

BS EN 62676-1-1:2014

Incorporating corrigendum July 2014



BSI Standards Publication

Video surveillance systems for use in security applications

Part 1-1: System requirements —
General

bsi.

...making excellence a habit.™

National foreword

This British Standard is the UK implementation of EN 62676-1-1:2014, incorporating corrigendum July 2014. It is identical to IEC 62676-1-1:2013. It supersedes BS EN 50132-1:2010, which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee GW/1, Electronic security systems, to Subcommittee GW/1/10, Closed circuit television (CCTV).

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014.
Published by BSI Standards Limited 2014

ISBN 978 0 580 87833 6

ICS 13.320

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2014.

Amendments/corrigenda issued since publication

| Date | Text affected |
|-------------------|--|
| 30 September 2014 | Implementation of CENELEC corrigendum July 2014: Supersession information inserted in EN title page and EN Foreword. Supersession information inserted in National Foreword |

English version

**Video surveillance systems for use in security applications -
Part 1-1: System requirements -
General
(IEC 62676-1-1:2013)**

Systèmes de vidéosurveillance destinés à
être utilisés dans les applications de
sécurité -
Part 1-1: Exigences systèmes -
Généralités
(CEI 62676-1-1:2013)

Videoüberwachungsanlagen für
Sicherheitsanwendungen -
Teil 1-1: Systemanforderungen
(IEC 62676-1-1:2013)

This European Standard was approved by CENELEC on 2013-12-02. 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

Foreword

The text of document 79/432/FDIS, future edition 1 of IEC 62676-1-1, prepared by IEC TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62676-1-1:2014.

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) 2014-09-02
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-12-02

This document supersedes EN 50132-1:2010

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 62676-1-1:2013 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 Series | NOTE | Harmonised as EN 62676-2 Series. |
| ISO/IEC 13818-1 | NOTE | Harmonised as EN ISO/IEC 13818-1. |

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.

| <u>Publication</u> | <u>Year</u> | <u>Title</u> | <u>EN/HD</u> | <u>Year</u> |
|--------------------|-------------|---|--------------------------------|--------------|
| IEC 60065 | - | Audio, video and similar electronic apparatus - EN 60065 Safety requirements | | - |
| IEC 60068-2-75 | - | Environmental testing - Part 2-75: Tests - Test EN 60068-2-75 Eh: Hammer tests | | - |
| IEC 60529 | - | Degrees of protection provided by enclosures (IP Code) | EN 60529 | - |
| IEC 60950-1 | - | Information technology equipment - Safety - Part 1: General requirements | EN 60950-1 | - |
| IEC 61000-6-1 | 2005 | Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments | EN 61000-6-1 | 2007 |
| IEC 61000-6-2 | 2005 | Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments | EN 61000-6-2 + corr. September | 2005 2005 |
| IEC 61000-6-3 | - | Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments | EN 61000-6-3 | - |
| IEC 61000-6-4 | - | Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments | EN 61000-6-4 | - |
| IEC 62262 | - | Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) | EN 62262 | - |
| IEC 62599-1 | 2010 | Alarm systems - Part 1: Environmental test methods | - | - |
| IEC 62599-2 | 2010 | Alarm systems - Part 2: Electromagnetic compatibility - Immunity requirements for components of fire and security alarm systems | - | - |
| IEC 62676-4 | | Video surveillance systems for use in security applications - Part 4: Application guidelines | | - |
| ISO 12233 | 2000 | Photography - Electronic still-picture cameras - Resolution measurements | | - |

