



SLOVENSKI STANDARD

SIST EN 61346-2:2003

01-maj-2003

Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations - Part 2: Classification of objects and codes for classes (IEC 61346-2:2000)

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

Industrielle Systeme, Anlagen und Ausrüstungen und Industrieprodukte - Strukturierungsprinzipien und Referenzkennzeichnung -- Teil 2: Klassifizierung von Objekten und Codierung von Klassen

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Systèmes industriels, installations et appareils et produits industriels - Principes de structuration et désignations de référence -- Partie 2: Classification des objets et des codes pour les classes

Ta slovenski standard je istoveten z: EN 61346-2:2000

ICS:

01.110	V [^] @ã}æ[\ { ^} æ&æ æ	Technical product documentation
29.020	Elektrotehnika na splošno	Electrical engineering in general

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EUROPEAN STANDARD

EN 61346-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2000

ICS 29.020

English version

Industrial systems, installations and equipment and industrial products
Structuring principles and reference designations
Part 2: Classification of objects and codes for classes
(IEC 61346-2:2000)

Systèmes industriels, installations et
appareils et produits industriels
Principes de structuration et désignations
de référence
Partie 2: Classification des objets et des
codes pour les classes
(CEI 61346-2:2000)

Industrielle Systeme, Anlagen und
Ausrüstungen und Industrieprodukte
Strukturierungsprinzipien und
Referenzkennzeichnung
Teil 2: Klassifizierung von Objekten und
Codierung von Klassen
(IEC 61346-2:2000)

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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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 3B/290/FDIS, future edition 1 of IEC 61346-2, prepared by SC 3B, Documentation, of IEC TC 3, Documentation and graphical symbols, and by ISO TC 10, Technical drawings, product definition and related documentation, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61346-2 on 2000-06-01.

EN 61346-2 cancels note 2 in 5.2.2 as well as annex E of EN 61346-1:1996.

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) 2001-03-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2003-06-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annex ZA is normative and annexes A, B, C and D are informative.

Annex ZA has been added by CENELEC.

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Endorsement notice
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The text of the International Standard IEC 61346-2:2000 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

The aim of this standard is to establish classification schemes for objects which can be applied throughout all technical areas. Letter codes used in the former IEC 60750, reproduced as – the now cancelled – annex E of IEC 61346-1, have been maintained, unless they interfere with the generic approach. However, an attempt has been made to find a solution which will cause as few changes as possible.

Annex A of this standard presents the basic requirements for the definition of letter codes indicating the types of objects.

Annex B illustrates how objects may be classified according to their purpose or task related to a generic process.

Annex C illustrates how objects may be classified according to their position in an infrastructure.

Annex D shows an excerpt from the table in ISO/DIS 14617-6.

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**INDUSTRIAL SYSTEMS, INSTALLATIONS AND EQUIPMENT
AND INDUSTRIAL PRODUCTS –
STRUCTURING PRINCIPLES AND REFERENCE DESIGNATIONS –
Part 2: Classification of objects and codes for classes**

1 Scope

This part of IEC 61346 defines object classes and associated letter codes for these classes to be used in reference designations.

The classification schemes are applicable for objects in all technical areas and may be applied at any position in a tree-like structure set up in accordance with IEC 61346-1.

NOTE The classification of objects that are of interest from the location aspect only is not considered in the present edition of IEC 61346-2.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 61346. 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 61346 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 61346-1:1996, *Industrial systems, installations and equipment and industrial products – Structuring principles and reference designations – Part 1: Basic rules*

ISO/DIS 14617-6, *Graphical symbols for diagrams – Part 6: Measurement and control functions*

3 Definitions

For the purposes of this part of IEC 61346, the definitions given in IEC 61346-1 apply.

4 Classification principle

The principle of classification of objects is based on viewing each object as being part of a process with an input and an output (see figure 1).

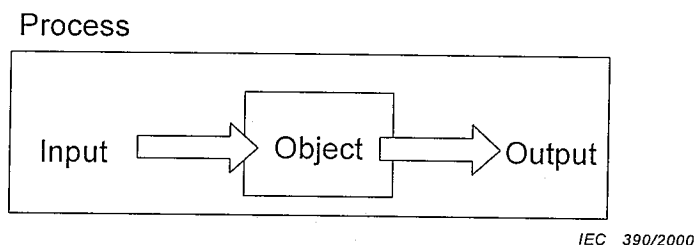


Figure 1 – The basic process concept

Each object which is part of a process can be characterized by the purpose or the task with respect to its input and output. This implies that it is not important how the object is built up internally. Purpose and task are the main characteristics for establishing a classification scheme in this standard (see also annex B).

5 Classification of objects according to purpose or task and associated letter codes

If, irrespective of its position in any tree-like structure, an object interacts or is intended to interact with a flow (for example of electrical energy, information or material), the purpose- or task-related classification scheme and the letter codes presented in table 1 shall be used.

In principle, it is possible to classify any object according to table 1. It is recommended that this table be used wherever appropriate.

In annex B, figure B.1 shows the classes of table 1 related to a generic process model.

