



BSI Standards Publication

13 A plugs, socket-outlets, adaptors and connection units

Part 4: 13 A fused connection units: switched and unswitched – Specification

Contents

	Page
Foreword	III
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Conditions of use	5
5 General	5
6 General conditions for type testing	5
<i>Table 1 — Schedule of tests</i>	6
7 Classification and ratings	6
8 Marking and labelling	7
9 Clearances, creepage distances and solid insulation	8
<i>Table 2 — Minimum clearances for basic insulation</i>	10
<i>Table 3 — Minimum creepage distances (mm) for basic insulation</i>	11
<i>Table 4 — Withstand voltages for insulation types</i>	11
10 Accessibility of live parts	12
11 Provision for earthing	12
<i>Table 5 — Torque values for screws and nuts</i>	13
12 Terminals	13
13 <i>(Not used)</i>	17
14 Construction of connection units	17
<i>Table 6 — Actuator test force</i>	19
15 Resistance to ageing, resistance to humidity and protection provided by enclosures	20
<i>Table 7 — Tightening torque values for cable glands</i>	22
16 Insulation resistance and electric strength	23
<i>Table 8 — Test voltage across the open contacts for verifying the suitability for isolation, referred to the rated voltage and to the altitude where the test is carried out</i>	25
17 Temperature rise	25
<i>Table 9 — Permitted temperature rises</i>	25
18 Breaking capacity of connection units	26
19 Normal operation of connection units	27
20 Connection of flexible cables and cable anchorage	27
<i>Table 10 — Cable grip test related to size of flexible cable</i>	28
21 Mechanical strength	29
<i>Figure 19 — Schematic for test on fuse clips</i>	29
<i>Figure 21a) — Pendulum impact test: General view of apparatus</i>	30
<i>Figure 21b) — Pendulum impact test: Constructional details of striking elements</i>	31
<i>Figure 21c) — Pendulum impact test: Constructional details of mounting support for test samples</i>	32
22 Screws, current-carrying parts and connections	33
23 Resistance to heat	34
24 Resistance to abnormal heat and fire	35
<i>Table 11 — Application of glow-wire test</i>	35
25 Resistance to excessive residual stresses and to rusting	36
Annex A (normative) Pollution degree	37
Annex B (normative) Relation between rated impulse withstand voltage, rated voltage and Overvoltage Category	38
<i>Table B.1 — Rated impulse withstand voltage for connection units energized directly from the low voltage mains</i>	38

Annex C	(normative) Determination of the Comparative Tracking Index and Proof Tracking Index	38
Annex D	(normative) Impulse voltage test	39
	<i>Table D.1 — Test voltages for verifying clearances at sea level</i>	40
Annex E	(normative) Measurement of clearances and creepage distances	40
	<i>Table E.1 — Minimum values of width X</i>	40
	<i>Figure E.1 — Example 1</i>	41
	<i>Figure E.2 — Example 2</i>	41
	<i>Figure E.3 — Example 3</i>	41
	<i>Figure E.4 — Example 4</i>	42
	<i>Figure E.5 — Example 5</i>	42
	<i>Figure E.6 — Example 6</i>	42
	<i>Figure E.7 — Example 7</i>	42
	<i>Figure E.8 — Example 8</i>	43
	<i>Figure E.9 — Example 9</i>	43
	<i>Figure E.10 — Example 10</i>	44
	<i>Figure E.11 — Example 11</i>	44
Annex F	(normative) The construction and calibration of a calibrated link	44
	<i>Figure 28 — Calibrated link</i>	45
	<i>Figure 29 — Calibration jig for calibrated link</i>	47
Annex G	(informative) Annex identification migration from 2016 edition to 2023 edition	48
	<i>Table G.1 — BS 1363 annex identification migration from 2016 to 2023</i>	49
	Bibliography	51

Summary of pages

This document comprises a front cover, an inside front cover, pages I to IV, pages 1 to 51, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 1363 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 June 2023. It was prepared by Technical Committee PEL/23, *Electrical accessories*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

This part of BS 1363 supersedes BS 1363-4:2016+A1:2018 which remains current and will be withdrawn on 30 June 2026.

Relationship with other publications

BS 1363 comprises the following five parts:

- *Part 1: Rewirable and non-rewirable 13 A fused plugs – Specification;*
- *Part 2: 13 A switched and unswitched socket-outlets – Specification;*
- *Part 3: Adaptors – Specification;*
- *Part 4: 13 A fused connection units: switched and unswitched – Specification;*
- *Part 5: Fused conversion plugs – Specification.*

Information about this document

This is a full revision of the document, and introduces the following principal changes:

- the Scope now covers operating frequencies from 50 Hz to 60 Hz;
- current carrying parts made of brass are required to have a minimum content of 58% copper;
- new requirements have been added for switch actuating force test for double-pole switches;
- mounting box clearance requirements for flush mounted connection units have been modified.

The numbering of figures within this standard remains as in the previous version; however, future revisions will implement consecutive numbering throughout.

[Annex G](#) gives details of the annex renumbering from the 2016 editions of BS 1363, Part 1 to Part 5 to the 2023 editions.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

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.

Requirements in this standard are drafted in accordance with the *Rules for the structure and drafting of UK standards:2022*, subclause **G.1.1**, which states, “Requirements should be expressed using wording such as: ‘When tested as described in Annex A, the product shall ...’”. This means that only those products that are capable of passing the specified test will be deemed to conform to this standard.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient’s own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

This publication is not intended to constitute a contract. Users are responsible for its correct application.

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

In particular, attention is drawn to the following specific regulations:

- The Plugs and Sockets etc. (Safety) Regulations 1994. SI No. 1768 [\[1\]](#).

1 Scope

This part of BS 1363 specifies requirements for 13 A fused fixed connection units for household, commercial and light industrial purposes, with particular reference to safety in normal use. The connection units are suitable for the connection of appliances, in a.c. circuits only, operating at voltages not exceeding 250 V r.m.s. and frequencies from 50 Hz to 60 Hz.

Requirements are specified for connection units incorporating a fuse-link conforming to BS 1362:1973+A3:2021.

Requirements are specified for 13 A connection units with or without associated controlling switches for flush mounting in suitable enclosures, e.g. boxes conforming to BS 4662, or for surface or panel mounting. Connection units are intended for use with cables conforming to BS 6004 having copper conductors. Connection units with cable outlets are additionally intended for use with flexible cables, conforming to the relevant part of BS EN 50525 on the load (output) side.

This standard does not apply to connection units incorporating screwless terminals for the connection of external conductors of the following types:

- a) flat quick-connect terminals;
- b) insulation-piercing connecting devices; and
- c) twist-on connecting devices.

Certain installations require the inclusion of intumescent and acoustic pads and this might have an effect on the conformance of the connection unit to the requirements of this standard. This might influence temperature rise and internal clearances. Verification of suitability of the connection unit needs to be obtained from the manufacturer.

NOTE Requirements for electromagnetic compatibility are not given for the following reason:

A connection unit is mechanical by nature of construction. A connection unit does not emit intolerable electromagnetic interference and the product is immune from electromagnetic interference.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions, or limits the application, of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[BS 1362:1973+A3:2021](#), Specification for general purpose fuse links for domestic and similar purposes (primarily for use in plugs)

[BS 4662:2006+A1:2009](#), Boxes for flush mounting of electrical accessories – Requirements and test methods and dimensions

[BS 6004:2012+A1:2020](#), Electric cables – PVC insulated and PVC sheathed cables for voltages up to and including 300/500 V, for electric power and lighting

[BS EN 50525-2-11:2011](#), Electric cables – Low voltage energy cables of rated voltages up to and including 450/750 V (U₀/U) – Part 2-11: Cables for general applications – Flexible cables with thermoplastic PVC insulation

[BS EN 50525-2-21:2011](#), Electric cables – Low voltage energy cables of rated voltages up to and including 450/750 V (U₀/U) – Part 2-21: Cables for general applications – Flexible cables with crosslinked elastomeric insulation

¹⁾ Documents that are referred to solely in an informative manner are listed in the Bibliography.