NATIONAL STANDARD OF THE

PEOPLE'S REPUBLIC OF CHINA

GB/T 25123.1-2018

Electric traction -- Rotating electrical machines for rail and road vehicles -- Part 1: Machines others than electronic convertor-fed alternating current motors

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Foreword

GB/T 25123 "Electric traction - Rotating electrical machines for rail and road vehicles" consists of the following parts.

- Part 1.Machines others than electronic convertor-fed alternating current motors;
- Part 2.Electronic convertor-fed alternating current motors;
- Part 3.Determination of the total losses of convertor-fed alternating current motors by summation of the component losses;
- Part 4.Permanent magnet synchronous electrical machines connected to an electronic converter.

This Part is Part 1 of GB/T 25123.

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

This Part replaces GB/T 25123.1-2010 "Electric traction - Rotating electrical machines

for rail and road vehicles - Part 1.Machines other than electronic convertor-fed alternating current motors". Compared with GB/T 25123.1-2010, the main technical changes in this Part are as follows.

- Add "Further tests can be selected according to GB/T 25117.2.To avoid duplication, some type inspections and research tests can be carried out on the combined test bed." (see 1.1 of this Edition);
- Modify the regulations for altitude and ambient temperature. In Clause 4, altitude and ambient temperature, etc., are changed from the original direct regulations to according to GB/T 32347.1-2015 (see Clause 4 of this Edition, Chapter 4 of Edition 2010);
- Modify the name of the insulation class and change it to the thermal classification of the insulation system. Add number to each class to express, for example, 130(B), 155(F), 180(H) (see 8.1.4, 8.1.5 of this Edition, 8.1.4, 8.1.5 of Edition 2010);
- Modify the content of traction motor limits. Since in GB/T 10068-2008, the limit value of vibration velocity has changed, so for the limit value of traction motor, this Part is directly stipulated in 8.8.In this 8.8, the longitudinal vibration velocity content of the motor without fixed bearing structure is not assessed (see 8.8 of this Edition, 8.8 of Edition 2010);
- Modify the reference documents in the annex. GB/T 755.2 in Annex C is replaced by GB/T 25442 (see C.1, C.6.1 of this Edition, B.1, B.6.1 of Edition 2010);
- Modify the optional methods and standards for noise measurement (see B.1 of this Edition, C.1 of Edition 2010).

This Part uses redrafting method to modify and adopt IEC 60349-1.2010 "Electric traction - Rotating electrical machines for rail and road vehicles - Part 1.Machines other than electronic converter-fed alternating current motors".

Compared with IEC 60349-1.2010, this Part has certain adjustments in structure. The specific adjustments are as follows.

- Modify the serial number of the article in Chapter 1 and add the title of the article;

- Delete B.7 and adjust its content to the Bibliography;

- Modify the serial numbers of the clauses in Annex E. Adjust E.1, E.2, E.3 to Table E.1;

- Modify the appendix number. Annex A is adjusted to Annex D, Annex B to Annex C, Annex C to Annex B, and Annex D to Annex A.

There are technical differences between this Part and IEC 60349-1.2010.Terms covered by these differences are indicated by a single vertical line (|) in their outer margins. The specific technical differences and their reasons are as follows.

- Regarding the normative references, this Part has adjusted with technical differences to adapt to the technical conditions of China. The adjustments are reflected in Chapter 2 "Normative references". The specific adjustments are as follows.

- Use GB/T 755 that identically adopts IEC 60034-1 to replace IEC 60034-1 (see Chapter 4);

- Use GB/T 1971 that identically adopts IEC 60034-8 to replace IEC 60034-8 (see 6.2);

- Use GB/T 11021 that identically adopts IEC 60085 to replace IEC 60085 (see 8.1.4);

- Use GB/T 28028 that modifies IEC 60638 to replace IEC 60638 (see 8.3.1);

- Use GB/T 32347.1-2015 that modifies IEC 62498-1.2010 to replace IEC 62498-**1.2010 (see Chapter 4);**

- Add GB/T 1402, GB/T 2900.25, GB/T 2900.36, GB/T 2900.74, GB/T 2900.83, GB/T 10068, GB/T 25117.2 as references. Delete the corresponding standard in the Bibliography (see 1.1, Chapter 3, 8.8 and Annex A).

- Modify the definition for short-time overload rating. Correct the errors in IEC 60349-1.2010.The test method is changed from Annex A to the requirements of

8.1.5 (see 3.1.4);

- Modify the environmental conditions. Altitude and temperature are quoted from GB/T 32347.1-2015, meeting the requirements of China's national conditions (see Chapter 4);

- Add the footnote in Table 2, so as to conform to the actual situation in China (see 8.1.4).

This Part has made the following editorial changes.

- Add the table note "Other measurement methods and limit values shall be determined through negotiation between the supplier and the purchaser." (see Table 2);

- Modify the title of Chapter 7 (see Chapter 7);

- Modify the format of Table 1 (see 7.2);

- Add "NOTE. Annex E gives the content of negotiation between the supplier and the purchaser" to lead to Annex E (see Chapter 9);

- Add the number of the formula (see Annex B, Annex C, Annex D);

- Modify the Bibliography (see Bibliography).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing authority shall not be held responsible for identifying any or all such patent rights.

This Part was proposed by National Railway Administration.

This Part shall be under the jurisdiction of National Technical Committee on Traction Electrical Equipment and Systems of Standardization Administration of China (SAC/TC 278).

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