



SLOVENSKI STANDARD
kSIST-TS CLC ISO/IEC/FprTS 29125:2025
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Informacijska tehnologija - Zahteve za telekomunikacijske kable za daljinsko napajanje opreme terminalov

Information technology - Telecommunications cabling requirements for remote powering of terminal equipment

Informationstechnik - Anforderungen an die Telekommunikationsverkabelung zur Fernspeisung von Endgeräten

Technologies de l'information - Exigences de câblage des télécommunications pour téléalimentation d'équipement terminal

Ta slovenski standard je istoveten z: CLC ISO/IEC/FprTS 29125:2024

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ICS:

35.200	Vmesniška in povezovalna oprema	Interface and interconnection equipment
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Information technology - Telecommunications cabling
requirements for remote powering of terminal equipment
(ISO/IEC/TS 29125:2017 + AMD1:2020)

Technologies de l'information - Exigences de câblage des
télécommunications pour téléalimentation d'équipement
terminal
(ISO/IEC/TS 29125:2017 + AMD1:2020)

Informationstechnik - Anforderungen an die die
Telekommunikationsverkabelung zur Fernspeisung von
Endgeräten
(ISO/IEC/TS 29125:2017 + AMD1:2020)

This draft Technical Specification is submitted to CENELEC members for vote by correspondence.
Deadline for CENELEC: 2025-03-14.

The text of this draft consists of the text of ISO/IEC/TS 29125:2017 + AMD1:2020.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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

Warning : This document is not a Technical Specification. It is distributed for review and comments. It is subject to change without notice and shall not be referred to a Technical Specification.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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CLC ISO/IEC/FprTS 29125:2024 (E)

European foreword

This document (CLC ISO/IEC/FprTS 29125:2024) consists of the text of ISO/IEC/TS 29125:2017 and ISO/IEC/TS 29125:2017/AMD1:2020, prepared by ISO/IEC JTC 1/SC 25 “Interconnection of information technology equipment” of ISO/IEC JTC 1 “Information technology”.

This document is currently submitted to voting in accordance with the Internal Regulations, Part 2, Subclause 11.3.3 for acceptance as a CENELEC Technical Specification.

The following date is proposed:

- latest date by which the existence of (doa) dav + 6 months
this document has to be announced at
national level

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO/IEC 11801-1	-	Information technology – Generic cabling for customer premises – Part 1: General requirements	-	-
ISO/IEC 14763-2	-	Information technology – Implementation and operation of customer premises - cabling – Part 2: Planning and installation	-	-
ISO/IEC TR 24746	-	Information technology – Generic cabling for customer premises – Midspan DTE power insertion	-	-

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Information technology – Telecommunications cabling requirements for remote powering of terminal equipment

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INFORMATION TECHNOLOGY –

TELECOMMUNICATIONS CABLING REQUIREMENTS FOR REMOTE POWERING OF TERMINAL EQUIPMENT

FOREWORD

- 1) ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.
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The main task of the joint technical committee is to prepare International Standards. In exceptional circumstances, the joint technical committee may propose the publication of a Technical Specification when

- the required support cannot be obtained for the publication of an International Standard, despite repeated efforts, or
- when the subject is still under technical development or where, for any other reason, there is the future but not immediate possibility of an agreement on an International Standard.

Technical Specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

ISO/IEC TS 29125, which is a Technical Specification, has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This first edition cancels and replaces ISO/IEC TR 29125:2010. This edition constitutes a technical revision.

ISO/IEC TS 29125:2017 © ISO/IEC 2017 – 5 –

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

- a) extension of the current per conductor from 300 mA to 500 mA;
- b) provision of additional details of installation conditions that were not described in ISO/IEC TR 29125:2010;
- c) inclusion of guidelines for cords;
- d) inclusion of a model to calculate temperature rise in different bundle sizes.

This Technical Specification has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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INTRODUCTION

This document specifies the use of generic balanced cabling for customer premises, as specified in the ISO/IEC 11801 series, for remote powering of terminal equipment. It provides guidance on new cabling installations and renovations. The customer premises may encompass one or more buildings or may be within a building that contains more than one organization. The cabling may be installed prior to the selection of remote powering equipment or powered terminal equipment.

