ICS 13.320 SLOVENSKÁ TECHNICKÁ NORMA Október 2014

STN	**Obrazové sledovacie systémy na používanie v bezpečnostných aplikáciách. Časť 1-2: Obrazový prenos. Všeobecné požiadavky na obrazový prenos.**	**STN EN 62676-1-2** 33 4592

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/14

Obsahuje: EN 62676-1-2:2014, IEC 62676-1-2:2013

119466

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62676-1-2

March 2014

ICS 13.320

English version

Video surveillance systems for use in security applications - Part 1-2: System requirements – Performance requirements for video transmission

(IEC 62676-1-2:2013)

Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité -
Part 1-2: Exigences systèmes -
Exigences de performances pour la transmission vidéo
(CEI 62676-1-2:2013)

Videoüberwachungsanlagen für Sicherungsanwendungen -
Teil 1-2: Allgemeine Anforderungen an die Videoübertragung
(IEC 62676-1-2:2013)

This European Standard was approved by CENELEC on 2013-12-03. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62676-1-2:2014 E

Foreword

The text of document 79/433/FDIS, future edition 1 of IEC 62676-1-2, prepared by IEC TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62676-1-2:2014.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-09-03
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-12-03

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62676-1-2:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62676-2-3	NOTE	Harmonised as EN 62676-2-3.
ISO 19111	NOTE	Harmonised as EN ISO 19111.
ISO 19115	NOTE	Harmonised as EN ISO 19115.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 61709	-	Electric components - Reliability - Reference conditions for failure rates and stress models for conversion	EN 61709	2011
IEC/TR 62380	-	Reliability data handbook - Universal model for reliability prediction of electronics components, PCBs and equipment	-	-
IEC 62676-1-1	-	Video surveillance systems for use in security applications - Part 1-1: Video system requirements	EN 62676-1-1	-
IEC 62676-2-1	-	Video surveillance systems for use in security applications - Part 2-1: Video transmission protocols - General requirements	EN 62676-2-1	-
ISO/IEC 10646	-	Information technology - Universal Coded Character Set (UCS)	-	-
ISO/IEC 13818-9	-	Information technology - Generic coding of moving pictures and associated audio information - Part 9: Extension for real time interface for system decoders	-	-
ISO/IEC 14496-2	-	Information Technology – Coding of audio-visual objects - Part 2: Visual	-	-
ISO/IEC 14496-3	-	Information technology - Coding of audio-visual objects - Part 3: Audio	-	-
ISO/IEC 14496-10	-	Information technology - Coding of audio-visual objects - Part 10: Advanced Video Coding	-	-
ITU-T Recommendation G.711	-	Pulse code modulation (PCM) of voice frequencies	-	-
ITU-T Rec .726	-	General Aspects of Digital Transmission Systems, Terminal Equipment - 40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)	-	-
IEEE Std 1413.1	-	IEEE Guide for Selecting and Using Reliability Predictions Based on IEEE 1413	-	-
IETF RFC 1122	-	Requirements for Internet Hosts - Communication Layers	-	-
IETF RFC 1157	-	Simple Network Management Protocol (SNMP)	-	-
IETF RFC 1441	-	Introduction to version 2 of the Internet-standard Network Management Framework	-	-
IETF RFC 2030	-	Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI	-	-

Publication	Year	Title	EN/HD	Year
RFC 2069	-	Digest Access Authentication	-	-
IETF RFC 2131	-	Dynamic Host Configuration Protocol	-	-
IETF RFC 2246	-	The TLS Protocol Version 1.0	-	-
IETF RFC 2326	1998	Real time Streaming protocol (RTSP)	-	-
IETF RFC 2435	-	RTP Payload Format for JPEG-compressed Video	-	-
IETF RFC 2453	-	Routing Information Protocol	-	-
IETF RFC 2617	-	HTTP Authentication: Basic and Digest Access Authentication	-	-
IETF RFC 3016	-	RTP Payload Format for MPEG-4 Audio/Visual Streams	-	-
IETF RFC 3268	-	Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)	-	-
IETF RFC 3315	-	Dynamic Host Configuration Protocol for IPv6 (DHCPv6)	-	-
IETF RFC 3410	-	Introduction and Applicability Statements for Internet Standard Management Framework	-	-
IETF RFC 3550	-	A Transport Protocol for Real-Time Applications	-	-
IETF RFC 3551	-	RTP Profile for Audio and Video Conferences with Minimal Control	-	-
IETF RFC 3984	-	RTP Payload Format for H.264 Video	-	-
IETF RFC 4346	-	The Transport Layer Security (TLS) Protocol Version 1.1	-	-
IETF RFC 4541	-	IGMP and MLD Snooping Switches	-	-
IETF RFC 4566	-	SDP: Session Description Protocol	-	-
IETF RFC 4607	-	Source-Specific Multicast for IP	-	-
IETF RFC 4862	-	IPv6 Stateless Address Autoconfiguration	-	-

IEC 62676-1-2

Edition 1.0 2013-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Video surveillance systems for use in security applications – Part 1-2: System requirements – Performance requirements for video transmission

Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité – Partie 1-2: Exigences systèmes – Exigences de performances pour la transmission vidéo

IEC 62676-1-2:2013

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

Useful links:

IEC publications search - www.iec.ch/searchpub

The advanced search enables you to find IEC publications by a variety of criteria (reference number, text, technical committee,…).
It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available on-line and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary (IEV) on-line.

Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de la CEI

La Commission Electrotechnique Internationale (CEI) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications CEI

Le contenu technique des publications de la CEI est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Liens utiles:

Recherche de publications CEI - www.iec.ch/searchpub

La recherche avancée vous permet de trouver des publications CEI en utilisant différents critères (numéro de référence, texte, comité d'études,…).
Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

Just Published CEI - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications de la CEI. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne au monde de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans les langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (VEI) en ligne.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.

IEC 62676-1-2

Edition 1.0 2013-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Video surveillance systems for use in security applications – Part 1-2: System requirements – Performance requirements for video transmission

Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité – Partie 1-2: Exigences systèmes – Exigences de performances pour la transmission vidéo

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX XA

ICS 13.320

ISBN 978-2-8322-1158-8

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 1-2: System requirements – Performance requirements for video transmission

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.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
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.

International Standard IEC 62676-1-2 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

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

FDIS	Report on voting
79/433/FDIS	79/446/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62676, published under the general title *Video surveillance systems for use in security applications*, 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 web site 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.

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.

INTRODUCTION

The IEC Technical Committee 79 in charge of alarm and electronic security systems together with many governmental organisations, test houses and equipment manufacturers have defined a common framework for video surveillance transmission in order to achieve interoperability between products.

The IEC 62676 series of standards on video surveillance system is divided into 4 independent parts:

Part 1: System requirements

Part 2: Video transmission protocols

Part 3: Analog and digital video interfaces

Part 4: Application guidelines (to be published)

Each part has its own clauses on scope, references, definitions and requirements.

This IEC 62676-1 series consists of 2 subparts, numbered parts 1-1 and 1-2 respectively:

IEC 62676-1-1, *System requirements – General*

IEC 62676-1-2, *System requirements – Performance requirements for video transmission*

The second subpart of this IEC 62676-1 series applies to video transmission. The purpose of the transmission system in a Video Surveillance System (VSS) installation is to provide reliable transmission of video signals between the different types of VSS equipment in security, safety and monitoring applications.

Today VSS reside in security networks using IT infrastructure, equipment and connections within the protected site itself.

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 1-2: System requirements – Performance requirements for video transmission

1 Scope

This part of IEC 62676 introduces general requirements on video transmission. This standard covers the general requirements for video transmissions on performance, security and conformance to basic IP connectivity, based on available, well-known, international standards.

Clauses 4 and 5 of this standard define the minimum performance requirements on video transmission for security applications in IP networks. In surveillance applications the requirements on timing, quality and availability are strict and defined in the last section of this standard. Guidelines for network architecture are given, how these requirements can be fulfilled.

