# IEC 62820-3-2

Edition 1.0 2018-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

colour inside

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

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

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**BUILDING INTERCOM SYSTEMS –**

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FOREWORD

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

| FDIS | Report on voting |
|------|------------------|
| 79/601/FDIS | 79/605/RVD |

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62820 series, published under the general title *Building intercom systems*, can be found on the IEC website.

This International Standard is to be used in conjunction with IEC 62820-3-1.

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

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- withdrawn,
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- amended.

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# INTRODUCTION

This document has become necessary because

– Both the application fields and importance of Advanced Security Building Intercom Systems (ASBIS) have increased;
– different events, emergencies, dangers and hazards needs various responses and reactions, which have to be verified by voice communication in advance;
– a detailed guide is needed for companies and operators with no previous knowledge of ASBIS.

In particular, this document is targeted at police, insurance companies, planners, architects, manufacturers and specialist security system companies, construction clients, owners, operators, ASBIS-users and residents of all kind of buildings.

This document covers applications for higher risks such as accidents, emergencies, dangers, mass attack, terror, school shootings, terrorist attacks, bombs threats, earthquakes, floods, etc.

An ASBIS is used to receive advanced access communication events (visitor-calls, user-receiver-calls, security-management-calls) as well other events (emergency, danger and hazard alarms), forward them to a technical receiver and present them appropriately at a support agency (e.g. Security Management Unit). On acknowledging receipt, the support agency assumes responsibility for verifying and initiating measures defined in accordance with the Technical Risk Management file. The acknowledgement is displayed at the point where action is initiated.

A daily use of other ASBIS applications (e.g. Annex B) is suggested for ASBIS-users training as well as system availability in grade 1 of IEC 62820-3-2. The frequency of daily use is a kind of system check to indicate the system availability.

**BUILDING INTERCOM SYSTEMS –**

**Part 3-2: Application guidelines –**
**Advanced security building intercom systems (ASBIS)**

## 1 Scope

This part of IEC 62820 describes the basic application requirements for Advanced Security Building Intercom Systems (ASBIS) in public and private buildings with advanced safety and security needs. ASBIS are also used to meet the requirements of the Local Regulations of Workplace Safety and/or other relevant local regulations, in particular, protecting the life and limb of employees and all persons in the building, taking into account the inclusion of people with disabilities (e.g to achieve barrier-free access or calls for help) where required by local applicable law.

This document applies for planning, installation, commissioning, handover, operation and maintenance of ASBIS, for the transmission of emergency, danger and hazard audio messages and/or other operational indications to an assisting authority for remote assessment and for implementing suitable intervention-, protection- and rescue measures. Additional information can also be transmitted and the system can be used in day-to-day work for all communication needs. ASBIS also feature in high availability for end unit monitoring and system monitoring.

Advanced Security Building Intercom Systems (ASBIS) are used for rapid emergency, danger and hazard calls, verification by voice communication, warning of a danger, rapid notification of the responsible emergency / intervention services and for sending voice instructions and/or other operational indications on how to proceed. Requirements for a suitable concept are a prior risk assessment and a definition of the protection target. The Technical-Risk Management (TRM) and Organizational Risk-Management (ORM) have to work out a common workflow strategy in conjunction with the corresponding system requirements, to achieve the residual risks. This document provides requirements for the technical risk-management as well as comments and recommendations for the organizational risk-management.

The present application document for an ASBIS describes among others, the technological processes and responsibilities involved in supporting all processes, from detecting an event (visitor-call, emergency, danger, hazard) until that event is finally dealt with. It includes TRM, the defining protection goals and organizational procedures, and the necessary requirements for a TRM file. This document defines three different safety/security grades, with the product requirements for each. Selecting products which can be deployed as technical resources as part of an ASBIS is the responsibility of the TRM to be employed.

This document, taken together with an ASBIS, also defines the associated tasks, responsibilities, and activities. These are elements of a holistic TRM process to meet the protection goals for personnel safety/security, efficiency and effectiveness, data- and system security. This document does not specify any risk levels. In particular, it does not define any acceptable residual risks. The TRM and ORM are of equal importance in the overall risk management (see Annex C).

This document defines the technical requirement profiles for ASBIS for three safety/security grades. It is the TRM responsibility to determine the grade involved, based on their risk assessment, selecting whichever grade best matches the risk identified, allowing for an acceptable residual risk. The annexes to this document will assist in assessing risks.

This document also describes the process for creating, maintaining and updating a TRM file. The risks are listed, assessed and residual risks are defined in this document. The analysed results define the extent and the structure of the ASBIS. An ASBIS is a part of a whole solution for managing certain events, such as emergencies or crises.

The structure and operation of an ASBIS demands TRM over the entire life cycle of the ASBIS. The monitoring of an ASBIS over its life cycle is a part of the TRM file.

This document is intended to aid implementation of legal and miscellaneous requirements.

Depending on the requirements of the Local Disabilities Act, or the relevant regulation for people with disabilities, an ASBIS can be used for the implementation of such local regulations, which means, communication in two different formats such as light and sound (two-meaning principle).

This document applies in its entire scope for other remote signalling and information technology systems if they include the functions of Advanced Security Building Intercom Systems (ASBIS).

This document does not replace any relevant standards for safety/security systems or other relevant systems. Such systems can however be integrated within an ASBIS taking these standards into account.

If the regulations in standards for such systems contradict this document, the TRM weighs up the regulations with each other, assesses them, and documents them in the decision as a deviation from the standard in the TRM file.

The recommendations and requirements of IEC 62820-3-1 are mandatory for this document. Exceptions are to be decided by the TRM and to be documented in the TRM file.

## 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.

NOTE   The following standards are named as known. If standards in the following list are not named IEC or ISO, the relevant relevant IEC/ISO standards are unknown; use available local standards instead.

IEC 60268-16:2011, *Sound system equipment – Part 16: Objective rating of speech intelligibility by speech transmission index*

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

IEC 60839-5-1:2014, *Alarm and electronic security systems – Part 5-1: Alarm transmission systems – General requirements*

IEC 60839-5-2:2016, *Alarm and electronic security systems – Part 5-2: Alarm transmission systems – Requirements for supervised premises transceiver (SPT)*

IEC 60839-5-3:2016, *Alarm and electronic security systems – Part 5-3: Alarm transmission systems – Requirements for receiving centre transceiver (RCT)*

IEC 60839-7-12:2001, *Alarm systems – Part 7-12: Message formats and protocols for serial data interfaces in alarm transmission systems – PTT interfaces for dedicated communications channels using ITU-T Recommendation V.23 signalling*

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

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

IEC 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)*

IEC 62599-1:2010, *Alarm systems – Part 1: Environmental test methods*

IEC 62599-2, *Alarm systems – Part 2: Electromagnetic compatibility – Immunity requirements for components of fire and security alarm systems*

IEC 62642-1:2010, *Alarm systems – Intrusion and hold-up systems – Part 1: System requirements*

IEC 62820-1-1:2016, *Building intercom systems – Part 1-1: System requirements – General*

IEC 62820-1-2:2017, *Building intercom systems – Part 1-2: System requirements – Building intercom systems using the internet protocol (IP)*

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

IEC 62820-3-1, *Building intercom systems – Part 3-1: Application guidelines – General*

IEC 62851-2, *Alarm and electronic security systems – Social alarm systems – Part 2: Trigger devices*

IEC 62851-3, *Alarm and electronic security systems – Social alarm systems – Part 3: Local unit and controller*

ISO/IEC 17065, *Conformity assessment – Requirements for bodies certifying products, processes and services*

ISO 31000, *Risk management – Principles and guidelines*

ISO/IEC 31010, *Risk management – Risk assessment techniques*

ISO 7240-11:2011, *Fire detection and alarm systems – Part 11: Manual call points*

ITU-T P.800, *TELEPHONE TRANSMISSION QUALITY: Methods for objective and subjective assessment of quality*

EN 50134-2:2016, *Alarm systems. Social alarm systems. Part 2: Trigger devices (*or equivalent IEC standard)

EN 50134-3:2012, *Alarm systems – Social alarm systems – Part 3: Local unit and controller (*or equivalent IEC standard)

DIN VDE 0833-1 (VDE 0833-1):2009-09, *Alarm systems for fire, intrusion and hold-up – Part 1: General provisions* (or equivalent IEC standard)

## 3   Terms, definitions and abbreviated terms

NOTE   In the following, instead of repeating "emergency, danger and hazard", only the word "danger" is used to represent all three terms.

### 3.1   Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

• IEC Electropedia: available at http://www.electropedia.org/

• ISO Online browsing platform: available at http://www.iso.org/obp.

**3.1.1**
**acceptance test**
documented joint inspection of the ASBIS by ASBIS qualified person/operator/ manager with highest level of management of the ASBIS TRM, in the form of a visual and functional check and a check on the completeness of the documents, as a prerequisite for subsequent handover to the operator and commissioning

**3.1.2**
**alarm equipment**
item of equipment which is used to warn persons or call up help to avert the danger

Note 1 to entry:   The alarm equipment may be a part or an item of additional equipment in an ASBIS.

**3.1.3**
**alarm signal**
local alarm for danger avoidance

EXAMPLE   Acoustic and/or optical and/or haptic signals and/or vocal announcements and/or text operational indicators.

**3.1.4**
**alarm transmission system**
alarm transmission device or network used to send information concerning the state of one or more alarm systems and ASBIS's in a monitored building to one or more operating- and displaying device(s) from one or more alarm receiving centres

Note 1 to entry:   An alarm transmission system may comprise more than one alarm transmission path.

**3.1.5**
**alarm precheck**
checking an alert to see whether it was the result of a dangerous situation (e.g. by means of a pre-check on-site, remote testing through voice communication and/or transmission of situation images)

**3.1.6**
**alternative power source**
energy source which is in the position to supply the ASBIS in advance for a specific amount of time when the main power source is not available

**3.1.7**
**ASBIS alarm**
warning of an existing danger to persons, property, or the environment, triggered by an alarm state, as well as the demand to call up help to avert the danger

**3.1.8**
**ASBIS alarm condition**
status when a potentially or acutely dangerous situation exists which requires the attention or response from an intervention service

**3.1.9**
**ASBIS-user**
person with the entitlement to use the ASBIS

**3.1.10**
**ASBIS qualified person**
**ASBIS specialist**
person who can assess the allocated work or identify potential dangers due to their technical training, knowledge and experience and familiarity with relevant equipment, standards, requirements and guidelines.

Note 1 to entry: Operation of the ASBIS requires persons to be qualified in electrical engineering in the area of message-, information-, microprocessor-, measurement- and control- or general electrical engineering; evidence shall be provided of the other areas and knowledge of the danger alarm systems. Knowledge on the assessment of building prerequisites, fire protection in buildings or mechanical safety/security systems, the affect of room usage, and the limits to the use of notification capture.

Note 2 to entry: A position in a relevant work area lasting several years can be applied to the assessment of the specialist training

**3.1.11**
**assisting authority**
person commissioned by the operator of the ASBIS or a centre manned at all times (e.g. emergency and service control centre as the assisting authority), which receives the alarms, alerts and information from the building, checking this information before passing it on and instructs others to take appropriate action, e.g. to monitor or conduct a search of the building

**3.1.12**
**back-up duration**
length of time for which the alternative power source can maintain full functionality of the ASBIS

**3.1.13**
**commissioning**
final test, signing off and activation of ASBIS by the owner, the organization in charge or the TRM

**3.1.14**
**communication**
switching or sending of signals or information between system components and persons

Note 1 to entry: For an ASBIS system this will include but not be limited to:

a) the transfer of useful signals from the source to the receiver and between all technical components / functions;

b) the transfer of check and acknowledgement signals from the source to the receiver via all necessary system components;

c) the transmission of voice, text and/or image(s) between source and receiver;

d) a voice communication (voice dialogue) from the trigger to the assisting authority. via all necessary system components;

e) a voice communication (voice dialogue) from the assisting authority to the trigger and the intervention service via all necessary system components.

**3.1.15**
**data and system security**
operating state of an ASBIS, in which important information (data and systems) have adequate protection against impairments to confidentiality, integrity, and availability

Note 1 to entry: Data- and system security shall be ensured by guidelines, manuals, infrastructure and services which have been developed to protect important information and systems, that are used to record, transmit, save and apply information in order to best meet the goals of the organization.

**3.1.16**
**emergency call**
call for help or information in case of an emergency (e.g. first aid)

**3.1.17**
**emergency and service control centre**
continuously manned location commissioned by the operator which receives remote alarms, alerts, and information from a monitored building, checking them before passing them on, and taking and instructing others to take necessary action, such as monitoring the building and/or instructing an intervention, and documenting it

**3.1.18**
**evaluation**
checking of equipment or a procedure by qualified personnel to assess its suitability for the desired purpose

**3.1.19**
**false alarm**
**unwanted alarm**
alarm which is not indicative of danger

**3.1.20**
**fault**
state of a unit, e.g. an ASBIS or an individual system component, characterised by its inability to meet a required function, for whatever reason

**3.1.21**
**fault message**
message indicating that there is a deviation from the specified functionality of an ASBIS or an ASBIS system component

**3.1.22**
**emergency conference**
**help call conference**
calling appropriate persons which are required to mitigate or end conflicts between persons

**3.1.23**
**integrator**
**ASBIS server**
system component used to meet a technical function of an ASBIS which is used as a control unit including distribution unit (e.g. switch) for the processing, transfer, diversion and documentation between source and receiver, which can be integrated split, centrally or distributed or in the source or recipient

**3.1.24**
**internal alarm**
alarm signal in the building after ASBIS functions are triggered for warning those present in the affected area with the aim of putting in process the required actions (e.g. self-help, self-rescue) and to notify an assisting authority where applicable

**3.1.25**
**intervention**
action used to avoid or limit personal injury, damage to property or assets