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SANS 10142-1:2020
Edition 3

SOUTH AFRICAN NATIONAL STANDARD

The wiring of premises

Part 1: Low-voltage installations

WARNING
This document references other documents normatively.

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Table of changes

Change No.	Date	Scope

Foreword

This South African standard was prepared by National Committee SABS/TC 067/SC 06, *Electricity distribution systems and components – Installations*, in accordance with procedures of the South African Bureau of Standards, in compliance with annex 3 of the WTO/TBT agreement.

This document was approved for publication in July 2020.

This document supersedes SANS 10142-1:2017 (edition 2).

The test report in edition 2 may be used in parallel with the test report in edition 3 for a period of 12 months from the date of publication of edition 3.

With the first edition of this part of SANS 10142, the standard was subdivided and now consists of the following parts, under the general title *The wiring of premises:*

Part 1: Low-voltage installations.

Part 1-1: Low-voltage installation in medical locations

Part 1-2: Additional special requirements for low voltage small scale embedded generator installations connected in parallel to the normal electrical supply

Part 2: Medium-voltage installations above 1 kV a.c. not exceeding 22 kV a.c. and up to and including 3 MVA installed capacity.

Table 4.1 contains a list of the applicable standards for the components that may be installed in an electrical installation.

Information on national legislation that applies only in South Africa is given in text boxes in the introduction (see page 3).

To ensure that this part of SANS 10142 is always up to date, amendments will be introduced regularly. Each change made to the text as a result of an amendment is/will be indicated in the margin by the number of the amendment.

Annex I forms an integral part of this document. Annexes A, B, C, D, E, F, G, H, J, K, L, M, N, O, P, Q and R are for information only.

Compliance with this document cannot confer immunity from legal obligations.

Introduction

In this edition an attempt has been made to move towards the IEC codes: extra low voltage (below 50 V) and d.c. applications (up to 1,5 kV) have been introduced as new requirements owing to the extensive usage of, and increased fire risk that result from, high load currents. This part of SANS 10142 does not intend to cover the LV control circuits of machinery or system components that are external circuits between separately installed parts of the machinery or system components.

This part of SANS 10142 includes certain provisions which are for information and guidance only. These provisions do not use the word “shall” and they can be found in the text, in the notes and in the informative annexes. Except in tables, notes are always for information only.

The aim of this part of SANS 10142 is to ensure that people, animals and property are protected from hazards that can arise from the operation of an electrical installation under both normal and fault conditions. An electrical installation has to provide protection against:

– shock current,

– overcurrent,

– fault current,

– overvoltage,

– undervoltage,

– excessive temperatures, and

– electric arcs.

If any of the above arises, the protection should automatically disconnect the supply or limit currents and voltages to safe values. In the case of undervoltage, the protection should ensure that dangerous situations, due to the loss and restoration of supply (for example, to a motor), or due to a drop in voltage, cannot occur.

This part of SANS 10142 is concerned with ensuring the basic safety of electrical installations. To ensure the protection of people, animals and property and the proper functioning of an installation, the designer of an electrical installation should be aware of: