

SINGAPORE STANDARD

**Specification for 13 A fused connection
units switched and unswitched**



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ABB Pte Ltd

Energy Market Authority

Hager Electro Systems Pte Ltd

Housing & Development Board

Legrand

MK Electric (Singapore) Pte Ltd

Schneider Electric

Singapore Electrical Testing Services

SP Services Ltd

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National Foreword

This Singapore Standard was prepared by the Working Group on Plugs, Socket-outlets and Switches, appointed by the Technical Committee on Electrical Accessories and Electric Cables which is under the purview of the Electrical and Electronic Standards Committee.

This standard is a modified adoption of BS 1363 : Part 4 : 1995 – ‘13 A plugs, socket-outlets, adaptors and connection units, Part 4 : Specification for 13 A fused connection units switched and unswitched’ incorporating Amendment 1, 2, 3 and 4 and is reproduced with the permission of the British Standards Publishing Ltd.

The deviations to suit local conditions are as follows:

- (a) Ambient temperature under conditions for use for fused connection units is changed from having a peak value not exceeding -5°C to $+40^{\circ}\text{C}$ with the average value over 24 h not exceeding $+25^{\circ}\text{C}$ to $+40^{\circ}\text{C}$, the average value over 24 h not exceeding $+35^{\circ}\text{C}$.
- (b) Altitude under conditions for use for the fused connection units is changed from 2000 m above sea level to 1000 m.
- (c) Ambient temperature of $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$ used as test condition for fused connection units is changed to $27^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
- (d) Where applicable, references made to British Standards are changed to the appropriate SS or IEC standards (see the publications referred to at the end on the standard).

The revision includes the expansion of Clause 8 on clearances, creepage distances and solid insulation.

Attention is drawn to the following:

- The clause and figure numbering follows that of BS 1363 : Part 4. When the term ‘Not Used’ appears, it should be interpreted as ‘Not Applicable’.
- Users are advised to refer also to the Electricity (Electrical Installations) Regulations 2002 and SS CP 5 : 1998 – ‘Code of practice for electrical installations’.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Specification for 13 A fused connection units switched and unswitched

1 Scope and conditions of use

This standard 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. at 50 Hz.

Requirements are specified for connection units incorporating a fuse-link complying with SS 167.

Requirements are specified for 13 A connection units, with or without associated controlling switches, for flush mounting in suitable enclosures, e.g. boxes complying with BS 4662, or for surface or panel mounting. Connection units are intended for use with cables complying with BS 6004 having copper conductors. Connection units with cord outlets are additionally intended for use with flexible cords, complying with SS 358-5 or IEC 60227-5 on the load (output) side. Connection units containing devices other than fuse-links, switches and indicator lamps are outside the scope of this standard.

NOTE 1 – The titles of the publications referred to in this standard are listed on the inside back cover.

NOTE 2 – Requirements for electromagnetic compatibility are not given for the following reasons.

A connection unit does not emit intolerable electromagnetic interference since significant electromagnetic disturbances are only generated during insertion and withdrawal which are not continuous.

A connection unit is mechanical by nature of construction. The product is therefore immune from electromagnetic interference.

Fused connection units shall be suitable for use under the following conditions:

- (a) An ambient temperature having a peak value not exceeding + 40°C, the average value over 24 h not exceeding + 35°C;

NOTE – Under normal conditions of use, the available cooling air is subject to natural atmospheric variations of temperature and hence the peak temperature occurs only occasionally during the hot season, and on those days when it does occur it does not persist for lengthy periods.

- (b) A situation not subject to exposure to direct radiation from the sun or other source of heat likely to raise temperatures above the limits specified in (a);
- (c) An altitude not exceeding 1000 m above sea level;
- (d) An atmosphere not subject to abnormal pollution by smoke, chemical fumes, rain, spray, prolonged periods of high humidity or other abnormal conditions. This is equivalent to pollution degree 2, see Annex E, and overvoltage category III, see Annex D.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 219 Specification for soft solders

BS 1210	Specification for wood screws
BS 4662	Boxes for flush mounting of electrical accessories – Requirements, test methods and dimensions
BS 6004	Electric cables – PVC insulated, non-armoured cables for voltages up to and including 450/750 V, for electric power, lighting and internal wiring
BS EN 50525	Electric cables – Low voltage energy cables of rated voltages up to and including 450/750 V (U_0/U)
BS EN 60112	Method for the determination of the proof and the comparative tracking indices of solid insulating materials
BS EN 60664-1	Insulation coordination for equipment within low-voltage systems – Principles, requirements and tests
BS EN 61140	Protection against electric shock – Common aspects for installation and equipment
BS EN 61180-1	Guide to high-voltage test techniques for low voltage equipment – Part 1: Definitions, test and procedure requirements
IEC 60227-5	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)
IEC 60417	Graphical symbols for use on equipment
IEC 60695-2-11	Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products
IEC 60695-10-2	Fire hazard testing – Part 10-2: Abnormal heat - Ball pressure test
IEC 61032	Protection of persons and equipment by enclosures – Probes for verification
SS 145-2	Specification for 13 A plugs and socket outlets – Part 2: 13 A switched and unswitched socket-outlets
SS 167	Specification for general purpose fuse links for domestic and similar purposes (primarily for use in plugs)
SS 358-5	Specification for polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)
SS CP 5	Code of practice for electrical installations