

Report No: 4787582269  
Report Date: 2016-12-21



Test Location Information	
Name	UL-CCIC COMPANY LIMITED
Address	No. 2, Chengwan Road, Suzhou Industrial Park Suzhou 215122 ,China
Client Information	
Name	PORTAPOWER (China) LTD
Address	FLAT 1003, 10TH FL HOPEFUL FACTORY CTR 10-16 WO SHING STFOTAN N T HK
Report Information	
Report Number	4787582269
Report Date	2016-12-21
Standard References	IEC 60529, Edition 2.1 + Corr. 1:2003 + Corr. 2:2007 + Corr. 3:2009
Product Information	
Type	KLC99HU02GR.809
Product	Lithium Ion Battery Pack
Testing Engineer	
Name/Signature	Brandon Wu / 
Laboratory Review	
Name/Signature	Becky Li/ <i>Becky Li</i>



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### **General Information**

Information conveyed by this Report applies only to the test sample(s) actually tested. Underwriters Laboratories Inc. (UL) did not select the sample(s), determine whether the sample(s) was representative of production sample(s), nor was UL provided with information relative to the formulation or identification of component materials used in the test sample(s).

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Summary of test results	
Test Name	Verdict
DUST TEST FOR ENCLOSURE DESIGNATION IP6X	Pass
WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5	Pass

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Sample Identification			
Sample No.	Sample Identification Number	Date Received	Product Description /Serial Number
650238-001, 650238-002	650238	2016-11-17	Lithium Ion Battery Pack, Model:KLC99HU02GR.809

*Sample Pictures as Received:*



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### Samples construction and material declared by Client:

Case Material: PC Non-flammable materials  
Supplier:Lucky Enpla Co., Ltd  
Model: LPC1001F  
UL Certificate No.: E217401



Pic.:

Sealing Material: Sealing Glue  
Supplier:Shenzhen Chengxinkang Company Limited  
Model: KD-8405BW  
UL Certificate: E341043



Pic.:

Tube materials: Aluminum  
Size: 380\*79.5\*54.8 mm  
Supplier: Fanshang Motorcycle & Accessories (Shanghai) Co., Ltd



Pic

Waterproof apron: material hardness: SIR50 degrees  
Supplier: Shenzhen Tai Sheng Silicone Rubber Co., Ltd.



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Pic

For and on behalf of  
PORTAPOWER (CHINA) LIMITED  
Authorized Signature(s)





DUST TEST FOR ENCLOSURE DESIGNATION IP6X

### *TEST PROCEDURE:*

A sample as indicated in the table below was supported in the worst case mounting position in a closed dust chamber which maintained talcum powder in suspension. The effective volume of the test chamber was  $1\text{m}^3$ , sufficient to allow uniform distribution of the dust.

The Sample under test was connected to a vacuum pump to maintain the pressure below atmospheric pressure. The connection was made using a specially provided hole.

The Sample under test was exposed to the talcum powder atmosphere until there were at least 80 volume changes where the maximum flow rate was 60 volume changes per hour, the maximum vacuum was 20 mbar and the test duration was 2 hours minimum, 8 hours maximum. See the table under "RESULTS" for actual test conditions.

The talcum powder used passed through a square meshed sieve having a nominal wire diameter of 0.050 mm and a nominal width between wires of 0.075 mm. The amount of talcum powder installed in the test chamber was  $2\text{kg}/\text{m}^3$  of test chamber volume.



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DUST TEST FOR ENCLOSURE DESIGNATION IP6X

**RESULTS:**

Test Date:	2016-12-02
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TALC DUST TEST CONDITIONS

Sample No.	Model	Internal Enclosure Volume, dm3	Flow Rate, dm3/ h	Test Duration, h
650238-001	KLC99HU02GR .809	1.338	68	2
No. of Volume Changes During Test	Vacuum, mbar	Ambient, °C	Barometric Pressure, mmHg	Relative Humidity, %
136	18.4	23.7	765	44.4

For sample No. 650238-001 talcum powder did not enter the enclosure (IP6X rating).





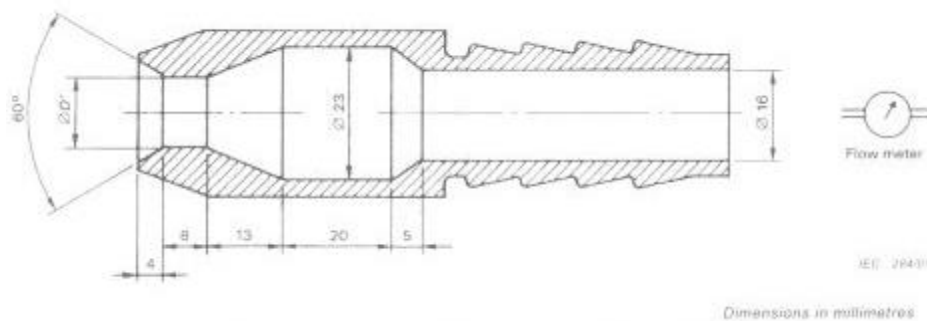
WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5

**TEST PROCEDURE:**

Sample No. 650238-002 was mounted as intended.

The sample was subjected to a stream of water from a test nozzle as shown below (Reference Fig. 6 of EN 60529) having a 6.3 mm internal diameter, delivering 12.5 liters of water per minute  $\pm$  5 percent. The pressure was adjusted to achieve the specified delivery rate and to assure that the core of the substantial stream of water measured approximately 40 mm in diameter at 2.5 m distance from the nozzle. The distance from nozzle to the enclosure surface area was between 2.5 m to 3 m. The test duration was at least 1 minute per square meter of the electrical enclosure, but not less than 3 minutes. (The calculated surface area for the electrical enclosure was 0.09 square meters  $\pm$  10%.)

During the test the water temperature did not differ by more than 5°K from the temperature of the specimen (electrical enclosure) under test. If the water temperature was more than 5°K below the temperature of the specimen, a pressure balance was provided for the enclosure.



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WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5

**RESULTS:**

Test Date:	2016-12-02
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No water entered the enclosure.

Ambient Temperature    \_\_23.7°C\_\_    (shall be 15 to 35°C, preferably 25°C)

Relative Humidity       \_\_44.5%\_\_    (shall be 25 to 75%, preferably 50%

Barometric Pressure    \_\_1020mbar\_\_    (shall be 860 to 1,060 mbar (645 mmHg to 795 mmHg))





*Instrument reference list:*

Instr ID	Test Name	Description	Test Date	Last Cal Date	Expiration Date
34175	DUST TEST FOR ENCLOSURE IP6X	IP Tester	2016-12-02	2016-02-25	2017-02-24
35728	DUST TEST FOR ENCLOSURE IP6X	Gauge, Pressure, Digital or Analog	2016-12-02	2016-05-16	2017-05-15
61721	DUST TEST FOR ENCLOSURE IP6X	Datalogger, RH & Temperature	2016-12-02	2016-08-30	2017-08-29
44671	DUST TEST FOR ENCLOSURE IP6X	Measuring Tool, Ruler or Tape Measure	2016-12-02	2016-03-01	2021-02-28
135467	DUST TEST FOR ENCLOSURE IP6X	Stopwatch, Digital or Analog	2016-12-02	2016-03-30	2017-03-29
34174	WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5	IP Tester	2016-12-02	2016-05-05	2017-05-04
35728	WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5	Gauge, Pressure, Digital or Analog	2016-12-02	2016-05-16	2017-05-15
61721	WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5	Datalogger, RH & Temperature	2016-12-02	2016-08-30	2017-08-29
44671	WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5	Measuring Tool, Ruler or Tape Measure	2016-12-02	2016-03-01	2021-02-28
135467	WATER SPRAY TEST FOR ENCLOSURE DESIGNATION IPX5	Stopwatch, Digital or Analog	2016-12-02	2016-03-30	2017-03-29



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End of Test Report

