

ICS 29.280
CCS S 35



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 28028-2011

**Criteria for assessing and coding of the commutation of
rotation electrical machines for traction**

牵引旋转电机换向的评定和编码准则

(English Translation)

Issued on: October 31, 2011

Implemented on: April 1, 2012

Issued by: Standardization Administration of China

Table of Contents

Introduction

1 Scope

2 Normative references

3 Terms and definitions

3.1 Sparks and other luminous phenomena

3.2 Commutator condition

3.3 Status brush

Informative features 4 code

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard uses the redrafted law revision adopted IEC 60638. 1979 "Traction motor reversing rotation direction evaluation and coding guidelines." this standard and IEC 60638. 1979 technical differences exist, these differences involve the terms of the margin with a single vertical line (-) into Row marked. This standard and IEC 60638. 1979 technical differences and the reasons given in Appendix A.

This standard and IEC 60638. 1979 structural changes as follows, according to GB/T 1.1-2009 requirements, changing the original chapter number.

- The standard adds Chapter 2, "Normative references";
- The standard Chapter 3, Chapter 4, corresponding to the original;
- The standard Chapter 4, corresponding to the description in Chapter 2;
- The standard Chapter 5 corresponding to the original Chapter 3;
- The standard Chapter 6 - Chapter 14, followed by the corresponding original Chapter 5 - Chapter 13;
- Increase in Appendix A, the original Appendix A to Appendix B.

This standard also made the following editorial changes.

- The original illustrations (actually a table) changed its name to the corresponding provisions of the corresponding section of the table, arranged in order of Tables 1 to 6, for ease of viewing and comparing Tables 1 to 6 maintain their position unchanged; the original table I now table 7, on the back of Table 6;

--- IEC 60638. 1979 English page 19 (Chapter 11) in the penultimate line, "slotpitch (singleordouble)", by comparison the French version, should be "polepitch (singleordouble)". The standard (Chapter 12) be amended to read "the pole pitch (single or double Times the pole pitch) ";

--- IEC 60638. 1979, there is no clear its appendices "spark observed with variable opacity wedge" in nature. Given that Appendix Content is not necessary to perform this standard will be identified as informative appendices.

The standard proposed by the People's Republic of China Ministry of Railways.

This standard by the national electric traction equipment and systems Standardization Technical Committee (SAC/TC278) centralized.

This standard is mainly drafted by. CSR Zhuzhou Electric Co., Ltd..

Participated in the drafting of this standard. new speed Yongji Electric Appliance Co., Ltd., Zhuzhou CSR Times Electric Co., Ltd.

1 Scope

This standard applies to GB/T 25123.1 and has covered all motor cylindrical commutator.

This standard is to improve the following aspects GB/T 25123.1.

--- Commutation assessment criteria;

--- During the test should be defined to observe trials;

--- Detailed description of these observations for the recommended code.

This standard does not consider the traction motor slip ring.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 25123.1-2010 electric traction rail rolling stock and road vehicles rotating electrical machines - Part 1. In addition to the electronic converter Fed alternating current motors except motors (IEC 60349-1:2002, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Sparks and other luminous phenomena

3.1.1

General spark ordinary sparks Focused on a variety of spark brush edge (see Table 1 illustration).

3.1.2

Edge than proportion of the edge Refers observed in the brush holder, there generally spark edge length ratio of the brush and the brush of the total length, expressed as a percentage.

3.1.3

Spray-like spark shooting sparks Slide out from the edge of the brush flying incandescent particles which form a continuous path, and showed a almost straight hair light (see Table 2 illustration).

3.1.4

Arcing streamers

Appears to change between adjacent sheets, and from the edge of the brush slide fly a certain distance of a small arc visible, they sent in a continuous light the image presented on the commutator (see illustration 2).

3.1.5

Searing point glowing points from dark red to incandescent spots appear on the surface near the edge of the brush (see illustration 3).