IEC 61010-2-201

Edition 2.0 2017-03

INTERNATIONAL STANDARD

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Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-201: Particular requirements for control equipment

Exigences de sécurité pour appareils électriques de mesurage, de régulation et de laboratoire – Partie 2-201: Exigences particulières pour les équipements de commande

IEC 61010-2-201:2017-03(en-fr)

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Partie 2-201: Exigences particulières pour les équipements de commande

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CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope and object 7
2 Normative references 9
3 Terms and definitions 9
4 Tests 12
5 Marking and documentation 13
6 Protection against electric shock 14
7 Protection against mechanical HAZARDS 28
8 Resistance to mechanical stresses 29
9 Protection against the spread of fire 30
10 Equipment temperature limits and resistance to heat 31
11 Protection against HAZARDS from fluids 37
12 Protection against radiation, including laser sources, and against sonic and ultrasonic pressure 37
13 Protection against liberated gases and substances, explosion and implosion 37
14 Components and subassemblies 38
15 Protection by interlocks 39
16 HAZARDS resulting from application 39
17 RISK assessment 39
Annexes 40
Annex E (informative) Guideline for reduction of POLLUTION DEGREES 41
Annex F (normative) ROUTINE TESTS 43
Annex L (informative) Index of defined terms 45
Annex AA (informative) General approach to safety for control equipment 46
Annex BB (informative) System drawing of isolation boundaries 48
Annex CC (informative) Historical techniques for secondary circuits 59
Annex DD (normative) Flammability test for magnesium alloy fire ENCLOSURES or flame barriers (see 9.3.2) 63
Annex EE (informative) Information/documentation and correlation to its uses 64
Annex FF (informative) Measurement of CLEARANCES and CREEPAGE DISTANCES 66
Bibliography 68

Figure 101 – Typical interface/port diagram of control equipment 16
Figure 102 – Requirements for insulation between separate circuits and between circuits and ACCESSIBLE conductive parts 22
Figure 103 – Mechanical HAZARDS, with regard to PANEL MOUNTED EQUIPMENT 28
Figure 104 – Spread of fire HAZARDS, with regard to PANEL MOUNTED EQUIPMENT 30
Figure 105 – General temperature test environment 33
Figure 106 – Vented equipment 34
Figure 107 – Non-vented equipment 35
Figure 108 – Panel mounted device extending through the wall of a cabinet 36

Figure AA.1 – Control equipment access and safety concerns 46
Figure BB.1 – Typical system ENCLOSURE layout 49
Figure BB.2 – Simplified system schematic 50
Figure BB.3 – HAZARD situation of the control equipment 51
Figure BB.4 – Application of the standard to the control equipment safety drawing 52
Figure BB.5 – Application of 6.7.1.5 items a) and b) to the control equipment safety drawing 52
Figure BB.6 – Application of 6.7.1.5 items a), b), c) and d) to the control equipment safety drawing 53
Figure BB.7 – REINFORCED INSULATION 54
Figure BB.8 – BASIC INSULATION 55
Figure BB.9 – REINFORCED INSULATION, BASIC INSULATION and PROTECTIVE IMPEDANCE 56
Figure BB.10 – REINFORCED INSULATION from external power supplies 57
Figure BB.11 – BASIC INSULATION from external power supplies 58
Figure EE.1 – Information/documentation for component products 64
Figure EE.2 – Information/documentation accumulation and segregation tree for an example installation 65
Figure FF.1 – The path a component mounted to a PWB (side view) 67
Figure FF.2 – The path a component mounted to a PWB (side view) 67

Table 101 – Overload test circuit values 12
Table 102 – Endurance test circuit values 13
Table 103 – OPERATOR ACCESSIBLE ports for open and ENCLOSED EQUIPMENT 17
Table 4 – CLEARANCE and CREEPAGE DISTANCES for MAINS CIRCUITS of OVERVOLTAGE CATEGORY II up to 300 V 24
Table 5 – Test voltages for solid insulation between MAINS and between MAINS and secondary circuits OVERVOLTAGE CATEGORY II up to 300 V [d] 25
Table 6 – CLEARANCES and test voltages for secondary circuits derived from MAINS CIRCUITS of OVERVOLTAGE CATEGORY II up to 300 V 26
Table 104 – Minimum CREEPAGE and CLEARANCE in air of OVERVOLTAGE CATEGORY II up to 1 000 V at FIELD-WIRING TERMINALS [d, e] 27
Table 19 – Surface temperature limits, under NORMAL CONDITION 31
Table E.1 – Environmental situations 41
Table E.2 – Reduction of POLLUTION DEGREES (PD) 42
Table CC.1 – Limits of output current and output power for inherently limited power sources 61
Table CC.2 – Limits of output current, output power and RATINGS for over-current protective devices for non-inherently limited power sources 62
Table FF.1 – Dimensions of X 66

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-201: Particular requirements for control equipment

FOREWORD

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International Standard IEC 61010-2-201 has been prepared by IEC technical committee 65: Industrial-process measurement, control and automation.

