

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Alarm and electronic security systems – Social alarm systems –
Part 1: System requirements**

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**Systèmes d'alarme et de sécurité électroniques – Systèmes d'alarme sociale –
Partie 1: Exigences système**

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Part 1: System requirements

Systèmes d'alarme et de sécurité électroniques – Systèmes d'alarme sociale –
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ALARM AND ELECTRONIC SECURITY SYSTEMS –
SOCIAL ALARM SYSTEMS –****Part 1: System requirements**

FOREWORD

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International Standard IEC 62851-1 has been prepared by IEC technical committee 79: Alarm and electronic security systems.

This first edition is based on EN 50134-1:2002.

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

FDIS	Report on voting
79/456/FDIS	79/467/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 62851 series, published under the general title *Alarm and electronic security systems – Social alarm 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

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INTRODUCTION

This standard is part of the IEC 62851 series of International Standards and Technical Specifications “Alarm and electronic security systems – Social alarms systems”, written to include the following parts:

- Part 1: System requirements
- Part 2: Trigger devices
- Part 3: Local unit and controller
- Part 5: Interconnections and communications
- Part 7: Application guidelines (under consideration)

A social alarm system provides 24 hours facilities for alarm triggering, identification, signal transmission, alarm reception, logging and 2-way speech communication, to provide reassurance and assistance for people living at home or at places under surveillance and considered to be at risk.

A social alarm system is comprised of a number of system parts which can be configured in different ways to provide this functionality.

A user can request assistance by the use of a manually activated trigger device resulting in an alarm triggering signal. In certain cases, alarm triggering signals can be generated by automatic trigger devices. A local unit or controller receives the alarm triggering signal, switching from the normal to the alarm condition and indicating this to the user (some systems use an optional pre-alarm condition that allows the user to reset the alarm for a short period of time).

The controller normally transmits the alarm condition to an Alarm Receiving Centre (ARC) via the alarm transmission system. The ARC can either be local to the controller or remote from the controller. The ARC has the facility to identify the local unit, alarm type and to then establish two-way speech communication between the alarm recipient and the user. The alarm recipient provides reassurance to the user and directs assistance where appropriate.

In some cases, the alarm may be diverted to an alarm recipient using a personal receiver. In this case, the alarm is identified to the alarm recipient and a two-way speech communication path established to the user and receipt of the alarm acknowledged to the controller. In all cases, the system records the time, date, location and type of alarm.

The system is designed to detect and report fault conditions affecting the transmission of alarms. In some cases, temporary disconnection of a local unit is possible to minimize faults or prevent alarms triggered inadvertently affecting the correct operation of the system.

ALARM AND ELECTRONIC SECURITY SYSTEMS – SOCIAL ALARM SYSTEMS –

Part 1: System requirements

1 Scope

This part of IEC 62851 specifies the minimum requirements for a social alarm system allowing the vocal and/or visual communication between a person and a social alarm service. For people with disabilities (e.g. visual and hearing impairment), additional requirements not covered in this series of standards may apply.

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.

ISO/IEC Guide 37:2012, *Instructions for use of products by consumers*

3 Terms and definitions

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

3.1

alarm condition

condition following the pre-alarm condition

3.2

alarm receiving centre

ARC

system part which provides facilities for communication with a number of controllers and providing the alarm receiving and information processing system as an interface to the alarm recipient

3.3

alarm recipient

person who receives and acts upon an alarm signal

3.4

alarm transmission system

transmission system that provides communication between the controller and the alarm receiving centre or an alarm recipient

3.5

alarm triggering signal

signal transmitted by a trigger device to indicate an alarm

3.6

controller

interface between one or more local units and the alarm transmission system or alarm recipient

3.7**fault condition**

condition following detection of a fault by the local unit and controller that prevents the functioning of the system

3.8**fault indication**

indication of a fault condition

3.9**local unit**

interface between the user and the controller which enables 2-way speech

3.10**personal receiver**

system part which provides 2-way speech communication and facilities for identifying and acknowledging the alarm

3.11**pre-alarm condition**

condition following the reception of an alarm triggering signal

3.12**normal condition**

condition during which the system is fully operational and is not in any other condition

3.13**social alarm system**

system providing 24 hour facilities for alarm triggering, identification, signal transmission, alarm reception, 2-way speech communication, reassurance and assistance, for use by persons who can be considered to be living at home at risk

3.14**trigger device**

system part, operated by a human or automatically, that communicates to the local unit and controller, initiating the alarm triggering signal

4 System requirements**4.1 General**

As a minimum, a social alarm system shall consist of the following system parts (see Figure A.1):

- manually activated trigger device;
- local unit;
- controller;
- alarm transmission system;
- ARC.

All system parts shall comply with the relevant part of the IEC 62851 series. Additional equipment shall not prohibit the correct functioning of the social alarm system.

Please refer to Annex A (normative) and Annex B (informative).

4.2 Local unit and controller identification

The system shall be capable of identifying the local unit and the controller which is in the alarm or fault condition.

4.3 Alarm and fault identification

The system shall identify the different types of alarms and faults.

4.4 2-way speech communication facility

A social alarm system shall be equipped with a 2-way speech communication facility to allow verbal contact between alarm recipient and the user.

2-way speech communication between the alarm recipient and the user shall be provided following the receipt of an alarm from a manually activated trigger device.

In a system where the direction of the speech communication is manually switched, the direction shall be controlled by the alarm recipient.

4.5 Use of personal receiver(s)

In the case of a personal receiver(s) being used to receive alarm and fault signals, the system shall be configured so that, in the case of no response from the personal receiver(s), the alarm and fault signals shall be automatically transmitted to an ARC.

4.6 Fault indication

The system shall have the facility to indicate faults affecting the transmission of alarms and faults.

4.7 Calling the user

If the facility exists to call the user in a non-alarm situation, then

- a) the call shall be preceded by an audible signal,
- b) the system shall have a privacy function to allow the user to prevent listening in and this function shall be overridden in an alarm condition,
- c) if the privacy function is active, the user shall have to take a positive action before a 2-way speech communication can be established.

4.8 Logging alarm and fault conditions

The system shall log alarms and faults by recording the following:

- date and time of alarm or fault;
- identity of the local unit and controller;
- type of alarm or fault condition.

4.9 System design

The system design shall:

- prevent any single local unit and controller (see Figures B.1 and B.2) prohibiting the functioning of other local units and controllers;
- incorporate a back-up ARC.

4.10 Confirmation of alarm or fault reception

The system shall confirm to the controller the reception of an alarm or fault signal and notify to the ARC through ATS.

5 Environmental classes

System parts with the appropriate environmental class shall be selected to ensure correct operation in their service environment.

There are 4 environmental classes which apply to system parts:

Class	Environment
-------	-------------

I	Indoor but restricted to a residential environment
II	Indoor in general
III	Outdoor but sheltered from direct rain and sunshine or indoor with extreme environmental conditions
IV	Outdoor in general

Classes I, II, III and IV are progressively more severe and therefore, class IV equipment may be used in class III applications etc.

NOTE The order of the environmental classes is not representative of radio transmission performance.

6 Documentation

The following requirements apply to documentation:

- Documentation relating to the system and system design shall be concise, complete and unambiguous and shall include as a minimum the following:
 - name of manufacturer or supplier;
 - description of equipment;
 - environmental class.
- The documentation provided shall be sufficient to install, commission, and maintain the system.
- Instructions relating to the operation of the system shall be provided and shall be in accordance with ISO/IEC Guide 37.

