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

GB/T 21099.2-2024

Replacing GB/T 21099.2-2015

**Devices and integration in enterprise systems - Function blocks(FB) for
process control and electronic device description language(EDDL) -
Part 2: Specification of FB concept
(English Translation)**

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B.1 Overview

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 2 of GB/T (Z) 21099.GB/T (Z) 21099 has published the following parts.

- Function blocks for process control Part 1: General aspects of the system;
- Function Blocks (FB) and Electronic Device Description Language (EDDL) for equipment and integrated process control in enterprise systems Part 2 Points. FB concept specification;
- Function Block (FB) and Electronic Device Description Language (EDDL) for equipment and integrated process control in enterprise systems Part 3 Points. EDDL syntax and semantics;
- Function Block (FB) and Electronic Device Description Language (EDDL) for equipment and integrated process control in enterprise systems Part 4 Points. EDD interoperability;
- Function Block (FB) and Electronic Device Description Language (EDDL) for equipment and integrated process control in enterprise systems Part 5 Points. EDDL built-in library;
- Function blocks (FB) and electronic device description language (EDDL) for process control Part 6: Meeting the requirements of field device engineering tools the need to integrate fieldbus devices.

This document replaces GB/T 21099.2-2015 "Function blocks (FB) for process control Part 2: Function block concept specification" and Compared with GB/T 21099.2-2015, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the scope to include "Electronic Device Description (EDD) technology, which can integrate real product Product Details", deleted "This document only defines a subset of GB/T 21099.1, while GB/T 21099.1 describes Appendix B contains the conformance statement of the conformance statement only with GB/T 21099 this part is relevant. The requirements in GB/T 21099.1 are not included in these conformity declarations" and "This part of GB/T 21099 the classification is also based on GB/T 19769.1 "Abstract Definition" and other contents (see Chapter 1, Chapter 1 of the 2015 edition);
- Added terms. EDDL processor, EDDL profile, EDD application, incompatibility, proxy, electronic device description technology, electronic Device Description Interpreter, Electronic Device Description Language, Electronic Device Description Language Compiler, Coexistence, Managed Resources, Interoperability, Interoperability Convertibility,

interconnectivity, interoperability, models, built-in routines, performance, semantics, preprocessors, preprocessor directives (see Chapter 3);

--- Added "Lexical Structure Conventions" (see 3.3);

---"CommandASE" has been added to the mapping from FB to APO (see Chapter 8).

This document is equivalent to IEC 61804-2:2018 "Function Block (FB) and Electronic Device Description Language (EDDL) for Process Control Part 2 Part. FB Concept Specification.

The following minimal editorial changes were made to this document.

--- In order to coordinate with the existing standards, the name of the standard is changed to "Function Blocks (FB) for Equipment and Integrated Process Control in Enterprise Systems" and Electronic Device Description Language (EDDL) Part 2: FB Concept Specification.

Introduction

GB/T (Z) 21099 is intended to consist of the following 6 parts.

--- Part 1: General introduction to system aspects. The purpose is to provide suppliers with general guidelines and specifications to ensure that users can select compatible equipment.

compatibility, interoperability, and interchangeability.

--- Part 2: FB concept specification. The purpose is to provide conceptual function block specifications, including. device model of device components;

conceptual specification of the FB for measurement, execution, and processing, including general rules for supporting essential features of control to avoid impeding innovation New details and specialized details for different industrial fields; Electronic Device Description (EDD) technology, using engineering life cycle tools Tools to integrate real product details.

--- Part 3: EDDL syntax and semantics. The purpose is to specify the Electronic Device Description Language (EDDL) technology, which allows the use of industrial the integration of actual product details is accomplished through tools in the process life cycle.

--- Part 4: EDD interoperability. The purpose is to ensure that field device developers use the EDDL structure consistently. It supplements EDDL specification to promote interoperability and portability between EDDL applications Plant nature.

--- Part 5: EDDL built-in library. The purpose is to define the EDDL built-in library and provide configuration files for various fieldbuses.

--- Part 6: Meeting the needs of field device engineering tools for integrated fieldbus devices. The purpose is to provide equipment and system manufacturers with it provides