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English Version

**Electromechanical elementary relays -
Part 1: General and safety requirements
(IEC 61810-1:2015)**

Relais électromécaniques élémentaires -
Partie 1: Exigences générales et de sécurité
(IEC 61810-1:2015)

Elektromechanische Elementarrelais -
Teil 1: Allgemeine und Sicherheitsanforderungen
(IEC 61810-1:2015)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 94/380/FDIS, future edition 4 of IEC 61810-1, prepared by IEC/TC 94 "All-or-nothing electrical relays" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61810-1:2015.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-01-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-04-01

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In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 60335-1:2010	NOTE	Harmonized as EN 60335-1:2012 (modified).
IEC 60664-1:1992	NOTE	Harmonized as EN 60664-1:2003 ^{4) 7)} (not modified).
IEC 60695-11-5:2004	NOTE	Harmonized as EN 60695-11-5:2005 (not modified).
IEC 60669-1	NOTE	Harmonized as EN 60669-1.
IEC 60730-1:2013	NOTE	Harmonized as EN 60730-1 ²⁾ (modified).
IEC 60947-5-1:2003	NOTE	Harmonized as EN 60947-5-1:2004 (not modified).
IEC 60950-1:2005	NOTE	Harmonized as EN 60950-1:2006 (modified).
IEC 61140:2001	NOTE	Harmonized as EN 61140:2002 (not modified).
IEC 61508 Series	NOTE	Harmonized as EN 61508 Series.
IEC 61810-7:2006	NOTE	Harmonized as EN 61810-7:2006 (not modified).
ISO 14121-1	NOTE	Harmonized as EN ISO 14121-1 ³⁾ .
ISO 14971	NOTE	Harmonized as EN ISO 14971.

¹⁾ Superseded by EN 60664-1:2007 (IEC 60664-1:2007).

²⁾ To be published.

³⁾ Superseded by EN ISO 12100 (ISO 12100).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60038 (mod)	2009	IEC standard voltages	EN 60038	2011
IEC 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60068-2-2	2007	Environmental testing - Part 2-2: Tests - Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-17	1994	Basic environmental testing procedures - Part 2-17: Tests - Test Q: Sealing	EN 60068-2-17	1994
IEC 60068-2-20	2008	Environmental testing - Part 2-20: Tests - Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	2008
IEC 60079-15	2010	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"	EN 60079-15	2010
IEC 60085	2007	Electrical insulation - Thermal evaluation and designation	EN 60085	2008
IEC 60099-1	-	Surge arresters - Part 1: Non-linear resistor type gapped surge arresters for a.c. systems	EN 60099-1	-
IEC 60112	2003	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003
IEC 60364-4-44 (mod)	2007	Low-voltage electrical installations - Part 4-44: Protection for safety - Protection against voltage disturbances and electromagnetic disturbances	HD 60364-4-442	2012
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-
IEC 60664-1	2007	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests	EN 60664-1	2007

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60664-3	2003	Insulation coordination for equipment within low-voltage systems - Part 3: Use of coating, potting or moulding for protection against pollution	EN 60664-3	2003
IEC 60664-4	2005	Insulation coordination for equipment within low-voltage systems - Part 4: Consideration of high-frequency voltage stress	EN 60664-4 + corr. October	2006 2006
IEC 60664-5	2007	Insulation coordination for equipment within low-voltage systems - Part 5: Comprehensive method for determining clearances and creepage distances equal to or less than 2 mm	EN 60664-5	2007
IEC 60695-2-10	2013	Fire hazard testing - Part 2-10: Glowing/hot-wire based test methods - Glow-wire apparatus and common test procedure	EN 60695-2-10	2013
IEC 60695-2-11	2000	Fire hazard testing - Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001 ¹⁾
IEC 60695-2-12	2010	Fire hazard testing - Part 2-12: Glowing/hot-wire based test methods - Glow-wire flammability index (GWFI) test method for materials	EN 60695-2-12	2010
IEC 60695-2-13	2010	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignition temperature (GWIT) test method for materials	EN 60695-2-13	2010
IEC 60695-10-2	2003	Fire hazard testing - Part 10-2: Abnormal heat - Ball pressure test	EN 60695-10-2	2003 ²⁾
IEC 60721-3-3	1994	Classification of environmental conditions -	EN 60721-3-3	1995
+A1	1995	- Part 3: Classification of groups of environmental parameters and their severities -	-	-
+A2	1996	Section 3: Stationary use at weatherprotected locations	+A2	1997
IEC 60999-1	1999	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm ² up to 35 mm ² (included)	EN 60999-1	2000

¹⁾ Superseded by EN 60695-2-11:2014 (IEC 60695-2-11:2014): dow = 2017-03-13.

²⁾ Superseded by EN 60695-10-2:2014 (IEC 60695-10-2:2014): dow = 2017-03-26.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61210 (mod)	2010	Connecting devices - Flat quick-connect terminations for electrical copper conductors - Safety requirements	EN 61210	2010
IEC 61760-1	2006	Surface mounting technology - Part 1: Standard method for the specification of surface mounting components (SMDs)	EN 61760-1	2006
IEC 61984	2008	Connectors - Safety requirements and tests	EN 61984	2009

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INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Electromechanical elementary relays –
Part 1: General and safety requirements**

**Relais électromécaniques élémentaires –
Partie 1: Exigences générales et de sécurité**

INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMECHANICAL ELEMENTARY RELAYS –**Part 1: General and safety requirements**

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 61810-1 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This fourth edition cancels and replaces the third edition published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- two main test procedures were introduced: procedure A, reflecting the procedure known from Edition 3 of this standard and procedure B, reflecting the assessment according to North American requirements;
- inclusion of dedicated device application tests especially relevant for applications in the North American Market (see Clause D.1);
- introduction of testing under single mounting condition;
- clarification of insulation requirements after endurance testing;