SLOVENSKI STANDARD

SIST EN 61810-2:2008

01-januar-2008

Nadomeġļ a:

SIST EN 60255-23:2001

Osnovni elektromehanski releji - 2. del: Zanesljivost (IEC 61810-2:2005)

Electromechanical elementary relays - Part 2: Reliability

Elektromechanische Elementarrelais - Teil 2: Funktionsfähigkeit (Zuverlässigkeit)

Relais électromécaniques élémentaires - Partie 2: Fiabilité

Ta slovenski standard je istoveten z: **EN 61810-2:2005**

ICS:

29.120.70 Releji Relays

SIST EN 61810-2:2008 **en,fr,de**

EUROPEAN STANDARD **EN 61810-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM May 2005

ICS 29.120.70 Supersedes EN 60255-23:1996

English version

Electromechanical elementary relays
Part 2: Reliability
(IEC 61810-2:2005)

Relais électromécaniques élémentaires
Partie 2: Fiabilité
(CEI 61810-2:2005)

Elektromechanische Elementarrelais
Teil 2: Funktionsfähigkeit (Zuverlässigkeit)
(IEC 61810-2:2005)

This European Standard was approved by CENELEC on 2005-04-01. 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.

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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

Ref. No. EN 61810-2:2005 E

Foreword

The text of document 94/214/FDIS, future edition 1 of IEC 61810-2, 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 61810-2 on 2005-04-01.

This European Standard supersedes EN 60255-23:1996.

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)	2006-01-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2008-04-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61810-2:2005 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-191	1990	International Electrotechnical Vocabulary (IEV) Chapter 191: Dependability and quality of service	-	-
IEC 60050-444	2002	Part 444: Elementary relays	-	-
IEC 60300-3-5	2001	Dependability management Part 3-5: Application guide - Reliability test conditions and statistical test principles	-	-
IEC 61649	- [1)]	Goodness-of-fit tests, confidence intervals and lower confidence limits for Weibull distributed data	-	-
IEC 61810-1	2003	Electromechanical elementary relays Part 1: General and safety requirements	EN 61810-1	2004
ISO 3534-1	1993	Statistics - Vocabulary and symbols Part 1: Probability and general statistical terms	-	-

1) Undated reference.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
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Relais électromécaniques élémentaires –

Partie 2:
Fiabilité

Electromechanical elementary relays –

Part 2:
Reliability

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Международная Электротехническая Комиссия

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMECHANICAL ELEMENTARY RELAYS –

Part 2: Reliability

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61810-2 has been prepared by IEC technical committee 94: All-or-nothing electrical relays.

This standard cancels and replaces IEC 60255-23 published in 1994 and adopts all relevant contents of IEC 60255-14 and IEC 60255-15, both published in 1981 and withdrawn in early 2005.

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

FDIS	Report on voting
94/214/FDIS	94/215/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.

IEC 61810 consists of the following parts, under the general title *Electromechanical elementary relays*

Part 1: General and safety requirements

Part 2: Reliability

Part 7: Test and measurement procedures

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 the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

INTRODUCTION

The superseded standard dealing with the lifetime and reliability characteristics of relays was IEC 60255-23. The basic content of that standard had been adopted from its predecessor IEC 60255-0-20. Therefore, the basic concepts of the standard reflected the “state of the art” of the 1970s.

Following the setting-up of a separate technical committee for all-or-nothing relays (TC 94), the IEC 61810 series, a new series of basic relay standards covering electromechanical elementary (non-specified time all-or-nothing) relays, was established.

Within this series, IEC 61810-2 is intended to give requirements and tests permitting the assessment of relay reliability. Whereas all information concerning endurance tests for type testing have been included in IEC 61810-1, all relevant contents of IEC 60255-23, as well as IEC 60255-14 and IEC 60255-15 have been taken into account in IEC 61810-2.

However, in the past decades, the technical committee responsible for dependability (TC 56) has considerably improved and extended its basic standards. In particular, IEC 60300-3-5 (application guide for determining reliability test conditions and statistical test principles) and IEC 61649 (which deals with Weibull distributed test data) are now available.

On the basis of these two publications, IEC 61810-2 was developed. It comprises test conditions and an evaluation method to obtain relevant reliability measures for electromechanical elementary relays. The life of relays as non-repairable items is primarily determined by the number of operations. For this reason the reliability is expressed in terms of MCTF (mean cycles to failure).

Commonly, equipment reliability is calculated from MTTF (mean time to failure) figures. With the knowledge of the frequency of operation (cycling rate) of the relay within an equipment it is possible to calculate an effective MTTF value for the relay in that application.

Such calculated MTTF values for relays can be used to calculate respective reliability, probability of failure, and availability (e.g. MTBF (mean time between failure)) values for equipment into which these relays are incorporated.

The MCTF figures can also be used as a basis to make comparative evaluations between relays with different styles of design or construction, and as an indication of product reliability under specific conditions.