

STN	Nízkonapäťové spínacie a riadiace zariadenia Časť 2: Ističe Zmena A1	STN EN 60947-2/A1 35 4101
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Low-voltage switchgear and controlgear. Part 2: Circuit-breakers

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/20

STN EN 60947-2 z marca 2018 sa bez tejto zmeny A1 môže používať do 27. 2. 2023.

Obsahuje: EN 60947-2:2017/A1:2020, IEC 60947-2:2016/AMD1:2019

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EUROPEAN STANDARD

EN 60947-2:2017/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2020

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English Version

**Low-voltage switchgear and controlgear - Part 2: Circuit-breakers
(IEC 60947-2:2016/A1:2019)**Appareillage à basse tension - Partie 2: Disjoncteurs
(IEC 60947-2:2016/A1:2019)Niederspannungsschaltgeräte - Teil 2: Leistungsschalter
(IEC 60947-2:2016/A1:2019)

This amendment A1 modifies the European Standard EN 60947-2:2017; it was approved by CENELEC on 2019-08-12. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 60947-2:2017/A1:2020 (E)**European foreword**

The text of document 121A/286/FDIS, future IEC 60947-2/A1, prepared by SC 121A "Low-voltage switchgear and controlgear" of IEC/TC 121 "Switchgear and controlgear and their assemblies for low voltage" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60947-2:2017/A1:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2020-08-07 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2023-02-07 document have to be withdrawn

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s), see informative Annexes ZZA and ZZB, included in this document.

Endorsement notice

The text of the International Standard IEC 60947-2:2016/A1:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60364 (series)	NOTE	Harmonized as HD 60364 (series)
IEC 60364-5-52	NOTE	Harmonized as HD 60364-5-52
IEC 60695-2-11:2014	NOTE	Harmonized as EN 60695-2-11:2014 (not modified)
IEC 60898-1	NOTE	Harmonized as EN 60898-1
IEC 61000-3-2	NOTE	Harmonized as EN IEC 61000-3-2
IEC 61000-3-3	NOTE	Harmonized as EN 61000-3-3
IEC 61238-1	NOTE	Harmonized as EN 61238-1

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Annex ZA of EN 60947-2:2017 applies, except as follows:

Delete from the existing list of Annex ZA of EN 60947-2:2017 the following references:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60364	Series	Low-voltage electrical installations	HD 60364	Series
IEC 61000-3-2	-	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	EN 61000-3-2	2014
IEC 61000-3-3	-	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection	EN 61000-3-3	2013
CISPR 22	-	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + AC	2010 2011

Replace the existing references of the following list by the following new references:

IEC 60269-1	2006	Low-voltage fuses - Part 1: General requirements	EN 60269-1	2007
			+A1	2009
			+A2	2014
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test	EN 61000-4-2	2008

EN 60947-2:2017/A1:2020 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-11	-	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	2004
IEC 61140	2016	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2016
CISPR 11	2015	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011 (modified)	2016
+A1	2016		+A1	2017
Add the following new references as follows:				
IEC 60228	-	Conductors of insulated cables	EN 60228 + AC	2005 2005
IEC 61545 ¹	1996	Connecting devices – Devices for the connection of aluminium conductors in clamping units of any material and copper conductors in aluminium bodied clamping units	-	-
CISPR 32	2015	Electromagnetic compatibility of multimedia equipment – Emission requirements	EN 55032 + AC	2015 2016

¹ Dated as no equivalent European Standard exists.

Annex ZZA (informative)

Relationship between this European standard and the essential requirements of Directive 2014/30/EU [2014 OJ L96] aimed to be covered and the standardisation request M/552

This European standard has been prepared under the European Commission standardisation request C(2016) 7641 final of 30.11.2016¹², ('M/552'), as regards harmonised standards in support of Directive 2014/30/EU relating to electromagnetic compatibility, to provide one voluntary means of conforming to essential requirements of Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZA.1 — Correspondence between this European standard and the Essential Requirements set out in Directive 2014/30/EU [2014 OJ L96]

Essential requirements of Directive 2014/30/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Annex I. 1(a) (electromagnetic disturbances)	7.3, B.7.3, B.8.13.2, F.5, J.1, J.3, M.7.2.12, M.8.16.2, N.3, P.7.3	Full coverage of requirements for conducted and radiated disturbances in the range 150 kHz to 6 GHz
		Annex H of EN 55011 shall not be applied in conjunction with the emission limits specified in J.3 for the purposes of the presumption of conformance.
Annex I. 1(b) (electromagnetic immunity)	7.3, B.7.3, B.8.13.1, F.2.2, F.3, F.4, J.1, J.2, M.7.2.12, M.8.16.1, N.1, N.2, P.7.3	

