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Alarm and electronic security systems - Part 5-1: Alarm transmission systems - General requirements

Systèmes d'alarme et de sécurité électroniques - Partie 5-1: Systèmes de transmission d'alarme - Exigences générales

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**Alarm and electronic security systems –
Part 5-1: Alarm transmission systems – General requirements**

**Systèmes d'alarme et de sécurité électroniques –
Partie 5-1: Systèmes de transmission d'alarme – Exigences générales**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ALARM AND ELECTRONIC SECURITY SYSTEMS –

Part 5-1: Alarm transmission systems – General requirements

FOREWORD

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International Standard IEC 60839-5-1 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This international standard is based on EN 50136-1:2012.

This second edition cancels and replaces the first edition published 1991. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) The previous version was published 24 years ago, techniques and constraints have been widely changed since that time. Although covering the same subject the contents of the new IEC 60839-5-1 are widely different and there is no constructive issues in trying to find similarities and differences between both versions.

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

FDIS	Report on voting
79/479/FDIS	79/490/RVD

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.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site 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- withdrawn,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.

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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 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 5-4¹: (under evaluation);
- Part 5-5¹: (under evaluation);
- Part 5-6¹: (under evaluation);
- Part 5-7: (place holder).

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1 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 all parts of IEC 60839-5 series. The result of this analysis can be found in 79/462/DC and 79/477/INF that recommend to:

- keep IEC 60839-5-1 and IEC 60839-5-2 to receive, under identical titles, updated contents, such as the present document;
- withdraw IEC 60839-5-4, IEC 60839-5-5 and IEC 60839-5-6 developed in 1991 that have now no relevance.

ALARM AND ELECTRONIC SECURITY SYSTEMS –

Part 5-1: Alarm transmission systems – General requirements

1 Scope

This part of IEC 60839 specifies the requirements for the performance, reliability, resilience and security of alarm transmission systems and ensures 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.

This standard specifies the requirements for alarm transmission systems providing alarm transmission between an alarm system at supervised premises and annunciation equipment at an alarm receiving centre.

This standard applies to transmission systems for all types of alarm messages such as fire, intrusion, access control, social alarm, etc. 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 in the context of this standard. The term alarm is used in this broad sense throughout the document.

Additional alarm transmission requirements of specific types of alarm systems are given in the relevant standards. The intended users of this 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.

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.

None.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

NOTE The definitions below are read in conjunction with Figure 1.

3.1.1

alarm condition

condition of an alarm system (AS), or part thereof, which results from the response of the system, or part thereof, to the presence of a hazard

3.1.2 alarm receiving centre ARC

continuously manned centre to which information concerning the status of one or more alarm systems (ASs) is reported

Note 1 to entry: This note applies to the French language only.

3.1.3 alarm system AS

electrical installation, which responds to the manual or automatic detection of the presence of a hazard

Note 1 to entry: The AS is not part of the alarm transmission system (ATS).

Note 2 to entry: This note applies to the French language only.

3.1.4 alarm transmission equipment ATE

collective term to describe a supervised premises transceiver (SPT), a monitoring centre transceiver (MCT) and a receiving centre transceiver (RCT)

Note 1 to entry: This note applies to the French language only.

3.1.5 alarm transmission path ATP

route an alarm message travels between an individual AS and its associated AE

Note 1 to entry: The ATP starts at the interface between the AS and the supervised premises transceiver (SPT) and ends at the interface between the receiving centre transceiver (RCT) and the AE. For notification and surveillance purposes the reverse direction may also be used.

Note 2 to entry: This note applies to the French language only.

3.1.6 alarm transmission service network ATSN

group of alarm transmission systems (ATs) of the same category

Note 1 to entry: An ATSN consists of one or more ATs of the same category, functioning under supervision of the same management and monitoring centre.

Note 2 to entry: This note applies to the French language only.

3.1.7 alarm transmission service provider ATSP

person or entity that is responsible for design, operation and the verification of the performance of one or more alarm transmission service networks (ATSNs)

Note 1 to entry: The ATSP may take responsibility for the ATS provision and performance monitoring of one or more ATSN as the design authority, through contracts with customers, ARCs, transmission network operators, etc.

Note 2 to entry: This note applies to the French language only.

3.1.8 alarm transmission system ATS

alarm transmission equipment (ATE) and networks used to transfer information concerned with the state of one or more alarm systems (ASs) at supervised premises to one or more annunciation equipments (AEs) of one or more alarm receiving centres (ARCs)

Note 1 to entry: An ATS may consist of more than one alarm transmission path (ATP).

Note 2 to entry: This note applies to the French language only.

3.1.9 alarm transmission system category ATS category

set of parameters that define the performance requirements of an alarm transmission system

Note 1 to entry: A category defines minimum ATS requirements.

Note 2 to entry: The alarm system application should specify the appropriate ATS category.

Note 3 to entry: Where resilience and reliability are considered important for the alarm system application, the use of a dual path ATS is recommended.

3.1.10 alarm transmission system management system ATS management system

part of the ATS that is used to manage alarm transmission equipment, supervise alarm transmission equipment and networks and may help to keep the ATS in operation

Note 1 to entry: The management system may also be used to collect data about the ATS availability.

3.1.11 alarm transmission system monitoring centre ATS monitoring centre

centre in which the status and performance of one or more ATS is monitored

Note 1 to entry: A monitoring centre may be a separate centre or part of an ARC.

Note 2 to entry: A monitoring centre may be the place where monitoring centre transceivers (MCTs) are located.

Note 3 to entry: A monitoring centre may be the place where a management system is located.

3.1.12 annunciation equipment AE

equipment located at an alarm receiving centre (ARC) which secures and displays the alarm status, or the changed alarm status of alarm systems (ASs) in response to the receipt of incoming alarms before sending a confirmation

Note 1 to entry: The AE is not part of the alarm transmission system (ATS).

Note 2 to entry: This note applies to the French language only.

3.1.13 authentication

exchange of a code to identify that a supervised premises transceiver (SPT) has not been substituted by a similar equipment without this code, or that the information message transmitted has not been modified

3.1.14 availability, general

percentage of time a system or parts of a system are functioning in accordance with the requirements of this standard

3.1.15 diverse technology

technology used in transmission paths in such a way that a single point of failure, or tampering of a single point, cannot cause both alarm transmission paths (ATPs) of a dual path system to fail simultaneously