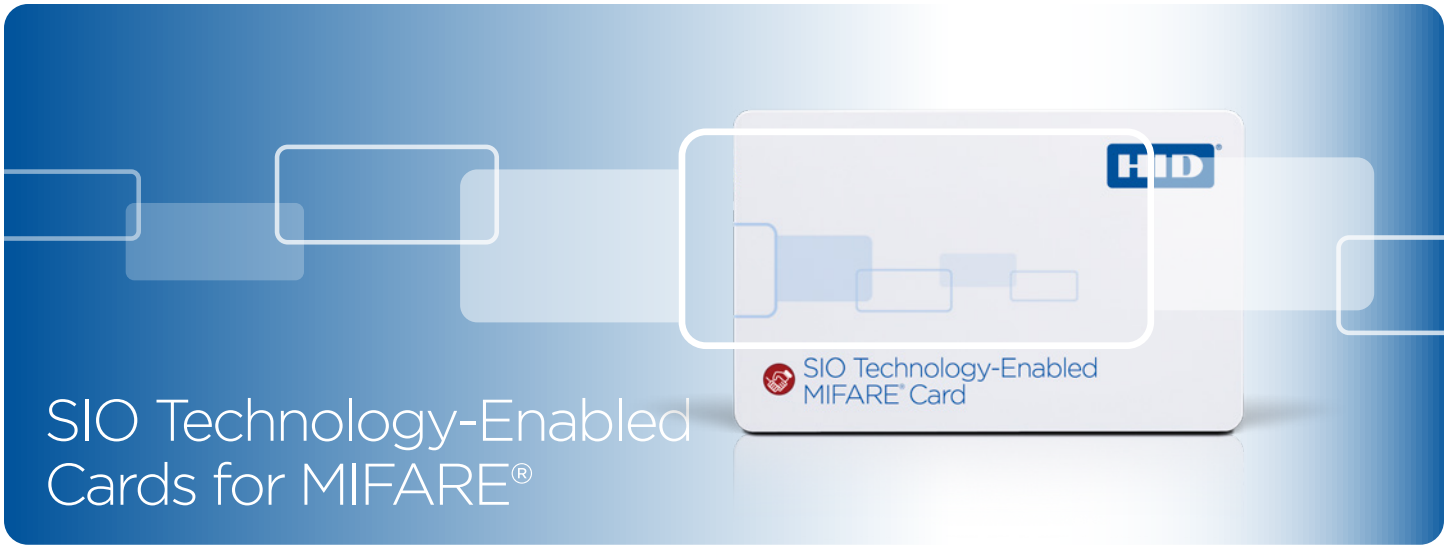
PHYSICAL ACCESS SOLUTIONS




# SIO Technology-Enabled Cards for MIFARE®



## HIGH-FREQUENCY CONTACTLESS SMART CARD

- **Supports Secure Identity Object™ (SIO)** – Multi-layered security beyond the card technology, providing added protection to identity data.
- **Trusted Identity Platform™ (TIP) enabled** – Provides trusted identity within a secure ecosystem of interoperable products.
- **Supports future growth** – MIFARE® Classic 13.56 MHz read/write contactless smart card technology with multiple, securely separated files enables multiple applications for future growth.
- **Flexible configurations** – Many ordering options, including magnetic stripe, external card numbering, vertical slot punch, custom artwork, and contact smart chip module.

**HID Global SIOs deliver three key benefits: portability, security and extensibility.**

- SIOs are defined using open standards that can support any piece of data, including data for access control, biometrics, PC logon, and many other applications.




HID's SIO Technology-Enabled (SE) Cards for MIFARE® are part of the next-generation access control platform and open ecosystem based on HID's Trusted Identity Platform™ (TIP) architecture. The SE Card was designed to provide additional key diversification, authentication, encryption and portability for advanced applications, unprecedented mobility, heightened security and enhanced performance.

HID Global's next generation access control platform goes beyond the traditional smart card model to offer a secure, standards-based, technology-independent and flexible identity data structure based on Secure Identity Object (SIO), a new HID portable credential methodology.

The 13.56 MHz read/write contactless SE Card for MIFARE is a credit card-sized smart card credential that can be used for diverse applications such as physical access control, PC logon, biometric verification, time and attendance, cashless vending, public transportation, airline ticketing and customer loyalty programs.

**SIO TECHNOLOGY-ENABLED (SE) CARDS FOR MIFARE® FEATURES**

- 13.56 MHz read/write contactless smart card technology for high-speed, reliable communications with high data integrity.
- MIFARE® Application Directory (MAD) allows flexible programming of additional applications to the MIFARE Classic® card.
- MIFARE Classic technology uses a mutual authentication and data encryption with a 32 bit serial number.
- Securely separated sectors allow complex applications and provide for future expansion.
- Durability – Passive, no-battery design allows for an infinite number of reads. Strong and resistant to damage.
- Photo ID Compatible – Print directly to the card with a direct image or thermal transfer printer.
- PVC card surface is optimized for dye sublimation printing.

**HIGHER SECURITY**

- Trusted Identity Platform (TIP) Enabled – Provides trusted identity within a secure ecosystem of interoperable products.
- Multi-Layered Security – Supports data authenticity and privacy through the multi-layered security of HID's SIO.
- SIO Data Binding – Inhibits data cloning by binding an object to a specific credential.
- Expanded Elite™ Program – Extends security by providing unique keys for each application area (sector) within an SE card for MIFARE.
- Visual security and anti-counterfeiting features (holograms, ultra-violet fluorescent inks, micro-printing or a custom logo) to easily identify genuine cards.




## SPECIFICATIONS

| | | |
|---|---|---|
| **Base Part Number** | 3400 | PVC SE Card for MIFARE® 1K |
| | 3406 | PVC SE Card for MIFARE 4K |
| | 3450 | Composite PET/PVC SE Card for MIFARE 1K |
| | 3456 | Composite PET/PVC SE Card MIFARE 4K |
| **Description** | SE Card for MIFARE, ISO Thick, Photo Imageable | |
| **Card Construction** | Gloss white/white PVC or PVC/Polyester Composite | |
| **Dimensions** | 2.125" x 3.375" x 0.070" max. (5.40 x 8.57 x 0.18 cm) | |
| **Weight** | 0.20 oz (6.0 g) | |
| **Operating Temperature** | 3400, 3406 PVC Cards: -40 to 122º F (-40 to 50º C)<br>3450, 3456 Composite Cards: -40 to 158º F (-40 to 70º C) | |
| **Operating Humidity** | 5-95% non-condensing | |
| **Operating Frequency** | 13.56 MHz | |
| **RF Interface** | ISO 14443 A, Parts 1-3 | |
| **Transaction Time** | <100 ms | |
| **Baud Rate** | 106 Kbps | |
| **Memory Type** | EEPROM | |
| **Memory Specification** | 1K Byte (8,192 bits) or 4K Bytes (32,768 bits)<br>Memory Sector 0 is used as the MIFARE® Application Directory (MAD)<br>• Unique 4 Byte (32 bit) ID per card (CSN)<br>• Each sector uses two encryption keys - Key "A" to read only; Key "B" to read/write<br>• Each encryption key is 6 Bytes (48 bits) | |
| **Multi-application Memory** | MIFARE 1K: memory arranged in 16 64-Byte Sectors<br>MIFARE 4K: memory arranged in 40 Sectors: 32 sectors of 64 Bytes, 8 sectors of 256 Bytes | |
| **Write Endurance** | Min. 100,000 cycles | |
| **Data Retention** | 10 years | |
| **Typical Maximum Read Range** | Up to 4"<br>*Dependent upon installation conditions. | |
| **Card Marking** | Inkjet standard, Laser engraving optional | |
| **Custom Graphics** | Optional | |
| **Programming** | Factory or field programmable.<br>Note: V type cards designed for field encoding include a permanent genuine HID marker in sector 6. This sector will not be available for third party applications | |
| **Operates With** | iCLASS SE readers and any reader that can read DESFire or MIFARE technology. | |
| **Warranty** | Lifetime warranty. See complete warranty policy for details. | |

**hidglobal.com**

North America: +1 512 776 9000
Toll Free: 1 800 237 7769
Europe, Middle East, Africa: +44 1440 714 850
Asia Pacific: +852 3160 9800
Latin America: +52 55 5081 1650

© 2024 HID Global Corporation. All rights reserved. HID, the HID logo and Secure Identity Object are trademarks or registered trademarks of HID Global in the U.S. and/or other countries. All other trademarks, service marks, and product or service names are trademarks or registered trademarks of their respective owners.
2024-03-20-pacs-mifare-se-sio-cards-ds-en PLT-00523