

# iCLASS RW400 Reader

Contactless Smart Card Reader/Writer  
6121 • Read/Write • U.S./EU/Asian Back Box Size

*iCLASS* smart reader/writers and cards make access control and read/write applications more powerful, more versatile, and most importantly, offer enhanced security through encryption and mutual authentication.

At the same time, *iCLASS* is user-friendly, delivering the convenience, affordability and reliability of proximity technology, for which HID is known worldwide.

Using the 13.56 MHz technology platform, the *iCLASS* RW400 contactless smart card reader/writer combines the longer read range of proximity with the power and heightened security of smart card technology.

Supporting read/write applications, the RW400 reads/writes user data to HID *iCLASS* credentials that offer either 2Kbits (256Bytes) or 16Kbits (2KBytes) of data storage. Read/write applications include IT secure authentication, biometric template storage, digital cash, time and attendance, equipment/material use or checkout and transit passes.

Featuring crisp architectural styling, the reader/writer has an elegantly curved faceplate. The high intensity, three-color light bar provides clear, visual feedback even in direct sunlight. Selectable, distinct tone sequences indicate status conditions.

## Experience enhanced versatility:

- Use one reader to read standard proximity format data from HID *iCLASS* credentials, or unique serial numbers from MIFARE® cards.
- Confidently install the reader knowing that the Wiegand output easily interfaces with most existing Wiegand protocol access control panels.
- To support read/write applications, the bi-directional RS232 serial port provides connection to a PC or microcontroller.

## Appreciate advanced security:

- All RF data transmission between the card and reader is encrypted using a secure algorithm.
- By using industry-standard encryption techniques and advanced key management systems, *iCLASS* reduces the risk of compromised data or duplicated cards.

## Be secure in knowing:

- *iCLASS* complies with the ISO 15693 standard for contactless smart card technology. Standards are important in smart card technology because they make it possible for many equipment and application developers to work with the smart card technology and create a broader range of uses for the card.
- *iCLASS* technology can extend the use of your access control credential into other applications today and tomorrow.

**iCLASS™ by**

**Smart • Powerful • Trusted**



# iCLASS™ RW400 Reader

## Contactless Smart Card Reader - Reader/Writer

# HID

### Features

#### Security

64-bit authentication keys are extremely secure. Readers and cards require matching keys to function. All RF data transmission between the card and reader is encrypted, using a secure algorithm. The key management system reduces the risk of compromised data or duplicated cards.

#### Programming/Configuration

Key management is made easy! All cards are shipped with unique diversified keys, and readers are shipped with compatible keys. All keys are derived from the HID Standard transport key. While cards and readers with Standard keys are interchangeable, the keys are highly secure, and cards can be made unique by ordering with iCLASS Elite formatting.

Cards and readers with site-specific Custom keys are also optionally available from the factory, or the iCLASS CP400 programmer can be used to create site-specific keys and a reader configuration card, allowing the user to re-key cards and readers on-site. The programmer also enables users to protect card data with DES or triple DES encryption. Custom keys provide the highest level of security, where cards and readers are uniquely matched to individual sites or customers, and are non-interchangeable.

#### Easily Interfaced

The reader's Wiegand output easily interfaces with most existing Wiegand protocol access control panels. The reader reads standard proximity format data from HID iCLASS cards, and will output data as encoded.

Bi-directional RS232 serial port communicates at data rates up to 57.6 Kbaud, using ISO 7816 protocol, the standard for contact smart card applications, allowing connection to a PC or microcontroller. A Software Developers Kit is available.

When reading MIFARE® cards, the reader can be configured to output 26-bit, 32-bit, 34-bit or 40-bit Wiegand formats based on the card serial number.

#### Card Compatibility

The iCLASS RW400 reader is compatible with all iCLASS credentials. The reader's versatility allows it to read credentials meeting several ISO standards:

- 15693 – read/write; 2Kbits (256Bytes) and 16Kbits (2KBytes) iCLASS credentials
- 14443A – read only; MIFARE® (serial number)
- 14443B2 – read/write; 16Kbits (2KBytes) iCLASS credentials

#### Audiovisual Indication

Audio transducer provides various tone sequences to signify access granted, access denied, power up and diagnostics. Visually impaired cardholders can easily distinguish between access granted and access denied.

High-intensity light bar provides a clear visual status indication in red, green or amber, even in bright sunlight.

#### Open Collector Output

Normally Open logic output, controlled via RS232 port. Switches up to 50 mA at 12 VDC. Use interposing relay for larger loads.

#### Mounting

A three-part reader makes installation easier! Mounting plate attaches to U.S., European and Asian back boxes or to any flat surface. Reader body snaps onto mounting plate. Cover snaps over reader body, secured with a screw. Mounts on metal with minimal read range impact.

#### Indoor/Outdoor Design

Rugged, weatherized polycarbonate enclosure, designed to withstand harsh environments, provides reliable performance and resistance to vandalism. Permanent magnet built into housing facilitates tamper alarm when used with a magnetic reed switch.

#### Warranty

Warranted against defects in materials and workmanship for life. (See complete warranty policy for details.)

#### Part Numbers

Base Part Number: 6121

Options:

- Color – Black, Gray
- Key Management – Standard or Custom
- Selectable Output Type (for MIFARE® cards)
- Standard Termination – 18" (.5 m) cable pigtail
- Programmable LED/Beeper operation
- Accessory – Security Tool; 04-0001-03

[www.HIDCorp.com](http://www.HIDCorp.com)

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### Specifications:

#### Typical Maximum Read Range\*

2.5-4.5" (6.3-11.4 cm) with HID iCLASS Card  
1.0" (2.5 cm) with HID iCLASS Key  
1.0" (2.5 cm) with HID iCLASS Tag  
1.5-2.0" (3.8-5.0 cm) with HID iCLASS Prox  
1-2" (2.5-5.0 cm) with MIFARE Card (serial number only)

\*Using ISO 15693 mode (except MIFARE).  
Dependent upon installation conditions.

Please note that all iCLASS credentials are available in either a 2Kbits (256Bytes) or 16Kbits (2KBytes) configuration.

#### Dimensions

3.30" x 4.80" x .85" (8.38 cm x 12.19 cm x 2.16 cm)

#### Material

UL94 Polycarbonate

#### Power Supply

10 – 16 VDC reverse voltage protected  
Linear supply recommended

#### Current Requirements (Avg/Peak)

100/350 mA @ 12 VDC

#### Operating Temperature

-31° to 150° F (-35° to 65° C)

#### Operating Humidity

5% to 95% relative humidity non-condensing

#### Weight

8.8 oz (249.47 g)

#### Transmit Frequency

13.56 MHz

#### Baud Rate (serial communications)

Configurable – 9.6, 19.2, 38.4, 57.6 Kbaud

#### Certifications

UL 294/cUL, FCC Certification, Canada Certification  
CE Mark (Europe), New Zealand, Australia c-Tick

#### Pending Certifications

Taiwan, Singapore, Germany VDS

#### Cable Distance

Wiegand Interface – 500 feet (150 m)  
RS232 – 50 feet (15 m)  
Recommended cable is ALPHA 1299 (22AWG)  
9-conductor stranded with overall shield or equivalent. Additional conductors may be required to connect all outputs.

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LIT6121DS Preliminary 10/2003



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