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

*Éléments de données et formats d'échange — Échange
d'information — Représentation de la date et de l'heure*



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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.

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 8601 was prepared by Technical Committee ISO/TC 154, *Processes, data elements and documents in commerce, industry and administration*.

This third edition cancels and replaces the second edition (ISO 8601:2000), of which it constitutes a minor revision.

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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.