

SOUTH AFRICAN NATIONAL STANDARD

Plug and socket-outlet systems for household and similar purposes for use in South Africa

Part 6: Two-pole systems, 16 A 250 V a.c., for connection of class II equipment

Amdt 1

WARNING — Can only be used in conjunction with SANS 164-0.

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Table of changes

Change No.	Date	Scope
Amdt 1	2008	Amended to correct the title, to delete the 10 A rating from the scope, to require socket-outlets fitted with a cord to be non-rewirable, to correct the drawings in standard sheet 6-1, to change requirements for gauges C2, C4 and C7, and to add gauge C2B.

Foreword

This South African standard was approved by National Committee StanSA SC 67C, *Electricity distribution systems and components – Electrical accessories*, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement.

This document was published in July 2008.

This document supersedes SANS 164-6:2006 (edition 1).

A vertical line in the margin shows where text has been technically modified by amendment No. 1.

This document adopts the dimensions, ratings, and non-rewirability clauses of CEE specification 7, *Specification for plugs and socket-outlets for domestic and similar purposes*.

This document, by reference in SANS 164-0, forms part of the *Compulsory specification for plugs, socket-outlets and socket-outlet adaptors*, as published by Government Notice No. R442 (Government Gazette 18779) of 3 April 1998. Compliance with the dimensions of this document will be deemed to be compliance with the said compulsory specification.

SANS 164 consists of the following parts, under the general title *Plug and socket-outlet systems for household and similar purposes for use in South Africa*:

Part 0: General and safety requirements.

Part 1: Conventional system, 16 A 250 V a.c.

Part 2: IEC system, 16 A 250 V a.c.

Part 3: Conventional system, 6 A 250 V a.c.

Part 4: Dedicated system, 16 A 250 V a.c.

Part 5: Two-pole, non-rewirable plugs, 2,5 A 250 V a.c., with cord, for connection of class II equipment.

Part 6: Two-pole systems, 16 A 250 V a.c., for connection of class II equipment.

Annexes A, B, C, D, E and F form an integral part of this document.

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Plug and socket-outlet systems for household and similar purposes for use in South Africa

Part 6:

Two-pole systems, 16 A 250 V a.c., for connection of class II equipment

Amdt 1

1 Scope

This part of SANS 164 covers the rating and dimensions of two-pole plugs and socket-outlets, rated at 16 A 250 V a.c., without earthing contact, for connection of class II equipment for household and similar purposes in South Africa.

Amdt 1

2 Normative reference

The following referenced document is indispensable for the application of this document. All normative documents are subject to revision and, since any reference to a normative document is deemed to be a reference to the latest edition of that document, parties to agreements based on this document are encouraged to take steps to ensure the use of the most recent edition of the normative document indicated below. Information on currently valid national and international standards can be obtained from Standards South Africa.

SANS 164-0, *Plug and socket-outlet systems for household and similar purposes for use in South Africa – Part 0: General and safety requirements.*

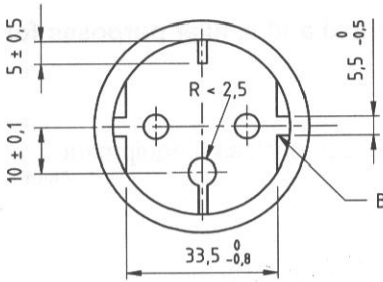
3 Definitions

For the purposes of this document, the definitions given in SANS 164-0 apply.

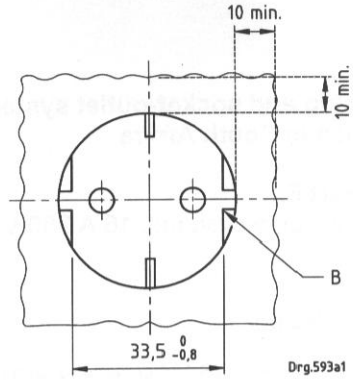
4 Requirements

- 4.1 The relevant requirements of SANS 164-0 apply. Amdt 1
- 4.2 Plugs and socket-outlets shall be rated at 16 A, 250 V a.c. Amdt 1
- 4.3 Plugs and socket-outlets fitted with a cord shall be non-rewirable. Amdt 1
- 4.4 Plugs and socket-outlets shall conform to the dimensions given on the appropriate of standard sheets 6-1 or 6-2.
- 4.5 Gauges for the checking of dimensions are given in annexes A to F.

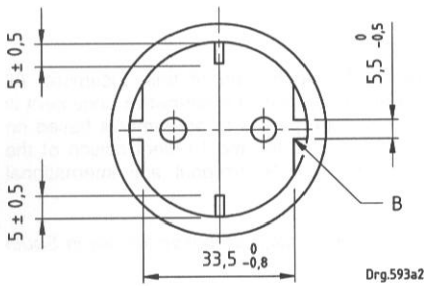
Dimensions in millimetres



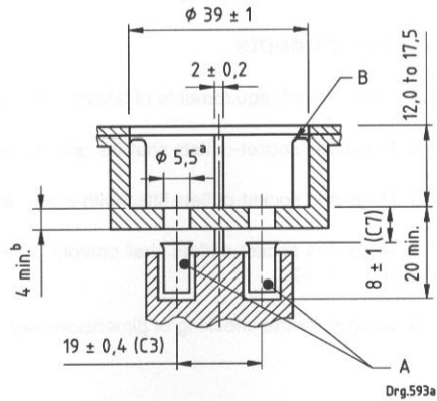
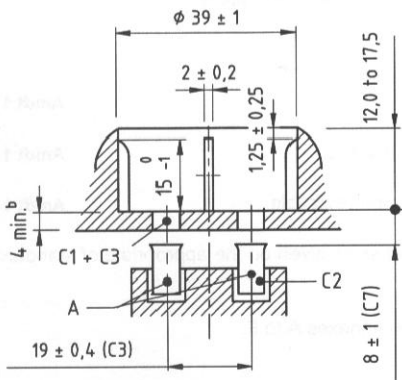
Adapter type socket



Surface type socket



Alternative



NOTE Key to standard sheet appears on the next page.

Standard sheet 6-1 — 16 A 250 V Two-pole socket-outlet for class II equipment

Key to standard sheet 6-1

A Contact tubes are resilient between 3,94 mm and 4,74 mm (C2 and C3).

Amdt 1

B Edges slightly rounded.

C1 Gauge in annex A is used.

C2 Both gauges in annex B are used.

Amdt 1

C3 Gauge in annex C is used.

C7 Gauge in annex E is used.

It shall not be possible to insert a plug for class 0 or class I equipment into the socket-outlet (see gauge C4 in annex D).

The protecting rims of multiple fixed socket-outlets may be interrupted for a length not exceeding 10 mm where two rims coincide, provided that the radius to the centre of the interruption is at right angles to the plane of the contact tubes of both socket-outlets.

NOTE 1 Contact tubes (see A in key) may have a shape other than tubular.

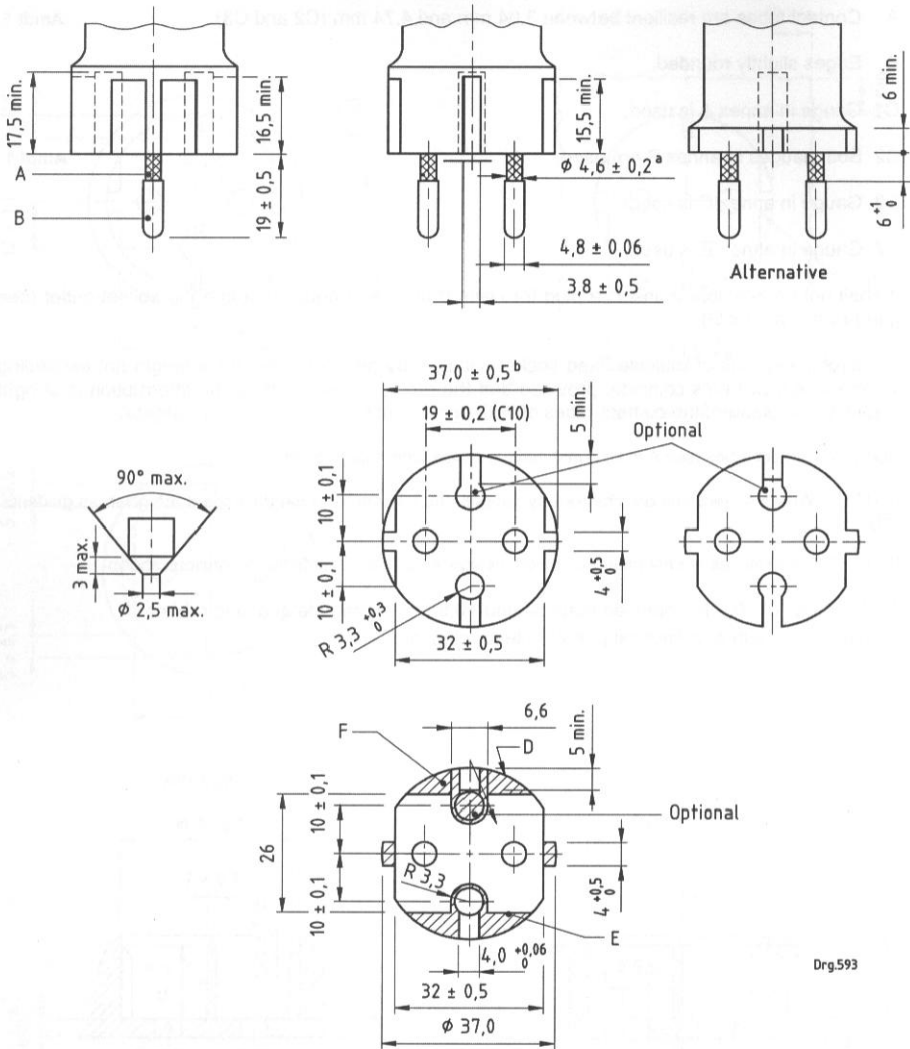
NOTE 2 Where dimensions are checked by gauges, the tolerances in the data sheet are given as guidance only.

NOTE 3 The sketches are not meant to govern design, except as regards the dimensions shown.

^a Tolerance of +0,3 for moulded material and +0,5 for ceramic material and rubber.

^b Minimum length of cylindrical part of hole for plug pins.

Dimensions in millimetres



NOTE Key to standard sheet appears on the next page.

Standard sheet 6-2 — 16 A, 250 V Two-pole plug for class II equipment

Amdt 1

Key to standard sheet 6-2

- A Insulating material
- B Metal pin
- C10 Gauge in annex F is used
- D Maximum profile
- E Minimum profile
- F Tolerance allowed in profile of engagement face.

The plug shall have a shape and size such that it can be easily removed by hand from the socket-outlet shown in standard sheet 6-1.

NOTE 1 Where the dimension is checked by a gauge, the tolerance in the data sheet is given as guidance only.

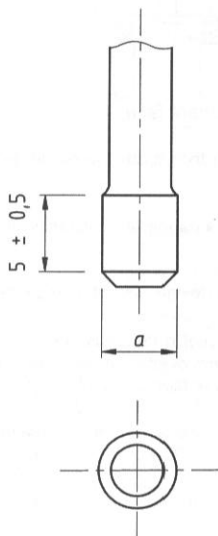
NOTE 2 The sketches are not meant to govern design, except as regards the dimensions shown.

- a If the engagement face has the maximum profile, the pins need not include insulating material, in which case the diameter of the pins shall be 4,8 mm over the entire length. Pins with insulating material shall be solid. The ends of the pins shall be rounded or tapered as in the detail drawing.
- b This size may not be exceeded within a distance of 18 mm from the engagement face.

