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# INTERNATIONAL STANDARD

REDLINE VERSION

**Video surveillance systems for use in security applications -**
**Part 4: Application guidelines**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# Video surveillance systems for use in security applications - Part 4: Application guidelines

## 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.
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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 62676-4:2014. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 62676-4 has been prepared by IEC technical committee 79: Alarm and electronic security systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

a) implementing request for define a security concept (instead of just a risk analysis) (4.2);

b) selection of security grades (4.2.3);

c) complete redefinition of pixel densities (6.7) including new test charts (Annex C):
   – upgrade of previous MDORII system with 6 pixel densities (12,5 pixels/meter; 25 pixels/meter; 62,5 pixels/meter ; 125 pixels/meter; 250 pixels/meter; 1 000 pixels/meter) into new O2DCPVS system with 7 pixel densities (20 pixels/meter; 40 pixels/meter; 80 pixels/meter; 125 pixels/meter; 250 pixels/meter; 500 pixels/meter; 1 500 pixels/meter

d) operation of VSS (Clause 17);

e) security grading by size view (Annex D, Table D.2);

f) security grading by application (Annex D, Table D.3);

g) security grading by critical infrastructure (Annex D, Table D.4);

h) tables for number of frames depending on object speed (Annex D, Table D.5 and Table D.6);

i) general updates of tables in entire document.

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

| Draft | Report on voting |
|---|---|
| 79/727/FDIS | 79/732/RVD |

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

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

A list of all parts in the IEC 62676 series, published under the general title *Video surveillance systems for use in security applications*, can be found on the IEC website.

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

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

- reconfirmed,
- withdrawn, or
- revised.

# 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

Each part offers its own clauses for the scope, normative references, definitions and requirements.

The purpose of this part of IEC 62676 is to provide guidance on how to ensure that video surveillance systems (VSS), thus far referred to as closed circuit television (CCTV), meet their functional and performance requirements.

This part of IEC 62676 will prove useful to those responsible for establishing operational requirements, writing specifications, selecting, installing, commissioning, using and maintaining a VSS.

VSS, in its simplest form, is a means of providing images from security cameras and recorders for viewing on a display via a transmission system. There is no theoretical limit to the number of cameras and displays which may be used in a VSS installation but in practice will be limited by the efficient combination of control and display equipment and the operator's ability to manage the system.

The successful operation of a VSS requires the active co-operation of the user in carrying out the recommended procedures.

Due to the wide range of VSS applications, for example security, safety, public safety, transportation, etc. only the minimum requirements are covered in this part of IEC 62676.

## 1 Scope

This part of IEC 62676 ~~gives recommendations and requirements for the selection,~~ describes the planning, design, installation, testing, commissioning, and maintaining ~~and testing~~ of video surveillance systems (VSS) comprising image capture device(s), interconnection(s) and image handling device(s), for use in security applications within private or public spaces.

The objectives of this document are to:

a) provide a framework to assist ~~customers, installers and users~~ all interested parties in establishing their requirements,

b) assist specifiers and users in determining the appropriate equipment required for a given application,

c) provide means of evaluating objectively the performance of the VSS.

## 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.

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

IEC 62676-1-2:2013, *Video surveillance systems for use in security applications - Part 1-2: System requirements - Performance requirements for video transmission*

IEC 62676-2 (all parts), *Video surveillance systems for use in security applications - Part 2-X: Video transmission protocols*

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

~~IEC 62676-2-2, *Video surveillance systems for use in security applications – Part 2-2: Video transmission protocols – IP interoperability implementation based on HTTP and REST services*~~

~~IEC 62676-2-3, *Video surveillance systems for use in security applications – Part 2-3: Video transmission protocols – IP interoperability implementation based on Web services*~~

IEC 62676-3, *Video surveillance systems for use in security applications - Part 3: Analog and digital video interfaces*

IEC 62820-2, *Building intercom systems - Part 2: Requirements for advanced security building intercom systems (ASBIS)*

IEC 62820-3-2, *Building intercom systems - Part 3-2: Application guidelines - Advanced security building intercom systems (ASBIS)*

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

## Video surveillance systems for use in security applications - Part 4: Application guidelines

## Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 4: Directives d'application

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# Video surveillance systems for use in security applications - Part 4: Application guidelines

## FOREWORD

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IEC 62676-4 has been prepared by IEC technical committee 79: Alarm and electronic security systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

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

a) implementing request for define a security concept (instead of just a risk analysis) (4.2);
b) selection of security grades (4.2.3);

c) complete redefinition of pixel densities (6.7) including new test charts (Annex C):
   – upgrade of previous MDORII system with 6 pixel densities (12,5 pixels/meter; 25 pixels/meter; 62,5 pixels/meter ; 125 pixels/meter; 250 pixels/meter; 1 000 pixels/meter) into new O2DCPVS system with 7 pixel densities (20 pixels/meter; 40 pixels/meter; 80 pixels/meter; 125 pixels/meter; 250 pixels/meter; 500 pixels/meter; 1 500 pixels/meter
d) operation of VSS (Clause 17);
e) security grading by size view (Annex D, Table D.2);
f) security grading by application (Annex D, Table D.3);
g) security grading by critical infrastructure (Annex D, Table D.4);
h) tables for number of frames depending on object speed (Annex D, Table D.5 and Table D.6);
i) general updates of tables in entire document.

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

| Draft | Report on voting |
|---|---|
| 79/727/FDIS | 79/732/RVD |

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

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

A list of all parts in the IEC 62676 series, published under the general title *Video surveillance systems for use in security applications*, can be found on the IEC website.

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

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

- reconfirmed,
- withdrawn, or
- revised.

## 1 Scope

This part of IEC 62676 describes the planning, design, installation, testing, commissioning, and maintaining of video surveillance systems (VSS) comprising image capture device(s), interconnection(s) and image handling device(s), for use in security applications within private or public spaces.

The objectives of this document are to:

a) provide a framework to assist all interested parties in establishing their requirements,

b) assist specifiers and users in determining the appropriate equipment required for a given application,

c) provide means of evaluating objectively the performance of the VSS.

## 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.

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

IEC 62676-1-2:2013, *Video surveillance systems for use in security applications - Part 1-2: System requirements - Performance requirements for video transmission*

IEC 62676-2 (all parts), *Video surveillance systems for use in security applications - Part 2-X: Video transmission protocols*

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

IEC 62676-3, *Video surveillance systems for use in security applications - Part 3: Analog and digital video interfaces*

IEC 62820-2, *Building intercom systems - Part 2: Requirements for advanced security building intercom systems (ASBIS)*

IEC 62820-3-2, *Building intercom systems - Part 3-2: Application guidelines - Advanced security building intercom systems (ASBIS)*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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# Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 4: Directives d'application

## AVANT-PROPOS

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L'IEC 62676-4 a été établie par le comité d'études 79 de l'IEC: Systèmes d'alarme et de sécurité électroniques. Il s'agit d'une Norme internationale.

Cette deuxième édition annule et remplace la première édition parue en 2014. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) mise en œuvre de la demande visant à définir un concept de sécurité (plutôt qu'une simple analyse des risques) (4.2);

b) sélection des degrés de sécurité (4.2.3);

c) redéfinition complète des densités de pixels (6.7), incluant de nouvelles mires d'essai (Annexe C):

   – mise à niveau du précédent système MDORII, avec 6 densités de pixels (12,5 pixels/mètre; 25 pixels/mètre; 62,5 pixels/mètre; 125 pixels/mètre; 250 pixels/mètre; 1 000 pixels/mètre), vers le nouveau système O2DCPVS avec 7 densités de pixels (20 pixels/mètre; 40 pixels/mètre; 80 pixels/mètre; 125 pixels/mètre; 250 pixels/mètre; 500 pixels/mètre; 1 500 pixels/mètre

d) exploitation du VSS (Article 17);

e) degré de sécurité selon l'approche basée sur la taille (Annexe D, Tableau D.2);

f) degrés de sécurité par application (Annexe D, Tableau D.3);

g) degré de sécurité par infrastructure critique (Annexe D, Tableau D.4);

h) tableaux énumérant les nombres de trames en fonction de la vitesse de l'objet (Annexe D, Tableau D.5 et Tableau D.6);

i) mises à jour générales des tableaux sur l'ensemble du document.

Le texte de cette Norme internationale est issu des documents suivants:

| Projet | Rapport de vote |
|---|---|
| 79/727/FDIS | 79/732/RVD |

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Une liste de toutes les parties de la série IEC 62676, publiées sous le titre général *Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité*, se trouve sur le site web de l'IEC.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous www.iec.ch/members_experts/refdocs. Les principaux types de documents développés par l'IEC sont décrits plus en détail sous www.iec.ch/publications.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous webstore.iec.ch dans les données relatives au document recherché. À cette date, le document sera

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- révisé.

## 1 Domaine d'application

La présente partie de l'IEC 62676 décrit la planification, la conception, l'installation, les procédures d'essai, la mise en service et l'entretien des systèmes de vidéosurveillance (VSS) comprenant un ou plusieurs dispositifs de capture d'images, une ou plusieurs interconnexions et un ou plusieurs dispositifs de manipulation d'images, destinés à être utilisés dans des applications de sécurité dans des espaces privés ou publics.

Le présent document a pour objet:

a) de fournir un cadre pour aider toutes les parties intéressées à établir leurs exigences opérationnelles;

b) d'aider les rédacteurs de spécifications et les utilisateurs en déterminant le matériel approprié, exigé pour une application donnée;

c) de fournir un moyen d'évaluer objectivement les performances du VSS.

## 2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 62676-1-1:2013, *Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 1-1: Exigences systèmes - Généralités*

IEC 62676-1-2:2013, *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 62676-2 (toutes les parties), *Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 2-X: Protocoles de transmission vidéo*

IEC 62676-2-1, *Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 2-1: Protocoles de transmission vidéo - Exigences générales*

IEC 62676-3, *Systèmes de vidéosurveillance destinés à être utilisés dans les applications de sécurité - Partie 3: Interfaces vidéo analogiques et vidéo numériques*

IEC 62820-2, *Systèmes d'interphone de bâtiment - Partie 2: Exigences pour les systèmes d'interphone de bâtiment à sécurité avancée (ASBIS)*

IEC 62820-3-2, *Systèmes d'interphone de bâtiment - Partie 3-2: Lignes directrices d'application - Systèmes d'interphone de bâtiment à sécurité avancée (ASBIS)*