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**Geometrical product specifications (GPS)
— Acceptance and reverification tests for
coordinate measuring systems (CMS) —
Part 8: CMMs with optical distance
sensors**

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Foreword

This Japanese Industrial Standard has been revised by the Minister of Economy, Trade and Industry based on the provision of Article 14, paragraph (1) of the Industrial Standardization Act applied mutatis mutandis pursuant to the provision of Article 16 of the said Act in response to a proposal for revision of Japanese Industrial Standard with a draft being attached, submitted by Japanese Standards Association (JSA), an accredited standards development organization. This edition replaces the previous edition (**JIS B 7440-8** : 2015), which has been technically revised.

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Geometrical product specifications (GPS) — Acceptance and reverification tests for coordinate measuring systems (CMS) — Part 8: CMMs with optical distance sensors

Introduction

This Japanese Industrial Standard has been prepared based on **ISO 10360-8** : 2013, Edition 1, with some modifications of the technical contents. The previous edition of this Standard, **JIS B 7440-8** : 2015, included some items that were not specified in the corresponding International Standard; these items have been deleted from this edition because they had been transferred to the newly established **JIS B 7440-12** and **JIS B 7440-13** as of drafting of this edition.

The dotted underlines indicate changes from the corresponding International Standard. A list of modifications with the explanations is given in Annex JA.

This Standard is a geometrical product specification (GPS) standard and is to be regarded as a general GPS standard (see **JIS B 0661**). It influences link F of the chains of standards on size, distance, form, orientation, location, and run-out of general GPS matrix.

For more detailed information of the relation of this Standard to other standards and the GPS matrix model, see Annex E.

The GPS Masterplan given in this Standard gives an overview of the GPS system of which this Standard is a part. The fundamental rules of GPS given in **JIS B 0024** apply to this Standard and the default decision rules given in **JIS B 0641-1** apply to specifications made in accordance with this Standard, unless otherwise indicated.

The tests of this Standard have two technical objectives:

- a) to test the error of indication of a calibrated test length using an optical distance sensor and
- b) to test the errors of the optical distance sensor.

Optical distance sensors treated in this Standard are classified into two types,

- point measuring sensors, and
- area measuring sensors (e.g. laser point scan, laser line scan, fringe projection)

The benefits of these tests are that the measured result has a direct traceability to the unit length, the metre, and that it gives information on how the CMM (coordinate measuring machine) will perform on similar length measurements.

This Standard parallels that of **JIS B 7440-2** and **JIS B 7440-5** : 2022, which is for