British Standard

BRITISH STANDARD

BS EN
60512-4-1:2003

Connectors for electronic equipment — Tests and measurements —

Part 4-1: Voltage stress tests — Test 4a: Voltage proof

The European Standard EN 60512-4-1:2003 has the status of a British Standard

ICS 31.220.10

BSI
British Standards

National foreword

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Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 4, an inside back cover and a back cover.

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English version

Connectors for electronic equipment - Tests and measurements Part 4-1: Voltage stress tests - Test 4a: Voltage proof

(IEC 60512-4-1:2003)

Connecteurs pour équipements électroniques - Essais et mesures Partie 4-1: Essais de contrainte diélectrique - Essai 4a: Tension de tenue (CEI 60512-4-1:2003)

Steckverbinder für elektronische Einrichtungen - Mess- und Prüfverfahren Teil 4-1: Prüfungen mit Spannungsbeanspruchung - Prüfung 4a: Spannungsfestigkeit (IEC 60512-4-1:2003)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Foreword

The text of document 48B/1323/FDIS, future edition 1 of IEC 60512-4-1, prepared by SC 48B, Connectors, of IEC TC 48, Electromechanical components and mechanical structures for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60512-4-1 on 2003-07-01.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop) 2004-04-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow) 2006-07-01

Endorsement notice

The text of the International Standard IEC 60512-4-1:2003 was approved by CENELEC as a European Standard without any modification.

CONNECTORS FOR ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 4-1: Voltage stress tests – Test 4a: Voltage proof

1 Scope and object

This part of IEC 60512, when required by the detail specification, is used for testing connectors of electronic equipment 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 ability of a component to withstand specified test voltages applied in a specified manner.

NOTE Standard conditions of testing are defined in Part 1 of this standard.

2 Mounting of specimen

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

3 Methods of measurement

A d.c. or a.c. peak test voltage shall be applied for 60 s ± 5 s using method A, B or C, as specified in the detail specification.

If an a.c. test voltage is used, it shall have a frequency of 45 Hz to 60 Hz and be approximately sinusoidal in waveform.

The rate of application of the test voltage shall not exceed 500 V/s d.c. or 500 V_{peak}/s a.c..

Method A

The specimen shall be subjected to the test voltage as specified in the detail specification, between each termination in turn and the housing and/or the mounting plate, all other terminations being connected together and to the housing and/or the mounting plate.

Method B

Alternate terminations shall be connected together.

Where practical, no one group shall contain adjacent terminations.

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 withstand voltage of each pair of adjacent terminations.

The specimen shall be subjected to the test voltage as specified in turn, between

a) the first group of terminations and the second group connected to the housing and/or the mounting plate, and
b) the second group of terminations and the first group connected to the housing and/or the mounting plate.

Method C

The specimen shall be subjected to the test voltage between adjacent terminations, as specified by the detail specification.

4 Test requirements

There shall be no breakdown or flashover and maximum permissible leakage current of 2 mA, unless otherwise specified in the detail specification, shall not be exceeded when the voltage specified by the detail specification is applied.

NOTE Reduced voltage values should apply for altitude, low air pressure and temperature conditions based on the tables of derating factors stated in the relevant general requirement specification.

5 Details to be specified

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

a) method to be used;
b) value and nature of the test voltage;
c) maximum permissible leakage current, where applicable;
d) contacts to be tested;
e) any deviation from the standard test method.

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