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SIST-TS CLC/TS 50136-7:2004

Alarmni sistemi - Sistemi in oprema za prenos alarma - 7. del: Smernice za uporabo

Alarm systems - Alarm transmission systems and equipment - Part 7: Application guidelines

Alarmanlagen - Alarmübertragungsanlagen und -einrichtungen - Teil 7: Anwendungsregeln

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Systèmes d'alarme - Systèmes et équipements de transmission d'alarme - Partie 7 : Guide d'application

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13.320	Alarmni in opozorilni sistemi	Alarm and warning systems

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TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CLC/TS 50136-7

September 2017

ICS 13.320

Supersedes CLC/TS 50136-7:2004

English Version

Alarm systems - Alarm transmission systems and equipment - Part 7: Application guidelines

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CENELEC
European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
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European foreword

This document (CLC/TS 50136-7:2017) has been prepared by CLC/TC 79 “*Alarm systems”*.

The following date is fixed:

—	latest date by which this technical specification has to be announced at national level	(doa)	2017–08–29

This document supersedes CLC/TS 50136-7:2004.

Annexes designated “informative” are given for information only.

EN 50136 will consist of the following parts, under the general title “Alarm systems - Alarm transmission systems and equipment”:

- Part 1 General requirements for alarm transmission systems
- Part 2 General requirements for Supervised Premises Transceiver (SPT)
- Part 3 Requirements for Receiving Centre Transceiver (RCT)
- Part 4 Annunciation equipment used in alarm receiving centres
- Part 5 (Free)
- Part 6 (Free)
- Part 7 Application guidelines
- Part 8 (Free)
- Part 9 Requirements for a common protocol for alarm transmission using the Internet Protocol (IP)

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Introduction

To give a common understanding of the requirements detailed in the EN 50136 suite of standards covering alarm transmission, there is a need for application guidelines to provide support to other TC 79 WGs, standardization bodies, insurance companies and customers, to understand what an appropriate performance for the alarm transmission system for a specific application should be.

A full understanding of an application or application requirements are not always available to the alarm transmission experts, and therefore the following guidelines for the application of alarm transmission should assist the reader to understand the alarm transmission standards and the performance of an alarm transmission system. The EN 50136 suite of alarm transmission standards apply to many diverse applications e.g. I&HAS, fire, access control, VSS. Therefore, this guideline should be read in conjunction with the standards relating to these applications where appropriate.

Several alarm transmission systems may be used by the providers of alarm transmission services, which imply that the level of services may vary, depending on the performance of each alarm transmission system.

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1 Scope

These application guidelines include guidance on the application of the design, planning, operation, installation, commissioning and maintenance of alarm transmission systems for use in fire, I&HAS, Social Alarms and VSS applications. This document does NOT specify requirements. The requirements for ATS and ATE are specified in other parts of the EN 50136 series of standards.

These application guidelines are intended to assist those responsible for establishing an ATS(n) to ascertain the appropriate design, planning, Installation, operation and maintenance of an ATS(n) and to determine the most appropriate ATS category for the required system performance. E.g. Installers and service providers, ATSPs and their ICT managers, Network operators (Telco's), ARC's and their ICT managers, Test houses and Certification inspectorates, Specifiers, Insurance companies, Manufacturers of ATE.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 54-21, *Fire detection and fire alarm systems - Part 21: Alarm transmission and fault warning routing equipment*

EN 50130-4, *Alarm systems - Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder, hold up, CCTV, access control and social alarm systems*

EN 50130-5, *Alarm systems - Part 5: Environmental test methods*

EN 50131-1, *Alarm systems - Intrusion and hold-up systems - Part 1: System requirements*

EN 50134-1, *Alarm systems - Social alarm systems - Part 1: System requirements*

EN 50136-1:2012, *Alarm systems - Alarm transmission systems and equipment - Part 1: General requirements for alarm transmission systems*

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EN 50136-2, *Alarm systems - Alarm transmission systems and equipment - Part 2: Requirements for Supervised Premises Transceiver (SPT)*

EN 50136-3, *Alarm systems - Alarm transmission systems and equipment - Part 3: Requirements for Receiving Centre Transceiver (RCT)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50136-1:2012 apply.

4 Abbreviations

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

SLA	Service Level Agreement
UC	Underpinning Contract
OLA	Operational Level Agreement
MTBF	Mean Time Between Failures
MTTR	Mean Time To Repair
SAP	Service Access Point

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MO	Managed Object
EOL	End Of Line
IT	Information Technology

5 General

This clause provides general information and guidelines for ATS.

5.1 Information security

5.1.1 General

Requirements for information security of an ATS are described in EN 50136-1. Information security measures are mandatory for ATS categories SP4 – SP6 and DP3 – DP4. This should be taken into account when assessing category requirements for an application. The recommendations in this section apply to systems that are planned to fulfil the requirements of the ATS categories listed above.

In addition to system and equipment information security protection level requirements, emphasis should be drawn to operational information security. An ATSP and other parties operating and maintaining one or more ATS should have a fully documented security policy this will commonly be part of an operations policy, describing at least following security aspects.

5.1.2 Key management

All keys used to access the system should be created, stored and managed in a way to ensure the keys cannot be compromised. This is particularly important, where the keys are stored or transferred in a manner not having inherent security e.g. printed on a piece of paper for commissioning. There should be a documented procedure to revoke any keys that are no longer trusted for whatever reason.

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Unnecessary storage of keys and credentials should be avoided. An SPT should only have the required credentials to secure communication with RCT(s) but not for anything else. An RCT should have credentials to secure communication with SPTs, but compromising one RCT should not compromise the whole key creation/assignment process of an ATSN.

Additional to the requirements of EN 50136-1, security measures should also be taken to provide security for the (network) equipment, especially at the ARC and at the installer office locations. As alarm messages from all connected SPTs travel through the network equipment at the ARC it is important that this equipment is configured to offer a level of security appropriate to the application, a malfunction might affect many SPTs. The same applies to the network equipment at sites from where remote maintenance is performed, e.g. the installer office. Storage and privacy of confidential data.

All confidential data, should be stored in a way that minimizes the risk of compromise to confidentiality E.g. electronic or hard-copy of customer details, system configuration etc. Consideration should be given to national legislation with respect to data privacy laws.

5.1.3 Access to the ATS and ATSN

Access to ATS equipment should be secure and authenticated according to requirements in the relevant parts of the EN 50136 series. Access to an ATSN should not be permissible through access to unauthorised parts of the network.

Any user or party should be granted the lowest level of access needed to perform their operational tasks. Unnecessary high levels of access should be avoided wherever possible. All access to the system and actions performed should be logged in a secure manner.

5.1.4 Security screening

Screening of employees who have access to an ATSN should be carried out in accordance with the requirements of EN 50518 series. The operational policy of an ATSP should describe the level of screening required for personnel having access to an ATS/ATSN

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5.2 Availability

5.2.1 General

Where required for an appropriate ATS category availability measurement and reporting is the responsibility of the ATSP as defined in EN 50136-1.

Availability is the percentage of time during which the ATS is performing within the specified ATS category requirements. This is a very important performance criterion for the quality of an alarm transmission System.

If an ATS or ATP performs perfectly every second of every day its performance will be 100 %. If it does not operate at all, the availability is 0 %.

The measurement of availability of an ATS differs from the availability usually specified by network operators. The ATS availability according to EN 50136-1 specifies the end-to-end availability of an alarm transmission system, whereas network availability often only defines the availability of the network. Network availability in contrast to ATS availability frequently excludes outages due to planned and unplanned maintenance periods.

5.2.2 Single path ATS availability

When a single path is in a fault condition, the ATS is not available.

5.2.3 Dual path ATS availability

When one path of a dual path ATS is fully operational and the alternative path is in total failure, the ATS is still available. Whilst the path fault persists the dual path ATS will operate as a single path ATS, and any loss of communication on the remaining path will reduce the availability below 100 %.

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The guide for acceptable, ‘weekly’ availability is defined in EN 50136-1 Table 6, and provides requirements for Single path Systems, and Dual path systems.

SP4, SP5 and SP6 availability targets are 97 %, 99 % and 99,8 % respectively over a one-week period, and DP2, DP3 and DP4 targets are 99 %, 99,8 % and 99,8 % respectively over the same period.

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There are 168 h in a week so the accepted maximum non-operational period for an SP4 at 97 % availability is 5 h, SP5 and DP2 at 99 % availability are 1 h 42 min and SP6, DP3 and DP4 at 99,8 % availability are 20 min.

To meet these weekly availability targets it is important to consider the type of transmission path technology, the local environment and estimated distances from the premises to the exchange or radio base station. Proper service level agreements (repair times) should also be considered.

When implementing a Dual path ATS, the availability of each separate ATP may be operating at a much lower availability than the overall ATS availability.

To meet the weekly availability requirement of DP2 each ATP should operate with 90 % availability, and to meet DP3 and DP4 each ATP should operate with 95,5 % availability.

An ATS with 99,8 % availability is illustrated in Figure 1 below:

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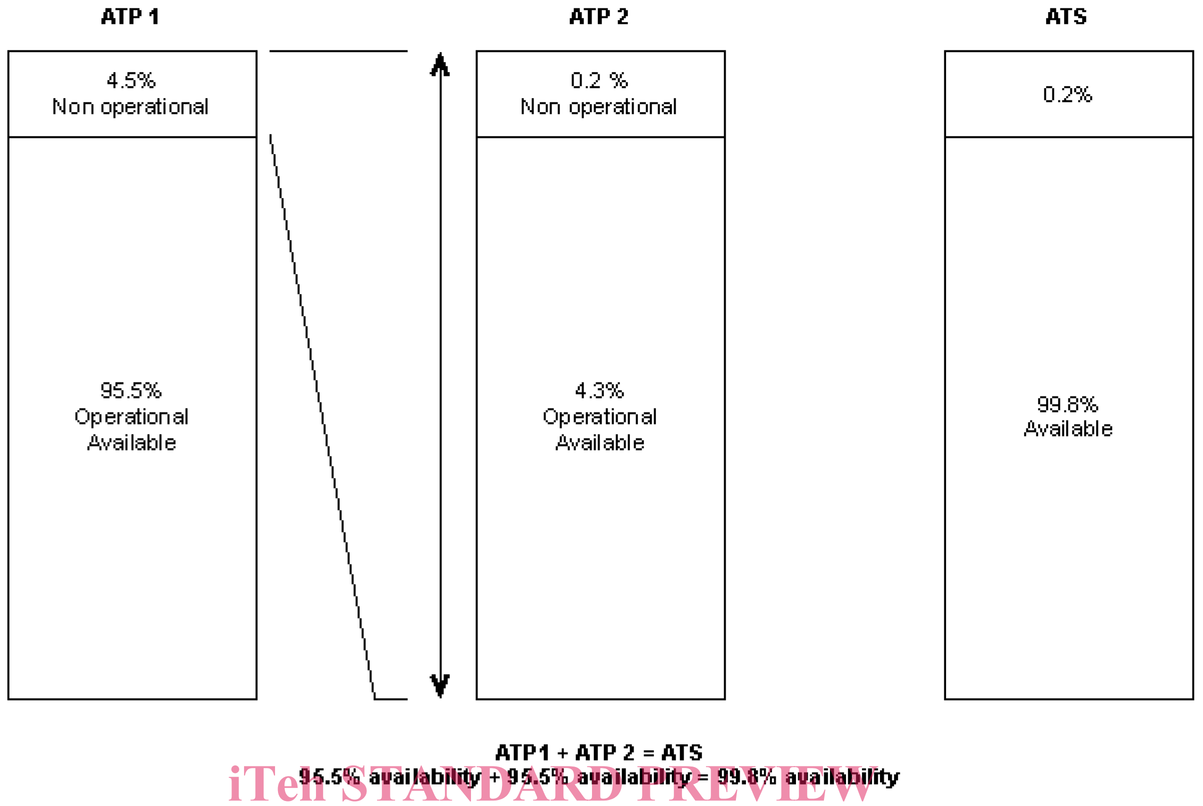

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Figure 1 — Illustration of dual path availability

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ATP1 is 95,5 % available and 4,5 % unavailable (fault condition); during the 4,5 % time period when ATP1 is in fault ATP2 is operationally 95,5 % available and 4,5 % unavailable. With the fault period of ATP1 (4,5 %) covered by ATP2 with 95,5 % availability the fault period expected from both paths reduces to 0,2 % providing a combined availability of 99,8 %.

To enable the system to monitor the availability of an ATP to the required accuracy for the required availability measurement the minimum poll rate for DP2 should be better than 1 008 min (11 polls per week = 24 h * 7 days * 60 min * 10 %), and DP3 and DP4 should be 50 min (202 polls per week = 24 h * 7 days * 60 min * 4,5 %).

Polling is a common method used to monitor ATP and/or ATS availability where the term polling means regular status message exchanges between an SPT and RCT(s). Other methods may be used to achieve the same results.

Table 1 — Examples of expected average allowed polling failures

Requirements of EN 50136–1:2012	**SP4**	**SP5**	**SP6**	**DP2**	**DP3**	**DP4**
ATS Availability 7 day period	97,0 %	99,0 %	99,8 %	99,0 %	99,8 %	99,8 %
Primary path						
Reporting time	3 min	90 s	20 s	30 min	3 min	90 s
The following guidelines for polling result from the above:						