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

FDIS	Report on voting
65/652/FDIS	65/657/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.

This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

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

a) clarify, change, delete definitions which were causing confusion,

b) change and clarify the temperature testing methodology,

c) change documentation methodologies allowed,

d) change some TERMINAL markings,

e) add clarity to some of the informative annexes,

f) add Annex E with changes,

g) add Annexes AA – FF.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-201 is intended to be used in conjunction with IEC 61010-1. It was established on the basis of the third edition (2010) of that standard. Consideration may be given to future editions of, or amendments to, IEC 61010-1.

This Part 2-201 supplements or modifies the corresponding clauses in IEC 61010-1 so as to convert that publication into the IEC standard: *Particular requirements for control equipment*.

Where a particular subclause of Part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this part states “addition”, “modification”, “replacement”, or “deletion”, the relevant requirement, test specification or NOTE in Part 1 should be adapted accordingly.

In this standard, the following print types are used:

– requirements and definitions: in roman type;

– NOTES: in smaller roman type;

– *conformity and tests: in italic type*;

– terms used throughout this standard which have been defined in Clause 3: SMALL ROMAN CAPITALS.

A list of all parts in the IEC 61010 series, published under the general title *Safety requirements for electrical equipment for measurement, control and laboratory use*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

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INTRODUCTION

IEC 61010-2-2xx documents are a series of standards on safety of industrial-process measurement, control and automation equipment.

This part specifies the complete safety related requirements and related tests for control equipment (e.g. programmable controller (PLC), the components of distributed control systems (DCS), I/O devices, human machine interface (HMI)).

Safety terms of general use are defined in IEC 61010-1. More specific terms are defined in each part of IEC 61010.

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

Part 2-201: Particular requirements for control equipment

1 Scope and object

This clause of Part 1 is applicable, except as follows.

1.1.1 Equipment included in scope

Replacement:

- This part of IEC 61010 specifies safety requirements and related verification tests for any product performing the function of control equipment and/or their associated peripherals. In addition, these products have as their intended use the command and control of machines, automated manufacturing and industrial processes, e.g. discrete and continuous control. Some equipment examples are: programmable logic controller (PLC);
- programmable automation controller (PAC);
- distributed control systems (DCS);
- remote I/O;
- industrial PC (computers) and panel PC;
- programming and debugging tools (PADTs);
- displays and human-machine interfaces (HMI);
- positioners.

Components of the above named equipment and in the scope of this standard are:

- (auxiliary) stand-alone power supplies;
- peripherals such as digital and analogue I/O, remote-I/O;
- industrial network equipment.

Control equipment and their associated peripherals are intended to be used in an industrial environment and may be provided as OPEN or ENCLOSED EQUIPMENT.

NOTE 1 Control equipment intended also for use in other environments or for other purposes (example: for use in building installations to control light or other electrical installations, or for use on cars, trains or ships) can have additional conformity requirements defined by the safety standard(s) for these applications. These requirements can involve as example: insulation, spacings and power restrictions.

NOTE 2 Computing devices and similar equipment within the scope of IEC 60950 (planned to be replaced by IEC 62368) and conforming to its requirements are considered to be suitable for use with control equipment within the scope of this standard. However, some of the requirements of IEC 60950 for resistance to moisture and liquids are less stringent than those in IEC 61010-1:2010, 5.4.4 second paragraph.

Control equipment covered in this standard is intended for use in OVERVOLTAGE CATEGORY II, III and IV (IEC 60664-1) in low-voltage installations, where the RATED equipment supply voltage does not exceed AC. 1 000 V r.m.s. (50/60 Hz), or DC 1 000 V.

The requirements of ISO/IEC Guide 51 and IEC Guide 104, as they relate to this part of IEC 61010, are incorporated herein.