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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 38834.1-2020

Robotics - Performance criteria and related test methods for service robots - Part 1: Locomotion for wheeled robots

Issued on: June 2, 2020 **Implemented on: December 1, 2020**

Issued by: State Administration for Market Regulation, China National Standardization Administration

Table of Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

Foreword

GB/T 38834 "Robot service robot performance specifications and test methods" is divided into the following parts.

---Part 1.Wheeled robot movement;

---Part 2.Navigation;

---Part 3.Operation;

---Part 4.Lumbar support robot.

This part is Part 1 of GB/T 38834.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method to be equivalent to ISO 18646-1.2016 "Robot Service Robot Performance Specifications and Test Methods No. 1

Part. Wheeled Robot Movement.

This part is proposed by China Machinery Industry Federation.

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

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Introduction

The purpose of this section is to improve the understanding of users and manufacturers on the performance of wheeled robots. This section defines the important

The performance characteristics describe how to standardize and recommend the test method.

This section gives the characteristics of test methods that significantly affect robot performance. The users of this part will choose according to the specified requirements

Performance parameters to be tested.

The performance specifications in this section are not expected to be interpreted as verification and validation of safety requirements. This section is only for indoor environment service robots.

Robot service robot performance specification and its

Test methods Part 1.Wheeled robot motion

1 Scope

This part of GB/T 38834 describes the method to standardize and evaluate the kinematic performance of indoor wheeled robots.

2 Normative references

No normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

ISO and IEC maintain terminology databases at the following websites for standardization.

---IEC Electropedia. http.//electropedia.org

3.1

Robot

A programmable actuator that has a certain degree of autonomy and can move within its environment to perform its intended tasks.

Note 1.The robot includes a control system and a control system interface.

Note 2.According to the intended use, the robot classification can be classified as industrial robots or service robots (3.2).

Note 3.Rewrite GB/T 12643-2013, definition 2.6.

3.2

Servicerobot

In addition to industrial automation applications, robots (3.1) that can perform useful tasks for humans or equipment.

Note 1.Industrial automation applications include (but are not limited to) manufacturing, inspection, packaging and assembly.

Note 2.The joint robot used in the production line is an industrial robot, and the similar joint robot used for serving is the service robot.

[GB/T 12643-2013, definition 2.10]

3.3

Mobile robot

Mobile robot (3.1) based on self-control.

Note. The mobile robot can be a mobile platform (3.5) with or without a manipulator.

[GB/T 12643-2013, definition 2.13]

3.4

Wheeledrobot

Mobile robot using wheels to move (3.3)

Note. Rewrite GB/T 12643-2013, definition 3.16.1.