



SLOVENSKI STANDARD
oSIST prEN IEC 63316:2023
01-april-2023

Oprema za avdio/video, informacijsko in komunikacijsko tehnologijo - Varnost - Prenos moči med vrati komunikacijske opreme z uporabo komunikacijskih kablov pri ≥ 60 Vd.c. in AC

Audio/Video, Information and Communication Technology Equipment - Safety - Power transfer between Communications equipment ports using Communications cabling at ≥ 60 Vd.c. and AC

ITEH STANDARD PREVIEW
(standards.iteh.ai)

Equipements des technologies de l'audio/vidéo, de l'information et de la communication - Sécurité - Transfert de puissance entre les accès d'équipements de communication au moyen de câblages de communication ≥ 60 V en courant continu et en courant alternatif

Ta slovenski standard je istoveten z: prEN IEC 63316:2023

ICS:

31.020	Elektronske komponente na splošno	Electronic components in general
33.160.01	Avdio, video in avdiovizualni sistemi na splošno	Audio, video and audiovisual systems in general

oSIST prEN IEC 63316:2023

en,fr,de



108/799/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:

IEC 63316 ED1

DATE OF CIRCULATION:

2023-01-27

CLOSING DATE FOR VOTING:

2023-04-21

SUPERSEDES DOCUMENTS:

108/773/CD, 108/792/CC

IEC TC 108 : SAFETY OF ELECTRONIC EQUIPMENT WITHIN THE FIELD OF AUDIO/VIDEO, INFORMATION TECHNOLOGY AND COMMUNICATION TECHNOLOGY

SECRETARIAT:

United States of America

SECRETARY:

Ms Valara Davis

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:

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

FUNCTIONS CONCERNED:

 EMC ENVIRONMENT QUALITY ASSURANCE SAFETY SUBMITTED FOR CENELEC PARALLEL VOTING NOT SUBMITTED FOR CENELEC PARALLEL VOTING**Attention IEC-CENELEC parallel voting**

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

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,
- any relevant "in some countries" clauses to be included should this proposal proceed. Recipients are reminded that the enquiry stage is the final stage for submitting "in some countries" clauses. See AC/22/2007.

TITLE:

Audio/Video, Information and Communication Technology Equipment – Safety – Power transfer between Communications equipment ports using Communications cabling at ≥ 60 Vd.c. and AC

PROPOSED STABILITY DATE: 2027

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY
EQUIPMENT – SAFETY – POWER TRANSFER BETWEEN
COMMUNICATIONS EQUIPMENT PORTS USING COMMUNICATIONS
CABLING AT ≥ 60 V D.C. AND AC –**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 63316 was prepared by IEC Technical Committee 108, Safety of electronic equipment within the field of audio/video, information technology and communication technology. This standard is intended to replace Clause 6 of IEC 62368-3 upon publication.

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

Draft	Report on voting
108/XX/FDIS	108/XX/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, available

117 at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are
118 described in greater detail at www.iec.ch/publications.

119 The committee has decided that the contents of this document will remain unchanged until the
120 stability date indicated on the IEC website under webstore.iec.ch in the data related to the
121 specific document. At this date, the document will be

- 122 • reconfirmed,
- 123 • withdrawn,
- 124 • replaced by a revised edition, or
- 125 • amended.

126

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127

INTRODUCTION

128 This standard prescribes safeguards, test methods and compliance requirements intended to reduce
129 the risk of fire associated with voltage and current at voltages greater than 60 V DC and AC.
130

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131 **AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY**
 132 **EQUIPMENT – SAFETY – POWER TRANSFER BETWEEN**
 133 **COMMUNICATIONS EQUIPMENT PORTS USING COMMUNICATIONS**
 134 **CABLING AT ≥ 60 V D.C. AND AC**
 135
 136
 137

138 **1 Scope**

139 This standard applies to equipment ports intended to supply and receive operating power from
 140 communications equipment ports using communication wires and cables. It covers particular
 141 requirements for circuits that are designed to transfer AC or DC power from a power sourcing
 142 equipment (PSE) to a powered device (PD), including repeaters, amplifiers, Optical Network
 143 Units, Remote DSLAMS, service provider terminating equipment, remote telecommunications
 144 cabinets and equipment, and midspan passive equipment connected to the PSE and PD.

145 The power transfer of equipment ports covered by this standard uses non-mains AC voltages or
 146 DC voltages

147 ≥ 60 V DC classified as ES2 as defined in IEC 62368-1:2018 or, in some very controlled cases,
 148 classified as ES3 as defined in IEC 62368-1:2018.

149 EXAMPLES

- 150 - DC power transfer using voltages ≥ 60 V DC but ≤ 120 V DC, classified as ES2;
- 151 - Some telecommunications networks where the voltage was formerly called TNV-3 (see IEC 62368-1:2018, Table
 152 W.3), typically used for line/span/express powering outside North America, Long Range Reverse Power Feeding,
 153 HDSLx line powering ISDN, Line Powering Primary Rate E1.
- 154 - Some North American telecommunications networks between the utility service providers' PSE and service
 155 providers side of the PD at the PNI.
- 156 - For DC power transfer using voltages ≥ 120 V DC at ES3: RFT circuits and the associated telecommunications
 157 network equipment and cabling used by communications service providers and communications utilities (for
 158 example, line powered E1/T1, HDSLx, SHDSLx, xDSL, repeaters, and telecommunications line powering
 159 up/down converters), Optical Network Units, remote DSLAMS, etc. These RFT circuits are used between the
 160 utility service providers PSE and service providers side of the PD at the PNI. The customer facing ports of this
 161 equipment are ≤ 60 V DC that are covered by IEC 62368-1:2018, see Annex A for deployment topologies.
- 162 - For AC/DC remote powering voltage above ES1 over coaxial cable in circuits used by cable television utility
 163 service providers for repeaters, amplifiers, Optical Network Units. The customer facing ports of this equipment
 164 are ≤ 60 V DC that are covered by IEC 62368-1:2018.

165 NOTE 1 Any communications cable that permits power transfer between communications equipment is considered a
 166 communication cable even if communication does not take place. For example, a line-powering
 167 upconverter/downconverter used to power remote telecommunications equipment, may just provide limited
 168 communications RFT power and not necessarily any superimposed data or signalling.

169 This standard does not cover equipment ports within the scope of IEC 63315, which covers
 170 equipment intended to supply and/or receive charging and/or operating power from ICT ports
 171 such as PoE, USB, HDMI, audio/visual, etc. This standard does not cover ringing signals that
 172 are in the scope of IEC 62949:2017.

173 This standard does not cover traditional telecommunications technologies which operate at ≤ 60
 174 V DC (circuits classified as ES1 and Table ID1 in IEC 62368-1:2018) with or without ringing
 175 signals (classified as ES2 and external port ID1 in IEC 62368-1:2018) as those are adequately
 176 covered in IEC 62368-1:2018. Examples include Analogue Telephony, ISDN, T1, E1, VDSL,
 177 SHDSL, DDS, etc.

178 NOTE 2 Communications over mains and high-voltage power transmission and distribution lines are beyond the scope
 179 of this standard.

180 2 Normative references

181 The following documents are referred to in the text in such a way that some or all of their content
182 constitutes requirements of this document. For dated references, only the edition cited applies.
183 For undated references, the latest edition of the referenced document (including any
184 amendments) applies.

185 IEC 60479-1:2018: *Effects of current on human beings and livestock - Part 1: General aspects*

186 IEC TS 60479-1:2005/AMD1:2016: *Amendment 1 - Effects of current on human beings and*
187 *livestock - Part 1: General aspects*

188 IEC TS 60479-1:2005/COR2: *Corrigendum 2 - Effects of current on human beings and livestock*
189 *- Part 1: General aspects*

190 IEC 60479-2: *Effects of current on human beings and livestock - Part 2: Special aspects*

191 IEC 60664-1:2020: *Insulation coordination for equipment within low-voltage supply systems -*
192 *Part 1: Principles, requirements and tests*

193 IEC 60695-11-5:2016: *Fire hazard testing - Part 11-5: Test flames - Needle-flame test method*
194 *- Apparatus, confirmatory test arrangement and guidance*

195 IEC 60728-11: *Cable networks for television signals, sound signals and interactive services -*
196 *Part 11: Safety*

197 IEC 60749-11: *Semiconductor devices - Mechanical and climatic test methods - Part 11: Rapid*
198 *change of temperature - Two-fluid-bath method*

199 IEC 62368-1:2018: *Audio/video, information and communication technology equipment - Part*
200 *1: Safety requirements*

