International Standard

ISO/IEC 22460-3

First edition
2026-02

Cards and security devices for personal identification — ISO UAS licence and drone or UAS security module —

Part 3: Digital UAS or drone licence

Reference number
ISO/IEC 22460-3:2026(en)

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Published in Switzerland

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and security devices for personal identification*.

A list of all parts in the ISO/IEC 22460 series can be found on the ISO and IEC websites.

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

Security aspects of ID documents are very important and machine-readable technologies have been used to access to credentials. In addition, digital signature technology with public key infrastructure is used for anti-forgery.

The mobile driving licence application International Standard was published as ISO/IEC 18013-5. ISO/IEC 18013-5 specifies mdoc data model which easily handles set of credentials on digital devices. An mdoc data model consists of doctype, namespace and element identifiers. Doctype is specified to select a specific document type (e.g. mDL). Namespace is specified to identify the definition of data element identifiers, including region or country level definition of data element identifiers.

Based on ISO/IEC 18013-5, the ISO/IEC 23220 series generalizes issuance and operation of mobile documents and specifies building blocks to handle mobile documents.

This document is developed to enable issuance of digital UAS or drone licence or training certificates with mdoc data model. This document does not specify data elements for UAS or drone licence or training certificates. This document can be used for a digital representation of data elements specified by each aviation authorities.

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Cards and security devices for personal identification — ISO UAS licence and drone or UAS security module —

Part 3:
Digital UAS or drone licence

1 Scope

The document specifies doctype, namespace and a set of data elements for digital UAS or drone licences (or training certificates) supporting mdoc data model specified in ISO/IEC 18013-5 and ISO/IEC TS 23220-2. This document is also applicable for any remote pilot licences or training certificates issued by aviation authorities.

This document does not specify either licence categories and licence conditions and is designed to define any domestic licences and training certificates by defining domestic namespaces in accordance with each region and/or state's regulations.

The digital UAS or drone licence data specified in this document is applicable to mdoc application as defined in ISO/IEC 23220-1 and transmission protocol specified in ISO/IEC 18013-5, ISO/IEC TS 18013-7 and ISO/IEC TS 23220-4.

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 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code*

ISO 3166-2, *Codes for the representation of names of countries and their subdivisions — Part 2: Country subdivision code*

ISO/IEC 18013-1:2018, *Information technology — Personal identification — ISO-compliant driving licence — Part 1: Physical characteristics and basic data set*

ISO/IEC 18013-5, *Personal identification — ISO-compliant driving licence — Part 5: Mobile driving licence (mDL) application*

ISO/IEC TS 18013-7, *Personal identification — ISO-compliant driving licence — Part 7: Mobile driving licence (mDL) add-on functions*

ISO/IEC TS 23220-2, *Cards and security devices for personal identification — Building blocks for identity management via mobile devices — Part 2: Data objects and encoding rules for generic eID systems*

RFC 3339, *Date and Time on the Internet: Timestamps*

RFC 8943, *Concise Binary Object Representation (CBOR) Tags for Date*

RFC 8949:2020, *Concise Binary Object Representation (CBOR)*

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3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/

3.1
digital UAS or drone licence
digital document issued by an issuing authority to a UAS or drone licence holder granting the individual the privilege to operate a UAS or drone within its jurisdiction

3.2
mdoc
document or application that resides on a mobile device or requires a mobile device as part of the process to gain access to the document or application

[SOURCE: ISO/IEC 18013-5:2021, 3.5]

3.3
mdoc reader
device that can retrieve *mdoc* (3.2) data for verification purposes

4 Symbols and abbreviations

CDDL concise data definition language

mRPL mobile remote pilot licence

UAS uncrewed aircraft system

5 Generic Principle

UAS or drone licences or training certificates are basically used within issuing states or regions which issuing state belongs to. ISO/IEC 18013-5 specifies global namespace and naming rule for domestic or regional namespaces to enable both international driving licences and domestic driving licences.

This document does not specify global namespace and only specifies naming rule for domestic or regional namespace. Each domestic or regional namespace can define their own data element identifiers, however this document specifies a set of common data element identifiers because it makes easier to develop mdoc reader application for digital UAS or drone licences.

6 UAS or drone licence data model

6.1 Overview

ISO/IEC 18013-5 and the ISO/IEC 23220 series define data model called “mdoc data model” which can be used for handling digital documents on mobile devices. The mdoc data model is originally designed for mobile driving licence to describe driving privileges of driving licence holder, preventing tampering or spoofing of licence data.

The mdoc data model is generic data model consists of the following parameters:

— Document type (doctype);

— Namespace (namespace);

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