

DRAFT FOR DEVELOPMENT

Protocol for communications between a lift alarm system and an alarm receiving station (rescue centre) – Specification

ICS 13.320; 91.140.90

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A review of this Draft for Development will be carried out not later than 2 years after its publication.

Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of Update Standards.

According to the replies received, the responsible BSI Committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

Observations which it is felt should receive attention before the official call for comments will be welcomed.

These should be sent to the Secretary of BSI Technical Committee MHE/4 at British Standards House, 389 Chiswick High Road, London W4 4AL.

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Foreword

Publishing information

This Draft for Development is published by BSI and came into effect on 31 January 2008. It was prepared by Technical Committee MHE/4, *Lifts, hoists and escalators*. A list of organizations represented on this committee can be obtained on request to its secretary.

Relationship with other publications

This Draft for Development is intended to be read in conjunction with BS EN 81-1:1998, incorporating Amendment No. 1 and Corrigendum No. 1, BS EN 81-2:1998, incorporating Amendment No. 1 and Corrigendum No. 1, and BS EN 81-28:2003.

Information about this document

There is a requirement under the Lifts Regulations 1997 for all lifts installed under these regulations to be equipped with remote alarm systems capable of connecting to a permanently available rescue service. Requirements for the lift alarm system are specified in BS EN 81-28:2003.

This Draft for Development has been prepared in response to requests from purchasers and users of lift alarm systems for the establishment of common signalling protocols to ensure that lift alarm systems from different manufacturers exchange essential information and controls in a compatible manner. This is particularly so when the lift alarm system is replaced or repaired or the rescue service is changed. Essential information and controls include identification of an individual lifts, the nature of any alarm and the controls necessary to operate any speech link between a local lift alarm system and an alarm receiving station.

This Draft for Development specifies the requirements for multi-frequency tone signalling, in accordance with BS 6305, for the transfer of messages and commands, this being an acknowledged method for transmitting information over the public switched telephone network. (PSTN). Most existing lift alarm systems, which use the public switched telephone network to contact an alarm receiving station, already use dual-tone multi-frequency (DTMF) tone signalling.

This Draft for Development specifies requirements for a simple protocol based on that specified in BS 7369:1991.

Important note. There are changes being proposed in the backbone PSTN both to permanent lines and mobile (GSM) services to accommodate new internet developments such as voice over internet protocol (VOIP). Users of this Draft for Development are advised to keep themselves informed of these developments. Manufacturers of equipment conforming to this protocol are advised to comply with the National Transmission Plan and to ensure that their equipment is compatible with 21CN.

Use of this document

This Draft for Development takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this Draft for Development is expected to be able to justify any course of action that deviates from its recommendations.

It has been assumed in the preparation of this Draft for Development that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Attention is particularly drawn to the following legislation:

- Health and Safety at Work etc. Act 1974 [1];
- Lifts Regulations 1997 [2];
- Disability Discrimination Act 1995 [3];
- Electricity at Work Regulations 1989 [4];
- Electric Equipment (Safety) Regulation 1994 [5];
- Lifting Operations and Lifting Equipment Regulations 1998 [6];
- Provision and Use of Work Equipment Regulations 1998 [7];
- Supply of Machinery (Safety) Regulations 1992, as amended by the Supply of Machinery (Safety) (Amendment) Regulations 1994 [8].

1 Scope

This Draft for Development specifies requirements for a signalling protocol for communications between a lift alarm system and a rescue service. It covers the transfer of information and protocol controls by means of dual-tone multi-frequency (DTMF) tone signals passing between a remote lift alarm system and an automatic or manually based alarm receiving station (rescue service) via, but not restricted to, the public switched telephone network (PSTN) system.

NOTE Requirements for the lift alarm system itself are given in BS EN 81-28.

This Draft for Development applies only to equipment indicated in BS EN 81-28:2003, Annex A, Figure A.1, identified as 5 (reception equipment), 6 (communications network) and 7 (transmitter).

This Draft for Development does not cover any remote monitoring or data processing aspects of the receiving station beyond those required by BS EN 81-28.

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.

BS EN 81-1:1998, *Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 1: Electric lifts*

BS EN 81-2:1998, *Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 2: Hydraulic lifts*

BS EN 81-28:2003, *Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 28: Remote alarm on passenger and goods passengers lifts*

BS 6305:1992, *Specification for general requirements for apparatus for connection to the British Telecommunications public switched telephone network*

BS 6789 (all parts), *Apparatus with one or more particular functions for connection to the public switched telephone networks run by certain public telecommunications operators*

BS 7369:1991, *Specification for multi frequency tone signalling protocol for social alarm systems*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this Draft for Development, the terms and definitions given in BS 6305, BS 6789 (all parts), BS 7369, BS EN 81-28 and the following apply.

3.1.1 acknowledge tone

dual-tone multi-frequency (DTMF) signal transmitted to confirm receipt of data or a command

3.1.2 alarm

status between the activation of an alarm initiating device and the end of the alarm

3.1.3 alarm initiation device

device intended for persons trapped in the lift installation to use in order to call for external assistance

NOTE This is exemplified in BS EN 81-28:2003, Annex A.

3.1.4 alarm receiving station

communication unit which receives and makes calls from and to a lift alarm system

3.1.5 calling unit

unit that makes a call

NOTE A calling unit can be a lift (see Figure 2) or a rescue service (see Figure 3).

3.1.6 clear

termination of communication with a particular sub-unit whilst retaining connection to site control equipment

3.1.7 clear-down

termination of the connection between site control equipment and the alarm receiving station

3.1.8 command

coded instruction

3.1.9 data request tone

dual-tone multi-frequency (DTMF) signal sent by receiving equipment to inform sending equipment that contact has been established

3.1.10 enquiry tone

single tone, within the audible frequency range and in accordance with BS 6305, transmitted prior to the sending of information by automatic equipment to indicate that the call was initiated by electronic means

3.1.11 guard tone

dual-tone multi-frequency (DTMF) signal transmitted to indicate to equipment that a command follows and to cut off speech emanating from a local unit

3.1.12 lift alarm system

combination of alarm initiation device(s) and site control equipment(s) provided on a lift, able to detect, identify, validate as true alarm and initiate two-way communication

NOTE This is exemplified in BS EN 81-28:2003, Annex A.

3.1.13 listen

speech direction to the alarm receiving station from a local unit

3.1.14 long range transmission

transmission of information and controls over the network connection

3.1.15 message

coded information, including standard finish tones, sent as data between a local unit and an alarm receiving station