Australian Standard®

Data elements and interchange formats—Information interchange—Representation of dates and times

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- Association of Superannuation Funds of Australia
- Australian Bureau of Statistics
- Australian Computer Society
- Australian Customs Service (Commonwealth)
- Australian Electoral Commission
- Australian Institute of Health & Welfare
- Australian Taxation Office
- Department of Immigration, Multicultural and Indigenous Affairs (Federal)
- Medicare Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-027, Data Management and Interchange, to supersede AS ISO 8601—2003.

The objective of this Standard is to provide database designers and users with applicable interchange formats for representation of dates in the Gregorian calendar, times in the 24 hour timekeeping system, time intervals and recurring time intervals or of the formats of these representations used for information interchange.

This Standard is identical with, and has been reproduced from ISO 8601:2004, *Data elements and interchange formats—Information interchange—Representation of dates and times*.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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INTRODUCTION

Although ISO Recommendations and Standards in this field have been available since 1971, different forms of numeric representation of dates and times have been in common use in different countries. Where such representations are interchanged across national boundaries misinterpretation of the significance of the numerals can occur, resulting in confusion and other consequential errors or losses. The purpose of this International Standard is to eliminate the risk of misinterpretation and to avoid the confusion and its consequences.

This International Standard includes specifications for a numeric representation of information regarding date and time of day. In addition this International Standard includes specifications for representation of the formats of these numeric representations.

In order to achieve similar formats for the representations of calendar dates, ordinal dates, dates identified by week number, time intervals, recurring time intervals, combined date and time of day and differences between local time and UTC of day, and to avoid ambiguities between these representations, it has been necessary to use, apart from numeric characters, either single alphabetic characters or other graphic characters or a combination of alphabetic and other characters in some of the representations.

The above action has had the benefit of enhancing the versatility and general applicability of previous International Standards in this field, and provides for the unique representation of any date or time expression or combination of these. Each representation can be easily recognized, which is beneficial when human interpretation is required.

This International Standard retains the most commonly used expressions for date and time of day and their representations from the earlier International Standards and provides unique representations for some new expressions used in practice. Its application in information interchange, especially between data processing systems and associated equipment will eliminate errors arising from misinterpretation and the costs these generate. The promotion of this International Standard will not only facilitate interchange across international boundaries, but will also improve the portability of software, and will ease problems of communication within an organization, as well as between organizations.

Several of the alphabetic and graphic characters used in the text of this International Standard are common both to the representations specified and to normal typographical presentation. Note that for units of time in plain text the symbols given in ISO 31-1 should be used.

To avoid confusion between the representations and the actual text, its punctuation marks and associated graphic characters, all the representations are contained in brackets [ ]. The brackets are not part of the representation, and should be omitted when implementing the representations. All matter outside the brackets is normal text, and not part of the representation. In the associated examples, the brackets and typographical markings are omitted.

AUSTRALIAN STANDARD

Data elements and interchange formats — Information interchange — Representation of dates and times

1 Scope

This International Standard is applicable whenever representation of dates in the Gregorian calendar, times in the 24-hour timekeeping system, time intervals and recurring time intervals or of the formats of these representations are included in information interchange. It includes

— calendar dates expressed in terms of calendar year, calendar month and calendar day of the month;

— ordinal dates expressed in terms of calendar year and calendar day of the year;

— week dates expressed in terms of calendar year, calendar week number and calendar day of the week;

— local time based upon the 24-hour timekeeping system;

— Coordinated Universal Time of day;

— local time and the difference from Coordinated Universal Time;

— combination of date and time of day;

— time intervals;

— recurring time intervals.

This International Standard does not cover dates and times where words are used in the representation and dates and times where characters are not used in the representation.

This International Standard does not assign any particular meaning or interpretation to any data element that uses representations in accordance with this International Standard. Such meaning will be determined by the context of the application.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1 Basic concepts

2.1.1
time axis
mathematical representation of the succession in time of instantaneous events along a unique axis

[IEC 60050-111]

2.1.2
instant
point on the time axis

[IEC 60050-111]

NOTE An instantaneous event occurs at a specific instant.