SLOVENSKI STANDARD
SIST EN 60947-5-1:2005

01-februar-2005

Nadomešča:
SIST EN 60947-5-1:2000
SIST EN 60947-5-1:2000/A1:2000
SIST EN 60947-5-1:2000/A12:2000
SIST EN 60947-5-1:2000/A2:2001

Nizkonapetostne stikalne in krmilne naprave - 5-1. del: Krmilne naprave in stikalni elementi - Elektromehanske krmilne naprave (vsebuje popravka AC:2004 in AC:2005)

Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices

Niederspannungsschaltgeräte -- Teil 5-1: Steuergeräte und Schaltelemente - Elektromechanische Steuergeräte

Appareillage à basse tension -- Partie 5-1: Appareils et éléments de commutation pour circuits de commande - Appareils électromécaniques pour circuits de commande

Ta slovenski standard je istoveten z: **EN 60947-5-1:2004**

ICS:

29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear

SIST EN 60947-5-1:2005 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60947-5-1

June 2004

ICS 29.120.40; 29.130.20

Supersedes EN 60947-5-1:1997 + A1:1999 + A12:1999 + A2:2000
Incorporates Corrigendum November 2004

English version

Low-voltage switchgear and controlgear
Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices
(IEC 60947-5-1:2003)

Appareillage à basse tension
Partie 5-1: Appareils et éléments de commutation pour circuits de commande –
Appareils électromécaniques pour circuits de commande
(CEI 60947-5-1:2003)

Niederspannungsschaltgeräte
Teil 5-1: Steuergeräte und Schaltelemente –
Elektromechanische Steuergeräte
(IEC 60947-5-1:2003)

This European Standard was approved by CENELEC on 2004-05-01. 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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 60947-5-1:2004 E

Foreword

The text of document 17B/1297/FDIS, future edition 3 of IEC 60947-5-1, prepared by SC 17B, Low-voltage switchgear and controlgear, of IEC TC 17, Switchgear and controlgear, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60947-5-1 on 2004-05-01.

This European Standard supersedes EN 60947-5-1:1997 + A1:1999 + A12:1999 + A2:2000.

This European Standard should be used in conjunction with EN 60947-1:1999.

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) 2005-02-01

– latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-02-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive(s). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

The contents of the corrigendum of November 2004 have been included in this copy.

Endorsement notice

The text of the International Standard IEC 60947-5-1:2003 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

The following referenced documents are indispensable for the application 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 Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-441	1984	International Electrotechnical Vocabulary (IEV) Chapter 441: Switchgear, controlgear and fuses	-	-
A1	2000		-	-
IEC 60050-446	1983	Chapter 446: Electrical relays	-	-
IEC 60068-2-6	1995	Environmental testing	EN 60068-2-6	1995
+ corr. March	1995	Part 2: Tests - Test Fc: Vibration (sinusoidal)		
IEC 60068-2-14	1984	Part 2: Tests - Test N: Change of temperature		
+ A1	1986		EN 60068-2-14	1999
IEC 60068-2-27	1987	Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993
IEC 60068-2-30	1980	Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)		
+ A1	1985		EN 60068-2-30	1999
IEC 60073	2002	Basic and safety principles for man-machine interface, marking and identification - Coding principles for indicators and actuators	EN 60073	2002
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60255	Series	Electrical relays	EN 60255	Series
IEC 60617	Series	Graphical symbols for diagrams	EN 60617	Series
IEC 60947-1 (mod)	1999	Low-voltage switchgear and controlgear Part 1: General rules	EN 60947-1 [1)]	1999
A1	2000		A1	2000
A2	2001		A2	2001

1) EN 60947-1:1999 is superseded by EN 60947-1:2004, which is based on IEC 60947-1:2004.

