

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

01-februar-2023

Stikala za gospodinjstva in podobne nepremične električne inštalacije - 2-2. del: Posebne zahteve - Elektromagnetna stikala z daljinskim krmiljenjem

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

Schalter für Haushalt und änhliche ortsfeste elektrische Installationen - Teil 2-2: Besondere Anforderungen - Fernschalter

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

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

<u>ICS:</u>

29.120.40StikalaSwitches33.200Daljinsko krmiljenje, daljinske Telecontrol. Telemetering
meritve (telemetrija)

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23B/1430/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

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IEC SC 23B : PLUGS, SOCKET-OUTLETS AND SWITCHES			
SECRETARIAT:	SECRETARY:		
Italy	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:			
	QUALITY ASSURANCE SAFETY		
Submitted for CENELEC parallel voting	NOT SUBMITTED FOR CENELEC PARALLEL VOTING		
Attention IEC-CENELEC parallel voting			
The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.	<u>60669-2-2:2023</u> dards/sist/d31caec3-f96e-4fbf-9ed7- m-iec-60669-2-2-2023		
The CENELEC members are invited to vote through the CENELEC online voting system.			

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TITLE:

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

PROPOSED STABILITY DATE: 2030

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CONTENTS

2

2	FO	REWORD	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	8
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	10
17	14	Mechanism	11
18 19	15	Resistance to ageing, protection provided by enclosures of switches and resistance to humidity.	11
20	16	Insulation resistance and electric strength	
21	17	Temperature rise	11
22	18	Making and breaking capacity	12
23	19	Normal operation	12
24	20	Mechanical strength double inclusion and and and and and and and and and an	13
25	21	Resistance to heatf80a356dac1a/osist-pren-iec-60669-2-2-2023	13
26	22	Screws, current-carrying parts and connections	13
27	23	Creepage distances, clearances and distances through sealing compound	14
28	24	Resistance of insulating material to abnormal heat, to fire and to tracking	15
29	25	Resistance to rusting	15
30	26	EMC requirements	16
31	101	Abnormal operation of the control circuit	16
32	An	nex A	18
33	An	nex B	19
34	Annex C		
35	An	nex D	21
36	Annex E		
37 38	Tal	ble 101 – Temperature-rise limits for insulated coils in air	12
39 40	Bib	liography	XX

41

IE	C CDV 60669-2-2 © IEC 2022	3	23B/1430/CDV
	INTERNATIONAL ELECTR	ROTECHNICAL COMMISSIO	N
	SWITCHES FOR HOUSE ELECTRICAL I	HOLD AND SIMILAR FIXED)
	Part 2-2: Partico Electromagnetic remo	ular requirements – te-control switches (RCS)	
	FOR	EWORD	
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Int ou	ernational Standard IEC 60669-2-2 has be tlets and switches, of IEC technical commi	en prepared by subcommittee 23B ttee 23: Electrical accessories.	: Plugs, socket-
Th	is fourth edition cancels and replaces the th	nird edition published in 2006.	
Th ed	is edition includes the following significan ition:	it technical changes with respect	to the previous
_	Revision of the present edition with reference	e to IEC 60669-1:2017 Edition 4;	
_	Introduction of a new Annex E "Additiona to be used at a temperature lower than –	l requirements and tests for sw 5 °C".	itches intended
	 IE 1) 2) 3) 4) 5) 6) 7) 8) 9) Integer – – 	 IEC CDV 60669-2-2 © IEC 2022 INTERNATIONAL ELECTR SWITCHES FOR HOUSE ELECTRICAL I SWITCHES FOR HOUSE ELECTRICAL I Carter and the second sec	 INTERNATIONAL ELECTROTECHNICAL COMMISSION SUTTERNATIONAL ELECTROTECHNICAL COMMISSION SUTTERNATIONAL ELECTROTECHNICAL COMMISSION SUTTERSEAR PARTICULA INSTALLATIONS - SUTTERSEAR PARTICULA INSTALLATIONS - SUTTERSEARCH AND AND AND AND AND AND AND AND AND AND

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93 This part of IEC 60669 is to be used in conjunction with IEC 60669-1. It lists the changes 94 necessary to convert that standard into a specific standard for electromagnetic remote-control 95 switches.

