ISO/TS 28560-4:2023-07 (E)

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

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 2

4 Applicability and relationship with other systems 4
4.1 General 4
4.2 Independent standards-based components 4
4.3 Integrated encoding/decoding software 6
4.4 Legacy-based architecture 6

5 Requirements 7
5.1 Data elements 7
5.2 RFID air interface: ISO/IEC 18000-63 for UHF 7
5.2.1 General 7
5.2.2 Air interface conformance 8
5.2.3 Tag performance 8
5.2.4 Interrogator performance 8
5.2.5 System performance 8
5.3 RFID air interface: Other air interface protocols 8
5.4 Data protocol 8
5.5 RFID interrogators (RFID readers) 9

6 Data elements 9
6.1 General 9
6.2 Unique item identifier (UII) 11
6.2.1 UII comprising of only the primary item identifier 11
6.2.2 UII comprising owner institution + primary item identifier 12
6.2.3 Encoding set information 12
6.2.4 Unambiguous UII structure 13
6.3 Primary item identifier 13
6.4 Content parameter 13
6.5 Owner institution (ISIL) 14
6.6 Set information 14
6.7 Type of usage 15
6.8 Shelf location 15
6.9 ONIX media format 15
6.10 MARC media format 15
6.11 Supplier identifier 15
6.12 Order number 15
6.13 ILL borrowing institute 15
6.14 ILL transaction number 16
6.15 GS1 product identifier 16
6.16 Alternative unique item identifier 16
6.17 Local data 16
6.18 Title 17

6.19 Product identifier (local) 17
6.20 Media format (other) 17
6.21 Supply chain stage 17
6.22 Supplier invoice number 18
6.23 Alternative item number 18
6.24 Alternative owner institution 18
6.25 Subsidiary of an owner library 18
6.26 Alternative ILL borrowing institution 18
6.27 Other reserved data elements 18

7 Data encoding 19
7.1 Data protocol overview 19
7.1.1 General 19
7.1.2 Data constructs 19
7.1.3 AFI 19
7.1.4 Data format 19
7.1.5 Object identifier for library applications 20
7.1.6 Object identifier for the UII and its interpretation 20
7.1.7 DSFID 20
7.2 ISO/IEC 15961-1 commands and responses 20
7.3 ISO/IEC 15962 encoding rules for this document 21
7.3.1 General 21
7.3.2 Structure of MB 00 23
7.3.3 Encoding and use of MB 00 23
7.3.4 Structure of MB 01 23
7.3.5 Encoding in MB 01 24
7.3.6 Relative-OID for the UII 26
7.3.7 Decoding and processing the Monomorphic-UII 26
7.3.8 Use of GS1 EPC codes in MB 01 26
7.3.9 Structure and use of MB 10 27
7.3.10 Structure of MB 11 27
7.3.11 Encoding in MB 11 28

8 RFID tag requirements 32
8.1 Air interface protocol 32
8.1.1 General 32
8.1.2 Memory parameters 32
8.1.3 Declaring memory parameters 32
8.2 Required air interface commands 33
8.3 Air interface conformance 34
8.4 Performance 34

9 Data integrity, security, and privacy issues 34
9.1 Data integrity 34
9.2 Item security 34
9.2.1 General 34
9.2.2 Use of the UII 35
9.2.3 Using passwords in MB 00 35
9.2.4 Use of the unique tag ID 37
9.2.5 Use of the AFI 37
9.2.6 Use of the EAS features 38
9.3 Privacy issues 38

10 Implementation and migration 38

11 Miscellaneous 38

Annex A (informative) Information about ISO 28560 RFID in libraries 39

Annex B (informative) Relevant ISO/IEC 15961-1 application commands 40

Annex C (informative) Locking procedure for MB 01 with encoding in MB 11 43

Annex D (informative) Monomorphic-UII and URN Code 40 encoding 44

Annex E (informative) Encoding examples 48

Annex F (informative) Implementation and migration 52

Bibliography 54