

# Seos™ + Prox Card

## Dual high/low frequency solution for streamlined migration



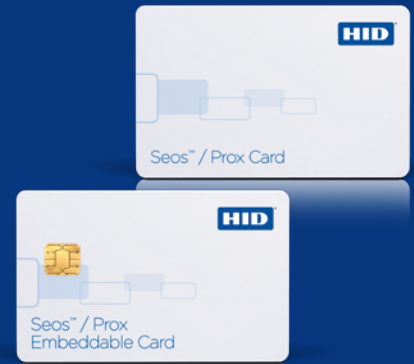
HID's Seos™ + Prox smart card incorporates secure, standards-based technology to manage and authenticate identities. The card provides a next-generation access control solution with stronger authentication, privacy protection, and a secure processor for increased data protection.

Ideal for security-conscious organizations that need to support proximity technology, the Seos + Prox card enables seamless migration to a future-proof, high-frequency solution. With 125 KHz contactless technology—which supports HID Prox®, Indala®, and EM Proximity—organizations can continue to support low-frequency applications, maximize the value of their investment, and migrate to Seos for higher security at their own pace.

Seos + Prox cards help enterprises and government organizations with identity management policies driven by regulatory compliance meet stringent credential security requirements. Part of HID's iCLASS SE® platform, the cards deliver superior data integrity protection by leveraging advanced cryptographic algorithms and secure messaging protocols (to protect data transmission with off-card applications).

Delivering maximum interoperability, Seos cards include a standards-based application offering a generic, universal card command interface that is portable to multiple platforms. 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 physical access reader.

For optimum mobility, Seos + Prox credentials are based on an open software application which is portable to a range of microprocessors and mobile devices, including near field communications (NFC) enabled device.



### KEY BENEFITS:

- **Data confidentiality and strong authentication** – Advanced cryptography provides mutual authentication and data encryption to protect communications..
- **Enhanced privacy** – Communicates no traceable identifiers during card sessions to help prevent card data from being divulged or cloned by unauthorized parties.
- **Increased interoperability** – Standards-based solution supports future technologies, portability to smartphones and other media.
- **Technology-independent security** – Provides multi-layered security with support for multiple Secure Identity Objects™ (SIOs®) for protection of each application's identity.
- **Radio frequency proximity support** – Includes read/write identification using 125 kHz contactless technology for support in existing deployments.

### FEATURES:

- Dual frequency smart card with 13.56 MHz and 125 KHz in the same card body
- Secure data storage with flexible data model using a firewall architecture
- Supports ISO/IEC standards: 7810, 7816, and contactless cards (14443 A)
- High communication speed: up to 848 kbps

## ADDITIONAL PRODUCT FEATURES:

- Large memory for demanding applications.
- High performance microprocessor.
- Mutual authentication protocol with either AES128/2TDEA based on diversified session key to protect each card session.
- Leverages Secure Identity Objects™ (SIO®) data model and security: Programmable with one or several SIOs for each application.
- High resistance to common attacks—man in the middle, replay attacks and others.
- Support other technologies, including Prox for simple migration.

## INTEROPERABILITY

- Fully supported by HID Signo Readers.
- Interoperable with iCLASS SE® Readers that can process SIO-enabled data formats.
- Standards-based solution maximizes interoperability with third-party applications, including PACS readers.

## OPTIONS

- Card customization, including magnetic stripe, custom artwork, text, or graphics: requires minimum quantity.
- Available with anti-counterfeiting features such as holograms, holographic foil, and Optical Variable Ink (OVI).

<b>Base Part</b>	<b>510 for standard card; 511 for embeddable card</b>
<b>Operating Frequency</b>	13.56 MHz & 125kHz
<b>13.56 MHz Communication Protocol</b>	ISO14443A-4, up to 848kbps
<b>Seos Memory Size</b>	8K or 16K
<b>Seos Privacy Mode</b>	Privacy-preserving mode with encryption of device identifiers
<b>Seos Secure Messaging</b>	EN 14890-1 Using AES128
<b>Seos Mutual Authentication</b>	Based on ISO/IEC 24727-3 2008 with NIST SP800-56A (for session key derivation)
<b>TUViT SEAL-5 Certified</b>	Yes
<b>Seos Write Endurance</b>	Min 500,000 cycles
<b>Seos Data Retention</b>	Minimum of 10 years
<b>Seos HID Format Support</b>	Yes (wrapped in SIO)
<b>125kHz Format Support</b>	HID Prox, Indala and EM formats supported
<b>SEOS COMPATIBILITY &amp; PERFORMANCE<sup>1</sup></b>	
<b>Signo Reader</b>	SIO Read, up to 7cm (2.8") – model dependent
<b>iCLASS / multiCLASS SE Readers</b>	SIO Read, up to 5.5cm (2.2") – model dependent
<b>CP1000D Desktop Encoder</b>	SIO R/W, Custom Data R/W – use "V" profile for SIO field programming
<b>iCLASS SE RB25F Fingerprint Reader</b>	Template R/W
<b>Omnikey and Embedded SE Devices</b>	SIO Read, custom data R/W - model dependent <sup>2</sup>
<b>125KHZ COMPATIBILITY &amp; PERFORMANCE<sup>1</sup></b>	
<b>HID Prox/Indala Readers</b>	Up to 14cm (5.5") – model dependant
<b>multiCLASS SE Readers</b>	Up to 4cm (1.6") – model dependant
<b>Signo Reader</b>	Up to 5cm (2") – model dependant
<b>CP1000 Desktop Encoder</b>	HID Prox Read/Write
<b>iCLASS SE RB25F Fingerprint Reader</b>	Not Compatible
<b>OMNIKEY and Embedded SE devices</b>	Read only <sup>7</sup>
<b>MECHANICAL, ENVIRONMENTAL AND COMPLIANCE</b>	
<b>Printing</b>	HID recommends the use of a high-definition printer (HDP) for this card If using direct-to-card printing technology a print exclusion zone applies. Refer to PLT-06132 for details.
<b>Card Construction</b>	Composite construction (40% PVC, 60% PET)
<b>Weight</b>	~ 0.2 oz (5.5g)
<b>Operating Temperature</b>	-40° F to 122° F (-40 °C to + 70 °C)
<b>Storage Temperature</b>	-31° F to 122° F (-35 °C to + 50 °C) for 1000h
<b>Thermal Shock</b>	-31° F to 176° F (-35 °C to + 80 °C) 100 cycles (soaking time 5 min, transition time 30 s)
<b>Chemical Resistance</b>	The card can withstand exposure salt water (5%) salt mist, acetic acid water (5%), carbonated sodium water (5%), sugared water (10%), ethylene glycol (50%) for at least 24 hours
<b>Standards Compliance</b>	ISO14443A-4, ISO/IEC 24727-3:2008, EN 14890-1:200
<b>Environmental Compliance</b>	RoHS, China RoHS, REACH, Halogen Free
<b>Warranty</b>	Lifetime Warranty



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