

Seos® FIDO-Enabled Card

A high security physical access control card that supports FIDO



Maximize workforce productivity with the FIDO (Fast IDentification Online) enabled Seos Card — one badge for passwordless access to business applications and physical spaces. Simplify deployment and management, using one converged credential that offers FIDO-based passkeys.

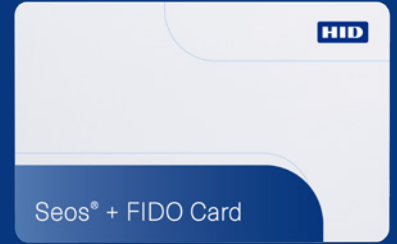
The Seos FIDO-Enabled card is certified to the latest FIDO2 specification that replaces the need to remember and manage passwords. FIDO passkeys provide a device-based passwordless experience for users, reduces the number of IT tickets raised due to forgotten passwords and reduces the risk of password phishing within your organization.

Seos is designed to meet the needs of a modern world, offering trusted security and user privacy while also

providing flexibility to organizations as they transition to a more connected world. Seos credentials leverage modern cryptography and mutual authentication between the credential and reader for enhanced access control.

Physical security is crucial, but it's not just about protecting facilities. It's about safeguarding a network of physical and digital systems, from vending machines to online portals. Seos is designed to easily extend beyond physical access control to applications such as secure printing, time and attendance, cashless vending, and network log-ins via our partner network. The addition of FIDO further expands the use of your physical badge and strengthens your security posture with open standards for phishing resistant multi-factor authentication (MFA).

Make the switch to a password-free world and say hello to a single corporate badge that combines physical access with FIDO-based passkeys. Trust in HID's commitment to provide secure access control solutions that meets the needs of our customers by protecting your organization's physical assets, people and places.



KEY BENEFITS:

- **Converged** – Enjoy the benefits of FIDO passwordless authentication combined with existing Seos-based physical access infrastructure
- **Simplifies Logical Access** – Remove the need for users to remember complex passwords. Compatible with FIDO-compliant applications and services such as Microsoft Entra.
- **FIDO Certified** – The FIDO-enabled card is certified as part of the HID Crescendo C4000 platform
- **High Security Seos Technology** – Enhanced data and privacy by incorporating mutual authentication and secure messaging mechanisms
- **Multi-Application** – Programmable to support a wide array of extended use applications such as secure printing, time and attendance and biometrics
- **Supports Secure Identity Object®** – Provides an additional layer of security to protect access control format data

Seos 8K FIDO-Enabled Card



Base Part Number	561
Operating Frequency	13.56MHz
Protocol	ISO14443 Type A
Communication Speed	Up to 848kbps
Platform	HID Crescendo C4000 platform (NXP JCOP 4.5 hosting Seos and FIDO)
FIDO Compliance	FIDO U2F / FIDO2 CTAP2.1 (up to 30 resident keys)
ISO 14443A UID ¹	Static (7 Byte), random UID option pending
Memory and Endurance	Data retention: 25 years Endurance: 500,000 cycles minimum
Seos Security Features	Mutual authentication (compliant to ISO/IEC 24727-3), key diversification (based on NIST SP800-108 using AES 128), secure messaging (compliant to EN14890-2:2009). Session key derivation based on NIST SP 800-56A
Seos Memory	8Kb
Security Evaluation and Certifications	Common Criteria EAL 6+ for Secure Element FIDO2 Level 2 (under Crescendo C4000 platform)
Seos SIO Data Object Support	Programmable with one or several SIOs for each application. Leverages AES-128 based SIO data model and security.
Seos HID Format Support	Yes (enabled by default)
FIDO Support	Supports HID OMNIKEY 5022 and other FIDO compliant contactless devices

Seos Compatibility and Performance^{1,2}

Due to the additional complexity of Java based platforms, HID highly recommends advanced testing of Seos and FIDO devices/systems including third party devices that support Seos to ensure compatibility.

Signo Readers	Up to 2.3" (6 cm)
iCLASS SE Readers	Up to 2" (5 cm)
multiCLASS SE Readers	Up to 1.6" (4 cm)
CP1000D	Write SIO and custom data (V option required)
iCLASS SE Biometric Reader	Template R/W
iCLASS SE RB25F Biometric Reader	Template R/W (the card may require a specific orientation for consistent R/W performance)
OMNIKEY Readers³	Read SIO and R/W to Open Data or custom ADF – refer to specific model datasheets for full details. Smaller devices like the 5022 or 5023 may require a specific orientation for consistent R/W performance
Embedded Reader Boards³	Read SIO and R/W to Open Data or custom ADF – refer to specific model datasheets for full details
Printer Compatibility	Compatible with high-definition printers (HDP). [Not recommended for us with direct-to-card printers]
MECHANICAL, ENVIRONMENTAL AND COMPLIANCE	
Body Construction	Composite construction (40% PVC. 60% PET)
Environmental Certification	RoHS, China RoHS, REACH
Weight	~ 0.19 Oz (5.5g)
Dimensions	Compliant to ISO7816-1 (ID-1)
Operating Temperature	-40 °F to +158 °F (-40 °C to +70 °C)
Storage Temperature	-31 °F to +176 °F (-35 °C to +50 °C)
Warranty	Lifetime warranty

¹ Although HID carries out extensive device testing, we cannot guarantee the full compatibility of all FIDO or Seos enabled devices; we highly recommend full advanced testing before deployment. Note that the use of static 7-byte UID may require device re-configuration to disable ISO14443-A UID reader output to avoid collision with Seos SIO format data output.

² HID testing occurs in open air. Some environmental conditions, including metallic mounting surface, can significantly degrade read range and performance; plastic or ferrite spacers are recommended to improve performance on metallic mounting surfaces. Spacers for iCLASS SE readers are available at hidglobal.com. Due to the complexity of Java based platforms, HID recommends full testing to ensure compliance of Seos and FIDO devices and systems.

³ See logical access HTOG for Seos compatible Omnikey products and embedded devices.



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