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Common automation device -- Profile guideline

通用自动化设备 行规导则

(English Translation)

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Foreword

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

This standard uses the translation method identical with IEC/T R62390.2005 "Universal Automation Equipment Line Regulations." the documents of our country that are consistent with the corresponding international documents that are normative references in this standard are as follows.

--- GB/T 21099 (all parts) process control function block (FB) [IEC 61804 (all parts)];

--- GB/T 19659 (all parts) Industrial automation systems and integrated open systems application integration framework [ISO 15745 (all section)].

This standard is proposed by the China Machinery Industry Federation.

This standard by the National Institute of Industrial Process Control and Automation Standardization Technical Committee (SAC/TC124) centralized.

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Introduction

This standard is a summary of the recommendations for the development of standardized product committees, fieldbus consortia and product manufacturers and the provision of networking Equipment regulations, some aspects of this standard also applies to independent equipment. Currently, device users face a variety of devices for publishing information and behavioral concepts and methodologies. This led to a long period of user evaluation in order to understand how to use and apply networked work Industry equipment. These differences lead to the determination of device interoperability, interchangeability, comparability, and general device behavior become very difficult. Therefore, this standard hopes to provide a common and more common way to publish device information and behavior, its contribution is to reduce the industrial the overall cost of the control system.

Line rules define a common set of capabilities for a device in a given industrial area, thus allowing system designers, system integrators, and Maintenance staff can process line-based equipment without the need for special tool configurations, and also allows the structure and semantics of equipment functions to be consistent.

NOTE Other techniques may also be used to support the integration of devices into a control system, in reality using communication and engineering tools to handle a specific manufacturer's expansion exhibition. Device Description Language is an example of these technologies that detail the internal structure of a device or a standardized software interface so that each device can use a dedicated software components to represent.

Figure 1 shows a variety of possible profile documents and a typical creator of each document, which also shows the order in which the profile documents were developed,

The purpose of the standard is to serve as the basis for the development of codes of practice and product codes for other working groups, from which standards can be developed in the end, manufacturers can create specific device descriptions for their products. Equipment rules document preparation There may be some shortcuts between.

Figure 1 rules and regulations and line rules makers

This standard recommends the minimum content requirements and construction rules for equipment profiles, provides a recommended common equipment model, applicability Analysis, the use of UML (Unified Modeling Language) and methodological standards of the design block diagram to build the model.

This standard on the equipment rules of non-human users (such as software tools and applications such as electronic documents) how to express the necessary equipment to mention Proposals were made, including the use of the XML (Extensible Markup Language) standard.

General automation equipment line regulation

1 Scope

This standard for the industrial field equipment and control equipment, development regulations to provide guidance, and industrial field equipment and control equipment complex Degree has nothing to do.

Note 1: Examples of devices cover limit switches and contactors for simple equipment networks, medium complexity devices such as transmitters and actuators in process control to and complex equipment such as electric drive systems used in fieldbus.

Note 2: This standard is also recommended for programmable controllers, network components and HMI devices. If a device is user-programmable, it is introduced in this guide its characteristics (eg, parameters and behavior) are difficult to describe completely in the line regulation, however, and line planners should agree on common functions such as Move, stop, reset, and identify and process inputs/outputs.

Device profiles cover various aspects such as physical, functional, communications, electrical, functional safety, and application systems, whether these aspects are no Internet access. This standard focuses on the functional aspects of the equipment (see 3.1.9).

Note 3: Different users of device profiles, such as device manufacturers, system integrators, and maintenance personnel, may use only certain aspects of the profile.

This standard is not dependent on a specific network developed, therefore, it can be applied to a variety of field bus, including Ethernet Network of industrial networks. This standard is intended for the relevant product standards committee and industrial communication network alliance to develop equipment and organization rules knot Structure, and do not intend to provide a summary of a particular device profile. Furthermore, this standard gives the equipment model for better guidance and planning the content of a device profile allows the structure of the device to be expressed in a specific way using parameter tables, function block models and/or object models and characteristics, the specific model used by the line regulation decision.

Requires a common method to express device profile information, which is very useful for users, this standard recommends the use of device profile template, an example of a template is given, which serves as the basic structure and content for developing follow-up templates for the related rules and regulations.

This standard allows users of line regulations to compare, determine interoperability and interchangeability, and identify common device characteristics.

GB/T 19659.1 is covered by the industrial application and process development is not within the scope of this standard.