IEC 61811-1

Edition 2.2 2026-07

INTERNATIONAL STANDARD

CONSOLIDATED VERSION

Electromechanical telecom elementary relays of assessed quality -
Part 1: Generic specification and blank detail specification

ICS 29.120.70

ISBN 978-2-8327-1386-0

IEC 61811-1:2015-01+AMD1:2025-12+AMD2:2026-07 CSV(en)

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IEC Secretariat
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

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CONTENTS

FOREWORD 4
1 Scope 6
2 Normative references 6
3 Terms and definitions 6
3.1 Type of relays 7
3.2 Types of contacts 7
3.3 Contact fault and contact failure 7
3.4 Relay malfunction, relay failure 8
3.5 Relay construction types 8
3.6 Inspection level and sample size 9
4 Rated values 9
4.1 General 9
4.2 Rated coil voltages 9
4.3 Contact-circuit resistance 9
4.4 Dielectric test 9
4.5 Impulse voltage test 9
4.6 Insulation resistance 9
4.7 Number of operations determining electrical endurance 10
4.8 Contact failure rate for test evaluation purposes 10
5 Marking and documentation 10
5.1 General 10
5.2 Marking of the relay 10
5.3 Marking of the package 10
5.4 Coded date of manufacture 10
6 Preparation of blank detail and detail specifications 10
7 Quality assessment procedures 12
7.1 Primary stage of manufacture 12
7.2 Structurally similar relays 12
7.3 Qualification approval procedures 12
7.4 Quality conformance inspection 12
7.4.1 Grouping of tests 12
7.4.2 Resubmission of rejected lots 13
7.4.3 Delivery of relays subjected to destructive tests or non-destructive tests 13
7.4.4 Delayed delivery 13
7.4.5 Supplementary procedure for deliveries 13
7.4.6 Unchecked parameters 14
7.4.7 Release for delivery before completion of group B tests 14
7.4.8 Screening procedures 14
7.4.9 Formation of inspection lots 14
7.4.10 Periodic inspection 14
7.5 Periodic inspection / Intervals between tests 14
8 Test schedule 15
8.1 Test sequence 15
8.2 Types of relays, based upon environmental protection (relay technology (RT)) 15
8.3 Categories of application of contacts 15

8.4 Order of tests 15
8.5 Test groups and subgroups 15
9 Tests 20
9.1 Standard conditions for testing 20
9.2 Mounting of test specimens during the test 20
9.3 General conditions for testing 20
10 Ordering information 20
Annex A (informative) Relay reliability – Failure rate data 21
A.1 General 21
A.2 Scope 21
A.3 Description of the relay 21
A.3.1 Identification 21
A.3.2 Ratings 21
A.4 Fault and failure data 22
A.4.1 Fault and failure definition 22
A.4.2 Fault application 22
A.4.3 Failure definition 22
A.4.4 Failure application 22
A.5 Source of data 22
A.6 Weibull approach 22
A.7 WeiBayes approach 23
A.7.1 Description 23
A.7.2 Method 23
A.7.3 WeiBayes without failures 23
A.7.4 WeiBayes with failures 23
A.7.5 WeiBayes case study 24
Annex B (informative) Characteristic values of the relay 26
B.1 General data 26
B.2 Coil data 27
B.3 Contact data 27
B.3.1 Electrical endurance and switching frequency 27
B.3.2 Static contact-circuit resistance 27
B.3.3 Mechanical endurance 27
B.3.4 Timing (without suppression device) 28
B.4 Mounting 28
B.5 Environmental data 28
B.6 Package of relays for automatic handling (if applicable) 28
Annex C (informative) Blank detail and detail specification 29
C.1 Examples for front pages 29
C.1.1 General 29
C.1.2 Type 0 – Non-standardized types and construction 29
C.1.3 Type 1 – Two change-over contacts, 20 mm × 10 mm base 30
C.1.4 Type 2 – Two change-over contacts, 14 mm × 9 mm base 31
C.1.5 Type 3 – Two change-over contacts, 15 mm × 7,5 mm base 32
C.1.6 Type 4 – Two change-over contacts, 11 mm × 7,5 mm (max.) base 33
C.1.7 Key to front page 34
C.1.8 Type 5 – Two change-over contacts, 9,1 mm × 4,9 mm (max.) base 34
C.2 Qualification approval procedures 36

C.3 Quality conformance inspection 36
C.4 Formation of inspection lots 36
Annex D (informative) Definition of subgroups 55
Bibliography 56

Figure A.1 – New compressor design WeiBayes versus old design 25

Table 1 – Group A 16
Table 2 – Group B 17
Table 3 – Group C 18
Table B.1 – Dielectric test voltages 26
Table B.2 – Impulse test voltages 26
Table B.3 – Coil data 27
Table B.4 – Loads, contact-circuit resistance limits, switching cycles and frequencies for electrical endurance and overload tests 27
Table C.1 – Quality conformance inspection 37
Table C.2 – Qualification approval 52
Table C.3 – Industrial qualification 54

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Electromechanical telecom elementary relays of assessed quality - Part 1: Generic specification and blank detail specification

FOREWORD

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This consolidated version of the official IEC Standard and its amendments has been prepared for user convenience.

