

**SLOVENSKI STANDARD**  
**SIST EN 60947-4-3:2000/A2:2011**  
**01-november-2011**

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**Nizkonapetostne stikalne in krmilne naprave - 4-3. del: Kontaktorji in motorski zaganjalniki - Polprevodniški krmilniki in kontaktorji na izmenični tok za nemotorske obremenitve (IEC 60947-4-3:1999/A2:2011)**

Low-voltage switchgear and controlgear - Part 4-3: Contactors and motor-starters - AC semiconductor controllers and contactors for non-motor loads (IEC 60947-4-3:1999/A2:2011)

Niederspannungsschaltgeräte - Teil 4-3: Schütze und Motorstarter - Halbleiter-Steuergeräte und -Schütze für nichtmotorische Lasten für Wechselspannung (IEC 60947-4-3:1999/A2:2011)

Appareillage à basse tension - Partie 4-3: Contacteurs et démarreurs de moteurs - Gradateurs et contacteurs à semiconducteurs pour charges, autres que des moteurs, à courant alternatif (CEI 60947-4-3:1999/A2:2011)

**Ta slovenski standard je istoveten z: EN 60947-4-3:2000/A2:2011**

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**ICS:**

29.130.20	Nizkonapetostne stikalne in krmilne naprave	Low voltage switchgear and controlgear
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**SIST EN 60947-4-3:2000/A2:2011**      **en,fr,de**

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[SIST EN 60947-4-3:2000/A2:2011](https://standards.iteh.ai/catalog/standards/sist/85113241-48c1-4d68-880a-969bef2c441c/sist-en-60947-4-3-2000-a2-2011)

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60947-4-3/A2**

September 2011

ICS 29.130.20

English version

**Low-voltage switchgear and controlgear -  
Part 4-3: Contactors and motor-starters -  
AC semiconductor controllers and contactors for non-motor loads  
(IEC 60947-4-3:1999/A2:2011)**

Appareillage à basse tension -  
Partie 4-3: Contacteurs et démarreurs de  
moteurs -  
Gradateurs et contacteurs à  
semiconducteurs pour charges, autres  
que des moteurs, à courant alternatif  
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Niederspannungsschaltgeräte -  
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Halbleiter-Steuergeräte und -Schütze für  
nichtmotorische Lasten für  
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<https://standards.iteh.ai/catalog/standards/sist/85113241-48c1-4d68-880a-090c2c441958/iec-60947-4-3:2000/a2-2011>  
This amendment A2 modifies the European Standard EN 60947-4-3:2000; it was approved by CENELEC on 2011-04-18. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 17B/1727/FDIS, future amendment 2 to IEC 60947-4-3:1999, 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 amendment A2 to EN 60947-4-3:2000 on 2011-04-18.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-03-02
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2014-04-18

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## Endorsement notice

The text of amendment 2:2011 to the International Standard IEC 60947-4-3:1999 was approved by CENELEC as an amendment to the European Standard without any modification.

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[SIST EN 60947-4-3:2000/A2:2011](https://standards.iteh.ai/catalog/standards/sist/85113241-48c1-4d68-880a-969bef2c441c/sist-en-60947-4-3-2000-a2-2011)

<https://standards.iteh.ai/catalog/standards/sist/85113241-48c1-4d68-880a-969bef2c441c/sist-en-60947-4-3-2000-a2-2011>

**Replace Annex ZA of EN 60947-4-3:2000/A1:2006 by:**

**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 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 60050-161 + A1 + A2	1990 1997 1998	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
IEC 60085	2007	Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60269-1	2006	Low-voltage fuses - Part 1: General requirements	EN 60269-1	2007
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60439-1 + A1	1999 2004	Low-voltage switchgear and controlgear assemblies - Part 1: Type-tested and partially type-tested assemblies	EN 60439-1 <sup>1)</sup> + A1	1999 2004
IEC 60664	Series	Insulation coordination for equipment within low-voltage systems	EN 60664	Series
IEC 60947-1	2007	Low-voltage switchgear and controlgear - Part 1: General rules	EN 60947-1	2007
IEC 60947-4-2 + A1 + A2	1999 2001 2006	Low-voltage switchgear and controlgear - Part 4-2: Contactors and motor-starters - AC semiconductor motor controllers and starters	EN 60947-4-2 + A1 + A2	2000 2002 2006
IEC/TR 61000-2-1	1990	Electromagnetic compatibility (EMC) - Part 2: Environment - Section 1: Description of the environment - Electromagnetic environment for low-frequency conducted disturbances and signalling in public power supply systems	-	-
IEC 61000-3-2 + A1 + A2	2005 2008 2009	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	EN 61000-3-2 + A1 + A2	2006 2009 2009
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009

<sup>1)</sup> EN 60439-1 is superseded by EN 61439-1:2009, which is based on IEC 61439-1:2009.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-3 + A1 + A2	2006 2007 2010	Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3 + A1 + A2	2006 2008 2010
IEC 61000-4-4 + A1	2004 2010	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4 + A1	2004 2010
IEC 61000-4-5	2005	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006
IEC 61000-4-6	2008	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2009
IEC 61000-4-11	2004	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	2004
CISPR 11 (mod) + A1	2009 2010	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011 + A1	2009 2010
CISPR 14-1	-	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission	EN 55014-1	-

<https://standards.iteh.ai/catalog/standards/sist/85113241-48c1-4d68-880a-969bef2c441c/sist-en-60947-4-3-2000-a2-2011>



IEC 60947-4-3

Edition 1.0 2011-03

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

AMENDMENT 2  
AMENDEMENT 2

**Low-voltage switchgear and controlgear –  
Part 4-3: Contactors and motor-starters – AC semiconductor controllers and  
contactors for non-motor loads**

**Appareillage à basse tension –  
Partie 4-3: Contacteurs et démarreurs de moteurs – Gradateurs et contacteurs à  
semiconducteurs pour charges, autres que des moteurs, à courant alternatif**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

PRICE CODE  
CODE PRIX

J

ICS 29.130.20

ISBN 978-2-88912-409-1

## FOREWORD

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

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

FDIS	Report on voting
17B/1727/FDIS	17B/1735/RVD

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

The committee has decided that the contents of this amendment and the base 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.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

Changes to be made to IEC 60947-4-3:1999:

[SIST EN 60947-4-3:2000/A2:2011](http://standards.iteh.ai/standards/sist/85113241-48c1-4d68-880a-969bef2c441c/sist-en-60947-4-3-2000-a2-2011)

### 5.3.1.1 Rated operational voltage ( $U_g$ )

*Replace, in IEC 60947-4-3:1999, the existing text of this subclause by the following:*

Subclause 4.3.1.1 of IEC 60947-1 applies with the following addition.

The rating of a.c. equipment shall include the number of phases except that the rating of equipment obviously intended for single-phase use only is not required to include the number of phases.

## 6.1 Nature of information

*Replace, in IEC 60947-4-3:1999, the existing text of item f) by the following:*

- f) either the value of the rated frequency 50 Hz/60 Hz, or other rated frequencies for example 16 2/3 Hz, 400 Hz;

## 6.2 Marking

*Modify, in IEC 60947-4-3:1999, the existing text of the second and third paragraphs as follows:*

Data under d) to u) in 6.1 shall be included on the nameplate, or on the equipment, or in the manufacturer's published literature.



Data under c) and l) in 6.1 shall preferably be marked on the equipment.

### 8.2.2.8 Other parts

*Replace, in IEC 60947-4-3:1999, the existing text by the following:*

Subclause 7.2.2.8 of IEC 60947-1 applies, replacing words “plastics and insulating materials” with “insulating parts”.

#### 8.3.2.1.1 Harmonics

*Replace, in IEC 60947-4-3:1999, the existing text of this subclause by the following:*

Subclause 7.3.3.2.2 of IEC 60947-1 applies with the following addition:

Because no significant harmonic emission are produced in the FULL-ON state, tests are not required on those controllers or contactors which run only in the FULL-ON state or which are by-passed by a mechanical switching device after completing a start.

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### 9.1.5 Special tests

*Replace, in IEC 60947-4-3:1999, the existing text of this subclause by the following:*

Special tests comprise damp heat, salt mist, vibration and shock tests. For these tests, Annex Q of IEC 60947-1 applies. The conditions of application are under consideration.

### 9.3.2 General test conditions

*Replace, in IEC 60947-4-3:1999, the existing text of this subclause by the following:*

Subclause 8.3.2 of IEC 60947-1 applies with the following addition.

Except for devices specifically rated for only one frequency, tests performed at 50 Hz cover 60 Hz applications and vice-versa.

The selection of samples to be tested for a series of devices with the same fundamental design and without a significant difference in construction shall be based on engineering judgement.

Unless otherwise specified in the relevant test clause, the clamping torque for connections shall be that specified by the manufacturer or, if not specified, the torque given in Table 4 of IEC 60947-1.

In the case where several heat sinks are specified, the one which has the higher thermal resistance shall be used.

True r.m.s. voltage and current measuring means shall be used.