

This is a preview of "ISO 18185-4:2007". [Click here to purchase the full version from the ANSI store.](#)

First edition
2007-05-01

Freight containers — Electronic seals — Part 4: Data protection

*Conteneurs pour le transport de marchandises — Scellés
électroniques —*

Partie 4: Protection des données



Reference number
ISO 18185-4:2007(E)

© ISO 2007

This is a preview of "ISO 18185-4:2007". [Click here to purchase the full version from the ANSI store.](#)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

This is a preview of "ISO 18185-4:2007". [Click here to purchase the full version from the ANSI store.](#)

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	2
4 Data protection.....	3
4.1 General.....	3
4.2 Confidential information	3
4.3 Public information	3
4.4 Fixed data	3
4.5 Variable data.....	3
5 Device authentication.....	3
5.1 General.....	3
5.2 Physical authentication.....	4
5.3 Electronic authentication	4
6 Conformance	4
Annex A (normative) Electronic seal manufacturers' security-related practices.....	5
Bibliography	10

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 18185-4 was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 4, *Identification and communication*.

ISO 18185 consists of the following parts, under the general title *Freight containers — Electronic seals*:

- *Part 1: Communication protocol*
- *Part 2: Application requirements*
- *Part 3: Environmental characteristics*
- *Part 4: Data protection*
- *Part 5: Physical layer*

This is a preview of "ISO 18185-4:2007". [Click here to purchase the full version from the ANSI store.](#)

Introduction

This part of ISO 18185 was prepared by ISO Technical Committee 104/Subcommittee 4/Working Group 2, using the drafting conventions of ISO/IEC Directives, Part 2.

In early 2005, an extensive Vulnerability Assessment took place to analyse the use cases and potential data integrity threats posed to devices based on the ISO/IEC 18185 series as written. Based on learnings from that assessment, spoofing and cloning were identified as potential data integrity risks to electronic seals. Device authentication became the highest priority solution to mitigate those identified risks, and the scope of the electronic seal standard-setting work was expanded to meet that objective.

Three aspects are discussed in this part of ISO 18185: data protection, device authentication and conformance.

Data protection addresses the confidentiality and integrity of transmitted data. ISO TC 104/SC 4/WG 2 decided that for this part of ISO 18185, all seal information has been deemed to be public information, and as such, can be transmitted in clear text. Data confidentiality and integrity requirements are presented in this part of ISO 18185 for both fixed data (e.g. data items created during the seal manufacturing process) and variable data (e.g. event information generated by and stored within the seal during use).

Device authenticity addresses the capability to identify the seal as a valid device. This first-generation specification outlines methods for physical authentication.

Conformance addresses the requirement for electronic seals claiming compliance with ISO 18185 to also contain the physical properties of high security mechanical seals in ISO/PAS 17712, and identifies best practices for electronic seal manufacturers.

This part of ISO 18185 defines the first-generation specifications for device authentication and data protection. Further generations of this part of ISO 18185 may be created upon further review of the potential benefits for these electronic seal devices using additional device authentication and data protection methods.