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**Electrical safety of machinery -- Guidelines for the use of
communication systems in safety-related applications**

机械电气安全 安全相关设备中的通信系统使用指南

(English Translation)

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References

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 and GB/T 20000.2-2009 given rules.

This standard uses the translation method identical with IEC 62513:2008 "Safety and Security of Machinery-related communications equipment in the use of guidelines." the documents of our country that are consistent with the corresponding international documents that are normative references in this standard are as follows.

GB 5226.1-2008 Safety of machinery - Electrical machinery and electrical equipment - Part 1. General requirements (IEC 60204-1:2005, IDT) GB/T 20438 (all parts) Functional safety of electrical/electronic/programmable electronic safety-related systems [IEC 61508 Minute]) GB 28526-2012 mechanical and electrical safety Safety related electrical, electronic and programmable electronic control system functional safety (IEC 62061:2005, IDT) this standard made the following editorial changes.

--- In order to coordinate with other corresponding standard names, the standard name should be changed to "Communication of mechanical and electrical safety and safety related equipment System Usage Guide. " this standard is proposed by the China Machinery Industry Federation.

This standard by the National Industrial Electrical System Standardization Technical Committee (SAC/TC231) centralized.

This standard drafting unit. Shenyang Institute of Computing Technology, Chinese Academy of Sciences Co., Ltd., State Machine Tool Quality Supervision and Inspection Center, Shandong the University.

Introduction

This standard was developed to determine the integrity of the communication system. This standard is mechanical and electrical safety-related control system design and use mention for guidance.

Mechanical electrical safety related equipment Communication System Usage Guide

1 Scope

This standard is used to solve the mechanical and electrical equipment safety function design and implementation process, for the transmission of safety-related data serial digital communications System (commonly referred to as a fieldbus) problem. It provides guidance for related applications during system design, installation, commissioning, modification and maintenance.

Note The maximum number of slaves supported by a serial digital communication system is fixed and the risk of unauthorized access is negligible.

This standard assumes that the SRECS Safety Requirements Specification (SRS) has been developed and that SRECS is designed to include safety-related communication systems.

This standard needs to be used together with IEC 62061.

This standard does not address the security-related communication system design problems.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

Safety of machinery - Electrical equipment - Part 1. General requirements IEC 61508 (all parts) Functional safety of electrical/electronic/programmable electronic safety-related systems IEC 62061 Mechanical and Electrical Safety Safety Functional Safety of Electrical, Electronic and Programmable Electronic Control Systems

3 Terms and definitions

The following terms and definitions apply to this document.

Category

Control system for the safety components in the ability to prevent failures and follow-up behavior under fault conditions classification, he through the structure of the components Layout, fault detection and/or component reliability.

[ISO 13849-1, definition 3.1.2] 3.2 Communications system communicationsystem Equipment (such as sensors, actuators, mechanical control devices, etc.) between the transmission of news hardware, software and media arrangements.

Configuration (parameters setting) configuration (parametersetting) Setup and/or modification of any data needed for system operation.

Electromagnetic interference Interference caused by electrical and electronic equipment, instruments and/or system performance degradation, failure or failure.

Note: A typical interference is radio frequency interference.