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| STN | Konektory pre elektronické zariadenia Skúšky a merania Časť 99-002: Plány záťažových skúšok Skúška 99b: Plán skúšky pre neúmyselné rozpojenie pod elektrickou záťažou | STN EN IEC 60512-99-002 35 4055 |
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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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/22

Obsahuje: EN IEC 60512-99-002:2022, IEC 60512-99-002:2022

Oznámením tejto normy sa od 04.03.2025 ruší
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EUROPEAN STANDARD

EN IEC 60512-99-002

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2022

ICS 31.220.10

Supersedes EN IEC 60512-99-002:2019 and all of its amendments and corrigenda (if any)

English Version

**Connectors for electrical and electronic equipment - Tests and measurements - Part 99-002: Endurance test schedules - Test 99b: Test schedule for unmating under electrical load
(IEC 60512-99-002:2022)**

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)

Steckverbinder für elektrische und elektronische
Einrichtungen - Mess- und Prüfverfahren - Teil 99-002:
Prüfpläne für die Lebensdauer - Prüfung 99b: Prüfplan zum
unbeabsichtigten Trennen unter elektrischer Last
(IEC 60512-99-002:2022)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 60512-99-002:2022 (E)**European foreword**

The text of document 48B/2922/FDIS, future edition 2 of IEC 60512-99-002, prepared by SC 48B "Electrical connectors" of IEC/TC 48 "Electrical connectors and mechanical structures for electrical and electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60512-99-002:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-12-04 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2025-03-04 document have to be withdrawn

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The text of the International Standard IEC 60512-99-002:2022 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60512-99-001 NOTE Harmonized as EN 60512-99-001

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|--|---------------|-------------|
| IEC 60512-1-1 | - | Connectors for electronic equipment - Tests and measurements - Part 1-1: General examination - Test 1a: Visual examination | EN 60512-1-1 | - |
| 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 | EN 60512-2-1 | - |
| IEC 60512-3-1 | - | Connectors for electronic equipment - Tests and measurements - Part 3-1: Insulation tests - Test 3a: Insulation resistance | EN 60512-3-1 | - |
| IEC 60512-4-1 | - | Connectors for electronic equipment - Tests and measurements - Part 4-1: Voltage stress tests - Test 4a: Voltage proof | EN 60512-4-1 | - |
| 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 | EN 60512-9-3 | - |
| IEC 60512-11-7 | - | Connectors for electronic equipment - Tests and measurements - Part 11-7: Climatic tests - Test 11g: Flowing mixed gas corrosion test | EN 60512-11-7 | - |
| 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 | - | - |



IEC 60512-99-002

Edition 2.0 2022-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**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**

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IEC 60512-99-002

Edition 2.0 2022-01

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Connectors for electrical and electronic equipment – Tests and measurements –
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CONTENTS

| | |
|--|----|
| FOREWORD | 3 |
| 1 Scope | 5 |
| 2 Normative references | 5 |
| 3 Terms and definitions | 6 |
| 4 General | 6 |
| 5 Preparation of specimens | 6 |
| 6 Test circuit requirements | 6 |
| 6.1 General..... | 6 |
| 6.2 Voltage and current | 7 |
| 6.3 Auxiliary equipment | 8 |
| 7 Test methods..... | 8 |
| 7.1 Mechanical operations with electrical load | 8 |
| 7.2 Flowing mixed gas corrosion..... | 8 |
| 8 Tests and test schedule – Test group UEL 1..... | 8 |
| Annex A (informative) Test voltage and current setting instructions..... | 11 |
| A.1 General..... | 11 |
| A.2 Rationale | 11 |
| A.3 Suggested setting instructions | 11 |
| Bibliography..... | 12 |
| | |
| Figure 1 – Test circuit details | 7 |
| | |
| Table 1 – Test group UEL 1 | 9 |
| Table A.1 – Maximum electrical circuit current per IEEE 802.3..... | 11 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**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.

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
- amended.

CONNECTORS FOR ELECTRICAL AND ELECTRONIC EQUIPMENT – TESTS AND MEASUREMENTS –

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

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*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN