

TECHNICAL REPORT

IEC
61010-3-051

First edition
1999-02

**Safety requirements for electrical equipment
for measurement, control, and laboratory use –**

Part 3-051:

**Conformity verification report for IEC 61010-2-051,
Particular requirements for laboratory equipment
for mixing and stirring**

*Règles de sécurité pour appareils électriques de mesurage,
de régulation et de laboratoire –*

Partie 3-051:

*Rapport de vérification de la conformité de la CEI 61010-2-051,
Prescriptions particulières pour appareils de laboratoire utilisés
pour mixer et agiter*



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For general terminology, readers are referred to IEC 60050: *International Electrotechnical Vocabulary* (IEV).

For graphical symbols, and letter symbols and signs approved by the IEC for general use, readers are referred to publications IEC 60027: *Letter symbols to be used in electrical technology*, IEC 60417: *Graphical symbols for use on equipment. Index, survey and compilation of the single sheets* and IEC 60617: *Graphical symbols for diagrams*.

* See web site address on title page.

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

	Page
FOREWORD	3
Conformity verification report for IEC 61010-2-051	5
Clause	
5 Marking and documentation	10
6 Protection against electric shock	15
7 Protection against mechanical hazards	23
8 Mechanical resistance to shock, vibration and impact (AM1 only) Mechanical resistance to shock and impact (AM 2)	25
9 Equipment temperature limits and protection against the spread of fire	25
10 Resistance to heat	27
11 Resistance to moisture and liquids (AM1 only) Protection against hazards from fluids (AM 2)	27
12 Protection against radiation, including laser sources, and against sonic and ultrasonic pressure	28
13 Protection against liberated gases, explosion and implosion	29
14 Components	30
15 Protection by interlocks	31
16 Measuring circuits	32
Annex K Routine tests	32
Tables	
1 Documents attached to this report	7
2 Test equipment list	8
3 List of components relied on for safety	9
Form A.1 to Form A.29	33 to 61

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT
FOR MEASUREMENT, CONTROL, AND LABORATORY USE –****Part 3-051: Conformity verification report for IEC 61010-2-051,
Particular requirements for laboratory equipment for mixing and stirring**

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.
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Technical reports do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

IEC 61010-3-051, which is a technical report, has been prepared by IEC technical committee 66: Safety of measuring, control, and laboratory equipment.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
66/183/CDV	66/208/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This report is a Technical Report and is of a purely informative nature and is therefore by itself not to be regarded as an international Standard. It is for use by testhouses and other users to assist them with determining and recording verification of conformity of the equipment under test with the requirements of:

IEC 61010-2-051:1995
and
IEC 61010-1:1990 + amendment 1:1992,
or
IEC 61010-1:1990 + amendment 1:1992 + amendment 2:1995

The protocol for completion of this report is contained in publication IEC 61010-3:1997.

Requirements which apply only to amendment 2 to IEC 61010-1 are indicated by "(AM 2)" in the first column. Requirements deleted by amendment 2 to IEC 61010-1 are indicated by "(AM 1 only)" in the second column.

The IEC sells read-only PDF files as a general rule. In the present instance, and quite exceptionally, to enable the user to fill in the forms, a revisable file is included in a pocket affixed to the back cover of this publication.

This publication can be downloaded from the Web as a PDF file. There is, however, at the end of the document, a revisable file containing the forms. Please use the zip/unzip function.

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Conformity Verification Report IEC 61010-2-051: Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-051:1995, Particular requirements for laboratory equipment for mixing and stirring	
Report reference No	
Compiled by (+ signature).....	
Approved by (+ signature)	
Date of issue.....	
Testing organization	
Address.....	
Testing location	
Applicant.....	
Address.....	
Standard	IEC 61010-1:1990 + amendment 1:1992 + amendment 2:1995 IEC 61010-2-051:1995
Copyright blank test report	This report has been prepared by IEC TC 66, which retains responsibility for any changes or corrections required.
Test procedure	
Procedure deviation	
Non-standard test method	
Type of item tested	Laboratory
Trade mark.....	
Model/type reference	
Manufacturer	
Rating	
Copy of rating plate:	

Description of equipment function

INSTALLATION/OVERVOLTAGE CATEGORY

POLLUTION DEGREE:

Environmental rating: Standard Other (specify):

Equipment mobility: Portable Hand-held Floorstanding Fixed
 Built in Benchmounted Other (specify):

Connection to mains supply: Permanent Detachable Non detachable None

Operating conditions: Continuous Short-time Intermittent

Overall size of the equipment (length × width × height):

Mass of the equipment (kg):

Marked degree of protection to IEC 60529: IP — —

Accessories and detachable parts included in the evaluation:

Options:

NOTE – "(see Form A.X)" refers to a Form appended to the report.