WARNING 1: Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2: Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

² COMMISSION IMPLEMENTING DECISION C(2016) 7641 final of 30.11.2016 on a standardisation request to the European Committee for Standardisation, to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards harmonised standards in support of Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility

Annex ZZB (informative)

Relationship between this European standard and the safety objectives of Directive 2014/35/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under a Commission's standardization request relating to harmonized standards in the field of the Low Voltage Directive, M/511, to provide one voluntary means of conforming to safety objectives of Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZB.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding safety objectives of that Directive, and associated EFTA regulations.

Table ZZB.1 — Correspondence between this European standard and Annex I of Directive 2014/35/EU [2014 OJ L96]

Safety objectives of Directive 2014/35/EU	Clause(s) / sub-clause(s) of this EN	Remarks/note
1 a)	Foreword, 1.1, 4, 5, B.5, D.5, H.5, L.5, M.5, O.5, P.5, R.5, Annex K	
1 b)	5, D.5, L.5, M.5, O.4, P.5	
1 c)	1.1, 2.1, 5.3	Refer to 2 a) to 2 d) and 3 a) to 3 c) in this table.
2 a)	5.2, 5.3, 7.1.3, 7.1.4, 7.2.3, 8.3, 8.4	
2 b)	7.2.2, 7.3, 8.3.2, F.1, J.3, D.8	
2 c)	5.3, 7.1, 7.1.2, 7.1.3, 7.1.5, 7.2.1, 7.3, 8.3.3 to 8.3.6, 8.4, 8.5, F.1, J.2, J.3, Annex D	
2 d)	5.2, 7.1.3, 7.1.4, 7.2.3, 8.3.2, F.2.2, B.7, M.7	
3 a)	5.3, 7.1.2, 7.1.5, 7.2.1, 8.3.3 to 8.3.6, 8.4, 8.5, B.7, M.7	
3 b)	7.3, F.1, J.3, Annex D	
3 c)	1.1, 7.2, 8.3	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

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IEC 60947-2

Edition 5.0 2019-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Low-voltage switchgear and controlgear –
Part 2: Circuit-breakers**

**Appareillage à basse tension –
Partie 2: Disjoncteurs**





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IEC 60947-2

Edition 5.0 2019-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Low-voltage switchgear and controlgear –
Part 2: Circuit-breakers**

**Appareillage à basse tension –
Partie 2: Disjoncteurs**

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FOREWORD

This amendment has been prepared by subcommittee 121A: Low-voltage switchgear and controlgear, of IEC technical committee 121: Switchgear and controlgear and their assemblies for low voltage.

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

FDIS	Report on voting
121A/286/FDIS	121A/302/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 website 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.

1.1 Scope and object

Replace the existing first paragraph by the following:

This part of IEC 60947 series applies to circuit-breakers, intended to be installed and operated by instructed or skilled persons, the main contacts of which are intended to be connected to circuits, the rated voltage of which does not exceed 1 000 V a.c. or 1 500 V d.c.; it also contains additional requirements for integrally fused circuit-breakers.

Replace the 16th existing paragraph by the following:

For certain specific applications (for example traction, rolling mills, marine service, downstream of variable frequency drives, use in explosive atmospheres), particular or additional requirements may be necessary.

1.2 Normative references

Replace the existing references to IEC 61000-4-2, IEC 61140, and CISPR 11 by the following new references:

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61140:2016, *Protection against electric shock – Common aspects for installation and equipment*

IEC 60947-2:2016/AMD1:2019

– 3 –

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CISPR 11:2015, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*

CISPR 11:2015/AMD1:2016

Delete the existing references to IEC 60364 (all parts), IEC 61000-3-2, IEC 61000-3-3 and CISPR 22.

Add the following new normative references to the existing list:

IEC 60228, *Conductors of insulated cables*

IEC 61545, *Connecting devices – Devices for the connection of aluminium conductors in clamping units of any material and copper conductors in aluminium bodied clamping units*

CISPR 32:2015, *Electromagnetic compatibility of multimedia equipment – Emission requirements*

Add, after the existing definition 2.22, the following new definition:

koniec náhľadu – text ďalej pokračuje v platenej verzii STN