

© Copyright SEK. Reproduction in any form without permission is prohibited.

## Identifieringssystem för entydigt informationsutbyte – Del 1: Principer och metoder

*Identification systems enabling unambiguous information interchange –  
Requirements –  
Part 1: Principles and methods*

Som svensk standard gäller europastandarden EN 62507-1:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62507-1:2011.

### Nationellt förord

Europastandarden EN 62507-1:2011

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62507-1, First edition, 2010 - Identification systems enabling unambiguous information interchange - Requirements - Part 1: Principles and methods**

utarbetad inom International Electrotechnical Commission, IEC.

---

ICS 01.140; 35.240

## *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

## *SEK är Sveriges röst i standardiseringssarbetet inom elområdet*

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

## *Stora delar av arbetet sker internationellt*

Utdriften av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringssarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringssverksamhet och medlemsavgift till IEC och CENELEC.

## *Var med och påverka!*

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtidens standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

### **SEK Svensk Elstandard**

Box 1284  
164 29 Kista  
Tel 08-444 14 00  
[www.elstandard.se](http://www.elstandard.se)

English version

**Identification systems enabling unambiguous information interchange -  
Requirements -  
Part 1: Principles and methods  
(IEC 62507-1:2010)**

Systèmes d'identification permettant  
l'échange non ambigu de l'information -  
Exigences -  
Partie 1: Principes et méthodes  
(CEI 62507-1:2010)

Anforderungen an Identifikationssysteme  
zur Unterstützung eines eindeutigen  
Informationsaustauschs -  
Teil 1: Grundsätze und Methodik  
(IEC 62507-1:2010)

This European Standard was approved by CENELEC on 2011-01-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 3/1007/FDIS, future edition 1 of IEC 62507-1, prepared by IEC TC 3, Information structures, documentation and graphical symbols, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62507-1 on 2011-01-02.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2011-10-02
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2014-01-02

Annex ZA has been added by CENELEC.

---

## Endorsement notice

The text of the International Standard IEC 62507-1:2010 was approved by CENELEC as a European Standard without any modification.

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

- |               |   |
|---------------|---|
| IEC 81346-1   | NOTE Harmonized as EN 81346-1.                      |
| ISO 9000:2005 | NOTE Harmonized as EN ISO 9000:2005 (not modified). |
-

## Annex ZA

(normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61360-1	-	Standard data elements types with associated classification scheme for electric items - Part 1: Definitions - Principles and methods	EN 61360-1	-
IEC 81346-2	-	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes	EN 81346-2	-
IEC 82045-1	-	Document management - Part 1: Principles and methods	EN 82045-1	-
IEC 82045-2	-	Document management - Part 2: Metadata elements and information reference model	EN 82045-2	-
ISO/IEC 646	1991	Information technology - ISO 7-bit coded character set for information interchange	-	-
ISO/IEC 6523-1	-	Information technology - Structure for the identification of organizations and organization parts - Part 1: Identification of organization identification schemes	-	-
ISO/IEC 15418	-	Information technology - Automatic identification and data capture techniques - GS1 Application Identifiers and ASC MH10 Data Identifiers and maintenance	-	-
ISO/IEC 15434	-	Information technology - Syntax for high-capacity automatic data capture (ADC) media	-	-
ISO/IEC 15459-1	-	Information technology - Unique identification of transport units - Part 1: General	-	-
ISO/IEC 15459-2	-	Information technology - Unique identifiers - Part 2: Registration procedures	-	-
ISO/IEC 15459-4	-	Information technology - Unique identifiers - Part 4: Individual items	-	-
ISO/IEC 7064	-	Information technology - Security techniques -- Check character systems	--	-
ISO 3166-1	-	Codes for the representation of names of countries and their subdivisions - Part 1: Country codes	EN ISO 3166-1	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 10303-11	-	Industrial automation systems and integration - Product data representation and exchange - Part 11: Description methods: The EXPRESS language reference manual	-	-

## CONTENTS

1	Scope.....	6
2	Normative references.....	6
3	Terms and definitions.....	7
4	General .....	10
4.1	Purpose of identification .....	10
4.2	Referencing and traceability.....	11
4.3	Permanence .....	12
4.4	Kinds of objects .....	13
4.5	Changes to an identified object.....	14
4.6	Identification schemes .....	14
4.7	Identifying attributes of an object .....	15
4.8	Identification of an issuing domain .....	15
4.9	Multiple identification of the same object .....	17
4.10	Storage and use of identification numbers .....	18
5	Documentation of an identification system.....	18
6	Generation of identification numbers.....	19
6.1	Principle methods .....	19
6.1.1	General.....	19
6.1.2	Method 1.....	19
6.1.3	Method 2.....	19
6.2	Construction of identification numbers.....	20
6.2.1	General.....	20
6.2.2	Issue (Registration).....	21
6.2.3	Identification number generators.....	21
6.2.4	Validation.....	22
7	Identification within a global context .....	22
8	Representation and presentation of identification numbers.....	22
8.1	Representation for use in computer systems .....	22
8.2	Presentation for human readers.....	23
8.2.1	General.....	23
8.2.2	Presentation of concatenated identifiers for human readers .....	23
8.2.3	Presentation of multiple identifiers for human readers .....	24
8.3	Indication of sub domains .....	24
8.4	Application of the domain identifier .....	24
9	Recommendations with regard to organization changes.....	25
10	Conformance .....	25
	Annex A (informative) Types of identification systems .....	26
	Annex B (normative) Reference information model.....	30
	Annex C (informative) Example of documentation of an identification system.....	52
	Annex D (informative) Invariant characters of ISO/IEC 646 .....	54
	Bibliography.....	55
	Figure 1 – Illustration of the referencing mechanism .....	12

Figure 2 – Relations among occurrences (identified by concatenated letter codes) of types (identified by numbers) in a tree-like structure .....	13
Figure 3 – Information model principle .....	15
Figure 4 – Examples of identifying attributes for an object within a given domain .....	15
Figure 5 – Illustration of domains .....	16
Figure 6 – Organization-defined domain identification .....	17
Figure 7 – Illustration of identification in multiple domains .....	18
Figure 8 – Illustration of domain identification.....	22
Table 1 – Use of identifiers in a product context .....	13
Table 2 – Relations among domains, identifiers and identification numbers .....	17
Table 3 – Number of possible identification numbers.....	20

**IDENTIFICATION SYSTEMS  
ENABLING UNAMBIGUOUS INFORMATION INTERCHANGE –  
REQUIREMENTS –**

**Part 1: Principles and methods**

## 1 Scope

This part of IEC 62507 specifies basic requirements for systems for the identification of objects (such as products, “items”, documents, etc., excluding human individuals). It focuses on assigning identifiers to an object for referencing purposes.

The classification of objects for any and whatever reason and the verification that an object is really the object it claims to be, are excluded.

This standard includes recommendations for the human readable presentation of identifiers and its machine readable representation, to be considered when constructing the identifiers and identification numbers.

The standard includes also requirements for the application of identifiers in a computer sensible form in accordance with such systems, and requirements for their interchange.

The specification of the physical file or transfer format (syntax) for a machine to machine information interchange is not included, nor is the specification and transfer formats for the implementation by a physical medium, e.g. file, bar code, Radio Frequency Identification (RFID), used for information interchange and the identification labelling on an object included.

## 2 Normative references

The following referenced documents are indispensable for the application 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, *Standard data element types with associated classification scheme for electric components – Part 1: Definitions – Principles and methods*

IEC 81346-2, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 2: Classification of objects and codes for classes*

IEC 82045-1, *Document management – Part 1: Principles and methods*

IEC 82045-2, *Document management – Part 2: Metadata elements and information reference model*

ISO/IEC 646:1991, *Information technology – ISO 7-bit coded character set for information interchange*

ISO/IEC 6523-1, *Information technology – Structure for the identification of organizations and organization parts –Part 1: Identification of organization identification schemes*

ISO/IEC 15418, *Information technology – Automatic identification and data capture techniques – GS1 Application identifiers and ASC MH 10 data identifiers and maintenance*

ISO/IEC 15434, *Information technology – Automatic identification and data capture techniques – Syntax for high-capacity ADC media*

ISO/IEC 15459-1, *Information technology – Unique identifiers – Part 1: Unique identifiers for transport units*

ISO/IEC 15459-2, *Information technology – Unique identifiers – Part 2: Registration procedures*

ISO/IEC 15459-4, *Information technology – Unique identifiers – Part 4: Individual items*

ISO 3166-1, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*

ISO 7064, *Information technology – Security techniques – Check character systems*

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