BS EN 62656-1:2015

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Standardized product ontology register and transfer by spreadsheets

Part 1: Logical structure for data parcels

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The UK participation in its preparation was entrusted to Technical Committee GEL/3, Documentation and graphical symbols.

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Published by BSI Standards Limited 2015

ISBN 978 0 580 69579 7

ICS 33.180.01; 33.180.99

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2015.

Amendments/corrigenda issued since publication

Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62656-1

January 2015

ICS 33.180.01; 33.180.99

English Version

Standardized product ontology register and transfer by spreadsheets - Part 1: Logical structure for data parcels (IEC 62656-1:2014)

Enregistrement d'ontologie de produits normalisés et transfert par tableurs - Partie 1: Structure logique pour les paquets de données
(IECI 62656-1:2014)

Standardisierte Übertragung und Registrierung von Ontologien für Produkte mittels Tabellen - Teil 1: Logische Struktur der Datenpakete
(IEC 62656-1:2014)

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Ref. No. EN 62656-1:2015 E

Foreword

The text of document 3D/226/FDIS, future edition 1 of IEC 62656-1, prepared by IEC/SC 3D "Product properties and classes and their identification", of IEC/TC 3 "Information structures, documentation and graphical symbols", was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62656-1.

The following dates were fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-07-09
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2017-09-30

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61360-4	NOTE	Harmonized as EN 61360-4.
IEC 61968 (Series)	NOTE	Harmonized as EN 61968 (Series).
IEC 61970 (Series)	NOTE	Harmonized as EN 61970 (Series).
ISO 10303 (Series)	NOTE	Harmonized as EN ISO 10303 (Series).
ISO 80000 (Series)	NOTE	Harmonized as EN ISO 80000 (Series).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 61360-1	2009	Standard data elements types with associated classification scheme for electric items -- Part 1: Definitions - Principles and methods	EN 61360-1	2010
IEC 61360-2	2012	Standard data element types with associated classification scheme for electric components -- Part 2: EXPRESS dictionary schema	EN 61360-2	2013
ISO 639-1	2002	Codes for the representation of names of languages – Part 1: Alpha-2 code	-	-
ISO 3166-1	2013	Codes for the representation of names of countries and their subdivisions - Part 1: Country codes	-	-
ISO 8601	2004	Data elements and interchange formats - Information interchange - Representation of dates and times	-	-
ISO 10303-11	2004	Industrial automation systems and integration - Product data representation and exchange – Part 11: Description methods: The EXPRESS language reference manual	-	-
ISO 10303-21	2002	Industrial automation systems and integration - Product data representation and exchange – Part 21: Implementation methods: Clear text encoding of the exchange structure	-	-
ISO 13584-24	2003	Industrial automation systems and integration - Parts library – Part 24: Logical resource: Logical model of supplier library	-	-
ISO 13584-25	2004	Industrial automation systems and integration - Parts library - Part 25: Logical resource: Logical model of supplier library with aggregate values and explicit content	-	-
ISO 13584-42	2010	Industrial automation systems and integration -- Parts library -- Part 42: Description methodology: Methodology for structuring parts families	-	-
IEC/TS 62720	2013	Identification of units of measurement for computer-based processing	-	-
ISO/TS 13584-35	2010	Industrial automation systems and integration - Parts library - Part 35: Implementation resources: Spreadsheet interface for parts library	-	-

ISO/TS 29002-5	2009	Industrial automation systems and integration - Exchange of characteristic data – Part 5: Identification scheme	-	-
ISO/IEC 6523-1	1998	Information technology -- Structure for the identification of organizations and organization parts -- Part 1: Identification of organization identification schemes	-	-
ISO/IEC 6523-2	1998	Information technology - Structure for the identification of organizations and organization parts - Part 2: Registration of organization identification schemes	-	-
ISO/IEC 8824-1	2008	Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation	-	-
ISO/IEC 11179-3	2013	Information technology - Metadata registries (MDR) - Part 3: Registry metamodel and basic attributes	-	-
ISO/IEC 11179-5	2005	Information technology - Metadata registries (MDR) – Part 5: Naming and identification principles	-	-

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INTRODUCTION

IEC 62656 consists of the following parts, under the general title *Standardized product ontology register and transfer by spreadsheets*:

– Part 1: Logical structure for data parcels;
– Part 2: Application guide for use with IEC CDD;
– Part 3[1]: Interface for common information model.

[1] To be published.

STANDARDIZED PRODUCT ONTOLOGY REGISTER AND TRANSFER BY SPREADSHEETS –

Part 1: Logical structure for data parcels

1 Scope

This part of IEC 62656 specifies the logical structure for a set of spreadsheets, used as “data parcels”, to define, transfer and register product ontologies. Such ontology descriptions in other literatures or disciplines are sometimes called “reference dictionaries”. Thus the logical data structure described in this standard is named “Parcellized Ontology Model” or “POM” for short, and each vehicle of transport of the model is called a “parcel”, and may be used for definition, transfer, and registering of a reference dictionary as a collection of metadata, or for similar purposes for instances belonging to a certain class of the reference dictionary. Moreover, this ontology model allows for modelling or modifying an ontology model per se as a set of instance data, thus it enables an ontology model to evolve over time.

This part of IEC 62656 also includes a standard mapping between the meta-data of dictionary parcels in the spreadsheet format conforming to this standard and the meta-data represented in IEC 61360-2 compliant EXPRESS model for dictionary exchange.

It is assumed that a tool supporting this part of IEC 62656 may read and write a set of spreadsheet data whose semantics and syntax are defined in this part of standard, where the physical file structure of the spreadsheets may be based on the CSV (Comma Separated Values) format, typically used in a commercial spreadsheet application, or any other tabular formats including XML schema compatible or convertible to the CSV format.

The spreadsheet interface structure defined in this part of IEC 62656 contains the following:

– Definition and specification of the logical structure and layout of the spreadsheet interface for definition, transfer, and registering of a reference dictionary;
– Definition and specification of library instance data belonging to a class of a reference dictionary described by a set of spreadsheets conformant to this part of IEC 62656;
– Definition and specification of the meta dictionary that enables the definition and transfer of a reference dictionary as a set of instance data conforming to the meta dictionary;
– Definition and specification of the meta-model as data that enables the definition and transfer of a reference dictionary as a set of instance data conforming to the meta-meta-dictionary
– Specification of the mapping between the dictionary data expressed in the spreadsheet format and the EXPRESS model specified by IEC 61360-2/ISO 13584-42 (with some elements of ISO 13584-25);
– Description of the basic semantic mapping between the dictionary data expressed in the spreadsheet formats defined in this part of IEC 62656 and that of DIN 4002.

The following items are outside the scope of this part of IEC 62656:

– Explanation of the CSV format per se, used in spreadsheet applications;
– Presentation of the data parcels conformant to this part of IEC 62656, such as colouring and sizing of the spreadsheets;
– Specification of the dictionary EXPRESS model conformant to IEC 61360 or ISO 13584 series of standards;
– Normative definition of the mappings between an IEC 61360-ISO 13584 compliant dictionary and another that is based upon a standard other than IEC 61360-ISO 13584;