CONTENTS

| | |
|---|----|
| INTRODUCTION..... | 6 |
| 1 Scope..... | 7 |
| 2 Normative references | 7 |
| 3 Terms, definitions and abbreviations | 8 |
| 3.1 Terms and definitions | 8 |
| 3.2 Abbreviations | 22 |
| 4 Functional description of the VSS..... | 23 |
| 4.1 VSS..... | 23 |
| 4.2 Video environment | 23 |
| 4.2.1 General | 23 |
| 4.2.2 Image capture | 24 |
| 4.2.3 Interconnections | 24 |
| 4.2.4 Image handling..... | 24 |
| 4.3 System management..... | 25 |
| 4.3.1 General | 25 |
| 4.3.2 Data management | 25 |
| 4.3.3 Activity management | 26 |
| 4.3.4 Interfaces to other systems..... | 27 |
| 4.4 System security..... | 28 |
| 4.4.1 General | 28 |
| 4.4.2 System integrity..... | 28 |
| 4.4.3 Data integrity..... | 28 |
| 5 Security grading | 28 |
| 6 Functional requirements | 30 |
| 6.1 Video environment | 30 |
| 6.1.1 Image capture | 30 |
| 6.1.2 Interconnections | 30 |
| 6.1.3 Image handling..... | 31 |
| 6.2 System management..... | 36 |
| 6.2.1 Operation | 36 |
| 6.2.2 Activity and information management | 36 |
| 6.2.3 Interfacing to other systems..... | 38 |
| 6.3 System security..... | 38 |
| 6.3.1 General | 38 |
| 6.3.2 System integrity..... | 38 |
| 6.3.3 Image and data integrity | 43 |
| 6.4 Environmental requirements | 44 |
| 6.4.1 VSSs as primary mitigation of the risk | 44 |
| 6.4.2 VSSs as secondary mitigation of the risk | 44 |
| 6.5 Image quality..... | 45 |
| 7 Environmental classes..... | 46 |
| 7.1 General..... | 46 |
| 7.2 Environmental Class I – Indoor, but restricted to residential/office environment | 46 |
| 7.3 Environmental Class II – Indoor – General | 46 |

- 7.4 Environmental Class III – Outdoor, but sheltered from direct rain and sunshine, or indoor with extreme environmental conditions 46
- 7.5 Environmental Class IV – Outdoor – General..... 46
- 8 Documentation 47
 - 8.1 System documentation 47
 - 8.2 Instructions relating to operation 47
 - 8.3 System component documentation 47
- Annex A (normative) Special national conditions..... 48
- Annex B (informative) Video export in homeland security systems 49
- Bibliography..... 50

- Figure 1 – VSS 23
- Figure 2 – Example for VSS..... 24
- Figure 3 – Activity management 27
- Figure 4 – Risk and security grades 29
- Figure 5 – Reference to ISO 12233 resolution measurement chart (unit in ×100 lines)..... 45

- Table 1 – Storage 31
- Table 2 – Archiving and backup 33
- Table 3 – System logs 38
- Table 4 – Monitoring of interconnections 39
- Table 5 – Tamper detection 40
- Table 6 – Level of access 41
- Table 7 – Authorisation code requirements 42
- Table 8 – Data access 42
- Table 9 – Access to system logs 42
- Table 10 – Access to system set-up..... 43
- Table 11 – Data labelling 43

INTRODUCTION

The IEC Technical Committee 79 in charge of alarm and electronic security systems together with many governmental organisations, test houses and equipment manufacturers has 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 first subpart of this IEC 62676-1 series applies to systems for surveillance of private and public areas. It includes four security grades and four environmental classes.

This IEC Standard is intended to assist Video Surveillance System (VSS) companies, manufacturers, system integrators, installers, consultants, owners, users, insurers and law enforcement in achieving a complete and accurate specification of the surveillance system. This International Standard does not specify the type of technology for a certain observation task.

Due to the wide range of VSS applications e.g. security, safety, public safety, transportation, etc. only the minimum requirements are covered in this standard.

For specific applications e.g. in homeland security, additional requirements need to be applied, which are defined in the annex of this standard.

This IEC Standard is not intended to be used for testing individual VSS components.

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

VIDEO SURVEILLANCE SYSTEMS FOR USE IN SECURITY APPLICATIONS –

Part 1-1: System requirements – General

1 Scope

This part of IEC 62676 specifies the minimum requirements and gives recommendations for Video Surveillance Systems (VSS), so far called CCTV, installed for security applications. This Standard specifies the minimum performance requirements and functional requirements to be agreed on between customer, law-enforcement where applicable and supplier in the operational requirement, but does not include requirements for design, planning, installation, testing, operation or maintenance. This standard excludes installation of remotely monitored detector activated VSSs.

This IEC Standard also applies to VSS sharing means of detection, triggering, interconnection, control, communication and power supplies with other applications. The operation of a VSS is not to be adversely influenced by other applications.

Requirements are specified for VSS components where the relevant environment is classified. This classification describes the environment in which the VSS component may be expected to operate as designed. When the requirements of the four environmental classes are inadequate, due to the extreme conditions experienced in certain geographic locations, special national conditions may be applied (see Annex A).

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 60065, *Audio, video and similar electronic apparatus – Safety requirements*

IEC 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

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

IEC 61000-6-1:2005, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments*

IEC 61000-6-2:2005, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments*

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

IEC 61000-6-4, *Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments*