

# Degrees of protection provided by enclosure(IP code) Test Report

Product name : Switching Power Supply  
Model/Type : GP-CVP016N-24V-P02  
Detection category : Commissioned inspection  
Applicant : GlacialTech INC.  
Manufacturer name : GlacialTech INC.  
Production plant : GlacialTech INC.  
Date(s) of performance of tests : Aug. 08, 2024~ Aug. 10, 2024  
Report date : Aug. 29, 2024  
Report pages : 12



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## Note the meaning of the matter

1. The test report without "special seal for testing" or "official seal of testing unit" is invalid;
2. Duplicate test report needs to be stamped with "special seal for testing" or "Official seal of testing unit", otherwise it is invalid;
3. The test report is invalid without the signature of the main inspector and the approver;
4. The test report is invalid;
5. If there is any objection to the test report, it shall be raised to the testing unit within 15 days from the date of receipt of the report, and the expiration date will not be accepted;
6. In general, commissioned testing is only responsible for incoming samples;
7. The "judgment" or "result" in the test report is: "P" means that the test is "qualified", "F" means that the test is "unqualified", and "N/A" means that the test is not applicable.


# TEST REPORT

Client Name	GlacialTech INC.		
Client Address	7Fl., No.352, Sec. 2, Jung Shan Rd.,Jung He Dist., New Taipei City, Taiwan		
Product Name	Switching Power Supply	Model No.	GP-CVP016N-24V-P02
Units No.	240801055	Sample number	1 set
Classification of test	Commission Test	Test Date	Aug. 07, 2024
Collection Mode	Aug. 08, 2024~ Aug. 10, 2024	Report Release Date	Aug. 29, 2024
Test Standards	IEC 60529- 2013 《Degrees of protection provided by enclosure (IP Code)》		
Environmental Conditions	Ambient Temperature: ( 22.7 ) °C, Relative Humidity: ( 65 ) %RH, Atmospheric pressure: ( 101 ) kPa		
Test Instruction			
Commissioned by GlacialTech INC., GP-CVP016N-24V-P02 was subjected to IP66 testing in accordance with the requirements of IEC 60529-2013 《Degrees of protection provided by enclosure (IP Code)》 .			
Test Conclusion			
GP-CVP016N-24V-P02 produced by GlacialTech INC., that has an enclosure protection class (IP66) meets the requirements of IEC 60529-2013 《Degrees of protection provided by enclosure (IP Code)》 .			
Suggestions: None.			
Remarks : This test report is only responsible for the tested products, products of the same model and GP-CVP016N-xxVzzz-P02 series products with the same size, appearance and material as the tested products. (xx can be 12, 24 or 48 to denote the rating of output voltage, zzz can be any character or number or blank for marketing purpose only. )			
Test case does not apply to the test object..... :		N(A)	
Test object does meet the requirement .....:		P(ass)	
Test object does not meet the requirement .....:		F(ail)	

# Test result

IEC 60529- 2013

No.	Standard requirements	Results	determine
1	Conduct a test on the entire sample (sample number: 240801055), and the protection level of the sample meets IP6X.	Detailed Test Results Summary Appendix I	<b>P</b>
2	Conduct a test on the entire sample (sample number: 240801055), and the protection level of the sample meets IP6X.	Detailed Test Results Summary Appendix I	<b>P</b>
Notes	/		

Tested by	Reviewer by	Approved by	
Gabriel Tang	James Guan	Toney Cao	
<i>Gabriel Tang</i>	<i>JAMES Guan</i>	<i>Toney Cao</i>	

## Appendix I

Test result			
IEC 60529- 2013			
Clause	Requirement - Test	Result - Remark	Verdict
<b>13</b>	<b>Tests for protection against solid foreign objects indicated by the first characteristic numeral</b>		N/A
13.1& 13.2	Test means & Test conditions Test means and the main test conditions are given in Table VII		N/A
13.3	Acceptance conditions for first characteristic numerals 1,2,3,4 The protection is satisfactory if the full diameter of the probe specified in Table VII does not pass through any opening.		N/A
13.4	Dust test for first characteristic numerals 5 and 6 The test is made using a dust chamber incorporating the basic principles shown in figure 2 whereby the powder circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50µm and the nominal width of a gap between wires 75µm. The amount of talcum powder to be used is 12 kg per cubic metre of the test chamber volume. It shall not have been used for more than 20 tests.	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
	The enclosure shall be deemed category 1 unless the relevant product standard for the equipment specifies that the enclosure is category 2 .		
13.5.2	Acceptance conditions for first characteristic numeral 5		N/A
	The protection is satisfactory if , on inspection , talcum powder has not accumulated in a quantity or location such that , as with any other kind of dust , it could interfere with the correct operation of		

<b>Test result</b>			
<b>IEC 60529- 2013</b>			
Clause	Requirement - Test	Result - Remark	Verdict
	the equipment or impair safety . Except for special cases to be clearly specified in the relevant product standard , no dust shall deposit where it could lead to tracking along the creepage distances		
13.6.	Special conditions for first characteristic numeral 6	IP6X	P
13.6.1	Test conditions for first characteristic numeral 6		P
	The enclosure shall be deemed category 1 , whether reductions in pressure below the atmospheric pressure are present or not.		
13.6.2	Acceptance conditions for first characteristic numeral 6		P
	The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.	After the test, no dust was deposited inside the sample.	
<b>14</b>	<b>Tests for protection against water indicated by the second characteristic numeral</b>		P
14.1	Test means & Test conditions Test means and the main test conditions are given in Table VIII	IPX6	P
14.2	Test conditions	14.2.6	P
14.2.1	Test for the second characteristic number 1 using the drip box		N/A
	The test is carried out using a device which produces a uniform water droplet flow over the entire surface of the envelope.		N/A
14.2.2	Test for the second characteristic number 2 using the drip box		N/A
	The drip device is identical to that specified in 14.2.1 adjusted to give the water flow rate specified in Table 8.		N/A
14.2.3	Test for the second characteristic number 3 with the oscillating tube or the watering can		N/A
	a) Conditions d'utilisation du dispositif d'essai de la figure 4 (tube oscillant)		N/A

<b>Test result</b>			
<b>IEC 60529- 2013</b>			
Clause	Requirement - Test	Result - Remark	Verdict
	b)Conditions of use of the test device in Figure 5 (watering can)		N/A
14.2.4	Test for the second characteristic number 4 with the oscillating tube or the watering can		N/A
	a) Conditions of use of the test device in Figure 4 (oscillating tube)		N/A
	b) Conditions of use of the test device in Figure 5 (watering can)		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		N/A
	The conditions to be observed are as follows: internal diameter of the nozzle: 6.3 mm; flow rate: 12.5 l / min $\pm$ 0.625%; water pressure: to be adjusted to obtain the prescribed flow rate; heart of the cannon jet: circle of about 40 mm in diameter 2.5 m from the nozzle; duration of the test per square meter of surface of the envelope likely to be watered: 1 min; minimum test duration: 3 min; distance between the nozzle and the surface of the casing: between 2.5 m and 3 m.		N/A
14.2.6	Test for the second characteristic numeral 6 with the 12.5 mm nozzle		P
	The conditions to be observed are as follows: internal diameter of the nozzle: 12.5 mm; flow rate: 100 l / min $\pm$ 5%; water pressure: to be adjusted to obtain the prescribed flow rate; heart of the cannon jet: circle of about 120 mm in diameter 2.5 m from the nozzle; duration of the test per square meter of surface of the envelope likely to be watered: 1 min; minimum test duration: 3 min; distance between the nozzle and the surface of the casing: between 2.5 m and 3 m.		P

