

ICS 53.020.20

CCS J 80



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

GB/T 24817.1-2016

Replacing GB/T 24817.1-2009

**Cranes -- Control layout and characteristics -- Part 1: General
principles**

起重机 控制装置布置形式和特性 第1部分：总则

(English Translation)

Issued on: October 13, 2016

Implemented on: May 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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Foreword

GB/T 24817 "crane control device layout and characteristics" is divided into the following five parts.

- Part 1. General;
- Part 2. Mobile cranes;
- Part 3. Tower cranes;
- Part 4. boom cranes;
- Part 5. Bridge and gantry cranes.

This part is part 1 of GB/T 24817.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 24817.1-2009 "Arrangement and characteristics of lifting machinery control devices Part 1. General". versus GB/T 24817.1-2009 compared to the main technical changes are as follows.

- modified the standard name;
- Added normative reference documents (see Chapter 2);
- increase the address code, wireless control, console, control devices, control stations, error detection code, frame, Hamming distance and other terms and definitions (See Chapter 3);
- the original standard in the "basic requirements" to "general", and added the electric shock protection, temperature and other requirements (see 4.1);
- modified the "fatigue of the driver" in the original standard (see 4.2);
- the addition of the "control device arrangement" (see 4.3);
- Increased requirements for portable consoles (see 5.1.2);

--- Added requirements for the suspension console and cable (see 5.2);

- Increased requirements for wireless control and wireless control systems (see 5.3 and Appendix A).

This part uses the translation method equivalent to ISO 7752-1.:2010 "Crane control device arrangement form and characteristics Part 1. Total Then "(English version).

In this part of the normative reference to the international documents have a consistent correspondence between the following documents.

Environmental testing for electric and electronic products - Part 2. Test methods - Test Ea and guidance. shocks - GB/T 2423.5-1995 (idt IEC 60068-2-27. 1987) GB/T 2423.7-1995 Environmental testing for electric and electronic products - Part 2. Test methods - Test Ec and guidance.

And overturned (mainly for device type samples) (idt IEC 60068-2-31. 1982) Mechanical safety machinery and electrical equipment - Part 32. Technical requirements for lifting machinery (idt) GB 5226.2-2002.

IEC 60204-32.:1998)

--- GB/T 15706-2012 General principles of mechanical safety design Risk assessment and risk reduction (ISO 12100.:2010, IDT) for ease of use, this section has made the following editorial changes.

- ISO 7752-1.:2010 5.2.6 references 14.4.2 and 14.4.3 of IEC 60204-32.:2008, which shall be 12.6.2 and 13.4.3 in IEC 60204-32.:2008. Therefore, in the equivalent conversion made the appropriate changes.

--- ISO 7752-1.:2010 A.1 and A.3.2 respectively refer to 9.2.7.5 and 9.2.7 of IEC 60204-32.:2008, respectively.

Shall be 9.2.7 and 9.2.7.3 of IEC 60204-32.:2008. Therefore, in the equivalent conversion made the appropriate changes.

This part is made by the China Machinery Industry Federation.

This part is headed by the National Standardization Technical Committee for Crane Machinery (SAC/TC227).

This part is responsible for the drafting unit. Henan Province Mine Crane Co., Ltd., Beijing Lifting Transport Machinery Design and Research Institute.

This part participates in the drafting unit. Guangxi Construction Engineering Group Construction Machinery Manufacturing Co., Ltd., Zhengzhou New Dafang Heavy Industry Technology Co., Ltd., Tianjin Port (Group) Co., Ltd.

1 Scope

This part of GB/T 24817 specifies the basic principles and requirements for crane control devices.

This section deals with the arrangement for the load locating control device and serves as a standard for the development of a special type of crane control device with the foundation.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article. For undated references, the latest edition (including all modifications) applies to this document.

ISO 12100 Mechanical Safety Design General Risk Assessment and Risk Reduction
(Safety of machinery - General principles for design - Risk assessment and risk reduction IEC 60068-2-27 Environmental tests - Part 2-27. Test methods - Test Ea and Guidance. Impacts (Environmental tests - Part 2-27. Tests - Test Ea and guidance. Shock) IEC 60068-2-31 Environmental tests - Part 2-31. Test method test Ec. Dumping and overturning mainly for equipment type (Environmental testing - Part 2-31. Tests - Test Ec. Rough handling shocks, the first for equipment types specimens) IEC 60204-32:2008 Mechanical safety machinery and electrical equipment - Part 32. Lifting machinery technical conditions (Safety of machinery - electrical equipment of machines - Part 32. Requirements for hoisting machines)

3 Terms and definitions

The following terms and definitions apply to this document.

Operator

Manipulate the crane to achieve the load location of the staff.

Address code

For the receiver to distinguish the number of frames sent by the transmitter.

Note: The receiver only executes commands issued from emitters with the same address code.

Wireless control

In the event that there is a certain distance between the console and the crane, the crane operator's command is achieved without any tangible connection the way of transmission.

Console

Fixed or movable arrangement of control devices.