

AS/NZS ISO 8601.2:2021
ISO 8601-2:2019



Australian/New Zealand Standard™

Date and time — Representations for information interchange

Part 2: Extensions



AS/NZS ISO 8601.2:2021

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee IT-019, Information and Documentation, Information Technology — Learning, Education, Training and Research. It was approved on behalf of the Council of Standards Australia on 19 August 2021 and by the New Zealand Standards Approval Board on 04 August 2021.

This Standard was published on 27 August 2021.

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This Standard was issued in draft form for comment as DR AS/NZS ISO 8601.2:2021.

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ISBN 978 1 76113 482 1

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Originated in Australia as AS ISO 8601—2003.
Previous edition 2007.
Jointly revised in part and redesignated as AS/NZS ISO 8601.2:2021.

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-019, Information and Documentation, Information Technology — Learning, Education, Training and Research, to supersede AS ISO 8601:2007, *Data elements and interchange formats—Information interchange—Representation of dates and times*.

The objective of this document is to specify additional representations of dates of the Gregorian calendar and times based on the 24-h clock that extend the basic rules and composite elements of those defined in AS ISO 8601.1. These representations are specified as character strings for use in information interchange. It is also applicable for representing times and time shifts based on Coordinated Universal Time (UTC).

These extensions include —

- (a) uncertain or approximate dates, or dates with portions unspecified;
- (b) extended time intervals;
- (c) divisions of a year;
- (d) sets and choices of calendar dates;
- (e) grouped time scale units;
- (f) repeat rules for recurring time intervals; and
- (g) date and time arithmetic.

This document excludes the representation of date elements from non-Gregorian calendars, or times not from the 24-h clock. This document does not address character encoding of representations specified in this document.

This document is identical with, and has been reproduced from, ISO 8601-2:2019, *Date and time — Representations for information interchange — Part 2: Extensions*

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 154, *Processes, data elements and documents in commerce, industry and administration*.

This first edition of ISO 8601-2, together with ISO 8601-1, cancels and replaces ISO 8601:2004, which has been technically revised.

The main changes compared to ISO 8601:2004 are as follows:

- addition of standard representations for concepts not previously supported, such as negative values, qualification, sets, seasons, extended time intervals, selections, grouped units, repeating rules and profiles.

A list of all parts in the ISO 8601 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The purpose of this document is to provide a set of date and time format representations for information interchange beyond those supported by ISO 8601-1.

There are various concepts and representations that many applications find useful not supported by ISO 8601-1, including:

- negative values for time scale components;
- qualification of expressions and time scale components;
- set representation of date and time expressions;
- seasons;
- time intervals with open or unknown starts or ends;
- expression of movable days through date and time selection;
- date and time expressions without digit length limits; and
- profiles for specifying feature support amongst ISO 8601 (all parts) features.

Such concepts are often represented according to various ad-hoc conventions; this document aims to provide a standard syntax for their representation.

The extended representations allow unambiguous interpretation, enforce the confidence of interoperability and minimize the risk of misinterpretations and their consequences.

Australian/New Zealand Standard

Date and time — Representations for information interchange

Part 2: Extensions

1 Scope

This document specifies additional representations of dates of the Gregorian calendar and times based on the 24-hour clock that extend the basic rules and composite elements of those defined in ISO 8601-1. These representations are specified as character strings for use in information interchange. It is also applicable for representing times and time shifts based on Coordinated Universal Time (UTC).

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- sets and choices of calendar dates;
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- repeat rules for recurring time intervals; and
- date and time arithmetic.

This document excludes the representation of date elements from non-Gregorian calendars, or times not from the 24-hour clock. This document does not address character encoding of representations specified in this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 8601-1:2019, *Date and time — Representation for information interchange — Part 1: Basic rules*

3 Terms, definitions, symbols and abbreviated terms

For the purposes of this document, the terms and definitions given in ISO 8601-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Terms and definitions

3.1.1 Basic concepts

3.1.1.1

approximate date

calendar date which is an estimate whose value is asserted to be possibly correct

Note 1 to entry: The degree of confidence in approximation depends on the application.