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STANDARD

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JIS B 9704-1 : 2011

(IEC 61496-1 : 2004/Amd. 1 : 2007)

(JMF)

**Safety of machinery—
Electro-sensitive protective
equipment—Part 1: General
requirement and tests
(Amendment 1)**

JIS B 9704-1:2006 was revised under date of April 25, 2011.
The revised items are included in this Amendment 1 and use
this in combination with **JIS B 9704-1:2006**.

ICS 13.110;29.260.99

Reference number : **JIS B 9704-1 : 2011 (E)**

Foreword

This translation has been made based on the Amendment to the original Japanese Industrial Standard revised by the Minister of Health, Labour and Welfare and the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently, **JIS B 9704-1 : 2006** is partially replaced with this Amendment.

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Date of Revision: 2011-04-25

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Technical Committee on Industrial Machinery

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Safety of machinery— Electro-sensitive protective equipment— Part 1: General requirements and tests (Amendment 1)

JIS B 9704-1:2006 is revised as follows.

Introduction for Amendment 1

This Amendment has been prepared based on Amendment 1 for IEC 61496-1:2004 published in 2007 without any modifications of the technical contents and the structure.

This Amendment specifies additional requirements for a data interface and a communication interface used for transmission of the output signal in place of OSSD signal.

1 Scope

Add, after the last paragraph, the following new paragraph.

“While a data interface can be used to control optional safety-related ESPE functions (Annex A), this Standard does not provide specific requirements. Requirements for these safety-related functions can be determined by consulting other standards [for example, JIS B 9705-1, JIS B 9961, TS B 62046, and IEC 61508 (all parts)].”

1 Scope

Replace, the International Standard in NOTE by the following.

“IEC 61496-1:2004 *Safety of machinery—Electro-sensitive protective equipment—Part 1: General requirements and tests* and Amendment 1 (2007) (IDT)”

2 Normative references

Add, the following after JIS B 9960-1.

“JIS B 9961:2008 *Safety of machinery—Functional safety of safety-related electrical, electronic and programmable electronic control systems*

NOTE : IEC 62061:2005 *Safety of machinery—Functional safety of safety-related electrical, electronic and programmable electronic control systems* is identical with the said standard.”

2 Normative references

Delete, JIS C 0664 and add, the following after JIS C 60068-2-29.

“JIS C 60664-1:2009 *Insulation coordination for equipment within low-voltage systems—Part 1: Principles, requirements and tests*

NOTE : IEC 60664-1:2007 *Insulation coordination for equipment within low-voltage systems—Part 1: Principles, requirements and tests* is identical with the said standard.”

2 Normative references

Delete, NOTE of IEC 60439-1.

2 Normative references

Delete, IEC 60249-2 and add the following.

“IEC 60249-2:1970 *Metal-clad base materials for printed circuits—Part 2: Specifications*”

3 Terms and definitions

Replace, definition 3.5 by the following new definition.

“3.5 electro-sensitive protective equipment (ESPE)

assembly of devices and/or components working together for protective tripping or presence-sensing purposes and comprising as a minimum

- a sensing device;
- controlling/monitoring devices;
- output signal switching devices (see 3.19) and/or a safety-related data interface

NOTE 1 The safety-related control system associated with the ESPE, or the ESPE itself, may further include a secondary switching device (see 3.24), muting functions (see 3.16), stopping performance monitor (see 3.27), etc. (see Annex A).

NOTE 2 A safety-related communication interface can be integrated in the same enclosure as the ESPE.”

Replace, definitions 3.17 and 3.18 by the following new definitions.

“3.17 OFF-state

state of the output(s) of the ESPE in which the machine under control is caused to stop running and is prevented from starting (for example, the output circuit is interrupted and disables the flow of current)

3.18 ON-state

state of the output(s) of the ESPE in which the machine under control is allowed to run (for example, the output circuit is complete and enables the flow of current)”

3.21 response time

Add, after the text of definition 3.21, the following new notes.

“NOTE 1 When an ESPE includes a safety-related data interface, the response time is defined at the output of the safety-related data interface.