BS EN 62676-2-1:2014

BSI Standards Publication

# Video surveillance systems for use in security applications

## Part 2-1: Video transmission protocols — General requirements

## National foreword

This British Standard is the UK implementation of EN 62676-2-1:2014. It is identical to IEC 62676-2-1:2013.

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 committee 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.



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

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EUROPEAN STANDARD

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# EN 62676-2-1

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English version

# Video surveillance systems for use in security applications - Part 2-1: Video transmission protocols - General requirements

(IEC 62676-2-1:2013)

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

Videoüberwachungsanlagen für Sicherungsanwendungen – Teil 2-1: Videoübertragungsprotokolle – Allgemeine Anforderungen
(IEC 62676-2-1:2013)



CENELEC

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

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## Foreword

The text of document 79/435/FDIS, future edition 1 of IEC 62676-2-1, prepared by IEC TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62676-2-1:2014.

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| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2016-12-12 |

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## Endorsement notice

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

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62676-1-1 NOTE Harmonised as EN 62676-1-1.

# 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.

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 62676-1-2 | - | Video surveillance systems for use in security applications - Part 1-2: Video transmission – General video transmission - requirements | EN 62676-1-2 | - |
| 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 | EN 62676-2-2 | - |
| 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 | EN 62676-2-3 | - |
| IETF RFC 2326 | 1998 | Real time Streaming protocol (RTSP) | | |
| IETF RFC 3550 | - | A Transport Protocol for Real-Time Applications | - | - |
| IETF RFC 3984 | - | RTP Payload Format for H.264 Video | - | - |
| IETF RFC 4566 | - | SDP: Session Description Protocol | - | - |
| IETF RFC 3016 | - | RTP Payload Format for MPEG-4 Audio/Visual Streams | - | - |
| IETF RFC 4571 | - | Framing Real-time Transport Protocol (RTP) and RTP Control Protocol (RTCP) Packets over Connection-Oriented Transport | - | - |
| IETF RFC 3551 | - | RTP Profile for Audio and Video Conferences with Minimal Control | - | - |

# CONTENTS

# 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 62676-2 series consists of 3 subparts, numbered parts 2-1, 2-2 and 2-3 respectively:

IEC 62676-2-1, *Video transmission protocols – General requirements*

IEC 62676-2-2, *Video transmission protocols – IP interoperability implementation based on HTTP and REST services*

IEC 62676-2-3, *Video transmission protocols – IP interoperability implementation based on Web services*

The first subpart of this IEC 62676-2 series defines protocol requirements to be fulfilled by any high-level IP video device interface. The following two parts – Part 2-2 and Part 2-3 – define two alternative protocols, one is based on HTTP and REST services and the second is based on Web Services. It is based on the general requirements for video transmission of IEC 62676-1-2, which defines minimum IP connectivity requirements, basic video streaming, stream control, eventing, discovery and description functions.

The purpose of the transmission system in a video surveillance system installation is to provide reliable transmission of video signals between the different types of Video Surveillance System (VSS) so far called CCTV 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 2-1: Video transmission protocols – General requirements

## 1 Scope

This part of IEC 62676 introduces an IP network interface for devices in surveillance applications. This International Standard specifies a network protocol for the full interoperability of video devices. On top of the basic layers protocols are defined to accomplish the full interoperability of video devices. In surveillance applications IP video devices have to use standardized protocols to accomplish following functionality: video streaming, stream control, event handling, discovery, capability description, device management, PTZ control, auxiliaries and other functions.

Some areas of this transmission standard are covered by more than one approach, e.g. ZeroConf and WS-Discovery.

The network protocols recommended and defined by this video transmission standard are selected with a sense for future relevance and further extensions.

Video transmission equipment may be combined with additional functions, e.g. for audio or metadata transmission.

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

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*

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

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

IETF RFC 3550, *A transport protocol for Real-Time Applications* (Replaces RFC 1889)

IETF RFC 3550, Standard 64, *RTP: A Transport Protocol for Real-Time Applications*

IETF RFC 3551, *Profile for audio and video conferences with minimal control* (Replaces RFC890)