

Fire detection and alarm systems for buildings —

Part 2: Specification for manual call points

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Committees responsible for this British Standard

This British Standard was published under the direction of the Fire Standard Committee FSB/-. Its preparation was entrusted to Technical Committee FSB/12 upon which the following bodies were represented:

- Association of Manufacturers Allied to the Electrical and Electronic Industry (BEAMA)
- British Fire Protection Systems Association Ltd.
- Chartered Institution of Building Services
- Chief and Assistant Chief Fire Officers' Association
- Department of Health and Social Security
- Department of the Environment (Building Research Establishment, Fire Research Station)
- Department of the Environment (Housing and Construction)
- Department of the Environment (PSA)
- Electrical Contractors' Association
- Electrical Installation Equipment Manufacturers' Association (BEAMA)
- Fire Insurers' Research and Testing Organization (FIRTO)
- Fire Offices' Committee
- Fire Protection Association
- Greater London Council
- Home Office
- Institution of Electrical Engineers
- Institution of Fire Engineers
- Ministry of Defence
- Post Office
- Royal Institute of British Architects
- Telecommunication Engineering and Manufacturing Association (TEMA)

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- Department of Trade (Marine Division)
- Electricity Supply Industry of England and Wales

This British Standard, having been prepared under the direction of the Fire Standards Committee, was published under the authority of the Board of BSI and comes into effect on 28 February 1983.

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Foreword

This Part of this British Standard, prepared under the direction of the Fire Standards Committee, is a revision of BS 5364-1:1977 which is now withdrawn. It is published as a new part of BS 5839 in accordance with the Technical Committee's intentions stated in the foreword of BS 5839-1.

This part of this standard specifies requirements and tests for manual call points and their mounting boxes intended for use with electrical fire alarm systems.

The purpose of a manual call point is to enable a person discovering a fire to initiate the operation of a fire alarm system and thereby to give a warning at the earliest practical moment so that the appropriate measures can be taken.

It is important for manual call points to be readily identifiable and simple to understand and use without the need to read elaborate instructions, so that anyone discovering a fire is able to use a call point without previous familiarity with it. This standard, however, requires a method of operation with a clearly irreversible effect, i.e. the direct breaking of a frangible element, which is intended to deter misuse.

It is equally important that manual call points remain reliable in operation when subjected to the environmental hazards likely to be met in situ, e.g. the effects of corrosion, dust, vibration and damp, and that they be properly installed and maintained. Information on installation and servicing of electrical fire alarm systems is given in BS 5839-1.

The requirements of this part of this standard are intended to ensure similarity in the method of use and reliability of operation. The method of operation tested within this part of this standard, i.e. hitting or pressing a breakable element forming part of the front face, is considered to be the most suitable method for general application in the UK.

The major changes in this revision are as follows.

- a) The environmental tests of BS 2011 have been introduced as far as possible.
- b) Requirements for creepage distances and clearances have been omitted pending the work of IEC/TC 79, Alarm Systems, of the International Electrotechnical Commission and CENELEC/TC 79, Alarm Systems, of the European Committee for Electrotechnical Standardization.

It has been assumed in the drafting of this part of this standard that the execution of its provisions is entrusted to appropriately qualified and experienced people, for whose guidance it has been prepared.

The requirement limiting the distance of travel of particles of the frangible element when a call point was operated was deleted by amendment for the following reasons:

- 1) the method of test was not repeatable or practical;
- 2) the requirement induced designs in opposition to the philosophy and principle of operation of the devices.

This part of this standard calls for the use of substances, apparatus and procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and does not absolve the user from the legal obligations relating to health and safety at any stage. For example, suitable precautions should be taken during the electrical tests of this part of this standard against electrical shock, and, in any of the tests against the possibility that frangible elements may fracture and broken pieces may be ejected from a call point. It should be noted that these examples are not exhaustive.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 14, an inside back cover and a back cover.

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1 Scope

This part of BS 5839 specifies the requirements and methods of test for manual call points for use in electrical fire alarm systems. It also specifies requirements for mounting boxes for use with manual call points.

NOTE The titles of the publications referred to in this part of this standard are listed on the inside back cover.

2 Definitions

For the purposes of this part of this standard, the following definitions apply.

2.1

manual call point

a device intended for the manual initiation of an alarm of fire in an electrical fire alarm system, operated by the breaking by hitting or pressing of a frangible element forming part of the front face

2.2

mounting box

a box not necessarily specifically designed for containing a manual call point but into which a manual call point is designed to be fitted

2.3

specimen

a manual call point together with any necessary mounting box, intended to be tested in accordance with this part of this standard, whether or not normally supplied with the call point

2.4

normal condition

the condition in which breakage of the frangible element would be expected to cause an alarm to be given by the associated control and indicating equipment

2.5

frangible element

a single or laminated material, part or all of which will irreversibly fracture under pressure or impact

3 Test requirements

NOTE See the foreword concerning safety precautions.

3.1 General

The specimens shall be tested and/or inspected according to the schedule given in Table 1 and shall comply with the clauses listed.

3.2 Provision for test

The following shall be provided for use in the tests given in clauses 4 to 16:

- 10 specimens;
- 50 additional frangible elements;
- data as required by 4.1.9 if this is not marked on the manual call points;
- mechanical and electrical production drawings with details of parts, dimensions, materials and finishes and specification of the mounting box (for reference).

3.3 Test schedule

The specimens shall be randomly numbered 1 to 10 by the testing organization.

The tests on each specimen shall be carried out in the order listed in Table 1 from top to bottom.

Table 1 — Test schedule

Test/inspection	Clause	Specimen number									
		1	2	3	4	5	6	7	8	9	10
Construction and principle of operation	4	X									
Operation	5		X	X	X	X	X	X	X	X	X
Access to live parts	6		X								
Insulation resistance and dielectric strength	7			X							
Electrical contact material	8				X						
Durability	9					X					
Vibration	10						X				
Corrosion	11							X			
Impact	12								X		
Dry heat	13									X	
Damp heat	14									X	
Cold	15									X	
Ingress of water ^a	16										X

^a Applicable if the manual call point is specified by the manufacturer as being suitable for use out-of-doors (see 4.1.9).