

**Railway applications - Fixed installations -
Particular requirements for a.c. switchgear --
Part 1: Single-phase circuit-breakers with Un
above 1 kV**

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EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN 50152-1:2008 sisaldab Euroopa standardi EN 50152-1:2007 ingliskeelset teksti.</p>	<p>This Estonian standard EVS-EN 50152-1:2008 consists of the English text of the European standard EN 50152-1:2007.</p>
<p>Standard on kinnitatud Eesti Standardikeskuse 31.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p>	<p>This standard is ratified with the order of Estonian Centre for Standardisation dated 31.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p>
<p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 14.12.2007.</p>	<p>Date of Availability of the European standard text 14.12.2007.</p>
<p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>The standard is available from Estonian standardisation organisation.</p>

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English version

**Railway applications -
Fixed installations -
Particular requirements for a.c. switchgear -
Part 1: Single-phase circuit-breakers with U_n above 1 kV**

Applications ferroviaires -
Installations fixes -
Spécifications particulières pour
appareillage à courant alternatif -
Partie 1: Disjoncteurs monophasés
avec U_n supérieur à 1 kV

Bahnanwendungen -
Ortsfeste Anlagen -
Besondere Anforderungen an
Wechselstrom-Schaltanlagen -
Teil 1: Einphasen-Leistungsschalter
mit U_n über 1 kV

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by SC 9XC, Electric supply and earthing systems for public transport equipment and ancillary apparatus (fixed installations), of Technical Committee CENELEC TC 9X, Electric and electronic applications for railways.

This European Standard supersedes EN 50152-1:1997 and has been prepared taking into account the changes that have been made in the high voltage switchgear and controlgear Standards of IEC TC 17 and in EN 50124-1/A2:2005.

This document is technically equivalent to EN 50152-1:1997 except for the normative references which have changed and the revised classification of rated insulation voltages according to Table A.2 of EN 50124-1/A2:2005.

The text of the draft was submitted to the unique acceptance procedure and was approved by CENELEC as EN 50152-1 on 2007-07-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2008-07-01
- latest date by which the national Standards conflicting
with the EN have to be withdrawn (dow) 2010-07-01

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Introduction

The European Standard series EN 50152 is divided as follows.

Part 1: Single-phase circuit-breakers with U_n above 1 kV.

Part 2: Single-phase disconnectors, earthing switches and switches with U_n above 1 kV.

Part 3-1: Measurement, control and protection devices for specific use in a.c. traction systems – Application guide

Part 3-2: Measurement, control and protection devices for specific use in a.c. traction systems – Single-phase current transformers

Part 3-3: Measurement, control and protection devices for specific use in a.c. traction systems – Single-phase voltage transformers

EN 50152-1 has to be used in conjunction with EN 62271-100.

The essential requirements of EN 62271-100 have been transcribed in this European Standard. Other complementary clauses of EN 62271-100 are mentioned in this European Standard. Where a particular clause of EN 62271-100 is not mentioned, but is not referred as "not applicable" in this Standard, that clause applies as far as reasonable. Where this Standard states "addition" or "replacement", the relevant text of EN 62271-100 is to be adapted accordingly.

The numbering of clauses in EN 60694 and the EN 62271 series is not used in this European Standard. The numbering in square brackets refers to the numbering of clauses in EN 60694 and EN 62271.

NOTE 1 Where terms defined in EN 62271-100 conflict with definitions of the same terms as given in IEC 60050-811:1991 or of the other railway applications documents listed in the normative references, the definitions used in EN 62271-100 are to be used.

NOTE 2 The suffix N which appears in this Standard for rated values is not present in EN 62271-100.

1 Scope

This EN 50152-1 is applicable to single-phase a.c. one-pole circuit-breakers designed for indoor or outdoor fixed installations for operation at frequencies of 16,7 Hz and 50 Hz on traction systems having an U_{Nm} above 1 kV up to 52 kV.

This EN 50152-1 is also applicable to two-pole circuit-breakers when connected in the following manner: one pole supplying the connection to the contact line of the track, the second pole supplying the connection to the feeder cable which runs alongside the same track and which is used to boost the track voltage at regular intervals in combination with autotransformers. The centre of this circuit is connected to earth.

This European Standard is also applicable to the operating devices of circuit-breakers and to their auxiliary equipment.

This European Standard does not address circuit-breakers with dependent manual operating mechanism.

NOTE A rated short-circuit making current cannot be specified for these circuit-breakers and the use of these mechanisms may give reasons for the objection based on their safety in operation.

2 Normative references

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

EN 50124-1:2001 + amendment A2:2005, *Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment*.

EN 50163:2004, *Railway applications - Supply voltages of traction systems*.

EN 60044-1:1999, *Instrument transformers – Part 1: Current transformers (IEC 60044-1:1996, modified)*.

EN 60507:1993, *Artificial pollution tests on high-voltage insulators to be used on a.c. systems (IEC 60507:1991)*.

EN 60694:1996, *Common specifications for high-voltage switchgear and controlgear standards (IEC 60694:1996)*.

EN 60721 (all parts), *Classification of environmental conditions (IEC 60721 all parts)*.

EN 62271-100:2001, *High-voltage switchgear and controlgear – Part 100: High-voltage alternating-current circuit-breakers (IEC 62271-100:2001)*.

EN 62271-102:2002, *High-voltage switchgear and controlgear – Part 102: Alternating-current disconnectors and earthing switches (IEC 62271-102:2001)*.

3 Definitions

For the purpose of this document, the terms and definitions given in EN 60694 and EN 62271-100 and the following apply:

3.1

single-pole circuit-breaker

a circuit-breaker with one electrically separated conducting path for the main circuit suitable for use in a single phase circuit

NOTE The construction arrangement of this device is in principle identical to one phase of a three-phase circuit-breaker.