
विद्युत उपकरणों के लिए संयोजक —
परीक्षण और मापन

भाग 2 विद्युत अविच्छिन्नता और संपर्क प्रतिरोध
परीक्षण

अनुभाग 3 परीक्षण 2 सी: संपर्क प्रतिरोधक विभिन्नता

**Connectors for Electronic Equipment
— Tests and Measurements**

**Part 2 Electrical Continuity and Contact
Resistance Tests**

Section 3 Test 2c: Contact Resistance Variation

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भारतीय मानक ब्यूरो

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NATIONAL FOREWORD

This Indian Standard which is identical to IEC 60512-2-3 : 2002 'Connectors for electronic equipment — Tests and measurements — Part 2: Electrical continuity and contact resistance tests, Section 3 Test 2c: Contact resistance variation' 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:

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| 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 2 ELECTRICAL CONTINUITY AND CONTACT RESISTANCE
TESTS**

SECTION 3 TEST 2C: CONTACT RESISTANCE VARIATION

1 General**1.1 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 determine the variation of contact resistance of electromechanical components under specified dynamic conditions. This test should be carried out only on components the contact resistance of which is measured by test 2a.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60512. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60512 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60512-2-1: *Connectors for electronic equipment – Tests and measurements – Part 2-1: Electrical continuity and contact resistance tests – Test 2a: Contact resistance – Millivolt level method*

2 Preparations**2.1 Resources (equipment)**

The variation of contact resistance shall be determined by means of an apparatus displaying the voltage drop measured between points specified in the detail specification.

This apparatus shall be adapted to the level of requirement in frequency bandwidth and sensitivity as specified in the detail specification, such as an oscilloscope or a recorder for low to high speed transient phenomena.

NOTE A frequency bandwidth from d.c. to 20 kHz and a sensitivity of 50 μ V for a contact resistance variation of 1 m Ω should be appropriate for most cases.

2.2 Mounting of test specimen

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

3 Method

The variation of contact resistance shall be determined under dynamic conditions.

The measurement of variation of contact resistance shall be made during the period specified in the relevant test and/or detail specification.

The measurement shall be carried out in accordance with IEC 60512-2-1, test 2a, with a d.c. current not exceeding 50 mA.

The variation of contact resistance shall not exceed the value specified in the detail specification.

4 Details to be specified

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

- a) method of mounting and wiring the test specimen;
 - b) limit of variation of the contact resistance;
 - c) severity of the associated dynamic test(s);
 - d) contacts to be measured;
 - e) sensitivity and bandwidth of the measuring apparatus;
 - f) any deviation from the standard test method.
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Amendments Issued Since Publication

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