

Safety requirements for electrical equipment for measurement, control and laboratory use —

Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes

The European Standard EN 61010-2-081:2002, incorporating
amendment A1:2003, has the status of a British Standard

ICS 19.080; 71.040.10

National foreword

This British Standard is the official English language version of EN 61010-2-081:2002, including amendment A1:2003. It is identical with IEC 61010-2-081:2002, including amendment 1:2003.

The UK participation in its preparation was entrusted to Technical Committee LBI/40, Electrical laboratory equipment, 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.

This British Standard is to be read in conjunction with with BS EN 61010-1:2001 *Safety requirements for electrical equipment for measurement, control, and laboratory use*, Part 1: *General requirements*, which it supplements or modifies as detailed in the Foreword to EN 61010-2-081.

Cross-references

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

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

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

This British Standard, having been prepared under the direction of the Materials and Chemicals Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 18 July 2002

Summary of pages

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14902	14 January 2004	Deletion of subclause 8.1.2, replacement of Figure AA.1 and deletion of Annex BB

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English version

Safety requirements for electrical equipment for
measurement, control and laboratory use —
Part 2-081: Particular requirements for automatic and
semi-automatic laboratory equipment for analysis and
other purposes

(including amendment A1:2003)
(IEC 61010-2-081:2001 + A1:2003, modified)

Règles de sécurité pour appareils électriques de
mesurage, de régulation et de laboratoire —

Partie 2-081: Prescriptions particulières pour
les appareils de laboratoire, automatiques et
semi-automatiques, destinés à l'analyse et
autres usages

(inclut l'amendement A1:2003)

(CEI 61010-2-081:2001 + A1:2003, modifiée)

Sicherheitsbestimmungen für elektrische
Mess-, Steuer-, Regel- und Laborgeräte —

Teil 2-081: Besondere Anforderungen an
automatische und semiautomatische
Laborgeräte für Analysen und andere Zwecke
(enthält Änderung A1:2003)

(IEC 61010-2-081:2001 + A1:2003, modifiziert)

This European Standard was approved by CENELEC on 2002-03-01. Amendment A1 was approved by CENELEC on 2003-10-01. 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, Hungary, Iceland, Italy, Lithuania, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the 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 66/260/FDIS, future edition 1 of IEC 61010-2-081, prepared by IEC TC 66, Safety of measuring, control, and laboratory equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61010-2-081 on 2002-03-01.

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) 2002-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-03-01

This Part 2-081 is to be used in conjunction with EN 61010-1:2001, Safety requirements for electrical equipment for measurement, control and laboratory use -- Part 1: General requirements.

This Part 2-081 supplements or modifies the corresponding clauses of EN 61010-1 so as to convert it into the European Standard: Safety requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes.

Where a particular clause or subclause of Part 1 is not mentioned in this Part 2-081, that clause or subclause applies as far as is reasonable. Where this Part 2-081 states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

In this standard:

- 1) the following print types are used:
 - requirements: in roman type;
 - NOTES: in smaller roman type;
 - *conformity and test: in italic type*;
 - terms used throughout this standard which have been defined in clause 3: SMALL ROMAN CAPITALS.
- 2) subclauses or figures which are additional to those in Part 1 are numbered starting from 101, additional annexes are lettered AA, BB, etc.

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annexes AA, BB and ZA are normative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61010-2-081:2001 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document 66/327/FDIS, future amendment 1 to IEC 61010-2-081:2001, prepared by IEC TC 66, Safety of measuring, control, and laboratory equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61010-2-081:2002 on 2003-10-01.

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Endorsement notice

The text of amendment 1:2003 to the International Standard IEC 61010-2-081:2001 was approved by CENELEC as an amendment to the European Standard without any modification.

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SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE –

Part 2-081: Particular requirements for automatic and semi-automatic laboratory equipment for analysis and other purposes

1 Scope and object

This clause of part 1 is applicable except as follows:

1.1 Scope

Replacement:

This part 2 applies to automatic and semi-automatic laboratory equipment for analysis and other purposes.

Automatic and semi-automatic laboratory equipment consists of instruments or systems for measuring or modifying one or more characteristics or parameters of samples, performing the complete process or parts of the process without manual intervention. Equipment forming part of such a system is within the scope of this standard.

Examples of equipment within the scope of this standard include:

- analytical equipment;
- automatic sampler (pipettor, aliquoter);
- equipment for sample replication and amplification.

NOTE 1 In the case of analytical equipment the complete process usually includes the following steps:

- taking a specific quantity of the sample;
- preparing the sample by chemical, thermal, mechanical or other means;
- measurement;
- display, transmission or printing of the results of measurement.

NOTE 2 If all or part of the equipment falls within the scope of one or more other part 2 standards of IEC 61010 as well as within the scope of this standard, it will also need to meet the requirements of those other parts 2 standards.

1.2 Object

1.2.1 Aspects included in scope

Replacement:

Replace the first sentence by the following:

The purpose of this standard is to ensure that the design and methods of construction used provide a high degree of protection at a TOLERABLE RISK for the OPERATOR and the surrounding area, using RISK management where specified (see 7.2.101 and annex AA).