Alarm systems - CCTV surveillance systems for use in security applications - Part 5-3: Video transmission - Analogue and digital video transmission

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NATIONAL FOREWORD

See Eesti standard EVS-EN 50132-5-3:2012 sisaldab Euroopa standardi EN 50132-5-3:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 50132-5-3:2012 consists of the English text of the European standard EN 50132-5-3:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 29.06.2012.	Date of Availability of the European standard is 29.06.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Alarm systems - CCTV surveillance systems for use in security applications - Part 5-3: Video transmission - Analogue and digital video transmission

Systèmes d'alarme - Systèmes de surveillance CCTV à usage dans les applications de sécurité - Partie 5-3: Transmission vidéo - Transmission vidéo analogique et numérique

Alarmanlagen - CCTV-Überwachungsanlagen für Sicherungsanwendungen - Teil 5-3: Videoübertragung - Analoge und digitale Videoübertragung

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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Foreword

This document (EN 50132-5-3:2012) has been prepared by CLC/TC 79, "Alarm systems".

The following dates are fixed:

– latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2013-05-15
– latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2015-05-15

This document, together with EN 50132-5-1:2011 and EN 50132-5-2:2011, supersedes EN 50132-5:2001.

This document is a revision of the former video transmission standard EN 50132-5:2001 with only one additional new Clause 9, ´High resolution video interface standards & transmission requirements´.

EN 50132 consists of the following parts, under the general title "*Alarm systems – CCTV surveillance systems for use in security applications*":

– Part 1: System requirements;

– Part 5-1: Video transmission – General video transmission performance requirements;

– Part 5-2: Video transmission – IP video transmission protocols;

– Part 5-3: Video transmission – Analogue and digital video transmission;

– Part 7: Application guidelines.

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.

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Introduction

The European Electrotechnical Standardisation Organisation for Alarm Systems together with many governmental organisations, test houses and equipment manufacturers has defined a common framework for Surveillance Video Transmission in order to achieve interoperability between products.

EN 50132-5 is divided into 3 independent subparts:

– Part 5-1: Video transmission – General video transmission performance requirements;

– Part 5-2: Video transmission – IP video transmission protocols;

– Part 5-3: Video transmission – Analogue and digital video transmission.

Each subpart offers its own (sub)clauses on scope, references, definitions, requirements.

1 Scope

The purpose of the transmission system in a closed circuit television (CCTV) installation is to provide reliable transmission of video signals between the various CCTV equipments in security, safety and monitoring applications.

Along with high-resolution video interfaces and transmission, the analogue video signals are still in use today for video transmission and offer interlaced scanning and the film aspect ratio of 4:3.

The complexity of a video transmission system varies in accordance with the requirements of the installation.

Examples of the different types of video transmission systems covered by this European Standard are as follows:

a) using dedicated cable transmission media:

- coaxial cable;
- twisted pair cable;
- fibre optic cable;

b) using wireless transmission methods:

- microwave;
- infrared;
- radio transmission;

NOTE 1 These transmission methods apply to non-compressed video signals.

NOTE 2 Multiple analogue video signals may be combined in one physical transmission path using multiplexing techniques.

c) using analogue high-resolution video interfaces:

- VESA and VGA;

d) using digital uncompressed high-resolution video interfaces:

- HDMI;
- DVI.

This European Standard specifies the minimum requirements for the specification and testing of the performance of a video transmission channel involving transmitter, receiver or intermediate devices associated with the selected transmission media, for use in CCTV surveillance systems.

Video transmission equipment may be combined with additional functions, e.g. for audio or data transmission. These functions are not included in this European Standard.

This European Standard covers the transmission of colour and black and white video signals in accordance with the former CCIR Report 624-4, 625 lines, 50 fields per second and today ITU-R Report BT.624-4.

IP based video transmission is covered in EN 50132-5-1 and EN 50132-5-2.

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.

EN 50130-4, *Alarm systems – Part 4: Electromagnetic compatibility – Product family standard – Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems*

EN 50130-5:2011, *Alarm systems – Part 5: Environmental test methods*

EN 50132-1:2010 + corr. Jun. 2010, *Alarm systems – CCTV surveillance systems for use in security applications – Part 1: System requirements*

EN 60065, *Audio, video and similar electronic apparatus – Safety requirements (IEC 60065)*

EN 60068-1:1994, *Environmental testing – Part 1: General and guidance (IEC 60068-1:1988 + corr. Oct. 1988+ A1:1992)*

EN 60950-1, *Information technology equipment – Safety – Part 1: General requirements (IEC 60950-1)*

EN 61000-6-3, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3)*

EN 62315-1:2003, *DTV profiles for uncompressed digital video interfaces – Part 1: General (IEC 62315-1:2003)*

CCIR Recomm. CMTT 567-3:1990 / ITU-T Recomm. J.61:1990, *Transmission performance of television circuits designed for use in international connections*

CCIR Report 624-4:1990 / ITU-R report BT.624-4:1990, Characteristics of television systems

VESA, *DisplayPort Standard*, Version 1.1a (January 11, 2008)

VESA Monitor Timing Specifications, *Industry Standards and Guidelines for Computer Display Monitor Timing (DMT),* Version 1.0, Revision 11 (May 1, 2007)

VESA, *Video Signal Standard (VSIS)*, Version 1, Rev. 2 (December 12, 2002)

VESA, *Enhanced Display Data Channel (E-DDC) Standard*, v.1.1 (March 24, 2004), pages 17-18

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1
analogue
continuous electrical signal that carries information in the form of variable physical values, such as amplitude or frequency modulation and that moves through a continuous range of settings or levels

3.1.2
analogue components
video signals in which a continuously variable voltage or current (rather than a set of digital numbers) represents a pixel