TEST REPORT

IEC 60529

Degrees of protection provided by enclosures (IP code)

Report Number.....:	RKEYS250610052
Total number of pages.....	12 pages
Tested by (name + signature).....:	Echo Zhong
Approved by (name + signature)...:	Jason Zhan
Testing Laboratory Name.....:	Guangdong KEYS Testing Technology Co., Ltd.
Address.....:	Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China
Applicant's name.....:	Nirrau electronics design and manufacturing co., Ltd
Address.....:	ROOM 2310&2312,23/F WAYSON COMMERCIAL BUILDING 28 CONNAUGHT RD WEST SHEUNG WAN HK
Manufacturer's name.....:	Nirrau electronics design and manufacturing co., Ltd
Address.....:	ROOM 2310&2312,23/F WAYSON COMMERCIAL BUILDING 28 CONNAUGHT RD WEST SHEUNG WAN HK
Test specification:	
Standard.....:	☒ IEC 60529:2013+ A1:2013 ☐ EN 60529:1991 + A1:2000 + A2:2013
Test procedure.....:	Safety report
Non-standard test method.....:	N/A
Test item description.....:	FONTE DE TENSÃO 12V 3A
Trade Mark.....:	NIRRAU
Model/Type reference.....:	020204F021, 020204F025
IP degrees.....:	IP66

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General disclaimer:

This report is only for applicant use. Any copying this report to/for any other person or entity, and use our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

List of Attachments:

Attachment 1: 3 pages of photos.

Summary of testing:

The tested samples fulfilled the requirements of specified standards.

Testing location:

Guangdong KEYS Testing Technology Co., Ltd.

Building 1, No.18, Shihuan Road, Dongcheng Subdistrict, Dongguan, Guangdong, China

Summary of compliance with National Differences:

List of countries addressed:.

☒ The product fulfils the requirements of **IEC 60529:1989+A1:1999+A2:2013**

Remark:

/

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..... :** Jun.10, 2025 **Date (s) of performance of tests..... :** Jun.10, 2025 to Jun. 12, 2025
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.**
Name and address of factory (ies)..... : --
General product informRation: 1.The appliance/equipment is “FONTE DE TENSÃO 12V 3A” with models “Test Model : 020204F021. Additional Model: 020204F025”. 2. All models are identical except the model number. All test model on 020204F021. 3.The ambient temperature is 25℃.

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Clause	Requirement + Test	Result - Remark	Verdict
5	**Degrees of protection against access to hazardous parts and against solid foreign objects indicated by the first characteristic numeral**	**IP6X**	**P**
5.1	Protection against access to hazardous parts		P
5.2	Protection against solid foreign objects		P
6	**Degrees of protection against ingress of water indicated by the second characteristic numeral**	**IPX6**	**P**
7	**Degrees of protection against access to hazardous parts indicated by the additional letter**		**N**
8	**Supplementary letters**		**N**
9	**Examples of designations with the IP Code**		--
9.1	IP Code not using optional letters:		--
9.2	IP Code using optional letters:		--
10	**Marking**		P
	The requirements for marking shall be specified in the relevant product standard.		P
	Where appropriate, such a standard should also specify the method of marking which is to be used when:		N
	- one part of an enclosure has a different degree of protection to that of another part of the same enclosure		N

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Clause	Requirement + Test	Result - Remark	Verdict
	- the mounting position has an influence on the degree of protection		N
	- the maximum immersion depth and time are indicated		N

11	**General requirements for tests**		**P**
11.1	Atmospheric conditions for water or dust tests	24.7-25.3, 46.5-54.3%R.H.	P
11.2	Test samples		P
11.3	Application of test requirements and interpretation of test results		N
11.4	Combination of test conditions for the first characteristic numeral	IP6X	P
11.5	Empty enclosures		P

12	**Test for protection against access to hazardous parts indicated by the fist characteristic numeral**		N
12.1	Access probes		N
12.2	Test conditions		N
12.3	Acceptance conditions		N
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		N
12.3.2	For high-voltage equipment (Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N
12.3.3	For equipment with hazardous mechanical parts		N

13	**Test for protection against solid foreign objects indicated by the first characteristic numeral**		**P**

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Clause	Requirement + Test	Result - Remark	Verdict
13.1	Test means		P
	Test means and the main test conditions are given in table 7		P
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		N
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		N
13.4	Dust test for first characteristic numerals 5 and 6		P
13.5	Special conditions for first characteristic numeral 5		N
13.5.1	Test conditions for first characteristic numeral 5		N
13.5.2	Acceptance conditions for first characteristic numeral 5		N
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	Test means		P
	The test means and the main test conditions are given in table 8	IPX6	P
14.2	Test conditions		P
	Test means and main test conditions are given in table 8		P
	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 and IPX9 details of the water temperature are given in 14.2.7 and 14.2.9 respectively		N

