SLOVENSKI STANDARD
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Electromechanical components for electronic equipment - Basic testing procedure and measuring methods - Part 16: Mechanical tests on contact and terminations - Section 20: Test 16t: Mechanical strength (wired termination of solderless connections) (IEC 60512-16-20:1996)

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Elektrisch-mechanische Bauelemente für elektronische Einrichtungen - Meß- und Prüfverfahren -- Teil 16: Mechanische Prüfungen an Kontakten und Anschlüssen -- Hauptabschnitt 20: Prüfung 16t: Zugfestigkeit (verdrahteter Anschluß bei lötfreien Verbindungen)

Composants électromécaniques pour équipements électroniques - Procédures d'essai de base et méthodes de mesure -- Partie 16: Essais mécaniques des contacts et des sorties -- Section 20: Essai 16t: Tenue mécanique (sortie câblée de connexions sans soudure)

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English version

Electromechanical components for electronic equipment — Basic testing procedures and measuring methods Part 16: Mechanical tests on contacts and terminations Section 20: Test 16t: Mechanical strength (wired termination of solderless connections)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

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

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Foreword

The text of document 48B/485/FDIS, as 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 60512-16-20 on 1996-10-01.

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) 1997-07-01

— latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1997-07-01

This part 16 is to be used in conjunction with EN 60512-1, *General*, which explains the structure of EN 60512 series.

Contents

1 Scope and object

This section of IEC 512-16, 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 components when specified in a detail specification.

The object of this test is to detail a standard method to assess the mechanical strength of solderless connections including integrated strain relief features.

2 Preparation of the specimen

The specimen shall consist of the component having one or a specified number of solderless connections equipped with single wires, ribbon cable or flat flexible cable as defined in the detail specification.

The specimens shall be prepared and mounted in accordance with the detail specification.

3 Test methods

3.1 Method A (destructive test)

Tension shall be applied by fixing the component and the wire of the connection to be tested in the jaws of a tester.

The tension shall be exerted axially to the wire.

The head of the tensile testing machine shall travel steadily at a speed of 25 mm/min to 50 mm/min.

Each connection shall be tested individually until the wire is pulled out or breaks.

Requirement

The load measured shall not be less than the limit specified in the detail specification.

3.2 Method B (non-destructive test)

Tension shall be applied by fixing the component and the ribbon cable or flat flexible cable in the jaws of a tester. Care should be taken to ensure that tension is uniformly distributed over the whole cable. The jaws shall be such that the cable is not damaged.

The tension shall be exerted axially to the cable.

The tension shall be increased steadily until the value specified in the detail specification is reached. This tension shall be maintained for 1 min.

Requirement

There shall be no degradation such as mechanical distortion or breaking of parts. The electrical characteristics shall still conform to the requirements of the detail specification.

Evidence of degradation caused by this test may not become noticeable until subsequent tests are performed. If necessary, these tests shall be defined in the detail specification.

NOTE Method A is preferably applied to single wire and method B is preferably applied to ribbon cable or flat flexible cable unless otherwise 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) number of specimens and connections to be tested;

b) preparation of the specimen;

c) wire or cable type and dimensions;

d) method A or B;

e) method A: minimum load;

f) method B: value of the load to be applied and subsequent tests;

g) any deviation from the standard test method.