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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 19903.13-2019

Automation systems and integration -- Physical device control -- Data model for computerized numerical controllers -- Part 13: Process data for wire electrical discharge machining (wire-EDM)

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Foreword

GB/T 19903 "Automation System and Integrated Physical Device Control Computer Numerical Controller Data Model" is currently planned

The cloth is as follows.

--- Part 1. Overview and basic principles;

--- Part 10. General process data;

--- Part 11. Process data for milling;

---Part 12. Process data for turning;

---Part 13. Process data for wire EDM machining;

---Part 14. Process data for EDM processing;

--- Part 111. Electrode wire for milling machines;

--- Part 121. Electrode wire for lathes;

--- Part.201. Cutting process machine data.

This part is the 13th part of GB/T 19903.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to ISO 14649-13.2013 "Automation systems and integrated physical equipment control computer values

Data model for controllers - Part 13. Process data for wire-cut machining.

The documents of our country that have a consistent correspondence with the international documents cited in this part of the norm are as follows.

---GB/T 19903.10-2006 Industrial automation system and integrated physical equipment control computer numerical controller

Data model Part 10. General process data (ISO 16469-10.2004, IDT)

This part was proposed by the China Machinery Industry Federation.

This part is under the jurisdiction of the National Automation System and Integration Standardization Technical Committee (SAC/TC159).

This section drafted by. National Machine Tool Quality Supervision and Inspection Center, Shandong University of Architecture, Beijing Institute of Machinery Industry Automation Co., Ltd.

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Introduction

GB/T 19903.10 describes the general process data and its schema for CNC machine tools. The theme of the pattern (called ma-

Chinging_schema) is a definition of the type of data typically associated with different machining processes (eg, milling, turning, wire EDM). The mode

It includes artifact definitions, feature catalogs containing features (these features may be referenced by several techniques), generic executables, and operational definition bases.

foundation. The geometry items and expressions referenced from the ISO 10303 generic resource are not included in the schema, nor are they defined in the separate part of GB/T 19903.

Specific process definition.

GB/T 19903.10 is not an independent standard and requires at least one additional process-specific part (eg, GB/T 19903.11, for milling)

Cooperate with it. This part of GB/T 19903 describes the WEDM process and defines the special work for WEDM.

Art data type.

This part of GB/T 19903 mainly gives the definition and description of the data entity. The WEDM controller needs these data.

The body provides control data information.

The EXPRESS form of these data entities is given again in Appendix A, but there is no information to explain the text.

Appendix B provides another perspective on these data entities, showing graphical representations of different elements in different graphs. These graphic letters

Rich information. The detailed description of the entities of these figures is given in the corresponding text definition in Chapter 4.

Appendix C and Appendix D give two sample files for GB/T 19903, providing a description of possible use cases.

In addition, the mode uses processing features similar to ISO 10303-224. Process data description EX- defined by ISO 10303-11

PRESS language. The data encoding uses ISO 10303-21.

Automation system and integrated physical device control

Data model for computer numerical controller

Part 13. Process data for wire EDM

1 Scope

This part of GB/T 19903 is a process-specific data element required for specifying process data for wire EDM. It and

The general process data described in GB/T 19903.10, together with the computerized digital controller and its program system for WEDM

Interface between (such as CAM systems or shop floor program systems). In this type of machine, it can be used to (direct) wire EDM operations.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

ISO 14649-10 Data model for industrial automation systems and integrated physical equipment control computer numerical controllers

Part. General Process Data
(Industrialautomationsystemsandintegration-Physicaldevicecontrol-Data

Modelforcomputerizednumericalcontrolers-Part 10.Generalprocessdata)

3 Terms and definitions

The following terms and definitions defined by ISO 14649-10 apply to this document.

3.1

Roughing roughing

Machining operations for cutting parts.

Note 1. The purpose of roughing is to remove a large amount of material in a short time, and the surface quality is usually not important.

Note 2. After roughing, it is usually a finishing operation, see Finishing (3.2).

3.2

Finishing finishing

Machining operations used to achieve the required tolerances.

Note. The finishing operation is usually roughing (3.1), followed by surface finishing (3.3).

3.3

Surface finishing

Machining operations for achieving the required surface quality.

Note. The finishing (3.2) operation is usually performed before the surface finishing operation.

4.1 Title and Reference

The following list gives the title and the entity table referenced within this pattern.