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Clause	Requirement + Test	Result - Remark	Verdict
14.2.1	Test for second characteristic numeral 1 with the drip box		N
14.2.2	Test for second characteristic numeral 2 with the drip box		N
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N
14.2.5	Test for second characteristic numeral 5 with the 6.3 mm nozzle		N
14.2.6	Test for second characteristic numeral 6 with the 12.5 mm nozzle		P
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15 m and 1 m		N
	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) the lowest point of enclosures with a height less than 850 mm is located 1000 mm below the surface of the water		N
	b) the highest point of enclosures with a height equal to or greater than 850 mm is located 150 mm below the surface of the water		N
	c) the duration of the test is 30 min		N
	d) the water temperature does not differ from that of the equipment by more 5K		N
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N

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Clause	Requirement + Test	Result - Remark	Verdict
14.2.9	Test for second characteristic numeral 9 by high pressure and temperature water jetting		N
14.3	Acceptance condition	No dangerous	P
	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 affect the safety	N
	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
	In general, if any water has entered, it shall not:	No affect the safety	P
	- be sufficient to interfere with the correct operation of the equipment or impair safety	No such parts	N
	- deposit on insulation parts where it could lead to tracking along the creepage distances	No such parts	N
	- reach live parts or windings not designed to operated when wet	No such parts	N
	- accumulate near the cable end or enter the cable if any		N
	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		N
	For enclosure without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts		N

15	**Test for protection against access to hazardous parts indicated by the additional letter**		N
15.1	Access probes		N

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Clause	Requirement + Test	Result - Remark	Verdict
15.2	Test conditions		N
15.3	Acceptance conditions		N
	Test for the additional letter B		N
	Test for the additional letter C and D		N

