



中国认可
国际互认
检测
TESTING
CNAS L13446



**TEST REPORT
IEC 60529**

Degrees of protection provide by enclosure(IP code)

Report Number.....: Q02A22080668Q00201
Date of issue.....: 2022-10-25
Total number of pages.....: 9 pages

Name of Testing Laboratory preparing the Report.....: Guangdong Meide Testing Technology Co., Ltd.

Applicant's name.....: Roypow Technology Co., Ltd
Address.....: Building A, No.53 Huitai Industrial Park, Zhongkai High-Tech District, Huizhou, Guangdong, China.

Test specification:




Standard.....: IEC 60529:1989+A1:1999+A2:2013
Test procedure.....: IP65 Test
Non-standard test method.....: N/A

Test Report Form No.....: 02-Q024-1A
Test Report Form(s) Originator.....: GTG
Master TRF.....: Dated 2022-07-01

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 Testing Laboratory.
The authenticity of this Test Report and its contents can be verified by contacting the GTG, responsible for this Test Report.

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):

<input checked="" type="checkbox"/>	Testing Laboratory:	Guangdong Meide Testing Technology Co., Ltd.	
	Testing location/ address.....:	1st Floor, Area B, Jinbaisheng Industrial Park, 2nd Road, Songshan Lake High-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.	
	Tested by (name, function, signature).....:	King Lei Project handler	
	Reviewed by (name, function, signature).....:	Louis Lu Reviewer	
	Approved by (name, function, signature).....:	Mo JiaKeng Authorized Signatory	



Test item description.....:	lithium iron phosphate battery	
Trade Mark.....:	N/A	
Manufacturer.....:	Roypow Technology Co., Ltd Building A, No.53 Huitai Industrial Park, Zhongkai High-Tech District, Huizhou, Guangdong, China.	
Model/Type reference.....:	F24100XX, F24105XX, F24160XX, F24210XX, F24280XX, F24304XX, F24315XX, F24420XX, F24460XX, F24560XX, F24690XX, F36210XX, F36280XX, F36304XX, F36315XX, F36420XX, F36460XX, F36560XX, F36690XX, F36840XX, F48210XX, F48280XX, F48304XX, F48315XX, F48420XX, F48460XX, F48560XX, F48690XX, F48840XX, F72210XX, F72280XX, F72304XX, F72315XX, F72420XX, F72460XX, F72560XX, F72690XX, F72840XX, F80210XX, F80280XX, F80304XX, F80315XX, F80420XX, F80460XX, F80560XX, F80690XX, F80840XX.	
Ratings.....:	N/A	
List of Attachments (including a total number of pages in each attachment):		
Attachment 1: Photo		
Summary of testing:		
Tests performed (name of test and test clause): IEC 60529:1989+A1:1999+A2:2013	Testing location: Guangdong Meide Testing Technology Co., Ltd. 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road, Songshan Lake Hi-tech Industrial Development Zone, Dongguan City, Guangdong Pr., China.	
Summary of compliance with National Differences:		
List of countries addressed N/A		

Test item particulars :	
Classification of installation and use : N/A	
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 : 2022-09-26	
Date (s) of performance of tests : 2022-10-20	
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 <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Clause numbers between brackets refer to clauses in IEC 60598-1	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 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..... :	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) : Roypow Technology Co., Ltd Building A, No.53 Huitai Industrial Park, Zhongkai High-Tech District, Huizhou, Guangdong, China.	
General product information:	
-- All models are identical except size.	
-- The "XX" can be A-Z or blank, for different market sales, does not affect the safety performance of the product.	
-- According to the customer's requirements, the model F24210A was chosen as representative model to perform IP65 Test.	

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for tests		P
11.1	Atmospheric conditions for water or dust tests	IP65: 23.2°C, 64%R.H,94 kPa	P
11.2	Test samples	The tests specified are Commissioned tests.	P
11.3	Application of test requirements and interpretation of test results		P
11.4	Combination of test conditions for the first characteristic numeral		P
11.5	Empty enclosures		N/A
12	Test for protection against access to hazardous parts indicated by the first characteristic numeral		N/A
12.1	Access probes	Not considered.	N/A
12.2	Test conditions		N/A
12.3	Acceptance conditions		N/A
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.2	For high-voltage equipment(Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.3	For equipment with hazardous mechanical parts		N/A
13	Test for protection against solid foreign objects indicated by the first characteristic numeral		P
13.1	Test means		P
	Test means and the main test conditions	IP6X	P
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.4	Dust test for first characteristic numerals 5 and 6	IP6X	P
13.5	Special conditions for first characteristic numeral 5		N/A
13.5.1	Test conditions for first characteristic numeral 5		N/A
13.5.2	Acceptance conditions for first characteristic numeral 5		N/A
13.6	Special conditions for first characteristic numeral 6		P
13.6.1	Test conditions for first characteristic numeral 6		P
13.6.2	Acceptance conditions for first characteristic numeral 6		P
14	Test for protection against water indicated by the second characteristic numeral		P
14.1	The test means and the main test conditions	IPX5	P
14.2	Test conditions		P
	Test means and main test conditions		P

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	During the tests for IPX1 TO IPX6 the water temperature should not differ by more than 5K from the temperature of the specimen under test		P
	For IPX7 details of the water temperature are given in 14.2.7		N/A
	Test for second characteristic numeral 8, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition that the enclosure will be continuously immersed in actual use		N/A
14.2.1	Test for second characteristic numeral 1 with the drip box		N/A
14.2.2	Test for second characteristic numeral 2 with the drip box		N/A
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N/A
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle	Test time: 15min	P
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle		N/A
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15m and 1m		N/A
	The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied		N/A
	a) the lowest point of enclosures with a height less than 850mm is located 1000mm below the surface of the water		N/A
	b) the highest point of enclosures with a height equal to or greater than 850mm is located 150mm below the surface of the water		N/A
	c) the duration of the test is 30min		N/A
	d) the water temperature does not differ from that of the equipment by more 5K		N/A
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N/A
14.2.9	Test for second characteristic numeral 9 by high pressure and temperature water jetting		N/A
	The test is made by spraying the enclosure with a stream of water from a standard test nozzle as shown in Figures 7, 8 and 9.		N/A
	The set-up for measuring the impact force of the water jet is given in Figure 10.		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	The distribution force shall be verified at upper and lower limits of distance tolerance range (see Figure 11).		N/A
	a) For small enclosures (largest dimension less than 250 mm), the enclosure shall be mounted on the test device shown in Figure 12.		N/A
	b) For large enclosures (largest dimension greater than or equal to 250 mm), the enclosure shall be mounted as per intended use. The entire exposed surface area of the enclosure shall be subjected to the spray at some point during the test procedure.		N/A
14.3	After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.9 the enclosure shall be inspected for ingress of water	No water has entered.	P
	It is the responsibility of the relevant technical committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test		N/A
	In general, if any water has entered, it shall not:		N/A
	–be sufficient to interfere with the correct operation of the equipment or impair safety		N/A
	–deposit on insulation parts where it could lead to tracking along the creepage distances		N/A
	–reach live parts or windings not designed to operated when wet		N/A
	–accumulate near the cable end or enter the cable if any		N/A
	If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment	No Drain-holes	N/A
	For enclosure without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts		N/A
15	Test for protection against access to hazardous parts indicated by the additional letter		N/A
15.1	Access probes	No additional letter	N/A
	The access probe are given in table 6		N/A
15.2	Test conditions		N/A
	The access probe is pushed against any openings of the enclosure with the force specified in table 6		N/A
15.3	Acceptance conditions		N/A
	Test for the additional letter B		N/A
	Test for the additional letter C and D		N/A

Attachment 1: Photo

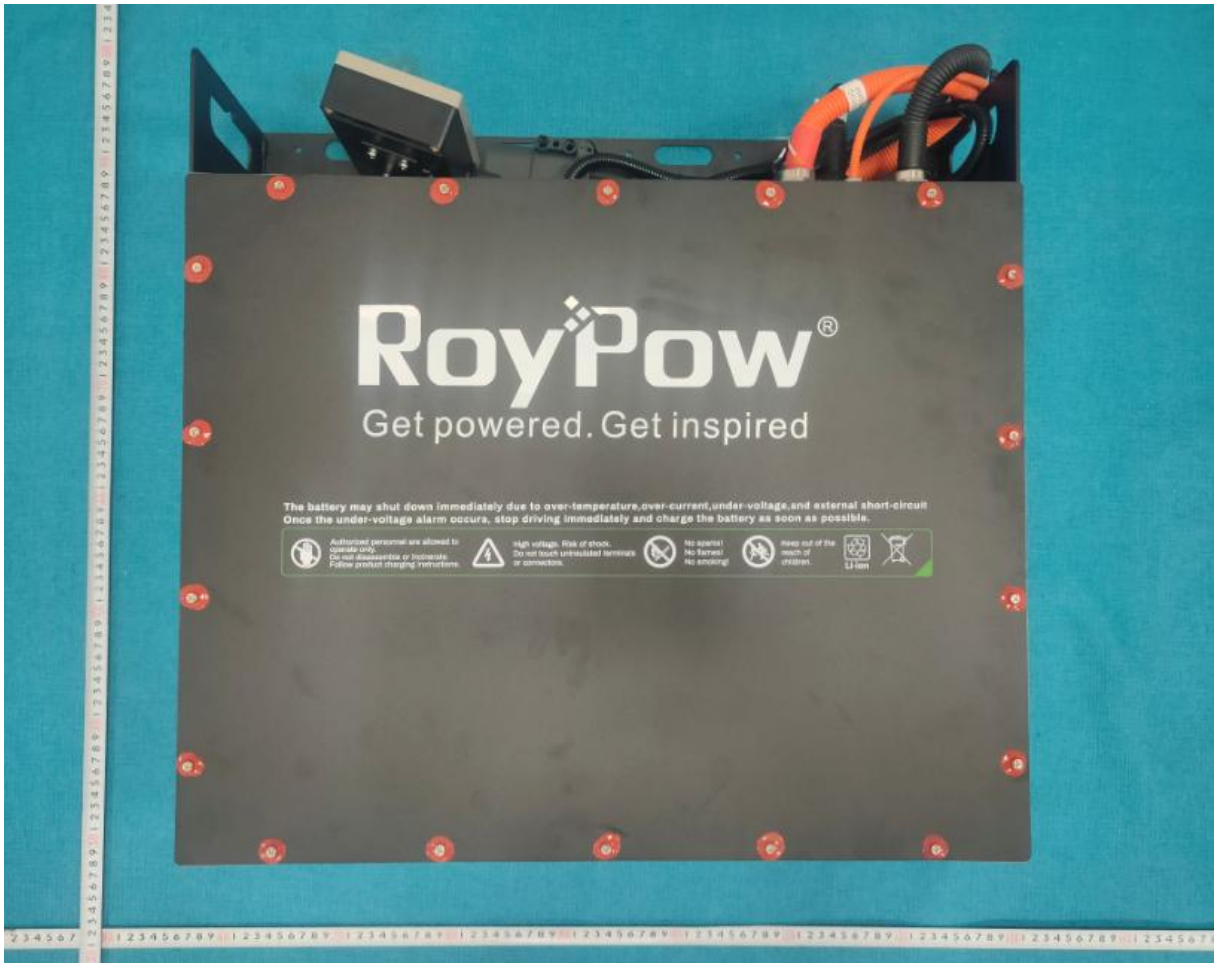


Figure 1: Outlook view of model F24210A

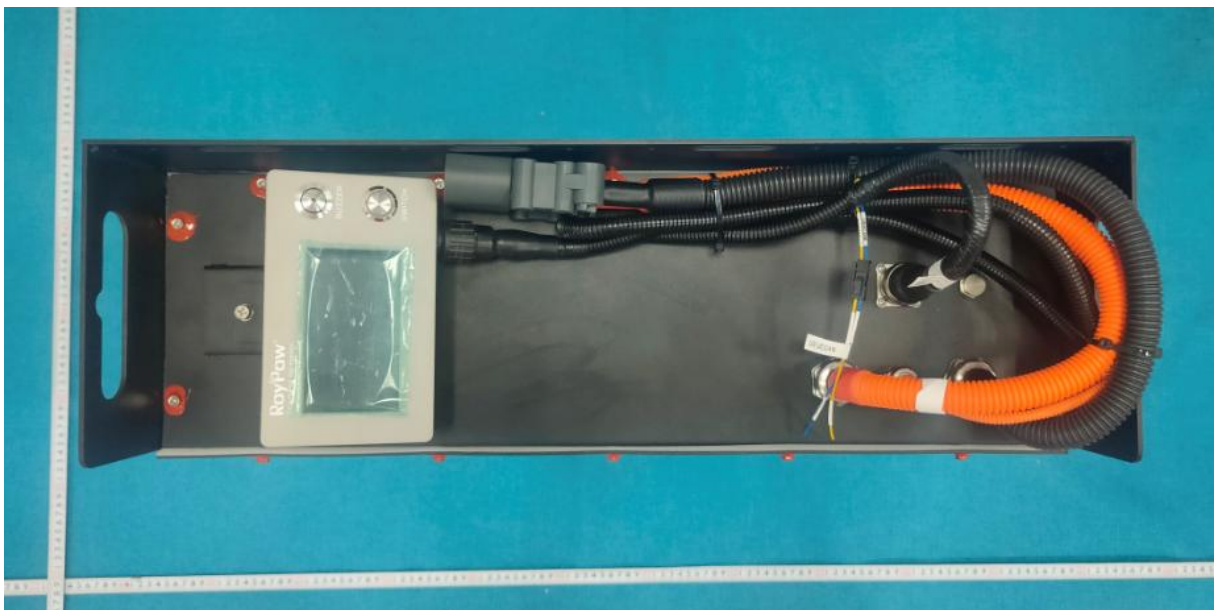


Figure 2: Outlook view of model F24210A

Attachment 1: Photo



Figure 3: After IP6X test of model F24210A

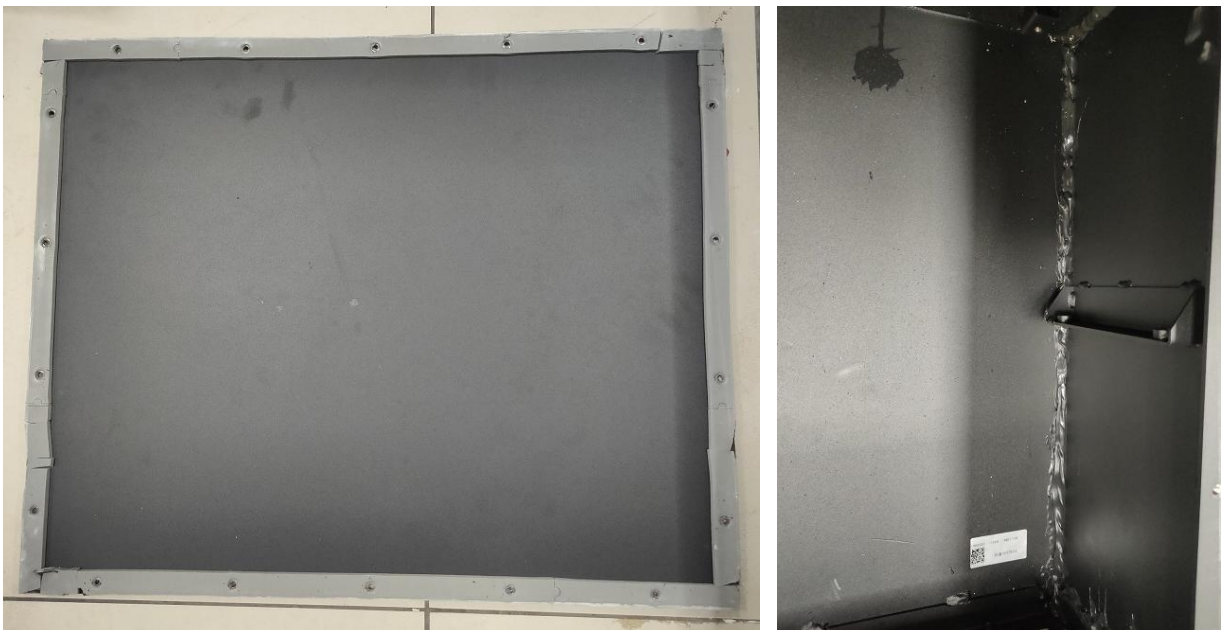


Figure 4: After IP6X test of model F24210A

Attachment 1: Photo

