SLOVENSKI STANDARD
SIST EN 50123-2:1998/A1:1998

01-november-1998

Railway applications - Fixed installations - D.C. switchgear - Part 2: D.C. circuit breakers

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Bahnanwendungen - Ortsfeste Anlagen - Gleichstromschalteinrichtungen -- Teil 2: Gleichstrom-Leistungsschalter

Applications ferroviaires - Installations fixes - Appareillages de coupure en courant continu (CC) -- Partie 2: Disjoncteurs pour courant continu

Ta slovenski standard je istoveten z: **EN 50123-2:1995/A1:1996**

ICS:

29.130.99	Druge stikalne in krmilne naprave	Other switchgear and controlgear
29.280	Elektriļ na vleļ na oprema	Electric traction equipment

SIST EN 50123-2:1998/A1:1998 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50123-2/A1

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ICS 29.120.60; 45.020

Descriptors: Railway fixed equipment, electric traction, d.c., circuit-breaker, definition, performance evaluation, equipment specification, temperature rise, electric endurance test, fatigue test, heating test, dielectric strength test, information, marking

English version

Railway applications - Fixed installations - D.C. switchgear Part 2: D.C. circuit breakers

Applications ferroviaires
Installations fixes - Appareillages de coupure en courant continu (CC)
Partie 2: Disjoncteurs pour courant continu

Bahnanwendungen - Ortsfeste Anlagen
Gleichstrom-Schalteinrichtungen
Teil 2: Gleichstrom-Leistungsschalter

This amendment A1 modifies the European Standard EN 50123-2:1995; it was approved by CENELEC on 1996-03-05. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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 amendment 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, Electrical and electronic applications for railways.

The text of the draft was submitted to the formal vote and was approved by CENELEC as amendment A1 to EN 50123-2 on 1996-03-05.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	1997-03-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	1997-03-01

5 Characteristics of the circuit breaker

5.2 Type of circuit breaker

5.2 d) *Replace the first indent by* :

- unidirectional (U):
  - fitted with a series unidirectional release (U_1),
  - fitted with a series bidirectional release (U_2;

NOTE 3: U_2 circuit breakers are used for applications where the reverse fault current is low (distant fault current) and cannot operate the overload protection for normal discrimination purposes (i.e. rectifier substations where adjacent substations are a far distance away).

5.2 e) *Renumber the existing note 3 as note 4.*

Replace table 1 by :

Table 1 - Shortened type-designation

Items above	c*	b	d*	h*
Options	I L R	/ H / V / S	/ U_1 / U_2 / B	/ O / E / P
Examples	L/H/B/E I/V/P R/S/O			
* Optional designations				

5.3 Rated values and limit values for the main circuit

5.3.4.2 *Add before table 2* :

NOTE: Where, for commercial reasons, the circuit breaker chosen by the manufacturer or offered by the supplier has been designed with short circuit breaking characteristics in excess of those actually required in the installation, it may be agreed between purchaser and supplier to perform additional tests according to 8.3.8 for duties f), e) and d) with the test current actually required. It may then be agreed between purchaser and supplier to repeat the test cycle for an agreed number of times.

8 Tests

8.2 Applicable tests and test sequence

Replace table 5 by :

Table 5 - List of applicable tests and sequence

GROUP	TEST DESCRIPTION	KIND	S/C re
1	General operating characteristics		
	Verification of conformity to the manufacturing drawings and to characteristics of circuit breaker	routine	8.3.1
	Mechanical operation	routine	8.3.2
	Dielectric	type & routine	8.3.3
	Temperature-rise	type	8.3.4
	Verification of the adjustment of the relays and releases	routine	8.3.5
	Electrical endurance	type	8.3.6
	Mechanical endurance	type	8.3.7
2	Short-circuit behaviour		
	Verification of the making and breaking characteristics in short-circuit conditions and of the H, V or S characteristic	type	8.3.8
	Verification of the short-time current withstand of rectifier (R) circuit breakers	type	8.3.9
	Verification of the adjustment of the relays and releases	type	8.3.5
3	Search for critical currents	type	8.3.10

8.3 Performance of tests

8.3.6 *Replace in the first indent* "has not increased" *by* "has increased".

8.3.8.8 *Add a third paragraph* :

Where the test currents give values less than shown in table 7 and the type category for the standard type tests, a single opening test at a reduced circuit breaker setting within the setting range of the circuit breaker to demonstrate compliance with table 7 is performed by the manufacturer's initiative whenever necessary.

8.3.9 *Replace by* :

8.3.9 Verification of behaviour under short-time withstand current for test duty s

8.3.9.1 Test values

The test has to be performed at the rated voltage U_{Ne}, with the circuit calibrated as in 8.3.8.7.1 and the test performed as in 8.3.8.7.2. The test values are then the values of the prospective current. This test is then carried out at the short-time withstand current equal to I_{Ncw} for 250 ms. During this test the circuit shall allow a peak of 1,42 I_{Ncw}.

If the test laboratory is unable to perform the tests at U_{Ne}, it is allowed to perform the test at a lower d.c. voltage value or as two-part a.c. test. In these cases no prospective test is involved and the test values required are those actually seen during the test.

The a.c. test is split into two parts: the first is effected with an a.c. current with an asymmetrical peak value of 1,42 I_{Ncw}, effected with reduced a.c. r.m.s. current applied for a longer time (not exceeding 3 s) to keep the Joule integral $I^2t = I_{Ncw}{}^2 \times 0{,}25$.

8.3.9.2 Test conditions

The unit shall be in the conditions specified in 8.3.8.2.

The test shall be performed with the circuit breaker in the closed position and at ambient temperature.

8.3.9.3 Behaviour of the circuit breaker during test

During the test no flashover shall occur.

The circuit breaker shall remain closed until the end of the test and shall then be operated by its normal means to show that any burning of the contacts does not prevent it from opening.

8.3.9.4 Condition of the circuit breaker after completion of the test

After the test no functional breakages shall occur. Before effecting any preliminary maintenance, the circuit breaker shall be capable of withstanding an a.c. r.m.s. voltage equal to double the rated voltage. The measure of the resistance of the main circuit, taken after the test and compared with that taken before the test, shall also show no abnormal event (e.g. increase of about 50 % on the values recorded under 8.3.1.2).

Annex C

C.3 b)7) *Replace by:*

7) current interruption direction, U_1, U_2 or B;