

norm**NEN-EN 50327/A1 (en)**

Spoorwegtoepassingen - Vaste installaties - Harmonisatie van de toegekende waarden voor omvormergroepen en de beproevingen van omvormergroepen

Railway applications - Fixed installations - Harmonisation of the rated values for converter groups and tests on the convertor groups

april 2005

ICS 29.200; 29.280; 45.060.10

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Normcommissie 364 009 "Elektrische treinen (NEC 9)"

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EUROPEAN STANDARD

EN 50327/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2005

ICS 29.200; 29.280

English version

**Railway applications –
Fixed installations –
Harmonisation of the rated values for converter groups
and tests on converter groups**

Applications ferroviaires –
Installations fixes –
Harmonisation des valeurs assignées
et des essais sur les groupes
convertisseurs

Bahnanwendungen –
Ortsfeste Anlagen –
Harmonisierung der Bemessungswerte
von Stromrichtergruppen und Prüfungen
von Stromrichtergruppen

This amendment A1 modifies the European Standard EN 50327:2003; it was approved by CENELEC on 2005-03-01. 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.

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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

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Ref. No. EN 50327:2003/A1:2005 E

Foreword

This amendment to the European Standard EN 50327:2003 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 Unique Acceptance Procedure and was approved by CENELEC as amendment A1 to EN 50327:2003 on 2005-03-01.

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) 2006-03-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2008-03-01

Copyright
Preview

3.2 Symbols

Add the following symbols:

d_{rB}	resistive direct voltage drop of the converter group in percent of U_{di}
d_{xB}	inductive direct voltage drop of the converter group in percent of U_{di}
e_{rB}	resistive component of the relative short-circuit voltage of the converter transformer
e_{xB}	inductive component of the relative short-circuit voltage of the converter transformer
e_{xL}	inductive component of the relative impedance of the feeding grid
f_N	rated frequency
$I_{dlinmax}$	maximum current value of the range of linear voltage drop
I_{SS}	sustained d.c. short-circuit current
I_{SSmax}	theoretical maximum value of the steady state d.c. short-circuit current at $L_d = \infty$
\hat{I}_{SS}	transient peak value of the d.c. short-circuit current
L_s	inductance of the secondary windings of the converter transformer
L_d	inductance on the load side (i.e. traction side)
R_d	resistance on the load side (i.e. traction side)
T_c	circuit time constant of the load circuit
T_s	time constant of the grid on the supply side of the converter group
V_D	resistive direct voltage drop on the load side (i.e. traction side) in percent of U_{di}
V_{Dt}	total relative resistive direct voltage drop in percent of U_{di}

Annex A

Replace by the following new Annex A:

Annex A
(informative)

Determination of the voltage drop and the short-circuit currents of converter groups

A.1 General

The usual connections of non-controlled traction converter groups are the connections no. 8, 9 and 12 (see Table 2).

This Annex gives a simplified method for the determination of the d.c. output characteristics of converter groups having one of the above mentioned connections.

The characteristics of non-controlled converters can be shown as a curve between the no-load voltage U_{d0} and the short-circuit point (see Figure A.1). This curve gives only the steady state values of the current but not the transient values.

The method described in Table A.1 gives the possibility to determine the voltage characteristics, the steady state currents and the transient currents.

The values of main interest for traction converters are:

- the conventional no-load voltage U_{d0} ($U_{d0} \approx U_{di}$);
- the rated direct voltage U_{Nd} at basic current I_{Bd} ;
- the direct voltage U_d at specified overload currents;
- the sustained value I_{ss} and the peak value \hat{I}_{ss} of the short-circuit current at the output terminals of the rectifier and at other locations in the substation and the d.c. supply system.

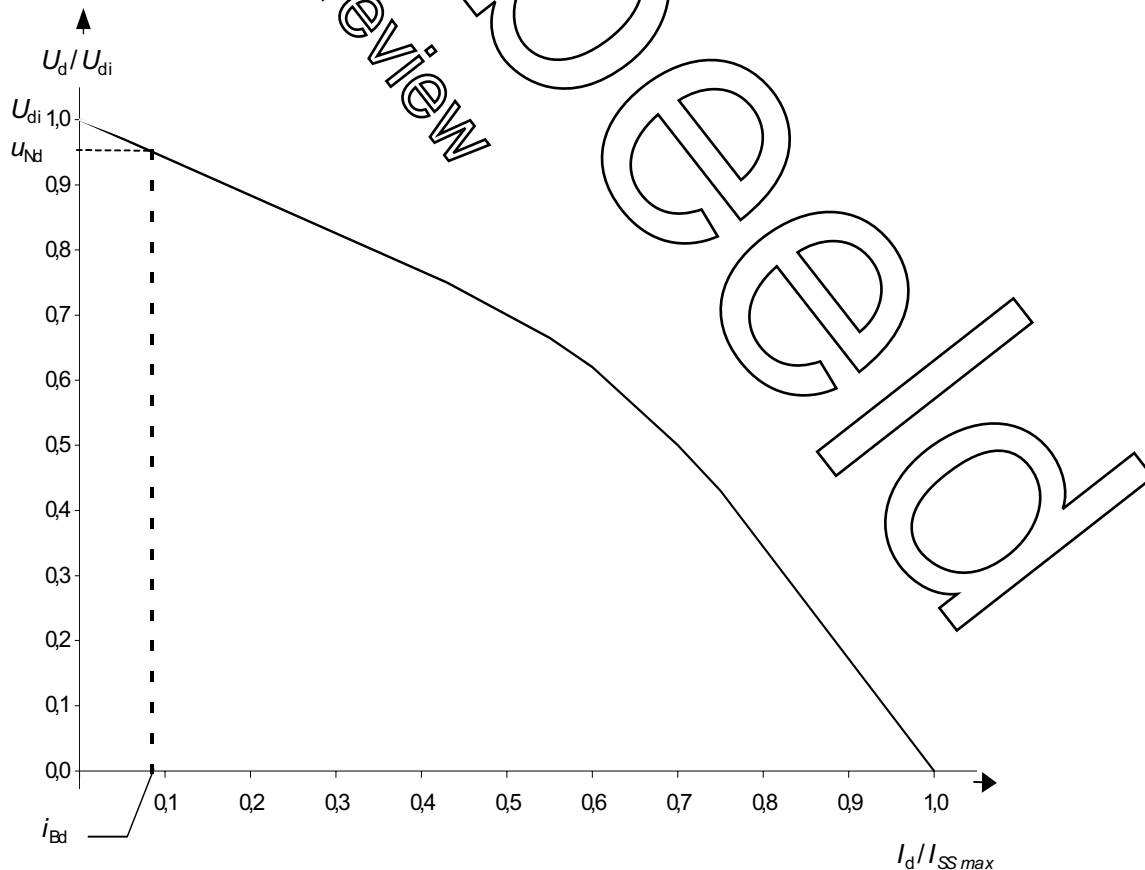


Figure A.1 - Typical characteristic of a rectifier group

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