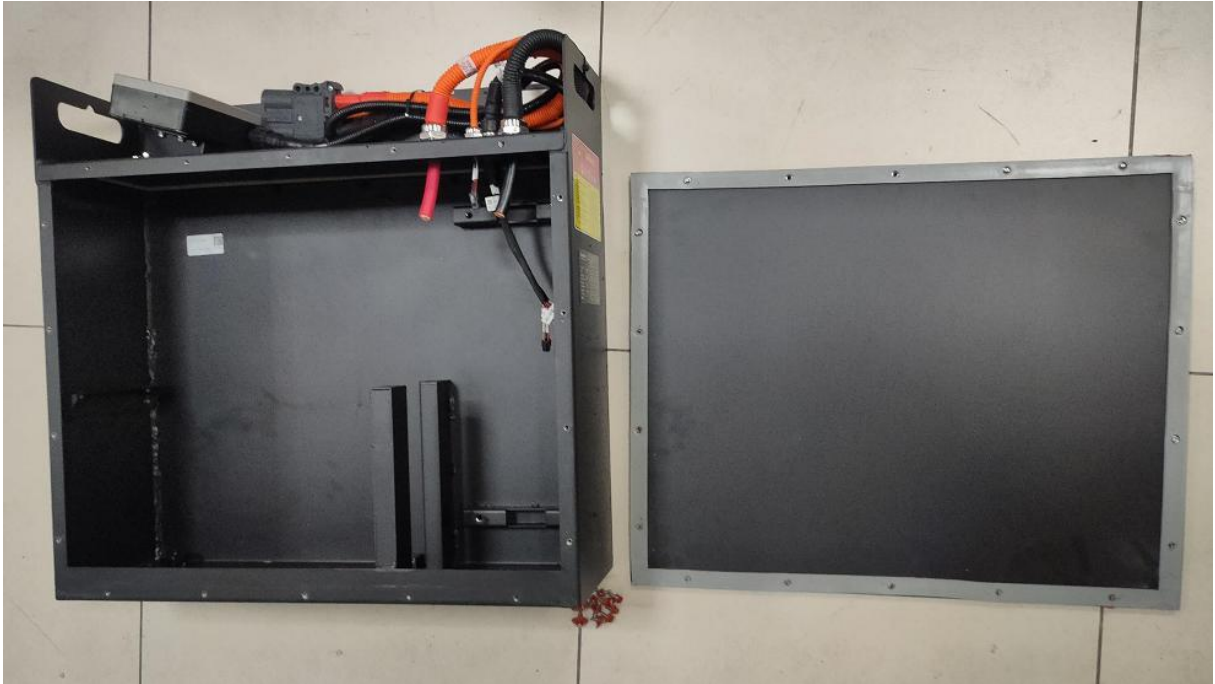


Figure 5: After IPX5 test of model F24210A

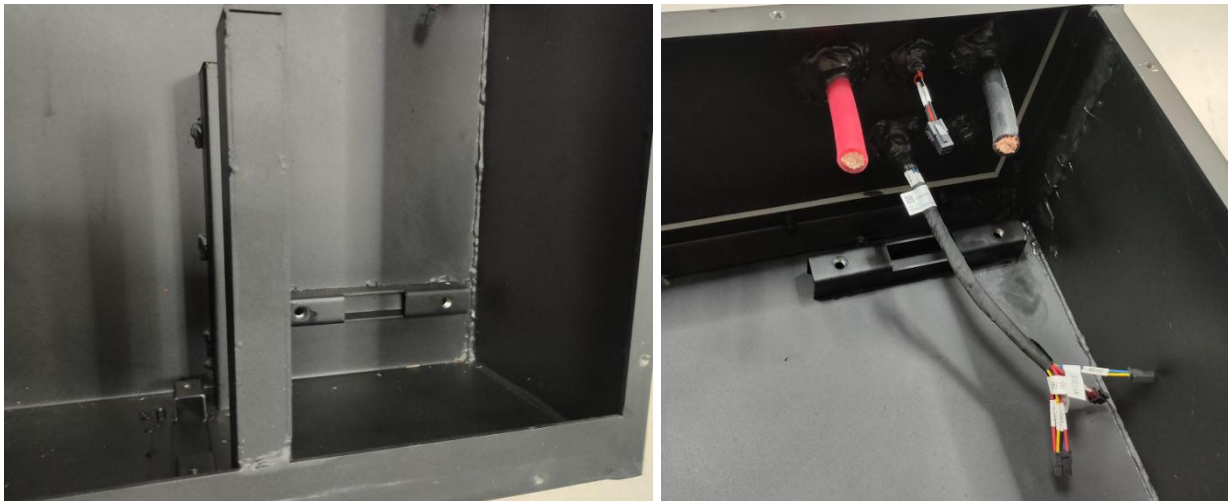


Figure 6: After IPX5 test of model F24210A

---End of Report---