



# SLOVENSKI STANDARD

## SIST IEC 60839-5-1:2002

01-junij-2002

---

### Alarm systems - Part 5: Requirements for alarm transmission systems - Section 1: General requirements for systems

Alarm systems - Part 5: Requirements for alarm transmission systems - Section 1:  
General requirements for systems

## iTeh STANDARD PREVIEW

Systemes d'alarme - Partie 5: Prescriptions pour les systemes de transmission d'alarme  
- Section 1: Prescriptions generales pour les systemes

[SIST IEC 60839-5-1:2002](https://standards.itih.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002)

Ta slovenski standard je istoveten z: **IEC 60839-5-1**

---

### ICS:

13.320 Alarmni in opozorilni sistemi Alarm and warning systems

**SIST IEC 60839-5-1:2002**

**en**

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

[SIST IEC 60839-5-1:2002](#)

<https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002>

**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC**

**60839-5-1**

Première édition  
First edition  
1991-04

---



---

**Systèmes d'alarme**

**Partie 5:**

**Prescriptions pour les systèmes de transmission  
d'alarme**

**Section 1: Prescriptions générales pour les systèmes  
(standards.iteh.ai)**

**Alarm systems**

<https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-420850b2603/sist-iec-60839-5-1-2002>

**Part 5:**

**Requirements for alarm transmission systems**

**Section 1: General requirements for systems**

© IEC 1991 Droits de reproduction réservés — Copyright - all rights reserved

Aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'éditeur.

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission  
Telefax: +41 22 919 0300

3, rue de Varembé Geneva, Switzerland  
e-mail: [inmail@iec.ch](mailto:inmail@iec.ch) IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

CODE PRIX  
PRICE CODE

**P**

*Pour prix, voir catalogue en vigueur  
For price, see current catalogue*

## CONTENTS

	Page
FOREWORD .....	5
Clause	
1 Scope .....	7
2 Normative references .....	7
3 Definitions .....	7
4 General considerations .....	11
5 Requirements .....	13
6 Test methods .....	23
FIGURES .....	28

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

[SIST IEC 60839-5-1:2002](https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002)

<https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002>

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ALARM SYSTEMS

## Part 5: Requirements for alarm transmission systems

## Section 1: General requirements for systems

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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

This section of the International Standard IEC 839-5 has been prepared by the IEC Technical Committee No. 79: Alarm systems.

<https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002>

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

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
79(CO)20	79(CO)30	79(CO)37	79(CO)47

Full information on the voting for the approval of this section can be found in the Voting Reports indicated in the above table.

## ALARM SYSTEMS

### Part 5: Requirements for alarm transmission systems

#### Section 1: General requirements for systems

##### 1 Scope

This section of IEC 839-5 specifies the general requirements for the performance, reliability and security characteristics of alarm transmission systems.

It covers the general requirements for connections providing signalling between an alarm system and an alarm receiving centre.

Additional requirements for specific alarm transmission systems are given in separate sections as parts of IEC 839-5. This does not preclude the use of any transmission system not covered by one of these specific sections, provided that it meets these general requirements.

iTeh STANDARD PREVIEW

This section does not specify the method of display of information and the installation of equipment.

[SIST IEC 60839-5-1:2002](https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002)

##### 2 Normative references

The following standard contains provisions which, through reference in this text, constitute provisions of this section of IEC 839-5. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this section of IEC 839-5 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 839-5-2: 1991, *Alarm systems - Part 5: Requirements for alarm transmission systems - Section 2: General requirements for equipment.*

##### 3 Definitions

3.1 **alarm company:** Organisation which provides and/or installs and/or maintains the alarm system.

3.2 **alarm condition:** Condition of the alarm system, or part thereof, which results from the response of the system, or part thereof, to the presence of a hazard.

**3.3 alarm system:** Electrical installation designed to detect and signal the presence of an abnormal condition and generate an alarm signal indicating the presence of a hazard.

**3.4 alarm transmission system:** Equipment and network used to transfer information concerned with the state of one or more alarm systems to one or more alarm receiving centres.

NOTE - Alarm transmission systems exclude local direct connections, i.e. interconnections between parts of an alarm system which do not require an interface to transform the alarm system information into a form suitable for transmission.

**3.5 anti-tamper function:** Function to detect interference with a component part of an alarm system.

**3.6 central station:** See Alarm receiving centre.

**3.7 encryption:** Coding, translation or other modification of information whereby the manner in which the information is modified varies with time in a pseudorandom manner.

**3.8 remote centre:** Location remote from the supervised premises, in which the information concerned with the state of one or more alarm systems is collected either for reporting (i.e. an alarm receiving centre) or for onward transmission (i.e. satellite station or collector point).

**3.8.1 alarm receiving centre (central station):** Continuously manned remote centre to which the information concerned with the state of one or more alarm systems is reported.

<https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002>

**3.8.2 monitoring centre:** Manned remote centre in which the status of an alarm transmission system is monitored.

NOTE - A monitoring centre may be a separate centre or part of an alarm receiving centre.

**3.8.3 satellite station:** Remote centre normally unmanned, but with provisions for manning in an emergency, in which the information concerned with the state of a number of alarm systems is collected for onward transmission either direct or via a further satellite station to an alarm receiving centre.

**3.8.4 collector point:** Unmanned remote centre, without provision for manning in an emergency, in which information concerned with the state of a number of alarm systems is collected for onward transmission either direct or via a satellite station to an alarm receiving centre.

**3.9 scrambling:** Coding, translation or other modification of information whereby the manner in which the information is modified is determined by a random key, but does not vary with time.

## 4 General considerations

### 4.1 *Applicable standards*

Where use is made of public networks, the relevant recommendations (CCITT, CCIR, etc) are applicable. Where appropriate, reference should also be made to the ISO Open System Interconnection (OSI) layered architecture model.

### 4.2 *System configuration*

The logical configuration of an alarm transmission system is as shown in figure 1.

Depending upon the required reliability levels and the operational features of the alarm receiving centres, various system configurations are possible, for instance:

- configuration with one alarm receiving centre (see figure 2);
- configuration with two alarm receiving centres of which the master is operating and the slave is idle for back-up (see figure 3).

Other system configurations that meet the requirements of this section are acceptable.

## iTeh STANDARD PREVIEW

Selection of the type of alarm transmission system used for an alarm system should be dependent upon the required level of reliability and/or security. Reference should be made to the separate standards describing the different types of alarm transmission systems.

[SIST IEC 60839-5-1:2002](https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002)

[https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-](https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002)

[4a20850b2603/sist-iec-60839-5-1-2002](https://standards.iteh.ai/catalog/standards/sist/10cdc842-84dc-4681-8b1d-4a20850b2603/sist-iec-60839-5-1-2002)

In order to provide for increased communication reliability, more than one communication channel may be used between an alarm system and one or more alarm receiving centres.

For the purpose of transmission redundancy, an alarm system may be connected to a remote centre by more than one form of transmission, e.g. dedicated transmission paths and digital communicators using the public switched network.

### 4.3 *Transmission characteristics*

The transmission of the state of the alarm system shall be:

- a) continuous, or
- b) periodic and/or
- c) by exception (whenever the state changes).

If transmission is not continuous, the control of transmission belongs to the following:

- a) alarm system and/or
- b) alarm receiving centre, or
- c) transmission system.



## 5 Requirements

The alarm transmission system shall provide communication between one or more alarm systems and one or more alarm receiving centres.

### 5.1 *Transmission facilities shared with other alarm systems*

The alarm transmission system shall be such that adding, changing or removing subscribers does not affect other subscribers' signals.

The communications between an alarm system and an alarm receiving centre shall continue to meet the requirements of the appropriate class of table 1 in the presence of any other normal signals carried by the same alarm transmission system.

For systems with automatic monitoring, abnormal signals and conditions which prevent the correct operation of the alarm transmission system shall result in a fault signal.

The communications between an alarm system and an alarm receiving centre shall continue to meet the requirements of the appropriate class of table 1 when alarm or fault signals are generated at a rate equivalent to one such signal per minute from transmitters representing up to 1 % of the system capacity.

If this rate of transmission is exceeded then the degree of degradation of performance of the alarm transmission system shall be specified in the system specification. The degradation shall be gradual (e.g. transmission times shall slowly increase) until a rate equivalent to one such signal per minute from transmitters representing up to 10 % of the system capacity is achieved and it shall return to meeting the requirements of this standard within 5 min of the rate being reduced back to 1 %.

NOTE - Thus a system with 1 000 connected transmitters shall continue to meet the requirements of this standard if alarms are being generated at a rate of 10/min.

### 5.2 *Transmission facilities shared with non-alarm services*

Transmission facilities shared with non-alarm services shall be so arranged that operation and maintenance of the non-alarm services does not prevent the alarm transmission system for meeting the requirements of this section.

NOTE - The above applies in the case of a switched network after the connection is established.

### 5.3 *Performance*

#### 5.3.1 *General*

The alarm transmission system shall transmit information concerning the state of the alarm system to the proper alarm receiving centre.