PHYSICAL ACCESS SOLUTIONS

SIO Technology-Enabled Cards for MIFARE®

HIGH-FREQUENCY CONTACTLESS SMART CARD • 3400, 3406, 3450, 3456

- **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** – iCLASS® 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 – Ensures 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) 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) Memory Sector 0 is used as the MIFARE® Application Directory (MAD) • Unique 4 Byte (32 bit) ID per card (CSN) • Each sector uses two encryption keys - Key "A" to read only; Key "B" to read/write • Each encryption key is 6 Bytes (48 bits)
Multi-application Memory	MIFARE 1K: memory arranged in 16 64-Byte Sectors 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" *Dependent upon installation conditions.
Card Marking	Inkjet standard, Laser engraving optional
Custom Graphics	Optional
Programming	Factory or field programmable
Operates With	iCLASS SE readers and any reader that can read DESFire or MIFARE technology.
Warranty	Lifetime warranty. See complete warranty policy for details.

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North America: +1 949 732 2000
Toll Free: 1 800 237 7769
Europe, Middle East, Africa: +49 6123 791 0
Asia Pacific: +852 3160 9800
Latin America: +52 477 779 1492

hidglobal.com