BRITISH STANDARD

BS EN 61346-2:2001
IEC 61346-2:2000

Industrial systems, installations and equipment — Structuring principles and reference designations —

Part 2: Classification of objects and codes for classes

The European Standard EN 61346-2:2000 has the status of a British Standard

ICS 01.110

National foreword

This British Standard is the official English language version of EN 61346-2:2000. It is identical with IEC 61346-2:2000.

BS EN 61346-2 cancels note 2 in clause **5.2.2** as well as annex E of BS EN 61346-1.

The UK participation in its preparation was entrusted to Technical Committee GEL/3, Documentation and graphical symbols, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

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Summary of pages

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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

(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)

This European Standard was approved by CENELEC on 2000-06-01. 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.

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

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Ref. No. EN 61346-2:2000 E

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.

Endorsement notice

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

CONTENTS

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.

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).

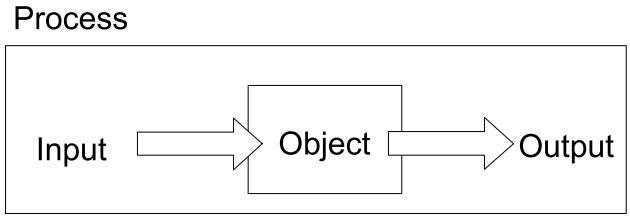


Figure 1 – The basic process concept

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.

