IEC 63237-1

Edition 1.0 2022-10

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Household and similar electrical appliances – Product information properties – Part 1: Fundamentals

Appareils électrodomestiques et analogues – Propriétés des informations produit – Partie 1: Principes essentiels

IEC 63237-1:2022-10(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

ICS 97.030

ISBN 978-2-8322-5935-1

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – PRODUCT INFORMATION PROPERTIES –

Part 1: Fundamentals

FOREWORD

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IEC 63237-1 has been prepared by IEC technical committee 59: Performance of household and similar electrical appliances. It is an International Standard.

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

Draft	Report on voting
59/799/FDIS	59/801/RVD

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

The language used for the development of this International Standard is English.

A list of all parts in the IEC 63237 series, published under the general title *Household and similar electrical appliances – Product information properties*, can be found on the IEC website.

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This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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- withdrawn,
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INTRODUCTION

Due to progressing developments in the fields of digitalization, the Internet of Things (IoT) and smart manufacturing, product characterization needs to be raised to the next level. The exchange of product data between companies, business partners and, in the future, various databases at business and governmental level, can run smoothly only when the information to be exchanged has been clearly defined. To enable the automatic exchange of product information, it is vital that manufacturers, trade partners, regulators and authorities speak "one language", a harmonized language.

This document is aimed at all parties on the market who have a need to exchange product data very efficiently.

This document describes a method for standardization and a unique characterization of product specification information which will help both suppliers and partners to optimize workflows, business, and implementation of legislative measures in the industrial sector of household and similar appliances. By using a "common appliance language", an optimization of data exchange and digitalization will be achieved, conflicting situations between appliances will be minimized, and the cost of running data systems will be reduced. In addition, the use of a "common appliance language" will allow and simplify the data information exchange between appliances themselves (not necessarily from the same manufacturer) with a view to optimize the interactions and the energy consumptions. To achieve the above-mentioned targets, it is necessary to define a common set of standardized product properties, also called "product characteristics", including value lists.

NOTE Terms and definitions used in other standards of IEC/TC 59 can be different to some extent. It is the goal of IEC/TC 59 to harmonize these as much as possible.

This document provides a clear characterization of a set information properties. This document is to be used in conjunction with the relevant standard for the specific product. The content will be transferred to the IEC Common Data Dictionary (CDD).

The method described herein provides enough detailed information for an unambiguous electronic data exchange for the business area of electrical household and similar appliances. There is no other IEC standard providing descriptions for electronic data exchange between electric household and similar appliances, which is a limitation for electronic data exchange.

It is the aim to continuously harmonize the content of this document by taking into account present classification systems (e.g. APPLiA PI, ECLASS and ETIM).

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HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – PRODUCT INFORMATION PROPERTIES –

Part 1: Fundamentals

1 Scope

This part of IEC 63237 provides a method for standardizing the descriptions of household electrical appliances.

The aims of this document are to:

- define a common language for customers and suppliers through the publication of classes, represented by properties and their attributes;
- enable electronic data exchange by machines (including information technology systems, see machine-to-machine communication [M2M]);
- optimize workflows between customers and suppliers, as well as in processes, such as engineering, development and purchasing within their own organizations;
- offer also a dictionary to legislators; and
- reduce transaction costs.

This document describes household electrical appliances using properties and makes the associated properties available in the IEC Common Data Dictionary (IEC CDD).

Furthermore, this document provides rules, methods and the generic data structure for product specific classification standards and on how to produce a reference dictionary based on the IEC 61360 series. This in turn creates a descriptive basis of company internal and external descriptions of household electrical appliances based on structured classes and lists of properties.

NOTE The terms "class", "properties" and "attributes" are defined in Clause 3, following the established definitions in IEC and ISO documents.

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 61360-1:2017, *Standard data elements types with associated classification scheme – Part 1: Definitions – Principles and methods*

IEC 61360-2, *Standard data element types with associated classification scheme for electric components – Part 2: EXPRESS dictionary schema*

IEC 61360-4[1], *Standard data element types with associated classification scheme for electric components – Part 4: IEC reference collection of standard data element types and component classes*

[1] Withdrawn.

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IEC 61360-4 DB, *Common Data Dictionary, CDD*, available at: https://cdd.iec.ch

3 Terms, definitions and abbreviated terms

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

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

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

3.1 Terms and definitions

3.1.1
attribute
characteristic of an object or entity

EXAMPLE Properties, blocks, LOPs, units of measure.

[SOURCE: ISO/IEC 11179-1:2015, 3.1.1, modified – Example has been added.]

3.1.2
classification
systematic division of a set of items into subsets according to their difference in some predetermined characteristics

[SOURCE: IEC 61360-1:2017, 3.1.5]

3.1.3
class
abstraction of a set of similar products

Note 1 to entry: A product that complies with the abstraction defined by a class is called a class member.

Note 2 to entry: A class is an intentional concept that can take different extensional meanings in different contexts. The set of products used by a particular enterprise and the set of all ISO-standardized products are two examples of contexts. In these two contexts (the particular enterprise and ISO), the set of products that are considered as members of the single ball bearing class can be different, in particular because employees of each enterprise ignore a number of existing single ball bearing products.

[SOURCE: IEC 61360-2:2012, 3.6, modified – Notes to entry 2, 3, 4 and 5 have been omitted, and the example has been rewritten to become the present Note 2 to entry.]

3.1.4
data
facts about an object

[SOURCE: ISO 9000:2015, 3.8.1]

3.1.5
information
meaningful data

[SOURCE: ISO 9000:2015, 3.8.2]

3.1.6
characteristic
distinguishing feature

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Note 1 to entry: A characteristic can be inherent or assigned.

Note 2 to entry: A characteristic can be qualitative or quantitative.

Note 3 to entry: here are various classes of characteristic, such as the following:

a) physical (e.g. mechanical, electrical, chemical or biological characteristics);

b) sensory (e.g. related to smell, touch, taste, sight, hearing);

c) behavioral (e.g. courtesy, honesty, veracity);

d) temporal (e.g. punctuality, reliability, availability, continuity);

e) ergonomic (e.g. physiological characteristic, or related to human safety);

f) functional (e.g. maximum speed of an aircraft).

[SOURCE: ISO 9000:2015, 3.10.1]

3.1.7
mapping
identification and assignation of pairs of semantically equivalent information objects

3.1.8
property
defined parameter suitable for the description and differentiation of products

Note 1 to entry: A property describes one aspect of a given object.

Note 2 to entry: A property is defined by the totality of its associated attributes. The types and number of attributes that describe a property with high accuracy are documented in this part of ISO 13584.

Note 3 to entry: This part of ISO 13584 has identified three different kinds of properties: product characteristics, context parameters and context-dependent product characteristics.

[SOURCE: ISO 13584-42:2010, 3.37, modified – Notes 4 and 5 to entry have been deleted.]

3.1.9
block
bundle of properties with common features

3.2 Abbreviated terms

ClassID	identification number of a class in IEC CDD
PropertyID	identification number of a property in IEC CDD
IEC CDD	IEC Common Data Dictionary
GS1	Global Specification Barcodes
GLN	Global Location Number, according to GS1
GTIN	Global Trade Item Number, according to GS1
IRDI	international registration data identifier, according to ISO/TS 29002-5
UML	Unified Modelling Language, according to ISO/IEC 19505-1
URI	Uniform Resource Identifier in WWW, according to RFC 1630
XML	eXtensible Markup Language, according to W3C

4 Class structure

4.1 General

A general description of data exchange for household appliances is provided in Annex A.

It is the aim to make classes and properties (see Clause 5) available in the IEC Common Data Dictionary (IEC CDD). For unique identification identifiers, IDs are assigned to each. These

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ClassIDs and PropertyIDs are given in Table 1 to Table 4. For reasons of consistency, the structure and approach of IEC 61360-4 and IEC 61360-4 DB shall be followed.

From a practical point of view, classification as defined in this document (see 3.1.2), is a systematic order or method to divide items to different subsets. IEC 61360-1 shall be followed with this respect. To reach the group level, different hierarchy levels shall be used depending on the complexity shown; the approach as set out in IEC 61360-2 shall be followed.

NOTE The IEC Common Data Dictionary (IEC CDD) is an International Standard (IEC 61360-4 DB) and serves as a common repository of concepts for all industrial/technical domains based on the methodology and the information model of IEC 61360 series, available at https://cdd.iec.ch.

4.2 Hierarchy of classification of household appliances

The concept of classification applies to household appliances. The hierarchy of the classification structure applies to home goods including household appliances. A non-exhaustive example of household appliances is shown in Table 1. This principle shall be followed when adding other household appliances.

Table 1 – Classification hierarchy household appliances

Class	ClassID
household appliances	BCA000
large household appliances	BCA001
refrigerator, freezer	BCA002
oven, hob, cooking fume extractor	BCA003
dishwasher, laundry appliance	BCA004
heating, cooling appliances	BCA010
small household appliance	BCA011

In this hierarchy, the items of the 3rd level are subdivided once more. The 4th level shows appliance categories. Table 2 shows the subdivision of "dishwashers, laundry appliances" as an example.

Table 2 – Classification hierarchy "dishwashers, laundry appliances"

Class	ClassID
dishwasher, laundry appliance	BCA004
dishwasher (household)	BCA005
washing machine (household)	BCA006
washer-dryer (household)	BCA007
tumble dryer (household)	BCA008
spin dryer (household)	BCA009

5 Common properties

Common properties are intended for the description of basic characteristics relevant for all products in Table 1 and Table 2. For structuring common properties the concept of BLOCKS is used. BLOCKS are a collection of properties with a unique (BLOCK) name and an identifier (ClassID). The common properties including its structuring in BLOCKS are shown in Table 3. A detailed description of all common properties is provided in Table 4.

NOTE Table 3 gives an overview and introduction of needed properties, whereas Table 4 gives a detailed description of all properties.

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Table 3 – Common properties

Common properties	ClassID	PropertyID
identification	BCA500	
product identifier		BCB000
reference to supplier		BCB001
supplier	BCA501	
batch number from supplier		BCB006
supplier product designation		BCB005
product article number of supplier		BCB003
name of supplier		BCB004
delivery time of supplier		BCB002
supplier product family		BCB008
supplier product root		BCB009
supplier product description		BCB007
supplier product type		BCB011
supplier product order suffix		BCB010
GLN of supplier		BCB012
reference to manufacturer		BCB013
manufacturer	BCA502	
date of manufacture		BCB020
GTIN		BCB015
manufacturer name		BCB016
manufacturer product family		BCB026
manufacturer product root		BCB025
manufacturer product order suffix		BCB024
manufacturer product description		BCB022
brand		BCB023
manufacturer product designation		BCB027
delivery time of manufacturer		BCB014
serial number		BCB018
national stock number		BCB021
fabrication number		BCB017
product article number of manufacturer		BCB019
product type		BCB028
URI of the product		BCB029
GLN of manufacturer		BCB030
URI of the manufacturer		BCB031
add on documentation	BCA507	
number of additional information		BCB032
reference to additional Information		BCB033
additional Information	BCA508	
calendrical validity from		BCB034
document identifier		BCB035
source as path info		BCB036
type of document		BCB037

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Common properties	ClassID	PropertyID
type of source file		BCB038
description		BCB039
country/region classification of document		BCB040
version		BCB041
type of certificate		BCB042
scope of document		BCB043
language of document		BCB044
commercial	CAA100	
number of customs tariff numbers		CAP000
reference to customs tariff number		CAP001
customs tariff number	CAA101	
region of customs tariff number		CAP002
type of customs tariff number		CAP004
country of customs tariff number		CAP003
use of customs tariff number		CAP005
customs tariff number		CAP006
customs tariff number (TARIC)		CAP008
HS-Code of the WCO		CAP007

Table 4 illustrates the common properties in detail.

Table 4 – Library of the common properties

PropertyID	Preferred name	Definition	Source	Unit	Data type	Value format
BCB000	product identifier	unique identifier of the product			STRING_TYPE	
BCB001	reference to supplier	reference property to supplier			CLASS_REFERENCE_TYPE	
BCB006	batch number from supplier	unique combination of numbers and letters that distinguishes a product from other products of a different fabrication process			STRING_TYPE	
BCB005	supplier product designation	short description of the product (short text)			TRANSLATABLE_STRING_TYPE	
BCB003	product article number of supplier	the customer can use this number to order the article (or service) from the manufacturer or supplier.			STRING_TYPE	
BCB004	name of supplier	name of supplier who provides the customer with a product or a service			STRING_TYPE	
BCB002	delivery time of supplier	duration per working days needed by the supplier to deliver the product beginning with the receipt of the order		day	REAL_MEASUREMENT_TYPE	
BCB008	supplier product family	2nd level of a 3-level supplier-specific product hierarchy			TRANSLATABLE_STRING_TYPE	
BCB009	supplier product root	top level of a 3-level supplier-specific product hierarchy			TRANSLATABLE_STRING_TYPE	

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