SLOVENSKI STANDARD

SIST EN 62090:2003

Product package labels for electronic components using bar code and two-dimensional symbologies

iTeh STANDARD PREVIEW
(standards.iteh.ai)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62090

February 2003

ICS 35.040; 31.190; 31.200

English version

Product package labels for electronic components using bar code and two-dimensional symbologies (IEC 62090:2002)

Etiquettes d'emballage de produits
pour composants électroniques,
utilisant un code à barres
et une symbologie bidimensionelle
(CEI 62090:2002)

Etiketten für Verpackungen elektronischer
Bauelemente unter Anwendung von
Strichcodierung und zweidimensionaler
Symbologien
(IEC 62090:2002)

This European Standard was approved by CENELEC on 2003-02-01. 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.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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

Ref. No. EN 62090:2003 E

Foreword

The text of document 91/329/FDIS, future edition 1 of IEC 62090, prepared by IEC TC 91, Electronics assembly technology, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62090 on 2003-02-01.

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)   2003-11-01

– latest date by which the national standards conflicting
  with the EN have to be withdrawn   (dow)   2006-02-01

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 62090:2002 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 60286-1   NOTE   Harmonized as EN 60286-1:1998 (not modified).

IEC 60286-2   NOTE   Harmonized as EN 60286-2:1998 (not modified).

IEC 60286-3   NOTE   Harmonized as EN 60286-3:1998 (not modified).

IEC 60286-4   NOTE   Harmonized as EN 60286-4:1998 (not modified).

IEC 60286-5   NOTE   Harmonized as EN 60286-5:1997 (modified).

IEC 60286-6   NOTE   Harmonized as EN 60286-6:1998 (not modified).

_____

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 60194	-[1]	Printed board design, manufacture and assembly - Terms and definitions	-	-
ISO/IEC 15417	-[1]	Information Technology - Automatic identification and data capture techniques - Bar code symbology specification - Code 128	-	-
ISO/IEC 15418	-[1]	Information technology - EAN/UCC application identifiers and fact data identifiers and maintenance	-	-
ISO/IEC 15434	-[1]	Information technology - Transfer syntax for high capacity ADC media	-	-
ISO/IEC 15438	-[1]	Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - PDF417	-	-
ISO/IEC 15459	Series	Information technology - Unique identification of transport units	-	-
ISO/IEC 15459-1	-[1]	Information technology - Unique identification of transport units Part 1: General	-	-
ISO/IEC 16022	-[1]	Information technology - International symbology specification - Data matrix	-	-
ISO/IEC 16388	-[1]	Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - Code 39	-	-

---

[1] Undated reference.

Publication	Year	Title	EN/HD	Year
ISO/IEC 18004	- [1]	Information technology - Automatic identification and data capture techniques - Bar code symbology - QR Code	-	-
ISO 3166	- [1]	Codes for the representation of names of countries and their subdivisions	EN 23166	1993 [2]
ISO 8601	- [1]	Data elements and interchange formats - Information interchange - Representation of dates and times	-	-

[2] Valid edition at date of issue.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI

IEC

62090

Première édition
First edition
2002-11

Etiquettes d'emballage de produits
pour composants électroniques, utilisant
un code à barres et une symbologie
bidimensionnelle

Product package labels for electronic
components using bar code and
two-dimensional symbologies

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

X

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

PRODUCT PACKAGE LABELS FOR ELECTRONIC COMPONENTS USING BAR CODE AND TWO-DIMENSIONAL SYMBOLOGIES

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.

3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.

6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62090 has been prepared by IEC technical committee 91: Electronics assembly technology.

The text of this standard is based on the following documents:

FDIS	Report on voting
91/329/FDIS	91/344/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

• reconfirmed;

• withdrawn;

• replaced by a revised edition, or

• amended.

PRODUCT PACKAGE LABELS FOR ELECTRONIC COMPONENTS USING BAR CODE AND TWO-DIMENSIONAL SYMBOLOGIES

1 Scope and object

This standard applies to labels on the packaging of electronic components for automatic handling. These labels use linear bar code and two-dimensional (2D) symbols. Labels for direct product marking and shipping labels are excluded. Labels required on the packaging of electronic components that are intended for the retail channel of distribution are also excluded from this standard.

Bar code and 2D symbols markings are used, in general, for automatic identification and automatic handling of components in electronics assembly lines. Intended applications include systems that automate the control of component packages during production, inventory and internal distribution.