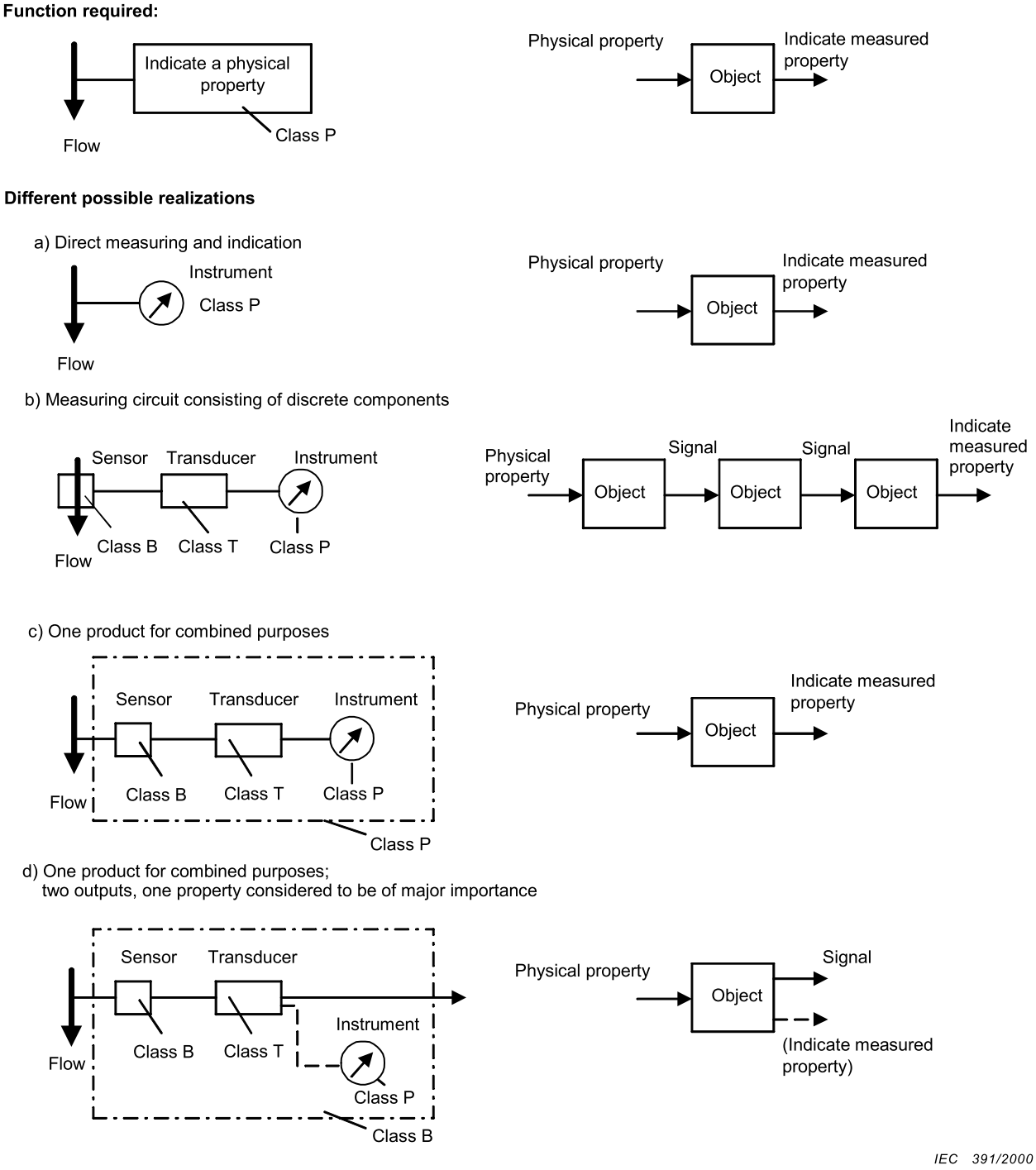


Figure 2 – Classification of objects and relevant letter codes in a measuring circuit

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			

Table 1 *(continued)*

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
E	Providing radiant or thermal energy	Cooling Heating Lighting Radiating	Boiler Freezer Heater Gas lamp Heat exchanger Nuclear reactor Paraffin lamp Radiator Refrigerator	Boiler Fluorescent lamp Heater Lamp Lamp bulb Laser Luminaire Maser Radiator
F	Direct protection (self-acting) of a flow of energy, signals, personnel or equipment from dangerous or unwanted conditions Including systems and equipment for protective purposes	Absorbing Guarding Preventing Protecting Securing Shielding	Air bag Buffer Fence Guard Pipe-break valve Rupture disc Safety belt Safety valve Shield Vacuum valve	Cathodic protection Anode Faraday cage Fuse Miniature circuit-breaker Surge diverter Thermal overload release
G	Initiating a flow of energy or material Generating signals used as information carriers or reference source Producing a new kind of energy, material or product	Assembling Crushing Disassembling Generating Fractionating Material removing Milling Mixing Producing Pulverizing	Blower Component insertion machine Conveyor, (driven) Crusher Fan Mixer Pump Vacuum pump Ventilator	Dry cell battery Dynamo Fuel cell Generator Power generator Rotating generator Signal generator Solar cell Wave generator
H	Reserved for future standardization			
I	Not to be applied	–	–	–
J	Reserved for future standardization			
K	Processing (receiving, treating and providing) signals or information (excluding objects for protective purposes, see class F)	Closing (control circuits) Continuous controlling Delaying Opening (control circuits) Postponing Switching (control circuits) Synchronizing	Fluid feedback controller Pilot valve Valve positioner	All-or-nothing relay Analogue integrated circuit Automatic paralleling device Binary integrated circuit Contactor relay CPU Delay element Delay line Electronic valve Electronic tube Feedback controller Filter Induction stirrer Microprocessor Process computer Programmable controller Synchronizing device Time relay Transistor

Table 1 *(continued)*

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
L	Reserved for future standardization			
M	Providing mechanical energy (rotational or linear mechanical motion) for driving purposes	Actuating Driving	Combustion engine Fluid actuator Fluid cylinder Fluid motor Heat engine Mechanical actuator Spring-loaded actuator Turbine Water turbine Wind turbine	Actuator Actuating coil Electric motor Linear motor
N	Reserved for future standardization			
O	Not to be applied	–	–	–
P	Presenting information	Alarming Communicating Displaying Indicating Informing Measuring (presentation of quantities) Presenting Printing Warning	Acoustical signal device Balance (for weighing) Bell Clock Display unit Flow meter Gas meter Glass gauge Manometer Mechanical indicator Printer Sight glass Thermometer Water meter	Acoustical signal device Ammeter Bell Clock Continuous line recorder Display unit Electromechanical indicator Event counter Geiger counter LED Loudspeaker Optical signal device Printer Recording voltmeter Signal lamp Signal vibrator Synchronoscope Voltmeter Wattmeter Watt-hour meter
Q	Controlled switching or varying a flow of energy, of signals or of material (For signals in control circuits, see classes K and S)	Opening (energy, signals and material flow) Closing (energy, signals and material flow) Switching (energy, signals and material flow) Clutching	Brake Control valve Clutch Door Flap Gate Shut-off valve Shutter Sluice-gate Lock	Circuit-breaker Contactor (for power) Disconnector Fuse switch Fuse-switch-disconnector Motor starter Power transistor Slip-ring short-circuiter Switch (for power) Thyristor (If main purpose is protection, see class F)

