
**Information technology — Automatic
identification and data capture
techniques — Code 39 bar code
symbology specification**

*Technologies de l'information — Techniques automatiques
d'identification et de capture des données — Spécifications des
symbologies des codes à barres, code 39*





COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definition	1
4 Requirements	1
4.1 Symbology characteristics.....	1
4.2 Symbol structure.....	2
4.3 Character encodation.....	3
4.3.1 Symbol character structure.....	3
4.3.2 Symbol character assignments.....	3
4.3.3 Start and stop characters.....	4
4.3.4 Optional symbol check character.....	4
4.4 Dimensions.....	4
4.5 Reference decode algorithm.....	5
4.6 Symbol quality.....	6
4.6.1 Test specification.....	6
4.6.2 Additional parameters.....	6
4.7 Application-defined parameters.....	7
4.7.1 Symbology and dimensional characteristics.....	7
4.7.2 Optical specifications.....	7
4.7.3 Test specifications.....	8
Annex A (informative) Additional features	9
Annex B (informative) Guidelines for the use of Code 39	12
Annex C (normative) Symbology identifier	14
Annex D (informative) Example of application-defined parameters	15
Bibliography	17

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

This third edition cancels and replaces the second edition (ISO 16388:2007), which has been technically revised.

The main changes are as follows:

- the grading of parameter “Inter character gap” in [4.6.2.2](#) has been corrected;
- a NOTE has been added below [Table A.2](#) about possible alternate representation of a minus sign, a period or the numbers 0 to 9 by character pairs.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Introduction

The technology of bar coding is based on the recognition of patterns encoded in bars and spaces of defined dimensions. There are numerous methods of encoding information in bar code form, known as symbologies. Code 39 is one such symbology. The rules defining the translation of characters into bar and space patterns and other essential features are known as the symbology specification.

In the past, symbology specifications were developed and published by a number of organizations, resulting in certain instances in conflicting requirements for certain symbologies.

Manufacturers of bar code equipment and users of bar code technology require publicly available standard symbology specifications to which they can refer when developing equipment and application standards.

Information technology — Automatic identification and data capture techniques — Code 39 bar code symbology specification

1 Scope

This document specifies the requirements for the bar code symbology known as Code 39. This document specifies Code 39 symbology characteristics, data character encodation, dimensions, tolerances, decoding algorithms and parameters to be defined by applications. This document specifies the symbology identifier prefix strings for Code 39 symbols.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

ISO/IEC 15416, *Automatic identification and data capture techniques — Bar code print quality test specification — Linear symbols*

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

ISO/IEC 19762, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary*