



TM

Ref. Certif. No.

JPTUV-115661

**IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT
(IECEE) CB SCHEME****CB TEST CERTIFICATE**

Product

LITHIUM BATTERY PACK

Name and address of the applicant

Wuhan Fanso Technology Co.,Ltd.
NO.1.SITAI INDUSTRIAL PARK,
YONGFENG AVENUE, HANYANG DISTRICT, WUHAN CITY, Hubei, P.R.
China

Name and address of the manufacturer

Wuhan Fanso Technology Co.,Ltd.
NO.1.SITAI INDUSTRIAL PARK,
YONGFENG AVENUE, HANYANG DISTRICT, WUHAN CITY, Hubei, P.R.
China

Name and address of the factory

Wuhan Fanso Technology Co.,Ltd.
NO.1.SITAI INDUSTRIAL PARK,
YONGFENG AVENUE, HANYANG DISTRICT, WUHAN CITY, Hubei, P.R.
China

Ratings and principal characteristics

DC 3.6V, 13Ah

Trademark (if any)

FANSO

Customer's Testing Facility (CTF) Stage used

N/A

Model / Type Ref.

1S1PER34615M/W90 (A)

Additional information (if necessary may
also be reported on page 2)A sample of the product was tested and
found to be in conformity withIEC 60086-4:2019
See Test Report for National DifferencesAs shown in the Test Report Ref. No. which
forms part of this Certificate

NN2014TG 001

This CB Test Certificate is issued by the National Certification Body

**TÜVRheinland®**TÜV Rheinland Japan Ltd.
Global Technology Assessment Center
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Jason Tang

Date: 2020-11-04

Signature:



Test Report issued under the responsibility of:



TEST REPORT
IEC 60086-4
Primary batteries
Part 4: Safety of lithium batteries

Report Number..... : NN2014TG 001

Date of issue..... : 2020-11-03

Total number of pages : 22 pages

**Name of Testing Laboratory
preparing the Report :** Guangzhou MCM Certification & Testing Co., Ltd.

Applicant's name : Wuhan Fanso Technology Co.,Ltd.

Address..... : NO.1.SITAI INDUSTRIAL PARK, YONGFENG AVENUE,
HANYANG DISTRICT, WUHAN CITY, Hubei, P.R. China

Test specification:

Standard : IEC 60086-4: 2019

Test procedure : CB Scheme

Non-standard test method : N/A

Test Report Form No. : IEC60086_4C

Test Report Form(s) Originator : DEKRA

Master TRF : Dated 2019-06-19

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**This report is not valid as a CB Test Report unless signed by an approved CB 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 CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description..... :	LITHIUM BATTERY PACK	
Trade Mark..... :	FANSO	
Manufacturer	Same as applicant	
Model/Type reference	1S1PER34615M/W90(A)	
Ratings	DC 3.6V, 13Ah	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
☒ CB Testing Laboratory:	Guangzhou MCM Certification & Testing Co., Ltd.	
Testing location/ address..... :	1 F No.13, Zhong San Section, Shi Guang Road, Zhong Cun Street, Panyu District, Guangzhou, Guangdong CHINA	
Tested by (name, function, signature)..... :	Owen Huang (Engineer)	<i>Owen Huang</i>
Approved by (name, function, signature).... :	Liang Hongcheng (Reviewer)	<i>Liang Hongcheng</i>
☐ 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): - Attachment 1: Photo Documentation (3 pages)	
Summary of testing:	
Tests performed (name of test and test clause): 6.4.1 Test A: Altitude 6.4.2 Test B: Thermal cycling 6.4.3 Test C: Vibration 6.4.4 Test D: Shock 6.5.1 Test E: External short-circuit 6.5.3 Test F: Impact 6.5.4 Test H: Forced discharge 6.5.5 Test I: Abnormal charging 6.5.6 Test J: Free fall 6.5.7 Test K: Thermal abuse	Testing location: Guangzhou MCM Certification & Testing Co., Ltd. 1 F No.13, Zhong San Section, Shi Guang Road, Zhong Cun Street, Panyu District, Guangzhou, Guangdong CHINA
Summary of compliance with National Differences (List of countries addressed): N/A ☒ The product fulfils the requirements of <u>EN 60086-4: 2019</u>	

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.



LITHIUM BATTERY PACK 3.6V
1S1PER34615M/W90(A) 3.6V &13Ah
P/N:2020050501

WARNING:

Fire, explosion, and severe burn hazard.
Do not recharge, short circuit, crush,
disassemble, heat above 100°C incinerate
or expose contents to water, Do not solder
directly to the cell.



Wuhan FANSO Technology Co.,Ltd MM/YY Made in China

Note:

1. MM/YY represents the manufacture date. MM means the month, YY means year.
2. "ER34615" in Model/Type reference "1S1PER34615M/W90(A)" stands for cell design, and "1S1P" stands for series-parallel connection.
3. The anti-reverse DC connector existed in the battery, and no polarity explanation in label above.

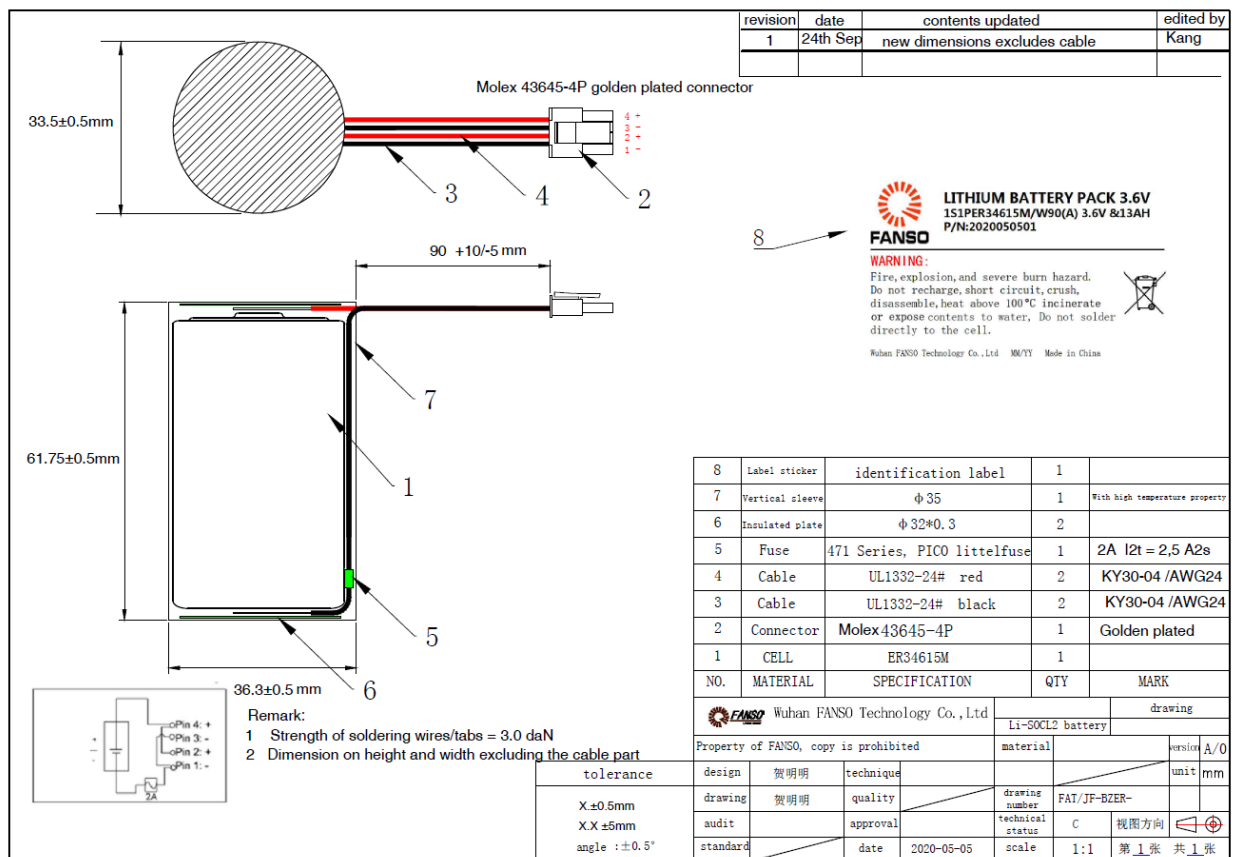
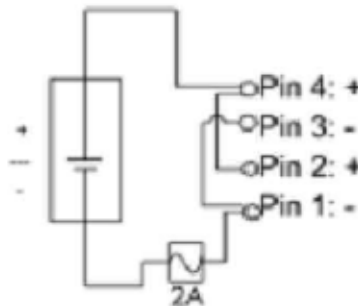
Test item particulars.....:	
Classification of installation and use.....: To be defined in final product	
Supply Connection DC connector	
Weight of Battery Approx. 116g	
Possible test case verdicts: - test case does not apply to the test object..... : N/A - test object does meet the requirement..... : P (Pass) - test object does not meet the requirement..... : F (Fail)	
Testing.....:	
Date of receipt of test item 2020-09-15	
Date (s) of performance of tests 2020-09-15 to 2020-10-19	
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 IEC60086-2:	
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) : Same as applicant	

General product information and other remarks:

The battery is a lithium thionyl chloride battery with a single primary lithium battery, and has no over-discharge, overcurrent and short-circuits proof circuit.

The main features of the battery are shown as below:

Model	Nominal capacity	Nominal voltage	Maximum discharge current	Discharge cut-off voltage	Dimensions
1S1PER34615 M/W90(A)	13000mAh	3.6V	1500mA	2.0V	Max diameter: 36.8mm Max Height: 62.25mm

Construction(unit: mm):**Circuit diagram:**

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
4	REQUIREMENTS FOR SAFETY		P
4.1	Design		P
	a) Abnormal temperature rise above the critical value prevented		P
	b) Temperature increases in the battery controlled		P
	c) Lithium cells and batteries designed to relieve excessive internal pressure or to preclude a violent rupture under conditions of transport, intended use and reasonably foreseeable misuse	Venting mechanism exists on the cylindrical cell.	P
4.2	Quality plan		P
	Manufacturer prepared and implemented a quality plan defining the procedures for the inspection of materials, components, cells and batteries during the course of manufacture, to be applied to the total process of producing a specific type of battery	ISO 9001: 2015 certificate provided.	P
	Manufactures understood their process capabilities and instituted the necessary process controls as they relate to product safety		P
5	TYPE TESTING AND SAMPLING		P
5.1	Validity of testing		P
5.2	Test samples	(See table 1 in the standard)	P
6	TESTING AND REQUIREMENTS		P
6.1	General		P
6.1.1	Test application matrix	(See table 2 in the standard)	P
	s: cell or single cell battery	Single cell battery	P
	m: multi cell battery		N/A
6.1.3	Ambient temperature (°C)	20°C±5°C	P
6.1.4	Parameter measurement tolerances		P
6.1.5	Predischarge	Predischarged samples provided by manufacturer	P
6.1.6	Additional cells		N/A
6.2	Evaluation of test criteria		P
6.2.1	Short-circuit		P
6.2.2	Excessive temperature rise		P
6.2.3	Leakage		P
6.2.4	Venting		P
6.2.5	Fire		P
6.2.6	Rupture		P
6.2.7	Explosion		P

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
6.3	Tests and requirements – Overview	(See table 4 in the standard)	P
6.4	Tests for intended use		P
6.4.1	Test A: Altitude	(See appended Table 1)	P
6.4.2	Test B: Thermal cycling	(See appended Table 1)	P
6.4.3	Test C: Vibration	(See appended Table 1)	P
6.4.4	Test D: Shock	(See appended Table 1)	P
6.5	Tests for reasonably foreseeable misuse		P
6.5.1	Test E: External short-circuit	(See appended Table 1)	P
6.5.2	Test F: Impact	(See appended Table 1)	P
6.5.3	Test G: Crush	(See appended Table 1)	N/A
6.5.4	Test H: Forced discharge	(See appended Table 1)	P
6.5.5	Test I: Abnormal charging	(See appended Table 1)	P
6.5.6	Test J: Free fall	(See appended Table 1)	P
6.5.7	Test K: Thermal abuse	(See appended Table 1)	P
6.5.8	Test L: Incorrect installation	(See appended Table 1)	N/A
6.5.9	Test M: Overdischarge	(See appended Table 1)	N/A
6.6	Information given in the relevant specification		P
	a) Predischage current or resistive load and end-point voltage specified by the manufacturer.....	1500mA current discharge to 2.0V.	P
	b) Method to measure the energy of an explosion, if any		N/A
	c) Shape: prismatic, flexible, coin or cylindrical Diameter: less than 18 mm or not less than 18 mm	Cylindrical battery. Diameter : more than 18 mm.	P
	d) Maximum continuous discharge current specified by the manufacturer for test H.....	1500mA as specified by manufacturer applied.	P
	e) Rated capacity specified by the manufacturer for test H.....	13000mAh.	P
	f) Abnormal charging current declared by the manufacturer for test I	15mA as specified by manufacturer applied.	P
	g) Normal reverse current declared by the manufacturer which applied to the battery during its operating life.....	Not applicable declared by manufacturer, reverse current is not allowed for the battery.	N/A
7	INFORMATION FOR SAFETY		P
7.1	Safety precautions during design of equipment		P
7.1.1	General		P
7.1.2	Charge protection		P
7.1.3	Parallel connection		P

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
7.2	Precautions during handling of batteries	Safety precautions are shown in battery specification.	P
7.3	Packaging		P
7.4	Handling of battery cartons		P
7.5	Transport	UN 38.3 test report provided.	P
7.5.1	General		P
7.5.2	Air transport		P
7.5.3	Sea transport		P
7.5.4	Land transport		P
7.6	Display and storage		P
7.7	Disposal		P
8	INSTRUCTIONS FOR USE		P
9	MARKING AND PACKAGING		P
9.1	General		P
9.2	Swallowable batteries		N/A
9.3	Safety pictograms		N/A
ANNEX A	(INFORMATIVE) GUIDELINES FOR THE ACHIEVEMENT OF SAFETY OF LITHIUM BATTERIES		N/A
ANNEX B	(INFORMATIVE) GUIDELINES FOR DESIGNERS OF EQUIPMENT USING LITHIUM BATTERIES		N/A
ANNEX C	(INFORMATIVE) ADDITIONAL INFORMATION ON DISPLAY AND STORAGE		N/A
ANNEX D	(INFORMATIVE) SAFETY PICTOGRAMS		N/A
D.1	General		N/A
D.2	Pictograms		N/A
D.3	Instruction for use		N/A
ANNEX E	(NORMATIVE) CHILD RESISTANT PACKAGING OF COIN CELLS	Not coin cell.	N/A
E.1	General		N/A
E.2	Applicability		N/A
E.3	Packaging tests		N/A
E.3.1	General		N/A
E.3.2	Test items		N/A
E.3.3	Test procedure		N/A
E.3.4	Criteria		N/A

IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
ANNEX F	(INFORMATIVE) USE OF THE KEEP OUT OF REACH OF CHILDREN SAFETY SIGN		N/A
F.1	General		N/A
F.2	Safety sign		N/A
F.3	Best practices for marking the packaging		N/A
F.4	Best practices for marking the cell		N/A

TABLE: Critical components information					P
Object / part No.	Manufacturer / trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾
Lead wire	ZHEJIANG XINXIN ELECTRONIC WIRE ROD CO LTD	1569	24AWG, 85°C, 300Vac Horizontal flame, VW-1	UL 758	UL E225383
Fuse	LITTELFUSE INC	471 Series	2A, 125V	UL 248-1 UL 248-14	UL E10480
Connector	Molex	43645-4P	4 Pins	--	Tested with appliance
Cell	Wuhan Fanzo Technology Co., Ltd.	ER34615M	3.6V, 13Ah	IEC 60086-4: 2019	Tested with appliance
-Cell case	Guangzhou jinqiang industrial and trade development co. LTD	ER34615M	SUS304 stainless steel	--	--
-Cell cover	Xi an seal material technology co., LTD	ER34	SUS304 stainless steel	--	--
-Negative pole	Chengdu Denway newtype Metal Material co., LTD	Li	Li content≥99.9%	--	--
-Positive pole	Mostbros chemicals co., ltd	C	Acetylene black	--	--
-Electrolyte	Wuhan Fanzo Technology Co., Ltd.	SOCl ₂	SOCl ₂ content ≥99.60%	--	--
-Separator	Sinoma technology membrane materials co. LTD	Glass fiber diaphragm	Fiberglass, shutdown temperature: 250°C	--	--
Supplementary information:					
¹⁾ Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

TABLE 1 (clause 6.4.1 – 6.5.9)		P			
Tests	Cell / battery type	Discharge state	Number of test sample	Test result	Verdict
A to E	Cells and single cell batteries	Undischarged	10	NL, NV, NC, NR, NE, NF	P
		Fully discharged	10	NL, NV, NC, NR, NE, NF	P
	Multi-cell batteries	Undischarged	4		N/A
		Fully discharged	4		N/A
F	Cells and single cell batteries	Undischarged	5	NT, NE, NF	P
		Fully discharged	5	NT, NE, NF	P
	Multi-cell batteries	Undischarged	5 component cells		N/A
		Fully discharged	5 component cells		N/A
G	Cells and single cell batteries	Undischarged	5		N/A
		Fully discharged	5		N/A
	Multi-cell batteries	Undischarged	5 component cells		N/A
		Fully discharged	5 component cells		N/A
H	Cells and single cell batteries	Fully discharged	10	NE, NF	P
	Multi-cell batteries	Fully discharged	10 component cells		N/A
I to K	Cells and single cell batteries	Undischarged	5	NV, NE, NF (for test J) NE, NF (for test I & K)	P
	Multi-cell batteries	Undischarged	5		N/A
L	Cells and single cell batteries	Undischarged	20		N/A
M	Cells and single cell batteries	50 % predischarged	20		N/A
		75 % predischarged	20		N/A
Supplementary information: NC: No short-circuit NE: No explosion NF: No fire NL: No leakage NR: No rupture NT: No excessive temperature rise NV: No venting					

6.4.1	TABLE: Test A: Altitude (Undischarged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B1	3.663	116.427	3.663	116.425
B2	3.663	116.125	3.662	116.124
B3	3.664	116.273	3.663	116.271
B4	3.663	116.388	3.662	116.385
B5	3.665	116.436	3.664	116.434
B6	3.662	116.395	3.662	116.394
B7	3.662	116.455	3.662	116.452
B8	3.666	116.519	3.665	116.516
B9	3.665	116.387	3.665	116.385
B10	3.664	116.417	3.664	116.416
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				
6.4.1	TABLE: Test A: Altitude (Fully discharged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B11	3.635	116.762	3.634	116.761
B12	3.627	116.543	3.626	116.541
B13	3.622	116.247	3.620	116.244
B14	3.631	116.338	3.629	116.336
B15	3.633	116.097	3.632	116.093
B16	3.626	116.228	3.625	116.225
B17	3.624	116.692	3.624	116.689
B18	3.623	116.312	3.622	116.311
B19	3.628	116.008	3.628	116.006
B20	3.629	116.117	3.628	116.115
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				

6.4.2	TABLE: Test B: Thermal cycling (Undischarged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B1	3.663	116.425	3.671	116.416
B2	3.662	116.124	3.674	116.119
B3	3.663	116.271	3.683	116.268
B4	3.662	116.385	3.677	116.385
B5	3.664	116.434	3.675	116.426
B6	3.662	116.394	3.674	116.385
B7	3.662	116.452	3.669	116.444
B8	3.665	116.516	3.679	116.511
B9	3.665	116.385	3.684	116.377
B10	3.664	116.416	3.674	116.411
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				
6.4.2	TABLE: Test B: Thermal cycling (Fully discharged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B11	3.634	116.761	3.648	116.755
B12	3.626	116.541	3.641	116.534
B13	3.620	116.244	3.629	116.237
B14	3.629	116.336	3.637	116.329
B15	3.632	116.093	3.651	116.088
B16	3.625	116.225	3.636	116.219
B17	3.624	116.689	3.635	116.682
B18	3.622	116.311	3.633	116.307
B19	3.628	116.006	3.637	116.001
B20	3.627	116.115	3.634	116.109
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				

6.4.3	TABLE: Test C: Vibration (Undischarged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B1	3.671	116.416	3.669	116.413
B2	3.674	116.119	3.672	116.116
B3	3.683	116.268	3.681	116.264
B4	3.677	116.385	3.674	116.381
B5	3.675	116.426	3.674	116.423
B6	3.674	116.385	3.672	116.384
B7	3.669	116.444	3.664	116.442
B8	3.679	116.511	3.676	116.508
B9	3.684	116.377	3.682	116.373
B10	3.674	116.411	3.671	116.409
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				
6.4.3	TABLE: Test C: Vibration (Fully discharged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B11	3.648	116.755	3.647	116.751
B12	3.641	116.534	3.640	116.532
B13	3.629	116.237	3.627	116.233
B14	3.637	116.329	3.636	116.323
B15	3.651	116.088	3.651	116.083
B16	3.636	116.219	3.633	116.215
B17	3.635	116.682	3.633	116.678
B18	3.633	116.307	3.633	116.303
B19	3.637	116.007	3.636	116.001
B20	3.634	116.109	3.633	116.106
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				

6.4.4	TABLE: Test D: Shock (Undischarged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B1	3.669	116.413	3.668	116.411
B2	3.672	116.116	3.672	116.113
B3	3.681	116.264	3.681	116.262
B4	3.674	116.381	3.673	116.378
B5	3.674	116.423	3.672	116.422
B6	3.672	116.384	3.672	116.381
B7	3.664	116.442	3.663	116.441
B8	3.676	116.508	3.673	116.505
B9	3.682	116.373	3.680	116.369
B10	3.671	116.409	3.670	116.406
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				
6.4.4	TABLE: Test D: Shock (Fully discharged)			P
Batt. No.	Before test		After test	
	battery voltage (V)	battery weight (g)	battery voltage (V)	battery weight (g)
B11	3.647	116.751	3.645	116.748
B12	3.640	116.532	3.639	116.531
B13	3.627	116.233	3.625	116.227
B14	3.636	116.323	3.635	116.321
B15	3.651	116.083	3.650	116.079
B16	3.633	116.215	3.631	116.212
B17	3.633	116.678	3.630	116.673
B18	3.633	116.303	3.632	116.301
B19	3.636	116.001	3.634	115.998
B20	3.633	116.106	3.631	116.103
Supplementary information: - No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.				

6.5.1	TABLE: Test E: External short-circuit (Undischarged)					P
Battery No.	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise ΔT , (°C)	Results	
B1	56.5	3.668	85.6	57.1	P	
B2	56.5	3.672	86.7	57.8	P	
B3	56.5	3.681	88.1	57.4	P	
B4	56.5	3.673	85.1	57.0	P	
B5	56.5	3.672	84.9	57.0	P	
B6	55.5	3.672	86.0	55.9	P	
B7	55.5	3.663	88.4	56.4	P	
B8	55.5	3.673	83.7	56.1	P	
B9	55.5	3.680	87.1	56.3	P	
B10	55.5	3.670	85.9	55.7	P	
Supplementary information: - No excessive temperature rise (>170°C), no rupture, no explosion and no fire.						
6.5.1	TABLE: Test E: External short-circuit (Fully discharged)					P
Battery No.	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise ΔT , (°C)	Results	
B11	56.6	3.645	83.7	56.7	P	
B12	56.6	3.639	84.4	57.8	P	
B13	56.6	3.625	86.8	57.4	P	
B14	56.6	3.635	82.5	56.9	P	
B15	56.6	3.650	85.0	56.9	P	
B16	55.7	3.631	84.9	56.3	P	
B17	55.7	3.630	87.7	56.4	P	
B18	55.7	3.632	86.3	56.5	P	
B19	55.7	3.634	86.8	57.3	P	
B20	55.7	3.631	84.1	57.0	P	
Supplementary information: - No excessive temperature rise (>170°C), no rupture, no explosion and no fire.						

6.5.2	TABLE: Test F: Impact (Undischarged)				P
Battery No.	Ambient, (°C)	OCV at start of test, (Vdc)	Maximum case temperature rise ΔT , (°C)	Results	
C1	23.0	3.668	23.4	P	
C2	23.0	3.665	23.7	P	
C3	23.0	3.669	23.6	P	
C4	23.0	3.664	23.4	P	
C5	23.0	3.666	24.0	P	
Supplementary information: - No excessive temperature rise (>170°C), no explosion and no fire.					
6.5.2	TABLE: Test F: Impact (Fully discharged)				P
Battery No.	Ambient, (°C)	OCV at start of test, (Vdc)	Maximum case temperature rise ΔT , (°C)	Results	
C6	23.0	3.634	23.9	P	
C7	23.0	3.628	23.5	P	
C8	23.0	3.626	23.9	P	
C9	23.0	3.631	24.0	P	
C10	23.0	3.630	24.6	P	
Supplementary information: - No excessive temperature rise (>170°C), no explosion and no fire.					

6.5.3	TABLE: Test G: Crush (Undischarged)				N/A
Battery No.	Ambient, (°C)	OCV at start of test, (Vdc)	Maximum case temperature rise ΔT , (°C)	Results	
Supplementary information:					
- No excessive temperature rise (>170°C), no explosion and no fire.					

6.5.3	TABLE: Test G: Crush (Fully discharged)				N/A
Battery No.	Ambient, (°C)	OCV at start of test, (Vdc)	Maximum case temperature rise ΔT , (°C)	Results	
Supplementary information:					
- No excessive temperature rise (>170°C), no explosion and no fire.					

6.5.4	TABLE: Test H: Forced discharge (Fully discharged)				P
Battery No.	OCV at start of test, (Vdc)	Max. discharge current, (A)	Test duration, (mins)	Results	
C11	3.622	1.5	520	P	
C12	3.625	1.5	520	P	
C13	3.627	1.5	520	P	
C14	3.626	1.5	520	P	
C15	3.630	1.5	520	P	
C16	3.629	1.5	520	P	
C17	3.623	1.5	520	P	
C18	3.628	1.5	520	P	
C19	3.621	1.5	520	P	
C20	3.624	1.5	520	P	
Supplementary information:					
- No explosion and no fire.					

6.5.5	TABLE: Test I: Abnormal charging (Undischarged)				P
Battery No.	OCV at start of test, (Vdc)	Max. charge current, (A)	Test duration, (mins)	Results	
B21	3.664	0.015	43333.4	P	
B22	3.665	0.015	43333.4	P	
B23	3.667	0.015	43333.4	P	
B24	3.663	0.015	43333.4	P	
B25	3.663	0.015	43333.4	P	
Supplementary information:					
- No explosion and no fire.					

6.5.6	TABLE: Test J: Free fall (Undischarged)		P
Battery No.	Before test	After test	Test results
	battery voltage (V)	battery voltage (V)	
B26	3.663	3.663	P
B27	3.664	3.664	P
B28	3.665	3.664	P
B29	3.663	3.663	P
B30	3.665	3.665	P
Supplementary information:			
- No venting, no explosion and no fire.			

6.5.7	TABLE: Test K: Thermal abuse (Undischarged)		P
Battery No.	Before test	After test	Test results
	battery voltage (V)	battery voltage (V)	
B31	3.666	0*	P
B32	3.668	0*	P
B33	3.664	0*	P
B34	3.663	0*	P
B35	3.665	0*	P
Supplementary information: - No explosion and no fire. *: Electrolyte leakage after Thermal abuse.			

6.5.8	Test L: Incorrect installation (Undischarged)			N/A
Battery No.	OCV at start of test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise ΔT , (°C)	Results
Supplementary information: - No explosion and no fire.				

6.5.9	Test M: Overdischarge (Undischarged)			N/A
50% predischarged test batteries				
Battery No.	OCV at start of test, (Vdc)	Resistance of circuit, (Ω)	Maximum case temperature rise ΔT , ($^{\circ}\text{C}$)	Results
Supplementary information:				
- No explosion and no fire.				
75% predischarged test batteries				
Battery No.	OCV at start of test, (Vdc)	Resistance of circuit, (Ω)	Maximum case temperature rise ΔT , ($^{\circ}\text{C}$)	Results
Supplementary information:				
- No explosion and no fire.				

--End of Report--

Product: LITHIUM BATTERY PACK

Type Designation: 1S1PER34615M/W90(A)

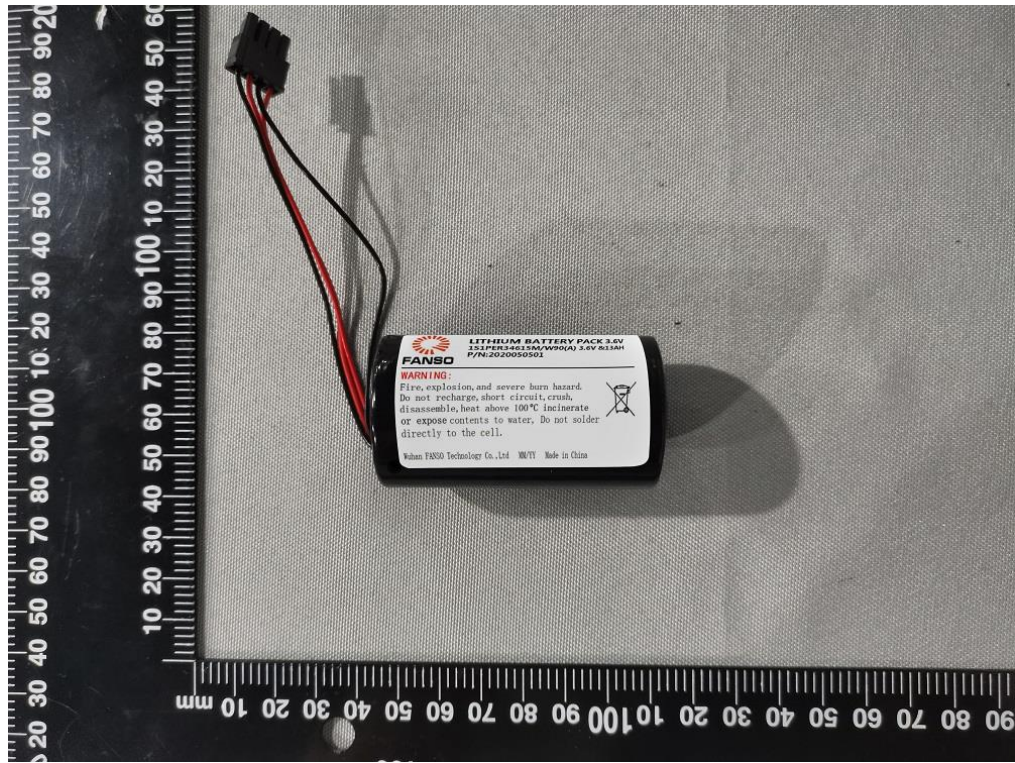


Figure 1 Front view of battery



Figure 2 Back view of battery

Product: LITHIUM BATTERY PACK

Type Designation: 1S1PER34615M/W90(A)

