



NSAI
Standards

Irish Standard
I.S. EN IEC 61557-4:2021

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

I.S. EN IEC 61557-4:2021

Incorporating amendments/corrigenda/National Annexes issued since publication:

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

I.S. EN IEC 61557-4:2021 is the adopted Irish version of the European Document EN IEC 61557-4:2021, 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

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EUROPEAN STANDARD

EN IEC 61557-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2021

ICS 17.220.20; 29.080.01; 29.240.01

Supersedes EN 61557-4:2007 and all of its amendments
and corrigenda (if any)

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 4: Resistance of earth
connection and equipotential bonding
(IEC 61557-4:2019)

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 4: Résistance de
conducteurs de terre et d'equipotentialité
(IEC 61557-4:2019)

Elektrische Sicherheit in Niederspannungsnetzen bis AC 1
000 V und DC 1 500 V - Geräte zum Prüfen, Messen oder
Überwachen von Schutzmaßnahmen - Teil 4: Widerstand
von Erdungsleitern, Schutzleitern und
Potentialausgleichsleitern
(IEC 61557-4:2019)

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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 61557-4:2021 (E)

European foreword

The text of document 85/686/FDIS, future edition 3 of IEC 61557-4, prepared by IEC/TC 85 "Measuring equipment for electrical and electromagnetic quantities" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61557-4:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022-08-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2024-11-10

This document supersedes EN 61557-4:2007 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

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Endorsement notice

The text of the International Standard IEC 61557-4:2019 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 61010-1:2010 NOTE Harmonized as EN 61010-1:2010 (not modified)

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 61010-031	-	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test	EN 61010-031	-
IEC 61010-2-030	2017	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	2021
-	-		+ A11	2021
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

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IEC 61557-4

Edition 3.0 2019-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

Part 4: Resistance of earth connection and equipotential bonding

**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 4: Résistance de conducteurs de terre et d'équipotentialité



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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IEC 61557-4

Edition 3.0 2019-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

Part 4: Resistance of earth connection and equipotential bonding

**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 4: Résistance de conducteurs de terre et d'équipotentialité

INTERNATIONAL
ELECTROTECHNICAL
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COMMISSION
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INTERNATIONALE

ICS 17.220.20; 29.080.01; 29.240.01

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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 4: Resistance of earth connection and equipotential bonding

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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International Standard IEC 61557-4 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities.

This third edition cancels and replaces the second edition published in 2007. This edition constitutes a technical revision.

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

- a) complement to the measurement category in Clause 4;
- b) correction of the equation for operating uncertainty;
- c) complement to the requirements for measuring with DC;

d) alignment of the structure with that of the whole IEC 61557 series.

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

FDIS	Report on voting
85/686/FDIS	85/695/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 "<http://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.

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

1 Scope

This part of IEC 61557 specifies the requirements applicable to equipment for measuring the resistance of earth conductors, protective earth conductors and conductors for equipotential bonding, including their connections and terminals, with an indication of the measured value or an indication of the limits.

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 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 61010-2-030:2017, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for equipment having testing or measuring circuits*

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61557-1 apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
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4 Requirements

4.1 General

In addition to the requirements of IEC 61557-1:2019, Clause 4, the following requirements shall apply.

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