SLOVENSKI STANDARD
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Alarmni sistemi - Sistemi in oprema za prenos alarma - 3. del: Zahteve za oddajnik sprejemnega centra (RCT)

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

Systèmes d'alarme - Systèmes et équipements de transmission d'alarme - Partie 3: Exigences pour les transmetteurs du centre de réception (RCT)

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

Systèmes d'alarme - Systèmes et équipements de transmission d'alarme - Partie 3: Exigences pour les transmetteurs du centre de réception (RCT)

Alarmanlagen - Alarmübertragungsanlagen und -einrichtungen - Teil 3: Anforderungen an Übertragungszentralen (ÜZ)

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CENELEC

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

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Foreword

This document (EN 50136-3:2013) has been prepared by CLC/TC 79 "Alarm systems".

The following dates are proposed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-08-12
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2016-08-12

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EN 50136 consists 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: Requirements for Supervised Premises Transceiver (SPT)*;
- *Part 3: Requirements for Receiving Centre Transceiver (RCT)*;
- *Part 4: Annunciation equipment used in alarm receiving centres* (Technical Specification);
- *Part 7: Application guidelines* (Technical Specification);
- *Part 9: Requirements for common protocol for alarm transmission using the Internet protocol* (Technical Specification).

1 Scope

This European Standard specifies the minimum equipment requirements for the performance, reliability, resilience, security and safety characteristics of the receiving centre transceiver (RCT) installed in ARC and used in alarm transmission systems.

The alarm transmission system requirements and classifications are defined within EN 50136-1. Different types of alarm systems may in addition to alarm messages also send other types of messages, e.g. fault messages and status messages. These messages are also considered to be alarm messages. The term alarm message is used in this broad sense throughout the document.

Where application specific standards exist, the RCT should comply with relevant standards called up by that application.

The RCT can be either an integrated element of any receiving/annunciation equipment, or a stand-alone device. In either case, the requirements of this European Standard should apply.

The function of the RCT is to monitor the ATPs, receive alarm messages, forward alarm messages to one or more AEs and send acknowledgements to the SPTs.

Management of the transmission network is not in the scope of this European Standard.

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.

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

3 Terms and definitions

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

3.1
remote access
access to the equipment from any location that is outside the protected premises in which the equipment is located

4 Object

This European Standard specifies the minimum equipment requirements for the performance, reliability, resilience, security and safety characteristics of the Receiving Centre Transceiver (RCT) installed in alarm receiving centres and to define parameters that shall be tested to ensure its compatibility with ATS categories.

5 General

5.1 Introduction

Where appropriate, equipment shall comply with local, national and European requirements and regulations for connection and transmission via public or private networks.

Requirements in this European Standard shall be considered as a minimum. As the RCT is used together with or integrated receiving/annunciation equipment, the requirements of the specific applications or related standards shall apply.

5.2 RCT classification

This European Standard defines RCT requirements. For the purpose of RCT classification reference is made to the ATS categories in EN 50136-1. The RCT documentation shall describe for which ATS categories the RCT complies with the requirements.

6 Functional requirements

6.1 General

The RCT shall provide communication between one or more AEs and one or more SPTs and monitor the interface(s) to one or more AEs.

The RCT shall monitor the ATSs.

6.2 Access levels

This European Standard specifies four levels of access that categorise the ability of users to access the RCT functions.

Access levels are defined as following:

- Level 1 Access to indications;
- Level 2 Access to the operational status and commissioning functions;
- Level 3 Maintenance functions, access to affect the RCT configuration including site-specific data and other operations that directly, or indirectly, may adversely influence the functions of the RCT;
- Level 4 Access to software updates and read-only parameters.

These access levels apply only for logical access (i.e. not physical access). Access to all functions shall require authorisation with a key.

Access levels 2, 3 and 4 shall use personalised accounts to achieve traceability.

A level 4 user shall be authorised by a user with level 3 access. This authorisation may be permanent or time limited.

Access at all levels shall require authorisation with a key. The key mechanism shall be able to provide at least 1 000 000 different keys.

Where it is possible to attempt to gain access more than 3 times in a 60-second period the RCT 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 RCT commissioning without first, changing these keys during installation.

Remote access shall require a secure connection and meet the data security requirements of EN 50136-1.

Automatic logout of remote access sessions shall be activated after a period of inactivity. The inactivity period shall be configurable.

Table 1 — Access levels – Logical access to functions

Access Level	**Level 1**	**Level 2**	**Level 3**	**Level 4**
View RCT indications	P	P	P	P
Change RCT configuration	NP	NP	P	NP
View RCT configuration	NP	P	P	P
Commission/De-Commission SPT	NP	P	P	NP
View RCT Event/Alarm Log	NP	P	P	P
Change RCT Software	NP	NP	NP	P
Change users and/or user rights	NP	NP	P	NP
Change and/or delete entries in the event log	NP	NP	NP	NP

Key

P = Permitted
NP = Not Permitted

NOTE The requirement to restrict or permit access to a certain function does not imply that implementation of the function is required.

6.3 Uploading and downloading of software

The upload and download of software in/out of an RCT is only allowed at appropriate access level as defined in 6.3.

6.4 Storage of parameters and data

Power cycle or a software restart shall not result in the loss of any configuration, log and secured alarm messages. The RCT shall return to normal operation automatically after such power cycle or software restart.

6.5 Monitoring and notification of failure of the ATP and ATS

For compliance to the relevant standards of the application, the RCT shall monitor ATP and ATS and report failures to the AE as defined in EN 50136-1:2012, 6.6, Table 4.

The documentation supplied by the manufacturer shall describe the notification signal.

6.6 Interface(s) to the AE(s)

The interface(s) to the AE(s) shall be monitored in accordance with EN 50136-1. The reporting time of the connection failure shall be less or equal to the reporting time of the ATS with the highest category or 60 s whichever is shorter. In the event of an interface failure, a fault signal shall be generated, and an event logged.

The manufacturer shall state in their product documentation the specifications of the interface(s) to the AE and how the fault signal is presented and logged.

An alternative AE interface may be provided.

6.7 Fault signalling

The RCT shall have a means to signal faults when any of the following faults occur:

- AE interface failure;
- transmission network interface failure;
- RCT system failure.

The manufacturer shall specify in the RCT documentation how these faults are signalled.

6.8 Event recording

For an RCT supporting and meeting any category of EN 50136-1:2012 other than SP1, SP2 and DP1 a logging function shall be provided for the purposes of providing an audit trail and problem resolution.

The events specified in Table 2 shall be recorded.

The event log may be stored outside of the RCT.

The means of recording events shall be non-volatile. The log entries shall be kept for no less than 3 years. The manufacturer shall specify in their documentation how this is achieved.

Events older than 3 years may be deleted.

The log shall record, in addition to the event, the time and date at which the event occurred. The timing resolution shall be a minimum of 1 s and it shall be accurate to the coordinated universal time within ± 5 s.

The RCT shall provide a means to synchronise the UTC date and time. The manufacturer shall specify in their documentation how time synchronisation with UTC is achieved.

The RCT may use local time-zones.

To optimise storage of events, where identical sequentially repeated events occur within any 12-h period, then only the first and last event need to be recorded. Where this is done then the number of identical events shall be recorded.

When required by the requirements of Table 2, the logging of access to the RCT shall include user identification.

Table 2 — Event recording classification – Events to be recorded

	Events to be recorded	
	Event	**User identification**
1	Alarm messages from ATS	n/a
2	AE interface(s) failure and restore	n/a
3	Transmission network Interface(s) failure and restore	n/a
4	Changes to the configuration of the RCT	M
5	Power-up or reset	M
6	Any change to software	M
7	Changes to the date and time	M
8	Access to the RCT	M
9	Changes to users and/of user rights	M

Key

n/a = Not applicable

M = Mandatory

NOTE Recording the user identification is only mandatory if the event is triggered by user intervention.

6.9 Mode of operation (store-and-forward or pass-through)

6.9.1 General

Two modes of operation are permitted:

a) store-and-forward;

b) pass-through.

The manufacturer shall declare in the product documentation which modes are supported.

6.9.2 Store-and-forward operation requirements

When an alarm is received from the SPT, the RCT shall secure the alarm and provide acknowledgement of the correct receipt of the alarm to the SPT.

If the store-and-forward operation is used, all alarm messages shall include the date and time stamp when the alarm was received by the SPT.

The RCT may also log the date and time stamp when the alarm was forwarded to the AE and/or when the acknowledgement was received from the AE.

Securing the alarm shall be achieved by storing the alarm in the RCT's non-volatile memory (data base), this is to secure acknowledged alarms whilst there is an AE interface failure or during a power failure. Stored alarms shall be transmitted when the fault condition clears.

The secured alarm shall be transmitted from the RCT to the AE(s).