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KUNI 1500 V. KAITSESÜSTEEMIDE KATSETAMIS-,  
MÕÕTE- JA SEIRESEADMED. OSA 10: KOMBINEERITUD  
MÕÕTESEADMED KAITSEVIISIDE KATSETAMISEKS,  
MÕÕTMISEKS JA SEIREKS

Electrical safety in low voltage distribution systems up  
to 1 000 V AC and 1 500 V DC - Equipment for testing,  
measuring or monitoring of protective measures - Part  
10: Combined measuring equipment for testing,  
measuring and monitoring of protective measures

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN IEC 61557-10:2025 sisaldab Euroopa standardi EN IEC 61557-10:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.12.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN IEC 61557-10:2025 consists of the English text of the European standard EN IEC 61557-10:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 20.12.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 17.220.20, 29.080.01, 29.240.01

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EUROPEAN STANDARD

EN IEC 61557-10

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2024

ICS 17.220.20; 29.080.01; 29.240.01

Supersedes EN 61557-10:2013

English Version

Electrical safety in low voltage distribution systems up to 1 000 V  
AC and 1 500 V DC - Equipment for testing, measuring or  
monitoring of protective measures - Part 10: Combined  
measuring equipment for testing, measuring and monitoring of  
protective measures  
(IEC 61557-10:2024)

Sécurité électrique dans les réseaux de distribution basse  
tension au plus égale à 1 000 V C.A. et 1 500 V C.C. -  
Dispositifs de contrôle, de mesure ou de surveillance de  
mesures de protection - Partie 10: Appareils combinés de  
contrôle, de mesure et de surveillance de mesures de  
protection  
(IEC 61557-10:2024)

Elektrische Sicherheit in Niederspannungsnetzen bis 1 000  
V AC und 1 500 V DC - Geräte zum Prüfen, Messen oder  
Überwachen von Schutzmaßnahmen - Teil 10: Kombinierte  
Messgeräte  
(IEC 61557-10:2024)

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

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## European foreword

The text of document 85/887/CDV, future edition 3 of IEC 61557-10, prepared by TC 85 "Measuring equipment for electrical and electromagnetic quantities" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61557-10:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-12-31 level by publication of an identical national standard or by endorsement
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IEC 61010-1 NOTE Approved as EN 61010-1

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures –**

**Part 10: Combined measuring equipment for testing, measuring and monitoring of protective measures**

**Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V C.A. et 1 500 V C.C. – Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection –**

**Partie 10: Appareils combinés de contrôle, de mesure et de surveillance de mesures de protection**



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# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures –**

**Part 10: Combined measuring equipment for testing, measuring and monitoring of protective measures**

**Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V C.A. et 1 500 V C.C. – Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection –**

**Partie 10: Appareils combinés de contrôle, de mesure et de surveillance de mesures de protection**

INTERNATIONAL  
ELECTROTECHNICAL  
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ELECTROTECHNIQUE  
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## CONTENTS

FOREWORD.....	3
1 Scope.....	5
2 Normative references .....	5
3 Terms and definitions .....	6
4 Requirements .....	6
4.1 General.....	6
4.2 Extraneous overvoltage withstand capability .....	6
4.3 Performance after application of extraneous overvoltage .....	7
5 Marking and operating instructions .....	7
5.1 General.....	7
5.2 Pictogram .....	8
6 Tests .....	8
Bibliography.....	9
Figure 1 – Maximum distribution system voltage marking.....	8
Figure 2 – Example of a pictogram for a 500V AC system.....	8
Table 1 – Extraneous overvoltage.....	7

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS UP TO  
1 000 V AC AND 1 500 V DC – EQUIPMENT FOR TESTING, MEASURING OR  
MONITORING OF PROTECTIVE MEASURES –****Part 10: Combined measuring equipment for testing, measuring and  
monitoring of protective measures**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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IEC 61557-10 has been prepared by IEC technical committee TC85: Measuring equipment for electrical and electromagnetic quantities. It is an International Standard.

This third edition cancels and replaces the second edition published in 2013. This edition constitutes a technical revision.

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

- a) The scope has been updated to include the combination of measuring functions covered by the IEC 61557 series with those not covered by the IEC 61557 series.
- b) Reasonably foreseeable misuse is now considered.

- c) An exemption has been added for terminals that can only be accessed by use of a tool.
- d) Table 1 has been updated for clarification.
- e) The voltage source used for the overload test takes into account the expected short-circuit currents for measurement categories in accordance with IEC 61010-2-030:2017.

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

Draft	Report on voting
85/887/CDV	85/914/RVC

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

This International Standard is to be used in conjunction with IEC 61557-1:2019.

A list of all parts of the IEC 61557 series, published under the general title *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures*, can be found on the IEC website.

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](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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# **ELECTRICAL SAFETY IN LOW VOLTAGE DISTRIBUTION SYSTEMS UP TO 1 000 V AC AND 1 500 V DC – EQUIPMENT FOR TESTING, MEASURING OR MONITORING OF PROTECTIVE MEASURES –**

## **Part 10: Combined measuring equipment for testing, measuring and monitoring of protective measures**

### **1 Scope**

This part of IEC 61557 specifies the requirements for measuring equipment that combines several measuring functions or methods of testing, measuring or monitoring, that are in accordance with the respective parts of IEC 61557, into one piece of apparatus.

Measuring equipment which combines measuring functions or methods of testing, measuring or monitoring covered by the respective parts of IEC 61557 with those not covered by the respective parts of IEC 61557 is also within the scope of this document.

### **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 61557-1:2019, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 1: General requirements*

IEC 61557-2, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 2: Insulation resistance*

IEC 61557-3, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 3: Loop impedance*

IEC 61557-4, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 4: Resistance of earth connection and equipotential bonding*

IEC 61557-5, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 5: Resistance to earth*

IEC 61557-6, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 6: Effectiveness of residual current devices (RCD) in TT, TN and IT systems*

IEC 61557-7, *Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC – Equipment for testing, measuring or monitoring of protective measures – Part 7: Phase sequence*

IEC 61010-2-030:2023, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for equipment having testing or measuring circuits*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61557-1, IEC 61557-2, IEC 61557-3, IEC 61557-4, IEC 61557-5, IEC 61557-6, IEC 61557-7 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

#### 3.1

##### **combined measuring equipment**

device that combines, into one piece of apparatus, several measuring functions or methods of testing, measuring or monitoring, some or all of which are in accordance with other parts of IEC 61557

#### 3.2

##### **extraneous overvoltage**

voltage applied to the measurement terminals of the combined measuring equipment to test the overvoltage withstand capability

## 4 Requirements

### 4.1 General

In addition to the requirements of IEC 61557-1:2019, Clause 4 and all respective parts, the requirements of Clause 4 shall apply.

Under normal conditions and in cases of reasonably foreseeable misuse, no hazard shall arise when:

- the maximum rated voltage or current of a measuring circuit terminal, or
- the maximum extraneous overvoltage according to the respective parts of IEC 61557 (see Table 1)

is applied to that terminal or to any other compatible terminal, with any combination of function and range settings.

If the measuring device bears a marking or a pictogram in accordance with 5.2, the extraneous overvoltage can be reduced to 1,1 times of the maximum expected line to line voltage.

### 4.2 Extraneous overvoltage withstand capability

Terminals that are clearly not of similar types and that will not retain the connectors of the probe assembly or the accessory do not need to be tested.

Terminals that can only be accessed by use of a tool do not need to meet the requirements of this clause. The duration time shall be the longest possible indicated in the respective parts of IEC 61557.