201 IEC 62368-1:2018: *Audio/video, information and communication technology equipment - Part*
202 *1: Safety requirements*

203 IEC 62368-3: *Audio/video, information and communication technology equipment - Part 3:*
204 *Safety aspects for DC power transfer through communication cables and ports*

205 IEC 62949:2017: *Particular safety requirements for equipment to be connected to information*
206 *and communication technology networks*

207 IEC 62949:2017: *Particular safety requirements for equipment to be connected to information*
208 *and communication technology networks*

209 IEC 63315: *Audio/Video, Information and Communication Technology Equipment – Safety –*
210 *DC power transfer between ICT equipment ports using ICT cabling at ≤ 60 Vd.c.*

211 ISO/IEC/IEEE 8802-3:2021: *Telecommunications and exchange between information*
212 *technology systems - Requirements for local and metropolitan area networks - Part 3: Standard*
213 *for Ethernet*

214 ITU-T K.50: *Safe limits for operating voltages and currents of telecommunication systems*
215 *powered over the network*

216 ITU-T K.50:2018: *Safe limits for operating voltages and currents of telecommunication systems*
217 *powered over the network*

- 218 ITU-T K.64: *Safe working practices for outside equipment installed in particular environments*
- 219 ATIS 0600337: *Requirements for Maximum Voltage, Current, and Power Levels Used in*
220 *Communications Transport Circuits*
- 221 DIN VDE 0800-3: *Part 3: Safety of installations with remote power feeding*
- 222 IEEE 802.3: *IEEE Standard for Ethernet*
- 223 NFPA 70: *National Electrical Code*
- 224 Telcordia GR-1089-CORE: *Electromagnetic Compatibility and Electrical Safety*
- 225 UL 2391: *UL LLC Outline of Investigation for Equipment with Remote Feeding*
226 *Telecommunication Circuits Intended for Backwards Compatibility in Legacy*
227 *Telecommunication Equipment*

228 **3 Terms and definitions**

229 **3.1 Terms and definitions**

230 For the purposes of this document, the terms and definitions given in IEC 62368-1:2018 and
231 the following apply. Terms and definitions from IEC 62368-1:2018 are indicated in **bold**.

232 ISO and IEC maintain terminology databases for use in standardization at the following
233 addresses:

- 234 • IEC Electropedia: available at <https://www.electropedia.org/>
- 235 • ISO Online browsing platform: available at <https://www.iso.org/obp>

236 **3.1.1** [https://standards.iteh.ai/catalog/standards/sist/930f2482-d978-4d27-bc76-](https://standards.iteh.ai/catalog/standards/sist/930f2482-d978-4d27-bc76-c5e221fe2ccc/osist-pr-en-iec-63316-2023)
237 **building wiring** [c5e221fe2ccc/osist-pr-en-iec-63316-2023](https://standards.iteh.ai/catalog/standards/sist/930f2482-d978-4d27-bc76-c5e221fe2ccc/osist-pr-en-iec-63316-2023)
238 ICT and AV wires or cables that are intended to be installed wholly within a structure

239 EXAMPLE 1 Wire or cables installed in walls, under floors, in plenums, risers, etc. in a building or structure, that are
240 used to connect ICT and AV equipment in different locations within the building and that is not mains. It also includes
241 devices associated with the interconnection of the equipment. The cables may be conductive or non-conductive, such
242 as Fiber Optic cable and connectorization.

243 Note 1 to entry: Under certain circumstances, **building wiring (3.1.1)** may run outside the building for connection to
244 equipment (for example, a video camera outside of the building).

245 Note 2 to entry: Within this standard **building wiring (3.1.1)** excludes dedicated controlled wires and cables for
246 connecting known equipment on each end at the time of installation.

247 **3.1.2**

248 **power sourcing equipment**

249 **PSE**

250 equipment, other than dedicated external power supply unit intended to supply specific
251 equipment, supplying AC or DC power from a communications port to other communications
252 equipment through communications wiring or cables

253 Note 1 to entry: It should be noted that ISO/IEC/IEEE 8802-3:2021 has a similar but different definition, however PoE
254 is not covered by this document.

255 **3.1.3**

256 **powered device**

257 **PD**

258 equipment supplied with AC or DC power by a **PSE (3.1.2)** into a communications port from
259 communications wiring or cables