

ICS 29.280
CCS S 35



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

GB/T 25117.3-2010

**Railway applications -- Rolling stock -- Combined testing -- Part
3: Combined testing of alternating current motors, fed by an
indirect converter, and their control system**

轨道交通 机车车辆 组合试验 第3部分：间接变流器供电的交流电动机及其控制系
统的组合试验

(English Translation)

Issued on: September 2, 2010

Implemented on: February 1, 2011

Issued by: Standardization Administration of China

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Foreword

GB/T 25117 "rail rolling stock composition test" is divided into the following sections.

--- Part 1. Combined testing of inverter - fed alternating current motors and their control system;

- Part 2. chopper powered DC traction motor combination test and its control system;
- Part 3. Test Set indirect converter fed alternating current motors and their control system.

This section is GB/T Part of 325,117.

This part redrafted modification method using IEC 61377-3:2002 section, "a combination of rail rolling stock Test 3.

Indirect variable combination test stream fed alternating current motors and their control system "(in English). This section lists the reg number in Appendix A List of control clauses No. 2002. with IEC 61377-3.

This part of IEC 61377-2:2002 technical differences exist, these differences involve the terms of the margin with a single vertical line (|) it is marked. This standard and IEC 61377-2:2002 technical differences and their reasons are as follows.

- Normative references IEC 60050-811, IEC 60349-2, IEC 60571, IEC 61287-1, respectively, with the corresponding modification of adoption Replace national standards;
- Reference GB/T 25117.1-2010, the combined 3.7 and 3.8 and 3.7;
- IEC 61377-2 no environmental conditions in compliance with this standard adds a chapter, namely "4 environmental conditions";
- In the middle 7.6.3, IEC 61377-3 regulations interference test See IEC 61287-1:1995 is 2.4.6.23, read in this section "The test shall GB/T 25112.1-2010 4.2.8 conduct." this part of IEC 61377-3. compared to 2002, the main differences are as follows.
- "This International Standard" be replaced by "this section";
- Instead of using as a decimal comma ",", ". ", ";";
- Delete foreword international standards;
- The IEC 61377-3 in FIG. 1 becomes 2, 2 becomes 1;
- The IEC 61377-3 Table 1, as an individual, that is, "7.8 Test Project";
- Increase in Appendix A "section of this chapter and shall IEC 61377-3:2002 reg control";
- Increased references, according to GB/T 1.1-2000 requirements will be included in the standard note cited references.

This section in Appendix A, Appendix B is an informative annex.

This section proposed by the People's Republic of China Ministry of Railways.

This part of the National electric traction equipment and systems Standardization Technical Committee (SAC/TC278) centralized.

This part mainly drafted by. Zhuzhou CSR Times Electric Co., Ltd.

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1 Scope

This section GB/T 25117 apply to the rolling stock motor, variable indirect composite systems and its control system constituted its Objective is to provide.

--- Locomotive converter, the performance characteristics of electric drive system and AC motor control system constructed;

--- Verify the performance characteristics of these test methods.

Combination system is divided into two types.

a) the indirect converter fed alternating current motors (mostly auxiliary motor, for example, cooling ventilation motor), the mechanical output (turn Between moments, speed) and converter without any control, it can be regarded as a motor powered by bus (frequency transformer or fixed frequency constant pressure) jobs;

b) the presence of a controlled (parallel or non-parallel) between the mechanical output of the AC motor and indirect converter.

The first system in accordance with GB/T 25123.2-2010 and GB/T 25122.1-2010 test.

This section applies to the second category, mainly traction drive.

GB/T 25123.2-2010 suitable converter fed alternating current motors, GB/T 25122.1-2010 for the power electronic converters Current, GB/T 25119-2010 suitable for electronic equipment, this section applies to the electric motor, the combination of inverter and its control system constituted system. Thus GB/T 25123.2-2010 forth is to verify compliance with the motor test methods for its technical conditions, GB/T 25122.1-2010 forth is to verify whether the converter test methods for its technical conditions. Clearly, in this section some samples Test can replace the above criteria in the appropriate test. User and manufacturer sides should reach an agreement to avoid duplicate tests.

Complete a full set of combinations of tests carried out very complicated and often requires a lot of power, the plant may not be able to implement. Thus, users and Manufacturers can negotiate, or test can be carried out on the rolling stock in the factory. Test can also be done separately, in part within the plant Do part of the line to do so.

When drafting this section, just below the motor - Inverter combination has been used for traction drive.

--- Voltage source inverter-fed induction motor;

--- Current source inverter-fed induction motor;

--- Current source inverter-fed synchronous motor.

This section is also applicable to other combinations possible future use.

Inverter DC input (see Figure 1) may be a supply network or intermediate DC link, they consist of AC mains rectifier (GB/T 25122.1-2010 2.2.1) or by a DC grid chopper (GB/T 25122.1-2010 in 2.2.2), or by a self-powered (eg car generators, power storage Pool or other electronic power supply, see GB/T 25122.1-2010 1.1) provided.