Table 1 *(continued)*

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
R	Restricting or stabilizing motion or a flow of energy, information or material	Blocking Damping Restricting Limiting Stabilizing	Blocking device Check (non-return) valve Damping device Detent Interlocking device Latching device Orifice plate (restricting a flow) Pressure control valve Restrictor Shock absorber Silencer Trip-free mechanism	Diode Inductor Limiter Resistor
S	Converting a manual operation into a signal for further processing	Influencing Manually controlling Selecting	Push-button valve Selector switch	Control switch Discrepancy switch Keyboard Light pen Mouse Push-button switch Selector switch Set-point adjuster
T	Conversion of energy maintaining the kind of energy Conversion of an established signal maintaining the content of information Conversion of the form or shape of a material	Amplifying Modulating Transforming Casting Compressing Converting Cutting Material deforming Expanding Forging Grinding Rolling Size enlargement Size reduction Turning	Fluid amplifier Gear box Measuring transducer Measuring transmitter Pressure intensifier Torque converter Casting machine Drop forge Grinder (size reduction) Lathe Saw	AC/DC converter Amplifier Antenna Demodulator Frequency changer Measuring transducer Measuring transmitter Modulator Power transformer Rectifier Rectifier station Signal converter Signal transformer Telephone set Transducer

Table 1 *(continued)*

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
U	Keeping objects in a defined position	Bearing Carrying Holding Supporting	Beam Bearing Block Cable ladder Cable tray Console Corbel Fixture Foundation Hanger Insulator Mounting plate Mounting rack Pylon Roller bearing	Insulator
V	Processing (treating) of material or products (including preparatory and post-treatment)	Coating Cleaning Dehydrating Derusting Drying Filtering Heat treatment Packing Preconditioning Recovering Re-finishing Sealing Separating Sorting Stirring Surface treatment Wrapping	Centrifuge Degreasing equipment Dehydrating equipment Filter Grinder (surface treatment) Packing machine Rake Separator Sieve Varnishing automat Vacuum cleaner Washing machine Wetting	Filter
W	Guiding or transporting energy, signals, material or products from one place to another	Conducting Distributing Guiding Leading Positioning Transporting	Conveyor (not driven) Duct Hose Ladder Link (mechanical) Mirror Roller table (not driven) Pipe Shaft Shuttle	Busbar Cable Conductor Information bus Optical fibre Through bushing Waveguide
X	Connecting objects	Connecting Coupling Joining	Flange Hook Hose fitting Pipeline fitting Quick-release coupling Shaft coupling Terminal block	Connector Plug connector Terminal Terminal block Terminal strip
Y	Reserved for future standardization			
Z	Reserved for future standardization			

6 Classification of infrastructure objects and associated codes

Each object in a tree-like structure can be classified according to table 1 and be coded with the associated letter codes. However, objects like industrial complexes consisting of different production facilities, or factories consisting of different production lines and related auxiliary facilities, often have the same purpose or task and therefore belong to a restricted number of classes. In the context of this standard, these types of objects are called infrastructure objects.

NOTE Infrastructure is to be understood as the basic structure of an industrial installation.

In many cases, it is recommended to differentiate the constituent objects by means of separate letter codes. Table 2 provides a frame for setting up a classification scheme and associated letter codes for infrastructure objects (see also annex C).

Some facilities that are common to most applications can be identified. These should be assigned letter codes according to classes A and V to Z of table 2.

The classification of the main facilities of the process described is, to a great extent, branch-related and should therefore be treated in branch-related standards, if required. Classes B to U of table 2 are reserved for this purpose. If no branch-related standard exists, classes B to U may be freely chosen and shall then be explained in the documentation.

The use of this classification scheme related to positions in a tree-like structure shall be explained in the document where it is applied or in supporting documentation.

Examples for some possible branch-related applications of classes B to U are shown in table 3.

NOTE The letter codes shown in table 3 are not intended to prescribe any future branch-related standardization. They only illustrate the principle.

Table 2 – Classes of infrastructure objects

	Code	Object class definition	Examples
Objects for common tasks	A	Objects related to two or more classes of infrastructure objects of classes B to Z	Supervisory control system
Objects for main-process facilities	B … U	Reserved for branch-related class-definitions NOTE Letters I and O should not be used.	See examples in table 3
Objects not related to the main process	V	Objects for storage of material or goods	Finished goods store Fresh-water tank plant Garbage store Oil tank plant Raw materials store
	W	Objects for administrative or social purposes or tasks	Canteen Exhibition hall Garage Office Recreation area
	X	Objects for fulfilling auxiliary purposes or tasks outwith the process (for example on a site, in a plant or building)	Air conditioning system Alarm system Clock system Crane-system Electric power distribution Fire protection system Gas supply Lighting installation Security system Sewage disposal plant Water supply
	Y	Objects for communication and information tasks	Antenna system Computer network Loudspeaker system Paging system Railway signal system Staff locating system Telephone system Television system Traffic light system Video surveillance system
	Z	Objects for housing or enclosing technical systems or installations like areas and buildings	Building Constructional facilities Factory site Fence Railway line Road Wall

Table 3 – Examples for some possible branch-related applications of classes B to U in table 2

	Oil refinery		Electric power distribution station		Canteen
A	As required in table 2	A	As required in table 2	A	As required in table 2
B	Catalytic cracking plant	B	Installations for >420 kV	B	
C	Catalytic reformer	C	Installations for 380 kV... ≤420 kV	C	Kitchen
D		D	Installations for 220 kV... <380 kV	D	
E	Desulphurizing plant	E	Installations for 110 kV... <220 kV	E	Counter
F	Distillation plant	F	Installations for 60 kV... <110 kV	F	
G		G	Installations for 45 kV... <60 kV	G	Cash-desk
H	Gas-separating plant	H	Installations for 30 kV... <45 kV	H	
J	Lubricating oil refinery	J	Installations for 20 kV... <30 kV	J	Dish-washer facilities
K		K	Installations for 10 kV... <20 kV	K	
L		L	Installations for 6 kV... <10 kV	L	
M		M	Installations for 1 kV... <6 kV	M	
N		N	Installations for <1 kV	N	
P		P		P	
Q		Q		Q	
R	Electric power and steam generating station	R		R	
S	Electric power distribution station	S		S	
T		T	Transformer plants	T	
U		U		U	
V ... Z	As required in table 2	V ... Z	As required in table 2	V ... Z	As required in table 2

The classification schemes from different branches may be used in subsequent levels of a structure. Examples for possible combinations of the above examples (without prefix signs; the numbers are chosen arbitrarily):

– for an electric power distribution system: the designation S1E1 may indicate the first 110 kV-feeder in the first electric power distribution station of an oil refinery;

– for a canteen: the designation W1E1 may indicate the counter facilities in the canteen of the same oil refinery.

7 Subclasses

For each class presented in table 1 or table 2, subclasses may be defined in order to obtain a more detailed specification of the object. Letter codes for subclasses are not defined in this standard. The definition is left up to the user. Subclasses can be used in manifold ways, depending on the field of application and the purpose required. However, the use of subclasses for the coding of technical attributes should be avoided, as this information normally appears in the documentation, for example in a technical specification or in a parts list.

NOTE Subclasses do not define a new level in a structure, i.e. they do not describe a subdivision of the object. Class and subclass refer to the same object.

Subclasses may be dealt with in branch-related standards. Appropriate subclasses defined in other existing standards may also be applied if agreed. If, for example, measured or initiating variables need to be specified for the purpose- or task-related object-classes B and P of table 1 (but not restricted to these), letter codes according to the table given in 7.3.1 of ISO/DIS 14617-6 may be applied. An excerpt from this table is shown for information in annex D.

EXAMPLE A temperature sensor may be assigned class BT if the designation according to class B alone is not sufficient for an intended purpose.

NOTE It should be noted that the letter codes in ISO/DIS 14617-6 are intended to be used as qualifying symbols to graphical symbols for measurement and control functions. Although they do not represent a classification scheme in a very strict sense, their application may lead to sufficiently differentiating single-level reference designations in most cases.

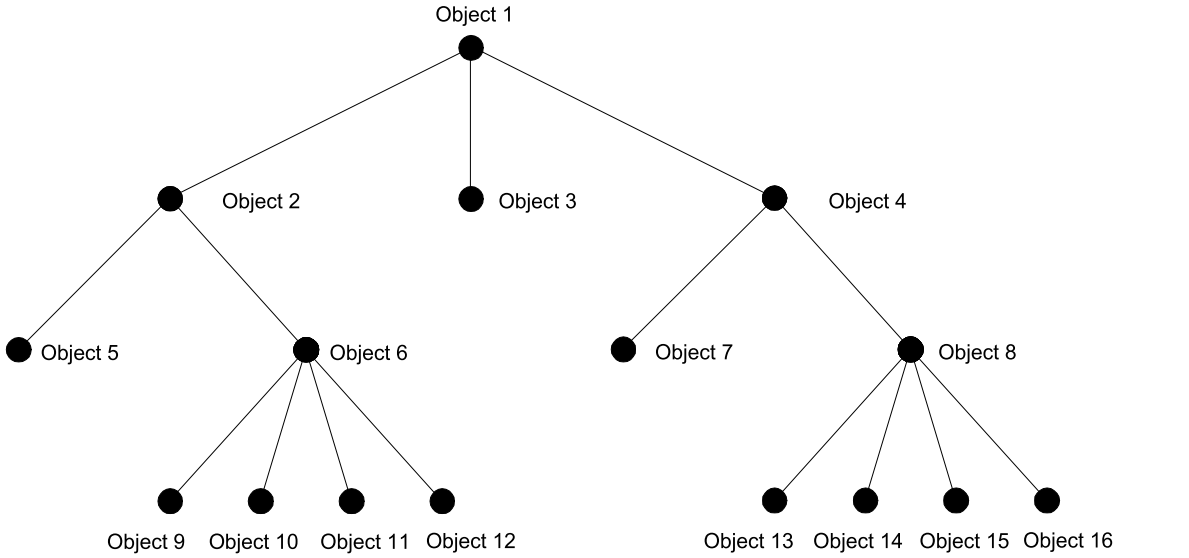
The application of subclasses shall be explained in the document or in supporting documentation.

Annex A
(informative)

Basic requirements for the definition of letter codes indicating the types of objects

The following basic requirements served as an agreed basis for the preparation of this part of IEC 61346.

1) Letter codes shall be based on a classification scheme.
2) A classification scheme is the set of definitions for the types of objects (for example a classification scheme for function types containing the definition of the different function types of objects).
3) A classification scheme shall allow for hierarchical classification of types of objects, i.e. subclasses and superclasses.
4) A letter code for a type of object shall be independent of the actual position of the instances of that type of object in a system.
5) Distinct classes shall be defined on each level of the classification scheme.
6) The definitions of the classes of a particular level within a classification scheme shall have a common basis (for example a classification scheme that, on one level, classifies objects according to colour shall not contain classes that classify objects by shape). The basis, however, may vary from one level to another.
7) A letter code should indicate the type of object and not an aspect of this object.
8) A classification scheme shall allow for expansion in order to take into account future development and needs.
9) A classification scheme shall be usable within all technical areas without favouring a specific area.
10) It shall be possible to use the letter codes consistently throughout all technical areas. The same type of object should preferably have only one letter code independent of the technical area where it is being used.
11) It should be possible to indicate in a letter code from which technical area the object originates, if this is wanted.
12) A classification scheme should reflect the practical application of letter codes.
13) Letter codes should not be mnemonic, as this cannot be implemented consistently throughout a classification scheme and for different languages.
14) Letter codes shall be formed using capital letters from the Latin alphabet, excluding I and O due to possible confusion with the digits 1 (one) and 0 (zero).
15) Different classification schemes shall be allowed and be applicable for the same type of object.
16) Objects may be classified for example according to function types, shapes, colours, or material. This means that the same type of object may be assigned different letter codes according to the different classification schemes.
17) Objects that are directly constituents of another object using the same aspect shall be assigned letter codes according to the same classification scheme. See figure A.1.



Objects 2, 3, and 4 that are direct constituents of object 1 shall be assigned letter codes from the same classification scheme.

Objects 5 and 6 that are direct constituents of object 2 shall be assigned letter codes from the same classification scheme.

Objects 7 and 8 that are direct constituents of object 4 shall be assigned letter codes from the same classification scheme.

Objects 9, 10, 11, and 12 that are direct constituents of object 6 shall be assigned letter codes from the same classification scheme.

Objects 13, 14, 15, and 16 that are direct constituents of object 8 shall be assigned letter codes from the same classification scheme.

Figure A.1 – Constituent objects

18) If products from different manufacturers are combined into a new product, the constituents of this product may be assigned codes according to different classification schemes.

