



Test Report issued under the responsibility of:



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: 4955308.50

Date of issue: 2026-07-03

Total number of pages: 51 pages

Name of Testing Laboratory
preparing the Report: CATARC Automotive Test Center (Guangzhou) Co., Ltd.

Applicant's name: Guangzhou Felicity Solar Technology Co., Ltd.

Address: (Airport Baiyun) No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road,
Renhe Town, Baiyun District, Guangzhou, Guangdong, 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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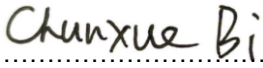
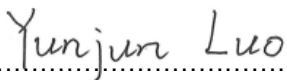
If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This report is not valid as a CB Test Report unless signed by an approved IECEE Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing NCB. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	Rechargeable Li-ion Battery Storage System	
Trade Mark(s)		
Manufacturer	Same as applicant.	
Model/Type reference	System model: FLH-E60 Battery module model: FLH48100UMG3 Controller model: FLH48100UCG3	
Ratings	FLH-E60: 614,4 Vdc, 100 Ah, 61,44 kWh	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒	CB Testing Laboratory:	CATARC Automotive Test Center (Guangzhou) Co., Ltd.
Testing location/ address		No.39, Xiangshan Road, Yongning Street, Zengcheng District, (Zengcheng Economic-Technological Development Zone Core Area), Guangzhou, Guangdong, China
Tested by (name, function, signature)		Chunxue Bi (Project Engineer) 
Approved by (name, function, signature) ...:		Yunjun Luo (Reviewer) 
☐	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) :		
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List of Attachments (including a total number of pages in each attachment):

Attachment 1: Photos and illustrations (17 pages)

Summary of testing:
Tests performed (name of test, test clause and date test performed):

Tests conducted on smaller unit declared by manufacturer as the representative of the battery pack, which configured with single battery pack, the following tests were conducted.

☒ 7.2.3 Drop test (battery system), 2026-05-14

Tests conducted on maximum unit declared by manufacturer as the representative of the battery system, which configured with 5 battery packs and 1 high-voltage control box, the following tests were conducted.

☒ 8.2.2 Overcharge control of voltage (battery system), 2025-12-31

☒ 8.2.3 Overcharge control of current (battery system), 2025-12-18

☒ 8.2.4 Overheating control (battery system), 2026-05-13

Battery model CB56 was subjected to the test as below in CBTL Location:

☒ 7.2.5 Overcharge test (cell), 2025-12-01

Battery model CB56 was subjected to the test as below in Subcontractor Location:

☒ 7.3.2 Internal short-circuit test (cell), 2025-12-01 (4955308.50)

Testing location: (CBTL, SPTL, CTF, Subcontractor)

CBTL Location:

CATARC Automotive Test Center (Guangzhou) Co., Ltd.

No.39, Xiangshan Road, Yongning Street, Zengcheng District, (Zengcheng Economic-Technological Development Zone Core Area), Guangzhou, Guangdong, China

Subcontractor Location:

DEKRA Testing and Certification (Shanghai) Ltd., Guangzhou Branch

Block 5, No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China

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

N/A

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:

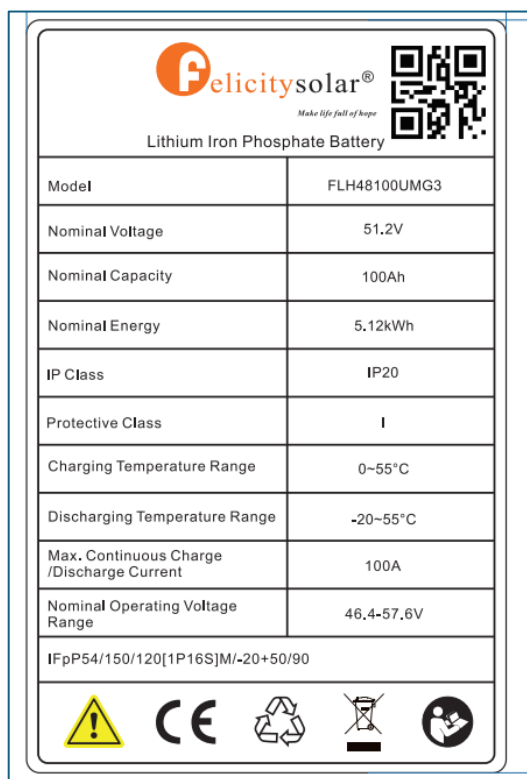
The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

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.

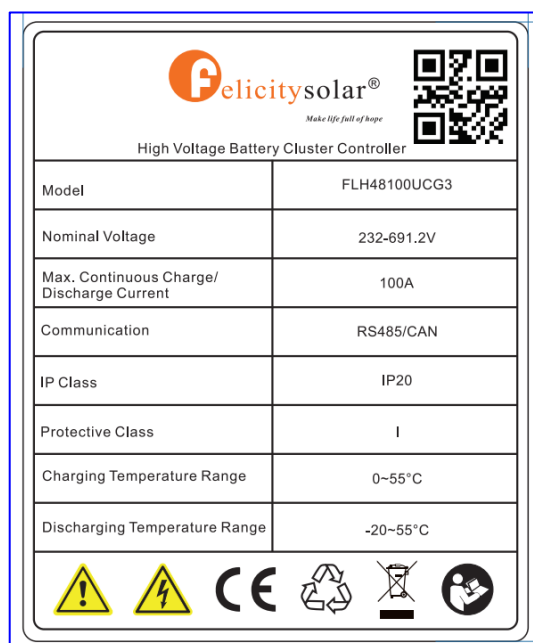
Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

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.



Battery module marking of model FLH48100UMG3



High Voltage Battery Cluste Controller marking


felicitysolar®
Make life full of hope



Rechargeable Li-ion Battery Storage System

Product Model	FLH-E60
Battery Rated Voltage	614.4Vdc
Battery Operating Voltage	556.8~691.2Vdc
Rated Current	100A
Rated Capacity	100Ah
Rated Energy	61.44kWh
Auxiliary Voltage	L/N/PE,AC 230V
Auxiliary Frequency	50/60Hz
Operating Temperature	-20 ~ +55°C
Ingress Protection	IP55
Protective Class	Class I
Weight Appr. (kg)	949kg
Dimension (W x D x H,mm)	780*1056*2235mm
IFpP54/150/120[(1P16S)12S]M/-20+50/90	







Guangzhou Felicity Solar Technology Co.,Ltd.

Battery marking of model FLH-E60



WARNING

- Do not disassemble or alter the Pack to avoid heating up, explosion or fire.
- Do not use the Pack beyond specified conditions. Or it may cause heating up, damage or degrading its performance.
- Do not throw, drop, hit, drive in nail or stamp on the Pack. Or it may cause heating up, explosion or fire.
- Do not put the Pack into fire. Do not use or leave it at the places near fire, heater or high temperature sources. Or it may cause over temperature, explosion or fire.
- Do not put the Pack into the water or wet it. Or it may cause heating up, explosion or fire.
- Do not connect the Pack's positive(+) and negative(-) terminal reversely. Or it will cause short circuit, explosion or fire.
- Do not connect the Pack's positive(+) and negative(-) terminal together or to any other metals. Or it will cause short circuit, explosion or fire.
- Take care! This Pack is heavy enough to cause serious injury.
- In case of electrolyte leakage, keep leaked electrolyte away from eyes or skin. If it has touched your eyes, please wash it with plenty of water and go to the hospital immediately.
- Keep out of the reach of children and animals.