Table 1 – Documents attached to this report

[illegible]

Table 2 – Test equipment list

[illegible]

Table 3 – List of components relied on for safety

[illegible]

Clause Subclause	Requirement	Result	Comments
5	Marking and documentation		
5.1.1	General		
	Required equipment markings are:		
	a) visible:		
	– from the exterior		
	or		
	– after removing a cover		
	or		
	– opening a door		
	or		
	– after removal from a rack or panel		
	b) not put on parts which can be removed by an OPERATOR		
	c) Letter symbols (IEC 60027) used		
	d) Graphic symbols (IEC 61010-1:table 1) used		
5.1.2	Identification		
	Equipment is identified by:		
	– manufacturer's name or registered trade mark		
	– model number, name or other means		
	– the degree of protection, if any, according to IEC 60529		
5.1.3	Mains supply		
	Equipment is marked as follows:		
	a) nature of supply:		
	– a.c. RATED mains frequency or range of frequencies		
	– d.c. with symbol 1		
	b) RATED supply voltage(s) or range		
	c) – maximum RATED power (W or VA) or input current		
(AM 2)	If more than one voltage range:		
	– separate values marked		
	or		
	– values differ by less than 20 %		
F	(see Form A.3)		

Clause Subclause	Requirement	Result	Comments
	d) OPERATOR – set for different RATED supply voltages: – indicates the equipment set voltage – PORTABLE EQUIPMENT indication is visible from the exterior – changing the setting changes the indication e) Accessory mains socket-outlets accepting standard mains plugs are marked: – with the voltage if it is different from the mains supply voltage – for use only with specific equipment If not marked for specific equipment it is marked with: – the maximum RATED current or power, and maximum permitted leakage current - or – symbol 14 with full details in the documentation		
5.1.4	Fuses OPERATOR replaceable fuse marking (see also 5.4.5)		
5.1.5	Measuring circuit TERMINALS (AM 2) RATED maximum working voltage or current marked Unless clear indication that below limits: – maximum RATED voltage to earth is marked - or – for specific connection only, and means for identifying provided – is adjacent to TERMINALS - or – if insufficient space: – on the RATING plate or scale plate - or – if the TERMINAL is marked with symbol 14		

Clause Subclause	Requirement	Result	Comments
5.1.6	(AM 2) INSTALLATION CATEGORY marked		
	(AM 2) TERMINALS permanently connected and not ACCESSIBLE		
	TERMINALS and operating devices		
	Where necessary for safety, indication of purpose of TERMINALS, connectors, controls and indicators		
	(AM 2) Mains supply TERMINALS identified		
	(AM 2) Power supply switch on or off position marked if used as disconnecting device		
	TERMINAL marking:		
	a) FUNCTIONAL EARTH TERMINALS		
	b) PROTECTIVE CONDUCTOR TERMINALS:		
	– symbol 6 is placed close to or on the TERMINAL or – part of appliance inlet		
5.1.7	c) TERMINALS of measuring and control circuits		
	d) TERMINALS supplied from the interior		
	e) ACCESSIBLE FUNCTIONAL EARTH TERMINALS		
5.1.7	f) Position on or off of power supply switch (AM 1 only)		
	Equipment protected by DOUBLE INSULATION OR REINFORCED INSULATION		
	Protected throughout (symbol 11 used)		
5.1.8	Only partially protected (symbol 11 not used)		
	Battery charging		
	Equipment with means to charge rechargeable batteries is marked:		
	– to warn against the charging of non-rechargeable batteries		
	– to indicate the type of rechargeable battery used		