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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 19903.14-2019

Automation systems and integration -- Physical device control -- Data model for computerized numerical controllers -- Part 14: Process data for sink electrical discharge machining (sink-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. Tool for milling machines

--- Part 121. Tools for lathes

---Part.201. Cutting process machine data

This part is the 14th 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 14649-14.2013 "Automation systems and integrated physical equipment control computer values

Data model for controllers - Part 14. Process data for EDM.

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

---GB/T 19903.10-2006 Data model for industrial automation systems and integrated computer numerical controllers

Part. 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, Suzhou Electric Machine Tool Research Institute Co., Ltd., North

Beijing Machinery Industry Automation Research Institute Co., Ltd., Beijing University of Aeronautics and Astronautics, Zhejiang Hongen Intelligent Equipment Technology Co., Ltd., Dalian Dasen

Control Technology Development Center Co., Ltd., Jiangmen Gaocheng CNC Machinery Co., Ltd., Zhejiang Sinak Hot Runner Technology Co., Ltd.

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 processes (eg, milling, turning, EDM). This mode

Includes artifact definitions, feature catalogs (these features may be referenced by several crafts), generic executables, and operational definition bases. Not in mode

Contains geometry items and expressions referenced from ISO 10303 generic resources, and does not include process-specific definitions defined in separate parts of ISO /IEC 15408

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 spark-forming process (sink-EDM) and defines the EDM.

Art-specific data types.

This part of GB/T 19903 mainly gives the definition and description of the data entity, which is required by the EDM controller.

The entity 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 graphics is given in the corresponding text definition.

In addition, the mode uses processing features similar to ISO 10303.224. Process data description EX- defined in 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 14. Process data for EDM

1 Scope

This part of GB/T 19903 details the process-specific data elements required for process data for EDM. versus

Together with the general process data described in GB/T 19903.10, this section describes the computer digital controller used in EDM and

An interface between a programming system (eg, a CAM system or a shop floor programming system). This part can be used for the operation of EDM machines.

The scope of this section does not include machine tools for other processes (eg turning, grinding). Other machine tools in other processes in GB/T 19903

Partial description.

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

Used to achieve processing operations for etching materials.

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

Note 2. The roughing operation usually follows the 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

A processing operation used to achieve the required surface quality.

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

4.1 Head and References (Headerandreferences)

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