ISO 14223-2:2010-08 (E)

Radiofrequency identification of animals - Advanced transponders - Part 2: Code and command structure

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Conformance 1
3.1 Transponder 1
3.2 Transceiver 1

4 Terms and definitions 2

5 Abbreviated terms 2

6 Transmission protocol 3
6.1 Basic elements 3
6.2 Unique identifier 3
6.3 Request format 4
6.4 Response format 5
6.5 Request flags 5
6.5.1 General 5
6.5.2 NOS flag 6
6.5.3 SEL flag and ADR flag 7
6.5.4 CRCT flag 7
6.6 Response flag and error code 7
6.7 Error handling 8
6.8 Block security status (BSS) 8
6.9 Start of frame pattern (SOF) 9
6.9.1 Transceiver request 9
6.9.2 Transponder response 9
6.10 Cyclic redundancy check (CRC) 9
6.11 Data storage format identifier (DSFID) 9

7 Memory organization 10
7.1 General 10
7.2 User data memory -- Page 0 10
7.3 User data memory -- Extended memory (W page 1) 10

8 Transponder states 11
8.1 General 11
8.2 RF-off state 11
8.3 ISO 11785 state 11
8.4 Wait state 11
8.5 Ready state 11
8.6 Quiet state 11
8.7 Selected state 11
8.8 State diagram 12

9 Anticollision 13

9.1 General ... 13
9.2 Request parameters ... 13
9.3 Request processing by the transponder ... 14
9.4 Explanation of anticollision sequences ... 16
9.4.1 General ... 16
9.4.2 Anticollision sequence with one slot ... 16
9.4.3 Anticollision sequence with 16 slots ... 16
9.4.4 Mixed population with transponders of type FDX-ADV and HDX-ADV ... 17
9.4.5 Advanced anticollision mode ... 17

10 Commands ... 19
10.1 Command classification ... 19
10.2 Command list ... 20
10.3 Mandatory commands ... 21
10.3.1 INVENTORY ... 21
10.3.2 READ UID ... 22
10.3.3 READ MULTIPLE BLOCKS ... 22
10.3.4 STAY QUIET ... 23
10.3.5 WRITE SINGLE BLOCK ... 23
10.3.6 LOCK BLOCK ... 23
10.4 Optional commands ... 24
10.4.1 READ SINGLE BLOCK ... 24
10.4.2 READ SINGLE BLOCK WITH SECURITY STATUS ... 24
10.4.3 READ MULTIPLE BLOCKS WITH SECURITY STATUS ... 25
10.4.4 WRITE MULTIPLE BLOCKS ... 25
10.4.5 GET SYSTEM INFORMATION ... 26
10.4.6 SELECT ... 27
10.4.7 RESET TO READY ... 28
10.4.8 WRITE SYSTEM DATA ... 28
10.4.9 LOCK SYSTEM DATA ... 29
10.4.10 READ EXTENDED MULTIPLE BLOCKS ... 29
10.4.11 WRITE EXTENDED MULTIPLE BLOCKS ... 30
10.4.12 LOCK EXTENDED BLOCK ... 31
10.4.13 Optional command execution in inventory mode ... 31
10.5 Custom commands ... 32
10.6 Proprietary commands ... 32

Annex A (informative) Description of a typical anticollision sequence with FDX and HDX transponders ... 33

Bibliography ... 34