



TEST REPORT

Reference No. : WTF18F01101438X1S
Applicant : GLACIALTECH INC
Address : 6FL.,NO.346,SEC.2,JUNG SHAN RD.,JUNG HE DIST.,NEW TAIPEI CITY,TAIWAN
Manufacturer : The same as above
Address : The same as above
Product Name : LED Driver
Model No. : GP-CVP060N-05V-P02, GP-CVP060N-12V-P02, GP-CVP060N-24V-P02
Ratings : See below
Standards : IEC 60529:1989+A1:1999+A2:2013
Test Category : Entrusted Test
Test Item : IP67 Test
Date of Receipt sample : 2018-01-04
Date of Test : 2018-01-04 to 2018-01-08
Date of Issue : 2018-03-16
Test Report Form No. : WST-60529-52B
Test Result : Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Compiled by:

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Approved by:



Jerry Mu/Manager



List of test items:

No.	Test Items	Requirement + Test	Result			
1	IP67 Test	IEC60529:1989+A1:1999+A2:2013	Pass			
<p>Subcontract Whether parts of tests for the product have been subcontracted to other labs: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, list the related test items and lab information: Test items: --- Lab information: --</p>						
<p>Remarks: All models of the sample have the same structure and only output power difference.</p>						
Series Model	Model	Rated input (VAC)	Rated output current (A)	Rated output voltage with load (VDC)	Rated maximum output power (W)	ta/tc (°C)
1	GP-CVP060N-05V-P02	100-240V	0-8	5	40W LED	40/85
	GP-CVP060N-12V-P02	100-240V	0-5	12	60W LED	40/85
	GP-CVP060N-24V-P02	100-240V	0-2.5	24	60W LED	40/85

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**Test Item :**

Tests for protection against dust-proof: IP6X

Test Method:

The tests should be carried out under the standard atmospheric condition.

The atmospheric conditions during tests are as follows:

Temperature range: 15 °C to 35°C. Relative humidity: 25% to 75%.

The test is made using a dust chamber incorporating the basic principles shown in figure 2 where by 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 gap between wires 75 µm. The amount of talcum powder to be used is 2 kg per cubic meter of the test chamber volume. It shall not have been used for more than 20 tests.

Enclosures are of necessity in one of two categories:

Category 1: Enclosures where the normal working cycle of the equipment causes reductions in air pressure within the enclosure below that of the surrounding air, for example, due to thermal cycling effects.

The enclosure under test is supported inside the test chamber and the pressure inside the enclosure is maintained below the surrounding atmospheric pressure by a vacuum pump. In no event shall the depression exceed 2 KPa(20mbar) on the manometer shown in figure 2. If an extraction rate of 40 to 60 volumes per hour is obtained the duration of the test is 2h. The extraction rate is less than 40 volumes per hour, the test is continued until 80 volumes have been drawn through, or a period of 8h has elapsed.

Category 2: Enclosures where no pressure difference relative to the surrounding air is present.

The enclosure under test is supported in its normal operating position inside the test chamber, but is not connected to a vacuum pump. Any drain-hole normally open shall be left open for the duration of the test. The test shall be continued for a period of 8h.

The enclosure shall be deemed category 1, whether reductions in pressure below the atmospheric pressure are present or not.

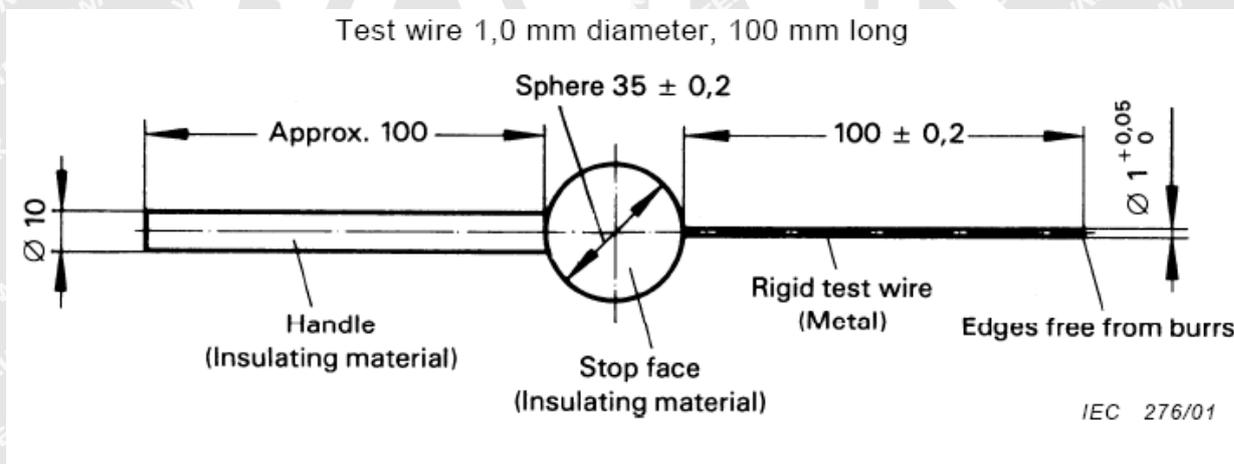
The test wire of 1.0 mmφ insert into any openings of the enclosure with a force of 1N±10%.