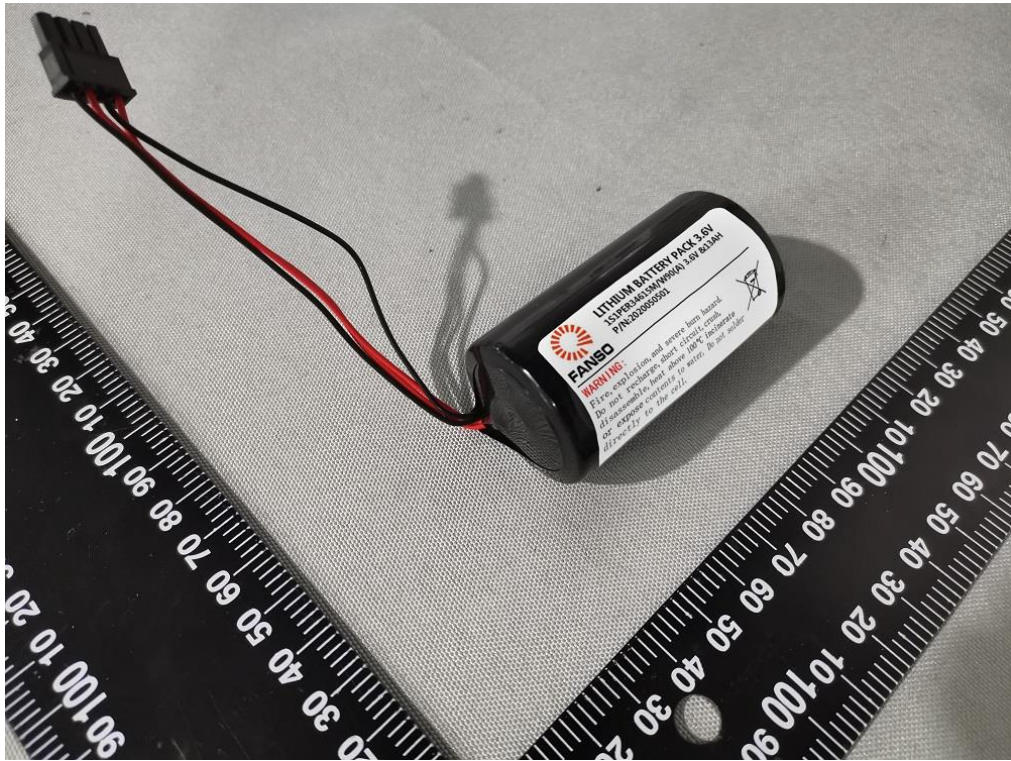


Figure 3 Side view of battery

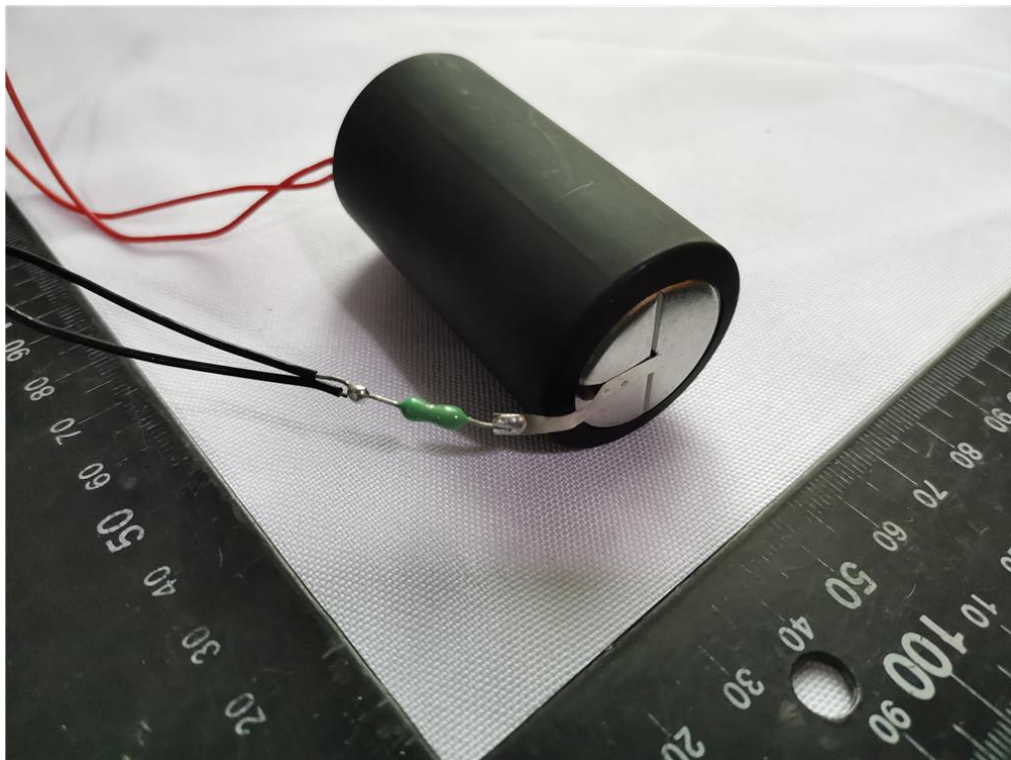


Figure 4 Inside view of battery

Product: LITHIUM BATTERY PACK

Type Designation: 1S1PER34615M/W90(A)

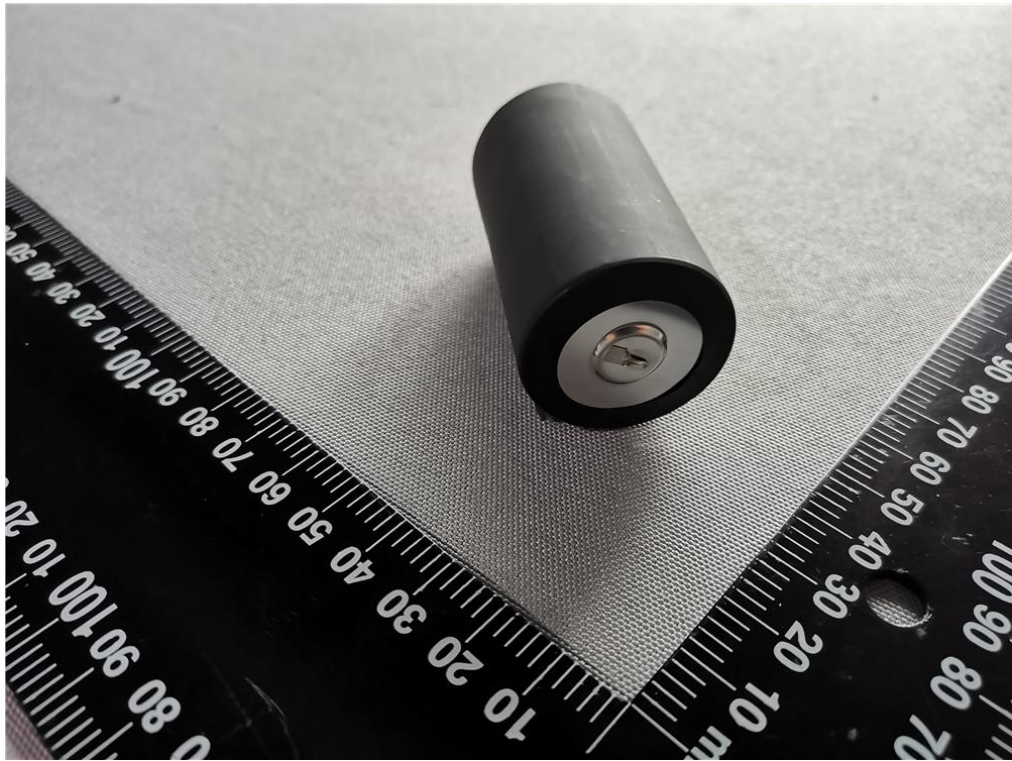


Figure 5 Side view of component cell

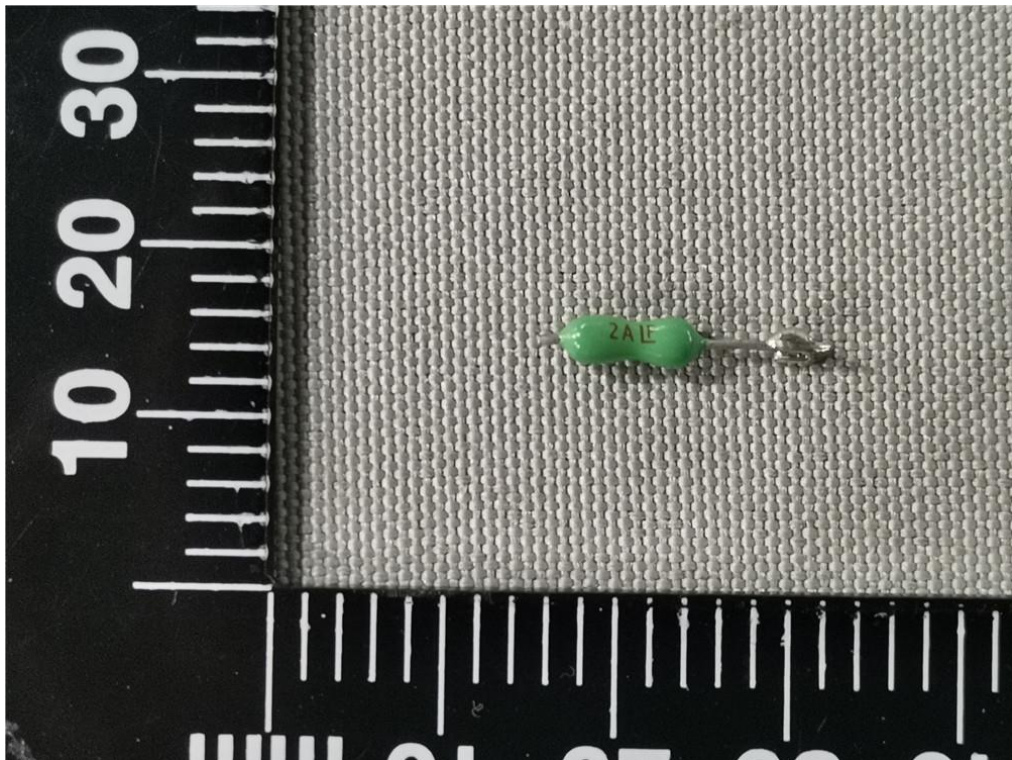


Figure 6 Front view of FUSE