

STN	Elektrická bezpečnosť v nízkonapäťových rozvodných sieťach so striedavým napätím do 1 000 V a s jednosmerným napätím do 1 500 V Zariadenia na skúšanie, meranie alebo sledovanie činnosti prostriedkov ochrany Časť 16: Zariadenia na skúšanie účinnosti prostriedkov ochrany elektrických zariadení a/alebo zdravotníckych elektrických zariadení	STN EN IEC 61557-16 35 6230
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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 16: Equipment for testing the effectiveness of the protective measures of electrical equipment and/or medical electrical equipment

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. 03/25

Obsahuje: EN IEC 61557-16:2024, IEC 61557-16:2023

Oznámením tejto normy sa od 31.12.2027 ruší
STN EN 61557-16 (35 6230) z apríla 2017

140273

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

EUROPEAN STANDARD

EN IEC 61557-16

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2024

ICS 17.220.20; 29.080.01

Supersedes EN 61557-16:2015

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 16: Equipment for
testing the effectiveness of the protective measures of electrical
equipment and/or medical electrical equipment
(IEC 61557-16:2023)

Sécurité électrique dans les réseaux de distribution basse
tension au plus égale à 1 000 V en courant alternatif et 1
500 V en courant continu - Dispositifs de contrôle, de
mesure ou de surveillance de mesures de protection -
Partie 16: Équipement pour les essais de bon
fonctionnement des mesures de protection des appareils
électriques et/ou des appareils électromédicaux
(IEC 61557-16:2023)

Elektrische Sicherheit in Niederspannungsnetzen bis AC 1
000 V und DC 1 500 V - Geräte zum Prüfen, Messen oder
Überwachen von Schutzmaßnahmen - Teil 16: Geräte zur
Prüfung der Wirksamkeit der Schutzmaßnahmen von
elektrischen Geräten und/oder medizinisch elektrischen
Geräten
(IEC 61557-16:2023)

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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 61557-16:2024 (E)**European foreword**

The text of document 85/876/FDIS, future edition 2 of IEC 61557-16, 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 61557-16:2024.

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
- latest date by which the national standards conflicting with the (dow) 2027-12-31 document have to be withdrawn

This document supersedes EN 61557-16:2015 and all of its amendments and corrigenda (if any).

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This document is read in conjunction with EN IEC 61557-1:2021.

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Endorsement notice

The text of the International Standard IEC 61557-16:2023 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60990	NOTE	Approved as EN 60990
IEC 61000-4-8	NOTE	Approved as EN 61000-4-8

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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60601-1	2005	Medical electrical equipment - Part 1: General requirements for basic safety and essential performance	EN 60601-1	2006
-	-		+AC	2010
+ A1	2012		+ A1	2013
-	-		+ AC	2014
-	-		+ A12	2014
+ A2	2020		+ A2	2021
-	-		+ AC	2022
-	-		+ A13	2024
IEC 61010-1	2010	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	EN 61010-1	2010
+ A1 (mod)	2016		+ A1	2019
-	-		+ AC	2019
IEC 61010-031	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 031: Safety requirements for hand-held and hand-manipulated probe assemblies for electrical test and measurement	EN IEC 61010-031	-
IEC 61010-2-030	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-030: Particular requirements for equipment having testing or measuring circuits	EN IEC 61010-2-030	-

EN IEC 61557-16:2024 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61010-2-032	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-032: Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement	EN 61010-2-032	-
IEC 61010-2-034	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-034: Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength	EN 61010-2-034	-
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	EN IEC 61557-1	2021
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	EN IEC 61557-2	-
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	EN IEC 61557-4	-
IEC 61557-10	-	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	EN IEC 61557-10	-
IEC 61557-13	-	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 13: Hand-held and hand-manipulated current clamps and sensors for measurement of leakage currents in electrical distribution systems	EN IEC 61557-13	-
IEC 62353	2014	Medical electrical equipment - Recurrent test and test after repair of medical electrical equipment	EN 62353	2014



IEC 61557-16

Edition 2.0 2023-08

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 16: Equipment for testing the effectiveness of the protective measures of electrical equipment and/or medical electrical equipment

Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V en courant alternatif et 1 500 V en courant continu – Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection –

Partie 16: Équipement pour les essais de bon fonctionnement des mesures de protection des appareils électriques et/ou des appareils électromédicaux

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IEC 61557-16

Edition 2.0 2023-08

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ICS 17.220.20, 29.080.01

ISBN 978-2-8322-7251-0

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Requirements	9
4.1 General requirements	9
4.2 Measuring functions.....	9
4.2.1 Minimum measuring function requirements	9
4.2.2 Measurement of the resistance of the protective bonding or the protective earth resistance.....	10
4.2.3 Measurement of insulation resistance	10
4.2.4 Measurement of protective conductor current or equipment leakage current with the alternative method	11
4.2.5 Measurement of touch current, patient leakage current and applied part leakage current with the alternative method	11
4.2.6 Measurement of protective conductor current and equipment leakage current with the direct or differential (residual) method	12
4.2.7 Measurement of touch current, patient leakage current and applied part leakage current with the direct or differential (residual) method	13
4.3 Construction requirements	13
4.3.1 Overvoltage capability	13
4.3.2 Terminals	13
4.3.3 Sockets for service purpose.....	14
4.3.4 Degree of protection	14
4.3.5 Class of protection.....	14
4.3.6 Overvoltage and measurement categories	14
4.3.7 Accessories	14
5 Markings and operating instructions	15
5.1 Markings	15
5.2 Operating instructions	15
6 Tests	15
6.1 General.....	15
6.2 Operating uncertainty.....	15
6.3 Tests of measuring circuits according to measuring functions	18
6.4 Test of construction requirements of test and measurement equipment.....	18
Annex A (normative) Measuring circuit MD	19
A.1 Current measuring circuit MD.....	19
A.2 Frequency characteristic of current measuring circuit MD	20
Bibliography.....	21
Figure A.1 – Current measuring circuit MD.....	19
Figure A.2 – Frequency characteristic of the current measuring circuit MD.....	20

Table 1 – Calculation of operating uncertainty for leakage measurements with direct or differential method	17
Table 2 – Compliance tests of measuring circuits according to measuring function	18
Table 3 – Compliance test of construction requirements of test and measuring equipment.....	18

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 16: Equipment for testing the effectiveness of the protective
measures of electrical equipment and/or medical electrical equipment**

FOREWORD

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IEC 61557-16 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities. It is an International Standard.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

- a) splitting of uncertainty requirements for medical and non-medical electrical equipment in 4.2.1;
- b) addition of a definition of ranges with defined uncertainty in 4.2.1 to 4.2.7;
- c) addition of an optional measuring device (MD) for non-medical devices in 4.2.1;

- d) addition of a limitation of the maximum intrinsic uncertainty for medical applications at leakage current in 4.2.1;
- e) change of 4.2.3 from test sockets to sockets for service purposes;
- f) addition of a warning in the operating instructions;
- g) integration of former 6.3 into 6.2;
- h) update of Table 1;
- i) alignment of the structure with that of the whole IEC 61557 series.

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

Draft	Report on voting
85/876/FDIS	85/885/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/publications.

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

A list of all parts in 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 in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This part of IEC 61557 defines performance requirements of measuring equipment intended for testing the effectiveness of the protective measures of either electrical equipment or medical electrical equipment, or both (in accordance with IEC 62353). It is the intention of this document to achieve comparable measuring results, additional safety for the person carrying out the testing, and non-damaging electrical stress for the unit under test.

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 16: Equipment for testing the effectiveness of the protective measures of electrical equipment and/or medical electrical equipment

1 Scope

This part of IEC 61557 specifies the requirements applicable to the performance for test and measurement equipment in order to determine the effectiveness of the protective measures for electrical equipment and/or medical electrical equipment described in IEC 62353.

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.

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IEC 60601-1:2005, *Medical electrical equipment – Part 1: General requirements for basic safety and essential performance*

IEC 60601-1:2005/AMD1:2012

IEC 60601-1:2005/AMD2:2020

IEC 61010-1:2010, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*

IEC 61010-1:2010/AMD1:2016

IEC 61010-031, *Safety requirements for electrical equipment for measurement, control and laboratory use – Part 031: Safety requirements for hand-held and hand-manipulated probe assemblies for electrical test and measurement*

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

IEC 61010-2-032, *Safety requirements for electrical equipment for measurement, control and laboratory use – Part 2-032: Particular requirements for hand-held and hand-manipulated current sensors for electrical test and measurement*

IEC 61010-2-034, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-034: Particular requirements for measurement equipment for insulation resistance and test equipment for electric strength*

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 61557-4, *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 61557-10, *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 or monitoring of protective measures*

IEC 61557-13, *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 13: Hand-held and hand-manipulated current clamps and sensors for measurement of leakage currents in electrical distribution systems*

IEC 62353:2014, *Medical electrical equipment – Recurrent test and test after repair of medical electrical equipment*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN