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

GB/T 19769.2-2022

Function blocks - Part 2: Software tools requirements

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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 of Standardization Documents" drafted.

This document is part 2 of GB/T 19769. GB/T 19769 has released the following parts.

---GB/T 19769.1 Function Block Part 1. Structure;

---GB/T 19769.2 Function Block Part 2. Requirements for Software Tools;

--- GB/T 19769.3 Industrial Process Measurement and Control Systems - Part 3. Guidance Information;

---GB/T 19769.4 Function Block Part 4. Rules for Conformance Profiles.

This document replaces GB/T 19769.2-2015 "Function Block Part 2. Requirements for Software Tools", which is consistent with GB/T 19769.2-2015

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

--- Added "In the graphic display of the statement, the software tool can provide other functions than those described in IEC 61499-1."

(see 4.4, 4.4 of the 2015 edition);

--- will "If there is a conflict between the terms of this appendix and the terms of Appendix B of GB/T 19769.1-2022, the latter terms shall be

allow. " is changed to the content of "Note 1" (see A.1, A.1 of the 2015 edition);

--- Changed the original code (see Tables A.4, C.4, C.6 and C.7, Tables A.4, C.4, C.6 and C.7 of the 2015 edition).

This document is equivalent to IEC 61499-2:2012 "Function Blocks Part 2. Requirements for

Software Tools".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

GB/T 19769 consists of the following parts.

---GB/T 19769.1, including the following.

- * general requirements, including scope, normative references, definitions and reference models;
- * Rules for declaring function block types and rules for the behavior of instances of that type;
- * Rules for the use of function blocks in configuring a distributed industrial process measurement and control system (IPMCS);
- * Rules for the use of function blocks in meeting the communication requirements of distributed IPMCS;
- * In the distributed IPMCS, when managing applications, resources and equipment, the rules for the use of function blocks.

---GB/T 19769.2, defines the software tool requirements to support the following system engineering tasks.

- * Specification of function block types;
- * Functional specification of resource types and device types;
- * Specification, analysis and verification of distributed IPMCS;
- * Configuration, implementation, operation and maintenance of distributed IPMCS;
- * Information exchange between software tools.

--- GB/T 19769.3, the purpose is to promote understanding and acceptance, promote the general and domain-specific applicability of IPMCS structure, promote

Advanced software tools meet the needs of other parts by providing.

- * FAQs about GB/T 19769 (all parts);
- * An example of using GB/T 19769.1 to solve problems commonly encountered in control and automation engineering.

The IEC standard adopted in this part has been withdrawn, but subsequent IEC editions may be updated in the future, so this part will follow the IEC edition

Revised in this update.

--- GB/T 19769.4, specifies the characteristics of GB/T 19769.1 and GB/T 19769.2 to be implemented in order to promote

The following attributes of systems, equipment and software tools of GB/T 19769.

- * Interoperability of equipment from multiple vendors;
- * portability between software tools provided by multiple vendors;
- * Configurability of multiple vendor software for equipment from different manufacturers.

Function Blocks Part 2. Software Tool Requirements

1 Scope

This document specifies the requirements for software tools to support the following systems engineering tasks listed in IEC 61499-1.

- Specification of function block types;
- functional specification of resource types and device types;
- Specification, analysis and validation of distributed industrial process measurement and control systems (IPMCS);
- Configuration, implementation, operation and maintenance of distributed IPMCS;
- Information exchange between software tools.

It is assumed that such software tools can be used in an engineering support system (ESS) environment as described in IEC 61499-1.

Specifications for the entire life cycle of industrial process measurement and control systems, or the requirements for supporting IPMCS throughout the life cycle.

There are mandates and activities that are beyond the scope of this document. This may result in an extension or modification of the requirements specified in this document.

However, the provision

Other criteria for such tasks and activities may extend or modify the requirements specified in this document.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

GB/T 19769.1-2022 Function Block Part 1.Structure (IEC 61499-1.2012, IDT)

Note. GB/T 16262 (all parts) Information Technology Abstract Syntax Notation One (ASN.1)
[ISO /IEC 8824 (all parts)]

Note. GB/T 15969.3-2017 Programmable Controllers Part 3.Programming Languages (IEC
61131-3.2013, IDT)

IEC 61499-1 Function Blocks Part 1.Structure (Functionblocks-Part 1.Architecture)

Note. GB/T 19769.1-2022 Function Block Part 1.Structure (IEC 61499-1.2012, IDT)

3 Terms and Definitions

Terms and definitions defined in IEC 61499-1 and the following apply to this document.

3.1

library element libraryelement

Sound for data types, function block types, adapter types, sub-application types, resource
types, device types, segment types, or system configuration

clear collection.