



SLOVENSKI STANDARD

SIST EN IEC 62820-3-2:2018

01-oktober-2018

Notranja komunikacija v stavbah - 3-2. del: Smernice za uporabo - Napredni varnostni sistemi notranjih komunikacij v stavbah

Building intercom systems - Part 3-2: Application guidelines - Advanced security building intercom systems

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: **EN IEC 62820-3-2:2018**
<https://standards.iteh.ai/catalog/standards/sist/4ca2c74d-1a71-4463-955a-14b79c5fb7f/sist-en-iec-62820-3-2-2018>

ICS:

35.240.67	Uporabniške rešitve IT v gradbeništvu	IT applications in building and construction industry
97.120	Avtomatske krmilne naprave za dom	Automatic controls for household use

SIST EN IEC 62820-3-2:2018

en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN IEC 62820-3-2:2018](https://standards.iteh.ai/catalog/standards/sist/4ea2c74d-1a71-4483-955a-14b79c5fb7f/sist-en-iec-62820-3-2-2018)

<https://standards.iteh.ai/catalog/standards/sist/4ea2c74d-1a71-4483-955a-14b79c5fb7f/sist-en-iec-62820-3-2-2018>

EUROPEAN STANDARD

EN IEC 62820-3-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2018

ICS 13.320

English Version

**Building intercom systems - Part 3-2: Application guidelines -
Advanced security building intercom systems (ASBIS)
(IEC 62820-3-2:2018)**

Systèmes d'interphone de bâtiment - Partie 3-2: Lignes
directrices d'application - Systèmes d'interphone de
bâtiment à sécurité avancée (ASBIS)
(IEC 62820-3-2:2018)

Gebäude-Sprechanlagen - Teil 3-2: Gebäude-
Sprechanlagen für erhöhte Sicherheitsanforderungen -
Anwendungsrichtlinien
(IEC 62820-3-2:2018)

This European Standard was approved by CENELEC on 2018-03-13. 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.

SIST EN IEC 62820-3-2:2018

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 62820-3-2:2018**European foreword**

The text of document 79/601/FDIS, future edition 1 of IEC 62820-3-2, prepared by IEC/TC 79 "Alarm and electronic security systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62820-3-2:2018.

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) 2018-12-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-06-22

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62820-3-2:2018 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 61907:2009	NOTE	Harmonized as EN 61907:2010 (not modified).
IEC 62676 Series	NOTE	Harmonized as EN 62676 Series.
ISO/IEC 17065	NOTE	Harmonized as EN ISO/IEC 17065.
ISO 9000:2005	NOTE	Harmonized as EN ISO 9000:2005 ¹ (not modified).
ISO 14971:2007	NOTE	Harmonized as EN 14971:2007 (not modified).

¹ Superseded by EN ISO 9000:2015 (ISO 9000:2015).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
-	-	Alarm systems - Social alarm systems - Part 2: Trigger devices	EN 50134-2	2017
-	-	Alarm systems - Social alarm systems - Part 3: Local unit and controller	EN 50134-3	2012
IEC 60268-16	2011	Sound system equipment - Part 16: Objective rating of speech intelligibility by speech transmission index	EN 60268-16	2011
IEC 60529	-	Degrees of protection provided by enclosures (IP Code)	EN 60529	-
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 standard for residential, commercial and light-industrial environments	EN 61000-6-1	-
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	-

EN IEC 62820-3-2:2018

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62262	2002	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)	EN 62262	2002
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	EN 62820-1-1	2016
IEC 62820-1-2	2017	Building intercom systems - Part 1-2: System requirements - Building intercom systems using the internet protocol (IP)	EN 62820-1-2	2017
IEC 62820-2	-	Building intercom systems - Part 2: Requirements for advanced security building intercom systems (ASBIS)	EN IEC 62820-2	-
IEC 62820-3-1	-	Building intercom systems - Part 3-1 Application guidelines - General	EN 62820-3-1	-
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	EN ISO/IEC 17065	-
ISO 31000	-	Risk management - Principles and guidelines	-	-
IEC/ISO 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 subjective determination of transmission quality	-	-
DIN VDE 0833-1	2009	Alarm systems for fire, intrusion and hold-up - Part 1: General provisions	-	-



IEC 62820-3-2

Edition 1.0 2018-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE



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)

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 13.320

ISBN 978-2-8322-5357-1

Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.

CONTENTS

FOREWORD.....	5
INTRODUCTION.....	7
1 Scope.....	8
2 Normative references	9
3 Terms, definitions and abbreviated terms	11
3.1 Terms and definitions.....	11
3.2 Abbreviated terms.....	18
4 Requirements for the ASBIS and ranges of application	18
4.1 General.....	18
4.2 Selected examples for ASBIS applications	19
4.2.1 General	19
4.2.2 ASBIS for access communication	19
4.2.3 ASBIS in schools and other education institutions.....	19
4.2.4 ASBIS in authorities and offices.....	19
4.2.5 ASBIS in the legal system.....	19
4.2.6 ASBIS at railway stations and airports	20
4.2.7 ASBIS in shopping centres	20
4.2.8 ASBIS in Public residential buildings	20
4.2.9 Other examples	20
4.3 ASBIS operational flow chart for emergency and danger communication.....	20
4.4 System structure.....	21
4.5 Tasks of an ASBIS.....	22
4.5.1 General	22
4.5.2 Safety / security tasks.....	22
4.5.3 Tasks for improving day-to-day processes (schools, universities, etc. in the example here).....	22
4.5.4 Day-to-day communication	22
4.6 Safety / security grades	22
4.7 Components of an ASBIS.....	25
4.7.1 Electronic measures	25
4.7.2 Mechanical protection measures.....	26
4.7.3 Other options.....	26
4.8 Requirements for system components and interfaces.....	26
4.8.1 Basic requirements	26
4.8.2 Requirements for the system networks	30
4.8.3 System control centre (ASBIS-server).....	30
4.8.4 Intercom unit as source (VCU, URU)	31
4.8.5 Intercom unit as receiver (SMU, URU).....	31
4.8.6 Intercom unit as source and receiver (URU, SMU).....	31
4.8.7 Emergency and danger warning equipment (ASBIS warning equipment).....	31
4.8.8 Operational indicators and alarms	33
4.8.9 Power supply.....	34
4.8.10 Electrical cables	35
4.8.11 Interface to to other safety/security systems	35
4.9 Other requirements	36
4.9.1 Implementation of services	36

4.9.2	Arrangement and distribution of call terminals	36
4.9.3	Distinguishing between a call and an emergency call.....	36
4.9.4	Alarm groups	36
4.9.5	Internal alarm and instructions on how to proceed	36
4.10	General device and system requirements.....	37
4.10.1	General requirements	37
4.10.2	Protection against environmental influences	37
4.10.3	Onsite Influences.....	37
4.10.4	Functional safe guard	37
4.10.5	Operating safety/security	38
4.10.6	Indicators	39
4.10.7	Messages	39
4.10.8	Structure	39
4.10.9	Processing messages.....	40
5	Commissioning / delivery.....	40
5.1	General.....	40
5.2	General information	40
5.2.1	Documentation	40
5.2.2	Commissioning.....	41
5.3	Functional interaction of the system components	41
5.4	Options.....	41
6	Operation and maintenance.....	41
6.1	General.....	41
6.2	Operational test	42
6.3	Commissioning/repairs.....	42
6.4	Replacing the battery and rechargeable battery.....	42
6.5	Software updates	42
7	Tasks and responsibilities.....	42
7.1	General information	42
7.2	Organization in charge (responsible organization).....	44
7.3	Top tier of management	44
7.4	Technical Risk Management	44
7.4.1	General	44
7.4.2	Specifications in the TRM file	45
7.5	ASBIS-user	46
7.6	Trained person.....	46
7.7	Planner (technical planners, architect, consultant, general planners)	46
7.8	Installer.....	47
7.9	Maintenance staff	47
7.10	Manufacturer of the system components and the IT network	48
8	Change management.....	48
8.1	General information	48
8.2	Change process.....	48
Annex A	(informative) Information on voice announcements	50
A.1	General information	50
A.2	Examples of announcement texts.....	50
Annex B	(informative) Advanced security building intercom systems (ASBIS)	51

Annex C (informative) Relationship between TRM and ORM as part of an overall risk management related to an ASBIS application	52
C.1 General information	52
C.2 Graphical description	52
Annex D (informative) Table: Help-tables for risk assessment.....	53
D.1 Risk identification related to ASBIS applications	53
D.2 Example table for assessing the likelihood of an emergency / dangerous situation	54
D.3 Protection target definitions as part of the planning for an ASBIS.....	55
D.4 Classification of the protections demanded	55
Annex E (informative) Assisting organizational issues to reduce emergency, danger and hazard event duration	56
E.1 Labelling doors and buildings.....	56
E.2 Training	56
Bibliography.....	57
Figure 1 – Interdependence between human/organizational and technical level at an ASBIS used for emergency and danger reaction purposes	20
Figure 2 – System structure of an ASBIS	21
Figure 3 – Classification of the grade.....	24
Figure 4 – Example of an emergency and danger warning equipment as a single module.....	32
Figure 5 – General information of interrelationships and responsibilities	43
Figure C.1 – Overview of interrelationship between TRM and ORM as parts of the overall risk management.....	52
Table 1 – Requirements for the ASBIS and its intercom units depending on the grade.....	27
Table 2 – Requirements for the ASBIS power supply	35
Table D.1 – Risk identification related to typical dangers	53
Table D.2 – Table to identify environmental conditions for assessing the likelihood of an emergency / dangerous situation	54
Table D.3 – List of typical protection targets to identify the risk relevance.....	55

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
<https://standards.iteh.ai/catalog/standards/sist/4ea2c74d-1a71-4483-955a-1f82c0b7c941/iec-62820-3-2:2018>
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62820-3-2 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[SIST EN IEC 62820-3-2:2018](https://standards.iteh.ai/catalog/standards/sist/4ea2c74d-1a71-4483-955a-14b79c5ffb7f/sist-en-iec-62820-3-2-2018)

<https://standards.iteh.ai/catalog/standards/sist/4ea2c74d-1a71-4483-955a-14b79c5ffb7f/sist-en-iec-62820-3-2-2018>

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*