

ISO/IEC 24753:2011-09 (E)

Information technology - Radio frequency identification (RFID) for item management - Application protocol: encoding and processing rules for sensors and batteries

Contents	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviations	2
3.1 Terms and definitions	2
3.2 Abbreviations	3
4 Conformance	3
5 Basic Model	3
5.1 Logical interface model	3
5.2 The sensor information model for full function sensors	6
5.3 The sensor information model for simple sensors	7
6 Real time clock (RTC)	8
6.1 General requirements	8
6.2 Presentation of time to the application	8
6.3 Encoding of the time stamp	8
6.4 Converting between the two time presentations	8
6.5 Setting the RTC	9
6.6 Time synchronisation	9
7 Full function sensors	10
7.1 General	10
7.2 Sensor identifier	11
7.3 Sensor characteristics record (Type 1)	11
7.4 Sampling and configuration record	11
7.5 Event administration record	12
7.6 Event records	12
8 Simple sensors	13
8.1 General	13
8.2 Implementations	13
8.3 Record structures	13
8.4 Memory mapped simple sensor	15
8.5 Ported simple sensor	16
9 Processing functional application commands and responses	17
9.1 General	17
9.2 Processing full function sensors functional application commands and responses	17
9.3 Processing simple sensors functional application commands and responses	36
10 Processing rules for full function sensors based on IEEE 1451.7 type 001	46
10.1 General	46
10.2 1451.7 sensor ID - 64-bit unique sensor identifier	47
10.3 Primary sensor characteristics TEDS (Type 1)	47

10.4	Sampling and Configuration Record	49
10.5	Event Administration Record	51
10.6	Event records	54
11	Processing rules for simple sensors	61
11.1	General	61
11.2	Read-Simple-Sensor-Data-Block processing	61
11.3	Processing manufacturer data	63
11.4	Processing calibration data	65
11.5	Processing sample and configuration data	66
11.6	Processing event time and observed data	66
11.7	Processing time synchronisation data	66
11.8	Encoding the Sample-And-Configuration data	66
11.9	Decoding and processing the Sample-Counter value from the Event record	67
11.10	Decoding observed data	67
	Annex B (informative) UTC time: useful information	71
	Bibliography	73