SLOVENSKI STANDARD
SIST EN ISO 6709:2009

01-september-2009

Standardna predstavitev geografske toļ kovne lokacije s koordinatami (ISO 6709:2008, vkljuļ uje popravek Cor. 1:2009)

Standard representation of geographic point location by coordinates (ISO 6709:2008, including Cor 1:2009)

Standarddarstellung für geographische Punkte durch Koordinaten (ISO 6709:2008, einschließlich Cor 1:2009)

Représentation normalisée des latitude, longitude et altitude pour la localisation des points géographiques (ISO 6709:2008, Cor 1:2009 inclus)

Ta slovenski standard je istoveten z: **EN ISO 6709:2009**

ICS:

35.040	Nabori znakov in kodiranje informacij	Character sets and information coding

SIST EN ISO 6709:2009 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 6709

June 2009

ICS 35.040

English Version

Standard representation of geographic point location by coordinates (ISO 6709:2008, including Cor 1:2009)

Représentation normalisée des latitude, longitude et altitude pour la localisation des points géographiques (ISO 6709:2008, Cor 1:2009 inclus)

Standarddarstellung für geographische Punkte durch Koordinaten (ISO 6709:2008, einschließlich Cor 1:2009)

This European Standard was approved by CEN on 12 June 2009.

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

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Contents

Page

Foreword

The text of ISO 6709:2008, including Cor 1:2009 has been prepared by Technical Committee ISO/TC 211 “Geographic information/Geomatics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 6709:2009 by Technical Committee CEN/TC 287 “Geographic Information” the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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

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Endorsement notice

The text of ISO 6709:2008, including Cor 1:2009 has been approved by CEN as a EN ISO 6709:2009 without any modification.

INTERNATIONAL STANDARD

ISO 6709

Second edition
2008-07-15

Standard representation of geographic point location by coordinates

Représentation normalisée des latitude, longitude et altitude pour la localisation des points géographiques

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Contents

Page

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.

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ISO 6709 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

This second edition cancels and replaces the first edition (ISO 6709:1983), which has been technically revised.

The first edition provided for the representation of latitude and longitude for geographic point locations. This second edition extends the use of the representation to applications requiring latitude or longitude values to be quoted separately, for example when quoting a difference in two meridian values. It also extends the representation of latitude and longitude to allow the values for each to be held in separate numeric fields.

This second edition additionally provides for the representation of horizontal point location by coordinates other than latitude and longitude, and makes provisions for a variable-length format which has the flexibility to cover these various requirements. It also includes provisions for heights and depths.

This second edition is primarily intended for data interchange between computer systems. Informative Annex D, which summarises the different requirements at the human interface, has been added.

The first edition used the term *altitude* to describe vertical position. This International Standard uses the more general term height and also allows for vertical location to be described as *depth*.

Introduction

Efficient interchange of geographic-point-location data requires formats which are universally interpretable and which allow identification of points on, above and below the earth's surface. Users in various disciplines may have different requirements. This is exemplified by the use of degrees and decimal degrees, as well as the traditional degrees, minutes and seconds, for recording latitude and longitude. Users may also require various levels of precision and may use latitude and longitude without height.

The use of this International Standard will

a) reduce the cost of interchange of data,

b) reduce the delay in converting non-standard coding structures in preparation for interchange by providing advance knowledge of the standard interchange format, and

c) provide flexible support for geographic point representation.

Standard representation of geographic point location by coordinates

1 Scope

This International Standard is applicable to the interchange of coordinates describing geographic point location. It specifies the representation of coordinates, including latitude and longitude, to be used in data interchange. It additionally specifies representation of horizontal point location using coordinate types other than latitude and longitude. It also specifies the representation of height and depth that may be associated with horizontal coordinates. Representation includes units of measure and coordinate order.

This International Standard is not applicable to the representation of information held within computer memories during processing and in their use in registers of geodetic codes and parameters.

This International Standard supports point location representation through the eXtensible Markup Language (XML) and, recognizing the need for compatibility with the previous version of this International Standard, ISO 6709:1983, allows for the use of a single alpha-numeric string to describe point locations.

For computer data interchange of latitude and longitude, this International Standard generally suggests that decimal degrees be used. It allows the use of sexagesimal notations: degrees, minutes and decimal minutes or degrees, minutes, seconds and decimal seconds.

This International Standard does not require special internal procedures, file-organization techniques, storage medium, languages, etc., to be used in its implementation.

2 Conformance

To conform to this International Standard, representations of point locations by coordinates shall satisfy all of the conditions specified in the abstract test suite (see Annex A).

3 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/IEC 8859-1, *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*

ISO/TS 19103, *Geographic information — Conceptual schema language*

ISO 19107, *Geographic Information — Spatial schema*

ISO 19111:2007, *Geographic Information — Spatial referencing by coordinates*

ISO 19115:2003, *Geographic Information — Metadata*

ISO 19118, *Geographic information — Encoding*