



**SLOVENSKI STANDARD
SIST EN 60255-22-2:2001
01-september-2001**

Electrical relays - Part 22: Electrical disturbance tests for measuring relays and protection equipment - Section 2: Electrostatic discharge tests

Electrical relays -- Part 22: Electrical disturbance tests for measuring relays and protection equipment -- Section 2: Electrostatic discharge tests

Elektrische Relais -- Teil 22: Prüfung der elektrischen Störfestigkeit von Meßrelais und Schutzanlagen -- Hauptabschnitt 2: Prüfung mit elektrostatischer Entladung

Relais électriques -- Partie 22: Essais d'influence électrique concernant les relais de mesure et dispositifs de protection -- Section 2: Essais de décharges électrostatiques

Ta slovenski standard je istoveten z: **EN 60255-22-2:1996**

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EUROPEAN STANDARD
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Descriptors: Measuring relays, electrostatic discharge, tests

English version

Electrical relays
Part 22: Electrical disturbance tests for measuring relays
and protection equipment
Section 2: Electrostatic discharge tests
(IEC 255-22-2:1996)

Relais électriques
Partie 22: Essais d'influence électrique
concernant les relais de mesure et
dispositifs de protection
Section 2: Essais de décharges
électrostatiques
(CEI 255-22-2:1996)

Elektrische Relais
Teil 22: Prüfung der elektrischen
Störfestigkeit von Meßrelais und
Schutzeinrichtungen
Hauptabschnitt 2: Prüfung mit
elektrostatischer Entladung
(IEC 255-22-2:1996)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 95/36/FDIS, future edition 2 of IEC 255-22-2, prepared by IEC TC 95, Measuring relays and protection equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60255-22-2 on 1996-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 1997-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) -

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative and annexes A and B are informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 255-22-2:1996 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 255-6 (mod)	1988	Electrical relays Part 6: Measuring relays and protection equipment	EN 60255-6 + corr. February	1994 1995
IEC 1000-4-2	1995	Electromagnetic compatibility (EMC) Part 4: Testing and measurement techniques Section 2: Electrostatic discharge immunity test - Basic EMC Publication	EN 61000-4-2	1995

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

255-22-2

Deuxième édition
Second edition
1996-09

Relais électriques –

Partie 22:

**Essais d'influence électrique concernant
les relais de mesure et dispositifs de protection –
Section 2: Essais de décharges électrostatiques**

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Electrical relays –

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Part 22:

**Electrical disturbance tests for measuring
relays and protection equipment –
Section 2: Electrostatic discharge tests**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL RELAYS –

**Part 22: Electrical disturbance tests for measuring relays
and protection equipment –
Section 2: Electrostatic discharge tests**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 255-22-2 has been prepared by IEC technical committee 95: Measuring relays and protection equipment.

This second edition cancels and replaces the first edition published in 1989 and constitutes a technical revision.

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

FDIS	Report on voting
95/36/FDIS	95/45/RVD

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

Annexes A and B are for information only.

ELECTRICAL RELAYS –

Part 22: Electrical disturbance tests for measuring relays and protection equipment – Section 2: Electrostatic discharge tests

1 Scope and object

This section of IEC 255-22 is based on IEC 1000-4-2 and it refers to that standard where applicable.

This section specifies general requirements for electrostatic discharge tests of static measuring relays and protection equipment, with or without output contacts.

The object of the tests is to confirm that the equipment being tested will not maloperate when energized and subjected to an electrostatic discharge.

The requirements are applicable only to relays and protection equipment in new condition.

The tests specified in this standard are type tests.

The object of this standard is to state:

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- a) definition of terms used;
 - b) test severity classes;
 - c) test conditions; [SIST EN 60255-22-2:2001](https://standards.iteh.ai/catalog/standards/sist/b1a135b1-dd5a-4aa7-9243-5446b5f9c6af/sist-en-60255-22-2-2001)
 - d) test procedures; <https://standards.iteh.ai/catalog/standards/sist/b1a135b1-dd5a-4aa7-9243-5446b5f9c6af/sist-en-60255-22-2-2001>
 - e) criteria for acceptance.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 255-22. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 255-22 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of the IEC and ISO maintain registers of currently valid International Standards.

IEC 255-6: 1988, *Electrical relays – Part 6: Measuring relays and protection equipment*

IEC 1000-4-2: 1995, *Electromagnetic compatibility (EMC) – Part 4: Testing and measurement techniques – Section 2: Electrostatic discharge immunity test – Basic EMC Publication*

3 Definitions

For the purpose of this section of IEC 255-22, the following definitions apply, as well as definitions of the IEC International Electrotechnical Vocabulary (IEV), IEC 50, for general terms, and definitions of clause 4 of IEC 1000-4-2, for special terms.

3.1 contact discharge method: A method of testing, in which the electrode of the test generator is held in contact with the equipment under test, and the discharge to the equipment under test actuated by the discharge switch within generator.

3.2 air discharge method: A method of testing, in which the charged electrode of the test generator is approached to the equipment under test, and the discharge actuated by a spark to the equipment under test.

3.3 direct application: Application of the test directly to the equipment under test.

3.4 indirect application: Application of the test to a coupling plane in the vicinity of the equipment under test, and simulation of personal discharge to objects which are adjacent to the equipment under test.

4 Electrostatic discharge tests

4.1 Types of test

IEC 1000-4-2 makes reference to two test methods and two methods of application. These are:

- test methods
 - a) contact discharge;
 - b) air discharge;
- applications
 - a) direct;
 - b) indirect.

Tests shall be applied as follows:

- the direct application test method shall be used;
- the contact discharge method is the preferred method;
- the air discharge method shall only be used when the accessible surfaces of the equipment under test are non-conducting;
- the indirect method of application is not applicable to static measuring relays and protection equipment.

4.2 Test severity classes

To cover different environmental conditions, this standard includes different severity classes.

General guidance for the selection of severity classes is given in annex B.

The test severity class shall be chosen from the following table. In this standard, the severity is expressed as the charging voltage of the energy storing capacitor in the discharge generator.