



**SLOVENSKI STANDARD**  
**SIST IEC 60839-5-3:2024**

**01-september-2024**

---

**Alarmni in elektronski varnostni sistemi - 5-3. del: Alarmni prenosni sistemi -  
Zahteve za oddajnik sprejemnega centra (RCT) (IEC 60839-5-3:2016)**

Alarm and electronic security systems - Part 5-3: Alarm transmission systems -  
Requirements for receiving centre transceiver (RCT)

Systemes d'alarme et de sécurité électroniques - Partie 5-3: Systemes de transmission  
d'alarme - Exigences pour les transmetteurs du centre de réception (RCT)

**Ta slovenski standard je istoveten z: IEC 60839-5-3:2016**

---

<https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024>

**ICS:**

13.320 Alarmni in opozorilni sistemi Alarm and warning systems

**SIST IEC 60839-5-3:2024**

**en**





IEC 60839-5-3

Edition 1.0 2016-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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

**Systèmes d'alarme et de sécurité électroniques –  
Partie 5-3: Systèmes de transmission d'alarme – Exigences pour les  
transmetteurs du centre de réception (RCT)**

[SIST IEC 60839-5-3:2024](https://standards.iteh.ai)

<https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024>

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 13.320

ISBN 978-2-8322-3166-1

**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.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Terms, definitions and abbreviations .....	8
3.1 Terms and definitions .....	8
3.2 Abbreviations .....	8
4 General requirements .....	8
4.1 General.....	8
4.2 RCT classification .....	8
5 Functional requirements .....	8
5.1 General.....	8
5.2 Access levels .....	9
5.3 Uploading and downloading of software .....	10
5.4 Storage of parameters and data .....	10
5.5 Monitoring and notification of failure of the ATP and ATS .....	10
5.6 Interface(s) to the AE(s) .....	10
5.7 Fault signalling.....	10
5.8 Event recording.....	11
5.9 Mode of operation (store-and-forward or pass-through).....	12
5.9.1 General .....	12
5.9.2 Store-and-forward operation requirements.....	12
5.9.3 Pass-through operation requirements .....	12
5.10 Denial of service .....	12
5.11 Information security.....	12
5.12 Substitution security.....	12
5.13 RCT redundancy .....	13
5.14 Documentation.....	13
5.15 Marking/identification .....	13
6 Tests.....	13
6.1 General.....	13
6.2 Test conditions.....	13
6.2.1 Laboratory conditions and tolerance .....	13
6.2.2 Mounting.....	14
6.2.3 Documentation.....	14
6.2.4 Power supply .....	14
6.3 Functional tests.....	14
6.3.1 General .....	14
6.3.2 Access levels.....	15
6.3.3 Upload and download of software .....	16
6.3.4 Parameter storage .....	17
6.3.5 Monitoring and notification of an ATS failure for a single path ATS.....	17
6.3.6 Monitoring and notification of an ATS failure for a dual path ATS .....	18
6.3.7 Interface(s) to the AE(s) .....	18
6.3.8 Fault signalling .....	19
6.3.9 Processing of alarm signals.....	20

6.3.10	Event recording.....	20
6.3.11	Clock resolution and synchronisation.....	21
6.3.12	Endurance of the log.....	21
6.3.13	Optimising methods of storage of events.....	21
6.3.14	User identification for log entries.....	22
6.3.15	Mode of operation.....	22
6.3.16	Denial of service.....	23
6.3.17	Information and substitution security.....	23
6.3.18	RCT redundancy.....	24
6.3.19	Documentation.....	24
Bibliography.....		25
Table 1 – Access levels – Logical access to functions.....		10
Table 2 – Event recording classification – Events to be recorded.....		11
Table 3 – Summary of functional tests.....		14
Table 4 – Test of access levels.....		15
Table 5 – Test of upload and download of software.....		16
Table 6 – Test of parameter storage.....		17
Table 7 – Test of interface(s) to the AE(s).....		19
Table 8 – Fault signalling.....		19
Table 9 – Test of event recording.....		20
Table 10 – Test of clock resolution and synchronisation.....		21
Table 11 – Test of log optimisation.....		22
Table 12 – Test of user identification logging.....		22
Table 13 – Test of mode of operation.....		23
Table 14 – Test of RCT redundancy.....		24

SIST IEC 60839-5-3:2024

<https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024>

## INTERNATIONAL ELECTRICAL COMMISSION

**ALARM AND ELECTRONIC SECURITY SYSTEMS –****Part 5-3: Alarm transmission systems –  
Requirements for receiving centre transceiver (RCT)**

## 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.
- 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 60839-5-3 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This international standard is based on EN 50136-3:2013.

The text of this standard is based on the following documents:

CDV	Report on voting
79/464/CDV	79/515/RVC

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

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

A list of all parts in the IEC 60839 series, published under the general title *Alarm and electronic security systems*, can be found on the IEC website.

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

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

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[SIST IEC 60839-5-3:2024](https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024)

<https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024>

## INTRODUCTION

The object of this part of IEC 60839 is to specify the general requirements for the performance, reliability, resilience and security of alarm transmission systems and to ensure their suitability for use with different types of alarm systems and annunciation equipment.

An alarm transmission system may use any type of transmission network.

When the ATS functions are integrated into an alarm system or annunciation equipment the requirements of this standard apply.

The intended users of this international standard include alarm transmission service providers, alarm receiving centre operators, fire departments, insurance companies, telecommunication network operators, internet service providers, equipment manufacturers, alarm companies, end users and others.

The IEC 60839-5 series consists of the following parts, under the general title *Alarm and electronic security systems*:

- Part 5-1: Alarm transmission systems – General requirements;
- Part 5-2: Alarm transmission systems – Requirements for supervised premises transceiver (SPT);
- Part 5-3: Alarm transmission systems – Requirements for receiving centre transceiver (RCT);
- Part 5-4<sup>1</sup>: (under evaluation);
- Part 5-5<sup>1</sup>: (under evaluation);
- Part 5-6<sup>1</sup>: (under evaluation);
- Part 5-7: (place holder).

[SIST IEC 60839-5-3:2024](https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024)

<https://standards.iteh.ai/catalog/standards/sist/461274b3-192e-417a-983c-fbf0b7a23535/sist-iec-60839-5-3-2024>

---

<sup>1</sup> The former IEC 60839-5 series (1991) is being reviewed by an ad-hoc group set-up at the TC 79 meeting in Milano in October 2013. This ad-hoc group is in charge of evaluating the relevance / obsolescence of IEC 60839-5-4, IEC 60839-5-5 and IEC 60839-5-6 developed in 1991 and advise TC 79 on their future.



## ALARM AND ELECTRONIC SECURITY SYSTEMS –

### Part 5-3: Alarm transmission systems – Requirements for receiving centre transceiver (RCT)

#### 1 Scope

This part of IEC 60839 specifies the minimum equipment requirements for the performance, reliability, resilience, security and safety characteristics of the receiving centre transceiver (RCT) installed in an ARC and used in alarm transmission systems.

The alarm transmission system requirements and classifications are defined within IEC 60839-5-1. Different types of alarm systems may in addition to alarm messages also send other types of messages, e.g. fault messages and status messages. These messages are also considered to be alarm messages. The term alarm message is used in this broad sense throughout the document.

Where application specific standards exist, the RCT should comply with relevant standards called up by that application.

The RCT can be either an integrated element of any receiving/annunciation equipment, or a stand-alone device. In either case, the requirements of this international standard should apply.

The function of the RCT is to monitor the ATPs, receive alarm messages, forward alarm messages to one or more AEs and send acknowledgements to the SPTs.

This international standard specifies the minimum equipment requirements for the performance, reliability, resilience, security and safety characteristics of the receiving centre transceiver (RCT) installed in alarm receiving centres and to define parameters that are tested to ensure its compatibility with ATS categories.

Management of the transmission network is not in the scope of this international standard.

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

IEC 62599-1, *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*

### 3 Terms, definitions and abbreviations

#### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60839-5-1, as well as the following, apply.

##### 3.1.1

**remote access**

access to the equipment from any location that is outside the protected premises in which the equipment is located

#### 3.2 Abbreviations

For the purposes of this document, the following abbreviations apply:

AE	Annunciation equipment
AS	Alarm system
ATP	Alarm transmission path
ATS	Alarm transmission system
ARC	Alarm receiving centre
CIE	Control and indicating equipment
EMC	Electromagnetic compatibility
GND	Ground
GPRS	General packet radio services
I&HAS	Intruder and hold-up alarm systems
NTP	Network time protocol
RCT	Receiving centre transceiver
SPT	Supervised premises transceiver

### 4 General requirements

#### 4.1 General

Where appropriate, equipment shall comply with local, national and international requirements and regulations for connection and transmission via public or private networks.

Requirements in this international standard shall be considered as a minimum. As the RCT is used together with or integrated in receiving/annunciation equipment, the requirements of the specific applications or related standards shall apply.

#### 4.2 RCT classification

This international standard defines RCT requirements. For the purpose of RCT classification reference is made to the ATS categories in IEC 60839-5-1. The RCT documentation shall describe for which ATS categories the RCT complies with the requirements.

### 5 Functional requirements

#### 5.1 General

The RCT shall provide communication between one or more AEs and one or more SPTs and monitor the interface(s) to one or more AEs.