

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



### Reed switches –

**Part 4: Application in conjunction with magnetic actuator used for magnetic sensing devices**

### Contacts à lames souples –

**Partie 4: Application en combinaison avec un actionneur magnétique utilisé pour les dispositifs de détection magnétiques**



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INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 29.120.70

ISBN 978-2-8322-6469-0

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## CONTENTS

FOREWORD.....	7
INTRODUCTION.....	9
1 Scope.....	10
2 Normative references .....	10
3 Terms and definitions .....	12
3.1 Types of magnetic-sensing device (MSD) .....	12
3.2 Elements of an MSD .....	14
3.3 Connections.....	14
3.4 Operation of an MSD .....	14
4 Influence quantities .....	15
5 Rated values .....	16
5.1 General.....	16
5.2 Rated insulation voltage ( $U_i$ ).....	16
5.3 Rated operating voltage ( $U_e$ ).....	16
5.4 Rated operating current ( $I_e$ ).....	17
5.5 Contact ratings .....	17
5.6 Number of operations.....	17
5.7 Rated operating distance ( $S_n$ ) .....	17
5.8 Climatic category .....	17
5.9 Environmental severities .....	17
5.10 Response speed .....	18
5.11 Frequency of operating cycles .....	18
5.12 Contact reliability .....	18
6 Types .....	18
7 General provisions for testing .....	20
7.1 General.....	20
7.2 Type tests .....	20
7.3 Routine tests.....	21
7.4 Special tests.....	22
8 Documentation and marking .....	22
8.1 Data.....	22
8.2 Marking.....	24
8.3 Symbols.....	24
9 Test and measurement procedures.....	25
9.1 General.....	25
9.2 Visual inspection and check of dimensions .....	25
9.2.1 Visual inspection .....	25
9.2.2 Outline dimensions .....	25
9.2.3 Mass .....	25
9.3 Functional tests .....	26
9.3.1 General .....	26
9.3.2 Operating distance .....	26
9.3.3 Deviation of operating distance.....	26
9.3.4 Differential travel ( $H$ ) .....	26
9.3.5 Repeatability ( $R$ ).....	27

9.3.6	Magnetic interference .....	27
9.3.7	Response speed (if applicable).....	27
9.3.8	Frequency of operating cycles ( $f$ ) (if applicable).....	29
9.3.9	Functional test by temperature change .....	31
9.3.10	Contact circuit resistance .....	32
9.3.11	Temperature rise .....	32
9.4	Insulation resistance .....	32
9.4.1	Procedures .....	32
9.4.2	Requirements .....	33
9.5	Dielectric test.....	33
9.5.1	Procedures .....	33
9.5.2	Requirements .....	34
9.6	Endurance tests.....	34
9.6.1	General .....	34
9.6.2	Procedures for electrical endurance test.....	34
9.6.3	Requirements .....	35
9.6.4	Procedures for mechanical endurance test (if applicable) .....	35
9.6.5	Requirements .....	35
9.7	External connections.....	35
9.7.1	General .....	35
9.7.2	Robustness of terminal with lead wire (if applicable).....	36
9.7.3	Robustness of terminal (if applicable).....	36
9.7.4	Soldering terminals (if applicable).....	37
9.7.5	Connector (if applicable).....	37
9.8	Mechanical stresses tests .....	37
9.8.1	General .....	37
9.8.2	Mounting .....	37
9.8.3	Vibration.....	37
9.8.4	Shock .....	38
9.8.5	Rough handling shock (if applicable).....	39
9.9	Environmental tests .....	39
9.9.1	General .....	39
9.9.2	Cold.....	40
9.9.3	Dry heat .....	40
9.9.4	Damp heat, steady state.....	40
9.9.5	Mould growth.....	41
9.9.6	Liquid contamination (if applicable) .....	41
9.9.7	Salt mist (if applicable) .....	42
9.10	Enclosure protection tests.....	42
9.10.1	General .....	42
9.10.2	Degree of enclosure .....	42
9.10.3	Pressurized water (if applicable).....	42
9.11	Sealing (if applicable) .....	43
9.11.1	General .....	43
9.11.2	Procedures .....	43
9.11.3	Requirements .....	43
9.12	Heat and fire resistance .....	43
9.12.1	General .....	43
9.12.2	Glow-wire .....	43

9.12.3	Ball pressure .....	44
9.13	Making and breaking capacity (if applicable) .....	45
9.13.1	General .....	45
9.13.2	Procedures .....	45
9.13.3	Requirements .....	45
9.14	Conditional short-circuit current test (if applicable) .....	46
9.14.1	General .....	46
9.14.2	Procedures .....	46
9.14.3	Requirements .....	46
9.15	Contact reliability test .....	46
9.15.1	General .....	46
9.15.2	Procedures .....	46
9.15.3	Requirements .....	46
9.16	Electromagnetic compatibility (EMC) .....	46
Annex A (informative)	Explanations relating to reed contact magnetic sensor – Example .....	47
Annex B (informative)	Explanations relating to the operation of reed contact magnetic sensor – Example .....	48
Annex C (informative)	Work principles regarding sensing distances .....	49
C.1	General .....	49
C.2	Reed contact magnetic sensor with magnetic actuator set (separate type) .....	49
C.2.1	Operation .....	49
C.2.2	Axial approach .....	49
C.2.3	Lateral approach .....	50
C.3	Reed contact magnetic sensor with magnetic actuator set (latching type) .....	51
C.3.1	Operation .....	51
C.3.2	Specified directions .....	51
C.4	Reed contact magnetic sensor with magnetic actuator set (fork type) .....	52
C.4.1	Operation .....	52
C.4.2	Specified directions .....	52
C.5	Reed contact magnetic sensor with magnetic actuator set (plunger type) .....	53
C.5.1	Operation .....	53
C.5.2	Specified directions .....	53
C.6	Reed contact magnetic sensor with magnetic actuator set (float type) .....	54
C.6.1	Operation .....	54
C.6.2	Specific directions .....	55
Annex D (informative)	Risk assessment .....	56
D.1	General .....	56
D.2	Risk assessment procedure .....	56
D.3	Achieving tolerable risk .....	57
D.4	Application of risk assessment procedures (proposal for the user) .....	59
Annex E (informative)	Test procedures regarding response speed .....	61
E.1	General .....	61
E.2	Test circuit .....	61
E.3	Test sequence .....	61
Annex F (informative)	Special tests .....	63
F.1	General .....	63
F.2	Functional tests .....	63
F.3	Functional tests and mechanical durability .....	63

F.4	Vibration and shock tests for special requirements of applications .....	63
F.5	Explosion proofness.....	63
F.5.1	General .....	63
F.5.2	Procedures .....	63
F.5.3	Requirements .....	64
	Bibliography.....	65
Figure 1	– Methods for measuring the response speed .....	28
Figure 2	– Output signal.....	28
Figure 3	– Methods for measuring the operating frequency ( $f$ ).....	30
Figure 4	– Output signal during the measuring of operating frequency ( $f$ ).....	31
Figure 5	– Ball pressure test apparatus.....	45
Figure A.1	– Driven method for reed contact magnetic sensor by permanent magnetic actuator .....	47
Figure B.1	– Explanatory diagram of terms related to operation by magnetic actuator.....	48
Figure C.1	– Operating approaches .....	49
Figure C.2	– Axial approach relating to sensing distances .....	50
Figure C.3	– Lateral approach relating to sensing distances .....	51
Figure C.4	– Specified directions relating to sensing distances and contact states.....	52
Figure C.5	– Specified directions relating to sensing distances .....	53
Figure C.6	– Sensing distances .....	54
Figure C.7	– Sensing distances according to liquid level.....	55
Figure D.1	– Iterative process of risk assessment and risk reduction .....	56
Figure D.2	– Risk reduction.....	58
Figure E.1	– Test circuit – Example .....	61
Figure E.2	– Measurement data by oscilloscope – Example .....	62
Table 1	– Reference values of influence quantities .....	16
Table 2	– Rated insulation voltage .....	16
Table 3	– Rated operating voltage .....	17
Table 4	– Rated operating distance.....	17
Table 5	– Rated maximum working pressure.....	17
Table 6	– Examples of output functions of MSD .....	19
Table 7	– Type testing .....	21
Table 8	– Routine tests .....	22
Table 9	– Required data .....	23
Table 10	– Symbols .....	25
Table 11	– Examples of indication of rated values.....	25
Table 12	– Deviation of operating distance .....	26
Table 13	– Remanence value.....	27
Table 14	– Typical rated speeds .....	28
Table 15	– Typical operating times of switching loads.....	29
Table 16	– Frequency of operating cycles.....	31
Table 17	– Function test by temperature change.....	31

