IEC 60669-2-3

Edition 4.0 2024-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Switches for household and similar fixed electrical installations – Part 2-3: Particular requirements – Time-delay switches (TDS)

Interrupteurs pour installations électriques fixes domestiques et analogues – Partie 2-3 : Exigences particulières – Interrupteurs temporisés (minuteries)



IEC 60669-2-3:2024-03(en-fr)



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 2-3: Particular requirements – Time-delay switches (TDS)

FOREWORD

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IEC 60669-2-3 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2006. This edition constitutes a technical revision.

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

a) Revision of the present edition with reference to IEC 60669-1:2017 (Edition 4);
b) Introduction of a revision to Annex E "Additional requirements and tests for switches intended to be used at a temperature lower than −5 °C".

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

Draft	Report on voting
23B/1487/FDIS	23B/1501/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.

This part of IEC 60669-2 is to be used in conjunction with IEC 60669-1:2017. It lists the changes necessary to convert that standard into a specific standard for time-delay switches.

When a particular subclause of IEC 60669-1:2017 is not mentioned in this document, that subclause applies as far as reasonable.

In this document, the following print types are used:

– requirements proper: in roman type;

– *test specifications: in italic type;*

– notes: in smaller roman type.

Subclauses, figures or tables which are additional to those in IEC 60669-1:2017 are numbered starting from 101.

A list of all parts of IEC 60669 series, under the general title *Switches for household and similar fixed electrical installations*, 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 in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 2-3: Particular requirements – Time-delay switches (TDS)

1 Scope

IEC 60669-1:2017, Clause 1 is applicable except as follows:

Replacement of the first paragraph with the following:

This part of IEC 60669 applies to time-delay switches (hereinafter referred to as TDS) with a rated voltage not exceeding 440 V AC and a rated current not exceeding 63 A, intended for household and similar fixed electrical installations, either indoors or outdoors, operated by hand and/or by remote control. For the control circuit, the rated control voltage does not exceed 440 V AC or 220 V DC.

TDS are provided with a time-delay device operated by mechanical, thermal, pneumatic, hydraulic or electrical means or by a combination of them.

Electronic TDS are within the scope of IEC 60669-2-1 but not of this document.

TDS including only passive components such as resistors, capacitors, positive temperature coefficient (PTC) and negative temperature coefficient (NTC) components and printed circuit boards are not considered to be electronic TDS.

2 Normative references

IEC 60669-1:2017, Clause 2 is applicable with the following additions:

IEC 60317 (all parts), *Specifications for particular types of winding wires*

IEC 60445:2021, *Basic and safety principles for man-machine interface, marking and identification – Identification of equipment terminals, conductor terminations and conductors*

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems – Part 1: Principles, requirements and tests*

IEC 60664-3:2016, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60669-1:2017, *Switches for household and similar fixed electrical installations – Part 1: General requirements*

IEC 61558-2-6:2021, *Safety of transformers, reactors, power supply units and combinations thereof – Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers for general applications*

3 Terms and definitions

IEC 60669-1:2017, Clause 3 is applicable with the following modifications:

3.8
thread-cutting screw

Addition of the following note:

Note 101 to entry: This definition is applicable to the switching circuit only.

3.9
mechanical time-delay device

Addition of the following note:

Note 101 to entry: This definition is applicable to the switching circuit only.

Addition of the following new terminological entries:

3.101
time-delay switch
TDS
switch provided with a time-delay device which operates for a certain time (the delay time)

Note 101 to entry: Time-delay switches may be either manually actuated and/or remotely electrically initiated.

3.101.1
electronic TDS
TDS containing electronic component(s)

3.102
rated control voltage
voltage assigned to the control circuit by the manufacturer

3.103
switching circuit
circuit which contains the parts which allow the rated current to flow through the TDS

3.104
control circuit
circuit which includes electrical parts to control the switching circuit in an electrically controlled TDS

3.105
control mechanism
all parts which are intended for the operation of the TDS

3.106
incorporated hand-operated device
device which allows the switching circuit to be operated, directly or indirectly

Note 101 to entry: An incorporated hand-operated device is not intended for the normal operation of the TDS.

3.107
delay time
period during which the switching circuit(s) is (are) kept closed

Note 101 to entry: Any time taken for the decreasing of the voltage (e.g. to reduce the light) at the end of the delay period is included within the delay time.

3.108
delay device
all components which have an influence on the delay time

Note 101 to entry: The delay device is energized by means of an impulse into the control circuit in an electrically controlled TDS.

Note 102 to entry: The delay time may be adjustable.

3.109
disconnectable TDS
TDS consisting of two parts, the first being used as a base and including the terminals, the other being removable and including the switching and the control circuits, the two parts being resiliently connected together using a means which allows joining and/or separating with or without the use of a tool

4 General requirements

IEC 60669-1:2017, Clause 4 is applicable with the following addition:

Addition of the following after the first paragraph:

The operation of a TDS shall not be impaired when it is mounted at an angle deviating by not more than 5° from the specified position of use.

5 General remarks on tests

IEC 60669-1:2017, Clause 5 is applicable with the following additions:

Addition to Table 1:

Table 1 – Number of specimens needed for the tests

Clauses and subclauses	Number of specimens	Number of additional specimens for dual current rating
101 Abnormal operation of the control circuit	PQR	

Addition of the following subclauses:

5.101 Incorporated hand-operated device

If a TDS is provided with an incorporated hand-operated device, actuating the switching circuit directly, it shall be tested as specified in 19.101.

5.102 Operated by hand

For a TDS operated by hand, the requirements relating to the control voltage do not apply.

5.103 Control and switching circuits without common point

In the case of a TDS for which the control and the switching circuits have no common point, the test is made with the circuits supplied with the rated voltages which are specified in this document.