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Irish Standard  
I.S. EN 62246-1-1:2013

# Reed switches -- Part 1-1: Generic specification - Quality assessment (IEC 62246-1-1:2013 (EQV))

## I.S. EN 62246-1-1:2013

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English version

**Reed switches -  
Part 1-1: Generic specification -  
Quality assessment  
(IEC 62246-1-1:2013)**

Contacts à lames souples -  
Partie 1-1: Spécification générique -  
Evaluation de qualité  
(CEI 62246-1-1:2013)

Reedschalter -  
Teil 1-1: Fachgrundsefizifikation –  
Qualitätsbewertung  
(IEC 62246-1-1:2013)

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

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## Foreword

The text of document 94/358/FDIS, future edition 1 of IEC 62246-1-1, prepared by IEC TC 94 "All-or-nothing electrical relays" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62246-1-1:2013.

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) 2014-03-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-06-28

This standard is intended to be used in conjunction with EN 62246-1:2011.

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.

## Endorsement notice

The text of the International Standard IEC 62246-1-1:2013 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 61810-2-1:2011	NOTE	Harmonised as EN 61810-2-1:2011 (not modified).
IEC 60068-2-1:2007	NOTE	Harmonised as EN 60068-2-1:2007 (not modified).
IEC 60068-2-2:2007	NOTE	Harmonised as EN 60068-2-2:2007 (not modified).
IEC 60068-2-7:1983+A1:1986	NOTE	Harmonised as EN 60068-2-7:1993 (not modified).
IEC 60068-2-13:1983	NOTE	Harmonised as EN 60068-2-13:1999 (not modified).
IEC 60068-2-17:1994	NOTE	Harmonised as EN 60068-2-17:1994 (not modified).
IEC 60068-2-27:2008	NOTE	Harmonised as EN 60068-2-27:2009 (not modified).
IEC 60068-2-30:2005	NOTE	Harmonised as EN 60068-2-30:2005 (not modified).

## 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 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 60068-2-6	2007	Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-11 + corr. December	1981 1999	Environmental testing - Part 2: Tests - Test Ka: Salt mist	EN 60068-2-11	1999
IEC 60068-2-14	2009	Environmental testing - Part 2-14: Tests - Test N: Change of temperature	EN 60068-2-14	2009
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 60068-2-21 + corr. January	2006 2012	Environmental testing - Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006
IEC 60068-2-78	2001	Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78 <sup>1)</sup>	2001
IEC 60127-2	2003	Miniature fuses - Part 2: Cartridge fuse-links	EN 60127-2	2003
IEC 61373 + corr. October	2010 2011	Railway applications - Rolling stock equipment - Shock and vibration tests	EN 61373	2010
IEC 62246-1	2011	Reed switches - Part 1: Generic specification	EN 62246-1	2011

<sup>1)</sup> EN 60068-2-78 is superseded by EN 60068-2-78:2013, which is based on IEC 60068-2-78:2012.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### REED SWITCHES –

#### Part 1-1: Generic specification – Quality assessment

#### 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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IEC 62246-1-1 has been prepared by IEC Technical Committee 94: All-or-nothing electrical relays.

This first edition cancels and replaces the first edition of IEC/PAS 62246-2-1 published in 2008. It is a technical revision.

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

- inclusion of introduction;
- update of references, terms and definitions;
- renumbering of clauses to bring them into a more logical order;
- inclusion of the generic specifications for reed switches;
- update of typical applications.

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

FDIS	Report on voting
94/358/FDIS	94/359/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 standard is intended to be used in conjunction with IEC 62246-1:2011.

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

A list of all parts in the IEC 62246 series, published under the general title *Reed switches*, can be found on the IEC website.

The committee has decided that the contents of this 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.

## INTRODUCTION

Reed switches which are in mass production and which are widely used in practice could be classified by the following characteristics:

a) Size:

- Normal or standard reed switches with a tube more than 50 mm in length and more than 5 mm in diameter;
- Sub-miniature reed switches with a tube more than 20 mm and up to 50 mm in length and up to 5 mm in diameter;
- Miniature reed switches with a tube more than 10 mm and up to 20 mm in length and more than 2 mm and up to 5 mm in diameter;
- Micro-miniature reed switches with a tube more than 4 mm and up to 10 mm in length and more than 1,5 mm and up to 5 mm in diameter.

b) Type of switching of electric circuit:

- Closing or normally open – A type;
- Opening or normally closed – B type;
- Changeover – C type.

c) Withstand voltage level:

- Low-voltage (up to 1 000 V);
- High-voltage (more than 1 000 V).

d) Switches power:

- Low-power (up to 60 W);
- Power (100 to 1 000 W);
- High-power (more than 1 000 W).

e) Types of electric contacts:

- The tube is filled with dry air, gas mixture, vacuumized, or high pressurized.

Based on the general provisions of IEC 62246-1, this standard selects and specifies test procedures for reed switches where enhanced requirements for the verification of quality assessment specification apply.

This standard describes sampling and test schedules for qualification approval procedures, quality conformance inspection, formation of inspection lots and intervals between tests.

NOTE All type of reed switches exclude mercury reed switches.

## REED SWITCHES –

### Part 1-1: Generic specification – Quality assessment

#### 1 Scope

This part of the IEC 62246 which is a quality assessment specification defines requirements and tests to reed switches for use in general and industrial applications.

This standard is intended to be used in conjunction with IEC 62246-1:2011.

This standard selects from IEC 62246-1:2011 and from other sources the appropriate test procedures to be used in detail specifications derived from this specification.

Reed switch types are specified depending on characteristic values and tests.

NOTE Mercury wetted reed switches are not covered by this standard due to their possible environmental impact.

#### 2 Normative references

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.

IEC 60068-2-6:2007, *Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-11:1981, *Basic environmental testing procedures – Part 2-11: Tests – Test Ka: Salt mist*

IEC 60068-2-14:2009, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

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*

IEC 60068-2-21:2006, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-78:2001, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60127-2:2003, *Miniature fuses – Part 2: Cartridge fuse-links*

IEC 61373:2010, *Railway applications – Rolling stock equipment – Shock and vibration tests*

IEC 62246-1: 2011, *Reed switches – Part 1: Generic specification*

#### 3 Terms and definitions

The terms and definitions given in IEC 62246-1:2011, as well as the following, apply.

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