SLOVENSKI STANDARD
SIST EN ISO 9409-1:2004

01-september-2004

Nadomeġ a:
SIST EN ISO 9409-1:2003

Manipulirni industrijski roboti ï Mehanski vmesniki ï 1. del: Ploġ e (oblika A) (ISO 9409-1:2004)

Manipulating industrial robots - Mechanical interfaces - Part 1: Plates (ISO 9409-1:2004)

Industrieroboter - Mechanische Schnittstellen - Teil 1: Platten (ISO 9409-1:2004)

Robots manipulateurs industriels - Interfaces mécaniques - Partie 1: Interfaces a plateau (ISO 9409-1:2004)

Ta slovenski standard je istoveten z: EN ISO 9409-1:2004

ICS:

25.040.30	Industrijski roboti. Manipulatorji	Industrial robots. Manipulators

SIST EN ISO 9409-1:2004 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 9409-1

March 2004

ICS 25.040.30

Supersedes EN ISO 9409-1:1996

English version

Manipulating industrial robots - Mechanical interfaces - Part 1: Plates (ISO 9409-1:2004)

Robots manipulateurs industriels - Interfaces mécaniques - Partie 1: Interfaces à plateau (ISO 9409-1:2004)

Industrieroboter - Mechanische Schnittstellen - Teil 1: Platten (ISO 9409-1:2004)

This European Standard was approved by CEN on 2 February 2004.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 9409-1:2004) has been prepared by Technical Committee ISO/TC 184 "Industrial automation systems and integration" in collaboration with Technical Committee CEN/TC 310 "Advanced Manufacturing Technologies", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2004, and conflicting national standards shall be withdrawn at the latest by September 2004.

This document supersedes EN ISO 9409-1:1996.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 9409-1:2004 has been approved by CEN as EN ISO 9409-1:2004 without any modifications.

INTERNATIONAL STANDARD

ISO 9409-1

Third edition
2004-03-01

Manipulating industrial robots — Mechanical interfaces —

Part 1: Plates

Robots manipulateurs industriels — Interfaces mécaniques —
Partie 1: Interfaces à plateau

Reference number
ISO 9409-1:2004(E)

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Published in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9409-1 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 2, *Robots for industrial environments*.

This third edition cancels and replaces the second edition (ISO 9409-1:1996) and the Technical Corrigendum ISO 9409-1:1996/Cor.1:1998, of which it constitutes a technical revision. Clause 5 and Figure 1 have been revised, Figures 2 and 3 have been added, and Table 1 has been revised.

ISO 9409 consists of the following parts, under the general title *Manipulating industrial robots — Mechanical interfaces*:

— *Part 1: Plates*

— *Part 2: Shafts*

Introduction

This part of ISO 9409 is part of a series of International Standards dealing with manipulating industrial robots. Other International Standards cover such topics as safety, general characteristics, coordinate systems, performance criteria and related test methods, terminology, and robot programming. It is noted that these standards are interrelated and also related to other International Standards.

Manipulating industrial robots are steadily growing in importance in industrial automation. Depending on the type of application, they may require removable end effectors such as grippers or tools which are attached to the mechanical interface.

Manipulating industrial robots — Mechanical interfaces —

Part 1: Plates

1 Scope

This part of ISO 9409 defines the main dimensions, designation and marking for a circular plate as mechanical interface. It is intended to ensure the exchangeability and to keep the orientation of hand-mounted end effectors.

This part of ISO 9409 does not define other requirements of the end effector coupling device.

This part of ISO 9409 does not contain any correlation of load-carrying ranges, as it is expected that the appropriate interface is selected depending on the application and the load-carrying capacity of the robot.

The mechanical interfaces specified in this part of ISO 9409 will also find application in simple handling systems which are not covered by the definition of manipulating industrial robots, such as pick-and-place or master-slave units.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 261:1998, *ISO general-purpose metric screw threads — General plan*

ISO 286-1:1988, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits*

ISO 286-2:1988, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*

ISO 1101:1983, *Technical drawings — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out — Generalities, definitions, symbols, indications on drawings*

ISO 8373:1994, *Manipulating industrial robots — Vocabulary*

ISO 9787:1999, *Manipulating industrial robots — Coordinate systems and motion nomenclatures*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8373 apply.