
Nizkonapetostne stikalne in krmilne naprave – 7. del: Pomožna oprema – 1. oddelek: Vrstne sponke za priključevanje bakrenih vodnikov

Low-voltage switchgear and controlgear -- Part 7-1: Ancillary equipment - Terminal blocks for copper conductors

Niederspannungsschaltgeräte -- Teil 7-1: Hilfseinrichtungen - Reihenklammern für Kupferleiter

Appareillage à basse tension -- Partie 7-1: Matériels accessoires - Blocs de jonction pour conducteurs en cuivre

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Ta slovenski standard je istoveten z: EN 60947-7-1:1991

ICS:

29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear
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EUROPEAN STANDARD

EN 60947-1

NORME EUROPEENNE

EUROPÄISCHE NORM

October 1991

UDC 621.316.542:620.1:001.4

Descriptors: Low-voltage switchgear and controlgear, characteristics, specification, test

ENGLISH VERSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR
PART 1: GENERAL RULES
(IEC 947-1:1988, modified)

Appareillage à basse tension
Première partie: Règles
générales
(CEI 947-1:1988, modifiée)

Niederspannung-Schaltgeräte
Teil 1: Allgemeine Festlegungen
(IEC 947-1:1988, modifiziert)

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This European Standard was approved by CENELEC on 1991-03-15. 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, 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 CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 947-1:1988 could be accepted without textual changes, has shown that some CENELEC common modifications were necessary for the acceptance as European Standard. The reference document, together with the common modifications prepared by the CENELEC Technical Committee TC 17B, was submitted to the CENELEC members for formal vote.

The text of the draft was approved by CENELEC as EN 60947-1 on 15 March 1991.

The following dates were fixed:

- latest date of publication of
an identical national standard (dop) 1992-06-30
- latest date of withdrawal of
conflicting national standards (dow) 1992-09-30

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

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INTRODUCTION

All subjects left "under consideration" in IEC 947-1:1988 are not part of this European Standard.

This means that:

- for the following clauses the title and text are to be replaced by "Vacant":

- 6.1.4 Shock and vibrations
- 7.1.1.1 Insulating materials
- 7.2.7 Leakage currents of equipment suitable for isolation
- 8.2.1 Materials
- 8.2.2 Equipment
- 8.2.4.6 Test for insertability of flat conductors with rectangular cross-section
- 8.2.5. Verification of strength of actuating system and position indicator of equipment suitable for isolation

- in the following clauses the appropriate paragraphs or notes are to be deleted:

- 7.1.1. Materials
- 7.2.3.5 Solid insulation
- 8.2.3 Enclosures for equipment
- 8.3.3.4.1 Type tests
- 8.3.3.5.4 Switching overvoltages
- 8.3.4.1.7 Behaviour of the equipment during short-circuit making and breaking tests
- Appendix F Determination of short-circuit power-factor or time-constant

Up-to-date information concerning the subjects dealt with in these clauses can be obtained from the secretariat of CENELEC TC 17B.

ENDORSEMENT NOTICE

The text of the International Standard IEC 947-1:1988, was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

8.3.2.1 General requirements

After the 6th paragraph add:

Screw terminals shall be tightened with a torque in accordance with Table IV or with the torque specified by the manufacturer, whichever is the greater.

8.3.3.4.1. 5) Verification of creepage distances

Add:

Note.- To facilitate the determination of the shortest creepage distance the manufacturer may provide relevant information, such as drawings.

8.3.3.4.2. Routine tests

Replace the text of this sub-clause by the following:

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The test requirements of the relevant product standard shall apply.

Appendix H Correlation between the nominal voltage of the supply system and the rated impulse withstand voltage of equipment

Add after the title:

Note.- This appendix is due to be updated.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

