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Edition 1.0 2017-07

INTERNATIONAL STANDARD

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HORIZONTAL STANDARD

Generic specification of information on products by properties – Part 1: Principles and methods

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Generic specification of information on products by properties – Part 1: Principles and methods

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CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope 10
2 Normative references 10
3 Terms, definitions and abbreviated terms 10
3.1 Terms and definitions 10
3.2 Abbreviated terms 15
4 Specifications 15
5 Properties 16
5.1 Object properties versus dictionary properties 16
5.2 Sets of properties for specific purposes 18
5.3 Properties of components 18
6 Property qualifiers 19
6.1 General 19
6.2 Life cycle qualifier 20
6.2.1 General 20
6.2.2 SPE 20
6.2.3 INQ 20
6.2.4 OFF 21
6.2.5 CON 21
6.2.6 SUP 21
6.2.7 BUILT 21
6.2.8 OP 21
6.2.9 DECOM 21
6.2.10 Example of the use of the life cycle qualifier 21
6.2.11 Example of the use of life cycle qualifier associated with a single property within a transaction applying the XML notation 22
6.3 Applicability qualifier 22
6.3.1 General 22
6.3.2 AVP 23
6.3.3 AVN 23
6.3.4 AVA 23
6.3.5 NA 23
6.3.6 Application example – Method A (implicit marking) 23
6.3.7 Application example – Method B (explicit marking) 24
6.4 Value origin qualifier 24
6.4.1 General 24
6.4.2 EST 25
6.4.3 CAL 25
6.4.4 MEA 25
6.4.5 SET 25
6.4.6 Example of the use of the value origin qualifier 25
6.5 Value processing qualifier 25
6.5.1 General 25
6.5.2 ARITHM 26
6.5.3 MED 26

AVA Documents
Document Sharing Hub

Full document details: IEC 62569-1 2017

6.5.4 MOD 26
6.5.5 WARITHM 27
6.5.6 GEOM 27
6.5.7 WGEOM 27
6.5.8 HARM 28
6.5.9 RMS 28
6.6 Multiple qualifiers 28
6.7 When to use a qualifier 28
6.8 Example of the use of multiple qualifiers associated with a single property within a transaction applying, for example, the XML notation based on the example shown in 6.6 29
7 Property values 29
7.1 General 29
7.2 How to deal with special values 29
7.3 How to use the level type concept 30
7.4 Availability of values associated with (dictionary) properties 30
7.5 Application of unit systems 30
7.6 Use of units in software applications 30
8 Data reliability and quality 31
8.1 General 31
8.2 Description of inaccuracies of quantitative values 31
8.3 Intended design tolerances on products 32
Annex A (normative) (Dictionary) property definitions 33
A.1 General 33
A.2 Source definitions of (dictionary) properties and classes of (dictionary) properties in this document 33
A.2.1 Definitions of class of (dictionary) properties 33
A.2.2 Definition of (dictionary) properties to class AAB001: 34
Bibliography 36

Figure 1 – Context of generic specification for information on products 8
Figure 2 – Business scenario between parties 9
Figure 3 – Import and export possibilities using tagged formats 9
Figure 4 – Relation between the properties of a product type and the (dictionary) properties of a data dictionary used for their expression 17
Figure 5 – Inclusion of sets of properties 18
Figure 6 – Relation between the components of a product type and the product type used for their implementation 19
Figure 7 – Development of life cycle qualifier over time 22

Table 1 – Example of the use of the life cycle qualifier 21
Table 2 – Example of the use of the value origin qualifier 25
Table 3 – Example of the use of multiple qualifiers 28
Table 4 – Tolerance concept 32

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Full document details: IEC 62569-1 2017

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GENERIC SPECIFICATION OF INFORMATION ON PRODUCTS BY PROPERTIES –

Part 1: Principles and methods

FOREWORD

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International Standard IEC 62569-1 has been prepared by IEC technical committee 3: Information structures and elements, identification and marking principles, documentation and graphical symbols.

This first edition cancels and replaces IEC PAS 62569-1:2009. This edition constitutes a technical revision.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
3/1310/FDIS	3/1314/RVD

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

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This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

Terms which are defined in Clause 3 are *italicized* when they occur in definitions of other terms in Clause 3.

A list of all parts in the IEC 62569 series, published under the general title *Generic specification of information on products by properties*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

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

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INTRODUCTION

This document establishes general principles and methods required for all parts of IEC 62569, to manage the product-related information as described in the following parts along the life cycle of an object, e.g. a product during its operational use.

IEC 62569-2 provides a generally applicable structure of a generic specification of information on products presenting those common clauses which are independent of any specific equipment, component and device. It serves as a guide for the preparation of technical specifications for various objects. Due to its generic type, particular issues referring to specific product groups are excluded. These need to be obtained from the specific product descriptions within product standards.

IEC 62569-3 provides a collection of generally applicable object properties used in conjunction with the predefined structure in IEC 62569-2, being the basis for, for example, an XML-based electronic template, serving as generic template for the development of product-specific specifications of information by product committees within IEC and ISO, industrial consortia or other industrial organizations.

Figure 1 provides an overview of the intention of this standard. The generic specification for information of objects represents an overall approach for those mainly technical information issues which are generally required by users of an object, and being independent of any specific product class, such as identification, classification or accessibility information for logical or physical interconnection to other products. It provides sets of object properties which may contain quantitative, non-quantitative or conditional types, containing predefined value sets for the non-quantitative, or units for the quantitative types.

The next step is the application of the available generic information on a specific product class such as motor, transformer or resistor. In this step the previously available generic information is aggregated by additional information focusing on that information which is typically applicable for the considered specific class. The result is applicable only for that considered class, and named product-class-specific blank detail specification. For each further class, such a step is repeated. The object properties contained in a blank detail specification for a specific product class are either of the quantitative or non-quantitative type and also foreseen with predefined value sets for the non-quantitative, or units for the quantitative types.

These blank detail specifications should be made available (e.g. as a web-based collection), allowing users to establish the detail specifications (instantiate or populate with data) for automated and controlled use by industry in the business process.

The next step is the application of blank detail specifications in daily practice in industry, when a user populates the object properties of the blank detail specification with required values for his specific application. Depending on the needs, further object properties may be added, marked as not applicable or complemented by qualifiers, etc.

The result may be used, for example, as a functional specification for a specific object within a system or plant, or used for an inquiry.

From this perspective it is easy to deduce that a prerequisite for an economic implementation of the above specifications is the existence of an internationally available data dictionary with public access, providing internationally standardized collections of (dictionary) properties following common methods as defined in the IEC 61360 series.

Referring from object descriptions to previously defined standardized semantic (dictionary) property descriptions is the key issue of an effective, reliable and secure electronic business. For the relations among (dictionary) properties, the associated data dictionary and the different specifications, see Figure 1.

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Within this document two main concepts are differentiated:

A. a specification concept for “real or abstract” objects;

B. a data dictionary containing predefined information elements, each described by a rigorous set of attributes and unambiguously identified, so that its information elements can be used as a reference when preparing the concept A. Such a data dictionary is an optional tool to make the descriptions for concept A. It is of course a “real world” object but a quite different one and separated from the “real world” intended to be described.

For concept A, the term object property and set of object properties will be applied. For issues relating to concept B, the term (dictionary) property and set of (dictionary) properties will be applied to indicate that here a property or set of properties residing in a data dictionary is meant.

The purpose of this document is to describe how real world specifications or descriptions are to be prepared by making use of the data dictionary defined in IEC 61360.

The IEC 62569 series is a companion standard providing methods of expanding the use of existing standardized (dictionary) properties as provided in the IEC CDD (Common Data Dictionary) along the life cycle periods without the need to define additional (dictionary) properties or to redefine such supporting economic engineering and data management.

NOTE 1 As the referred data dictionary of IEC 61360 is quite different from a dictionary, the term "data dictionary" is consistently used within this document.

NOTE 2 Such a data dictionary is available as a data base application to be found under http://std.iec.ch/iec61360 [retrieved 2016-05-03].

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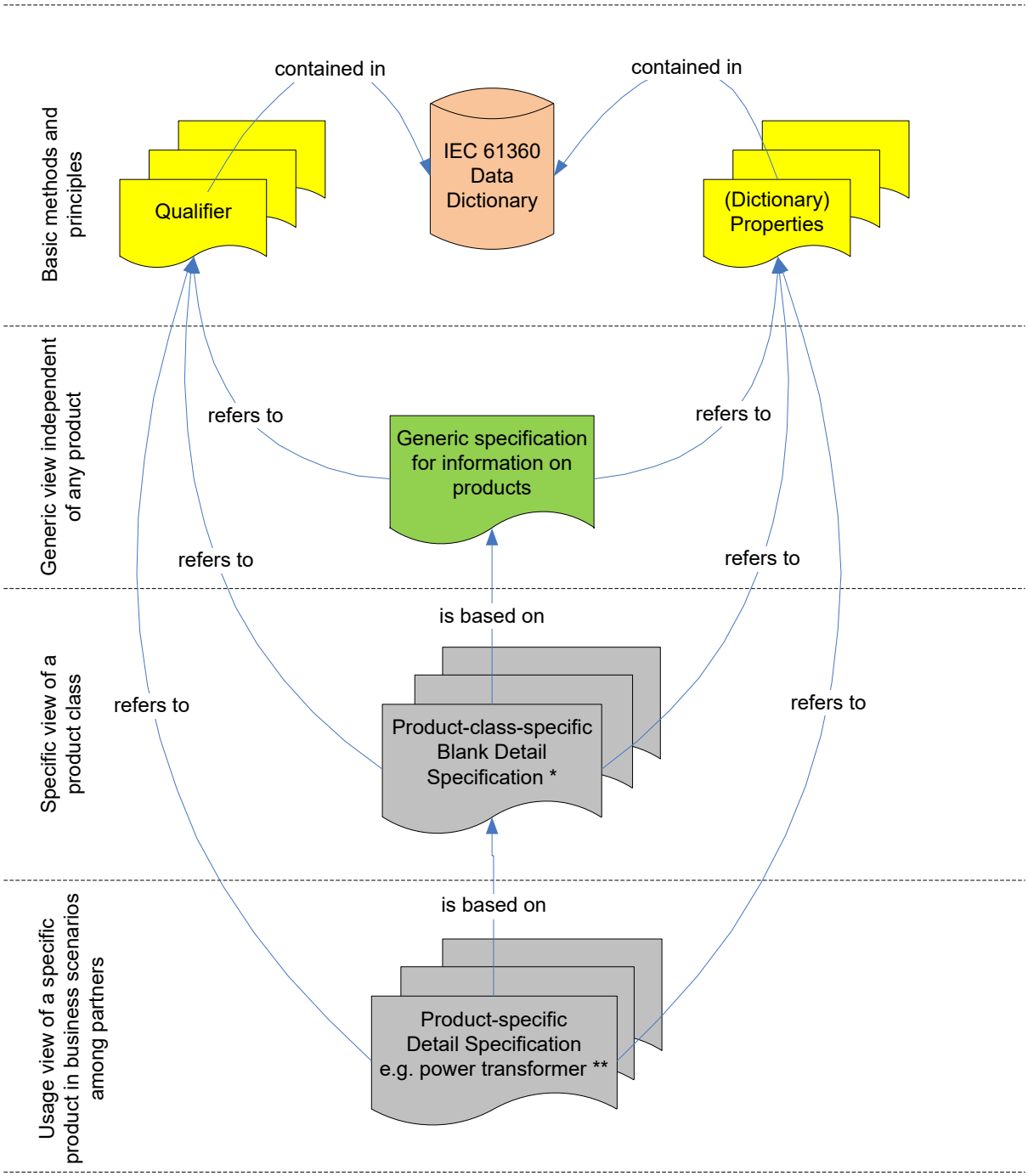

* Developed by Product Committees, Consortia or other Organizations, e.g. for lifting cranes, capacitors, resistors, power transformers

** Filled with product specific data at a specified time in the life cycle process of a power transformer; used in a defined business scenario among industrial partners, e.g. seller,buyer

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Figure 1 – Context of generic specification for information on products

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Figure 2 shows a business scenario about the usage of a detail specification (based on the generic specification) for information on products between business parties.

