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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 5962-2025

Replacing GB/T 5962-1995

NIM standard instrumentation system - Mechanical dimensions, power supply and electrical signal requirements

NIM标准仪器系统 机械尺寸、电源和电气信号要求

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Standardization Administration of the PRC

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1 Scope

GB/T 5962-2025 is the Chinese national standard covering the NIM crate - the module widths and the bin dimensions, the supply voltages and their pin assignment on the connector, and the fast and slow logic signal levels, on a standard that has held nuclear instrumentation together since the 1960s. Issued on 5 October 2025, it has been in force since 5 October 2025, replacing GB/T 5962-1995.

Mechanical dimensions and electrical signal requirements for NIM standard instrument systems. This document applies to the design and manufacture of NIM standard instrumentation systems, including NIM modules, NIM chassis, and NIM power supplies.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 5964 Coaxial cable connectors for nuclear instruments

GB/T 8993 Environmental conditions and test methods for nuclear instruments

GB/T 17626.28 Electromagnetic compatibility testing and measurement techniques - Power frequency variation immunity test

GB/T 19520 (all parts) Mechanical structures of electrical and electronic equipment 482.6mm (19in) series mechanical structure dimensions

GB/T 19661.1 Safety requirements for nuclear instruments and systems - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 NIM plugin NIMmodule Plug-in instruments or units that meet the mechanical dimensions, power supply, and electrical signal requirements of this document.

3.2 NIM Chassis NIMbin A plug-in chassis that meets the mechanical dimensions, power supply, and electrical signal requirements of this document.

Note. Includes 12-unit wide guide rails, as well as chassis connectors for powering and transmitting information to the NIM plug-in.

3.3 Module Connector The connector (42-pin plug) is located on the lower side of the rear panel of the NIM plug.

3.4 chassis connector binconnector The connector (42-pin socket PG1B~PG12B) is located on the inner rear side of the NIM chassis, which connects the plug-in to the chassis.

3.5 power supply connector Connectors (PG13~PG14) that enable connection between the external power supply and the chassis via the power supply slot on the back of the chassis.

4 NIM Plugin Requirements

4.1 Plug-in size Standard NIM plug-ins should conform to the specifications in Figure A.1, Table A.1, and Table A.2 of Appendix A. The basic width of the plug-in is

34.4 mm. A standard NIM chassis can accommodate 12 basic width plug-ins. Plug-ins with a width that is an integer multiple of the basic width (less than 12) can be inserted into the standard chassis. To form various combinations. The standard NIM plug-in panel height is nominally 5U, but an alternative panel height of 3U is also permitted if needed. The dimensions shall be in accordance with GB/T 19520 (all parts).

4.2 Standard Voltage The standard voltages are DC ±24V, ±12V, and ±6V. The standard voltage required for the plug-in should be obtained through the chassis connector on a standard NIM chassis.

4.3 Signal Connectors and High-Voltage Connectors The signal connector should preferably be a 50Omega bayonet-type RF coaxial connector (BNC type) conforming to GB/T 11313.8, with DC high... The crimp connector shall comply with the requirements for high voltage coaxial connectors in GB/T 5964.

4.4 Preamplifier Connector A nine-hole D-type connector is recommended for the preamplifier. The functions of each pin are shown in Table

1.The D-type connector should meet the following requirements. Requirements of GB/T

34989. Table

16 Appendix D (Normative) Power Supply Size

26 References 28

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 5962-1995 "NIM Standard Instrument Systems". Compared with GB/T 5962-1995, the main differences are in structural adjustments and compilation. Aside from the logical changes, the main technical changes are as follows:

---The description of the scope has been changed (see Chapter 1, Chapter 1 of the.1995 edition);

---The requirement for a standard AC voltage of 117V has been removed (see sections 4.2, 5.3, 5.5, 7.3.1, 7.3.3, and

7.6 of the.1995 edition);

---The types and descriptions of high-voltage coaxial connectors have been changed (see 4.3,.1995 edition 4.3);

---The NIM/488 digital bus signal connector has been removed (see

4.4 in the.1995 edition);

---The NIM/488 bus logic levels have been removed (see section

4.9 of the.1995 edition);

---The requirements for testing in the anti-interference section have been changed (see 4.10, see

4.12 in the.1995 edition);

---The requirement for high-quality masking has been removed (see