

Harmonized system of quality
assessment for electronic components

Electromechanical switches for use in electronic equipment — Sectional specification for in-line package switches

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Electronic Components Standards Policy Committee (ECL/-) to Technical Committee ECL/21, upon which the following bodies were represented:

- British Telecommunications plc
- EEA (The Association of Electronic Telecommunications and Business Equipment Industries)
- Electronic Components Industry Federation
- Ministry of Defence
- National Supervising Inspectorate
- Society of British Aerospace Companies Ltd.

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

- Association of Control Manufacturers (TACMA) (BEAMA Ltd.)
- Membrane Switch Manufacturers' Association (MSMA)

This British Standard, having been prepared under the direction of the Electronic Components Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 October 1992

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The following BSI references relate to the work on this standard:
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National foreword

This British Standard has been prepared under the direction of the Electronic Components Standards Policy Committee. It is identical with IEC 1020-3:1991 *Electromechanical switches for use in electronic equipment — Part 3: Sectional specification for in-line package switches* published by the International Electrotechnical Commission (IEC). IEC 1020-3, also designated QC 960500, is a harmonized specification in the IECQ system for electronic components of assessed quality.

IEC 1020-3 was prepared by IEC Subcommittee 48C, Switches, of IEC Technical Committee No. 48, Electromechanical components for electronic equipment, and the United Kingdom participation in the drafting was provided by Subcommittee ECL/21/3, Switches for electronic equipment, of Technical Committee ECL/21, Electromechanical components for electronic equipment.

Cross-references

International Standard	Corresponding British Standard
	BS 2011 <i>Environmental testing</i>
IEC 68-1:1988	Part 1.1:1989 <i>General and guidance</i> (Identical)
IEC 68-2-6:1982	Part 2.1Fc:1983 <i>Test Fc. Vibration (sinusoidal)</i> (Identical)
IEC 68-2-13:1983	Part 2.1M:1984 <i>Test M. Low air pressure</i> (Identical)
IEC 68-2-20:1979	Part 2.1T:1981 <i>Test T. Soldering</i> (Identical)
IEC 68-2-27:1987	Part 2.1Ea: <i>Test Ea. Shock</i> (Identical)
IEC 68-2-45:1990	Part 2.1XA:1981 <i>Test XA and guidance. Immersion in cleaning solvents</i> (Identical)
IEC 1020-1:1991	BS QC 960000:1992 <i>Electromechanical switches for use in electronic equipment. Generic specification</i> (Identical)

The British Standard which implements the IECQ Rules of Procedure is BS 9000 *General requirements for a system for electronic components of assessed quality — Part 3:1991 Specification for the national implementation of the IECQ system*.

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 and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 General

1.1 Scope

This part of IEC 1020 applies to the sub-family of in-line package switches within the family of electromechanical switches of assessed quality. In-line package switches covered by this part of IEC 1020 are designed for use with printed boards as an interface with analog and digital logic circuits. This part of IEC 1020 includes, but is not necessarily limited to, the following sub-families of in-line package switches:

- rotary actuated DIP (dual-in-line package) switches;
- slide actuated DIP switches;
- rocker actuated DIP switches;
- toggle actuated DIP switches.

The object of this part of IEC 1020 is to:

- a) prescribe preferred ratings and characteristics;
- b) select the appropriate quality assessment procedures and test methods from IEC 1020-1;
- c) prescribe the general performance requirements for in-line package switches.

1.2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of IEC 1020. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of IEC 1020 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 68-1:1988, *Environmental testing — Part 1: General and guidance*.

IEC 68-2-6:1982, *Environmental testing — Part 2: Tests — Test Fc and guidance: Vibration (sinusoidal)*.

IEC 68-2-13:1983, *Environmental testing — Part 2: Tests — Test M: Low air pressure*.

IEC 68-2-20:1979, *Environmental testing — Part 2: Tests — Test T: Soldering*.

IEC 68-2-27:1987, *Environmental testing — Part 2: Tests. Test Ea and guidance: Shock*.

IEC 68-2-45:1980, *Environmental testing — Part 2: Tests. Test Xa and guidance: Immersion in cleaning solvents*.

IEC 1020-1:1991, *Electromechanical switches for use in electronic equipment — Part 1: Generic specification*.

1.3 Terminology

In addition to the terminology specified in IEC 1020-1, the following definition shall apply to all in-line package switches.

1.3.1

in-line package switch

a manually operated, multiple section, electromechanical switch with one or more movable actuators and with terminations arranged in parallel rows on a specified grid

1.4 Marking

The marking requirements of IEC 1020-1 apply; in addition, the marking shall include the identification of the switch poles. Moreover, when specified by the relevant specification, the “on” and/or “off” positions of the switch actuator shall be marked on the switch.

1.5 Detail specification

Detail specifications shall be derived from the relevant blank detail specification.

Detail specifications shall not specify test severities or performance requirements which are less than those specified in this part of IEC 1020.

When more severe test severities or performance requirements are included, they shall be clearly described in the detail specification and shall be indicated in the test schedules by a special notation such as an asterisk.

If the technical requirements of the generic and/or sectional specification relative to inspection are not entirely suitable (either for technical reasons or because of special applications) to the in-line package switch described in the detail specification, the detail specification shall set out clearly the modifications which are to be made to these requirements.

The detail specification shall state, directly or by reference to other standards, all information necessary to completely describe all interchangeability parameters for that type of in-line package switch, including any styles and variants, and to ensure conformance thereof with all requirements for quality assurance.

The following information shall be given in each detail specification and the values prescribed shall preferably be selected from those given in the applicable clause of this part of IEC 1020.