SLOVENSKI STANDARD
oSIST prEN IEC 60669-2-3:2023

01-januar-2023

Stikala za gospodinjstva in podobne nepremične električne inštalacije - 2-3. del: Posebne zahteve - Stikala s časovno zakasnitvijo (TDS)

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)

Ta slovenski standard je istoveten z: **prEN IEC 60669-2-3:2022**

ICS:

29.120.40	Stikala	Switches

oSIST prEN IEC 60669-2-3:2023 **en,fr,de**

23B/1431/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

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IEC SC 23B : PLUGS, SOCKET-OUTLETS AND SWITCHES	
SECRETARIAT: Italy	SECRETARY: Mr Cristiano Masini
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY	
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TITLE:

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

PROPOSED STABILITY DATE: 2030

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

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

FOREWORD

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

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

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

Revision of the present edition with reference to IEC 60669-1:2017 Edition 4;

– Introduction a new Annex E "Additional requirements and tests for switches intended to be used at a temperature lower than −5 °C"

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

In this publication, 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 part 1 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 publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

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

1 Scope

This clause of part 1 is applicable except as follows:

Replacement of the first paragraph by:

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.

TDS including only passive components such as resistors, capacitors, PTC and NTC components and printed circuit boards are not considered to be electronic TDS.

2 Normative references

This clause of part 1 is applicable with the following additions:

IEC 60317, *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 and of terminations of certain designated conductors, including general rules for an alphanumerical system*

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage 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 60669-2-1:2021, *Switches for household and similar fixed-electrical installations – Part 2-1: Particular requirements – Electronic control devices*

IEC 61558-2-6:2021, *Safety of transformers, reactors, power supply units and combination of 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

This clause of part 1 is applicable with the following modifications:

3.8
thread-cutting screw

Addition of the following note:

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

3.9
mechanical time-delay device

Addition of the following note:

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

Addition of the following new definitions:

3.101
time-delay switches
TDS
switch provided with a time-delay device which operates for a certain time (the delay time). It 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 the parts which are intended for the operation of the TDS

3.106
incorporated hand-operated device
device incorporated in the switch which allows the switching circuit to be operated, directly or indirectly. This 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. 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. The delay device is energized by means of an impulse into the control circuit in an electrically controlled TDS. 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

This clause of part 1 is applicable with the following addition:

Addition 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

This clause of part 1 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 standard.

6 Ratings

This clause of part 1 is applicable except as follows:

6.1 Rated voltage

Replacement:

Preferred values of rated voltage are:

– AC: 6 V, 8 V, 9 V, 12 V, 24 V, 42 V, 48 V, 110 V, 130 V, 220 V, 230 V and 240 V;

Note These rated voltages are aligned with the rated control voltages specified in 6.101 to simplify the tests on TDS having a common point between the control and switching circuits.

Addition of the following subclause:

6.101 Rated control voltage

Preferred values of rated control voltage are:

– AC: 6 V, 8 V, 9 V, 12 V, 24 V, 42 V, 48 V, 110 V, 130 V, 220 V, 230 V and 240 V;
– DC: 6V, 9 V, 12 V, 24 V, 48 V, 60 V, 110 V and 220 V.

7 Classification

This clause of part 1 is applicable except as follows:

7.1. according to the possible connections (see Figure 8 of IEC 60669-1):

Replacement:

	Pattern number
single-pole switches	1
double-pole switches	2
three-pole switches	3
three-pole plus switched neutral switches	03
two-way switches	6

7. 5 according to the method of actuating a switch

Addition of the following:

– time-delay switches (TDS):
  - manually operated;
  - remotely operated;
  - manually and remotely operated.

Note The above methods of operation can be combined with a complementary method of operation allowing permanent on and/or permanent off. These possibilities are given by a complementary device acting either directly on the switching circuit, or on the control circuit.

7. 7 according to the method of installation, as a consequence of the design of the switch

Addition of the following:

– disconnectable TDS;

Addition of the following subclause:

7.1.101 According to the type of control mechanism:

– mechanical;
– thermal;
– pneumatic;
– hydraulic;
– electrical;
– combination(s) of the above.

8 Marking

This clause of part 1 is applicable with the following additions:

8.1 General

Replacement of b)

b) rated voltage(s) in volts and rated control voltage(s) in volts, if different from the rated voltage(s);

Addition after m)

Switches shall be also marked with

n) symbol for the adjustment of the delay time, if applicable;

o) symbols for the positions "Permanent on" and "Permanent off", if applicable;

p) symbol for "Delay time".

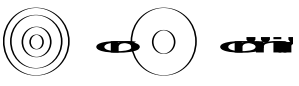
Addition after Note 5:

Note 6 If a delay time value is indicated, it should be expressed in minutes.

8.2 *Addition of the following symbols:*

Permanent on..... 

NOTE – If the TDS may also be remote controlled, the symbol | is not to be used.

Delay time..... 

Permanent off but only if the air gap of the switching contact of the TDS is not less than 3 mm .....