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Information technology — Automatic identification and data capture techniques — Extended rectangular data matrix (DMRE) bar code symbology specification

Technologies de l'information – Techniques de l'identification et de saisie de données automatiques – Data Matrix Rectangulaire Etendu (DMRE) spécification de symbologie de code à barres

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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 document 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC 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 http://patents.iec.ch).

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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.

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

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.

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Introduction

Extended rectangular data matrix (DMRE) is a two-dimensional matrix symbology which is made up of nominally square modules arranged within a perimeter finder pattern. Though primarily shown and described in this document as a dark symbol on light background, rectangular data matrix symbols can also be printed to appear as light on dark.

This document is an extension of ISO/IEC 16022, to which it adds rectangular formats. Maximum compatibility is a design goal. In consequence, most clauses of ISO/IEC 16022 are identical to those of this document, including the module placement algorithm and the reference decode algorithm.

This document is published separately because existing equipment supporting ISO/IEC 16022 will not recognize DMRE symbols. Only equipment that is enabled and configured to support DMRE will be capable of printing and scanning the new rectangular formats. To avoid user confusion due to this fact, a separate and complete document was developed.

Manufacturers of bar code equipment and users of the technology require publicly available standard symbology specifications to which they can refer when developing equipment and application standards. The publication of standardized symbology specifications is designed to achieve this.

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Information technology — Automatic identification and data capture techniques — Extended rectangular data matrix (DMRE) bar code symbology specification

1 Scope

This document defines the requirements for the symbology known as extended rectangular data matrix (DMRE). It specifies the DMRE code symbology characteristics, data character encodation, symbol formats, dimensions and print quality requirements, error correction rules, decoding algorithm, and user-selectable application parameters.

It applies to all DMRE code symbols produced by any printing or marking technology.

Original data matrix code sizes are not covered by this document but defined in ISO/IEC 16022 using the same matrix placement, decoding and error correction algorithm.

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.

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

ISO/IEC 8859-1, *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 symbol print quality test specification — Two-dimensional symbols*

https://standards.iteh.ai/catalog/standards/sist/[illegible]2ab3652cb3/iso-iec-21471-2020

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

ISO/IEC 29158:—[1)], *Information technology — Automatic identification and data capture techniques — Direct Part Mark (DPM) Quality Guideline*

3 Terms, definitions, symbols and abbreviated terms and mathematical/logical notations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19762 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

1) Under preparation. Stage at the time of publication: ISO/IEC/DIS 29158:2020.

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