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 60194, *Printed board design, manufacture and assembly – Terms and definitions*

ISO/IEC 15417, *Information technology – Automatic identification and data capture techniques – Bar code symbology specification – Code 128*

ISO/IEC 15418, *Information technology – EAN/UCC application identifiers and fact data identifiers and maintenance*

ISO/IEC 15434, *Information technology – Transfer syntax for high capacity ADC media*

ISO/IEC 15438, *Information technology – Automatic identification and data capture techniques – Bar code symbology specifications – PDF417*

ISO/IEC 15459, *Information technology – Unique identification of transport units*

ISO/IEC 15459-1, *Information technology – Unique identification of transport units – Part 1: General*

ISO/IEC 16022, *Information technology – International symbology specification – Data matrix*

ISO/IEC 16388, *Information technology – Automatic identification and data capture techniques – Bar code symbology specifications – Code 39*

ISO/IEC 18004, *Information technology – Automatic identification and data capture techniques – Bar code symbology – QR Code*

ISO 3166, *Codes for representation of names of countries and their subdivisions*

ISO 8601, *Data elements and interchange formats – Information interchange – Representation of date and times*

3   Definitions

For the purpose of this publication, the following definitions apply [1]:

3.1
component
electronic or electrical parts (e.g. bare printed circuit boards, integrated circuits, capacitors, diodes, electronic modules, switches, heat sinks, resistors, electronic/electrical connectors, etc.) used in a first level assembly

3.2
component packaging
commercial unit of components defined by the supplier including, if applicable, their means for protection, structured alignment or for automated assembly

NOTE 1   TYPICAL EXAMPLES (see B.20).

NOTE 2   For the purposes of this standard, the term "component packaging" includes a multiple of the above, e.g., four reels in one box.

3.3
country of origin
manufacturing country wherein the product obtained its present identity as a part, subassembly, or finished product. The definition of "country of origin" should be in line with local regulations.

4   Label data content and requirements

4.1   Data elements

4.1.1   General

The label format accommodates both mandatory and optional data elements.

This standard does not supersede or replace any applicable safety or regulatory marking or labelling requirements. This standard is to be applied in addition to any other mandated labelling requirements. The labelling requirements of this standard and other standards may be combined into one label or appear as separate labels.

_____

[1]   A complete glossary of the terms used in this document is given in Annex B.

The number included in character count is exclusive of overhead characters such as start and stop characters, data identifiers and any other characters required by a standard symbology specification to properly encoded data.

All data elements encoded in a machine-readable medium shall be preceded by the appropriate ISO/IEC 15418/ANSI MH10.8.2 data identifier.

It is recommended that data structures used to identify products or the traceability of products include identification of the organization providing the coding as well as the specific coding structure. This coding structure uses the Issuing Agency Code (IAC) established in ISO/IEC 15459-1 and the Company Identification Number (CIN) assigned by the issuing agency.

4.1.2 Mandatory data elements

- Item identification code
- Quantity without or quantity with unit of measure
- Traceability identification
  - serial number

    or

  - traceability number

4.1.2.1 Item identification

Item identification may be assigned by either the supplier or the customer. Either the customer item identification or the supplier item identification or both may be shown on the label as agreed between the trading partners. If both are shown on the label, at least one of the two item identifiers shall be encoded in a machine-readable symbol.

It is recommended that the item identification assigned by the customer be the same as the item identification used on the purchase order.

The supplier's part number shall be used for item identification in the absence of a different agreement between trading partners.

The maximum length of this data element is given in Table 1.

The item identification data field should be in one of the formats below. These identifiers represent the most frequently used formats for product package. The complete list of possible item identification codes can be found in ANSI MH10.8.2.

Table 1 – Data identifiers (DIs) used in item identification

Data identifier	Data field	Data characteristics type/length	Description
P	Product number	An1+an...25	Customer assigned part number
1P	Product number	An2+an...25	Supplier assigned part number
25P	Product number	An3+an...32	Combined IAC/CIN and item code assigned by the supplier

4.1.2.2   Quantity

The quantity shall be the quantity in the package or container to which the label is affixed. The default unit of measure for data identifier "Q" is "EACH" or "PIECES".

When a different unit of measure is required, as agreed between trading partners, data identifier "7Q" shall be used with the quantity followed by two alphanumeric characters representing the ANSI X.12.3 unit of measurement code.

The maximum length of this data element is given in Table 2.

The quantity data field should be in one of the formats below. These identifiers represent the most frequently used formats for product package applications.

Table 2 – DIs used to identify quantity

Data identifier	Data field	Data characteristics type/length	Description Examples show encoded characters. Spaces are shown for clarity but are not encoded.
Q	Quantity in package	an1+n...8	The number of products (pcs) in the product package. EXAMPLE: Q2000
7Q	Quantity with unit of measure	an2+n..8+an2	The Quantity with ANSI X12.3 Data Element Dictionary qualifier of products in the product package (CR = cubic meter) EXAMPLE: 7Q1CR (This includes an encoded decimal point, if necessary)
NOTE Print only the significant digits for the human-readable quantity. Do not print leading zeros.			

4.1.2.3   Traceability identification

The traceability identification shall be assigned by the supplier. This category of identification includes serial numbers and lot/batch numbers.

When data identifiers are used, traceability identification should be either a serial number (using data identifier "S" or "25S") or a lot/batch number (using data identifier "1T" or "25T").

In certain circumstances, both the serial number and the lot/batch number may be shown on the label. In this case, at least one of the two should be encoded in a machine-readable symbol.

The maximum length of this data element is given in Table 3. The traceability identification data field should be in one of the formats below. These identifiers represent the most frequently used formats for product package applications.

Table 3 – DIs used for traceability information

Data identifier	Data field	Data characteristics type/length	Description
S	Serial number	an1+an...25	Serial number or code assigned by the supplier to an entity for its lifetime
25S	Serial number	An3 +an...32	Combined IAC/CIN and the serial number assigned by the supplier
1T	Lot/batch number	an2+an...25	Lot/batch number defined by the manufacturer
25T	Lot/batch number	an3 +an...32	Combined IAC/CIN and entity identification and lot/batch number assigned by the supplier

4.1.2.3.1   Serial number

A serial number is a unique code assigned by the supplier to an entity for its lifetime. The format for the serial number is to be defined by the manufacturer.

4.1.2.3.2   Lot/batch number

A lot/batch number is a code assigned by the supplier to identify or trace a unique group of entities (e.g., lot, batch, etc.). The format for the lot/batch number is to be defined by the manufacturer.

4.1.3   Optional data elements

- Supplier identification
- Country of origin
- Date code
- Others (not specified)

4.1.3.1   Supplier identification

The supplier identification shall uniquely identify the supplier location to which the component is traceable. The supplier identification should be assigned by the supplier or a recognized body assigning supplier identification in mutual agreement between trading partners; it may be assigned by the customer.

It is recommended that the supplier identification shown on the label be the supplier identification assigned by the supplier or a recognized body assigning supplier identification.

The supplier identification field should be in one of the following formats:

Table 4 – DIs used for supplier identification

Data identifier	Data field	Data characteristics type/length	Description
1V	Vendor code	an1+an9	Supplier code assigned by a supplier
12V	DUN's number identifying manufacturer	an3+n9	Entity (manufacturer) Identification assigned by Dun and Bradstreet
20V	Company identification	An3+an1..3+ an3..13+"+"+an3	Combined IAC/CIN and Party Qualifier Code (EDIFACT DE 3035)
21V	Company identification	An3+an1..3+ an3..13+an...xx (up to 18 characters)	Combined IAC/CIN and sub-unit identification

It is further recommended that all supplier identification migrate to the following proposal:

The supplier identification shall use the issuing agency code as assigned by ISO/IEC 15459 followed by the company identification which is assigned by the issuing agency followed by an internally assigned location or entity identification.

For example:

21V	LE	XYZ	**12345678901**
Data identifier	Issuing agency code	Company identification	Internal identification

The maximum length of this data element is 18 alphanumeric characters.

4.1.3.2   Country of origin

When the country of origin is required to be included on the label, it shall be shown in human-readable information using the two-letter designation as specified in ISO 3166.

This may be in addition to the data being encoded in a machine-readable symbol.

When using data identifiers, the fixed length of this data element is two alphabetic characters.

The country of origin code field should be in the following format:

Table 5 – Country of origin DI

Data identifier	Data field	Data characteristics type/length	Description Examples show encoded characters. Spaces are shown for clarity but are not encoded.
4L	Country code	An2+an2	2-character country code assigned by ISO. The country of origin is defined as the manufacturing country wherein the product obtained its present identity as a part, sub-assembly, or finished product. With the agreement of the trading partners and when the country of origin is mixed, country code "AA" shall be used. The country code is found in ISO 3166. EXAMPLE: 4L US