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

GB/T 12668.701-2012

**Adjustable speed electrical power drive systems -- Part 701:
Generic interface and use of profiles for power drive systems --
Interface definition**

调速电气传动系统 第701部分：电气传动系统的通用接口和使用规范 接口定义
(English Translation)

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Table of Contents

Introduction

Introduction

1 Scope

2 Normative references

3 Terms and definitions, abbreviations

4 General structure

4.1 PDS Common Interface

The typical structure of the automation system 4.2

4.3 Rational structure 16 PDS

Application Examples 4.4 PDS

5 Function unit

5.1 Device recognition unit

Foreword

GB/T 12668 "speed electric drive systems" is divided into the following sections.

--- Part 1. General requirements for low-voltage DC speed electric drive systems rating requirements;

--- Part 2. General requirements for low-voltage adjustable frequency ac power drive systems rating requirements;

--- Part 3. EMC requirements and specific test methods;

--- Part 4. General requirements AC voltage 1000V or more but not exceeding 35kV AC rated speed electric drive systems A predetermined value;

--- Part 5. Safety requirements;

--- Part 6. Determine the type of load duty and corresponding current ratings guidelines;

--- Part 7. PDSs common interface specification and use;

--- Part 8. power supply voltage Interface specification.

This section GB/T 12668 Part 701.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses the translation method identical with IEC 61800-7-1:2007 "Adjustable

speed electrical power drive systems - Part 701. Electrical Transmission Use common interface and interface definitions. " Consistency correspondence between this part of international documents and normative references of our files are as follows.

GB/T 20540.5-2006 Digital data communication for measurement and control - Fieldbus for use in industrial control systems Type 3.

PROFIBUS specification - Part 5. Application layer service definition (IEC 61158-5-3:2003, MOD) GB/Z20541.1-2006 Digital data communication for measurement and control - Fieldbus for use in industrial control systems Type 10.

PROFINET Specification - Part 1. Application layer service definition (IEC 61158-5-10:2003, MOD) GB/Z20541.2-2006 Digital data communication for measurement and control - Fieldbus for use in industrial control systems Type 10.

PROFINET Specification - Part 2. Application layer protocol specification (IEC 61158-6-10:2003, MOD) this section makes the following editorial changes.

--- Deleted international standards foreword;

--- The introduction of international standards-based conversion section Introduction;

--- International Standard 3.2.20 unnumbered and related content, this part of the corresponding reg number has been adjusted;

--- International Standards Normative documents referenced in the chapter of the IEC 61800-7-1 itself, the normative references in this section to remove the document.

This part is proposed by the China Electrical Equipment Industrial Association.

This part of the National Science Power Electronics Standardization Technical Committee (SAC/TC60) centralized.

This section is drafted. Tianjin Electric Drive Design Institute, Shandong Taikai Automation Co., Ltd., Haileinuor Technology Co. Shares the companies hope Senlan Technology Co., CISDI Electrical Technology Co., Ltd., Shenzhen marks the New Technology Co., Ltd., North Beijing Leader & Harvest Electric Technologies Co., Ltd., Shenzhen INVT Electric Co., Ltd., Beijing Hiconics Inverter Technology Company Limited Division of Harbin Jiuzhou Electric Co., Ltd., Shandong scenery of Electronic Science and Technology Development Co., Ltd., Shanghai and Australia-Vail Power Electronics Co., Division of ABB Beijing Drive Systems Co., Ltd., the state-controlled electricity distribution equipment Quality Supervision and Inspection Center.

Introduction

GB/T 12668 "speed electric drive systems" provides a set speed electric drive systems - Generic specification.

National standard "speed electric drive systems." This section describes a common interface between the control system and electric drive systems.

This interface can be embedded in the control system, the control system itself is also located on the actuator (sometimes called "drive-sensitive" or "smart drive").

A variety of physical interfaces are available (both analog and digital inputs and outputs, serial and parallel interfaces, fieldbus and network). Correct in some application areas (for example. motion control) and device class (for example, a conventional drive (device), locator), a particular physical interface specification has been it has been determined. Related drive and controller interface of the application is installed on, is protected by trademark and vary widely.

This section provides a common drive control functions, parameters, and a description of the state machine or image sequence run to the drive specification.

This section provides a method and data transmission function, the method does not depend on the transmission specifications and communication interfaces have been used.

Its object is the transmission mode with one kind of common functions and devices for different communication interfaces. This allows for the transmission operation without any known Knowledge of the control to provide motion control (or speed control or transmission control applications) common operations possible.

Define common interface from several different angles.

For manufacturers gearing

- Easier to support systems integrators;
- General terms, easier to describe the transmission function;
- Transmission does not depend on the choice of special support.

For control unit manufacturer

- No Effect bus technology;
- Simple means of integration;
- Do not depend on the drive supplier.

For system integrators

- Means integration easier;
- Only a rational modeling method;
- Not dependent on bus technology.

Design with several different transmission control systems and specialized motion control

applications require a lot of effort. Execution system software and Understand the function of each component of the task may run out of engineering resources. In some cases, the drive means do not share a physical interface. one these control means merely support an interface, this interface is not supported by specific gearing. On the other hand, functions and data structures are often it is clearly incompatible. In this case, to the application software, system integrators need to write a specific interface, but this should not be their responsibility.

In the existing structure, some applications require the interchangeability of devices or new devices integrated. Therefore, their solution is mutual contradictory. Workaround transmission line with the specific requirements and specifications may manufacturers are incompatible; for the selected unit will reduce the selection of the most the degree of freedom for this application device. This unit must be applied to a particular physical interface, while being supported by the control device.

This section is divided into a common interface portion of FIG. 1 and several appendices. For model CiA4021), CIPMotionTM2),

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FIG. 1 GB/T 12668 Structure "speed electric drive systems" Part 7

Speed \u200b\u200belectric drive systems Part 701. Electric Drive Systems Use common interfaces and interface definitions

1 Scope

This section provides application specification PDSs, and by using a common interface model description of its current communication system Image.

This function is not part of the provisions intended to ensure functional safety. According to