BS ISO/IEC 21471:2025

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Information technology — Automatic identification and data capture techniques — Data Matrix Rectangular Extension (DMRE) bar code symbology specification

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National foreword

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A list of organizations represented on this committee can be obtained on request to its committee manager.

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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 or www.iec.ch/members_experts/refdocs).

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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*.

This second edition cancels and replaces the first edition (ISO/IEC 21471:2020), which has been technically revised.

The main changes are as follows: information duplicated from ISO/IEC 16022 has been removed.

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.

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Introduction

Data Matrix Rectangular Extension (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, DMRE 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. This document only describes the required extension. Common properties are not repeated. It is a goal to combine ISO/IEC 16022 and this document in the future, when DMRE is widely adopted.

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.

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 — Data Matrix Rectangular Extension (DMRE) bar code symbology specification

1 Scope

This document defines the requirements for the symbology known as Data Matrix Rectangular Extension (DMRE). This document 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.

This document 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.

ISO/IEC 15415, *Automatic identification and data capture techniques — Bar code symbol print quality test specification — Two-dimensional symbols*

ISO/IEC 16022, *Information technology — Automatic identification and data capture techniques — Data Matrix bar code symbology specification*

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

ISO/IEC 29158, *Automatic identification and data capture techniques — Bar code symbol quality test specification — Direct part mark (DPM)*

3 Terms and definitions

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

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

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

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

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