

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

REED SWITCHES –

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

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IEC 62246-4 has been prepared by IEC technical committee 94: All-or-nothing electrical relays. It is an International Standard.

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. The main document types developed by IEC are described in greater detail at 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*