<b>Test result</b>			
<b>IEC 60529- 2013</b>			
Clause	Requirement - Test	Result - Remark	Verdict
14.2.7	Test for the second characteristic numeral 7: temporary immersion between 0.15 m and 1 m		N/A
	The test is carried out by completely immersing the casing in water in the position of service as indicated by the manufacturer, so that the following conditions are observed: a) the lowest part of an enclosure with a height of less than 850 mm is located at 1000 mm below the surface of the water; b) the uppermost part of an enclosure with a height greater than or equal to 850 mm is located 150 mm below the surface of the water; c) the duration of the test is 30 min; d) the temperature of the water must not differ from that of the equipment by more than 5 K. This requirement may however be modified in the particular product standard if the tests must be carried out on live equipment and / or with its moving parts.		N/A
14.2.8	Test for the second characteristic numeral 8: prolonged submersion subjected to agreement		N/A
	Unless there is a specific product standard, the test conditions are subject to agreement between manufacturer and user; but they must be more severe than those which are prescribed in 14.2.7 and they must take into account that the enclosure will be submerged permanently, under actual conditions of use.		N/A
14.3	Acceptance conditions After testing in accordance with the appropriate requirements of 14.2.5 the enclosure shall be inspected for ingress of water. It is the responsibility of the relevant Technical Committee to specify the amount of water which	After the test, no water stains entered the inside of the sample.	P

**Test result**

**IEC 60529- 2013**

Clause	Requirement - Test	Result - Remark	Verdict
	<p>may be allowed to enter the enclosure and the details of a dielectric strength test, if any.</p> <p>In general, if any water has entered, it shall not: be sufficient to interfere with the correct operation of the equipment or impair safety; deposit on insulation parts where it could lead to tracking along the creepage distances; reach live parts or windings not designed to operate when wet; accumulate near the cable end or enter the cable if any.</p> <p>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.</p> <p>For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.</p>		

## Test Photos

IPX6

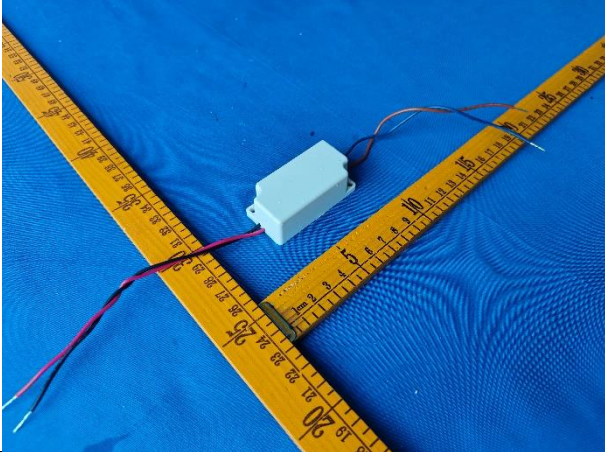


Fig.1 Test in before



Fig.2 Test in progress

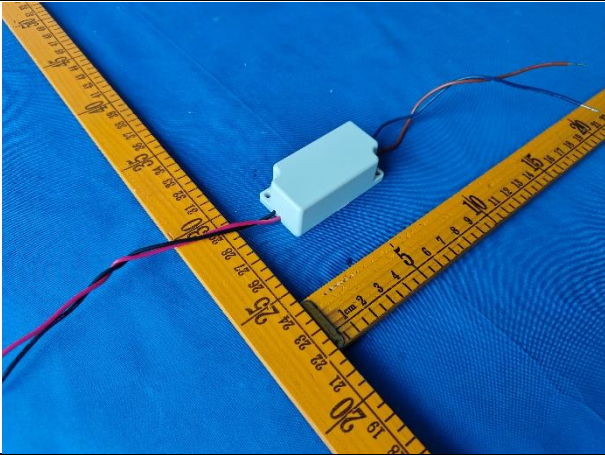


Fig.3 Test in After, appearance check

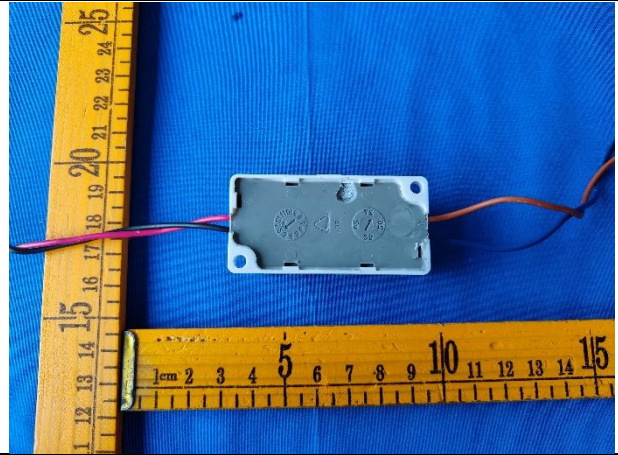


Fig.4 Test in After, appearance check

IP6X

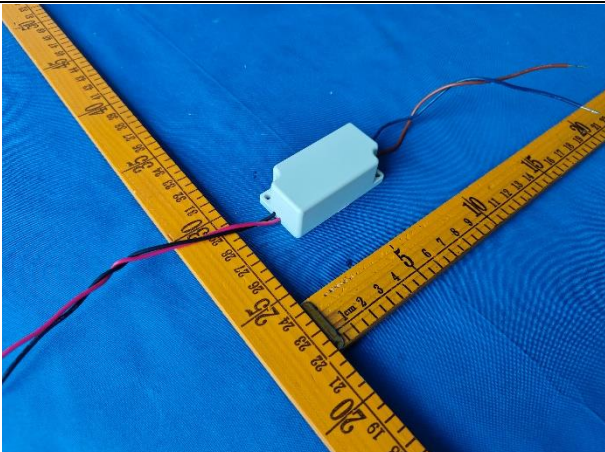


Fig.5 Test in before



Fig.6 Test in progress

## Test Photos

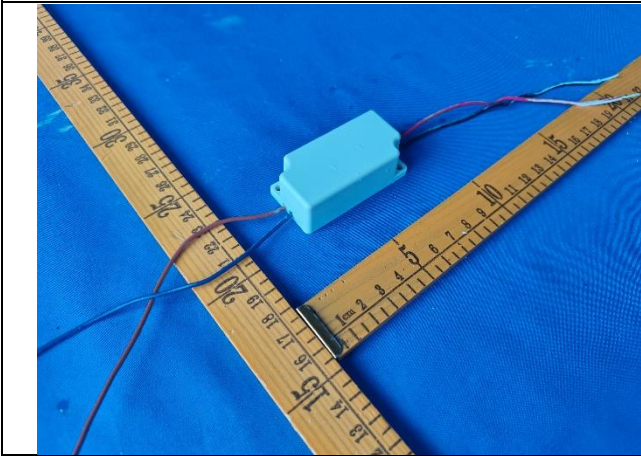


Fig.7 Test in After, appearance check

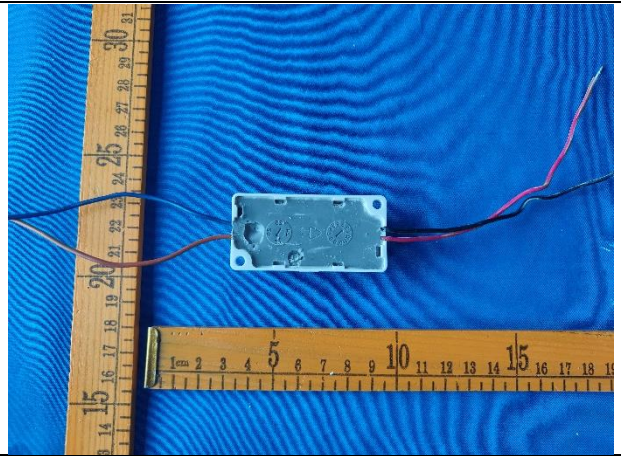


Fig.8 Test in After, appearance check

<b>Main Instrumentation List</b>					
No.	Equipment name	Model no.	Brand Name	Due Date	user (√)
1	Water jet	STC-IPX5/6	Shurple	Jun. 30, 2025	√
2	Sand and dust test chambe	STC-SC-1000	Shurple	Jun. 30, 2025	√
3	Temp& Humidity Recorder	KWST-155	JINGPINSHANG	Feb. 16, 2025	√

\*\*\* the end of report \*\*\*