Photo documentation

☑ front

☐ rear

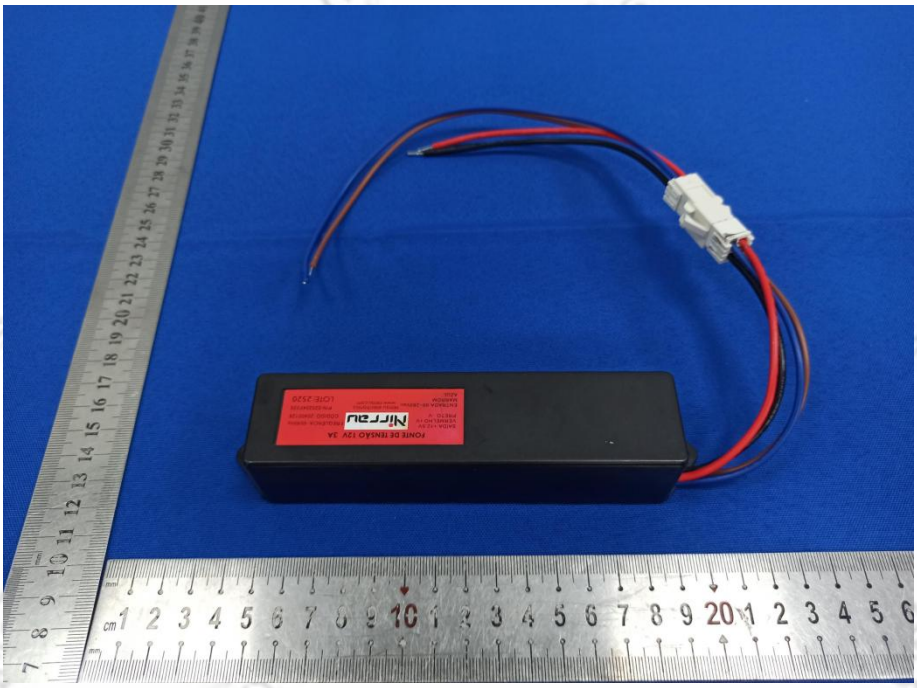
☐ right side

☐ left side

☐ top

☐ bottom

☐ internal



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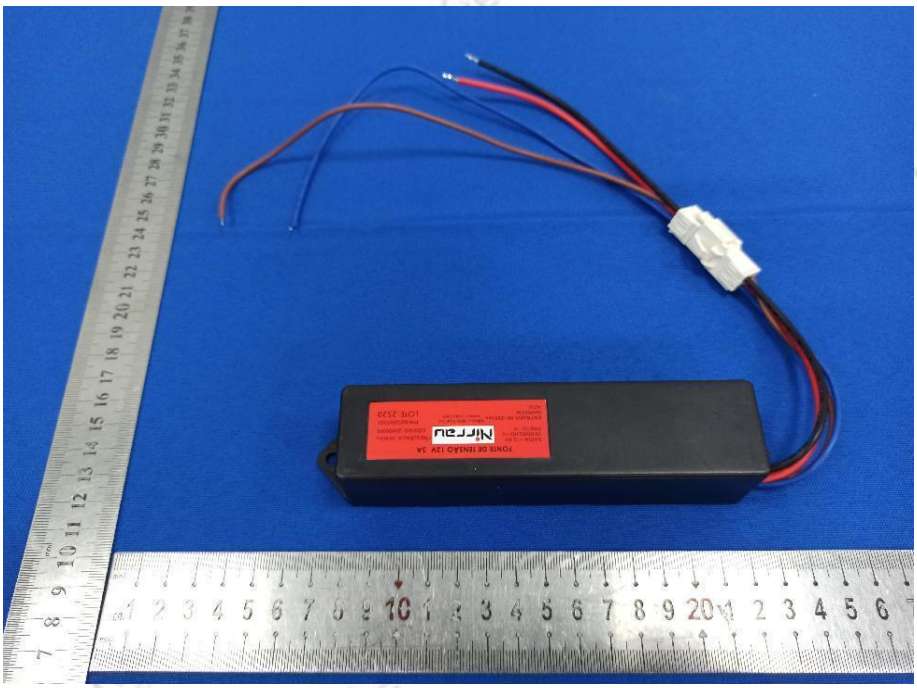

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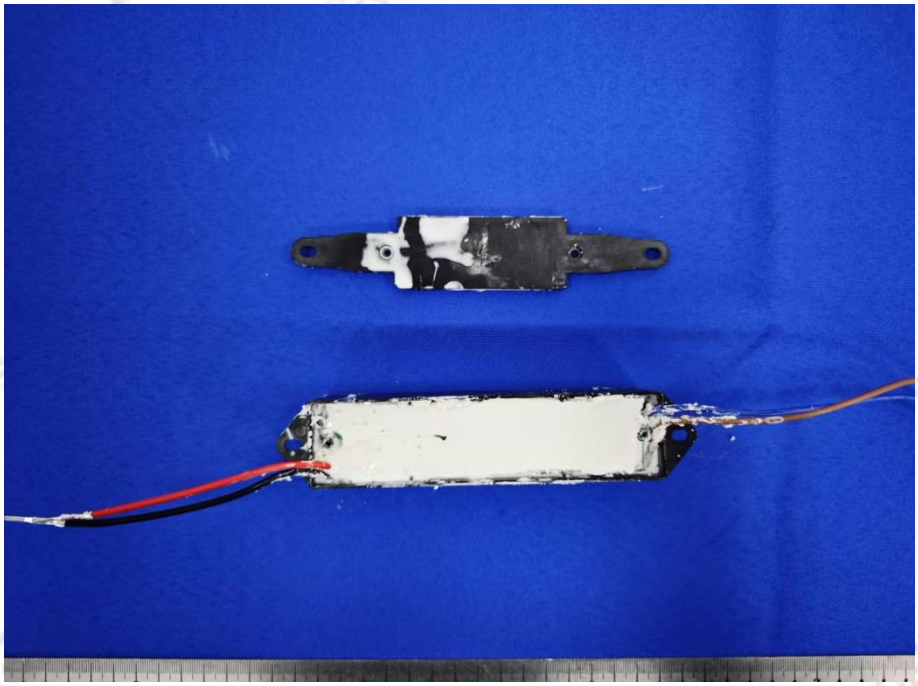

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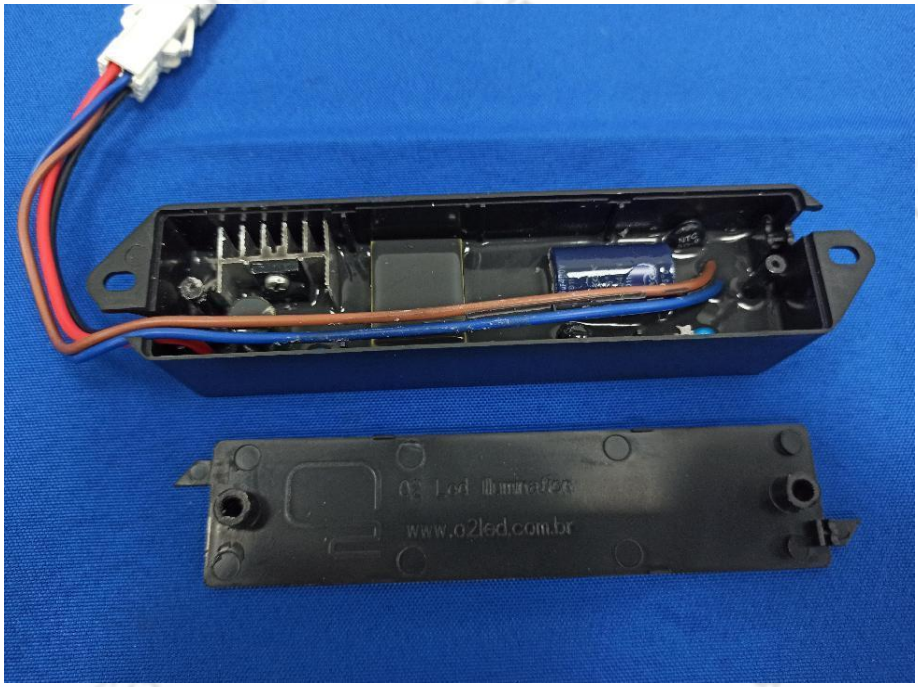

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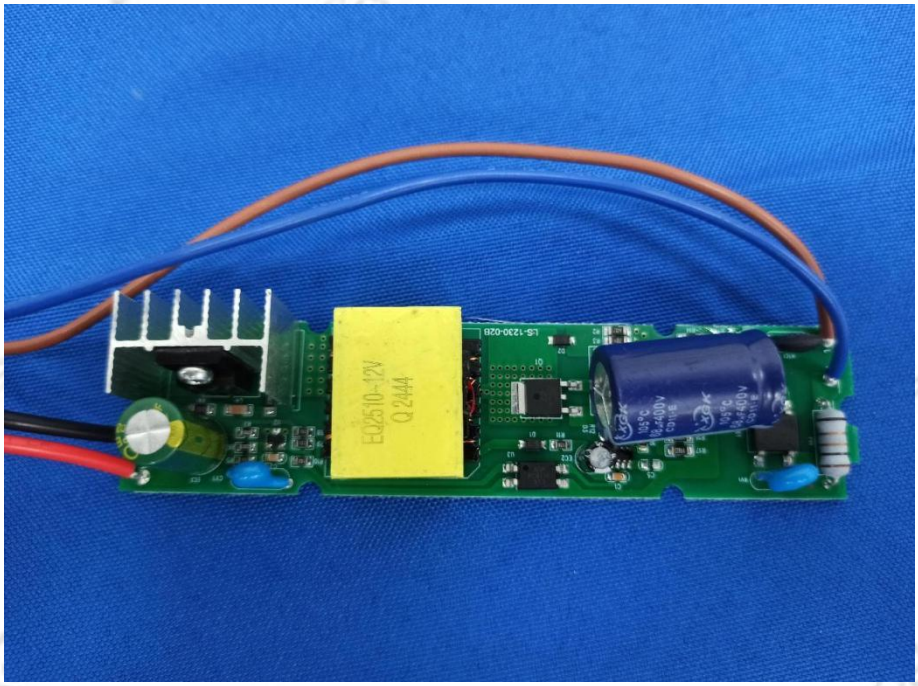

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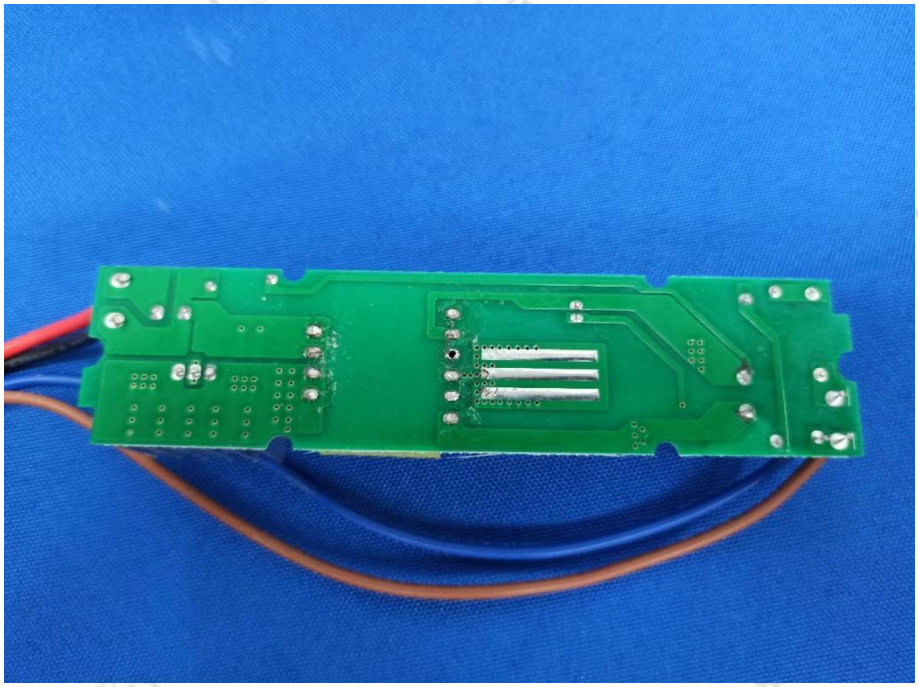

*** End of Report ***