

# MIFARE® DESFire® EV3 Key Fob

The most feature-rich implementation of MIFARE DESFire EV3 available

The MIFARE DESFire EV3 Key Fob is the latest addition to HID's MIFARE DESFire family, delivering advanced smart credential technology in a compact and convenient form factor.

The MIFARE DESFire EV3 Key Fob is a compact, pocket-sized credential designed to be neatly attached to a key ring. It leverages security features such as AES128 encryption, secure channel-based file transfer, and proximity check to help minimize relay attacks.

Unlike other MIFARE DESFire solutions on the market, HID EV3 credentials offer a random UID option to prevent the credential from openly sharing any information that could be associated with the user. They also provide layered security with the Secure Identity Object™ (SIO®) data model for added key diversification, authentication signatures and encryption.

An innovative hybrid programming option is available, which adds pre-defined custom applications with user-defined keys to support a wide range of extended MIFARE DESFire applications. Card format data bits are mirrored across to additional custom applications. Alternatively, a custom option is available for bespoke applications and payloads to meet your exact specification

HID MIFARE DESFire solutions offer choice with the highest security standards and privacy features available out of the box.

## PICK THE EV3 PROFILE THAT BEST MEETS YOUR NEEDS

- **High Security** – Adopt HID's most advanced security features with its Signo readers.
- **Compatibility** – Maintain backwards compatibility with iCLASS SE / multiCLASS SE readers
- **Custom** – Decide for yourself which features suit your solution best

## ORDERING INFORMATION

For full details, refer to the [Readers and Credentials How to Order Guide](#).



## KEY BENEFITS:

- **Feature-rich security** – Secure card data with the best implementation of the MIFARE DESFire EV3 toolbox including AES128 encryption, secure channel-based file transfer and proximity check to protect against man-in-the-middle attacks
- **Added assurance** – Available with the portable Secure Identity Object™ (SIO®) data model for added key diversification, authentication signatures and encryption
- **Protect user privacy** - By implementing a random UID, the card is designed so that it will not share information that could be associated with the user.
- **Flexible** – Available in three profiles to ensure the best fit for your access control system, high security, compatibility and custom
- **Fully backwards compatible** – Ensure your investment in legacy MIFARE DESFire credentials and readers is protected, DESFire EV3 credentials offer full backwards compatibility with EV1 and EV2 based solutions
- **Hybrid programming option** – Mirror PACS bits across to additional custom applications for extended application use.

# MIFARE DESFire EV3 Key Fob



## PICK THE EV3 PROFILE THAT BEST MEETS YOUR NEEDS

- **High Security** – Adopt the latest and greatest security features with HID Signo readers
- **Compatibility** – Maintain backwards compatibility with iCLASS SE readers
- **Custom** – Decide for yourself which features suit your solution best

	High Security Profile <sup>1</sup>	Compatibility Profile <sup>2</sup>	Custom Profile <sup>3</sup>
<b>Base Part Number</b>	872	871	870
<b>Operating Frequency</b>	13.56MHz		
<b>Protocol</b>	ISO14443 Type A		
<b>Communication Speed</b>	Up to 848kbps		
<b>ISO 14443A UID<sup>1</sup></b>	Random UID	Static 7 byte	User defined <sup>3</sup>
<b>Memory and Endurance</b>	Data retention: 25 years Typical write endurance: 1,000,000 cycles		
<b>DESFire Security Features</b>	AES128, CMAC based diversification, proximity check & secure messaging	EV3 Application: AES128, CMAC based diversification, proximity check & secure messaging EV1 Application: 2KTDDES, KDF NIST diversification, encrypted communication	User defined <sup>3</sup>
<b>DESFire Memory</b>	8kB		
<b>Security Evaluation and Certifications</b>	Common Criteria EAL 6+		
<b>DESFire SIO Data Object Support</b>	Yes	Yes	No
<b>Access Conditions</b>	Create application allowed	Create application allowed	User Defined <sup>3</sup>
<b>HID Format Support</b>	Yes, wrapped in SIO	Yes, wrapped in SIO	Yes, raw data
<b>Hybrid Profile Support<sup>4</sup></b>	Yes. Requires new or existing Elite key modified to include custom keys <sup>6</sup>	Yes. Requires new or existing Elite key modified to include custom keys <sup>6</sup>	No
<b>HID Reader DESFire Compatibility and Performance<sup>5</sup></b>			
<b>HID Signo Readers</b>	Up to 1.5" (3.8 cm) SIO Read, EV3 Application	Up to 1.5" (3.8 cm) SIO Read, EV3 Application Or SIO Read, EV1 Application. depending on configuration.	Up to 1.5" (3.8 cm) Custom Data (requires custom reader profile)
<b>iCLASS SE Readers</b>	Not Compatible	Up to 1.5" (3.8 cm) SIO Read, EV1 Application	Up to 1.5" (3.8 cm) Custom Data (requires HF migration reader)
<b>Signo 25B Biometric Reader</b>	Not Compatible	Template Read/Write	Not Compatible
<b>multiCLASS SE</b>	Not recommended		
<b>iCLASS SE RB25F Biometric Reader</b>	Not compatible		
<b>iCLASS SE Biometric Reader</b>	Not compatible		
<b>CP1000D</b>	Not Compatible	EV1 SIO Application Read/Write	EV1 custom application read/write (use V profile part number)
<b>Omnikey Readers &amp; Embedded Reader Boards</b>	Not Compatible	EV1 Application SIO Read Refer to specific model datasheets for full details and compatibility	Custom Data Refer to specific model datasheets for full details and compatibility
<b>Mechanical, Environmental and Compliance</b>			
<b>Body Construction</b>	ABS body with TPE insert		
<b>Environmental Certification</b>	CE, RoHS, China RoHS, REACH, Halogen Free		
<b>Weight</b>	0.13 Oz (3.8g)		
<b>Dimensions</b>	Width: 1.25in (31.75mm), Height: 1.56in (39.5mm), Thickness: 0.21in (5.3mm)		
<b>Operating Temperature</b>	-25°F to +185 °F (-25 °C to +85°C)		
<b>Storage Temperature</b>	-25 °F to +185 °F (-25 °C to +85 °C)		
<b>Warranty</b>	Lifetime warranty (excluding wear and tear)		



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**For more global phone numbers click here**

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<sup>1</sup> High Security Profile (802) is supported by HID Signo only (FW 10.0.2.2 or higher).

<sup>2</sup> Compatibility Profile (801) includes the legacy EV1 SIO application, and higher security EV3 AES application that is supported by HID Signo Reader (FW 10.0.0.2 or higher).

<sup>3</sup> As defined within the custom specification. Ensure requested features are compatible with the target reader device, not all EV2/EV3 features are supported by HID. Contact your sales or pre-sales representative for full details.

<sup>4</sup> Contact HID pre-sales for full details and to transfer custom keys into new or existing HID Elite key.

<sup>5</sup> HID Global 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, see reader accessories in the How to Order Guide.