



COMMITTEE DRAFT FOR VOTE (CDV)

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DATE OF CIRCULATION: 2023-07-07	CLOSING DATE FOR VOTING: 2023-09-29
SUPERSEDES DOCUMENTS: 94/812/CD, 94/873/CC	

IEC TC 94 : ELECTRICAL RELAYS	
SECRETARIAT: Austria	SECRETARY: Mr Bernhard Spalt
OF INTEREST TO THE FOLLOWING COMMITTEES: TC 121, SC 121A	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING <input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING	
<p>Attention IEC-CENELEC parallel voting</p> <p>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.</p> <p>https://standards.iteh.ai/catalog/standards/sist/353cdfc0-6605-4ddb-84a4-444444444444/pr-en-iec-61810-7-22-2023</p> <p>The CENELEC members are invited to vote through the CENELEC online voting system.</p>	

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Recipients of this document are invited to submit, with their comments, notification of any relevant "In Some Countries" clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE AC/22/2007 OR NEW GUIDANCE DOC).

TITLE:

Electrical relays – Tests and Measurements – Part 7-22: Limiting continuous current

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Electrical Relays –
Testing and Measurements**
Part 7-22: Limiting continuous current**FOREWORD**

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The International Standards of the IEC 61810 have been prepared by IEC technical committee 94: All-or-nothing electrical relays.

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

CD	CC
94/812/CD	94/873/CC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 61810 series, published under the general title *Electromechanical elementary relays*, can be found on the IEC website.

63 This International Standard is to be used in conjunction with IEC 61810-1:2015.

64 The committee has decided that the contents of this document will remain unchanged until the
65 stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to
66 the specific document. At this date, the document will be

- 67 • reconfirmed,
- 68 • withdrawn,
- 69 • replaced by a revised edition, or
- 70 • amended.

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Electrical Relays – Testing and Measurements

Part 7-22: Limiting continuous current

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81 **1 Scope**

82 This part of IEC 61810-7 is used for testing along with the appropriate severities and conditions
83 for measurements and tests designed to assess the ability of specimens to perform under
84 expected conditions of transportation, storage and all aspects of operational use.

85 The object of this test is to define a standard test method for evaluation of the limiting
86 continuous current under specified conditions.

87 **2 Normative references**

88 The following documents are referred to in the text in such a way that some or all of their content
89 constitutes requirements of this document. For dated references, only the edition cited applies.
90 For undated references, the latest edition of the referenced document (including any
91 amendments) applies.

92 IEC 60028, *International standard of resistance for copper*

93 IEC 60060-1:2010, *High-voltage test techniques – Part 1: General definitions and test
94 requirements*

95 IEC 60068-2-14, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature*

96 IEC 60068-2-17, *Basic environmental testing procedures – Part 2-17: Tests – Test Q: Sealing*

97 IEC 60068-2-27, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

98 IEC 60068-2-64:2008, *Environmental testing – Part 2-64: Tests – Test Fh: Vibration, broadband
99 random and guidance*

100 IEC 60270, *High-voltage test techniques – Partial discharge measurements*

101 IEC 60664-1:2007, *Insulation coordination for equipment within low-voltage systems – Part 1:
102 Principles, requirements and tests*

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

105 IEC 60947-1:2007, *Low-voltage switchgear and controlgear – Part 1: General rules*

106 IEC 60999-1, *Connecting devices – Electrical copper conductors – Safety requirements for
107 screw-type and screwless-type clamping units – Part 1: General requirements and particular
108 requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)*

109 IEC 60999-2, *Connecting devices – Electrical copper conductors – Safety requirements for*
 110 *screw-type and screwless-type clamping units – Part 2: Particular requirements for clamping*
 111 *units for conductors above 35 mm² up to 300 mm² (included)*

112 IEC 61810-1:2015, *Electromechanical elementary relays – Part 1: General and safety*
 113 *requirements*

114 IEC 61810-7-0:202X, *Electrical relays – Test and measurements – Part 7-0: Testing - General*
 115 *and Guidance*

116 IEC 61810-7-4:202X, *Electrical relays – Test and measurements – Part 7-4: Dielectric strength*
 117 *test*

118 IEC 61810-7-6:202X, *Electrical relays – Test and measurements – Part 7-6: Contact-circuit*
 119 *resistance*

120 IEC 61810-7-7:202X, *Electrical relays – Test and measurements – Part 7-7: Functional test*

121 IEC 61810-7-8:202X, *Electrical relays – Test and measurements – Part 7-8: Timing Test*

122 IEC 61810-7-10:202X, *Electrical relays – Test and measurements – Part 7-10: Heating*

123 **3 Terms and definitions**

124 Clause 3 of IEC 61810-7-0 is applicable.

125 **3.1 Terms and definitions related to general terms**

126 **3.1.1** [https://standards.iteh.ai/catalog/standards/sist/353cdfc0-6605-4ddb-84a4-](https://standards.iteh.ai/catalog/standards/sist/353cdfc0-6605-4ddb-84a4-65e934e6ce92/osist-pren-iec-61810-7-22-2023)

127 **limiting continuous current**

128 greatest value of electric current which a closed contact is capable of carrying continuously
 129 under specified conditions

130 [IEV 444-04-28, modified]

131 **4 Limiting continuous current**

132 **4.1 Purpose**

133 To assess the suitability of the contacts to carry the limiting continuous current.

134 **4.2 Procedure**

135 The relay terminals shall be connected as given in Annex A of IEC 61810-7-10.

136 The coil(s) shall be energized with the rated coil voltage unless otherwise specified (testing in
 137 operate condition), and not energized (testing in release/reset condition) for bistable relays or
 138 break contacts only.

139 Test shall be performed at ambient temperature, if not otherwise specified.

140 NOTE additional also temperature cycling may apply and has to be defined by the manufacturer.

141 The contacts shall be loaded with a current as specified by the manufacturer for the contact set,
142 until thermal equilibrium is reached. Sub sequential the relay shall be cooled down until the
143 ambient temperature has been reached.

144 After this, the relay shall perform ten operating cycles with rated coil voltage; unless otherwise
145 specified, the opening and closing of the contacts shall be monitored.

146 **4.3 Conditions to be specified**

147 The conditions to be specified are the following:

- 148 a) energization value;
- 149 b) limiting continuous current for make contacts;
- 150 c) limiting continuous current for break contacts;
- 151 d) mounting situation.

152 **5 Evaluation**

153 The relay shall have no malfunction during the final 10 cycles functional test.

154 Electrical parameter test shall be performed according:

- 155 • IEC 61810-7-6 Contact-circuit resistance
- 156 • IEC 61810-7-7 Functional test
- 157 • IEC 61810-7-4 Dielectric test according to 4.4
<https://standards.iteh.ai/catalog/standards/sist/353cdfc0-6605-4ddb-84a4-65e931212121/iec-61810-7-22-2023>
- 158 • IEC 61810-7-8 Timing Test

159 The parameters shall be in the range specified.

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162 **Annex T**
163 **(normative)**

164 **Test report**
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167 Test reports shall consist of the following:

- 168 • Description of test specimen
169 • Description of used method
170 • Description of any deviation to a method or standard – if applicable
171 • Description of any information to repeat the test like, as appropriate:
172 • Ambient condition,
173 • Voltage, currents, coil voltages,
174 • Number of operations / cycles,
175 • Duty circle,
176 • Energization values,
177 • Limiting continuous current for make contacts,
178 • Limiting continuous current for break contacts,
179 • Mounting situation,
180 • Aso
181 • Any other observation linked to the test
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