

SLOVENSKI STANDARD
SIST EN 50131-5-3:2005/A1:2009
01-januar-2009

Alarmni sistemi - Sistemi za javljanje vloma - 5-3 del: Zahteve za povezovalno opremo, ki uporablja radio-frekvenčno tehniko

Alarm systems - Intrusion systems -- Part 5-3: Requirements for interconnections equipment using radio frequency techniques

Alarmanlagen - Einbruchmeldeanlagen -- Teil 5-3: Anforderungen an Übertragungsgeräte, die Funkfrequenz-Techniken verwenden

Systèmes d'alarme - Systèmes d'alarme intrusion -- Partie 5-3: Exigences pour les équipements d'alarme intrusion utilisant des techniques radio

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Ta slovenski standard je istoveten z: EN 50131-5-3:2005/A1:2008

ICS:

13.310	Varstvo pred kriminalom	Protection against crime
13.320	Alarmni in opozorilni sistemi	Alarm and warning systems

SIST EN 50131-5-3:2005/A1:2009 **en,fr,de**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50131-5-3/A1

October 2008

ICS 13.310

English version

**Alarm systems -
Intrusion systems -
Part 5-3: Requirements for interconnections equipment
using radio frequency techniques**

Systemes d'alarme -
Systemes d'alarme intrusion -
Partie 5-3: Exigences
pour les équipements d'alarme intrusion
utilisant des techniques radio

Alarmanlagen -
Einbruchmeldeanlagen -
Teil 5-3: Anforderungen
an Übertragungsgeräte,
die Funkfrequenz-Techniken verwenden

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This amendment A1 modifies the European Standard EN 50131-5-3:2005; it was approved by CENELEC on 2008-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This amendment to the European Standard EN 50131-5-3:2005 was prepared by the Technical Committee CENELEC TC 79, Alarm systems.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 50131-5-3:2005 on 2008-10-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2009-10-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2013-10-01

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Replace the existing Annex E by the following:

Annex E (normative)

Calculation for immunity to message substitution

Definitions

- If the identification code means are physically accessible, then N is the number of identification code possibilities.
- If the identification code means are not physically accessible, then N is the number of messages having the same length as the useful message.
- Let n be the number of equipment bearing different identification codes used to unset the system.
- Let τ be the maximum number of messages conveying different identification codes not belonging to the system received by the system in one hour.

The purpose of the following calculation is to determine the probability $P(n, \tau / N)$ of obtaining at least one of the identification codes of the unsetting equipment after τ attempts.

Then $P(n, \tau / N) = 1 - P\tau$

Calculation of P_1 of one attempt: $P_1 = \frac{N-n}{N}$

Calculation of P_2 of two attempts: $P_2 = P_1 \times \frac{(N-1)-n}{(N-1)} = \frac{(N-n)(N-n-1)}{N(N-1)}$

Calculation of $P\tau$ of τ attempts: $P\tau = P\tau_1 \times \frac{N-(\tau-1)-n}{N-(\tau-1)}$

Hence $P\tau = \frac{N-n}{N} \times \frac{(N-1)-n}{(N-1)} \times \dots \times \frac{N-n-(\tau-1)}{N-(\tau-1)} = \frac{(N-n)!}{N!} \times \frac{(N-\tau)!}{(N-n-\tau)!}$

Hence $P\tau = 1 - \frac{C_{N-n}^\tau}{C_N^\tau}$ where $C_{N-n}^\tau = \frac{N!}{(N-\tau)! \tau!}$

We know that $P(n, \tau / N) = 1 - P\tau$

Hence $P(n, \tau / N) = 1 - \frac{C_{N-n}^\tau}{C_N^\tau}$ or $P(n, \tau / N) = \frac{C_N^\tau - C_{N-n}^\tau}{C_N^\tau}$

EXAMPLE

$N = 10\,000$

$n = 4$

Assuming the system inhibits any unset command during 10 min after reception of 10 false unset commands.

Hence $\tau = 60$ (maximum number of attempts in 1 h)

$P(4,60 / 10\,000) = 1 - (C_{9\,996}^{60} / C_{10\,000}^{60}) = 0,023\,8 = 2,38\%$

Annex F - Interference timing diagrams

In the 1st diagram **replace** the value in abscissa "10 s" with "5 s".

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