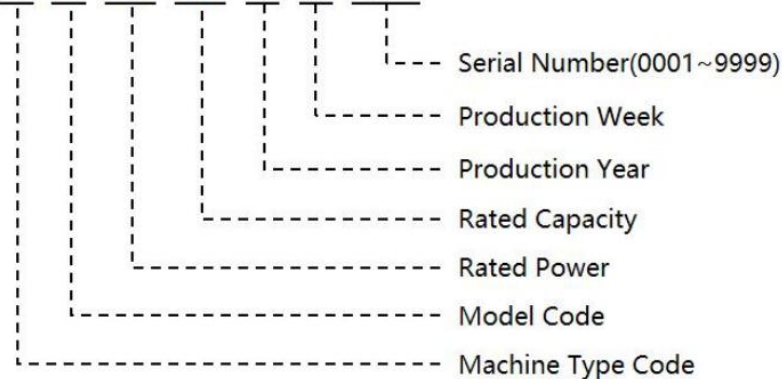


Warning marking

For example

FLH-E60 SN: 041050060025510030

04 10 500 600 25 51 0030

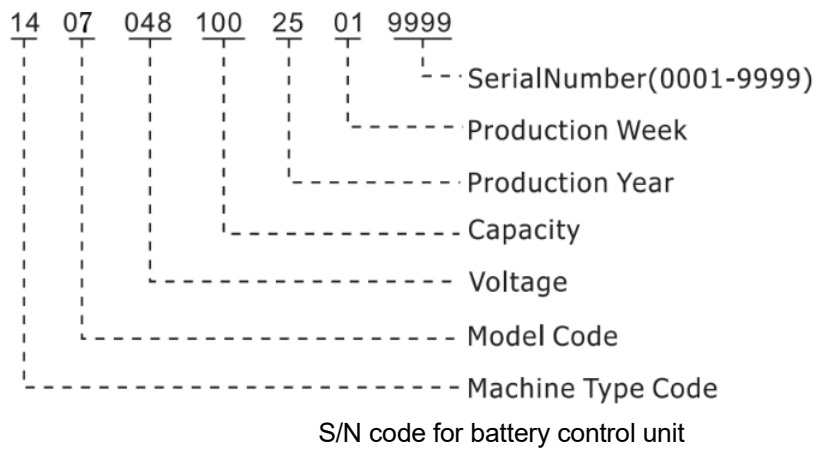


S/N code for battery system

1.High-Voltage Battery Control Unit SN Description

For example

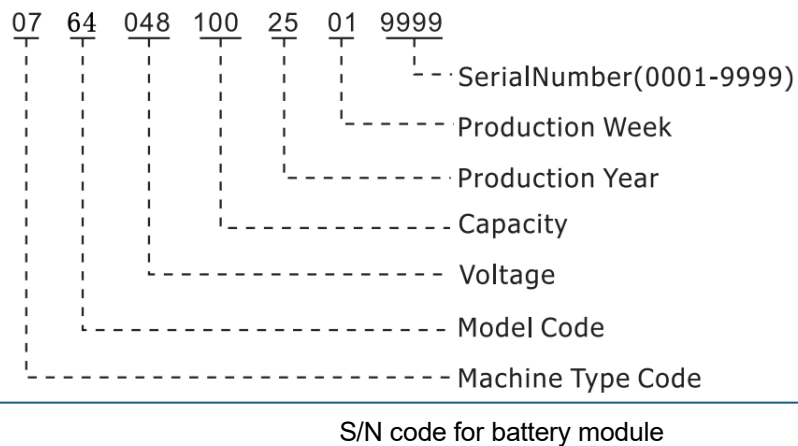
FLH48100UCG3 SN: 140704810025019999



2.High-Voltage Battery module SN Description

For example

FLH48100UMG3 SN: 076404810025019999



Remark:

- Cells used in the manufacture of a battery need not be marked.
- Polarity is reflected on the surface of the battery.

Test item particulars : Rechargeable Li-ion Battery Storage System	
Classification of installation and use : Stationary	
Supply Connection : N/A	
..... :	
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: 2025-11-17	
Date (s) of performance of tests : 2025-11-20 to to 2026-05-22	
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. This report is not intended to use for CMA application. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result. The sample has been tested and found compliant with the requirement of the safety standards listed below: IEC 62619:2022 EN IEC 62619:2022	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 62619-2:	
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) : Guangzhou Felicity Solar Technology Co., Ltd. (Airport Baiyun)No.2, 4, 6, 8, 10 and 12 Donghua Huaye Road, Renhe Town, Baiyun District, Guangzhou, Guangdong, China	