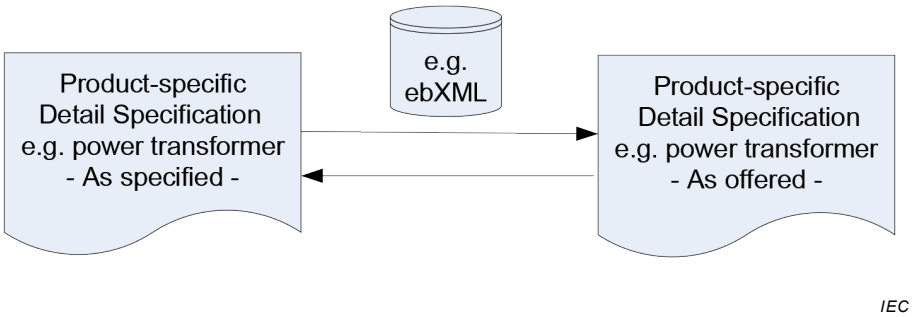

Figure 2 – Business scenario between parties

If a specification for information in the form of an electronic template is associated with a schema for data exchange, for example an XML schema or any other tagged electronic file format, the content of the product-specific detail specification can be easily used for import and export of data values in conjunction with data bases for material management systems. See Figure 3.

A specification template can also be imported for the setting up of the internal structures within a data base without having the need to import associated values.

Conversely, detail specifications can be generated to export data using a predefined template based on the generic specification for information on products.

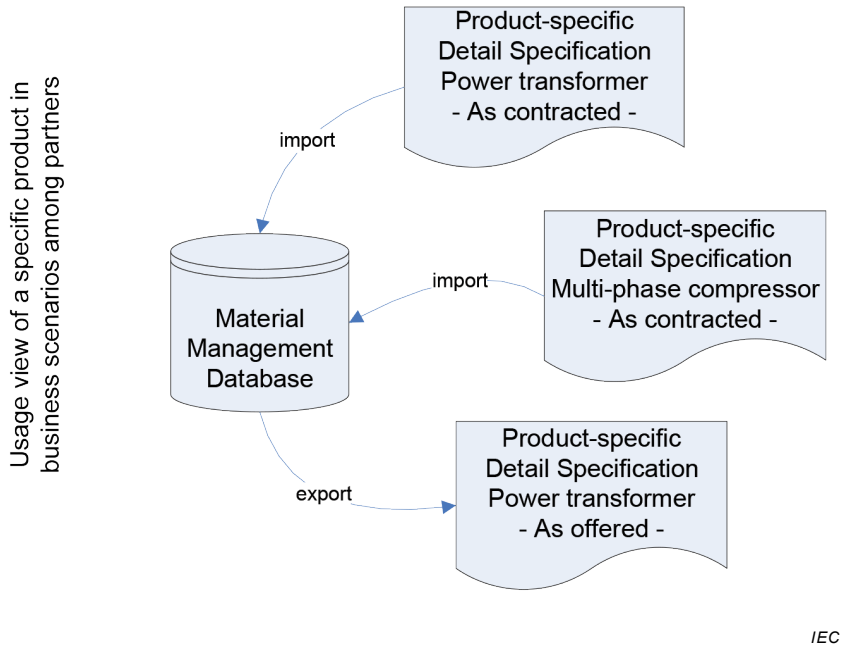

Figure 3 – Import and export possibilities using tagged formats

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GENERIC SPECIFICATION OF INFORMATION ON PRODUCTS BY PROPERTIES –

Part 1: Principles and methods

1 Scope

The IEC 62569 series defines principles and methods for the specification of objects by object properties, for example in data sheets, by utilizing predefined and internationally standardized (dictionary) properties residing in the data dictionary of IEC 61360.

The IEC 62569 series is being developed to transfer the former paper-based applications of blank detail specifications or product descriptions towards supporting electronic business allowing the evaluation and management of described items by computers.

This part of IEC 62569 specifies several qualifiers to be used with object or (dictionary) properties and their values indicating life cycle and other aspects of the property. It is a prerequisite for the usage of the other parts of IEC 62569.

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.

IEC 61360-1:—[1], *Standard data element types with associated classification scheme for electric components – Part 1: Definitions, principles and methods*

IEC TS 62720, *Identification of units of measurement for computer-based processing*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

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

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

3.1.1
attribute
data element for the computer-sensible description of a property, a relation or a class

Note 1 to entry: An attribute describes only one single detail of a property, of a class or of a relation.

[1] Under preparation. Stage at time of publication: IEC CDV 61360-1:2016.

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