Seos™ Card

High frequency contactless smart card for securing identities

HID's Seos™ smart cards are based on a secure, open technology to manage and authenticate identities. The cards primarily address the need for securing identities for the physical access control solution (PACS) market but are also provisioned to support other applications, including One-Time Password authentication (OTP) for login into networks and other IT resources.

Seos cards are designed for organizations with stringent security requirements for their credential solution, as well as enterprise and government organizations looking for a cost-effective solution. As part of the iCLASS SE® platform, the cards deliver superior data integrity and privacy protection by leveraging the advanced cryptographic algorithms. Seos™ cards also utilize a secure messaging protocol to protect data transmission with the off-card applications providing strong authentication mechanisms to protect the communications between card and reader.

Delivering a high level of interoperability, Seos™ cards include a standards-based application that offers a universal card command interface. The solution also supports an ISO/IEC 7816-4 command set and data model that defines the supported interfaces between an Seos™ card and the reader.

Seos™ cards provide trusted management of secure identities within HID Global's iCLASS SE platform that is based on its Secure Identity Object (SIO) data model.

The iCLASS SE platform manages the secure distribution and life span of credentials. Seos™ supports multiple SIOs carried on a single credential/device to secure PACS (along with any other application data). This enables applications to provide individual protected data sets for the identities in each application.

For migration purposes, the credential is available as multi-technology card that combines 125 KHz Proximity and a high frequency Seos contactless microprocessor.
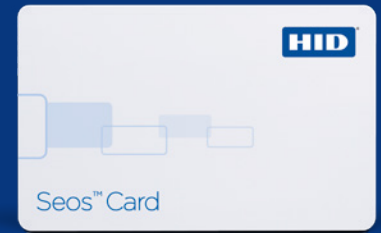

KEY BENEFITS:

- **Strong authentication –** First enterprise-ready converged card for securing physical access as well as access to IT resources.
- **Increased interoperability –** Open, standards-based solution supports future technologies and can store data for multiple applications.
- **Technology-independent security –** Multi-layered security supports the portable Secure Identity Object (SIOs®) data model.
- **Heightened privacy protection –** No traceable identifiers exchanged during card sessions, preventing data associated to a card from being divulged or cloned.

TECHNOLOGY FEATURES

- Available in 8K-Bytes or 16K-Bytes memory
- AES-128/2TDEA cryptographic algorithms for data protection
- Mutual authentication protocol with generation of diversified session key to protect each card session (using secure messaging).
- Secure data storage with flexible data model (file system based) using a firewalled architecture for data separation between applications.
- Supports ISO/IEC standards: 7810, 7816 and contactless cards (14443 A).
- Contactless unique identifier: 4 bytes (random value).
- Generic command set based on ISO/IEC 7816-4.
- Hardware chip integrating co-processor with high performance for cryptographic calculations with symmetric keys.
- One Time Password generation using standards-based solution.
- Card customization available: Magnetic stripe, custom text or graphics (requires minimum quantity).
- TUV IT SEAL-5 certified
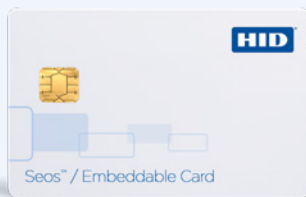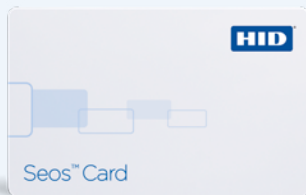
SECURITY FEATURES

- Programmable with one or several Secure Identity Objects® (SIOs®) for each application.
- High resistance to common attacks (man in the middle, replay attacks and others).
- Available with anti-counterfeiting features such as holograms, holographic foil, OVI (Optical Variable Ink).

SINGLE TECHNOLOGY CONTACTLESS FEATURES

- Seos™ with 8K processor card for standard applications or with extended 16K memory for demanding applications.
- Leverages AES-128 based SIO data model and security.

INTEROPERABILITY

- Fully supported by HID Signo Readers.
- Fully supported by iCLASS SE® and multiCLASS SE® readers that can process SIO-enabled data formats. Only supported by iCLASS SE readers with firmware Revision E or later.

Seos™ Card

Seos™ / Embeddable Card

	Seos™ 8K and Seos™ 16K
Base Part Number	5005 for standard 16K card / 5006 for 8K 5015 for embeddable 16K card / 5016 for 8K
Operating frequency	13.56 MHz with ISO/IEC 14443 Type A
Typical Maximum Read Range	3-4″ (depending the reader used)
Dimensions	2.127″ x 3.375″ x 0.033″ max (5.40 x 8.57 x 0.084 cm)
Construction	Composite with 60% PVC / 40% PET
Operating Temperature	-40° to 158° F (-40° to 70° C)
Weight	0.20 oz (5.5g)
Memory Size	8K or 16K
Privacy Mode	Privacy-preserving mode (with encryption of device identifiers)
Secure Messaging	EN 14890-1 and 7816 aligned using AES/2TDEA algorithm
Mutual Authentication Mechanism	Based on ISO/IEC 24727-3 2008 with NIST SP800-56A (for session key derivation)
TUViT SEAL-5 Certified	Yes - Currently available with 16K option only
Write Endurance	Min 500,000 cycles
Data Retention	Min 20 years
HID Proximity	No
Contact Smart Chip Embeddable	Yes
Printable	Yes (white/white card) Usable with direct imaging and thermal transfer printers (from HID but also from other suppliers) Exclusion areas for printing may apply in some areas of the card plastic
Slot Punch	Not available
Secure Identity Services	Customized cards are available through HID Identity on demand
Visual Security Options	Optional including hologram, anti-counterfeiting, holographic foil
Additional Security Options	Corporate 1000, Secure Identity Object (SIO) programming with SE-Elite
Warranty	Lifetime, see complete warranty policy for details

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