

ICS 25.040.30

CCS J 28



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

GB/T 35144-2017

**Specifications of modular functional components of robot
mechanisms**

机器人机构的模块化功能构件规范

Issued on: December 29, 2017

Implemented on: July 1, 2018

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard is proposed by the China Machinery Industry Federation. This standard by the National Automation System and Integration Standardization Technical Committee (SAC/TC159) centralized. This standard drafting unit. Shenyang Institute of Automation Chinese Academy of Sciences, Beijing Institute of Machinery Industry Automation, Tianjin University, Beijing Airlines Aerospace University, Shenyang Xinsong Robot Automation Co., Ltd., Machine Productivity Promotion Center, South China University of Technology, Guangzhou CNC equipment Limited company. The main drafters of this standard. Wang Hongguang, Pan Xin, Yang Book Review, Zhao Chen, Wei Hongxing, Liu Ying. Modular functional components of robotic mechanisms

1 Scope

China's national specification for the modular functional components of robot mechanisms. It belongs to the modular robot series, and where the earlier documents set out the principles and the architecture, this one specifies the mechanical modules themselves - the joints, links and end interfaces from which a modular robot is assembled. The component is where a modularity programme succeeds or fails. Agreeing that robots should be modular costs nothing; agreeing on the actual bolt circle, the load rating at the interface, the electrical connector and the data protocol is what obliges manufacturers to change what they build. That is why this part is a specification rather than a guide. A joint module that meets it can be bought from one supplier and fitted to an arm from another, which is the arrangement every mature engineering industry has and which robotics has resisted, because incompatibility is what keeps a customer with the supplier who sold them their first robot.

This standard specifies the normative classification of the robot body type function components, institutions category function component library, institutional function components interface content. This standard applies to the research and design of modular robots, as well as the three-dimensional number of structural components in the robot simulation development environment Characterization Design and Simulation Analysis.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document. Industrial robots - Mechanical interfaces - Part 1. Boards Industrial robots - Mechanical interfaces - Part 2. Shafts

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Manipulating functional components manipulatingfunctionalcomponent Mechanical hardware components that make up a modular robot, mechanical modules capable of performing certain functions, are mainly used to perform operational tasks, including But not limited to, gripping, gripping, picking, handling and the like.

3.2 Mobile functional components mobilefunctionalcomponent Modular robot mechanical hardware components, to complete a certain function of the mechanical module, mainly used to complete the mobile homework.

3.3 Manipulate the functional component library manipulatingfunctionalcomponentlibrary A collection of robotic operating features.

Note. The representation of each operation function component in the component library includes definition, function description, organization diagram, concrete indication and meaning.

3.4 Mobile functional library mobilefunctionalcomponentlibrary A collection of robotic moving features.

Note. The representation of each mobile functional component in the component library includes definitions, functional descriptions, organization diagrams, concrete representations and meanings.

3.5 Institutional functional components characteristic parameters featureparametersofmechanismfunctionalcomponent Characterization of structural features such as geometric features, physical properties, sports and force and other characteristics of the parameters. Note The terms appearing in this standard and their English reference lists are given in Appendix A.