

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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**Electrical relays – Tests and measurements –  
Part 13: Corrosive atmospheres due to sulfur impact**

**Relais électriques – Essais et mesurages –  
Partie 13: Atmosphères corrosives – Atmosphères polluées**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTRICAL RELAYS –  
TESTS AND MEASUREMENTS –**

**Part 13: Corrosive atmospheres due to sulfur impact**

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IEC 63522-13 has been prepared by IEC technical committee 94: Electrical relays. It is an International Standard.

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

FDIS	Report on voting
94/1051/FDIS	94/1080/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 of the IEC 63522 series, published under the general title *Electrical relays – Tests and measurements*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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# ELECTRICAL RELAYS – TESTS AND MEASUREMENTS –

## Part 13: Corrosive atmospheres due to sulfur impact

### 1 Scope

This document is used for testing electromechanical elementary relays (electromechanical relays, reed relays, reed contacts, reed switches and technology combinations of these) and for evaluating their ability to perform under expected conditions of transportation, storage and all aspects of operational use.

This document defines a standard test method to simulate impacts of sulfuric atmospheres to relays. The test conditions simulate an artificial situation and allow a performance comparison for usability of the devices under test (DUT) with regard to known and existing switching solutions.

The test is a static test without actual operation of the DUT to simulate a worst-case scenario for corrosion, since corrosion increases over time. The corrosion layer can potentially create contact sticking, increase resistance or other undesired effects on the relay. Those aspects can be affected by DUT actuations during the test, which can destroy the corrosion layers or hide relevant long-term effects.

In addition to polluted atmospheres, the suitability of the DUT for use and/or storage in corrosive atmospheres can be assessed in a salt-laden atmosphere as described in IEC 63522-44.

### 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 60068-2-42:2003, *Environmental testing – Part 2-42: Tests – Test Kc: Sulfur dioxide test for contacts and connections*

IEC 60068-2-43:2003, *Environmental testing – Part 2-43: Tests – Test Kd: Hydrogen sulphide test for contacts and connections*

IEC 63522-0:—, *Electrical relays – Tests and measurements – Part 0: Testing – General and guidance*<sup>1</sup>

IEC 63522-1, *Electrical relays – Tests and measurements – Part 1: Visual inspection and check of dimensions*<sup>2</sup>

IEC 63522-6, *Electrical relays – Tests and measurements – Part 6: Contact-circuit resistance (or voltage drop)*

<sup>1</sup> First edition under preparation. Stage at the time of publication: IEC CDV 63522-0:2024.

<sup>2</sup> First edition under preparation. Stage at the time of publication: IEC CDV 63522-1:2023.