

# INTERNATIONAL STANDARD

**IEC**  
**61811-50**

QC 160500  
Second edition  
2002-03

---

---

## **Electromechanical all-or-nothing relays –**

### **Part 50: Sectional specification – Electromechanical all-or-nothing telecom relays of assessed quality**

*Relais électromécaniques de tout-ou-rien –*

*Partie 50:  
Spécification intermédiaire –  
Relais électromécaniques de tout-ou-rien télécom  
soumis au régime d'assurance de la qualité*

© 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](mailto:inmail@iec.ch) Web: [www.iec.ch](http://www.iec.ch)



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

PRICE CODE

**S**

*For price, see current catalogue*

## CONTENTS

FOREWORD.....	4
1 General.....	5
1.1 Scope.....	5
1.2 Normative references.....	5
1.3 Terms and definitions.....	6
1.4 Preferred values.....	7
1.5 Marking and documentation.....	8
2 Quality assessment procedures.....	9
2.1 Primary stage of manufacture.....	9
2.2 Structurally similar relays.....	9
2.3 Subcontracting.....	9
2.4 Qualification approval procedures.....	9
2.5 Quality conformance inspection.....	9
2.6 Test schedule.....	10
2.7 Order of tests.....	10
3 Preparation of blank detail and detail specifications.....	10
4 Test schedule.....	12
4.1 Test sequence.....	12
4.2 Types of relays, based upon environmental protection (relay technology RT).....	12
4.3 Categories of application of contacts.....	12
4.4 Notes relative to Table 1.....	12
5 Relay reliability - Failure rate data.....	13
Annex A (informative) Data base for failure rates.....	18

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMECHANICAL ALL-OR-NOTHING RELAYS –****Part 50: Sectional specification –  
Electromechanical all-or-nothing telecom relays  
of assessed quality**

## 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 in 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 61811-50 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This second edition of IEC 61811-50 cancels and replaces the first edition published in 1997 and constitutes a technical revision.

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

FDIS	Report on voting
94/144/FDIS	94/158/RVD

Further 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 3.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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

Currently in preview, click buy full vers.

## ELECTROMECHANICAL ALL-OR-NOTHING RELAYS –

### Part 50: Sectional specification – Electromechanical all-or-nothing telecom relays of assessed quality

#### 1 General

##### 1.1 Scope

This part of IEC 61811 is a sectional specification and applies to electromechanical all-or-nothing telecom relays of assessed quality. Relays according to this standard are provided for operation in telecommunication applications. However, as electromechanical all-or-nothing relays, they are also suitable for particular industrial and other applications.

This standard selects from IEC 61810-7 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. Detailed test schedules are contained in the blank detail specifications supplementary to this specification.

##### 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 60695-2-2:1991, *Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test*

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

IEC 61810-1:1993, *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 co-ordination*

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*

QC 001002-3:1998, *Rules of Procedure of the IEC Quality Assessment System for Electronic Components (IECQ) – Part 3: Approval Procedures*

ISO 8601:2000, *Data elements and interchange formats – Information interchange – Representation of dates and times*

ISO 9001:2000, *Quality systems – Model for quality assurance in design, development, production, installation and servicing*

CECC 00016:1990, *Basic requirements for the use of statistical process control (SPC) in the CECC system*

CECC 00800:1986, *Code of practice on the use of the ppm approach in association with the CECC system*