IEC 60512-99-002

Edition 2.0 2022-01

INTERNATIONAL STANDARD

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Connectors for electrical and electronic equipment – Tests and measurements – Part 99-002: Endurance test schedules – Test 99b: Test schedule for unmating under electrical load

Connecteurs pour équipements électriques et électroniques – Essais et mesures – Partie 99-002: Programmes d'essais d'endurance – Essai 99b: Programme d'essai pour le désaccouplement sous charge électrique



IEC 60512-99-002:2022-01(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 31.220.10

ISBN 978-2-8322-1068-8

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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 99-002: Endurance test schedules – Test 99b: Test schedule for unmating under electrical load

FOREWORD

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IEC 60512-99-002 has been prepared by subcommittee 48B: Electrical connectors, of IEC technical committee 48: Electrical connectors and mechanical structures for electrical and electronic equipment. It is an International Standard.

This second edition cancels and replaces the first edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Test group UEL has been revised with respect to the order of the test phases, the test severities and the requirements.

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The text of this International Standard is based on the following documents:

Draft	Report on voting
48B/2922/FDIS	48B/2938/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 60512 series, published under the general title *Connectors for electrical and electronic equipment – Tests and measurements*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

Part 99-002: Endurance test schedules – Test 99b: Test schedule for unmating under electrical load

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1 Scope

This part of IEC 60512 is used for the assessment of connectors within the scope of SC 48B that are used in twisted pair communication cabling with remote power, such as ISO/IEC 11801-1 Class D, or better, balanced cabling in support of IEEE 802.3bt™ (Power over Ethernet, supporting up to 90 W from the power sourcing equipment).

The object of this document is to detail a test schedule to determine the ability of sets of connectors to withstand a minimum of 100 mechanical operations with electrical load, where an electrical current is being passed through the connectors in accordance with IEC 60512-9-3 during the separation (unmating) step.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60512-1-1, *Connectors for electronic equipment – Tests and measurements – Part 1-1: General examination – Test 1a: Visual examination*

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*

IEC 60512-3-1, *Connectors for electronic equipment – Tests and measurements – Part 3-1: Insulation tests – Test 3a: Insulation resistance*

IEC 60512-4-1, *Connectors for electronic equipment – Tests and measurements – Part 4-1: Voltage stress tests – Test 4a: Voltage proof*

IEC 60512-9-3, *Connectors for electronic equipment – Tests and measurements – Part 9-3: Endurance tests – Test 9c: Mechanical operation (engaging and separating) with electrical load*

IEC 60512-11-7, *Connectors for electronic equipment – Tests and measurements – Part 11-7: Climatic tests – Test 11g: Flowing mixed gas corrosion test*

IEEE Std 802.3™-2018, *IEEE Standard for Ethernet*

IEEE Std 802.3bt™-2018, *IEEE Standard for Ethernet. Amendment 2: Physical Layer and Management Parameters for Power over Ethernet over 4 pairs*