Annex A (normative)

Functional elements of a social alarm system

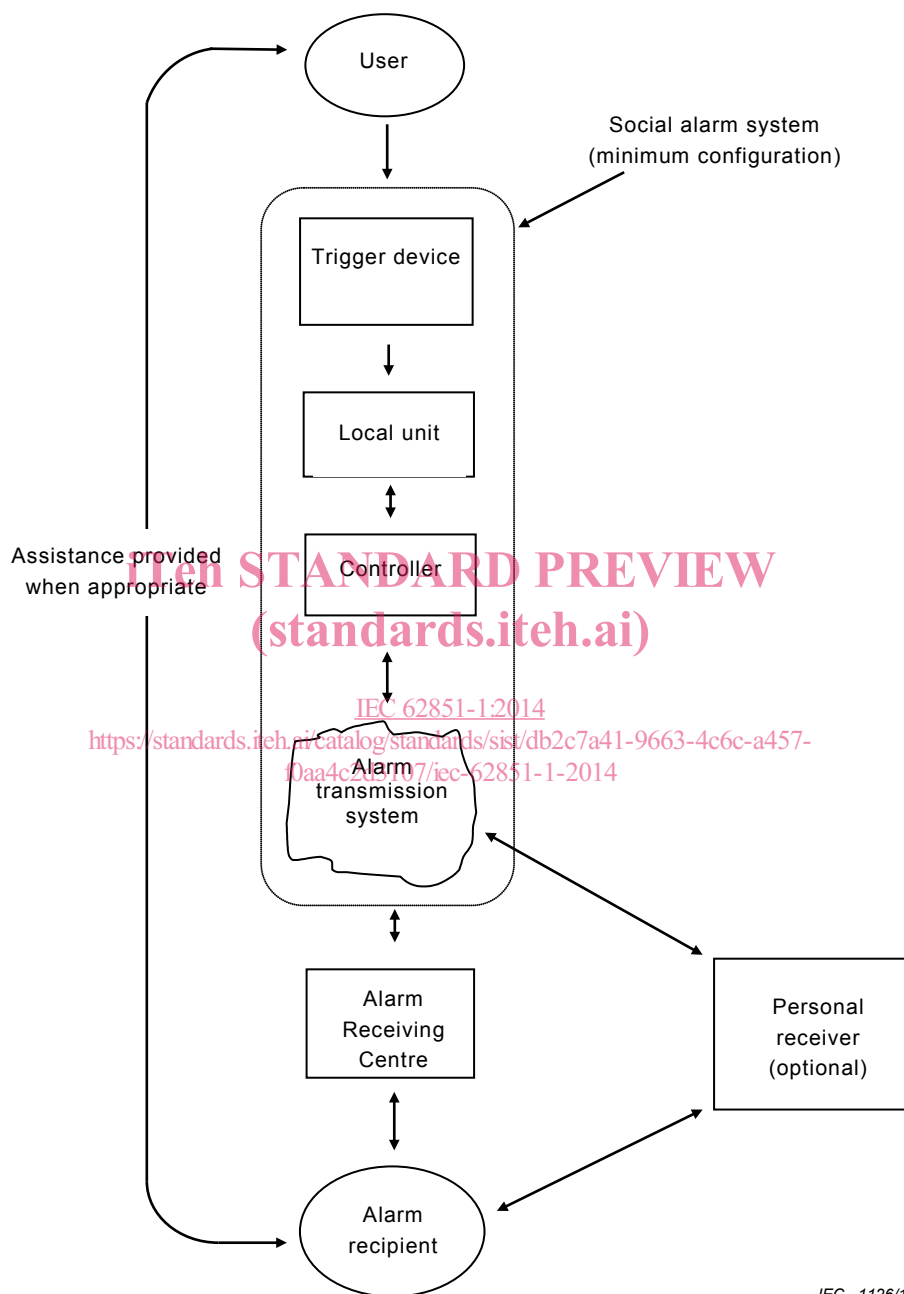


Figure A.1 – Functional elements of a social alarm system