IEC 61010-2-033

Edition 3.0 2023-09
EXTENDED VERSION

INTERNATIONAL STANDARD

colour inside

This extended version of IEC 61010-2-033:2023 includes the content of the references made to IEC 61010-1:2010 and IEC 61010-1:2010/AMD1:2016

Safety requirements for electrical equipment for measurement, control, and laboratory use –
Part 2-033: Particular requirements for hand-held multimeters and other meters for domestic and professional use, capable of measuring mains voltage

IEC 61010-2-033:2023-09 EXV(en)

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

Part 1: General requirements

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by IEC technical committee 66: Safety of measuring, control and laboratory equipment.

The text of this interpretation sheet is based on the following documents:

ISH	Report on voting
66/497A/ISH	66/505/RVD

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

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IEC 61010-1:2010 contains a requirement in 6.8.3.1 pertaining to voltage testers for type tests as follows:

“The generator shall be able to supply a power of at least 500 VA.”

This has given rise to the following questions:

How does one interpret the requirement for voltage testers in 6.8.3.1 of IEC 61010-1:2010? Specifically, this subclause requires that “The generator shall be able to supply a power of at least 500 VA.” Does this requirement apply throughout the rated output range of the voltage tester? What is meant by the word “generator”? Is the “generator” the power supply within the voltage tester, or the voltage tester output, or something else?

Interpretation:

“A voltage tester used for type tests must be able to deliver at least 500 VA at its full-rated output voltage. It does not necessarily need to deliver 500 VA if set for lower voltages.

For example, a voltage tester that can deliver 100 mA at any test output voltage up to 5 000 V (and a current corresponding to 500 VA above 5 000 V) would meet the requirement.

The requirements for voltage testers used for routine (production line) tests are included in Annex F. The requirements of 6.8.3.1 do not apply to these voltage testers.”

February 2013 ICS 19.080, 71.040.10

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: General requirements

FOREWORD

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IEC 61010-2-033:2023 EXV includes the content of IEC 61010-2-033:2023, and the references made to IEC 61010-1:2010 and IEC 61010-1:2010/AMD1:2016.

The specific content of IEC 61010-2-033:2023 is displayed on a blue background.

IEC 61010-2-033 has been prepared by IEC technical committee 66: Safety of measuring, control and laboratory equipment. It is an International Standard.

This third edition cancels and replaces the second edition published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Clause 2, all normative references have been dated and new normative references have been added;
b) 4.4.2.101 is a new subclause about surge protective devices;
c) Subclause 6.6.101 modifies 6.6.101 and 6.6.102 of previous edition:
    1) in 6.6.101.1, insulating material of group I may be allowed for determination of CREEPAGE DISTANCES of measuring circuit TERMINALS;
    2) in 6.6.101.2, CLEARANCES and CREEPAGE DISTANCES up to 3 000 V for measuring circuit TERMINALS in unmated position have been defined;
    3) in 6.6.101.3, requirements for measuring circuit TERMINALS in partially mated position have been specified;
    4) in 6.6.101.4, requirements for measuring circuit TERMINALS in mated position have been specified;
    5) Subclause 6.6.101.5 replaces 6.6.102;
d) Subclause 6.101 replaces 6.9.101 of the previous edition with modifications;
e) 9.101 is a new subclause to consider the protection of measuring circuits against the spread of fire and arc flash;
f) in 9.101.2, relocation of 101.3 of previous edition;
g) in 9.101.3, relocation of 101.4 of previous edition;
h) in 101.3, relocation of Clause 102 of previous edition;
i) in K.2.1, another method for determination of CLEARANCES of secondary circuits is proposed;
j) in K.3.2, new Table K.15 and Table K.16 for CLEARANCE calculation;
k) Clause K.4 of the previous edition has been deleted;
l) Subclause K.101.4 has been reviewed;
m) Table K.104 of the previous edition has been deleted;
n) Annex AA: Figure AA.1 has been redesigned;
o) Annex EE: addition of a new informative annex for determination of CLEARANCES for the purposes of Table 101.

The text of this International Standard is based on the following documents:

Draft	Report on voting
66/787/FDIS	66/797/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement,