

**Railway applications - Fixed
installations - D.C. switchgear - Part 5:
Surge arresters and low-voltage limiters
for specific use in d.c. systems**

Railway applications - Fixed installations - D.C.
switchgear - Part 5: Surge arresters and low-voltage
limiters for specific use in d.c. systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 50123-5:2003 sisaldab Euroopa standardi EN 50123-5:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 08.05.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50123-5:2003 consists of the English text of the European standard EN 50123-5:2003. This document is endorsed on 08.05.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: Clauses 1, 2, 3 and 4 of this European Standard cover particular requirements for surge arresters (following named arresters) for specific use in fixed installations of d.c. traction systems. These are surge arresters consisting of one or more non-linear resistors which may be in series with single or multiple spark gaps	Scope: Clauses 1, 2, 3 and 4 of this European Standard cover particular requirements for surge arresters (following named arresters) for specific use in fixed installations of d.c. traction systems. These are surge arresters consisting of one or more non-linear resistors which may be in series with single or multiple spark gaps
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ICS 29.130.99, 45.020

Võtmesõnad:

English version

**Railway applications –
Fixed installations - D.C. switchgear
Part 5: Surge arresters and low-voltage limiters
for specific use in d.c. systems**

Applications ferroviaires –
Installations fixes –
Appareillage à courant continu
Partie 5: Parafoudres et limiteurs
de tension pour utilisation spécifique
dans les systèmes à courant continu

Bahnanwendungen –
Ortsfeste Anlagen –
Gleichstrom-Schaltanlagen
Teil 5: Überspannungsableiter und
Niederspannungsbegrenzer
für spezielle Verwendung
in Gleichstromsystemen

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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.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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 the Technical Committee CENELEC TC 9X, Electrical and electronic applications for railways.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 50123-5 on 2002-09-01.

This European Standard supersedes EN 50123-5:1997 + A1:1999.

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) 2003-09-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-09-01

This Part 5 is to be used in conjunction with EN 50123-1:2003, with EN 60099-1:1994 and with EN 60099-4:1993.

Annexes designated “informative” are given for information only.
In this standard, annexes A and B are informative.

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Introduction

EN 50123-5 is divided into five clauses as follows:

- 1 common matters;
- 2 non-linear resistor type gapped surge arresters (based on EN 60099-1);
- 3 artificial pollution testing of surge arresters: under consideration;
- 4 metal-oxide surge arresters without gaps (based on EN 60099-4) and surge protective devices (based on EN 61643-11);
- 5 low-voltage limiters.

Clauses 2 and 4 of this standard shall be read in conjunction with the documents mentioned in 1.2.

In particular clauses 4 to 8 and Annex B, Annex D and Annex E of EN 60099-1 are referred to in clause 2 of EN 50123-5, unless explicitly otherwise indicated in this European Standard.

For gapless surge arresters and surge protective devices the appropriate portions of EN 60099-4 and EN 61643-11 respectively are quoted in clause 4 of this EN 50123-5, and apply.

NOTE 1 Only those clauses and subclauses which are modified in respect to the above-mentioned CENELEC and IEC publications are mentioned in this document. The National Committees may copy the unchanged portions of the IEC 60099 publications referred altering the type face as necessary.

NOTE 2 The numbering of this EN 50123-5 follows the following criteria:

- the first number identifies the five clauses of this standard;
- the remaining numbers, for clause 2 and clause 4, are taken unchanged from EN 60099-1 and EN 60099-4 respectively.

Annex A gives typical information required during enquiry and tenders. Annex B describes a typical solution for high voltage filters against voltage surges.

1 Common matters

1.1 Scope

Clauses 1, 2, 3 and 4 of this European Standard cover particular requirements for surge arresters (following named arresters) for specific use in fixed installations of d.c. traction systems. These are surge arresters consisting of one or more non-linear resistors which may be in series with single or multiple spark gaps.

Low-voltage limiters are covered under clause 5. These are protective devices mainly used in fixed installations of d.c. traction systems to connect certain portions of the circuit, when, owing to an abnormal situation, the voltage across the device exceeds a predetermined limited value. They may be associated with other devices such as contactors for self-restoring arrangements. They are not used in general to provide surge protection.

The following are the main uses of low-voltage limiters (LVL):

- connection to the rail of metallic masses;
- protection of rail circuits;
- earthing of rails in the substation;
- protection of cathodic circuits;
- protection of cable shields.

1.2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. 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 (including amendments).

EN 50123-1	2003	Railway applications – Fixed installations - D.C. switchgear – Part 1: General
EN 50125-2	2002	Railway applications - Environmental conditions for equipment - Part 2: Fixed electrical installations
EN 60099-1	1994	Surge arresters -- Part 1: Non-linear resistor type gapped surge arresters for a.c. systems (IEC 60099-1:1991)
EN 60099-4	1993	Surge arresters -- Part 4: Metal-oxide surge arresters without gaps for a.c. systems (IEC 60099-4:1991)
EN 61643-11	2002	Low-voltage surge protective devices – Part 11: Surge protective devices connected to low voltage power systems – Requirements and tests (IEC 61643-1:1998, mod. + corrigendum December 1998)