

REPORT NO.

TEST/CALIBRATION REPORT



KARANDIKAR LABORATORIES PVT. LTD.

Head Office : B-101, Ansa Indl. Estate, Saki Vihar Road, Sakinaka, Andheri (E), Mumbai-400072.
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Laboratory : Gat No. 142, Boisar Chilhar Rd., Opp. Union Park, At Betegaon, Boisar (E),
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KARANDIKAR LABORATORIES PVT. LTD. BOISAR Format: F#07 b.1 Rev 08

TYPE TEST REPORT

IS/IEC 60529:2001

Degrees of Protection Provided by Enclosures (IP Code)

Report No. : **KLPL/BTG/18/05-67**

Date of issue : **27.06.2018**

No. of pages : **07 PAGES**

Compiled by (+ signature) : **Rupesh Mukane** 
Designation : Testing Engineer

Approved by (+ signature) : **Javed Shaikh** 
Designation : Dy. Laboratory Manager



Item Received On : **21.05.2018** in Good Condition

Test Completion Date : **14.06.2018**

Client

Name : **M/s. ACZET PVT. LTD.**
: Unit No. E2, Plot No. 11,
WICEL Estate, Opp. Seepz Gate No. 1,
Andheri (East), Mumbai 400 093.

Test Specification

Standard : **IS/IEC 60529:2001**
Specified IP-Code : **IP68**

Equipment Under Test

Type of Test Object : **Weighing Table Top**
Model No. : **CG-S**
Sr. No. : **ACZET/TT/001**
Manufacture : **M/s. ACZET PVT. LTD.**



Annexure :

Drawing No. : -----

NOTE: 1) This refers only to the particular item(s) submitted for testing.
2) If necessary, this report shall be reproduced ONLY in full.

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Possible test case verdicts:

Test case does not apply to the test object : N (Not Applicable)

Test object does meet the requirement..... : P (Pass)

Test item does not meet the requirement : F (Fail)

Test case has not been checked : _____

General remarks:

"(See remark #)" refers to a remark appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

The test results presented in this report relate only to the object tested.

This test report shall not be reproduced except in full without the written approval of the testing Laboratory.

Note: - MAJOR EQUIPMENTS USED

Tests	Required Instruments	Id. No.	Cal Due Date
6X	Manometer	K&A 047/4	23.04.2019
	Rotameter 1.2 LPM	K&A 425	05.01.2019
	DTC with sensor	K&A 047/1	10.01.2019
	Timer	K&A 047/2	10.01.2019
X8	Scale	K&A 107	One time calibration
	Stop Watch	K&A 433	14.04.2019
	Insulation Tester	K&A 571-12	02.02.2019



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IS/IEC 60529:2001			
Clause	Requirement - Test	Result- Remark	Verdict
10	Marking.		N
11	General requirement for tests.		
11.1	Tests should be carried out under the standard atmospheric conditions described in IEC 60068-1		P
11.2	Test samples shall be in a clean and new condition.		P
	The relevant product standard shall specify details such as: The number of samples to be tested;		N
	-conditions for mounting, assembling and positioning of the samples;		P
	-the pre-conditioning, if any, which is to be used;		N
	-whether to be tested energized or not;		N
	-whether to be tested with its parts in motion or not;		N
11.5	Empty enclosures		
	If the enclosure is tested without equipment inside, the manufacturer shall ensure that after the electrical equipment is enclosed the enclosure meets the declared degree of Protection of the final product.		N

12	Tests for protection against access to hazardous parts indicated by the first characteristic numeral.			
First, characteristic Numeral.	Test means (Access probes)	Test force	Test Conditions Refer IS/IEC 60529:2001	
0	No test required	-	-	N
1	The access probe, sphere of 50 mm Ø shall not fully penetrate and adequate clearance shall be kept.	50N ±10%	Cls.12.2	N
2	The jointed test finger may penetrate up to 80 mm length but adequate clearance shall be kept.	30N ±10%	Cls.12.2	N
3	The access probe, sphere of 2.5 mm Ø shall not penetrate and adequate clearance shall be kept.	3N± 10%	Cls.12.2	N
4	The access probe of 1,0 mm Ø shall not penetrate and adequate clearance shall be kept.	1N± 10%	Cls.12.2	N
5	Test conditions for IP 5X: Same As Above	1N± 10%	Cls.12.2	N
6	Test conditions for IP 6X: Same As Above	1N± 10%	Cls.12.2	P Test wire does not penetrate inside the UUT.



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IS/IEC 60529:2001					
Clause	Requirement - Test			Result- Remark	Verdict
13	Tests for protection against solid foreign objects indicated by the First characteristic numeral.				
First, characteristic Numeral	Test means (object probes and dust chamber)	Test force	Test Conditions Refer IS/IEC 60529:2001		N
0	No test required	-	-		N
1	Rigid sphere without handle or guard 50 mm diameter.	50N±10%	Cls.13.2		N
2	Rigid sphere without or guard 12, 5 mm diameter.	30N±10%	Cls.13.2		N
3	Rigid steel rod 2,5mm diameter with edges free from burrs	3N±10%	Cls.13.2		N
4	Rigid steel wire 1, mm diameter with edges free from burrs.	1N±10%	Cls.13.2		N
5	Dust chamber, without under pressure	NA	Cls.13.4+13.5		N
6	Dust chamber, The enclosure is maintained below the Surrounding atmospheric pressure by a vacuum pump.	NA	Cls.13.4+13.6	For 8 Hrs, As extraction rate is less than 40 volumes per hour and max depression of 20 mbar.	P
13.6.2	Acceptance conditions for the first characteristic numeral 6X. The protection is satisfactory if no hazardous deposit of dust is observable inside the UUT at end of test.			No ingress of powder found inside the PCB compartment. Few dust particles found inside the outer compartment (Live part are enclosed).	P



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IS/IEC 60529:2001			
Clause	Requirement – Test	Result-Remark	Verdict
14	Tests for protection against water indicated by the second characteristic numeral.		
Second, characteristic Numeral.	Test means	Test Conditions Refer IS/IEC 60529:2001	N
0	No test required	Cls.14.2.0	N
1	Drip box, Enclosure on turntable	Cls.14.2.1	N
2	Drip box, Enclosure in 4 fixed positions of 15 ° tilt	Cls.14.2.2	N
3	oscillating tube or spray nozzle, 60° from vertical	Cls.14.2.3	N
4	oscillating tube or spray nozzle, 180° from vertical	Cls.14.2.4	N
5	6.3-mm nozzle, tested with a spraying nozzle, distance 2.5 m to 3 m, water flow rate 12.5 l/min ±5%	Cls.14.2.5	N
6	12.5-mm nozzle, tested with a spraying nozzle, distance 2.5 m to 3 m, water flow rate 100 l/min ±5%	Cls.14.2.6	N
7	Immersion tank, Temporary immersion in water,	Cls.14.2.7	N
8	Immersion tank, Continuous immersion subject to agreement. Water temperature does not differ from that of equipment by more than 5K. Test duration: 40 minutes	Cls.14.2.8	Immersion depth: The lowest point of UUT is located 1000 mm below surface of water. P
-	Acceptance conditions for IPX8: The protection is satisfactory if no water has accumulated near the insulation, cable end or entered cables or interferes with the correct operation of the equipment.	Cls.14.3	Ingress of water (18 ml) observed in outer compartment. Live part are enclosed. After water test, IR test was done between Positive and Negative terminals are shorted together and body of UUT, applied voltage 500 V. D.C. for 1 minute. Observation: IR observed >10 GΩ. P
-	Tests for protection against access to hazardous parts indicated by the additional letter.	Cls.15	N



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SUMMARY OF INGRESS PROTECTION TESTS ACCORDING TO IS/IEC 60529:2001

Conclusion of the IP68 test: PASS.

The results of the tests were in compliance with the requirements in the standard IS/IEC 60529:2001

UUT=Unit Under Test

Note: All joints are sealed with silicon sealant.



Picture1: Weighing Table Top



Live Parts
are enclosed

Picture2: Few dust particles found in Outer compartment



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Picture3: Ingress of water (18 ml) observed

END OF REPOR



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