

Electromechanical non-specified time all-or-nothing relays —

Part 1: General requirements

The European Standard EN 61810-1:1998 has the status of a British Standard

ICS 29.120.70

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

National foreword

This British Standard is the English language version of EN 61810-1:1998. It is identical with IEC 61810-1:1998. It supersedes BS EN 60255-1-00:1997 which will be withdrawn on 2003-08-01.

The UK participation in its preparation was entrusted to Technical Committee EPL/94, General purpose relays and reed contact units, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

From 1 January 1997, all IEC publications have the number 60000 added to the old number. For instance, IEC 27-1 has been renumbered as IEC 60027-1. For a period of time during the change over from one numbering system to the other, publications may contain identifiers from both systems.

Cross-references

Attention is drawn to the fact that CEN and CENELEC standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 20 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.

Amendments issued since publication

Amd. No.	Date	Comments

This British Standard, having been prepared under the direction of the Electrotechnical Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 March 1999

© BSI 05-1999

ISBN 0 580 30451 5

Contents

	Page
National foreword	Inside front cover
Foreword	2
Text of EN 61810-1	5

Descriptors: All-or-nothing relays, non-specified time relays, requirements, tests

English version

Electromechanical non-specified time all-or-nothing relays Part 1: General requirements

(IEC 61810-1:1998)

Relais électromécaniques de tout-ou-rien
à temps non spécifié
Partie 1: Prescriptions générales
(CEI 61810-1:1998)

Elektromechanische Schaltrelais ohne
festgelegtes Zeitverhalten
Teil 1: Allgemeine Anforderungen
(IEC 61810-1:1998)

This European Standard was approved by CENELEC on 1998-08-01. CENELEC members are bound to comply with the 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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 text of document 94/75/FDIS, future edition 1 of IEC 61810-1, prepared by IEC TC 94, All-or-nothing electrical relays, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61810-1 on 1998-08-01.

This European Standard supersedes EN 60255-1-00:1997.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2003-08-01

Annexes designated “normative” are part of the body of the standard.

Annexes designated “informative” are given for information only.

In this standard, Annex A, Annex B and Annex ZA are normative and Annex C, Annex D, Annex E and Annex F are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61810-1:1998 was approved by CENELEC as a European Standard without any modification.

In the official version, for Annex F, Bibliography, the following notes have to be added for the standards indicated:

IEC 60947-1	NOTE Harmonized as EN 60947-1:1997 (modified).
IEC 60947-4-1	NOTE Harmonized as EN 60947-4-1:1992 (not modified).
IEC 60947-5-1	NOTE Harmonized as EN 60947-5-1:1991 (not modified).
IEC 61812-1	NOTE Harmonized as EN 61812-1:1996 (not modified).

Contents

	Page
Foreword	2
1 General	5
1.1 Scope and object	5
1.2 Normative references	5
1.3 Definitions	6
2 Influencing quantities	7
2.1 Reference conditions	7
2.2 Conditions for testing	7
2.3 Referee conditions	7
2.4 Nominal ranges	7
2.5 Extreme ranges	8
3 Requirements	8
3.1 Minimum requirements	8
3.1.1 Maximum permissible temperatures	8
3.1.2 Resistance to heat and fire	8
3.1.3 Insulation	8
3.1.4 Flat quick-connect terminations	8
3.1.5 Resistance to soldering heat	8
3.1.6 Resistance to whisker growth	8
3.1.7 Mechanical endurance	8
3.1.8 Contact performance	8
3.2 Recommended values	8
3.2.1 Energizing quantities	8
3.2.2 Contact circuits	9
3.2.3 Ranges of influencing quantities	9
3.2.4 Intermittent periodic duty parameters	10
3.2.5 Dimensions for clearances, creepage distances and solid insulation	10
3.2.6 Impulse withstand voltages	10
3.2.7 Resistive current for flat QC terminations	10
3.3 Data and marking	10
3.3.1 Data	10
3.3.2 Marking	10
3.3.3 Additional information	11
4 Tests	11
4.1 Tests and measurements	11
4.1.1 General test conditions	11
4.1.2 Operate and release	11
4.1.3 Insulation tests	11
4.1.4 Mechanical endurance	11
4.1.5 Contact performance	11

	Page
4.1.6 Temperature rise of relay parts	12
4.1.7 Heat and fire resistance	13
4.1.8 Soldering heat	13
4.1.9 QC terminations	13
4.2 Type test	13
Annex A (normative) Quick-connect terminations	14
Annex B (normative) Glow-wire test	15
Annex C (informative) Relation to other switching devices	15
Annex D (informative) Protection of the environment	16
Annex E (informative) Ball pressure test	17
Annex F (informative) Relation to other IEC standards and bibliography	18
Annex ZA (normative) Normative references to international publications with their corresponding European publications	19
Figure 1 — Temperature rise for various duties	12
Figure E.1 — Ball pressure test set-up	18
Table 1 — Reference, testing and referee values, and tolerances of influencing quantities	7
Table 2 — Recommended values of the limits of the nominal range of influencing quantities	9
Table 3 — Type test	13
Table A.1 — Cross-sectional areas for conductors depending on the resistive current carried by the terminal	15

