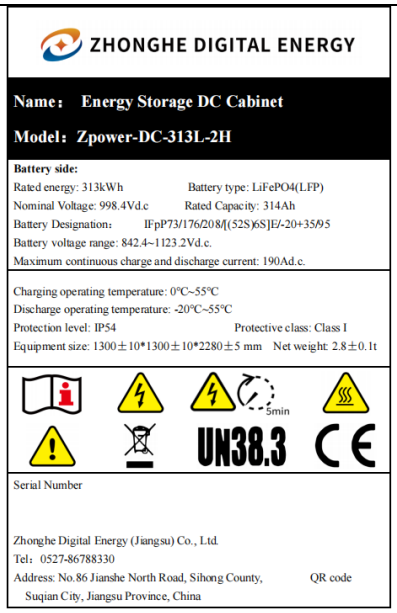
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



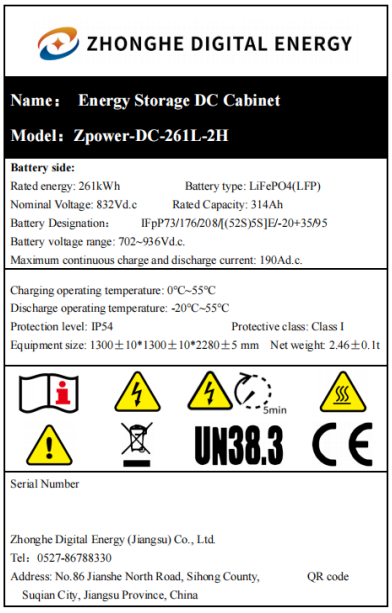
Label of Energy Storage DC Cabinet with model Zpower-DC-418L-2H



Label of Energy Storage DC Cabinet with model Zpower-DC-366L-2H



Label of Energy Storage DC Cabinet with model Zpower-DC-313L-2H



Label of Energy Storage DC Cabinet with model Zpower-DC-261L-2H



Battery system polarity



Battery polarity

SN Coding rules: YWWD ZH 01 FX05 01 XXXX P

- P: Product type: M module, P for pack, C energy storage cabinet, G high voltage box, E distribution box
- XXXX: Serial code: 0001~9999
- 01: BOM version number
- FX05: Model code (fixed code)
- 01: Line type (01 for Z1M1 line, 03 for Z1M3 line)
- ZH: Factory code (fixed code)
- YWWD: Year, month, day (e.g., 4402 means Tuesday of the 40th week of 2024)

SN Code

Remark:

1. Rated capacity: 314Ah

Calculated rated capacity: 314Ah x n=314Ah
n represents the number of parallel battery packs, and batteries of model Zpower-DC-418L-2H is connected in series, so n=1.

2. Recommend charging method declared by the manufacturer:
Constant current charging at 157A until the maximum single cell voltage reaches 3.6 V, at which point charging is stopped.

Test item particulars.....:	
Classification of installation and use.....:	To be defined in final product
Supply Connection.....:	DC connector
.....:	See previous report BL-DG2580037-301.
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Testing.....:	
Date of receipt of test item .....:	2025-08-11(BL-DG2580037-301) 2026-01-19
Date (s) of performance of tests.....:	2025-08-13 to 2025-09-01(BL-DG2580037-301) 2026-01-20

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... :	Same as applicant.

General product information and other remarks:

This test report shall be read in conjunction with the original report BL-DG2580037-301.

The main features of the Energy Storage DC Cabinet Zpower-DC-418L-2H and Zpower-DC-366L-2H are shown as below:

Product information	Energy Storage DC Cabinet	Energy Storage DC Cabinet
Model	Zpower-DC-418L-2H	Zpower-DC-366L-2H
Rated capacity	314Ah	314Ah
Nominal voltage	1331.2V	1164.8V
Recommended charge current	157A	157A
Maximum charge current	190A	190A
Recommended discharge current	157A	157A
Maximum discharge current	190A	190A
Maximum charge voltage	1497.6V	1310.4V
End-of-discharge voltage	1123.2V	982.8V
Upper charge temperature	55°C	55°C
Lower charge temperature	0°C	0°C
Upper discharge temperature	55°C	55°C
Lower discharge temperature	-20°C	-20°C
Storage temperature range	-20°C ~ 35°C	-20°C ~ 35°C
Recommend charging method declared by the manufacturer	Constant current charging at 157A(0.5C) until the maximum single cell voltage reaches 3.6 V, at which point charging is stopped.	Constant current charging at 157A(0.5C) until the maximum single cell voltage reaches 3.6 V, at which point charging is stopped.
Recommend discharging method declared by the manufacturer	Constant current discharging at 157A(0.5C) until the minimum single cell voltage reaches 2.7 V, at which point discharging is stopped.	Constant current discharging at 157A(0.5C) until the minimum single cell voltage reaches 2.7 V, at which point discharging is stopped.
Nominal mass	(3500±100)kg	(3100±100)kg
External dimensions	(1300±10)mm*(1300±10)mm*(2280±5)mm (W*D*H)	(1300±10)mm*(1300±10)mm*(2280±5)mm (W*D*H)

The main features of the Energy Storage DC Cabinet Zpower-DC-313L-2H and Zpower-DC-261L-2H are shown as below:

Product information	Energy Storage DC Cabinet	Energy Storage DC Cabinet
Model	Zpower-DC-313L-2H	Zpower-DC-261L-2H
Rated capacity	314Ah	314Ah

Nominal voltage	998.4V	832V
Recommended charge current	157A	157A
Maximum charge current	190A	190A
Recommended discharge current	157A	157A
Maximum discharge current	190A	190A
Maximum charge voltage	1123.2V	936V
End-of-discharge voltage	842.4V	702V
Upper charge temperature	55°C	55°C
Lower charge temperature	0°C	0°C
Upper discharge temperature	55°C	55°C
Lower discharge temperature	-20°C	-20°C
Storage temperature range	-20°C ~ 35°C	-20°C ~ 35°C
Recommend charging method declared by the manufacturer	Constant current charging at 157A(0.5C) until the maximum single cell voltage reaches 3.6 V, at which point charging is stopped.	Constant current charging at 157A(0.5C) until the maximum single cell voltage reaches 3.6 V, at which point charging is stopped.
Recommend discharging method declared by the manufacturer	Constant current discharging at 157A(0.5C) until the minimum single cell voltage reaches 2.7 V, at which point discharging is stopped.	Constant current discharging at 157A(0.5C) until the minimum single cell voltage reaches 2.7 V, at which point discharging is stopped.
Nominal mass	(2800±100)kg	(2460±100)kg
External dimensions	(1300±10)mm*(1300±10)mm*(2280±5)mm (W*D*H)	(1300±10)mm*(1300±10)mm*(2280±5)mm (W*D*H)

Description of change(s):

1. Updated of business license address. Please refer to page 1 for details.
2. Added new product labels. Please refer to page 5 to page 6 for details.
3. Added series models. Please refer to page 2 for details.
4. Updated the dimensional deviation of Zpower-DC-418L-2H system and add the main features for the series model. Please refer to page 9 to page 10 for details.
5. Updated of EMC report. Please refer to page 12 for details.
6. Added photos of the series of models. Please refer to page 13 to page 18 for details.

For the above described change(s) the following was considered to be necessary:

Change	Testing	Comments	Result
1, 2, 3, 4, 5, 6	N/A	No safety related tests are considered necessary.	P

History of amendments and modifications:

Ref. No. BL-DG2580037-301, dated Nov. 17, 2025 (original test report)
Ref. No. BL-DG2580037-301 A1, dated Feb. 09, 2026 (1st amendment)

IEC 62619			
Clause	Requirement + Test	Result - Remark	Verdict
9	**EMC**		**P**
	Battery system fulfil EMC requirements of the end-device application ..... :	EMC has been evaluated in accordance with EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019. Test Report No.: SN260004, approved by Sainuotek (Jiaxing) Service Co., Ltd.	P

ANNEX 1: PHOTOS

Model type: Zpower-DC-366L-2H



Front view of Energy Storage DC Cabinet Zpower-DC-366L-2H



Inside view of Energy Storage DC Cabinet Zpower-DC-366L-2H

Model type: Zpower-DC-313L-2H



Front view of Energy Storage DC Cabinet Zpower-DC-313L-2H



Inside view of Energy Storage DC Cabinet Zpower-DC-313L-2H

Model type: Zpower-DC-261L-2H



Front view of Energy Storage DC Cabinet Zpower-DC-261L-2H



Inside view of Energy Storage DC Cabinet Zpower-DC-261L-2H

-- End of Report --