IEC 61811-1 edition 2.2 contains the second edition (2015-01) [documents 94/379/FDIS and 94/383/RVD], its amendment 1 (2025-12) [documents 94/1172/FDIS and 94/1180/RVD] and its amendment 2 (2026-07) [documents 94/1175/CDV and 94/1207A/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendments 1 and 2. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 61811-1 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This second edition of IEC 61811-1 cancels and replaces

- IEC 61811-1 published in 1999,
- IEC 61811-10 published in 2002,
- IEC 61811-11 published in 2002,
- IEC 61811-50 published in 2002,
- IEC 61811-51 published in 2002,
- IEC 61811-52 published in 2002,
- IEC 61811-53 published in 2002,
- IEC 61811-54 published in 2002,
- IEC 61811-55 published in 2002,

and constitutes a technical revision. This edition includes the following significant technical changes with respect to the previous editions:

a) to get one document for telecom relays;
b) update all relevant references;

The text of this standard is based on the following documents:

FDIS	Report on voting
94/379/FDIS	94/383/RVD

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

A list of all parts in the IEC 61811 series, published under the general title *Electromechanical telecom elementary relays of assessed quality*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

This publication was drafted in accordance with ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document and its amendments 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.

1 Scope

This part of IEC 61811 applies to electromechanical telecom elementary relays. Relays according to this standard are provided for the operation in telecommunication applications. However, as electromechanical elementary relays, they are also suitable for particular industrial and other applications.

This standard selects from IEC 61810 series and other sources the appropriate methods of test to be used in detail specifications derived from this specification, and contains basic test schedules to be used in the preparation of such specifications in accordance with this standard.

Detailed test schedules are contained in the detail specifications.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60062:2004, *Marking codes for resistors and capacitors*

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-17:1994, *Basic environmental testing procedures – Part 2-17: Tests – Test Q: Sealing*

IEC 60068-2-20:2008, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60068-2-58:2004*, Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

IEC 60695-11-5:2004, *Fire hazard testing – Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 61810 (all parts), *Electromechanical elementary relays*

IEC 61810-1:2008, *Electromechanical elementary relays – Part 1: General requirements*

IEC 61810-2:2011, *Electromechanical elementary relays – Part 2: Reliability*

IEC 61810-7:2006, *Electromechanical elementary relays – Part 7: Test and measurement procedures*

ISO 2859 (all parts)*, Sampling procedures for inspection by attributes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61810 series, as well as the following apply.

3.1 Type of relays

The most frequent types of electromechanical telecom elementary relays are defined in 3.1.1, 3.1.2, 3.1.3 and 3.1.4.

3.1.1
bistable relay
electrical relay which, having responded to an energizing quantity and having changed its condition, remains in that condition after the quantity has been removed; a further appropriate energization is required to make it change its condition.

[SOURCE:IEC 60050-444:2002, 444-01-08]

3.1.2
monostable relay
electrical relay which, having responded to an energizing quantity and having changed its condition, returns to its previous condition when that quantity is removed

[SOURCE: IEC 60050-444:2002, 444-01-07]

3.1.3
non-polarized relay
electrical relay, the change of condition of which does not depend upon the polarity of its energizing quantity

[SOURCE: IEC 60050-444:2002, 444-01-10]

3.1.4
polarized relay
polarized elementary relay
electrical relay, the change of condition of which depends upon the polarity of its d.c. energizing quantity

[SOURCE: IEC 60050-444:2002, 444-01-09; modified – In the definition, "elementary relay" has been replaced by "electrical relay".]

3.2 Types of contacts

3.2.1
change-over break-before-make contact
change-over contact, one contact circuit of which breaks before the other makes

[SOURCE: IEC 60050-444:2002,444-04-21, modified – The definition has been reworded.]

3.2.2
change-over make-before-break contact
change-over contact, one contact circuit of which makes before the other breaks

[SOURCE: IEC 60050-444:2002, 444-04-20, modified – The definition has been reworded.]

3.3 Contact fault and contact failure

3.3.1
failure to make
failure caused when no sufficient contact is ensured

Note 1 to entry: This could be a not acceptable or excessive contact resistance exceeds the maximum value stated in the detail specification as well a bouncing of the contact due to the lost of overtravel.