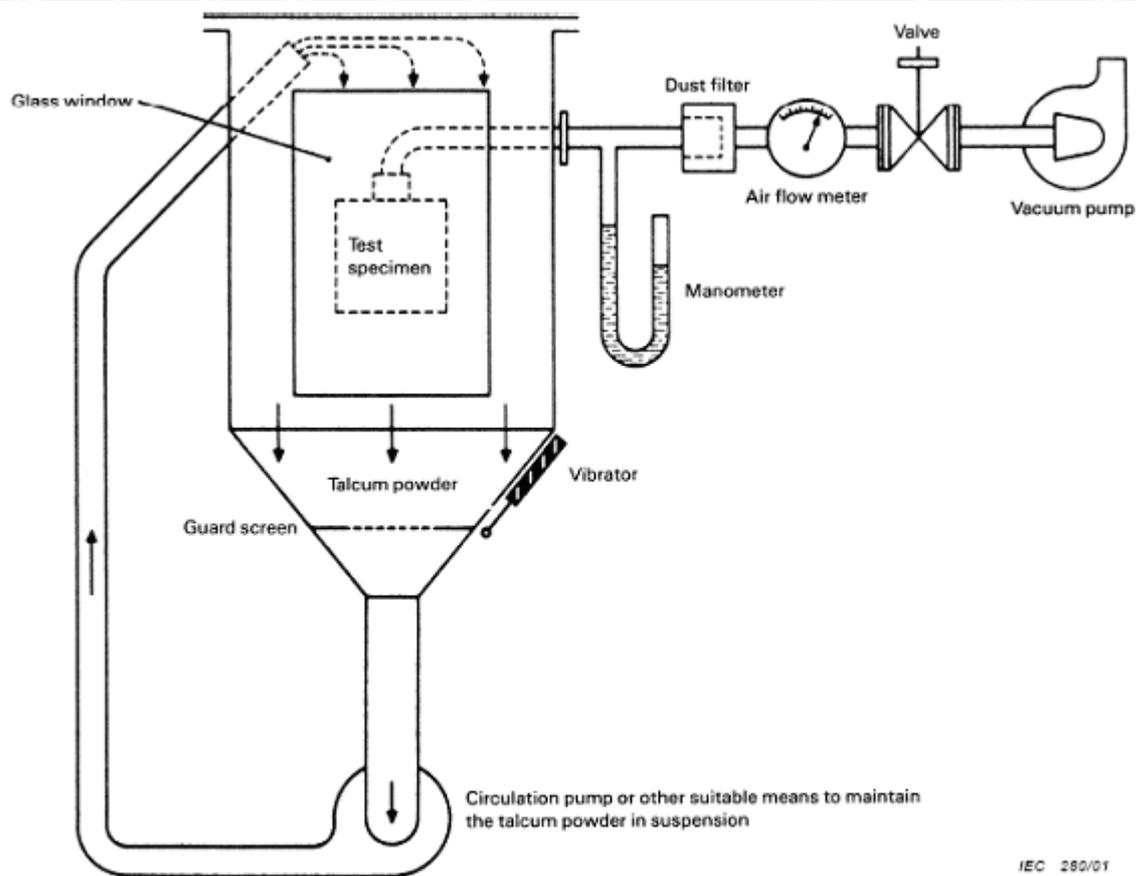
Acceptance Conditions:

The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.

The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts.

The protection is satisfactory if the access probe 1.0 mm diameter shall not pass through the any opening.

Test Result: Pass Fail



NOTE See IEC 60068-2-68, figure 2 valid for La2 only.

Figure 2 – Test device to verify protection against dust (dust chamber)

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Test Item :

Tests for protection against ingress moisture: IPX7

Test Method:

The tests should be carried out under the standard atmospheric condition. The atmospheric conditions during tests are as follows:

Temperature range: 15 °C to 35 °C ; Relative humidity: 25% to 75%.

The tests are conducted with fresh water.

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:

—the lowest point of enclosures with a height less than 850 mm is located 1 000 mm below the surface of the water;

— 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;

— the duration of the test is 30 min;

— the water temperature does not differ from that of the equipment by more than 5 K. However, a modified requirement may be specified in the relevant product standard if the tests are to be made when the equipment is energized and/or its parts in motion.

Acceptance Conditions:

After testing in accordance with the appropriate requirements, 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 may be allowed to enter the enclosure and the details of a dielectric strength test, if any.

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.

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.

For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.

Test Result:

Pass Fail

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Photo Documentation:

Photo 1 -- Sample



Photo 2 -- During the test of IP6X



Photo 3 -- During the test of IPX7



Photo 4 -- After the test of IPX7





Equipment Used during Test :

Equipment	Model/Type
Temperature & Humidity Datalogger	THG312
Dustproof chamber	HY-FCX
Power Meter	QINZHI 8775A
Dielectric & Insulation Resistance Tester	CHROMA 9012
Probe	HANYANG FZ-1107-A
Force Gauge	ALGOL NK-300
Tape Measure	Assist 3m

===== End of Report =====