- 96 In this publication, the following print types are used:
- 97 requirements proper: in roman type;
- 98 test specifications: in italic type;
- 99 notes: in smaller roman type.
- Subclauses, figures or tables which are additional to those in part 1 are numbered starting from101
- 102 A list of all parts of IEC 60669 series, under the general title *Switches for household and similar* 103 *fixed-electrical installations,* can be found on the IEC website.
- 104 The committee has decided that the contents of this publication will remain unchanged until the 105 maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data 106 related to the specific publication. At this date, the publication will be
- 107 reconfirmed;
- 108 withdrawn;
- 109 replaced by a revised edition, or
- 110 amended.
- 111
- 112

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	IEC CDV	60669-2-2 © IEC 2022	5	23B/1430/CDV
113		SWITCHES FOR HO	USEHOLD AND S	IMILAR FIXED
114		ELECTRIC	CAL INSTALLATIO	NS –
115				
116		Part 2-2: Pa	articular requireme	ents –
117		Electromagnetic i	emote-control swi	itches (RCS)
118				
119				
120				
121	1 Scop	e		
122	This clau	se of part 1 is applicable exce	pt as follows:	

123 *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.

- 129 The RCS coil may or may not be permanently energized.
- 130 Electronic RCS are within the scope of IEC 60669-2-1.
- 131 RCS including only passive components such as resistors, capacitors, PTC and NTC 132 components and printed circuit boards are not considered to be electronic RCS.
- 133 Electromechanical contactors for household and similar purposes are within the scope of 134 IEC 61095.

tps://standards.iteh.ai/catalog/standards/sist/d31caec3-t96e-4fbf-9ed7

135 **2 Normative references**

- 136 This clause of part 1 is applicable with the following additions:
- 137 IEC 60085: 2007, *Electrical insulation Thermal classification*
- 138 IEC 60317, Specifications for particular types of winding wires

139 IEC 60445:2021, Basic and safety principles for man-machine interface, marking and
 140 identification – Identification of equipment terminals and of terminations of certain designated
 141 conductors, including general rules for an alphanumeric system

- 142 IEC 60664-1:2020, Insulation coordination for equipment within low-voltage systems Part
- 143 *1:Principles, requirements and tests*
- 144

145 IEC 60664-3: 2016, Insulation coordination for equipment within low-voltage systems - Part 3: Use of 146 coating, potting or moulding for protection against pollution

- 147
- 148 IEC 60669-1:2017, Switches for household and similar fixed electrical installations –
 149 Part 1: General requirements
- 150 IEC 60669-2-1:2021, Switches for household and similar fixed electrical installations 151 Part 2-1: Particular requirements – Electronic control devices

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152 IEC 61558-2-6:2021 Safety of transformers, reactors, power supply units and combination of 153 thereof – Part 2-6: Particular requirements for safety isolating transformers and use power

154 supply units incorporating safety isolating transformers for general applications

155 3 Terms and definitions

- 156 This clause of part 1 is applicable with the following additions:
- 157 3.11

158 rated voltage

- Addition of the following note: 159
- 160 Note to entry: This definition is only applicable to the switching circuit.

161 3.12

- rated current 162
- 163 Addition of the following note:
- 164 Note to entry: This definition is only applicable to the switching circuit.
- Addition of the following new definitions: 165
- 166 3.101
- **Remote Control Switch** 167
- 168 RCS
- switch intended to be operated from a distance S. Itch. ai) 169
- 170 3.101.1
- electromagnetic RCS 171
- RCS provided with a coil which is operated by means of impulses or which may be permanently 172
- 173 energized by means of a control circuit
- 174 3.101.2
- 175 electronic RCS
- 176 RCS containing electronic component(s)
- 3.102 177

178 rated control voltage

- voltage assigned to the control circuit by the manufacturer. 179
- 180 Note to entry: This is generally the operating voltage of the electromagnetic control coil
- 181 3.103
- 182 switching circuit
- circuit which contains the parts which allow the rated current to flow through the RCS 183
- 184 3.104
- control circuit 185
- 186 circuit which includes electrical parts to actuate the switching mechanism
- 187 3.105

control mechanism 188

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

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7

190 3.106

191 incorporated hand-operated device

192 device which allows the switching circuit to be operated, directly or indirectly. This device is not 193 intended for the normal operation of the RCS

3.107 194

195 disconnectable RCS

- 196 RCS including 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 197 198 resiliently connected together using a means which allows joining and/or separating with or 199 without the use of a tool

200 3.108

rated control current 201

current required for initiation of the RCS, assigned to the current coil in the control circuit by 202 the manufacturer (only for an RCS provided with a current sensitive coil) 203

204 3.109

205 bistable RCS

- RCS containing a control mechanism which, when not initiated electrically or actuated 206
- 207 mechanically, remains stable in its operating position and will change its operating position on 208 initiation or actuation

3.110 209

210 monostable RCS

- 211 RCS containing a control mechanism which, on electrical initiation or mechanical actuation, 212 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 213
- initiation or actuation is discontinued dards.iten.a 214

3.111 215

216 priority RCS

- RCS used to operate directly or indirectly a first load circuit or group of load circuits the use of 217
- which at times can be dispensed with, and where the control circuit of the RCS is influenced by 218
- 219 or connected to a second circuit or group of circuits (priority circuits or circuits) which when 220 energized will thus initiate the control circuit of the RCS to de-energize the first load circuit or
- 221 circuits for the time during which the second circuit or group of circuits is energized
- 222 223 224 Note 1 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.
- 225 226 Note 2 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.

227 3.112

228 sequential operated RCS

- RCS which includes several switching or reversing contacts generally operated by means of a 229 230 cam allowing different circuit combinations by successive impulses. The number of impulses is
- 231 given by the number of lobes

232 **4** General requirements

- 233 This clause of part 1 is applicable with the following addition:
- 234 Addition after the first paragraph:
- 235 The operation of an RCS shall not be impaired when it is mounted at an angle deviating by not 236 more than 5° from the specified position of use.

237 **5 General remarks on tests**

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- 238 This clause of part 1 is applicable with the following additions:
- Addition to Table 1:

240

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	

241

242 Addition of the following new subclause:

243 5.101 Incorporated hand-operated device

- If an RCS is provided with an incorporated hand-operated device, it shall be tested as specifiedin Clause 19.
- 246 247 Note 101 During the making and breaking capacity tests and the normal operation tests, the application of the voltage to the RCS coil always at the same phase angle should be avoided, as this application can give misleading results.
- 249 Note 102 Precautions should be taken when using combinations equipped with synchronous motors and devices having similar operating characteristics.

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- 251 6 Ratings ttps://standards.iteh.ai/catalog/standards/sist/d31caec3-f96e-4fbf-9ed7-
- f80a356dac1a/osist-pren-iec-60669-2-2-2023
- 252 This clause of part 1 is applicable except as follows:
- 253 6.1 Rated voltage
- 254 Replacement:
- 255 Preferred values of rated voltage are :
- $256 \quad \quad AC: 6 \ V, \ 8 \ V, \ 9 \ V, \ 12 \ V, \ 24 \ V, \ 42 \ V, \ 48 \ V, \ 110 \ V, \ 130 \ V, \ 220 \ V, \ 230 \ V \ and \ 240 \ V.$
- 257 Addition of the following new subclause:

258 6.101 Rated control voltage

- 259 Preferred values of rated control voltage are:
- 260 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;
- 261 DC: 6 V, 9 V, 12 V, 24 V, 48 V, 60 V, 110 V and 220 V.

262 7 Classification

- 263 This clause of part 1 is applicable with the following additions:
- 264 **7.5** according to the method of actuating the switch:

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- 265 Addition of the following:
- 266 current coil (for priority RCS);
- 267 voltage coil (for priority RCS).
- 268 **7.7** according to the method of installation, as a consequence of the design of the switch:
- 269 Addition of the following:
- 270 disconnectable RCS;
- 271 Addition of the following new subclauses:
- 272 **7.101** According to the type of switching mechanism:
- 273 directly operated RCS;
- 274 sequentially operated RCS;
- 275 bistable RCS;
- 276 monostable RCS.
- 277 Note 101 Directly operated RCS are those which, for each impulse, show an ON or OFF state, these states occurring
 278 for each impulse on 1, 2, 3 or 4 poles, either as a switch or as a reversing switch.
- 279 Note 102 This allows the RCS to be classified according to 7.1.
- 280 Note 103 Pattern number 5 can be met by two RCS pattern numbers 1 or 6 and wiring in accordance with Figure 8 of IEC 60669-1.
- 282
283Note 104Pattern number 7 can be met by pattern number 6/2 and wiring with external connections in accordance
with Figure 8 of IEC 60669-1.
- 284 **7.102** According to the kind of energization of the control circuit:
- <u>oSIST prEN IEC 60669-2-2:2023</u>
- 285 RCS energized by impulses; ai/catalog/standards/sist/d31caec3-f96e-4fbf-9ed7-
- 286 RCS permanently energized. dac1a/osist-pren-iec-60669-2-2-2023

287 8 Marking

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

289 8.1 General

290 Replacement of b)

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

- 293 8.2 Symbols
- 294 Addition of the following symbols:

Control mechanism	
Switch	or or or
Monostable RCS	