

Hi-O™ iCLASS® Readers

13.56 MHz Contactless Smart Card Reader (R10, R15, R30, R40 and RK40)
Highly Intelligent Opening (Hi-O) Compliant

- ▶ **Simplified Installation** – Offers enhanced system features and reduced installation cost
- ▶ **Embedded Intelligence** – Features “plug-and-play” capability with each device operating in a basic configuration as soon as it is connected
- ▶ **Proven Technology** – Supports ISO Standard CANbus protocols
- ▶ **Increased Security** – Enables encrypted data exchange between Hi-O devices



ACCESS interoperability.

Hi-O™ (Highly Intelligent Opening) is a new concept for electronic door solutions simplifying installation, service and upgrades. Based on a CANbus (CAN for Controller Area Network) data communication network, a standard used for many years in other industries and extensively utilized as the common standard for interfacing control systems in automotive applications, Hi-O enables connected devices to exchange and share encrypted information.

Every device (e.g. electric strike, HID iCLASS® reader, door automatics, etc.) is connected through a four-wire cable, with two wires for power and two for data communication. When connected, the plug-and-play devices automatically detect what other hardware is on the network, check for conflicts, and if none are found, begin sharing information. Encrypted data exchange between each of the devices on the network provides improved security over a traditional Wiegand or Clock-and-Data interface. The bi-directional communication link also enables host controller reader behaviour, including visual (LED) and audio (beeper) indicators, and polling for reader on-line/off-line status.

- Works only with other Hi-O-compliant access control panels and other door devices in a Hi-O network
- Available with iCLASS R10, R15, R30, R40 and RK40
- Bi-directional encrypted protocol unlike Wiegand or Clock-and-Data; Each door device (electric Strike, door openers, access control reader) is connected to the same network using identical cabling structure
- Each door device offers “plug-and-play” capability with each device operating in a basic configuration as soon as it is connected
- Data Network based on ISO Standard CAN, established in 1995 and used in a variety of industries including shipping and cars
- Certifications FCC (US), CE (EU), C-tick (Australia, New Zealand), IC (Canada), SRRC (China), MIC (Korea), NCC (Taiwan), iDA (Singapore)

For more information on Hi-O technology please visit the Hi-O website:
http://www.hi-o.se/Hio/Templates/PageThisIs_____201.aspx.



HI-O TECHNOLOGY™

Features

Security

Hi-O iCLASS® readers exponentially minimize security attacks by providing credential to reader to host access control panel end-to-end secure communications. Readers, credentials and host access control panels all require matching keys to function. Reader and iCLASS card authentication utilizes secure 64-bit authentication keys while encrypting RF data transmission using secure algorithms. Reader and host access control panel authentication utilizes 128-bit authentication keys with rolling codes.

Elite Custom Keys

Custom keys provide the highest level of security, where cards and readers are uniquely matched to individual sites or customers, and are non-interchangeable. Combining Elite custom keys with our Corporate 1000 can offer companies a scalable solution that can be implemented in facilities worldwide.

Audiovisual Indication

Audio sounder 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. A high-intensity light bar provides a clear visual status indication in red, green or amber.

Keypad

Twelve discrete switches are covered with a silicone rubber boot and vandal resistant metal keycaps. Raised tactile mark on "5" key for visually impaired users. Configurable audio feedback. Backlit numbers in bezel overlay, above each key. Lighting is configurable: "Always On", "Always Off", "Triggered by Card Read", or "Triggered by Key Press".

Indoor/Outdoor Design

Rugged, weatherized polycarbonate enclosure, designed to withstand harsh environments, provides reliable performance and resistance to vandalism.

Options

Colors - Black or Gray
Key Management - Standard or Elite
Termination Options: Terminal Strip
Programmable LED/Beeper operation
Accessory - Security Tool; 04-0001-03

	R10	R15	R30	R40	RK40
* Model Numbers	6102C	6142C	6112C	6122C	6132C
** Read Range	iCLASS Card: Up to 3.25" (8.9 cm) iCLASS Key/Tag: Up to 1.5" (3.8 cm) MIFARE / DESFire Card (CSN): Up to 2.0" (5.1 cm)	iCLASS Card: Up to 3.5" (8.9 cm) iCLASS Key/Tag: Up to 1.5" (3.8 cm) MIFARE / DESFire Card (CSN): Up to 2.0" (5.1 cm)	iCLASS Card: Up to 4.0" (10.2 cm) iCLASS Key/Tag: Up to 2.0" (5.1 cm) MIFARE / DESFire Card (CSN): Up to 2.75" (7.0 cm)	iCLASS Card: Up to 4.75" (12.1 cm) iCLASS Key/Tag: Up to 2.0" (5.1 cm) MIFARE / DESFire Card (CSN): Up to 2.5" (6.4 cm)	iCLASS Card: Up to 4" (10.2 cm) iCLASS Key/Tag: Up to 1.25" (3.2 cm) MIFARE / DESFire Card (CSN): Up to 2" (5.1 cm)
Mounting	The R10 and R15 are physically our smallest readers and are ideally suited for mullion-mounted door installations, U.S. single-gang J-box or any flat surface (Reader will not cover junction box).		The R30 is 83.8 mm (3.3") square reader is designed to mount to and cover standard European and Asian back boxes.	The R40 is designed to mount and cover single gang switch boxes primarily used in the United States and includes a slotted mounting plate for European and Asian back box spacing.	The RK40 is designed to mount and cover single gang switch boxes primarily used in the United States and includes a slotted mounting plate for European and Asian back box spacing.
Dimensions	1.9" x 4.0" x 0.9" 4.8 cm x 10.3 cm x 2.3 cm	1.9" x 6.0" x 0.9" 4.8 cm x 15.3 cm x 2.3 cm	3.3" x 3.3" x 0.9" 8.4 cm x 8.4 cm x 2.3 cm	3.3" x 4.8" x 1.0" 8.4 cm x 12.2 cm x 2.4 cm	3.3" x 4.8" x 1.1" 8.5 cm x 12.2 cm x 2.8 cm
Power Supply	5-16 VDC, Linear supply recommended NOTE: Hi-O iCLASS Readers are NOT compliant with 24 VDC Hi-O bus.				
Current Requirements	100 mA AVG, 160 mA PEAK				140 mA AVG, 260 mA PEAK
Operating Temperature	-31° to 150° F (-35° to 65° C)				
Operating Humidity	5% to 95% relative humidity non-condensing				
Transmit Frequency	13.56 MHz				
Cable Distance	Hi-O Bus Total Length is 164' (50 m) MAX Single unterminated stub length is 32.8' (10 m) MAX				
Card Compatibility	• I5693 - read only; 2k bit (256 Byte), 16k bit (2k Byte), 32k bit (4k Byte) iCLASS credentials, serial number • I4443B - read only; 2k bit (256 Byte), 16k bit (2k Byte), 32k bit (4k Byte) iCLASS credentials, serial number • I4443A - read only; MIFARE® and DESFire® (serial number)				
Environmental	IP55				
*** Certifications	FCC Certification (US), IC (Canada), CE (EU), C-tick (Australia, New Zealand), SRRC (China), MIC (Korea), NCC (Taiwan), iDA (Singapore), RoHS				
Housing Material	UL94 Polycarbonate				
Keypad	No				Yes
Warranty	Warrantied against defects in materials and workmanship for life. (See complete warranty policy for details.)				

*Consult How to Order Guide for specific ordering instructions.

**Dependent upon installation conditions.

*** NOTE: This model of reader is NOT UL294/cUL certified.

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iCLASS® Key II

13.56 MHz Contactless

Contactless Smart Key Fob • 2050, 2051, 2052, 2053, 2054



ACCESS flexibility.

HID's iCLASS® 13.56 MHz read/write contactless smart card technology enables numerous applications and supports future growth for an organization's credential program. A unique form factor, the iCLASS Key II provides the convenience of an iCLASS contactless read/write smart card that is durable for harsh environments.

The size of a typical automotive key, this credential form factor can be placed on a key ring or lanyard and customized for corporate identity and branding purposes. The molded plastic key fob is ideal for diverse applications including access control, network log-on security, parking applications, cashless vending, time and attendance and biometric verification.

Features:

- ▶ The iCLASS 13.56 MHz read/write contactless smart key technology provides high-speed, reliable communications with high data integrity.
- ▶ iCLASS technology ensures high security with mutual authentication, encrypted data transfer, and 64-bit diversified keys for read/write capabilities.
- ▶ Any existing HID format can be factory or field programmed into the secure HID access control application area.
- ▶ Available in 2k bit (256 Byte), 16k bit (2k Byte) or 32k bit (4k Byte) configurations.
- ▶ Molded plastic enclosure provides durability in harsh environments.

All 2k bit (256 Byte) iCLASS credentials have the following features:

- ▶ Available in two application area configuration only.
- ▶ Provides the HID standard access control application area and one other application area for user customization.
- ▶ Meets ISO 15693 standard for contactless communications.
- ▶ Provides a cost effective way to improve the security of your access control installation.

All 16k bit (2k Byte) and 32k bit (4k Byte) iCLASS credentials have the following features:

- ▶ Sufficient read/write memory to store multiple biometric templates.
- ▶ 16k available in a two or sixteen application area configuration. 32k available with 16k memory configured in either 2 or 16 application areas, plus an additional 16k user configurable memory.
- ▶ Meets ISO 15693 and 14443B for contactless communications.

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 key and reader is encrypted using a secure algorithm. By using industry standard encryption techniques, iCLASS reduces the risk of compromised data or duplicated keys. 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

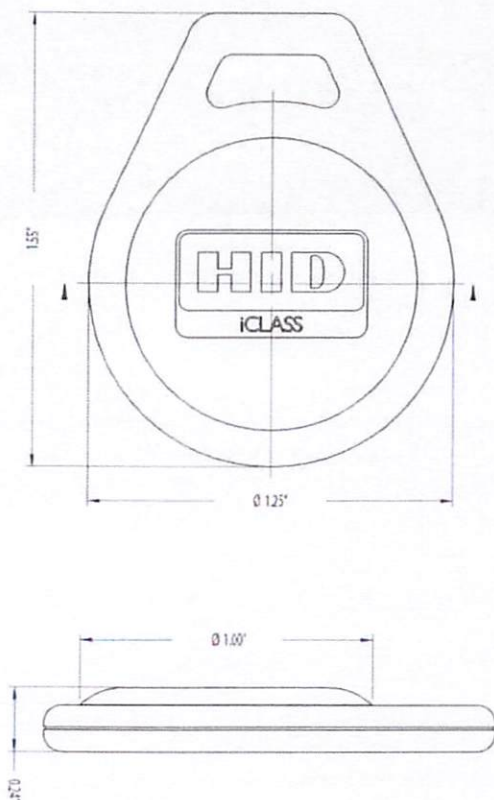
Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions.

Small and Convenient

Can be carried with keys in pocket, handbag, or clipped on a lanyard.

Long Life

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



Base Part Number

2050, 2051, 2052, 2053, 2054

Description

RF-programmable, 13.56 kHz, black with blue insert, customer-specified ID Numbers.

*Typical Maximum Read Range

R10 2" (5.1 cm)
RP15 1 3/4" (4.6 cm)
R30/RW300 2 1/4" (5.9 cm)
R40/RW400 2 3/4" (7.0 cm)
RK40/RWK400 2" (5.1 cm)
RP40 2 1/2" (6.6 cm)

Dimensions

1.555 x 1.25 x 0.235 inches max (3.95 x 3.18 x 0.60 cm)

Key Fob Construction

Ultrasonically welded ABS Shell with TPE insert

Operating Temperature

-50° to 160° F (-45° to 70° C)

Weight

0.14 oz (4.0g)

Memory Size/ Application Areas

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

HID Proximity 125 kHz

No

Contact Smart Chip Module Embeddable

No

Wiegand Stripe

No

Magnetic Stripe

No

Printable

No

Standard HID Artwork

Yes

Slot Punch

Key Ring Hole

Visual Security Options

N/A

Additional Security Options

Corporate 1000

Warranty

Lifetime

Options

Key Ring sold separately (Part Number: 57-0001-02)

External card numbering (inkjet or laser engraving)

*Dependent upon installation conditions. Tested using Rev "C" readers.



ACCESS experience.

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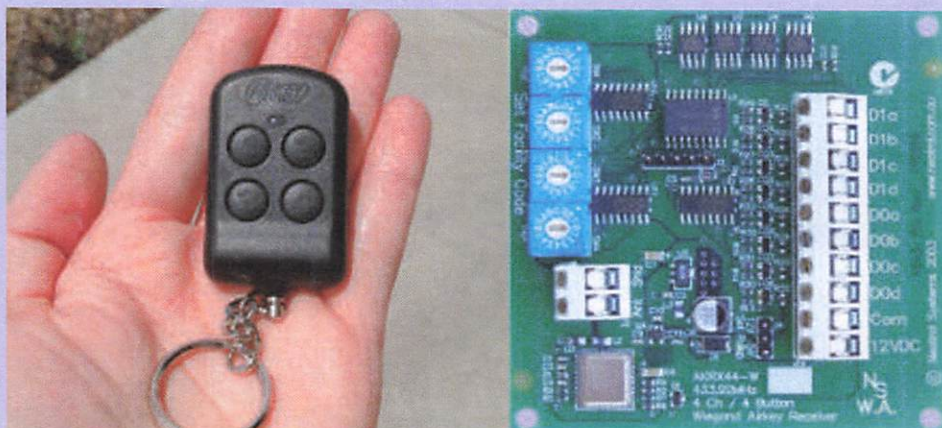
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AKRX44-W26

When security really matters – at no extra cost!

Neatrol Systems

www.neatrol.com.au

The AKRX44-W26 remote control receiver is designed to deliver unparalleled security for all domestic and commercial applications.

Features:

- ❑ Can be used to in parallel with any 26 bit wiegand proximity readers.
- ❑ 4 pairs of wiegand outputs provide separate card reads for each of the Airkey's four buttons.
- ❑ Self learning and self synchronizing receiver technology fully implements independent rolling key encryption for all 65536 possible card numbers within any one site code.
- ❑ Site / facility code selection by simple rotary switches ensures non matching site code transmitter transactions are not passed to the access control system.
- ❑ Compatibility with 2 and 4 channel Airkeys allows for maximum flexibility.
- ❑ Other formats including 27, 30, 32, 34, 35, 36 and 37 bit wiegand available on request (except for proprietary codes restricted to certain companies).
- ❑ 69 bit encrypted data transmission guarantees security.
- ❑ All transmissions immune from code grabbing and code scanning techniques as often used by ever resourceful thieves.
- ❑ The advanced amplifier-sequenced hybrid (ASH) receiver with 2 stages of surface acoustic wave (SAW) filtering provides excellent receiver out-of-bound rejection.
- ❑ The receiver generates virtually no RF emissions, facilitating compliance with ETSI I-ETS 300 220 and similar regulations.
- ❑ No price penalty for far superior technology.

Applications:

- ❑ Garage doors, automatic gates, access control.
- ❑ Remote arming and disarming of security alarms.
- ❑ Personal emergency or duress transmitters.

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