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# IEC 61643-331

Edition 3.0 2020-03
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# INTERNATIONAL STANDARD

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## Components for low-voltage surge ~~protective devices~~ protection – Part 331: Performance requirements and test methods for metal oxide varistors (MOV)

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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# COMPONENTS FOR LOW-VOLTAGE SURGE ~~PROTECTIVE DEVICES~~ PROTECTION –

## Part 331: Performance requirements and test methods for metal oxide varistors (MOV)

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International Standard IEC 61643-331 has been prepared by subcommittee 37B: Components for low-voltage surge protection, of IEC technical committee 37: Surge arresters.

This third edition cancels and replaces the second edition published in 2017. This edition constitutes a technical revision.

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

a) a Varistor MCOV rating assurance test;

b) an energy rating test (2ms);

c) revised Dielectric strength and insulation resistance tests.

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

| FDIS | Report on voting |
|---|---|
| 37B/211/FDIS | 37B/214/RVD |

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts of IEC 61643 series, under the general title *Components for low-voltage surge protective devices,* 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 "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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# COMPONENTS FOR LOW-VOLTAGE SURGE ~~PROTECTIVE DEVICES~~ PROTECTION –

# Part 331: Performance requirements and test methods for metal oxide varistors (MOV)

## 1 Scope

This part of IEC 61643 is a test specification for metal oxide varistors (MOV), which are used for applications up to 1 000 V AC or 1 500 V DC in power lines, or telecommunication, or signalling circuits. They are designed to protect apparatus or personnel, or both, from high transient voltages.

This document applies to MOVs having two electrodes and hybrid ~~overvoltage~~ surge protection components. This document also does not apply to mountings and their effect on the MOV's characteristics. Characteristics given apply solely to the MOV mounted only in the ways described for the tests.

## 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 60068-1:2013, *Environmental testing – Part 1: General and guidance*

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

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IEC 60068-2-52:2017 *Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

~~IEC 60068-2-78:2012, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*~~

IEC 61643-11:2011, *Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems – Requirements and test methods*

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

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## Components for low-voltage surge protection – Part 331: Performance requirements and test methods for metal oxide varistors (MOV)

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# COMPONENTS FOR LOW-VOLTAGE SURGE PROTECTION –

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