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**Information and documentation — RFID in libraries — Part 1:
Data elements and general guidelines for implementation**

Information et documentation — RFID dans les bibliothèques — Partie 1: Éléments de données et lignes directrices générales pour la mise en œuvre

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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).

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).

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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 46, Information and documentation, Subcommittee SC 4, Technical interoperability.

This third edition cancels and replaces the second edition (ISO 28560-1:2014). A few updates are made and definitions of DSFID values are entrusted to the other parts of ISO 28560, of which it constitutes a minor revision.

The changes are as follows:

— a few updates have been applied and definitions of DSFID values have been entrusted to the other parts of the ISO 28560 series.

A list of all parts in the ISO 28560 series can be found on the ISO web site.

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

Introduction

Libraries are implementing radio frequency identification (RFID) as item identification to replace bar codes. RFID streamlines applications like user self-service, security, and materials handling. This standard data model for encoding information on RFID tags increases the cost-effectiveness of the technology within libraries, particularly through greater interoperability of RFID tags and equipment, and enhance support for resource sharing between libraries.

This ~~part of ISO 28560 document~~ deals with data elements and provides general guidelines for implementation. Other parts of the ISO 28560 series describe encodings and choice of frequency.

Communication between the RFID reader and the library system (or other applications) is handled by, for example, SIP-2^[12] and NCIP ~~(see Bibliography)~~.^[13]

This document provides essential standards-based information about RFID in libraries. Ongoing advice needs to be provided because of the evolving nature of RFID technology and the opportunities to migrate between different types of legacy system and encoding rules of this document.

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Part 1: **Information and documentation — RFID in libraries — Part 1:** **Data elements and general guidelines for implementation**

1 Scope

This document specifies a model for the use of radio frequency identification (RFID) tags for items appropriate for the needs of all types of libraries, including national, academic, public, corporate, special, and school.

~~This part of ISO 28560~~It provides the framework to ensure interoperability between libraries that exchange library items with RFID tags, the freedom of the library to acquire or renew equipment or library items from different vendors, and interoperability of a single RFID application from the vendor's perspective.

This ~~part of ISO 28560~~document specifies a set of data elements and general guidelines for implementation, to meet the needs for:

- circulation of library items;
- acquisition of library items;
- interlibrary loan processes;
- data requirements of publishers, printers, and other suppliers of library items;
- inventory and stock checking of items.

This ~~part of ISO 28560~~document gives guidelines for item security, profiles, privacy, implementation, migration, label design, and location of the RFID label.

~~This part of ISO 28560~~ It specifies the data model, system data elements, and user data elements to be used in conjunction with ISO 28560-2, ISO 28560-3, and any future parts of the ISO 28560 series.

A source of additional information about implementation issues is provided in Annex A.

2 Normative references

The following documents, are referred to in whole the text in such a way that some or in part, are normatively referenced in all of their content constitutes requirements of this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15511, Information and documentation — International standard identifier for libraries and related organizations (ISIL)

ISO/IEC 15961-3, *Information technology — Radio frequency identification (RFID) for item management: ~~Data protocol~~ — Part 3: RFID data constructs*

ISO 28560-2, *Information and documentation — RFID in libraries — Part 2: Encoding of RFID data elements based on rules from ISO/IEC 15962*

ISO 28560-3, *Information and documentation — RFID in libraries — Part 3: Fixed length encoding*

~~ISO TS 28560-4, Information and documentation — RFID in libraries — Part 4: Encoding of data elements based on rules from ISO/IEC 15962 in an RFID tag with partitioned memory.~~

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 distributor

wholesaler that purchases products from manufacturers and sells them to retailers or other wholesalers

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Note 1 to entry: In the context of this ~~International Standard~~ document, a distributor is a wholesaler that purchases library materials such as books or audiovisual materials from publishers and sells them to libraries or retailers.

3.2 interlibrary loan

ILL

service where a library borrows an *item* (3.3) from another library

3.3 item

unit tracked in a library system

Note 1 to entry: An item, which can be a *set* (3.7), can be loanable or non-circulating, but is always loaned in its entirety.