Publication	Year	Title	EN/HD	Year
IEC 60947-4-1	2000	Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters	EN 60947-4-1	2001
IEC 61000-4-2	1995	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	1995
A1	1998		A1	1998
A2	2000		A2	2001
IEC 61000-4-3	2002	Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3	2002
IEC 61000-4-4	1995	Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	1995
A1	2000		A1	2001
A2	2001		A2	2001
IEC 61000-4-5	1995	Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	1995
A1	2000		A1	2001
IEC 61000-4-6	1996	Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	1996
A1	2000		A1	2001
IEC 61000-4-8	1993	Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8	1993
A1	2000		A1	2001
IEC 61000-4-11	1994	Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	1994
A1	2000		A1	2001
IEC 61000-4-13	2002	Part 4-13: Testing and measurement techniques - Harmonics and interharmonics including mains signalling at a.c. power port, low frequency immunity tests	EN 61000-4-13	2002
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002
CISPR 11 (mod)	1997	Industrial, scientific and medical (ISM) radio-frequency equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55011	1998
A1	1999		A1	1999

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 4 of the EC Directive 89/336/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive[s] concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

Corrigendum to EN 60947-5-1:2004

English version

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NOTE This corrigendum includes and replaces the corrigendum November 2004.

Foreword

Replace dow by:

– latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-05-01

Replace the two paragraphs following the implementation dates by:

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive(s). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

Add the following Annex ZZ:

Annex ZZ
(informative)

Coverage of Essential Requirements of EC Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers all relevant essential requirements as given in Article 4 of the EC Directive 89/336/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directive[s] concerned.

WARNING: Other requirements and other EC Directives may be applicable to the products falling within the scope of this standard.

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July 2005

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60947-5-1

Troisième édition
Third edition
2003-11

Appareillage à basse tension –

Partie 5-1:
Appareils et éléments de commutation pour circuits de commande – Appareils électromécaniques pour circuits de commande

Low-voltage switchgear and controlgear –

Part 5-1:
Control circuit devices and switching elements – Electromechanical control circuit devices

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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For price, see current catalogue

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 5-1: Control circuit devices and switching elements Electromechanical control circuit devices

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 60947-5-1 has been prepared by subcommittee 17B: Low-voltage switchgear and controlgear, of IEC technical committee 17: Switchgear and controlgear.

This third edition of IEC 60947-5-1 cancels and replaces the second edition, published in 1997, amendment 1 (1999) and amendment 2 (1999).

The document 17B/1297/FDIS, circulated to the National Committees as amendment 3, led to the publication of this new edition.

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

FDIS	Report on voting
17B/1297/FDIS	17B/1309/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 International Standard should be used in conjunction with IEC 60947-1.

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

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be:

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

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR –

Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices

1 General

The provisions of the general rules, IEC 60947-1, are applicable to this standard, where specifically called for. General rules, clauses and subclauses thus applicable, as well as tables, figures and annexes are identified by a reference to IEC 60947-1, for example 1.2.3, Table 4 or Annex A of IEC 60947-1.

1.1 Scope and object

This part of IEC 60947 applies to control circuit devices and switching elements intended for controlling, signalling, interlocking, etc., of switchgear and controlgear.

It applies to control circuit devices having a rated voltage not exceeding 1 000 V a.c. (at a frequency not exceeding 1 000 Hz) or 600 V d.c.

However, for operational voltages below 100 V a.c. or d.c., see note 2 of 4.3.1.1.

This standard applies to specific types of control circuit devices such as:

– manual control switches, for example pushbuttons, rotary switches, foot switches, etc.;
– electromagnetically operated control switches, either time-delayed or instantaneous, for example contactor relays;
– pilot switches, for example pressure switches, temperature sensitive switches (thermostats), programmers, etc.;
– position switches, for example control switches operated by part of a machine or mechanism;
– associated control circuit equipment, for example indicator lights, etc.

NOTE 1 A control circuit device includes (a) control switch(es) and associated devices such as (an) indicator light(s).

NOTE 2 A control switch includes (a) switching element(s) and an actuating system.

NOTE 3 A switching element may be a contact element or a semiconductor element.

It also applies to specific types of switching elements associated with other devices (whose main circuits are covered by other standards) such as:

– auxiliary contacts of a switching device (e.g. contactor, circuit breaker. etc.) which are not dedicated exclusively for use with the coil of that device;
– interlocking contacts of enclosure doors;
– control circuit contacts of rotary switches;
– control circuit contacts of overload relays.