SLOVENSKI STANDARD
SIST EN 61810-5:2001

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Electromechanical non-specified time all-or-nothing relays - Part 5: Insulation coordination

Electromechanical non-specified time all-or-nothing relays -- Part 5: Insulation coordination

Elektromechanische Schaltrelais ohne festgelegtes Zeitverhalten -- Teil 5: Isolationskoordination

Relais électromécaniques de tout-ou-rien à temps non spécifié -- Partie 5: Coordination de l'isolement

Ta slovenski standard je istoveten z: **EN 61810-5:1998**

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29.120.70	Releji	Relays

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EUROPEAN STANDARD

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EN 61810-5

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Descriptors: Electromechanical relays, all-or-nothing relays, definitions, general requirements, clearance and creepage distances

English version

Electromechanical non-specified time all-or-nothing relays Part 5: Insulation coordination (IEC 61810-5:1998)

Relais électromécaniques de tout-ou-rien à temps non spécifié
Partie 5: Coordination de l'isolement
(CEI 61810-5:1998)

Elektromechanische Schaltrelais ohne festgelegtes Zeitverhalten
Teil 5: Isolationskoordination
(IEC 61810-5:1998)

This European Standard was approved by CENELEC on 1998-04-01. 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 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, Czech Republic, 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

Ref. No. EN 61810-5:1998 E

Foreword

The text of document 94/73/FDIS, future edition 1 of IEC 61810-5, prepared by IEC TC 94, All-or-nothing electrical relays, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61810-5 on 1998-04-01.

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) 1999-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-08-01

This EN 61810-5 is to be used in conjunction with HD 625.1 S1:1996.

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 annex A is informative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61810-5:1998 was approved by CENELEC as a European Standard without any modification.

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.

Publication	Year	Title	EN/HD	Year
IEC 60038 (mod)	1983	IEC Standard voltages[1]	HD 472 S1	1989
IEC 60050(195)	1998	International Electrotechnical Vocabulary (IEV) Chapter 195: Earthing and protection against electric shock	-	-
IEC 60050(446)	1983	Chapter 446: Electrical relays	-	-
IEC 60068-1 + corr. October + A1	1988 1988 1992	Environmental testing Part 1: General and guidance	EN 60068-1	1994
IEC 60068-2-2 A1 A2	1974 1993 1994	Part 2: Tests - Test B: Dry heat	EN 60068-2-2[2] A1 A2	1993 1993 1994
IEC 60068-2-3	1969	Part 2: Tests - Test Ca: Damp heat, steady state	HD 323.2.3 S2[3]	1987
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60664-1 (mod)	1992	Insulation coordination for equipment within low-voltage systems Part 1: Principles, requirements and tests	HD 625.1 S1 + corr. November	1996 1996
IEC 61810-1	1998	Electromechanical non-specified time all-or-nothing relays Part 1: General requirements	EN 61810-1	1998
IEC 61810-7	1997	Part 7: Test and measurement procedures	-	-

1) The title of HD 472 S1 is: *Nominal voltages for low voltage public electricity supply systems.*

2) EN 60068-2-2 includes supplement A:1976 to IEC 60068-2-2.

3) HD 323.2.3 S2 includes A1:1984 to IEC 60068-2-3.

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Relais électromécaniques de tout-ou-rien à temps non spécifié –

Partie 5: Coordination de l'isolement

Electromechanical non-specified time all-or-nothing relays –

Part 5: Insulation coordination

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMECHANICAL NON-SPECIFIED TIME ALL-OR-NOTHING RELAYS –

Part 5: Insulation coordination

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 co-operation 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 61810-5 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This standard is to be read in conjunction with IEC 60664-1.

This standard replaces the relevant clauses of IEC 60255-5, issued in 1977.

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

FDIS	Report on voting
94/73/FDIS	94/81/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.

Annex A is for information only.

ELECTROMECHANICAL NON-SPECIFIED TIME ALL-OR-NOTHING RELAYS –

Part 5: Insulation coordination

1 General and definitions

1.1 Scope

This part of IEC 61810 specifies the general requirements for the insulation coordination of electromechanical non-specified time all-or-nothing relays.

NOTE – The insulation coordination of specified-time relays is covered by IEC 61812-1 [1].

Consequently throughout this standard, the term "relay" is to be understood as "electromechanical non-specified time all-or-nothing relay".

This standard is based upon the basic safety standard for insulation coordination IEC 60664-1.

This standard specifies the requirements for clearances, creepage distances and solid insulation for relays based upon performance criteria. It includes methods of electric testing with respect to insulation coordination for relays within low-voltage systems. It applies to relays for use up to 2 000 m above sea level, having a rated voltage up to 1 000 V a.c. or 1 500 V d.c. It does not include high-frequency requirements for insulation coordination.

The requirements of this standard do not cover distances

- through liquid insulation;
- through gases other than air;
- through compressed air.

For sealed or hermetically sealed relays (i.e. RT IV or RT V relay type according to 2.2 of IEC 61810-7) using such medium inside of the relay housing (e.g. electronegative gases, electroinsulating liquid or compressed air), the minimum rated impulse withstand voltage according to 4.1.1.2.1 of IEC 60664-1 (waveform 1,2/50 µs) and the actual internal creepage distances and clearances will be specified in the detail specification and assessed by the manufacturer.

Additional requirements may be necessary for particular relays and will be provided for in the relevant IEC publication (e.g. sectional specification).

The requirements stated in this standard do not apply to the gap between contact members, changing during contact operation.

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[1] IEC 61812-1:1996, *Specified-time relays for industrial use – Part 1: Requirements and tests.*

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61810. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 61810 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60038:1983, *IEC standard voltages*

EC 60050(195),— *International Electrotechnical Vocabulary (IEV) – Chapter 195: Earthing and protection against electric shock* [1)]

IEC 60050(446):1983, *International Electrotechnical Vocabulary (IEV) – Chapter 446: Electrical relays*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 60068-2-2:1974, *Environmental testing. Part 2: Tests. Test B: Dry heat*
Amendment 1 (1993)
Amendment 2 (1994)

IEC 60068-2-3:1969, *Environmental testing – Part 2: Tests. Test Ca: Damp heat, steady state*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 60664-1:1992, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 61810-1:1998, *Electromechanical non-specified time all-or-nothing relays – Part 1: General requirements*

IEC 61810-7:1997, *Electromechanical all-or-nothing relays – Part 7: Test and measurement procedures*

1.3 Terms and definitions

See the relevant parts of IEC 60050 (in particular chapters 446 and 195), IEC 60664-1 and the corresponding parts of the IEC 61810 series.

In addition, for the purpose of this part of IEC 61810, the following definitions have been duplicated in order to improve the readability.

1.3.1
clearance
the shortest distance in air between two conductive parts [IEC 60664-1, 1.3.2]

[1)] To be published.