

INTERNATIONAL STANDARD

IEC
61811-10

QC 160100

First edition
2002-11

Electromechanical elementary relays of assessed quality –

Part 10: Sectional specification – Relays for industrial application

*Relais élémentaires électromécaniques
soumis au régime d'assurance de la qualité –*

*Partie 10:
Spécification sectionnelle –
Relais pour applications industrielles*

© IEC 2002 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

S

For price, see current catalogue

CONTENTS

FOREWORD	3
1 General	5
1.1 Scope	5
1.2 Normative references	5
1.3 Marking	6
1.4 Ordering information	6
2 Quality assessment procedures	6
2.1 Primary stage of manufacture	6
2.2 Structurally similar relays	6
2.3 Subcontracting	7
2.4 Qualification approval procedures	7
2.5 Quality conformance inspection requirements	7
2.6 Test schedule	7
2.7 Order of tests	8
3 Preparation of blank detail and detail specifications	8
3.1 Contents of blank detail and detail specifications	8
3.2 Basic test schedule	9
3.3 Test schedule for blank detail specifications	10
4 Relay reliability – Failure rate data	13
Annex A (informative) Explanations and examples regarding IL and AQL values	15
Annex B (informative) Data base for failure rates	17
Figure B.1 – Factor π_S depending on the operating cycles	20
Table 1 – Tests for quality conformance inspection	10-13
Table B.1 – Factor π_{ES}	20
Table B.2 – Factor π_T	21

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMECHANICAL ELEMENTARY RELAYS
OF ASSESSED QUALITY –**
**Part 10: Sectional specification –
Relays for industrial application**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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 the 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 National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible to their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61811-10 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This standard cancels and replaces IEC 60255-19 (1983) and constitutes a technical revision.

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

FDIS	Report on voting
94/168/FDIS	94/172/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.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

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

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

Currently in preview, click buy full vers.

ELECTROMECHANICAL ELEMENTARY RELAYS OF ASSESSED QUALITY –

Part 10: Sectional specification – Relays for industrial application

1 General

1.1 Scope

This part of IEC 61811 is a sectional specification applicable to electromechanical elementary (non-specified time all-or-nothing) relays of assessed quality for industrial application.

NOTE Electromechanical all-or-nothing telecom relays of assessed quality are covered by IEC 61811-50.

It is based on the basic relay standard IEC 61810-1 as well as on the generic specification IEC 61811-1 and selects from IEC 61810-7 the appropriate test and measurement procedures to be used in detail specifications derived from this specification. Moreover it contains a basic test schedule to be used in the preparation of such specifications. Detailed test schedules are given in the blank detail specifications supplementary to this sectional specification.

For the purpose of this standard, only fundamental tests have been compiled. Depending on the field of application, further tests should be selected as appropriate, preferably in accordance with the test and measurement procedure of IEC 61810-7.

1.2 Normative references

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

IEC 60062:1992, *Marking codes for resistors and capacitors*

IEC 60255-23:1994, *Electrical relays – Part 23: Contact performance*

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

IEC 61709:1996, *Electronic components – Reliability – Reference conditions for failure rates and stress models for conversion*

IEC 61810-1:1998, *Electromechanical non-specified time all-or-nothing relays – Part 1: General requirements*

IEC 61810-5:1998, *Electromechanical non-specified time all-or-nothing relays – Part 5: Insulation coordination*

IEC 61810-7:1997, *Electromechanical all-or-nothing relays – Part 7: Test and measurement procedures*

IEC 61811-1:1999, *Electromechanical non-specified time all-or-nothing relays of assessed quality – Part 1: Generic specification*

IEC QC 001002-3, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*