ISO/IEC 11801-1 specifies a structure and performance requirements for cabling subsystems that support a wide range of applications. They provide appropriate equipment interfaces to the cabling infrastructure in equipment rooms, telecommunications rooms and work areas.

A growing number of organizations employ equipment at locations that require the provision of remote powering. This document was created to provide supplementary information to ISO/IEC 11801-1 to implement remote powering over generic balanced cabling as specified in ISO/IEC 11801-1.

This document provides additional guidance for remote powering on the use of balanced cabling systems as specified in ISO/IEC 11801-1 and guidance on different installation conditions that require special considerations:

- information to bring together all the considerations about remote powering in a single document;
- guidance on mating and un-mating of connectors that convey remote power.

This document does not include requirements from national or local safety standards and regulations.

This document was developed based on a number of contributions describing remote powering over telecommunications cabling under different installation conditions. The relevant safety standards and regulations, application standard, and equipment manufacturers give guidance on factors that should be taken into account during design of the generic balanced cabling that supports the distribution of remote powering.

This document extends the current per conductor specified in ISO/IEC TR 29125:2010 from 300 mA to 500 mA. This document covers additional details of installation conditions that are not described in ISO/IEC TR 29125:2010. This document includes guidelines for cords.

INFORMATION TECHNOLOGY –

TELECOMMUNICATIONS CABLING REQUIREMENTS FOR REMOTE POWERING OF TERMINAL EQUIPMENT

1 Scope

This document

- a) addresses the support of safety extra low voltage (SELV) and limited power source (LPS) applications that provide remote power over balanced cabling in accordance with the reference implementations of ISO/IEC 11801 series standards using currents per conductor of up to 500 mA and targets the support of applications that provide remote power over balanced cabling to terminal equipment,
- b) covers the transmission and electrical parameters needed to support remote power over balanced cabling,
- c) covers various installation scenarios and how these may impact the capability of balanced cabling to support remote powering,
- d) specifies design and configuration of cabling as specified in ISO/IEC 11801-1.

NOTE SELV requirements specify a maximum voltage of 60 V DC and LPS is understood in the applications referenced to be up to 100 W supplied within 4-pair cabling.

This document includes a mathematical model to predict the behaviour of different bundle sizes, various cabling constructions, and installation conditions for different current capacities.

Safety (e.g. electrical safety and protection and fire) and electromagnetic compatibility (EMC) requirements are outside the scope of this document, and are covered by other standards and regulations. However, information given by this document can be of assistance.

2 Normative references

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

ISO/IEC 11801-1, *Information technology – Generic cabling for customer premises – Part 1: General requirements*

ISO/IEC 14763-2, *Information technology – Implementation and operation of customer premises cabling – Part 2: Planning and installation*

ISO/IEC TR 24746, *Information technology – Generic cabling for customer premises – Mid-span DTE power insertion*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 11801-1, ISO/IEC 14763-2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1.1

power source equipment

equipment that provides power

3.1.2

cable bundle

several cables tied together or in contact with one another in a parallel configuration for at least 1 m, with the cross-section profile of the arrangement basically circular

3.1.3

conductor

element intended to carry electric current

[SOURCE IEC 60050-151:2001, 151-12-05, modified – The 3 Notes have been deleted.]

3.1.4

current carrying capacity

maximum current a cable circuit (one or several conductors) can support resulting in a specified increase of temperature of the conductor beyond the ambient temperature, not exceeding the maximum allowed operating temperature of the cable

[SOURCE: IEC 61156-1:2007/AMD1:2009, 3.24, modified – "increase of temperature" has replaced "increase of the surface temperature".]

3.1.5

remote powering

supply of power to application specific equipment via balanced cabling

3.1.6

temperature rise

difference in temperature between the initial temperature of the conductor without power and the final temperature of the powered conductor at steady state

3.2 Abbreviated terms

EMC	electromagnetic compatibility
FD	floor distributor
HVAC	heating, ventilation and air conditioning
PTZ	pan, tilt, zoom
WAP	wireless access point

4 Conformance

For cabling to comply with this document, the following applies:

- a) the design of the cabling shall comply with the relevant cabling design standard of the ISO/IEC 11801 series;
- b) the installation shall comply with ISO/IEC 14763-2 as amended by the additional requirements of this document.