



DPC: 22 / 30452403 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 09 March 2022

Origin: International

Latest date for receipt of comments: 21 April 2022

Project No. 2022/00331

Responsible committee: PEL/23 Electrical accessories

Interested committees:

Title: BS EN IEC 60669-2-2 Switches for household and similar fixed electrical installations

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

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD.
THIS DRAFT IS NOT CURRENT BEYOND 21 April 2022**

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <http://standardsdevelopment.bsigroup.com>

Responsible Committee Secretary: **Mr Simon Bounds (BSI)**
Direct tel: **0208 996 7281**
E-mail: simon.bounds@bsigroup.com

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



23B/1379/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER: IEC 60669-2-2 ED4	
DATE OF CIRCULATION: 2022-02-25	CLOSING DATE FOR COMMENTS: 2022-05-20
SUPERSEDES DOCUMENTS:	

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 CD to the secretary.
FUNCTIONS CONCERNED: ☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☒ SAFETY	

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

NOTE FROM TC/SC OFFICERS:

This document has been prepared by MT8. Main changes are listed in the foreward.

Copyright © 2022 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

CONTENTS

1		
2	FOREWORD.....	3
3	1 Scope	5
4	2 Normative references	5
5	3 Terms and definitions	6
6	4 General requirements	7
7	5 General remarks on tests.....	8
8	6 Ratings	8
9	6.1 Rated voltage	8
10	7 Classification.....	9
11	8 Marking	9
12	9 Checking of dimensions.....	10
13	10 Protection against electric shock.....	10
14	11 Provision for earthing.....	10
15	12 Terminals	10
16	13 Constructional requirements	11
17	14 Mechanism.....	11
18	15 Insulation resistance and electric strength.....	11
19	16 Temperature rise	12
20	17 Making and breaking capacity	12
21	18 Normal operation	13
22	19 Mechanical strength	14
23	20 Resistance to heat.....	14
24	21 Normal operation	14
25	22 Screws, current-carrying parts and connections.....	14
26	23 Creepage distances, clearances and distances through sealing compound	14
27	24 Resistance of insulating material to abnormal heat, to fire and to tracking.....	15
28	25 Resistance to rusting	16
29	26 EMC requirements.....	16
30	101Abnormal operation of the control circuit.....	16
31	Annex A	18
32	Annex B	19
33	Annex C	20
34	Annex D	21
35	Annex E	22
36		
37	Table 101 – Temperature-rise limits for insulated coils in air	12
38		
39		
40		

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED
ELECTRICAL INSTALLATIONS –****Part 2-2: Particular requirements –
Electromagnetic remote-control switches (RCS)**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60669-2-2 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 and amendment 1 (1997) 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 IEC60669-1:2017 Edition 4 Introduction a new Annex E "Additional requirements and tests for switches intended to be used at a temperature lower than -5°C "

96

97 This part of IEC 60669 is to be used in conjunction with IEC 60669-1. It lists the changes
98 necessary to convert that standard into a specific standard for electromagnetic remote-control
99 switches.

100 In this publication, the following print types are used:

- 101 – requirements proper: in roman type;
- 102 – *test specifications: in italic type;*
- 103 – notes: in smaller roman type.

104 Subclauses, figures or tables which are additional to those in part 1 are numbered starting
105 from 101.

106 A list of all parts of IEC 60669 series, under the general title *Switches for household and*
107 *similar fixed-electrical installations*, can be found on the IEC website.

108 The committee has decided that the contents of this publication will remain unchanged until
109 the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the
110 data related to the specific publication. At this date, the publication will be

- 111 • reconfirmed;
- 112 • withdrawn;
- 113 • replaced by a revised edition, or
- 114 • amended.

115

116

SWITCHES FOR HOUSEHOLD AND SIMILAR FIXED ELECTRICAL INSTALLATIONS –

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

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 electromagnetic remote-control switches (hereinafter referred to as 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 may or may not be permanently energized.

Electronic RCS are within the scope of IEC 60669-2-1.

RCS including only passive components such as resistors, capacitors, PTC and NTC components and printed wiring 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

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

IEC 60085: 2007, *Electrical insulation - Thermal classification*

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 alphanumeric 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 61140:2016, *Protection against electric shock – Common aspects for installation and equipment*

157 IEC 61558-2-6:2021 *Safety of transformers, reactors, power supply units and combination of*
158 *therof– Part 2-6: Particular requirements for safety isolating transformers and use power*
159 *supply units incorporating safety isolating transformers for general applications*

160 **3 Terms and definitions**

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

162 **3.11** 163 **rated voltage**

164 *Addition of the following note:*

165 NOTE1 to entry: This definition is only applicable to the switching circuit.

166 **3.12** 167 **rated current**

168 *Addition of the following note:*

169 NOTE1 to entry: This definition is only applicable to the switching circuit.

170 *Addition of the following new definitions:*

171 **3.101**
172 **remote control switch**
173 **RCS**
174 switch intended to be operated from a distance

175 **3.101.1**
176 **electromagnetic RCS**
177 RCS provided with a coil which is operated by means of impulses or which may be
178 permanently energized by means of a control circuit

179 **3.101.2**
180 **electronic RCS**
181 RCS containing electronic component(s)

182 **3.102**
183 **rated control voltage**
184 voltage assigned to the control circuit by the manufacturer. This is generally the operating
185 voltage of the electromagnetic control coil

186 **3.103**
187 **switching circuit**
188 circuit which contains the parts which allow the rated current to flow through the RCS

189 **3.104**
190 **control circuit**
191 circuit which includes electrical parts to actuate the switching mechanism

192 **3.105**
193 **control mechanism**
194 mechanism which includes all the parts which are intended for the operation of the RCS