Annex B
(informative)

Object-classes related to a generic process

Figure B.1 shows classes of objects according to table 1 related to a process. It contains activities that directly initiate or influence the flow, and activities that indirectly influence the flow or monitor its condition. Both are supported by activities or tasks that do not influence the flow, but are necessary resources, sometimes acting in a static way. Some of the latter are also valid for objects that are not related to any flow, for example pillars in a building.

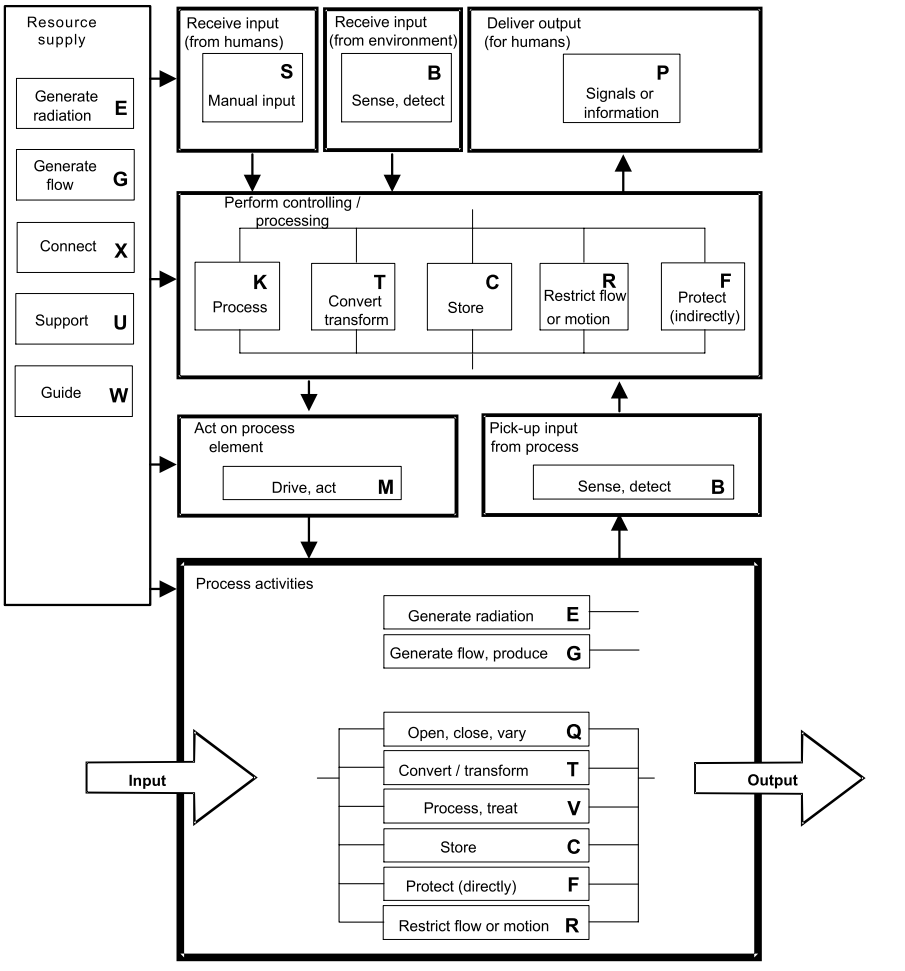


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Figure B.1 – Object-classes related to a process

The same class of objects appears at different places in this model. This is to be understood so that "real" objects may be assigned classes and letter codes without considering the position of the object in the process.

The model is independent of technology. Therefore, it is possible to use it in all technical areas. It is also independent of the size or importance of the object under consideration and may be used as a means for classification of small objects as well as of big ones. It may be used repeatedly in all levels of a tree-like structure.

It should, however, be noted that this model is only used as a basis for classifying objects. It is not intended to establish a model for a real process and process environment.

Annex C
(informative)

Object-classes related to objects in a generic infrastructure

Figure C.1 shows classes of objects according to table 2 related to a process environment. It contains objects that represent main-process facilities (classes B to T) and objects for secondary tasks besides the main process (classes U to Z). Main-process facilities are normally defined by the owner of the complete installation or predefined by branch-related standards. For example, different production plants in an industrial complex could be seen as main-process facilities. A power generating plant in the same complex could, depending on the point of view, be classified also as a main-process facility or as an auxiliary facility.

While the definition of classes for main-process facilities may change from case to case, the definition of classes for auxiliary facilities is fixed for most applications. Facilities like air-conditioning, lighting installation, water supply, offices, telephone system, buildings or roads occur in most different kinds of installations. They do not directly influence the main processes but are nevertheless important constituents of the infrastructure.

Class A is reserved for objects that act on more than one object related to classes B to Z. An example is a centralized control panel, controlling different production plants as well as the air-conditioning system and other equipment.

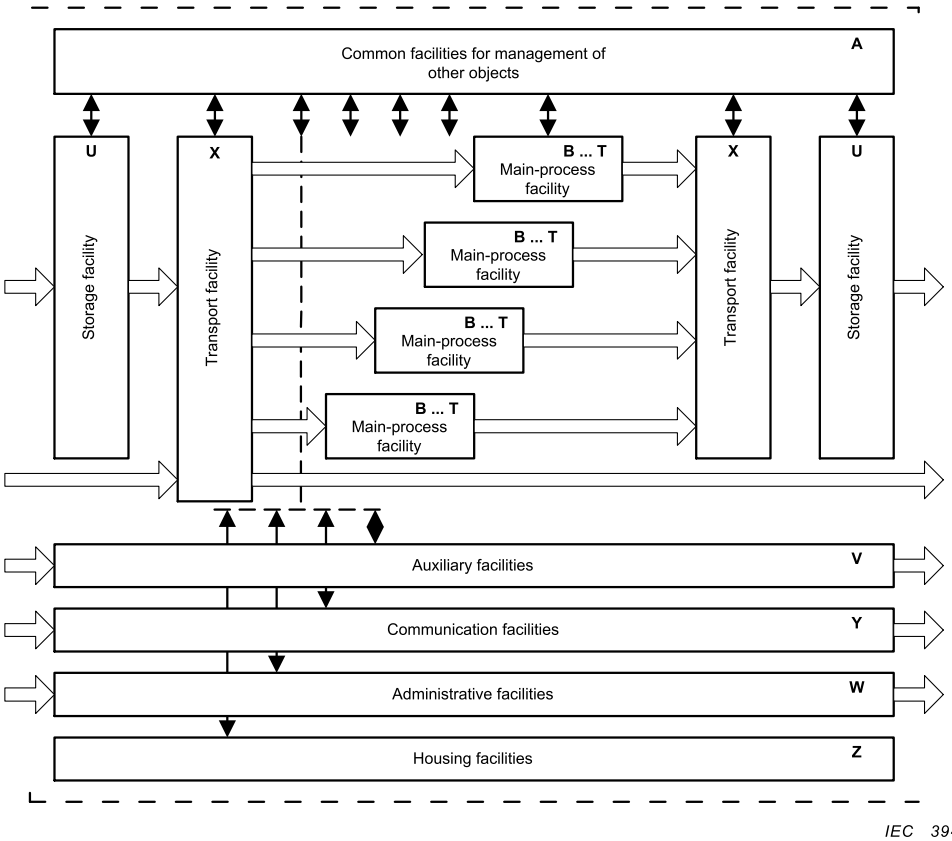

Figure C.1 – Object-classes related to objects in a generic infrastructure

Annex D
(informative)

Letter symbols for measured or initiating variables

In this annex, an excerpt from the table presented in 7.3.1 of ISO/DIS 14617-6 is shown for information. The letters shown in that standard are used as additions to symbols for measurement and control functions. The original table contains a column with symbol numbers and columns with the titles "Modifiers" and "Function". These are omitted in this annex because they are irrelevant for use in connection with reference designations.

It should be noted that letters I and O shall not be used in reference designation codes if confusion with the digits 1 (one) and 0 (zero) is likely.

Table D.1 – Letter symbols for measured or initiating variables as given in ISO/DIS 14617-6

Symbol	Measured or initiating variable
A	
B	
C	
D	Density
E	Electric variable
F	Flow-rate
G	Gauge, position, length
H	Hand
I	
J	Power
K	Time
L	Level
M	Moisture, humidity
N	User's choice
O	User's choice
P	Pressure, vacuum
Q	Quality
R	Radiation
S	Speed, frequency
T	Temperature
U	Multi-variable
V	User's choice
W	Weight, force
X	Unclassified
Y	User's choice
Z	Number of events, quantity

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 61346-1	1996	Industrial systems, installations and equipment and industrial products - Structuring principles and reference designations Part 1: Basic rules	EN 61346-1	1996
ISO/DIS 14617-6		Graphical symbols for diagrams Part 6: Measurement and control functions	-	-

BS EN 61346-2:2001
IEC 61346-2:2000

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