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Interested committees:

Title: Draft BS IEC 61010-2-203 Safety requirements for electrical equipment for measurement, control and laboratory use. Part 2-203: Particular requirements for industrial communication circuits and communication port interconnection.

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- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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Full document details: 20/30394773 DC

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



65/824/CD

COMMITTEE DRAFT (CD)

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IEC 61010-2-203 ED1

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CLOSING DATE FOR COMMENTS:

2020-10-30

SUPERSEDES DOCUMENTS:

65/734/NP, 65/750A/RVN

IEC TC 65 : INDUSTRIAL-PROCESS MEASUREMENT, CONTROL AND AUTOMATION

SECRETARIAT:

France

SECRETARY:

Mr Rudy BELLIARDI

OF INTEREST TO THE FOLLOWING COMMITTEES:

TC 66

PROPOSED HORIZONTAL STANDARD:



Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☒ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-203: Particular requirements for industrial communication circuits and communication port interconnection

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR
MEASUREMENT, CONTROL AND LABORATORY USE –****Part 2-203: Particular requirements for industrial communication circuits
and communication port interconnection**

FOREWORD

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International Standard IEC 61020-2-203 has been prepared by committee TC65: Industrial-process measurement and automation.

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

CD	Report on voting
65/XX/CD	XX/XX/RVC

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

This Part 2-203 is to be used in conjunction with the latest edition of IEC 61010-1. It was established on the basis of IEC 61010-1 Edition 3.1.

136 The Annex(ex) form an integral part of this standard.

137 The committee has decided that the contents of this publication will remain unchanged until
138 the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data
139 related to the specific publication. At this date, the publication will be

- 140 • reconfirmed,
- 141 • withdrawn,
- 142 • replaced by a revised edition, or
- 143 • amended.

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INTRODUCTION

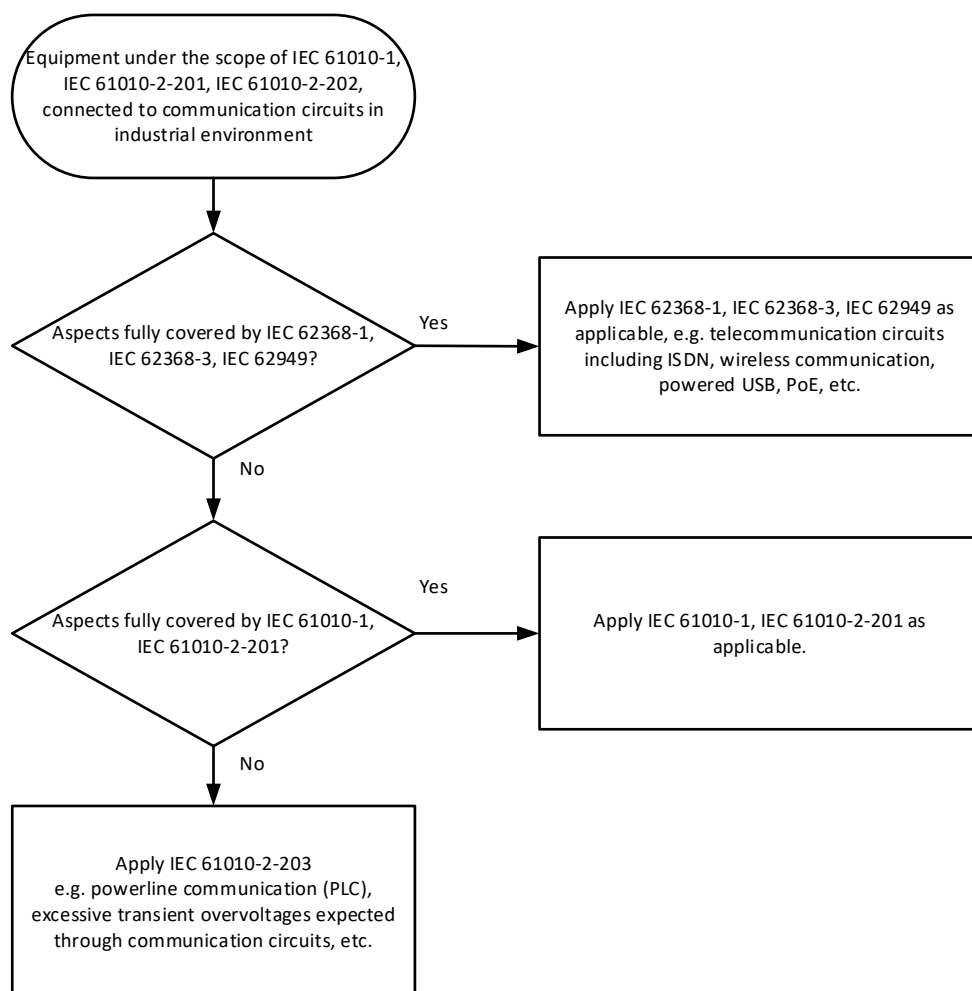
IEC 61010-2-2xx documents are a series of standards on safety of industrial-process measurement, control and automation equipment.

