BS ISO/IEC 15961-3:2019

BSI Standards Publication

Information technology — Data protocol for radio frequency identification (RFID) for item management

Part 3: RFID data constructs

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National foreword

This British Standard is the UK implementation of ISO/IEC 15961-3:2019. Together with BS ISO/IEC 15961-1:2013, BS ISO/IEC 15961-2 and BS ISO/IEC 15961-4:2016, it supersedes BS ISO/IEC 15961:2004, which will be withdrawn upon publication of all parts of the series.

The UK participation in its preparation was entrusted to Technical Committee IST/34, Automatic identification and data capture techniques.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Part 3: RFID data constructs

Technologies de l'information — Protocole de données relatif à l'identification par radiofréquence (RFID) pour la gestion d'objets —

Partie 3: Constructions de données RFID

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Foreword

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

This first edition of ISO/IEC 15961-3, together with ISO/IEC 15961-1, ISO/IEC 15961-2 and ISO/IEC 15961-4, cancels and replaces ISO/IEC 15961:2004, which has been technically revised.

A list of all parts in the ISO/IEC 15961 series can be found on the ISO website.

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Introduction

The technology of radio frequency identification (RFID) is based on non-contact electronic communication across an air interface. The structure of the bits stored on the memory of the RFID tag is invisible and accessible between the RFID tag and the interrogator only by the use of the appropriate air interface protocol, as specified in the appropriate part of ISO/IEC 18000. The transfer of data between the application and the interrogator in open systems requires data to be presented in a consistent manner on any RFID tag that is part of that open system. Application commands from the application and responses from the interrogator also require being processed in a standard way. This is not only to allow equipment to be interoperable, but in the special case of the data carrier, for the data to be encoded on the RFID tag in one system implementation for it to be read at a later time in a completely different and unknown system implementation. The data bits stored on each RFID tag must be formatted in such a way as to be reliably read at the point of use if the RFID tag is to fulfil its basic objective.

Manufacturers of RFID equipment (interrogators, RFID tags, etc.) and the users of RFID technology require a standard-based data protocol for RFID for item management. ISO/IEC 15961 and ISO/IEC 15962 specify this data protocol, which is independent of any of the air interface standards defined in ISO/IEC 18000. As such, the data protocol is a consistent component in the RFID system that may independently evolve to include additional air interface protocols. The International Standards that comprise the data protocol are as follows:

— ISO/IEC 15961-1 , which defines the transfer of data to and from the application, supported by appropriate application commands and responses;

— ISO/IEC 15961-2 , which defines the registration procedure of RFID data constructs to ensure that the data protocol supports new applications, in a relatively straightforward manner, as they adopt RFID technology. This can be achieved by the Registration Authority publishing regular updates of RFID data constructs that have been assigned, and as a means of incorporating these updates into the processes of ISO/IEC 15961-1;

— this document (ISO/IEC 15961-3), which defines the data constructs and the rules that govern their use;

— ISO/IEC 15961-4, which defines the transfer of data associated with sensors and batteries to and from the application, supported by appropriate application commands and responses;

— ISO/IEC 15962, which specifies the overall process and the methodologies developed to format the application data into a structure to store on the RFID tag.

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