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Alarm and electronic security systems - Part 5-2: Alarm transmission systems - Requirements for supervised premises transceiver (SPT)

Systèmes d'alarme et de sécurité électroniques - Partie 5-2: Systèmes de transmission d'alarme - Exigences pour les transmetteurs des locaux surveillés (SPT)

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CONTENTS

INTERNATIONAL ELECTRICAL COMMISSION

ALARM AND ELECTRONIC SECURITY SYSTEMS –

Part 5-2: Alarm transmission systems – Requirements for supervised premises transceiver (SPT)

FOREWORD

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International Standard IEC 60839-5-2 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This international standard is based on EN 50136-2:2013.

The 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) updates to reflect the current technological state of art (IP networks);
b) harmonization with the ATS categories introduced in IEC 60839-5-1:2014;
c) introduction of test requirements.

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

CDV	Report on voting
79/463/CDV	79/514/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 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- withdrawn,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.

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[1]: (under evaluation);
– Part 5-5[1]: (under evaluation);
– Part 5-6[1]: (under evaluation);
– Part 5-7: (place holder).

[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 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 5-2: Alarm transmission systems – Requirements for supervised premises transceiver (SPT)

1 Scope

This part of IEC 60839-5 specifies the general equipment requirements for the performance, reliability, resilience, security and safety characteristics of supervised premises transceiver (SPT) installed in supervised premises and used in alarm transmission systems (ATS). A supervised premises transceiver can be a stand-alone device or an integrated part of an alarm system.

These requirements also apply to the SPT sharing means of interconnection, control, communication and power supplies with other applications.

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. The term alarm is used in this broad sense throughout the document. Additional requirements for the connection of specific types of alarm systems are given in the relevant international standards.

Because the SPT can be applied in different applications (e.g. I&HAS, fire and social alarm systems), requirements for the SPT, additional to those of this international standard, may be specified in separate application specific documents.

This international standard specifies the requirements specific to alarm transmission. Application specific requirements for the connection of the SPT to specific types of alarm systems are given in the IEC 60839-5 series for I&HAS, and the EN 54 series for fire. For other SPT applications, see the relevant national or international standards.

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 security 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
alternative power source
power source capable of powering the SPT for a predetermined time when a prime power source is unavailable

3.1.2
indication
information (in audible, visual or any other form) about the state of the SPT, RCT and/or ATS

3.1.3
logical access
access to SPT data (e.g. configuration, status, software)

3.1.4
local access
access to the SPT from within the protected premises where physical access is required before logical access can be achieved

3.1.5
remote access
access to the SPT not requiring physical access

3.1.6
prime power source
power source used to support an SPT under normal operating conditions

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
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 standard shall be considered as a minimum. As the SPT is used together with or integrated in associated alarm systems, the requirements of the specific applications or related standards shall apply.

Specific applications may require additional testing of the SPT. If such characteristics for a non-alarm application are provided and are submitted for testing, they shall be specified by the manufacturer at the time of testing.

4.2 SPT classification

This standard defines SPT requirements. For some specific characteristics also, a classification system or measuring scale is introduced. For the purpose of SPT classification, reference is made to the ATS categories in IEC 60839-5-1. The SPT shall be labelled with each category or range of categories that it can be applied to.

If a custom category (category C) is defined then the requirements corresponding to Tables 1, 2 and 3 shall also be defined.

5 Functional requirements

5.1 General

The SPT shall be able to receive alarms from one or more ASs and transmit the alarm to one or more RCTs via one or more ATPs within the requirements of the appropriate ATS category.

5.2 Access levels

This standard specifies four levels of access that categorise the ability of users to gain logical access to the SPT functions.

Physical access requirements may be defined in the relevant application specific standards.

Access levels are defined as follows:

– Level 1: access to functions, indications and notifications available to any individual without authentication;

– Level 2: access to information about the operational status of the SPT. Access level 2 may also allow access to basic functional tests and the management of other access level 2 users;

– Level 3: maintenance and commissioning functions, access in order to affect the SPT configuration including the addition, removal or replacement of components and other operations that directly, or indirectly, may influence the functions of the SPT;

– Level 4: access to update the software and read-only functions.

Access to level 2, 3 and level 4 functions shall require authorisation with a key.

Access at level 3 should be authorised by a user with level 2 access. Access at level 4 should be authorised by a user with level 3 access. This may be achieved by a one-time authorisation as part of a service level agreement.

Access at levels 2, 3 and 4 may be achieved by providing authorisation, equivalent to 1 000 000 different keys .

Where it is possible to attempt to gain access more than 3 times in a 60-second period the SPT shall have the ability to delay repeated attempts. After the third attempt, each further attempt shall be prevented for a minimum of 90 s.

Where factory default keys are provided, it shall not be possible to complete the SPT commissioning without first changing these keys e.g. during installation. It shall not be possible to read any key that provides authorisation for access at levels 2, 3 or 4.