



SLOVENSKI STANDARD
oSIST prEN IEC 63315:2024
01-oktober-2024

Oprema za avdio/video, informacijsko in komunikacijsko tehnologijo - Varnost - Prenos moči enosmernega toka med vrati komunikacijske opreme IKT z uporabo napeljave in kablov IKT pri ≤ 60 V pri enosmernem toku

Audio/Video, information and communication technology equipment – Safety – DC power transfer between ICT equipment ports using ICT wiring and cables at ≤ 60 V DC

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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
35.020	Informacijska tehnika in tehnologija na splošno	Information technology (IT) in general

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en



108/828/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: IEC 63315 ED1	
DATE OF CIRCULATION: 2024-08-16	CLOSING DATE FOR VOTING: 2024-11-08
SUPERSEDES DOCUMENTS: 108/813/CD, 108/824/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: TC 23,TC 34,TC 61,TC 62,TC 72,TC 100	HORIZONTAL FUNCTION(S): TC 108 Horizontal Group Safety
ASPECTS CONCERNED: Safety	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING	<input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING
<p>Attention IEC-CENELEC parallel voting</p> <p>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.</p> <p>The CENELEC members are invited to vote through the CENELEC online voting system.</p>	

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Recipients of this document are invited to submit, with their comments, notification of any relevant "In Some Countries" clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (SEE [AC/22/2007](#) OR [NEW GUIDANCE DOC](#)).

TITLE:

Audio/Video, Information and Communication Technology Equipment – Safety – DC power transfer between ICT equipment ports using ICT wiring and cables at ≤ 60 V DC

PROPOSED STABILITY DATE: 2030

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY
EQUIPMENT – SAFETY – DC POWER TRANSFER BETWEEN ICT
EQUIPMENT PORTS USING ICT WIRING AND CABLES AT ≤ 60 V DC**

FOREWORD

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IEC 63315 has been prepared by IEC technical committee 108: Safety of electronic equipment within the field of audio/video, information technology and communication technology. It is an International Standard.

This first edition cancels and replaces IEC 62368-3:2017, Clause 5. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 62368-3, Clause 5:

- a) Establishes unique requirements for **local ICT interfaces (3.9)** and **remote ICT interfaces (3.11)**;
- b) Addition of requirements for **non-static power sources (3.12)**, including **supplementary safeguards** for PS3;
- c) Addition of **protocol (3.10) safeguards** for **data packet negotiated power systems (3.7)**;
- d) Addition of cable requirements.

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

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

125
126 Full information on the voting for its approval can be found in the report on voting indicated in
127 the above table.

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

129 This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in
130 accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available
131 at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are
132 described in greater detail at www.iec.ch/publications.

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

- 136 • reconfirmed,
- 137 • withdrawn,
- 138 • replaced by a revised edition, or
- 139 • amended.

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140

INTRODUCTION

141 This document prescribes **safeguards**, test methods and compliance requirements intended to
142 reduce the risk of fire associated with voltage and current used by standardized, common ICT
143 interfaces that are used for power delivery at voltages not exceeding 60 V DC.

144 This document may be used with IEC 62368-1 or other electrotechnical product standards to
145 provide additional **safeguards** when products with common ICT interfaces are connected.

146 IEC 62368-1 defines **power source (PS)** energy levels with **safeguards** to reduce risk of fire. IEC
147 63315 defines interface compatibility **safeguards** to address disparity between the power expected by
148 the **powered device (3.3)** and the available power from of **power sourcing equipment (3.2)** by
149 establishing expected values which can be tested respectively and independently.

150 This document does not replace the requirements of other applicable safety standards.

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152 **AUDIO/VIDEO, INFORMATION AND COMMUNICATION TECHNOLOGY**
153 **EQUIPMENT – SAFETY – DC POWER TRANSFER BETWEEN ICT**
154 **EQUIPMENT PORTS USING ICT WIRING AND CABLES AT ≤ 60 V DC**
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158 **1 Scope**

159 This document applies to any equipment intended to supply and/or receive charging and/or
160 operating power from Information and Communication Technology (ICT) interfaces using ICT
161 wiring or cables. It covers particular requirements for circuits that are designed to transfer DC
162 power through an ICT interface from a **power sourcing equipment (PSE (3.2))** to a **powered**
163 **device (PD (3.3))** for equipment that uses rated interfaces at voltage not exceeding 60 V DC
164 and PS2 or PS3.

165 Examples of equipment interfaces that are considered to be within the scope of this document:

- 166 – PoE
- 167 – USB
- 168 – HDMI
- 169 – etc.

170 NOTE 1 Any wiring or cable that permits DC power transfer between ICT equipment is considered a communication
171 cable or ICT cable even if communication does not take place on the conductors. For example, a USB cable can be
172 used just to recharge a portable **device battery**.

173 **PSE (3.2)** and **PD (3.3)** using other **power delivery specifications (3.1)** that differ from the industry
174 standard **power delivery specification (3.1)** defined for use with the industry standard connector are
175 in scope of this document.

176 **Non-static power sources (3.12)** and **static power sources (3.13)** are covered in this document.

177 Unless otherwise stated, this document does not cover:

- 178 – power sources with output connectors not associated with a local ICT interface (3.9) or
179 remote ICT interface (3.11);
- 180 – power sources with custom connectors that are not interchangeable with common ICT
181 interface connectors;
- 182 – non-static power sources (3.12) which can deliver power to multiple **PDs (3.3)** through a
183 single port or cable simultaneously;
- 184 – power sources with only wireless power transfer;
- 185 – power sources which utilize a wireless communication **protocol (3.10)** to control the
186 power transfer through a physical cable connection.
- 187 – remote feeding telecommunication (RFT) circuits and other specific communication
188 technologies within the scope of IEC 63316.

189 NOTE 2 A custom connector is a connector that is not used with an industry communication standard.

190 NOTE 3 Bluetooth® is an example of a wireless communication **protocol (3.10)** to control the power transfer through
191 a physical cable connection.

192 Refer to Annex E for examples of common interfaces which are in or out of scope of this
193 document.

194 **2 Normative references**

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

199 IEC 60730-1:2022 – *Automatic electrical controls – Part 1: General requirements*

200 IEC 61784-3:2021, *Industrial communication networks – Profiles – Part 3: Functional safety*
201 *fieldbuses - General rules and profile definitions*

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

204 IEC 62680-1-1:2015, *Universal serial bus interfaces for data and power – Part 1-1: Common*
205 *components – USB Battery Charging Specification, Revision 1.2*

206 IEC 62680-1-2:2022, *Universal serial bus interfaces for data and power – Part 1-2: Common*
207 *components – USB Power Delivery specification*

208 IEC 63002:2021, *Interoperability specifications and communication method for external power*
209 *supplies used with computing and consumer electronics devices*

210 **3 Terms and definitions and abbreviated terms**

211 For the purposes of this document, the terms and definitions from IEC 62368-1 and in this
212 document are indicated in bold.

213 ISO and IEC maintain terminology databases for use in standardization at the following
214 addresses:

- 215 • IEC Electropedia: available at <https://www.electropedia.org/3f4974c194f4/osist-pren-iec-63315-2024>
216 • ISO Online browsing platform: available at <https://www.iso.org/obp>

217 **3.1**218 **power delivery specification**

219 formal statement of those characteristics of a particular ICT interface necessary to ensure
220 power delivery compatibility between the **power sourcing equipment (3.2)**, **powered device**
221 **(3.3)**, cable, and connector interface

222 NOTE 1 to entry: A **power delivery specification (3.1)** will normally indicate the **protocol (3.10)** and procedures
223 which determine if the (given) requirements are fulfilled, including voltage, current, and power ranges.

224 NOTE 2 to entry: A **power delivery specification (3.1)** may include one or more documents, including design,
225 interoperability, and/or test specifications.

226 NOTE 3 to entry: An industry standard **power delivery specification (3.1)** is the specification for the industry
227 standard connector. Other **power delivery specifications (3.1)** may exist, including a manufacturer's specification,
228 which differ from the industry standard **power delivery specification (3.1)**.

229 [SOURCE: IEC ref 716-01-011, modified]

230 **3.2**231 **power sourcing equipment**232 **PSE**

233 equipment supplying DC power from an ICT interface to a **PD (3.3)** through ICT wiring or cables.

234 [ITU-T K.50:2018, 3.2.11, power sourcing equipment, modified]

235 NOTE 1 to entry: It should be noted that ISO/IEC/IEEE 8802-3:2021 has a different definition.

236 **3.3**
237 **powered device**
238 **PD**

239 equipment supplied with DC power through its ICT interface by a **PSE (3.2)** into an ICT interface
240 via ICT wiring or cables [ITU-T K.50:2018, 3.2.10, powered equipment; PDE, modified]

241 NOTE to entry: It should be noted that ISO/IEC/IEEE 8802-3:2021 has a different definition.

242 **3.4**
243 **information and communication technology network**
244 **ICT network**

245 transmission medium, including its associated equipment, ICT wiring and communication cables

246 NOTE 1 to entry: An ICT cable consists of two or more conductors intended for communication and/or power transfer
247 between the various parts of ICT equipment. The equipment may be located within the same or separate structures,
248 buildings or locations, excluding:

249 – the **mains** system for supply, transmission and distribution of electrical power, if used as a communication
250 transmission medium;

251 – a dedicated HBES/BACS network. The requirement for interconnection with external circuits in an HBES/BACS
252 network is given in IEC 63044-3.

253 NOTE 2 to entry: This may include some twisted pair circuits, and may include circuits, that are subjected to transients
254 as indicated by Table 13 of IEC 62368-1

255 NOTE 3 to entry: An **ICT network** may be:

256 – publicly or privately owned;

257 – subject to longitudinal (common mode) as well as transverse (differential) voltages and currents induced from
258 nearby power lines or electric traction lines.

259 NOTE 4 to entry: ICT wiring and cables include common audio and video (AV) connectors used with ICT
260 equipment (e.g. HDMI) but does not include AV connectors providing power for acoustics (e.g. audio amplifiers
261 connectors for speakers)

262 **3.5**
263 **building wiring**
264 **ICT or AV wires or cables that are intended to be installed wholly within a structure**

265 EXAMPLE 1 Wires or cables installed in walls, under floors, in plenums, risers, etc. in a building or structure, that
266 are used to connect ICT and AV equipment in different locations within the building and that is not **mains**. It also
267 includes **devices** associated with the interconnection of the equipment, LAN cables, telecommunication cables, data
268 cables, patch panels, connectors, etc.

269 NOTE 1 to entry: Under certain circumstances **building wiring (3.5)** may run outside the building for connection to
270 equipment (for example, a video camera outside of the building).

271 NOTE 2 to entry: **Building wiring (3.5)** also includes **devices** associated with the interconnection of the equipment.
272 The cables may be conductive or non-conductive, such as optical fiber cable.

273 **3.6**
274 **cyclic redundancy check**
275 **CRC**
276 cyclic code used to protect messages from the influence of data corruption

277 NOTE 1 to entry: A **CRC's (3.6)** code (i.e. check value) is generated using message data and a generating polynomial.

278 NOTE 2 to entry: A **CRC's (3.6)** code can be provided with various lengths in bits, referred to as a n-bit **CRC (3.6)**
279 where the n is the number bits of the check value.

280 NOTE 3 to entry: A **CRC's (3.6)** code is appended to the **protocol (3.10)** message which is used to validate data
281 integrity on the receiving end.

282 [SOURCE: IEC ref 821-11-10, cyclic redundancy check, modified]