

**Harmonized system of quality
assessment for electronic components**

Sectional specification: Electromechanical all-or-nothing relays (including relays for severe environmental conditions)

The European Standard EN 116200:1991 has the status of a
British Standard

ICS 29.120.70

Committees responsible for this British Standard

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- Association of Control Manufacturers [TACMA (BEAMA Ltd.)]
- British Telecommunications plc
- Electronic Components Industry Federation
- Ministry of Defence
- National Supervising Inspectorate
- Transmission and Distribution Association (BEAMA Ltd.)

This British Standard, having been prepared under the direction of the Electronic Components Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 1 May 1992

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Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
Foreword	2
Text of EN 116200	3
Publication(s) referred to	Inside back cover

National foreword

This British Standard has been prepared by Technical Committee EPL/94 (formerly ECL1), and is the English language version of EN 116200:1991 *Sectional specification: Electromechanical all-or-nothing relays (including relays for severe environmental conditions)*, published by the European Committee for Electrotechnical Standardization (CENELEC).

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or using the “Find” facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 18, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

UDC:

Descriptors: Quality, electronic components, relays

English version

Sectional Specification: Electromechanical all-or-nothing relays (including relays for severe environmental conditions)

Spécification Intermédiaire:
Relais électromécaniques de tout-ou-rien
(couvrant les relays pour des conditions
d'environnement sévères)

Rahmenspezifikation:
Elektromechanische Schaltrelais
(einschließlich Relais für erschwerte
Umweltbedingungen)

This European Standard was approved by the CENELEC Electronic Components Committee (CECC) on 14 October 1991. The text of this standard consists of the text of CECC 16200 Issue 1:1990 (with A.1) of the corresponding CECC Specification. CENELEC members are bound to comply with CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the General Secretariat of the CECC or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CECC General Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom. The membership of the CECC is identical, with the exception of the national electrotechnical committees of Greece, Iceland and Luxembourg.

CECC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B-1050 Brussels

Foreword

The CENELEC Electronic Components Committee (CECC) is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of the specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby acceptable in all member countries without further testing.

This specification has been formally approved by the CECC, and has been prepared for those countries taking part in the System who wish to issue national harmonized specifications for **ELECTROMECHANICAL ALL-OR-NOTHING RELAYS**. It should be read in conjunction with the current regulations for the CECC System.

Preface

This sectional specification was prepared by CECC WG 16 “Relays”.

It is based, wherever possible, on the publications of the International Electrotechnical Commission.

The text of this specification was circulated to the CECC for voting in the document indicated below and was ratified by the President of the CECC for printing as a CECC Specification.

Document	Date of voting	Report on the Voting
CECC (Secretariat) 2271	July 1989	CECC (Secretariat) 2438

This specification is published initially in English and German. The French text will follow as soon as it has been prepared.

NOTE This specification does not conform completely with the requirements of CECC 00400.

Contents

	Page
Foreword	2
Section 1. Scope	
Section 2. General	
2.1 Related documents	3
2.2 Marking	3
2.2.1 Relay	3
2.2.2 Package	3
2.2.3 Ordering Information	3
Section 3. Quality assessment procedures	
3.1 Primary stage of manufacture	3
3.2 Subcontracting	4
3.3 Structurally similar relays	4
3.4 Qualification approval procedures	4
3.5 Quality conformance inspection	4
3.6 Test schedule	4
3.7 Order of tests	5
Section 4. Preparation of blank detail and detail specifications	
4.1 Contents of BDS and DS	5
4.2 Basic test schedules for electromechanical all-or-nothing relays	6
4.2.1 Test schedules	6
4.2.2 Order of tests	6
4.2.3 Abbreviations	6
4.2.4 Notes	7
Annex A Explanations and examples regarding IL and AQL-values	17
Table 1	8

Section 1. Scope

This sectional specification applies to electro-mechanical all-or-nothing relays of assessed quality. It selects from the generic specification CECC 16000 the appropriate methods of the tests 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.

Section 2. General

2.1 Related documents

CECC 16000, Issue 2:1990, *Generic Specification: Electromechanical all-or-nothing relays*.

2.2 Marking

Relays and their package supplied in accordance with detail specifications covered by this generic specification, shall be marked as follows:

2.2.1 Relay (minimum information)

- trade mark or manufacturer's name
- relay type and variant code
- date of manufacture, year/week, coded in accordance with IEC 62
- CECC mark

Where space permits, a circuit diagram or terminal identification should be given.

2.2.2 Package (minimum information)

- trade mark or manufacturer's name
- detail specification reference if not marked on the relay
- quantity
- relay type and variant code
- manufacturer's batch identification code

2.2.3 Ordering information

The ordering information shall be coded and shall contain the following details:

- CECC detail specification number
- Coded coil voltage
- Terminal code
- Coded mounting arrangement
- Specials code

Section 3. Quality assessment procedures

3.1 Primary stage of manufacture

The primary stage of manufacture is the assembly of the electromagnetic motive part of the relay to the electric switching part of the relay.

NOTE Important manufacturing steps

Important manufacturing steps are as follows:

- a) fabrication, heat treatment and plating of the component parts of the relay
- b) coil-winding
- c) assembling of the electrical and electromechanical parts
- d) adjustment of the relay-contacts
- e) high temperature drying, gas-backfilling and hermetically sealing of the relay, if applicable
- f) final measurements and periodic inspection of test groups A, B, C or D.

3.2 Subcontracting

Preliminaries for subcontracting are as in CECC 00107-I clause 7.2.

3.3 Structurally similar relays

Relays are considered structurally similar if having no differences in design other than in:

- 1) coil wire diameter, number of windings and the coil transient suppression device
- 2) types, numbers and material of contacts
- 3) rated coil and/or contact voltage(s)
- 4) mounting and terminal variants within the limits prescribed in the detail specification.

3.4 Qualification approval procedures

Qualification approval tests shall include all the tests prescribed in the detail specification, and shall be performed by a schedule specifically prescribed in the detail specification (method 1 or method 2, as applicable, of CECC 00107-I).

The number of specimens for each sub-group is specified in the blank detail specification.

As a general rule, a minimum of five specimens are required for each group of tests. The qualification tests schedule may specify destructive and cumulative nondestructive tests.

3.5 Quality conformance inspection

3.5.1 Formation of inspection lots

Inspection lots to be submitted to group A and B acceptance tests shall be formed in accordance with § 10 of CECC 00107-I and with the sampling plans and procedures given in IEC 410, except where production is too infrequent or too small for sampling plans to apply; in these cases inspection shall be 100 %, or as agreed between the manufacturer, the ONS and when known, the user.

When sampling is carried out in accordance with IEC 410, the percent defective concept only shall be used. Stratified or representative sampling shall always be used to include all production lines and structurally similar relays in proportion to their respective quantities in the lot. Exceptions from proportionality may become necessary and shall be stated in the detail specification or agreed between the manufacturer and the ONS. Specimens shall be as representative as possible of the production.

3.5.2 Periodic inspection

Fixed samples for group C and D inspection shall be taken from a lot (or lots) which has passed group A and B inspection during, or at the end of the specified reference period. In both cases the inspection lot (or lots) shall not be less than the average of production lots during the reference period for each group.

3.6 Test schedule

3.6.1 General

A test sequence shall consist of all tests listed in the blank detail specification.

The reference numbers of the tests are those of CECC 16000, *Generic Specification: Electromechanical all-or-nothing relays*, except additional test(s) described in the sectional, the blank detail or the detail specification.

3.6.2 Groups A and B

The IL-notation applies for all tests in one sub-group and each test schedule. A corresponding range of values of AQL is given, including a centre value which is underlined, and the authority preparing detail specifications shall choose the appropriate value which then applies to all tests in one sub-group.

Any given IL and AQL notations shall be interpreted such that the number of defectives allowable for acceptance is applicable to each test within a sub-group separately. However, the blank detail specification may prescribe this same IL, for relays submitted to cumulative tests of the same sub-group.