

INTERNATIONAL STANDARD

IEC 61360-2

Second edition
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Standard data element types with associated classification scheme for electric components –

Part 2: EXPRESS dictionary schema

*Types normalisés d'éléments de données avec plan
de classification pour composants électriques –*

*Partie 2:
Schéma d'un dictionnaire EXPRESS*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**STANDARD DATA ELEMENT TYPES WITH ASSOCIATED
CLASSIFICATION SCHEME FOR ELECTRIC COMPONENTS –**
Part 2: EXPRESS dictionary schema

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61360-2 has been prepared by subcommittee 3D: Data sets for libraries, of IEC technical committee 3: Information structures, documentation and graphical symbols.

This second edition cancels and replaces the first edition published in 1998 and constitutes a technical revision

The text of this standard is based on the following documents:

FDIS	Report on voting
3D/92/FDIS	3D/95/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

Annexes A and B are for information only.

IEC 61360 consists of the following parts, under the general title *Standard data element types with associated classification scheme for electric components*:

- Part 1 : Definitions – Principles and methods
- Part 2 : EXPRESS dictionary schema
- Part 3 : Maintenance and validation procedures
- Part 4 : IEC reference collection of standard data element types, component classes and terms.
- Part 5 : Extensions to the EXPRESS dictionary schema¹.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

¹ To be published

INTRODUCTION

The common ISO/IEC dictionary schema presented here is based on the intersection of the scopes of the following standards:

- IEC 61360-1
- ISO 13584-42

Relevant parts of the scope clauses of these standards include the following:

IEC 61360-1:

"This part of IEC 61360 specifies the principles to be used for defining technical data element types with associated classification schemes needed to describe fully electric components, including electronic and electromechanical components and materials used in electro-technical equipment and systems."

ISO 13584-42:

" This part of ISO 13584 specifies:

- the attributes that shall be provided by library suppliers to describe the families and properties of parts. These attributes are part of the content of their parts library and shall be stored in the dictionary of the user library;
- the specifications of these attributes in the EXPRESS information model that provides for the exchange of such dictionary data".

IEC SC 3D and ISO TC 184/SC4 agreed NOT to change and/or modify the presented EXPRESS model independent of each other in order to guarantee the harmonization and the reusability of the work of both committees.

Requests for amendments should therefore be sent to both committees. These requests should be adopted by both committees before modifying the EXPRESS information model.

STANDARD DATA ELEMENT TYPES WITH ASSOCIATED CLASSIFICATION SCHEME FOR ELECTRIC COMPONENTS –

Part 2: EXPRESS dictionary schema

1 General

1.1 Scope

This part of IEC 61360 presents a common ISO/IEC dictionary schema based on the intersection of the scopes of two base standards IEC 61360-1 and ISO 13584-42.

The presented EXPRESS model represents a common formal model for the two standards and facilitates a harmonization of both.

The IEC 61360-2 standard forms the master document. ISO 13584-42 contains a copy of the IEC 61360-2 EXPRESS model in an informative annex

This standard provides a formal model for data according to the scope as given in the publications cited above, and thus provides a means for the computer-sensible representation and exchange of such data.

The intention is to provide a common information model for the work of IEC TC 3D and ISO TC 184/SC4, thus allowing for the implementation of dictionary systems dealing with data delivered according to either of the standards elaborated by both committees.

Two schemas are provided in this part of IEC 61360 defining the two options that may be selected for an implementation. Each of these options is referred to as a conformance class.

- The **ISO13584_IEC61360_dictionary_schema²** provides for modelling and exchanging technical data element types with associated classification scheme but without modelling the definitions of the terms used in the data element type definitions. It constitutes conformance class 1 of this part of IEC 61360.
- The **ISO13584_IEC61360_language_resource_schema** provides resources for permitting strings in various languages. It has been extracted from the dictionary schema, since it could be used in other schemata. It is largely based on the **support_resource_schema** from ISO 10303-41: STEP part 41: "Fundamentals of Product Description and Support", and can be seen as an extension to that. It allows for the usage of one specific language throughout an exchange context (Physical File) without the overhead introduced when multiple languages are used.

When used together with ISO 10303-21, each schema defines one single exchange format.

The exchange format defined by conformance class 1 is fully compatible with the ISO 13584 series.

The exchange format defined by conformance class 2 also provides for exchanging the definitions of the terms used in the defining of data element types and their associated classification scheme when such an exchange is required, despite the lack of compatibility with implementations compliant with the ISO 13584 series.

² All the names that stand for items, formally defined within the EXPRESS model, are presented in **bold face**.

1.2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61360. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 61360 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 61360-1:1995, *Standard data element types with associated classification scheme for electric components – Part 1: Definitions – Principles and methods*

IEC 61360-4:1997, *Standard data element types with associated classification scheme for electric components – Part 4: IEC reference collection of standard data element types, component classes and terms*

ISO 31 (all parts), *Quantities and units*

ISO 639:1988, *Code for the representation of names of languages*

ISO 843:1997, *Information and documentation – Conversion of Greek characters into Latin characters*

ISO 4217:1995, *Codes for the representation of currencies and funds*

ISO 6093:1985, *Information processing – Representation of numerical values in character strings for information interchange*

ISO 8601:2000, *Data elements and interchange formats – Information interchange – Representation of dates and times*

ISO 8859-1:1998, *Information technology – 8-bit single-byte coded graphic character sets – Part 1: Latin alphabet No. 1*

ISO 8879:1986, *Information processing – Text and office systems – Standard Generalized Markup Language (SGML)*

ISO 9735:1988, *Electronic data interchange for administration, commerce and transport (EDIFACT) – Application level syntax rules*

ISO 10303-11:1994, *Industrial automation systems and integration – Product data representation and exchange – Part 11: Description methods: The EXPRESS language reference manual*

ISO 10303-21:1994, *Industrial automation systems and integration – Product data representation and exchange – Part 21: Implementation methods: Clear text encoding of the exchange structure*

ISO 10303-41:2000, *Industrial automation systems and integration – Product data representation and exchange – Part 41: Integrated generic resources: Fundamentals of product description and support*

ISO 10303-42:2000, *Industrial automation systems and integration – Product data representation and exchange – Part 42: Integrated generic resources: Geometric and topological representation*

ISO 12083:1994, *Information and documentation – Electronic manuscript preparation and markup*

ISO 13584-26, *Industrial automation systems and integration – Parts library – Part 26: Logical resource: Information supplier identification*

ISO 13584-42, *Industrial automation systems and integration – Parts library – Part 42: Description methodology: Methodology for structuring part families*