SIST

SLOVENSKI STANDARD
oSIST prEN IEC 61326-2-4:2019

01-oktober-2019

Električna oprema za merjenje, kontrolo in laboratorijsko uporabo - Zahteve za elektromagnetno združljivost (EMC) - 2-4. del: Posebne zahteve - Preskusne konfiguracije, obratovalni pogoji in merila za delovanje naprav za stalno preverjanje izolacije po IEC 61557-8 in opreme za ugotavljanje mesta okvare izolacije po IEC 61557-9

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

Elektrische Mess-, Steuer-, Regel- und Laborgeräte - EMV-Anforderungen - Teil 2-4: Besondere Anforderungen - Prüfanordnung, Betriebsbedingungen und Leistungsmerkmale für Isolationsüberwachungsgeräte gemäß IEC 61557-8 und Geräte zur Isolationsfehlerortung gemäß IEC 61557-9

Matériel électrique de mesure, de commande et de laboratoire - Exigences relatives à la CEM - Partie 2-4: Exigences particulières - Configurations d'essai, conditions de fonctionnement et critères de performance pour les contrôleurs d'isolement conformes à la CEI 61557-8 et pour les dispositifs de localisation de défaut d'isolement conformes à la CEI 61557-9

Ta slovenski standard je istoveten z: **prEN IEC 61326-2-4:2019**

ICS:

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

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65A/926/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 61326-2-4 ED3	
DATE OF CIRCULATION: **2019-08-23**	CLOSING DATE FOR VOTING: **2019-11-15**
SUPERSEDES DOCUMENTS: **65A/907/CD, 65A/917A/CC**	

IEC SC 65A : SYSTEM ASPECTS	
SECRETARIAT: United Kingdom	SECRETARY: Mr Petar Luzajic
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 77, SC 77A	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

☒ SUBMITTED FOR CENELEC PARALLEL VOTING ☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

PROPOSED STABILITY DATE: 2023

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL AND LABORATORY USE – EMC REQUIREMENTS –

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International Standard IEC 61326-2-4 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2012. This edition constitutes a technical revision.

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

– update of the document with respect to IEC 61326-1:2012.

The text of this standard is based on the following documents:

FDIS	Report on voting
65A/630/FDIS	65A/639/RVD

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

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

This part of the IEC 61326 series is to be used in conjunction with IEC 61326-1:2012 and follows the same numbering of clauses, subclauses, tables and figures.

When a particular subclause of IEC 61326-1 is not mentioned in this part, that subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in IEC 61326-1 is to be adapted accordingly.

NOTE The following numbering system is used:

– subclauses, tables and figures that are numbered starting from 101 are additional to those in IEC 61326-1;

– unless notes are in a new subclause or involve notes in IEC 61326-1, they are numbered starting from 101 including those in a replaced clause or subclause;

– additional annexes are lettered AA, BB, etc.

A list of all parts of the IEC 61326 series, under the general title *Electrical equipment for measurement, control and laboratory use, control and laboratory use – EMC requirements* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

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

1 Scope

In addition to IEC 61326-1, this part of IEC 61326 specifies more detailed test configurations, operational conditions and performance criteria than IEC 61326-1 for equipment for

– insulation monitoring according to IEC 61557-8;

– insulation fault location according to IEC 61557-9.

This applies to insulation monitoring devices and insulation fault location systems permanently or semi-permanently connected to the distribution system.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Clause 2 of IEC 61326-1:20xx applies, except as follows:

Addition:

IEC 61326-1:20xx, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements*

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*

IEC 61557-9:2014, *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 9: Equipment for insulation fault location in IT systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61326-1 apply, except as follows.

Addition:

3.101
insulation resistance
R_F
resistance in the system being monitored, including the resistance of all the connected appliances to earth

[SOURCE: IEC 61557-8:2014, 3.2]

3.102
specified response value
R_{an}
value of the INSULATION RESISTANCE, permanently set or adjustable, on the device and monitored if the INSULATION RESISTANCE falls below this limit

[SOURCE: IEC 61557-8:2014, 3.3]

3.103
response sensitivity
value of the evaluating current or INSULATION RESISTANCE at which the evaluator responds under specified conditions

[SOURCE: IEC 61557-9:2014, 3.4]

3.104
nominal voltage of the distribution system
U_n
voltage by which a distribution system or equipment is designated and to which certain operating characteristics are referred

[SOURCE: IEC 61557-1:2007, 3.1]

3.105
supply voltage
U_S
voltage at a point where the measuring equipment does or can accept electric energy as a supply

[SOURCE: IEC 61557-1:2007, 3.8, modified]

3.106
system leakage capacitance
C_e
maximum permissible value of the total capacitance to earth of the system to be monitored, including any connected appliances, up to which value the insulation monitoring device can work as specified

[SOURCE: IEC 61557-8:2014, 3.6]

4 General

Clause 4 of IEC 61326-1:20xx applies.

5 EMC test plan

5.1 General

Subclause 5.1 of IEC 61326-1:20xx applies.

5.2 Configuration of EUT during testing

5.2.1 General

Subclause 5.2.1 of IEC 61326-1:20xx applies, except as follows.

Addition:

During the tests, the EUT is supplied as specified by the manufacturer.

For EUT having several ratings, the EUT shall be connected

– to the lowest nominal SUPPLY VOLTAGE U_S;
– to the highest NOMINAL VOLTAGE OF THE DISTRIBUTION SYSTEM U_n, but not more than 400 V.

If the EUT has only a combined terminal for the SUPPLY VOLTAGE and the voltage of the distribution system, it shall be connected to the highest nominal voltage, but not more than 400V.

If the EUT has interfaces for remote functions, they shall be connected during the tests as specified by the manufacturer for normal installation.

Insulation monitoring devices and equipment for insulation fault location shall be tested separately.

5.2.2 Composition of EUT

Subclause 5.2.2 of IEC 61326-1:20xx applies.

5.2.3 Assembly of EUT

Subclause 5.2.3 of IEC 61326-1:20xx applies.

5.2.4 I/O PORTS

Subclause 5.2.4 of IEC 61326-1:20xx applies.

5.2.5 AUXILIARY EQUIPMENT

Subclause 5.2.5 of IEC 61326-1:20xx applies.

5.2.6 Cabling and earthing (grounding)

Subclause 5.2.6 of IEC 61326-1:20xx applies.

5.3 Operation conditions of EUT during testing

Subclause 5.3 of IEC 61326-1:20xx applies, except as follows.

Addition:

5.3.101 Operational conditions

The EUT shall be set as specified by the manufacturer for normal operation.

If the EUT has adjustable SPECIFIED RESPONSE VALUES, tests shall be performed as follows:

– for insulation monitoring devices, one value shall be selected by the manufacturer among the following possibilities:
  - at the value equal or closest to the internal d.c. resistance value;
  - at the value equal or closest to the internal a.c. impedance value;
– for insulation fault location equipment at the value in the middle of the RESPONSE SENSITIVITY range;

The INSULATION RESISTANCE shall be simulated by a single phase INSULATION RESISTANCE.

If the EUT has a selectable time delay, the time delay shall be set to the minimum value.

The SYSTEM LEAKAGE CAPACITANCE shall be set to the maximum value as defined by the manufacturer but not more than 1 μF. The SYSTEM LEAKAGE CAPACITANCE is to be installed symmetrically to all phases of U_n. For example:

– 2 × 0,5 μF for single-phase AC and for DC systems,
– 3 × 0,33 μF for 3-phase AC systems.

5.4 Specification of FUNCTIONAL PERFORMANCE

Subclause 5.4 of IEC 61326-1:20xx applies.

5.5 Test description

Subclause 5.5 of IEC 61326-1:20xx applies.

6 Immunity requirements

6.1 Conditions during the tests

Subclause 6.1 of IEC 61326-1:20xx applies, except as follows.

Addition:

The configuration and modes of operation during the tests shall be precisely noted in the test report.

Tests shall be applied to the relevant **PORTS** in accordance with Table 101.

The tests shall be conducted in accordance with the basic standards. The tests shall be carried out one at a time. If additional methods are required, the method and rationale shall be documented.

6.1.101 Electrostatic discharge immunity tests

The test shall only be applied to parts of the EUT which are accessible to the user in normal operations, for example, push-buttons, displays; this test does not apply to connection terminals.

Electrostatic discharges of positive and negative polarity shall be applied 10 times to each of the selected test points.

The points of application shall be stated in the report.