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

IEC <u>Publication</u>	<u>Date</u>	<u>Title</u>	<u>EN/HD</u>	<u>Date</u>
50(151)	1978	International Electrotechnical Vocabulary (IEV) - Chapter 151: Electrical and magnetic devices	-	-
50(441)	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
50(604)	1987	Chapter 604: Generation, transmission and distribution of electricity Operation	-	-
50(826)	1982	Chapter 826: Electrical installations of buildings	HD 384.2 S1	1986
60 - series		High-voltage test techniques	-	-
71-1	1976	Insulation co-ordination - Part 1: Terms, definitions, principles and rules	-	-
73	1984	Colours of indicator lights and push-buttons	HD 354 S2	1987
85	1984	Thermal evaluation and classification of electrical insulation	HD 566 S1	1990
99-1	1970	Lightning arresters - Part 1: Non-linear resistor type arresters for a.c. systems	-	-
112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980
144*	1963	Degrees of protection of enclosures for low-voltage switchgear and controlgear	-	-
216 - series		Guide for the determination of thermal endurance properties of electrical insulating materials	-	-

* IEC 144 is superseded by IEC 947-1

IEC				
<u>Publication</u>	<u>Date</u>	<u>Title</u>	<u>EN/HD</u>	<u>Date</u>
269-1	1986	Low-voltage fuses - Part 1: General requirements	EN 60269-1	1989
269-2	1986	Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)	-	-
364-4-443	-	Electrical installations of buildings Part 4: Protection for safety Chapter 44: Protection against over-voltages - Section 443: Protection against overvoltages of atmospheric origin (In preparation)	-	-
417	1973	Graphical symbols for use on equipment Index, survey and compilation of the single sheets	HD 243 S1*	1984
439-1, mod	1985	Low-voltage switchgear and controlgear assemblies - Part 1: Requirements for type-tested and partially type-tested assemblies	EN 60439-1	1990
445	1973	Identification of apparatus terminals and general rules for a uniform system of terminal marking using an alpha-numeric notation	HD 241 S1*	1978
447	1974	Standard directions of movement for actuators which control the operation of electrical apparatus	HD 331 S1	1977
529	1976	Classification of degrees of protection provided by enclosures	HD 365 S1*	1978
617-7	1983	Graphical symbols for diagrams Part 7: Switchgear, controlgear and protective devices	-	-
664	1980	Insulation co-ordination within low-voltage systems including clearances and creepage distances for equipment	-	-
+ 664A	1981	First Supplement		

* HD 243 S1 is superseded by HD 243 S9:1991, which includes supplements A:1974 to J:1990 to IEC 417

* HD 241 S1 is superseded by EN 60445:1990 which is based on IEC 445:1988

* HD 365 S1 is superseded by EN 60529:1991 which is based on IEC 529:1989

NORME
INTERNATIONALE
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STANDARD

**CEI
IEC
947-7-1**

Première édition
First edition
1989-10

Appareillage à basse tension

Septième partie:

Matériels accessoires

Section un – Blocs de jonction
pour conducteurs en cuivre

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Low-voltage switchgear and controlgear

Part 7:

Ancillary equipment

Section One – Terminal blocks
for copper conductors

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International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

	Page
FOREWORD	5
PREFACE	5
Clause	
1. General	7
2. Definitions	9
3. Classification	9
4. Characteristics	9
4.1 Summary of characteristics	9
4.2 Type of terminal block	9
4.3 Rated and limiting values	9
5. Product information	13
5.1 Markings	13
5.2 Additional information	15
6. Normal service, mounting and transport conditions	15
7. Constructional and performance requirements	15
7.1 Constructional requirements	15
7.2 Performance requirements	17
8. Tests	19
8.1 General	19
8.2 Verification of mechanical characteristics	19
8.3 Verification of electrical characteristics	25
APPENDIX A - Clearances and creepage distances	37
APPENDIX B - Items subject to agreement between manufacturer and user	39

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE SWITCHGEAR AND CONTROLGEAR

Part 7: Ancillary equipment

Section One - Terminal blocks for copper conductors

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.
- 4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

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PREFACE 0947-7-1-1995

This standard has been prepared by Sub-Committee 17B: Low-voltage switchgear and controlgear of IEC Technical Committee No. 17: Switchgear and controlgear.

It should be used in conjunction with IEC Publication 947-1.

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

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
17B(C0)128	17B(C0)134, 134A	17B(C0)170	17B(C0)178

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

The following IEC publications are quoted in this standard:

Publications Nos. 715 (1981): Dimensions of low-voltage switchgear and controlgear. Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations.

947-1 (1988): Low-voltage switchgear and controlgear, Part 1: General rules.