IEC 60669-2-2

Edition 4.0 2024-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Switches for household and similar fixed electrical installations – Part 2-2: Particular requirements – Electromagnetic remote-control switches (RCS)

Interrupteurs pour installations électriques fixes domestiques et analogues – Partie 2-2: Exigences particulières – Interrupteurs à commande à distance (télérupteurs)



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



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CONTENTS

FOREWORD 3
1 Scope 5
2 Normative references 5
3 Terms and definitions 6
4 General requirements 7
5 General remarks on tests 8
6 Ratings 8
7 Classification 9
8 Marking 9
9 Checking of dimensions 10
10 Protection against electric shock 10
11 Provision for earthing 10
12 Terminals 10
13 Constructional requirements 10
14 Mechanism 11
15 Resistance to ageing, protection provided by enclosures of switches and resistance to humidity 11
16 Insulation resistance and electric strength 11
17 Temperature rise 12
18 Making and breaking capacity 12
19 Normal operation 13
20 Mechanical strength 14
21 Resistance to heat 14
22 Screws, current-carrying parts and connections 14
23 Creepage distances, clearances and distances through sealing compound 14
24 Resistance of insulating material to abnormal heat, to fire and to tracking 16
25 Resistance to rusting 16
26 EMC requirements 16
Annexes 18
Annex B (informative) Changes planned for the future in order to align IEC 60669-1 with the requirements of IEC 60998 (all parts), IEC 60999 (all parts) and IEC 60228 19
Annex E (informative) Additional requirements and tests for switches intended to be used at a temperature lower than −5 °C 20
Bibliography 21

Table 1 – Number of specimens needed for the tests 8
Table 15 – Test voltage, points of application and minimum values of insulating resistance for the verification of electric strength 11
Table 101 – Temperature-rise limits for insulated coils in air 12
Table 102 – Creepage distances, clearances and distances through insulating sealing compound 15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

Part 2-2: Particular requirements – Electromagnetic remote-control switches (RCS)

FOREWORD

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IEC 60669-2-2 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/1486/FDIS	23B/1500/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 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 electromagnetic remote-control 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 or notes 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 2-2: Particular requirements – Electromagnetic remote-control switches (RCS)

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 electromagnetic remote control switches (hereinafter referred to as electromagnetic RCS) 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. For the control circuit, the rated control voltage does not exceed 440 V AC or 220 V DC.

The RCS coil can be either permanently energized or not permanently energized.

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

RCS 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 RCS.

Electromechanical contactors for household and similar purposes are within the scope of IEC 61095.

2 Normative references

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

IEC 60085:2007, *Electrical insulation – Thermal evaluation and designation*

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 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 additions:

3.11
rated voltage

Addition of the following note:

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

3.12
rated current

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
remote control switch
RCS
switch intended to be operated from a distance

3.101.1
electromagnetic RCS
RCS provided with a coil which is operated by means of impulses or which can be permanently energized by means of a control circuit

3.101.2
electronic RCS
RCS containing electronic component(s)

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

Note 101 to entry: The rated control voltage is generally the operating voltage of the electromagnetic control coil.

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

3.104
control circuit
circuit which includes electrical parts to actuate the switching mechanism

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

[SOURCE: IEC 60050-442:1998, 442-04-28, modified – the term "switch" has been replaced by "RCS".]

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 RCS.

3.107
disconnectable RCS
RCS 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

3.108
rated control current
current required for initiation of the RCS, assigned to the current coil in the control circuit by the manufacturer (only for an RCS provided with a current sensitive coil)

3.109
bistable RCS
RCS containing a control mechanism which, when not initiated electrically or actuated mechanically, remains stable in its operating position and will change its operating position on initiation or actuation

3.110
monostable RCS
RCS containing a control mechanism which, on electrical initiation or mechanical actuation, changes the operating position of the switch which remains in this condition while the RCS is initiated or actuated, and returns to the position prior to initiation or actuation of the RCS after initiation or actuation is discontinued

3.111
priority RCS
RCS used to operate directly or indirectly a first load circuit or group of load circuits the use of which at times can be dispensed with, and where the control circuit of the RCS is influenced by or connected to a second circuit or group of circuits (priority circuits or circuits) which when energized will thus initiate the control circuit of the RCS to de-energize the first load circuit or circuits for the time during which the second circuit or group of circuits is energized

Note 101 to entry: The RCS may have a means for adjusting the sensitivity of the RCS control circuit to initiate the RCS depending on the total load or current delivered to any part of the circuits (priority switch with current coil) or be sensitive to the voltage (priority switch with voltage coil) applied to the second load or group of loads.

Note 102 to entry: These devices are used to limit the total current into a home installation by disconnecting/connecting certain load circuits in the installation while leaving others (the priority circuits) connected.

3.112
sequentially operated RCS
RCS which includes several switching or reversing contacts generally operated by means of a cam allowing different circuit combinations by successive impulses

Note 101 to entry: The number of impulses is given according to the number of lobes of the cam.

4 General requirements

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

Addition after the first paragraph:

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