Table 18 – Deviation of operating distance .....	32
Table 19 – Test current.....	32
Table 20 – Rated voltage of insulation resistance test.....	33
Table 21 – Dielectric test voltage .....	33
Table 22 – Minimum clearances and creepage distances.....	34
Table 23 – Number of cycles for endurance test .....	35
Table 24 – Criteria for electrical endurance tests .....	35
Table 25 – Torque severity .....	36
Table 26 – Value of applied force for test $U_{a1}$ .....	37
Table 27 – Vibration test.....	38
Table 28 – Shock test .....	39
Table D.1 – Examples of the relation between failure mode, consequences and hazard.....	59
Table D.2 – Severity of harm .....	59
Table D.3 – Probability of harm.....	60
Table D.4 – Risk category.....	60

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## REED SWITCHES –

**Part 4: Application in conjunction with magnetic actuator  
used for magnetic sensing devices**

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The text of this International Standard is based on the following documents:

Draft	Report on voting
94/786/FDIS	94/807/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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

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## INTRODUCTION

Reed switches are used as sensing devices in a variety of applications (e.g. safety of machinery, alarm detectors, factory automation, pneumatics and hydraulics, railways, automotive, utilities, healthcare, consumer electronics and appliances, lifts).

The intention of this document is:

- 1) to define the functions, types, characteristics, product information, etc. for magnetic sensing devices:
  - recommended response speed and frequency of operating cycles are determined as rated values;
- 2) to specify the test and measurement procedures for magnetic sensing devices:
  - response speed and operating time of load are determined when used as trip function or presence sensing function according to the relevant standards;
- 3) to specify the additional tests for magnetic sensing devices used for specific product standards.

## REED SWITCHES –

### Part 4: Application in conjunction with magnetic actuator used for magnetic sensing devices

#### 1 Scope

This part of IEC 62246 gives additional requirements for the evaluation of functional characteristics on reed switching components operated by magnetic actuator and gives guidance for their implementation in selected applications.

This document specifies test and measurement procedures for the application of reed switch (contact) based magnetic sensors.

NOTE This document can be used in conjunction with specific product standards (e.g. IEC 60947-5-1) applying reed switching with magnetic actuation to provide specific requirements and verification methods.

In case the application of a reed contact magnetic sensor determines additional requirements exceeding those specified in this document, the sensor is evaluated with this application in accordance with the relevant IEC or ISO standard(s) (e.g. IEC 62061 or ISO 13849 series, IEC 60335-1 and relevant parts of the IEC 60335-2 series, IEC 60730-1, IEC 61373, ISO 16750-3).

This document does not apply to:

- sensing or monitoring of the position of elements of interlocking devices for movable guards (see ISO 14119);
- sensing or monitoring of the position of elements of pressure sensitive protective equipment (PSPE, see ISO 13856 series);
- electrical equipment for measurement, control, and laboratory use (see IEC 61010-1);
- aircraft – proximity switches (see ISO 6859-1).

Information contained in this document is relevant to the application of a magnetic sensor on new installations as well as modifications to existing installations.

#### 2 Normative references

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.

IEC 60068-2-1:2007, *Environmental testing – Part 2-1: Tests – Test A: Cold*

IEC 60068-2-2:2007, *Environmental testing – Part 2-2: Tests – Test B: Dry heat*

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

IEC 60068-2-10:2005, *Environmental testing – Part 2-10: Tests – Test J and guidance: Mould growth*  
IEC 60068-2-10:2005/AMD1:2018

IEC 60068-2-11:2021, *Environmental testing – Part 2-11: Tests – Test Ka: Salt mist*