For the classification of objects according to the classification scheme given in table 1, the following applies:

- the relevant object shall be viewed with regard to how it acts on the flow but without taking into account how this is implemented;

EXAMPLE 1 The desired purpose of an object is "heating". According to table 1, this object is clearly related to class E. It is not of importance, or simply not known at an early stage of a design process, how the required purpose is realized. This may be done by using a gas or oil burner or an electric heater. In the case of an electric heater, the heat may be produced by an electric resistor. A resistor may, in other cases, be classified by its purpose, "restricting a flow", according to class R. The purpose of the object in the process is, however, to produce heat, so class E, not class R, should be used.

- there may be cases where more than one purpose or task is identified. In these cases, a main purpose or task shall be taken into account;

EXAMPLE 2 A flow-rate recorder stores measured values for later use but, at the same time, delivers an output in visible form. If storing is regarded as the main purpose, the object is related to class C of table 1. If the indication of measured values is regarded as the main purpose, the object is related to class P.

- there may be cases where no main purpose or task can be identified. Only in these cases should class A be used;

EXAMPLE 3 A touch screen at a cash dispenser of a bank serves as a means for manual input of information and, at the same time, as a device for indicating information. Both purposes can be regarded as equally valid. Therefore class A may be chosen.

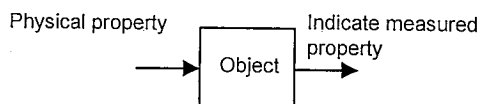
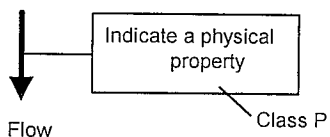
Figure 2 illustrates the principle of assigning classes and relevant letter codes to objects in the case of a measuring circuit. On the left-hand side, the used products are shown. The right-hand side illustrates how the products are viewed as objects with an input and an output.

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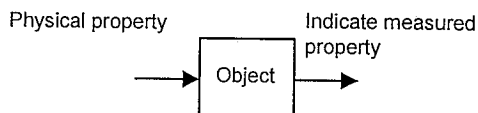
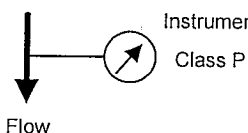
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Function required:

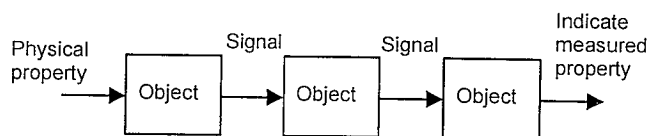
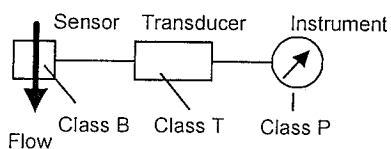


Different possible realizations

a) Direct measuring and indication



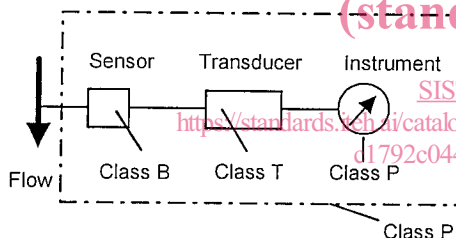
b) Measuring circuit consisting of discrete components



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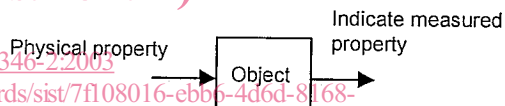
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c) One product for combined purposes

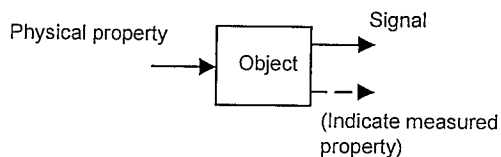
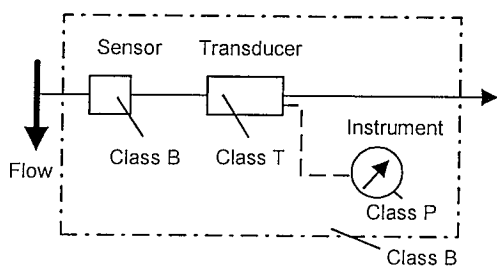


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d) One product for combined purposes;
two outputs, one property considered to be of major importance



IEC 391/2000

Figure 2 – Classification of objects and relevant letter codes in a measuring circuit

Table 1 – Classes of objects according to their purpose or task and associated letter codes

Code	Purpose or task of object	Examples of terms describing purpose or task of objects and functions	Examples of typical mechanical/fluid products	Examples of typical electrical products
A	Two or more purposes or tasks NOTE This class is only for objects for which no main purpose or task can be identified.			Touch screen
B	Converting an input variable (physical property, condition or event) into a signal for further processing	Detecting Measuring (picking-up of values) Monitoring Sensing Weighing (picking-up of values)	Orifice plate (for measuring) Sensor	Buchholz relay Detector Fire detector Gas detector Measuring element Measuring relay Measuring shunt Measuring transformer Microphone Movement detector Photocell Pilot switch Position switch Proximity switch Proximity sensor Protective relay Sensor Smoke sensor Tachogenerator Temperature sensor Thermal overload relay Video camera
C	Storing material, energy, or information	Recording Storing	Barrel Buffer Cistern Container Hot water accumulator Paper reel stand Pressure accumulator Steam accumulator Tank Vessel	Buffer (store) Buffer battery Capacitor Event recorder (mainly storing) Hard disk Memory RAM Storage battery Tape recorder (mainly storing) Video recorder (mainly storing) Voltage recorder (mainly storing)
D	Reserved for future standardization			

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