MIFARE® Credentials

MIFARE® / HID Prox Combo Card • 1431, 1437, 1441, 1447

◗ **Multiple Formats -** Supports all HID proximity card formats, including Corporate 1000.

◗ **Transition Solution -** Add smart card applications to existing HID proximity technology access control system.

◗ **Security -** Mutual authentication, data encryption and unique 32-bit serial number.

HID

ACCESS interoperability.

HID's Proximity and MIFARE® contactless card combines smart card technology with the benefits of HID's proven proximity technology. The card can be used for diverse applications such as access control, cashless vending, public transportation, event ticketing, customer loyalty and photo ID cards. Securely separated sectors enable multiple applications and support future growth. Different keys can protect read/write operations to build key hierarchies in the system.

As a transition solution, the card is ideal for companies that want to add MIFARE smart card applications to an existing HID proximity technology access control system. HID Proximity and MIFARE credentials have the memory structure and capacity to store multiple applications on a single credential. The data is protected with encryption keys used in the mutual authentication process. Therefore, no important data will be shared until the card and reader have been authenticated to each other.

When security and performance count most, HID's MIFARE cards can be produced with visual security and anti-counterfeiting features such as holograms, ultra-violet fluorescent inks, micro-printing or a custom logo to quickly and easily identify genuine cards.

Key Features

◗ **Proven, Reliable Technology -** Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions, even when close to keys and coins.
◗ **Multiple Memory Types -** Available in MIFARE 1K and 4K.
◗ **True Credit Card Thickness -** Use with all direct image and thermal transfer printers.

Long Life Passive, no-battery design allows for an infinite number of reads.

Durability Strong, flexible and resistant to damage.

Photo ID Compatible Print directly to the card with a direct image or thermal transfer printer. Slot punch vertically for easy use.

PVC Card Surface Card is optimized for dye sublimation printing.

Customizable Specify your own text or graphics artwork.

Thin Can be carried with credit cards in a wallet or purse. Use with a strap and clip as a photo ID badge.

Many Ordering Options
Including magnetic stripe, external card numbering, vertical slot punch, custom artwork, and contact smart chip module.

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)

Dimensions	2.125" x 3.375" x .03" (5.4 x 8.57 x 0.084 cm)
Weight	0.24 oz. (6.8 g)
Typical Maximum Read Range*	MIFARE: Up to 4" (10 cm) Prox: 2" – 4.5" (5.0 – 11.4 cm)
Operating Temperature	Model 1431, 1441 PVC Cards: -40 to 122°F (-40 to 50°C) Model 1437, 1447 Composite Cards: -40 to 158°F (-40 to 70°C)
Operating Humidity	5%-95% Non-condensing
Operating Frequency	125 kHz Prox and 13.56 MHz MIFARE
RF Interface	ISO 14443 A, Parts 1-3
Transaction Time	< 100 ms
Baud Rate	106 kbps
Memory Type	EEPROM, 1Kbyte (8,192 bits) or 4 Kbytes (32,768 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	100,000 cycles min.
Data Retention	10 years min.
Material and Finish	Gloss white/white PVC or PVC/Polyester Composite
Card Marking	Inkjet Standard, laser Engraving optional.
Custom Graphics	Optional
Slot Punch	Vertical slot punch optional
Programming	Factory or Field Programmable
Part Number	Model 1431 PVC HID Prox MIFARE 1K Card Model 1441 PVC HID Prox MIFARE 4K Card Model 1437 Composite PET/PVC HID Prox MIFARE 1K Card Model 1447 Composite PET/PVC HID Prox MIFARE 4K Card
Description	MIFARE / HID Prox Combo Card, ISO Thick, Photo Imageable
Warranty	Lifetime - see Sales Policy for complete details

*Dependent on local installation conditions.

ACCESS experience.

hidglobal.com

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