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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/IEC DIS 18000-65

Information technology — Radio frequency identification for item management —

Part 65: Parameters for air interface communications for streaming sensors based on ISO/IEC 18000-63

ICS: 35.040.50

ISO/IEC JTC 1/SC 31

Secretariat: **ANSI**

Voting begins on:
2025-01-14

Voting terminates on:
2025-04-08

This document is circulated as received from the committee secretariat.

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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).

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For an explanation of the voluntary nature of standards, 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC/JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

A list of all parts in the ISO/IEC 18000 series can be found on the ISO website.

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.

Introduction

This document specifies the physical and logical requirements for a passive-backscatter Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags. To differentiate the tags in ordinarily ITF system from the functional tags defined in this specification, the functional tag is referred as to streaming sensor. A streaming sensor comprises, at least, a tag, which exploits the backscatter technology to establish the tag-to-interrogator link and an optional digital sensor.

The technical foundation of this document largely relies on ISO/IEC 18000-63. The unique features of this document are to accommodate the backscatter communication capability to various digital sensors and to allow simultaneous communication between streaming sensors and interrogators.

The described backscatter sensor system supports the following system capabilities in addition to the basic capability of ISO/IEC 18000-63.

- Allocation of dedicated subcarrier frequency, bitrate and channel coding method to a selected set of streaming sensors.
- Start and stop control of continuous data streaming from the set of streaming sensors to the interrogator.
- Configuration and read/write of digital sensors from the interrogator through the tag in a streaming sensor.

The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

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Information technology — Radio frequency identification for item management —

Part 65:

Parameters for air interface communications for streaming sensors based on ISO/IEC 18000-63

1 Scope

This document defines the air interface based on ISO/IEC 18000-63 for radio frequency identification (RFID) devices operating in the 860 MHz to 930 MHz used in sensing as well as item management applications.

This document specifies the physical and logical requirements for a passive-backscatter Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags. To differentiate the tags in ordinarily ITF system from the functional tags defined in this specification, the functional tag is referred as to streaming sensor. A streaming sensor comprises, at least, a tag, which exploits the backscatter technology to establish the tag-to-interrogator link, and an optional digital sensor. If a stream sensor involves a digital sensor, the tag provides a unique identification number for the digital sensor as well as working as a wireless modem between the interrogator and the digital sensor. Depending on the usage of the system, the interrogator may process, store and pass-through the received data from the tag. General functions as an item management application, specifically inventory, reading and writing tags, are utilizing functionality defined in ISO/IEC 18000-63.

This document specifies

- logical and physical procedures between the interrogator and tags to allocate a dedicated subcarrier channel to each of the tags to produce continuous data streaming.
- logical and physical procedure between the interrogator and the tags to start and stop the continuous data streaming.
- logical interface between the interrogator and the tag to configure a digital sensor and to receive data from the digital sensor through the tag.

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/IEC 18000-63:2021, *Information technology — Radio frequency identification for item management — Part 63: Parameters for air interface communications at 860 MHz to 960 MHz Type C*

3 Terms and definitions

For the purposes of this document, the terms and definitions giving in ISO/IEC 19762 and the following 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>