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

Part 2-203 incorporates the safety related requirements for industrial COMMUNICATION CIRCUITS.

This document compliments IEC 62368-1, where IEC 62368-1 applies to domestic and commercial equipment, covering mostly one-to-one connections without considering the whole communication network that can contain several COMMUNICATION PROTOCOLS.

Thus, industrial COMMUNICATION CIRCUITS might require additional consideration based on the expected transients of interconnected equipment, where the equipment is supplied from different mains with different overvoltage categories (OVC), or where environmental factors may affect the COMMUNICATION CIRCUITS.



Additional requirements for equipment having the capability to supply DC power over commonly used communication cables, such as USB or Ethernet (PoE), are given in IEC 62368-3.

Additional requirements for equipment acting as communication end device connected to information and communication networks, where no further interfaces to other nets need to be considered, are covered in IEC 62949.

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

Part 2-203: Particular requirements for industrial communication circuits and communication port interconnection

1 Scope and object

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

1.1.1 Equipment included in scope

Replacement:

Replace the text by the following paragraphs:

This part of IEC 61010 specifies:

This part of IEC 61010 specifies particular safety requirements for industrial COMMUNICATION CIRCUITS and their INTERCONNECTION where equipment is intended to be installed in a process or discrete control environment.

NOTE – The equipment could be connected to an overall communication network.

These include COMMUNICATION CIRCUITS and INTERCONNECTIONS which are part of electrical test and measurement equipment or process control equipment, where these are intended to be used in an industrial environment.

Type of COMMUNICATION CIRCUITS covered:

NOTE – Any industrial process control equipment can have more than one COMMUNICATION CIRCUIT.

- COMMUNICATION CIRCUITS with COMMUNICATION PROTOCOLS below 50 V r.m.s., 70 V peak and 120 V DC, where the COMMUNICATION CIRCUIT is expected to be exposed to excessive transients in the end use installation.

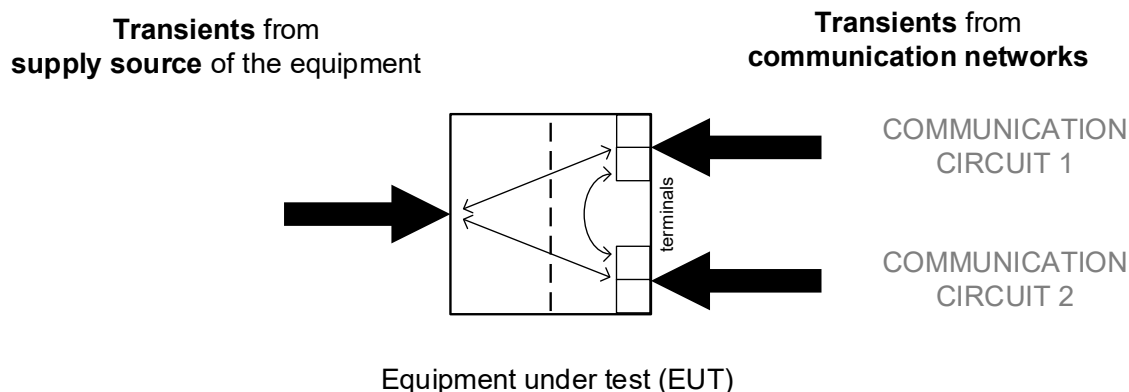


Figure 1 – Equipment under test (EUT)

NOTE 1 – Excessive overvoltage transients can occur from the equipment supply sources or from COMMUNICATION CIRCUIT terminals. A mismatch of overvoltage transients for equipment interconnected through a COMMUNICATION CIRCUIT can result in an electrical shock hazard.

NOTE 2 – Excessive overvoltage transients through the supply sources can occur in COMMUNICATION PROTOCOLS of secondary circuits when the expected overvoltage transient from the supply source may be equal to or exceed 2500 V peak.

Example:

- Supply from an OVC III supply source, with a line to neutral voltage exceeding 150 V r.m.s.
- Supply from an OVC II supply source, with a line to neutral voltage exceeding 300 V r.m.s.