

MIFARE® DESFire® EV3 + Prox Card

Migrate to the most feature-rich implementation of DESFire EV3 available

HID Global's DESFire EV3 + Prox card is designed to enable security system owners with a smooth migration path from legacy low-frequency 125 kHz-based systems to a modern and secure credential technology.

Dual technology credentials maintain interoperability with legacy 125 kHz readers, meaning all readers do not immediately need to be upgraded when starting a migration. This means you can smooth out the implementation and cost of the upgrade over a timeframe that works best for your schedule and budget.

DESFire EV3 is the latest addition to the MIFARE DESFire family of smart card chipsets from NXP. This latest evolution introduces the option of even more features for implementation, and HID has taken full advantage.

Unlike many other DESFire solutions available on the market, HID's DESFire EV3 + Prox card leverages these security features including AES128 encryption, secure channel-based file transfer and proximity check to protect card data from attack.



PICK THE EV3 PROFILE THAT BEST MEETS YOUR NEEDS

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

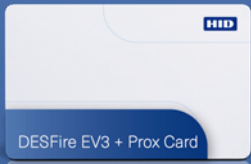
For full details, refer to the [Readers and Credentials How to Order Guide](#).



KEY FEATURES

- **Feature-rich security** – Secure card data with the best implementation of the 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
- **Fully backwards compatible** – Ensure your investment in legacy DESFire credentials and readers is protected, DESFire EV3 credentials offer full backwards compatibility with EV1 and EV2 based solutions
- **Simplified, cost-effective migrations** – Support for read/write identification using 125 kHz contactless technology to enable migration from legacy 125 kHz credential technologies

MIFARE® DESFire® EV3 + Prox Card



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® / multiCLASS® SE readers
- **Custom** – Decide for yourself which features suit your solution best

| | High Security Profile | Compatibility Profile ¹ | Custom Profile |
|--|--|--|--|
| Base Part | 812 | 811 | 810 |
| Operating Frequency | 13.56 MHz & 125kHz | | |
| DESFire Communication Protocol Compliance | ISO14443A-4, up to 848kbps | | |
| DESFire Memory Type & Applications | 8K EEPROM, unlimited applications within memory constraint | | |
| DESFire Access Conditions | Create Application Allowed ² | Create Application Allowed ² | User Defined ³ |
| DESFire SIO Data Object Support | Yes (enabled by default) | Yes (enabled by default) | Optional ³ |
| DESFire HID Format Support | Yes (wrapped in SIO) | Yes (wrapped in SIO) | Optional ² or Unprogrammed |
| DESFire Data Retention | Minimum of 25 years | | |
| DESFire Extended Privacy Support | Yes | No | Optional ² |
| DESFire SIO Application Security Features | AES-128 crypto / Enhanced Secure Channel / Proximity Check | 2TDEA crypto/MAC Communication | Choose from EV1, EV2 or EV3 NXP Specification ³ |
| DESFire SIO Application Key Diversification | Based on NIST 800-108 (CMAC/AES in Counter Mode) | Based on NIST SP800-108 (HMAC/SHA-1) | Optional ² |
| DESFire UID | Random 4-byte UID | 7-byte Static UID | 7-byte Static / 4-byte Random UID |
| DESFIRE COMPATIBILITY & PERFORMANCE⁴ | | | |
| HID Signo Readers | SIO Read, EV3 Application Up to 9cm (3.54") (FW 10.0.2.2 or higher required) | SIO read, EV1 Application Up to 9 cm (3.54") | Custom Data ⁵ Up to 9 cm (3.54") |
| iCLASS SE / multiCLASS SE / pivCLASS Readers | Not Compatible | SIO Read, EV1 Application | Custom Data ⁶ Up to 8 cm (3.15") |
| CP1000D Desktop Encoder | Not Compatible | EV1 SIO Application | EV1 Application Custom Data Read / Write |
| HID Signo Biometric Reader 25B / iCLASS SE RB25F Fingerprint Reader | Not Compatible | Not compatible | Not compatible |
| OMNIKEY Readers Embedded SE Devices | Not Compatible | SIO Read, EV1 Application | DESFire Custom Data ⁷ |
| 125KHZ COMPATIBILITY & PERFORMANCE⁴ | | | |
| HID Prox / Indala Readers | 125kHz Up to 14cm (5.5") – model dependant | | |
| multiCLASS SE Readers | Up to 4cm (1.6") – model dependant | | |
| HID Signo Readers | Up to 5cm (2") – model dependant | | |
| CP1000 Desktop Encoder | HID Prox Read / Write | | |
| HID Signo Biometric Reader 25B / iCLASS SE RB25F Fingerprint Reader | Not Compatible | | |
| OMNIKEY and Embedded SE Devices | Read only ⁷ | | |
| MECHANICAL, ENVIRONMENTAL AND COMPLIANCE | | | |
| Printing | HID recommends the use of a high-definition printer (HDP) for this card | | |
| Card Construction | Composite construction (40% PVC, 60% PET) | | |
| Weight | ~ 0.2 oz (5.5g) | | |
| Operating Temperature | -31° F to 122° F (-35 °C to + 50 °C) | | |
| Min/Max Storage Temperature | -31° F / 122° F (-35 °C / + 50 °C) for 1000hrs | | |
| Thermal Shock | -31° F to 176° F (-35 °C to + 80°C) 100 cycles (soaking time 5 min, transition time 30 s) | | |
| Chemical Resistance | The card can withstand exposure to salt water (5%) salt mist, acetic acid water (5%), carbonated sodium water (5%), sugared water (10%), ethylene glycol (50%) for at least 24 hours | | |
| Standards Compliance | ISO14443A-4, ISO/IEC 24727-3:2008, EN 14890-1:200 | | |
| Environmental Compliance | RoHS, China RoHS, REACH, Halogen Free | | |
| Warranty | Lifetime Warranty | | |



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