Annex A
(normative)

**Gauge C1 for the maximum dimension of the guidance hole
of a socket contact**

Dimensions in millimetres



In the case of ceramic material and rubber, a is $6,0 \begin{smallmatrix} +0,01 \\ 0 \end{smallmatrix}$

In the case of moulded material, a is $5,8 \begin{smallmatrix} +0,01 \\ 0 \end{smallmatrix}$

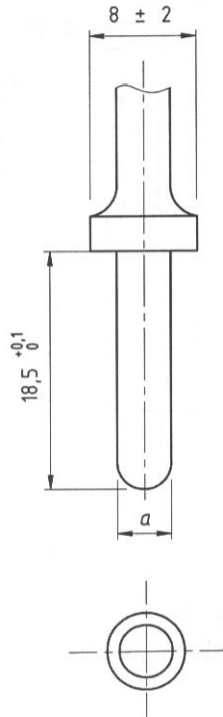
It shall not be possible to insert the gauge without force into the guidance hole of a socket contact.

Annex B
(normative)

Gauges C2A and C2B for the dimensions of the socket contact

Amdt 1

Dimensions in millimetres



Drg.593f

Key

C2A a is 3,94 $\begin{matrix} +0 \\ -0,01 \end{matrix}$
mass 160 g

Amdt 1

C2B a is 4,74 $\begin{matrix} +0 \\ -0,01 \end{matrix}$
mass 200 g

Amdt 1

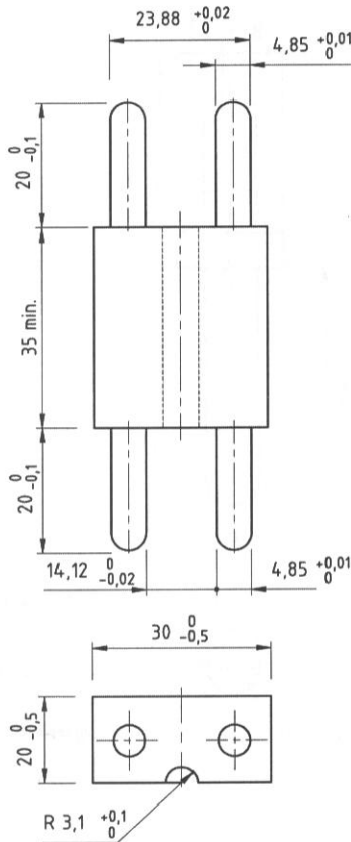
First check the socket contacts with gauge C2B and then with gauge C2A.
Neither gauge shall, under its own weight, fall from the socket contact.

Amdt 1

Annex C
(normative)

Gauge C3 for the spacing of socket contacts

Dimensions in millimetres



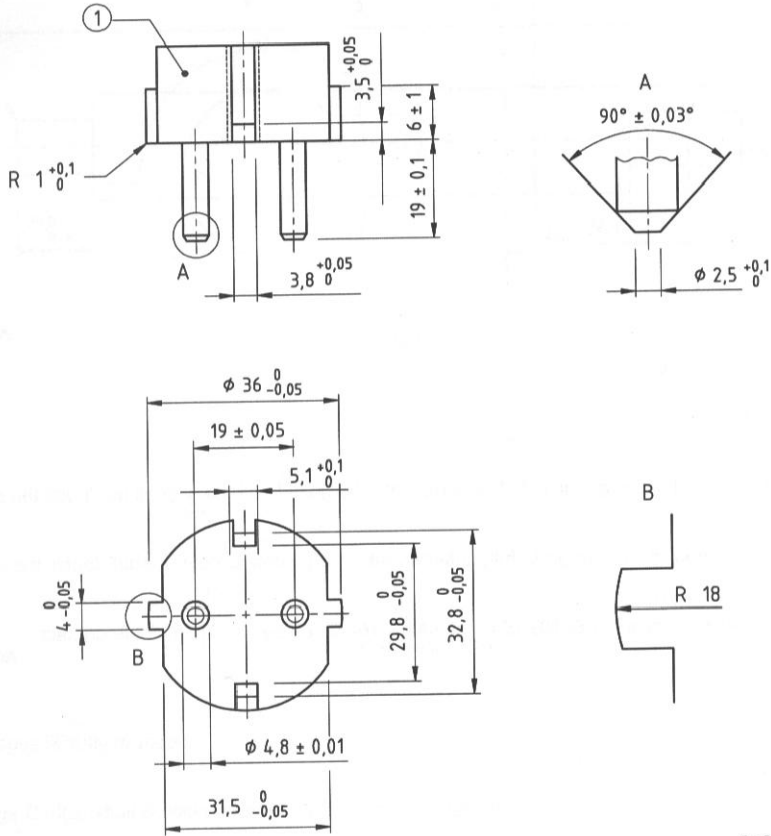
It shall be possible to fully insert both ends of the gauge, without using more force than the force that is normally required to overcome the contact resilience, into the socket-outlet so that the engagement faces touch each other.

Amdt 1

Annex D
(normative)

Gauge C4 for the non-entry of two-pole plugs for class 0 and class I equipment

Dimensions in millimetres



Drg.593J

Key

1 Steel

Amdt 1

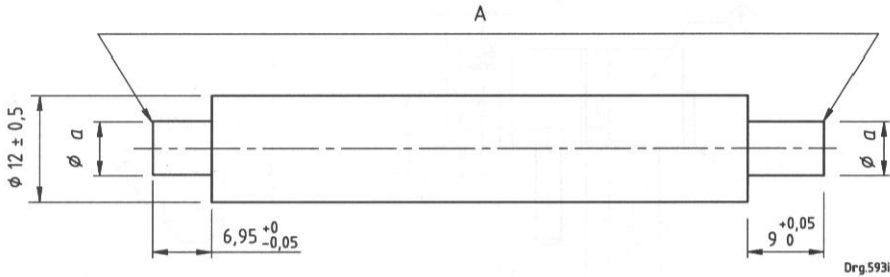
Amdt 1

It shall not be possible to insert without force the gauge into the socket-outlet.

Annex E
(normative)

Gauge C7 for the depth of first contact in the socket contact

Dimensions in millimetres



Key

Amdt 1

A Edges not rounded

$$a = 5,45^{+0,02}_0$$

When the short end of the gauge is fully inserted into the guidance hole, it shall not touch the socket contact.

When the long end of the gauge is fully inserted into the guidance hole, it shall touch the socket contact.

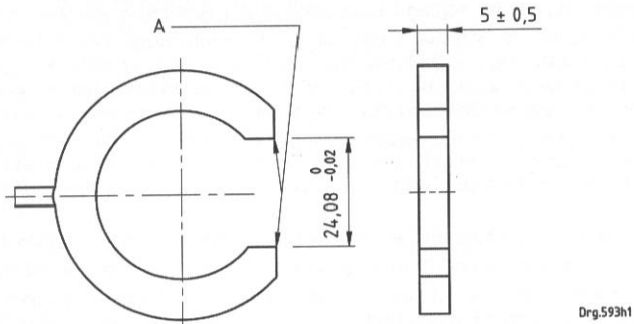
An indicator lamp as given in SANS 164-1 or SANS 164-2 can be used to indicate contact.

Amdt 1

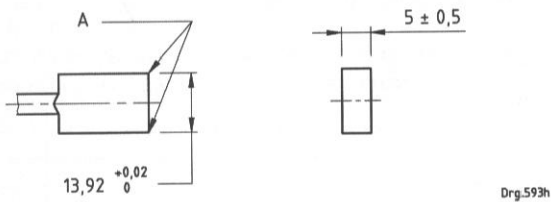
Annex F
(normative)

Gauge C10 for the pin spacing of plugs

Dimensions in millimetres



a) Gauge C10(a)



b) Gauge C10(b)

Key

A Edges slightly rounded

Gauge C10(a) shall fit, without force, over the pins of the plug.

Gauge C10(b) shall fit, without force, between the pins of the plug.