

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 9: Zariadenia na lokalizovanie poruchy izolácie v sieťach IT	STN EN IEC 61557-9 35 6230
------------	---	--

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 9: Equipment for insulation fault location in IT systems

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. 06/25

Obsahuje: EN IEC 61557-9:2025, IEC 61557-9:2023

Oznámením tejto normy sa od 30.04.2028 ruší

STN EN 61557-9 (35 6230) z apríla 2017

140635

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
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 61557-9

April 2025

ICS 25.040.40

Supersedes EN 61557-9:2015; EN 61557-9:2015/AC:2016-06; EN 61557-9:2015/AC:2017-02

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 9: Equipment for
insulation fault location in IT systems
(IEC 61557-9:2023)**

Sécurité électrique dans les réseaux de distribution basse tension au plus égale à 1 000 V en C.A et 1 500 V en C.C -
Dispositifs de contrôle, de mesure ou de surveillance de mesures de protection - Partie 9: Dispositifs de localisation de défauts d'isolement pour réseaux IT
(IEC 61557-9:2023)

Elektrische Sicherheit in Niederspannungsnetzen bis AC 1 000 V und DC 1 500 V - Geräte zum Prüfen, Messen oder Überwachen von Schutzmaßnahmen - Teil 9: Einrichtungen zur Isolationsfehlersuche in IT-Systemen
(IEC 61557-9:2023)

This European Standard was approved by CENELEC on 2024-10-16. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.



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 61557-9:2025 (E)**European foreword**

The text of document 85/896/FDIS, future edition 4 of IEC 61557-9, 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 61557-9:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2026-04-30 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2028-04-30 document have to be withdrawn

This document supersedes EN 61557-9:2015 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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61557-9:2023 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 60364-4-41:2005	NOTE	Approved as HD 60364-4-41:2017 +A11:2017
IEC 60664 series	NOTE	Approved as EN 60664 series
IEC 60664-1	NOTE	Approved as EN IEC 60664-1
IEC 60664-3	NOTE	Approved as EN 60664-3
IEC 61557-15	NOTE	Approved as EN 61557-15
IEC 61810-2:2017	NOTE	Approved as EN 61810-2:2017 (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.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-1	2007	Environmental testing - Part 2-1: Tests - Test A: Cold	EN 60068-2-1	2007
IEC 60068-2-2	2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-6	-	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	-
IEC 60068-2-27	2008	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC 60364-7-710	2021	Low-voltage electrical installations - Part 7-710: Requirements for special installations or locations - Medical locations	HD 60364-7-710	2024
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
IEC 60721-3-1	2018	Classification of environmental conditions - Part 3-1: Classification of groups of environmental parameters and their severities - Storage	EN IEC 60721-3-1	2018
IEC 60721-3-2	2018	Classification of environmental conditions - Part 3-2: Classification of groups of environmental parameters and their severities - Transportation and Handling	EN IEC 60721-3-2	2018
IEC 60721-3-3	2019	Classification of environmental conditions - Part 3-3: Classification of groups of environmental parameters and their severities - Stationary use at weatherprotected locations	EN IEC 60721-3-3	2019
IEC 60947-5-1	2016	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices	EN 60947-5-1	2017

EN IEC 61557-9:2025 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60947-5-4	2002	Low-voltage switchgear and controlgear - Part 5-4: Control circuit devices and switching elements - Method of assessing the performance of low-energy contacts - Special tests	EN 60947-5-4	2003
+ A1	2019		+ A1	2019
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
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	-
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 61010-2-032	-	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 IEC 61010-2-032	-
IEC 61140	-	Protection against electric shock - Common aspects for installation and equipment	EN 61140	-
IEC 61326-1	2020	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements	EN IEC 61326-1	2021
IEC 61326-2-2	-	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-2: Particular requirements - Test configurations, operational conditions and performance criteria for portable testing, measuring and monitoring equipment used in low-voltage distribution systems	EN IEC 61326-2-2	-
IEC 61326-2-4	-	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-4: Particular requirements - Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9	EN IEC 61326-2-4	-

EN IEC 61557-9:2025 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 61557-8	2014	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 8: Insulation monitoring devices for IT systems	EN 61557-8	2015
IEC 61810-2	2017	Electromechanical elementary relays - Part 2: Reliability	EN 61810-2	2017



IEC 61557-9

Edition 4.0 2023-12

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 9: Equipment for insulation fault location in IT systems

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 9: Dispositifs de localisation de défauts d'isolement pour réseaux IT

**THIS PUBLICATION IS COPYRIGHT PROTECTED****Copyright © 2023 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

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

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

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC -**webstore.iec.ch/advsearchform**

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, ...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org

Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 300 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 19 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.



IEC 61557-9

Edition 4.0 2023-12

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 9: Equipment for insulation fault location in IT systems

**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 9: Dispositifs de localisation de défauts d'isolement pour réseaux IT

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 25.040.40

ISBN 978-2-8322-7836-9

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD	5
1 Scope	7
2 Normative references	7
3 Terms, definitions and abbreviated terms	9
3.1 Terms, definitions, symbols and units	9
3.2 Abbreviated terms and symbols	12
4 Requirements	13
4.1 General requirements	13
4.2 Functions provided by an IFLS	14
4.2.1 Location warning	14
4.2.2 Local location warning (LLW)	14
4.2.3 Remote location warning (RLW)	14
4.3 Optional functions provided by IFLS	14
4.3.1 Indication of the insulation value	14
4.3.2 Alarm in case of the interruption of the loss of the connection to the locating current sensor (LCS)	14
4.3.3 Self-test	14
4.4 Performance requirements	15
4.4.1 Response sensitivity	15
4.4.2 Locating current I_L and locating voltage U_L	15
4.4.3 Permanently admissible nominal voltage U_{pa}	15
4.4.4 Supply voltage U_s	16
4.5 Safety requirements	16
4.5.1 Clearance and creepage distances	16
4.5.2 Protection class and earth connection of the IFLS	16
4.6 Electromagnetic compatibility	16
4.7 Mechanical requirements	16
4.7.1 Product mechanical robustness	16
4.7.2 IP protection class requirements	16
4.8 Climatic environmental conditions	17
5 Marking and operating instructions	17
5.1 Marking	17
5.2 Operating instructions	17
6 Tests	18
6.1 General	18
6.2 Type tests	18
6.2.1 Climatic tests	18
6.2.2 Test of response sensitivity of the IFLS	19
6.2.3 Test of the locating current I_L and locating voltage U_L	20
6.2.4 Test of the location warning	23
6.2.5 Test of the indication of the insulation value	23
6.2.6 Verification of insulation coordination	23
6.2.7 Test of the electromagnetic compatibility (EMC)	23
6.2.8 Test of the loss of LCS connection	23
6.2.9 Test of the protection class and of the earth connection of the IFLS	23
6.2.10 Inspection of the marking and operating instructions	23

6.2.11	Mechanical test	23
6.2.12	Record of the type test	24
6.3	Routine tests	24
6.3.1	General	24
6.3.2	Voltage test	24
6.3.3	Recording of routine tests	24
7	Overview of requirements and tests for IFLS	25
Annex A	(normative) Insulation fault location system in medical locations (MED-IFLS)	26
A.1	General	26
A.2	Requirements	26
A.2.1	General	26
A.2.2	Performance requirements	26
A.2.3	Electromagnetic compatibility	26
A.3	Additional tests	27
A.3.1	General	27
A.3.2	Test of the performance requirements	27
A.3.3	Test of the response time	27
A.3.4	Test of the electromagnetic compatibility (EMC)	27
Annex B	(normative) Portable equipment for insulation fault location	29
B.1	General	29
B.2	Additional requirements	29
B.2.1	General	29
B.2.2	Performance requirements	29
B.3	Marking and operating instructions	29
B.4	Additional tests	29
Annex C	(informative) Example of an IFLS and explanation of upstream and downstream system leakage capacitances	30
C.1	Examples for the functions of an IFLS	30
C.2	Upstream and downstream system leakage capacitance	32
Bibliography		33
Figure 1	– Test configuration: I_L driven directly from the system to be monitored	21
Figure 2	– Test configuration: Active locating source	22
Figure 3	– Test configuration for current testing: Active locating source is used with a locating voltage above 50 V AC RMS and 70 V peak or 120 V DC	22
Figure C.1	– Example of an IFLS	31
Figure C.2	– Explanation of upstream and downstream system leakage capacitance	32
Table 1	– Abbreviated terms and symbols	12
Table 2	– Minimum IP requirements for IFLS	17
Table 3	– Reference conditions for testing	18
Table 4	– Climatic tests in operation	19
Table 5	– Climatic tests for storage	19
Table 6	– List of test conditions (TC)	19
Table 7	– Product mechanical test	24
Table 8	– Requirements and tests on IFLSs	25

Table A.1 – Additional requirements applicable to MED-IFLS.....	27
Table A.2 – Emission test for MED-IFLS	28

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 9: Equipment for insulation fault location in IT systems****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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 61557-9 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities. It is an International Standard.

This fourth edition cancels and replaces the third 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) new terms and definitions on maximum admissible locating AC and DC currents and voltages;
- b) the requirements on locating current and locating voltage have been revised;

- c) performance requirements have been added;
- d) the test requirements for locating current and locating voltage have been revised;
- e) the structure of this document has been adapted to that of IEC 61557-1:2019;
- f) the limit values under Clause A.2 were adapted to fit the changed test methods in 6.2.3.

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

Draft	Report on voting
85/896/FDIS	85/901/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.

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, or
- revised.

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 9: Equipment for insulation fault location in IT systems

1 Scope

This part of IEC 61557 specifies the requirements for the insulation fault location system (IFLS) that localizes insulation faults in any part of the system in unearthed IT AC systems and unearthed IT AC systems with galvanically connected DC circuits having nominal voltages up to 1 000 V AC, as well as in unearthed IT DC systems with voltages up to 1 500 V DC, independent of the measuring principle.

NOTE 1 IT systems are described in IEC 60364-4-41. Further information on insulation fault location can be found in the following International Standards: IEC 60364-4-41:2005, 411.6 and IEC 60364-4-41:2005/AMD1:2017, 411.6, and IEC 60364-5-53:2019/AMD1:2020, 531.3.

NOTE 2 This document covers both passive IFLS and active IFLS. Active IFLS can be used in de-energised systems.

NOTE 3 This document does not cover IMD complying with IEC 61557-8.

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 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC 60364-7-710:2021, *Low-voltage electrical installations – Part 7-710: Requirements for special installations or locations – Medical locations*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60721-3-1:2018, *Classification of environmental conditions – Part 3-1: Classification of groups of environmental parameters and their severities – Storage*

IEC 60721-3-2:2018, *Classification of environmental conditions – Part 3-2: Classification of groups of environmental parameters and their severities – Transportation and handling*

IEC 60721-3-3:2019, *Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weatherprotected locations*

IEC 60947-5-1:2016, *Low-voltage switchgear and controlgear – Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*

IEC 60947-5-4:2002, *Low-voltage switchgear and controlgear – Part 5-4: Control circuit devices and switching elements – Method of assessing the performance of low-energy contacts – Special tests*

IEC 60947-5-4:2002/AMD1:2019

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

IEC 61010-031, *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 61010-2-032, *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 61140, *Protection against electric shock – Common aspects for installation and equipment*

IEC 61326-1:2020, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements*

IEC 61326-2-2, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 2-2: Particular requirements – Test configurations, operational conditions and performance criteria for portable testing, measuring and monitoring equipment used in low-voltage distribution systems*

IEC 61326-2-4, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 2-4: Particular requirements – Test configurations, operational conditions and performance criteria for insulation monitoring devices according to IEC 61557-8 and for equipment for insulation fault location according to IEC 61557-9*

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 61557-8:2014, *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 8: Insulation monitoring devices for IT systems*

IEC 61810-2:2017, *Electromechanical elementary relays – Part 2: Reliability*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN