



ELSMART CONTACTLESS SMART CARD

*E*ISmart contactless smart card is a multi-application smart card compliant to ISO/IEC 14443 standard. The card has a Memory capacity of 4Kbyte (32 K bits) of EEPROM memory.

Contactless smart cards are passed near an antenna to carry out a transaction. They look just like plastic credit cards, except that they have an electronic microchip and an antenna embedded inside. These components allow the card to communicate with an antenna / coupler unit without any physical contact. Contactless cards are the ideal solution when transactions must be processed very quickly.

The EISmart contactless card supports read/write operation at a distance of 0 to 25mm from the EISmart Terminal. When there are more than one card in the terminal antenna field, the anti-collision mechanism detects and protects the read/write operation with the card.

Memory and Security

The EISmart contactless card provides a 32-Kbit EEPROM memory based on a Mifare®1 chip. The memory is divided into 16 sectors, each with separate access rights for secure implementation of multiple applications.

The two-way authentication sequence is based on a hardwired logic algorithm, random numbers and secret keys. Data transmission to and from the card is encrypted to ensure confidentiality and protection against replay attacks.

The card also features electronic purse functions. Credit and debit operations are managed directly inside the chip with distinct access rights, allowing the implementation of electronic purse functions securely.

Surface printing and finish

The EISmart card can be provided with different surface printing option with single/double side printing: Full color on one side and black on the other. Surface treatment options include Duraguard® coating and or Hologram application with Duraguard®.

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Technical Specifications

Type:	Multi-application smartcard compliant to ISO/IEC 14443
Memory capacity:	4 Kbyte (32Kbits) divided into 40 sectors
Security block:	1 128-bit system block for each sector indicating access rights and holding two secret keys
Card Identification:	Unique Serial number
Security features:	Hardwired cryptographic algorithm for read/write operation Mutual authentication + encrypted transmission
Anti-collision:	Identify multiple cards in the Terminal antenna field
Application feature:	Electronic purse structure, independent credit debit rights
Number of read:	Unlimited
Number of writes:	100,000
Data retention:	10 years



Contactless Communication

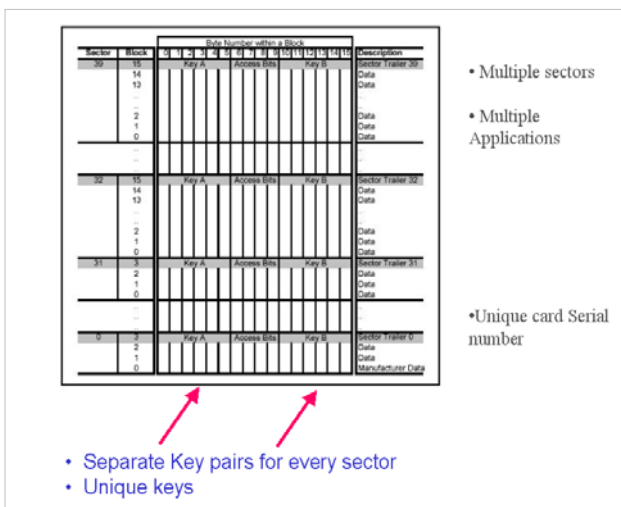
Operating Frequency:	13.56 MHz
Power supply:	Magnetic Induction
Communication speed:	106Kbaud
Communication integrity:	CRC16 and parity bit
Operating range:	0-25mm with EISmart Smart card Terminal (standard)

Physical Characteristics

Size:	85.6 mm (length) 54 mm (width) 0.7mm (thickness) ($\pm 0.5\%$ for length & width)
Card body:	White glossy finish
Card Printing:	Full color one side, Black on the reverse Duraguard® protection layer Hologram (one side) (option)

Durability

Mechanical stress:	250 bending cycles per side
Chemical:	ISO10373 compliant (resistant to alcohol, Fuel B, sweat...)
Temperature:	-20°C to +50°C (standard) -20°C to +100°C (option) Retains functionality and visual aspect



Secure Smartcard Architecture

