

## **AIDC technologies - Operational aspects affecting the reading of bar code symbols**

AIDC technologies - Operational aspects affecting the reading of bar code symbols

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1649:2004 sisaldab Euroopa standardi EN 1649:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1649:2004 consists of the English text of the European standard EN 1649:2004.</p> <p>This document is endorsed on 23.11.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p><b>Käsitlusala:</b></p> <p>This European Standard specifies the operational aspects affecting the reading of bar code symbols which must be considered in the preparation of application standards. It defines the subjects which must be addressed by application standards if they are to provide practical guidance to the user industries for whose use they are developed.</p>	<p><b>Scope:</b></p> <p>This European Standard specifies the operational aspects affecting the reading of bar code symbols which must be considered in the preparation of application standards. It defines the subjects which must be addressed by application standards if they are to provide practical guidance to the user industries for whose use they are developed.</p>
--	--

ICS 35.040

Võtmesõnad:

English version

## AIDC technologies - Operational aspects affecting the reading of bar code symbols

Techniques d'identification automatique et de saisie des  
données - Aspects de mise en œuvre affectant la lecture  
des symboles en codes à barres

AutoID-Technologien - Einflussgrößen auf die Lesung von  
Strichcodes

This European Standard was approved by CEN on 14 July 2004.

CEN 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 CEN 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 CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword ..... 3

1 Scope..... 5

2 Normative references ..... 5

3 Terms and definitions..... 6

4 Requirements ..... 6

4.1 Closed or open system ..... 6

4.2 Pre-existing standards ..... 6

4.3 Data to be encoded ..... 7

4.4 Symbology selection ..... 8

4.5 Optical Parameters ..... 11

4.6 Symbol quality..... 13

4.7 Symbol Application..... 13

4.8 Labels..... 13

4.9 Positioning of the Symbols..... 14

4.10 Environmental Conditions ..... 14

4.11 Health and Safety Considerations..... 15

4.12 Global Environmental Considerations..... 15

Annex A (informative) Symbology character sets ..... 16

Annex B (informative) Symbology features..... 18

Bibliography..... 20

## Foreword

This document (EN 1649:2004) has been prepared by Technical Committee CEN/TC 225, "Bar coding", the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard : Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

This document supersedes ENV 1649:1995

## Introduction

Implementation of the technology of bar coding requires the originators of the bar code marking, and those wishing to make use of the bar codes to capture data relating to the marked entity automatically, to work to a common application standard. The application standard may make reference to publicly available specifications for the underlying technical aspects of the bar code symbol and of the equipment for its production and reading.

By means of such publicly available standards, the producers of symbols and those wishing to read the symbols can be aware of the requirements which must be met by any symbol production and symbol reading equipment which they specify for their respective systems.

This document also provides the manufacturers of both bar code marking and bar code reading equipment with the requirements to which that equipment must comply, for that application.

This document provides the means by which bodies which are making application standards for industries can ensure that all relevant technical requirements are addressed during the standards making process.

## 1 Scope

This document specifies the operational aspects affecting the reading of bar code symbols which must be considered in the preparation of application standards. It defines the subjects which must be addressed by application standards if they are to provide practical guidance to the user industries for whose use they are developed.

## 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.

EN 1556:1998, *Bar Coding — Terminology*.

EN 1573, *Bar Coding — Multi-industry transport label*.

EN 12323, *Bar coding — Symbology specification — “Code 16k”*.

EN ISO/IEC 15416, *Information technology - Automatic identification and data capture techniques - Bar code print quality test specification - Linear symbols (ISO/IEC 15416:2000)*.

EN ISO/IEC 15438 *Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - PDF417 (ISO/IEC 15438:2001)*.

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

ISO/IEC 8859-1:1998 *Information technology — 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1*.

ISO/IEC 15415 *Information technology — Automatic identification and data capture techniques — Bar code print quality test specification — Two dimensional symbols*.

ISO/IEC 15418 *Information technology -- EAN/UCC Application Identifiers and Fact Data Identifiers and Maintenance*.

ISO/IEC 15420 *Information technology — Automatic identification and data capture techniques — Bar code symbology specification — EAN/UPC*.

ISO/IEC 15424 *Information technology — Automatic identification and data capture techniques — Data Carrier Identifiers (including Symbology Identifiers)*.

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

ISO/IEC 16023, *Information technology -- International symbology specification -- MaxiCode*.

ISO/IEC 16390 *Information technology — Automatic identification and data capture techniques — Bar code symbology specifications — Interleaved 2 of 5*.

ISO/IEC 18004 *Information technology-Automatic identification and data capture techniques — Barcode symbology — QR Code*.

General EAN•UCC Specifications (EAN International, Brussels, 2004).