

# FlexSmart® Series 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.
- ▶ **High Security** - Mutual authentication, data encryption and unique 32-bit serial number.



### ACCESS interoperability.

HID's Proximity and FlexSmart 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. Manufactured to the highest quality standards, 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 FlexSmart 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.

# Features

**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)

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

\*Dependent on local installation conditions.

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For best results, please print on recycled paper.

MKT-MIFARE-PROX-DS-EN



**ACCESS** experience.

[hidcorp.com](http://hidcorp.com)

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