



SLOVENSKI STANDARD SIST EN 50152-2:1998

01-november-1998

Železniške aplikacije - Fiksne naprave - Posebne zahteve za a.c. stikalnico --
Del 2: Enofazni ločevalniki, ozemljilni preklopi in preklopi z Um nad 1 kV

Railway applications - Fixed installations - Particular requirements for a.c. switchgear --
Part 2: Single-phase disconnectors, earthing switches and switches with Um above 1 kV

Bahnanwendungen - Ortsfeste Anlagen - Besondere Anforderungen an Wechselstrom-
Schalteinrichtungen -- Teil 2: Einphasige Trennschalter, Erdungsschalter und
Lastschalter mit Um über 1 kV (standards.iteh.ai)

Applications ferroviaires - Installations fixes - Specifications particulières pour
appareillage à courant alternatif -- Partie 2: Sectionneurs monophasés, sectionneurs de
terre et commutateurs avec Um supérieur à 1 kV

Ta slovenski standard je istoveten z: EN 50152-2:1997

ICS:

29.130.99	Druge stikalne in krmilne naprave	Other switchgear and controlgear
29.280	Železniška oprema	Electric traction equipment

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN 50152-2

June 1997

ICS 29.120.60; 45.020

Descriptors: Railway fixed equipment, electric traction, a.c., electric switchgear, disconnector, switch, definition, characteristic, test, requirement

English version

**Railway applications - Fixed installations
Particular requirements for a.c. switchgear
Part 2: Single-phase disconnectors, earthing switches and
switches with U_m above 1 kV**

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This European Standard was approved by CENELEC on 1996-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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.

The text of the draft was submitted to the unique acceptance procedure and was approved by CENELEC as EN 50152-2 on 1996-10-01.

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) 1997-12-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 1997-12-01

This Part 2 is to be used in conjunction with EN 60129, *Alternating current disconnectors and earthing switches*, and/or HD 355.1 S3, *High voltage switches - Part 1: High voltage switches or rated voltages above 1 kV and less than 52 kV*, depending from the equipment involved.

Annexes designated “informative” are given for information only.
In this standard, annex A is informative.

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Introduction

This standard is divided into two parts.

Part 1 gives requirements for single-phase circuit breakers with U_m above 1 kV.

Part 2 gives requirements for single-phase disconnectors, earthing switches and switches with U_m above 1 kV.

EN 50152-2 has to be used in conjunction with EN 60129:1994 and HD 355.1 S3:1995. Where a particular subclause of EN 60129 and HD 355.1 S3 is not mentioned in this standard, that subclause applies as far as reasonable. Where requirements relate exclusively to three-phase systems or to voltages outside those in use in traction systems, they are not applicable. Where this standard states "addition" or "replacement", the relevant text of EN 60129 and HD 355.1 S3 is to be adapted accordingly. Numbering of clauses and subclauses follows the numbering of HD 355.1 S3.

NOTE 1: Where terms defined in EN 60129 and HD 355.1 S3 conflict with definitions of same terms as given in IEC 50(811):1991, or the other railway applications documents listed in the normative references, the definitions used in EN 60129 and HD 355.1 S3 are to be used.

NOTE 2: The suffix N which appears in this Standard for rated values is not used in EN 60129 and HD 355.1 S3.

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The following print types are used:

- 1) Arab numbers and capital bold type for clauses;
- 2) Arab numbers and bold italic/roman type for other titles;
- 3) Roman type for requirements;
- 3) Italic type for text specifications;
- 4) small Roman type for explanations.

Normative references are referred in this introduction. Other documents applicable to this equipment when used for railway applications are listed in annex A.

Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed thereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 50124-1	199X ^o	Railway applications - Insulation co-ordination - Part 1: Basic requirements - Clearances and creepage distances
EN 50152-1	1997	Railway applications - Fixed installations - Particular requirements for a.c. switchgear - Part 1: Single phase circuit breakers with U_m above 1 kV
EN 50163	1995	Railway applications - Supply voltages of traction systems
EN 60129 A1 A2	1994 1994 1996	Alternating current disconnectors and earthing switches
EN 60068-2 HD 323.2	series series	Environmental testing (IEC 68-2 series)
EN 60507	1993	Artificial pollution tests on high voltage insulators to be used in a.c. systems (IEC 507:1991)
EN 60694	1996	Common clauses for high-voltage switchgear and controlgear standards (IEC 694:1996)
HD 348 S6	1995	High-voltage alternating current circuit-breakers (IEC 56:1987 + A1:1992 + A2:1995, mod.)
HD 355.1 S3	1995	High voltage switches - Part 1: High-voltage switches for rated voltages above 1 kV and less than 52 kV (IEC 265-1:1983 + A1:1984 + A2:1994)
HD 478	series	Classification of environmental conditions (IEC 721 series)
HD 566 S1	1990	Thermal evaluation and classification of electric insulation (IEC 85:1984)
HD 588.1 S1	1991	High-voltage test techniques - Part 1: General definitions and test requirements (IEC 601:1989 + corrigenda March 1990 + March 1992)
IEC 50(605)	1983	International Electrotechnical Vocabulary - Generation, transmission and distribution of electricity - Substations
IEC 50(811)	1991	Chapter 811: Electric traction
IEC 815	1986	Guide for the selection of insulators in respect of polluted conditions

^o In preparation.

1 SCOPE

Replacement:

This Part of EN 50152 is applicable to single-phase a.c. one-pole disconnectors, earthing switches and switches (switch-disconnectors and general purpose switches) designed for indoor or outdoor fixed installations for operation at frequencies of 16 2/3 Hz and 50 Hz on traction systems having an U_{Nm} above 1 kV up to 52 kV.

This standard is also applicable to two-pole disconnectors, earthing switches and switches (switch-disconnectors and general purpose switches) connected in the following manner either:

a) one pole supplying the connection to the contact line of the track, the other supplying the connection to the feeder cable which runs alongside the same track and is used to boost the track voltage at regular intervals in combination with autotransformers;

or

b) the two poles of the disconnector, earthing switch or switch (switch-disconnector or general purpose switch) are connected in series to provide secure isolation (i.e. two breaks in series).

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2 NORMAL AND SPECIAL SERVICE CONDITIONS

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This clause of EN 60129 and HD 355.1 S3 is applicable except as follows:

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Addition:

The equipment covered by this standard is suitable for installation in trackside substations subject to vibrations from passing trains, airborne iron dust contamination from train brakes and meets Electromagnetic Compatibility (EMC) requirements.

For special service conditions, agreement is necessary between purchaser and supplier.

3 DEFINITIONS

This clause of EN 60129 and HD 355.1 S3 is applicable except as follows:

Addition:

3.101.6 disconnecting device

General term covering circuit-breakers, disconnectors, earthing switches, switches, including switch-disconnectors and general purpose switches.

3.101.7 single-pole disconnecting device

A disconnecting device 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 disconnecting device.

3.101.8 two-pole disconnecting device

A disconnecting device with two independent electrically separated conducting paths for the main circuit.

NOTE 1: The two paths may be connected in series for use in a single phase circuit where the establishment of the two paths is simultaneous. The construction arrangement of this device is in principle identical to two phases of a three phase disconnecting device.

NOTE 2: This device is intended to be suitable to interrupt or establish simultaneously a single phase circuit in two different points.

4 RATING

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This clause of EN 60129 and HD 355.1 S3 is applicable except as follows:

4.1 Rated voltage (U_{Ne})

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Replacement:

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The rated voltage U_{Ne} shall be chosen taking into consideration the maximum voltage level suitable to be permanently applied to the disconnecting device (i.e. highest permanent voltage U_{max1} as defined in EN 50163).

Addition:

4.1.1 Nominal voltage (U_n)

The nominal voltage U_n shall be one of the voltages listed in EN 50124-1 which have been selected from EN 50163, according to table Z1.

4.2 Rated insulation level (U_{Nm})

Replacement:

The value of the rated insulation level U_{Nm} , of the rated impulse withstand voltage U_{Ni} and of the power-frequency test voltage U_a shall be as given in table Z1, taken from the values listed in EN 50124-1.