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

**GB/T 15946-2008**

Replacing GB/T 15946-1995

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**Higher performance protocol for the standard digital interface  
for programmable instrumentation -- General**

可编程仪器标准数字接口的高性能协议 概述

**(English Translation)**

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## Foreword

This standard is identical with IEC 60488-1:2004 (English version). The main differences with the international standards as follows.

--- In order to facilitate the domestic users, we made some editorial changes;

--- According to GB/T 1.1-2000 requirements of the standard format for the layout, modify.

This standard replaces GB/T 15946-1995. 15946-1995 Compared with GB/T , and the name of the standard technical content made tune Integration and editorial changes.

a) The new technology increases the interface function, which allows designers to select a non-interlocked handshake transfer;

b) According to China's actual use, in accordance with the provisions of GB/T 1.1-2000, according to the English text of the resolution has been re-reg typesetting;

c) increasing the appendix content.

d) The 1995 version of individual editorial errors were corrected.

The Standard Appendix A, Appendix B, Appendix C, Appendix D, Appendix E, Appendix F, Appendix G, Appendix H, Appendix I, Appendix J, Appendix K to Informative appendix.

The standard proposed by China Machinery Industry Federation.

The standard measurement and control Standardization Technical Committee of the Fourth Technical Committee under the jurisdiction of the national industrial processes.

This standard was drafted. Machinery Industrial Instrumentation Technology and Economy Institute.

Drafters of this standard. Ouyang Jinsong, Cheng Yuk, Wang Yumin.

This standard replaces the previous standard release case. GB/T 15946-1995.

GB/T 15946-2008/IEC 60488-1:2004 Standard digital interface for programmable instrumentation High Performance Protocol Overview

## 1.1 Scope

This standard applies to the programmable and non-programmable electronic measuring device with other devices and accessories must be interconnected to form instrumentation system System interface system.

This standard applies to the following instrument systems (or portions thereof) interfaces.

- a) means interconnected between the data exchange is digital (and analog phase difference);
- b) the number of devices can be used with a continuous connection from the bus no more than 15;
- c) the total length of the transmission path interconnecting cable does not exceed 20m;
- d) device data transfer rate does not exceed 8000000B/s.

Anti-jamming capability of the standard or basic functional specification can be used to require longer transmission distances, connect more devices, require better who is a combination of the above circumstances the digital interface applications. For these applications, extensions, may require a different electrification and mechanization Specification (for example. symmetrical circuit configuration, high threshold logic, special connectors or cable configuration, etc.).

This standard can also be used for other elements of instrumentation systems, such as for instrumentation system processor, the excitation source, the display, memory and terminal Equipment. Laboratory and production standards are generally applicable to this minor interference and limited dimensions (distance between the various components of the system limited) of test environment.

This standard only relates to the interface characteristics of the instrument system, without considering the radio interface protocol design specifications, performance and safety requirements to be Demand and so on.

**Note:** For the last two, see GB 4793.1-2007 and IEC 60359:2001.

This standard, without further distinction between. "System" refers bit parallel, byte serial interface system, generally include not to be confused between the devices to achieve data transfer required for all circuits, cables, connectors, newspaper library and control protocol; "equipment" or "means" the term refers to any programmable measuring device and to exchange information and meet the definition of the interface system interface system access through the interface or system other products.

A major center of this standard is to provide a means to the outside through a stand-alone device with other devices interconnected system interface Systems, this standard can also be used to connect the various parts of a separate internal apparatus between.

## 1.2 Purpose

The purpose of this standard.

- a) the definition of a common system for use within a limited distance;
- b) provision of means should meet, not with device-mechanization, electrification and interface functional requirements, so that these devices can Through this system interconnected and determined to achieve the communication;
- c) provision of some terminology and definitions relating to this system;
- d) the apparatus can be manufactured separately connected to a single functional system;
- e) allowed to have more capacity (from the simplest to the most complex) various devices connected to the system;
- f) allows direct communication between devices, without requiring all packets through a control unit or the intermediate unit;
- g) be able to define a minimal restrictions on the performance characteristics of the system is connected to the system unit;

GB/T 15946-2008/IEC 60488-1:2004