3.4 jobber

specialized *distributor* (3.1) of library *items* (3.3) that provides services such as the attachment of labelling and electronic information to items to make them ready for immediate shelving upon arrival at the destination library

3.5 library management system

enterprise resource planning system for a library, used to track items owned, items loaned, orders made, bills paid, and patrons

Note 1 to entry: In some countries, this is known as an integrated library system.

3.6 part

individual physical entity included in an *item* (3.3)

Note 1 to entry: A part can be a library material or a container for the library materials in a *set* (3.7).

3.7 set

item (3.3) consisting of a number of parts, all identified by the same item identifier and loaned in one transaction as a unit

3.8 supply chain

series of entities, typically beginning with a publisher and ending with a library, through which library materials flow as they are acquired by that library

4 User data elements

4.1 Overview of user data elements

Libraries can choose which data elements they want to store on the tag. It is unlikely that a library places all the listed data elements on the tag. A number of data elements are reserved for local use. They should be ignored where the processing institution is not the owner of the item (as in ILL).

Table 1 lists the user data elements that are defined in this [International Standard document](#).

Table 1 — User data elements

Table 1 — User data elements

<i>N</i> ^a	Name of the data element ^b	Description ^c	Ref ^d	ISO 8459 mapping ^e	Status ^f	Relationship ^g
1	Primary item identifier	Unique identification of an item at least inside the library	4.2.1	Piece identifier	Mandatory for circulated items	None
2	Content parameter	Specifies the structure of the tag data	4.2.2	None	Can be mandatory as specified in other parts of ISO 28560	None
3	Owner institution (ISIL)	The ISIL code for the institution that owns the item	4.2.3	Party identifier; Participant's function	Strongly recommended to create interoperability	Elements 3 and 23 are mutually exclusive
4	Set information	Number of parts in item and ordinal part number	4.2.4	Number of volumes; Component	Optional	None
5	Type of usage	Additional qualifying information about the item or part of a set	4.2.5	None	Optional	None
6	Shelf location	Code for location of the item	4.2.6	Copy shelf locator	Optional	None

7	ONIX media format	ONIX media descriptor	4.2.7	Record content type	Optional	Data elements 7, 8, and 19 should be consistent
8	MARC media format	MARC 21 category of material descriptor	4.2.8	Record content type	Optional	Data elements 7, 8, and 19 should be consistent
9	Supplier identifier	Code for identification of supplier of the item	4.2.9	Party identifier; Participant's function	Optional	None
10	Order number	Number meaningful to the library and to the supplier of the item	4.2.10	Request identifier	Optional	None
11	ILL borrowing institution (ISIL)	ISIL code for the institution borrowing the item	4.2.11	Party identifier; Participant's function	Optional	Data elements 11 and 25 are mutually exclusive
12	ILL borrowing transaction number	Number identifying an interlibrary loan transaction	4.2.12	None	Optional	None
13	GS1 product identifier	GTIN-13 code of GS1	4.2.13	Resource identifier code	Optional	Data elements 13 and 18 should be consistent
14	Alternative unique item identifier	Possibly encoding in new tag architectures	4.2.14	None	Reserved for future use	-
15	Local data A	Any locally defined purpose	4.2.15	None	Optional	None
16	Local data B	Any locally defined purpose	4.2.16	None	Optional	None
17	Title	The title/titles of the library item	4.2.17	Title	Optional	None

Table 1 (continued)

A^a	Name of the data element^b	Description^c	Ref^d	ISO 8459 mapping^e	Status^f	Relationship^g
18	Product identifier local	Product identifier not based on GTIN-13	4.2.18	Resource identifier code	Optional	Data elements 13 and 18 should be consistent
19	Media format (other)	Media descriptor other than ONIX or MARC	4.2.19	Record content type	Optional	Data elements 7, 8, and 19 should be consistent
20	Supply chain stage	The stage of the supply chain in which the item currently resides	4.2.20	None	Optional	None
21	Supplier invoice number	Invoice number meaningful to the library and to the supplier of the item	4.2.21	Invoice identifier	Optional	None
22	Alternative item identifier	Optional identifier for an item	4.2.22	Piece identifier	Optional	None
23	Alternative owner institution	Code for the library institution other than ISIL	4.2.23	Party identifier; Participant's function	Optional	Data elements 3 and 23 are mutually exclusive