



## Features

### Read/Write Functionality for Multi-functional Memory Applications

iCLASS® was specifically designed to make access control more powerful, more versatile, and more secure. All radio frequency data transmission between the card and reader is encrypted using a secure algorithm. By using industry standard encryption techniques, iCLASS reduces the risk of compromised data or duplicated cards. For even higher security, the card data may also be protected with DES or triple DES encryption. Multiple securely separated application areas are each protected by 64-bit diversified read/write keys which allow complex applications and provide for future expansion.

Security mechanisms such as mutual authentication and encryption are efficiently combined with fast processing and data communication, resulting in transaction times of less than 100 milliseconds for a typical secure e-purse transaction.

### Proven, Reliable Technology

#### Thin

Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions.

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

### \* Photo ID Compatible

#### Long Life

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

Passive, no-battery design allows for an estimated minimum 100,000 reads.

#### Durability

##### Options:

Strong, flexible, and resistant to cracking and breaking.

- Magnetic stripe
- External card numbering (inkjet or laser engraving)
- Vertical slot punch
- Custom artwork (text or graphics)

(Please see "How To Order Guide" for a description of the options and associated part numbers.)

#### Warranty

#### Base Part Numbers

Lifetime Warranty. See complete warranty policy for details.

- 2020 for 2k bit (256 Byte) card
- 2021 for 16k bit (2k Byte) card with 2 application areas
- 2022 for 16k bit (2k Byte) card with 16 application areas
- 2023 for 32k bit (4k Byte) 16k/2+ 16k/1.
- 2024 for 32k bit (4k Byte) 16k/16 + 16k/1.

#### Description

13.56 MHz contactless smart card.  
125 kHz HID Proximity card.

## Specifications

### Typical Maximum Read Range\*

R10 2.0-3.0" (5.0-7.6cm)  
R30/RW300 2.0-3.5" (5.0-8.9cm)  
R40/RW400 2.5-4.5" (6.3-11.4cm)  
RK40/RWK400 3.0-4.0" (7.6-10.1 cm)

\*Dependent upon installation conditions.

### Dimensions

2.127" x 3.375" x 0.033" max. (5.40 x 8.57 x 0.084 cm)

### Weight

0.24oz (6.8 g)

### Card Construction

Thin, flexible polyvinyl chloride (PVC) laminate.

### Operating Temperature

-40° to 158° F (-40° to 70° C)

### Operating Humidity

5-95% non-condensing

### Operating Frequency

13.56 MHz  
125 kHz

### RF Interface

As suggested by ISO/IEC:  
14443B read/write (16k only)  
15693 read/write

### Transaction Time

<100 ms typical

### Baud Rate

14443 B mode - 106 kbps  
15693 mode - 26 kbps

### Memory Type

EEPROM, read/write

### Multi-application Memory

2k bit (256 Byte) card – 2 application areas  
16k bit (2k Byte) – 2 or 16 application areas  
32k bit (4k Byte) card – 16k bit in 2 or 16 application areas plus 16k bit user configurable.

### Write Endurance

Min. 100,000 cycles

### Data Retention

10 years

\* When customizing cards using Re-Transfer Printers that fuse images to the surface of the card by applying heat and pressure (such as the Fargo HDP5000) we recommend the use of composite cards, which are better able to withstand the higher application temperatures.