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परीक्षण और मापन
भाग 3 विद्युतरोधन परीक्षण
अनुभाग 1 परीक्षण 3 ए: विद्युतरोधन प्रतिरोधकता

**Connectors for Electronic Equipment
— Tests and Measurements
Part 3 Insulation Tests
Section 1 Test 3A: Insulation Resistance**

ICS 31.220.10

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भारतीय मानक ब्यूरो

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NATIONAL FOREWORD

This Indian Standard which is identical to IEC 60512-3-1 : 2002 'Connectors for electronic equipment — Tests and measurements — Part 3: Insulation tests, Section 1 Test 3a: Insulation resistance' issued by the International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Electromechanical Components and Mechanical Structures for Electronic Equipment Sectional Committee and approval of the Electronics and Information Technology Division Council.

The other parts in this series are:

- Part 1 Generic specification
- Part 2 Electrical continuity and contact resistance tests
- Part 3 Insulation test
- Part 4 Voltage stress tests

The text of IEC standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are however not identical to those used in Indian Standards. Attention is particularly drawn to the following:

- a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'; and
- b) Comma (,) has been used as a decimal marker while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded-off value should be the same as that of the specified value in this standard.

*Indian Standard***CONNECTORS FOR ELECTRONIC EQUIPMENT — TESTS
AND MEASUREMENTS****PART 3 INSULATION TESTS****SECTION 1 TEST 3A: INSULATION RESISTANCE****1 Scope and object**

This part of IEC 60512, when required by the detail specification, is used for testing electromechanical components within the scope of IEC technical committee 48. This test may also be used for similar devices when specified in a detail specification.

The object of this test is to define a standard test method to assess the insulation resistance of electromechanical components.

2 Mounting of specimen

The specimen shall be mounted in accordance with the detail specification.

3 General requirements

The insulation resistance shall be measured with a closed-circuit d.c. voltage of $10\text{ V} \pm 1\text{ V}$, $100\text{ V} \pm 15\text{ V}$ or $500\text{ V} \pm 50\text{ V}$, using method A, B or C specified in the detail specification.

The insulation resistance shall be measured only when a stable reading is obtained.

If a stable condition is not reached, the insulation resistance reading shall be recorded within $60\text{ s} \pm 5\text{ s}$ after the application of voltage.

The insulation resistance shall be not less than that specified in the detail specification.

4 Measuring methods**Method A**

The insulation resistance shall be measured on specimens using the specified test voltage applied in turn between each termination being tested and all others connected together and to the housing and/or the mounting plate.

Method B

Alternate terminations shall be connected together to form two groups.

The insulation resistance shall be measured on specimens using the specified test voltage applied between:

- 1) the first group of terminations and the second group connected to the housing and/or the mounting plate, and
- 2) the second group of terminations and the first group connected to the housing and/or the mounting plate.

NOTE In the case of terminations arranged in two or more rows, it will be necessary to form a second arrangement of two groups in order to measure the insulation resistance of each pair of adjacent terminations.

Method C

The insulation resistance shall be measured between two adjacent terminations having a minimum spacing using the specified test voltage.

5 Detail to be specified

When this test is required by the detail specification, the following details shall be specified:

- a) measuring method to be used;
- b) value of the test voltage;
- c) minimum value of the insulation resistance;
- d) contacts to be tested;
- e) any deviation from the standard test method.

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Amendments Issued Since Publication

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