Clause 6 and the next clauses of this standard define requirements on basic IP connectivity of video transmission devices to be used in security applications. If a video transmission device is used in security, certain basic requirements apply. First of all a basic understanding of IP connectivity needs to be introduced which requests the device to be compliant to fundamental network protocols. These could be requirements which may be applied to all IP security devices even beyond IP video. For this reason requirements are introduced in a second step for compliance to basic streaming protocols, used in this standard for video streaming and stream control. Since security applications need high availability and reliability, general means for the transmission of the video status and health check events have to be covered. These are defined in general requirements on eventing and network device management. In security proper maintenance and setup is essential for the functioning of the video transmission device. Locating streaming devices and their capabilities is a basic requirement and covered in ´device discovery and description´.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61709, *Electric components – Reliability – Reference conditions for failure rates and stress models for conversion*

IEC/TR 62380, *Reliability data handbook – Universal model for reliability prediction of electronics components, PCBs and equipment*

IEC 62676-1-1, *Video surveillance systems for use in security applications – Part 1-1: System requirements – General*

IEC 62676-2-1, *Video surveillance systems for use in security applications – Part 2-1: Video transmission protocols – General requirements*

ISO/IEC 10646, *Information technology – Universal multiple-octet coded character set (UCS)*

ISO/IEC 13818-9, *Information technology – Generic coding of moving pictures and associated audio information – Part 9: Extension for real time interface for systems decoders*

ISO/IEC 14496-2, *Information technology – Coding of audio-visual objects – Part 2: Visual*

ISO/IEC 14496-3, *Information technology – Coding of audio-visual objects – Part 3: Audio*

ISO/IEC 14496-10, *Information technology – Coding of audio-visual objects – Part 10: Advanced Video Coding*

ITU-T Rec. G.711, *Pulse code modulation (PCM) of voice frequencies*

ITU-T Rec. G.726, *40, 32, 24, 16 kbit/s adaptive differential pulse code modulation (ADPCM)*

IEEE Std 1413.1, *IEEE Guide for selecting and using reliability predictions based on IEEE 1413*

IETF RFC 1122, *Requirements for Internet Hosts – communication Layers*

IETF RFC 1157, *Simple Network Management Protocol*

IETF RFC 1441, *Introduction to version 2 of the Internet-standard Network Management Framework*

IETF RFC 2030, *Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI*

RFC 2069, *Digest Access Authentication*

IETF RFC 2131, *Dynamic Host Configuration Protocol*

IETF RFC 2246, *The TLS Protocol Version 1.0*

IETF RFC 2326:1998, *Real Time Streaming Protocol (RTSP)*

IETF RFC 2435, *RTP Payload Format for JPEG-compressed Video*

IETF RFC 2453, *RIP - Routing Information Protocol*

IETF RFC 2617, *HTTP Authentication Basic and Digest Access Authentication, June 1999*.

IETF RFC 3016, *RTP Payload Format for MPEG-4 Audio/Visual Streams*.

IETF RFC 3268, *Advanced Encryption Standard (AES) Cipher suites for Transport Layer Security (TLS)*

IETF RFC 3315, *Dynamic Host Configuration Protocol for IPv6 (DHCPv6)*

IETF RFC 3410, *Introduction and Applicability Statements for Internet Standard Management Framework*

IETF RFC 3550, *RTP A Transport Protocol for Real-Time Applications*

IETF RFC 3551, *RTP Profile for Audio and Video Conferences with Minimal Control*

IETF RFC 3984, *RTP Payload Format for H.264 Video*.

IETF RFC 4346, *The Transport Layer Security (TLS) Protocol Version 1.1*

IETF RFC 4541, *IGMP and MLD Snooping Switches*

IETF RFC 4566, *SDP Session Description Protocol*

IETF RFC 4607, *Source Specific Multicast for IP*

IETF RFC 4862, *IPv6 Stateless Address Auto configuration*