

# 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](http://www.hi-o.se/Hio/Templates/PageThisIs____201.aspx)



# 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
<b>* Model Numbers</b>	6102C	6142C	6112C	6122C	6132B
<b>** Read Range</b>	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)
<b>Mounting</b>	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.
<b>Dimensions</b>	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
<b>Power Supply</b>	5-16 VDC, Linear supply recommended				
<b>Current Requirements</b>	NOTE: Hi-O iCLASS Readers are NOT compliant with 24 VDC Hi-O bus. 100 mA AVG, 160 mA PEAK				
<b>Operating Temperature</b>	-31° to 150° F (-35° to 65° C)				
<b>Operating Humidity</b>	5% to 95% relative humidity non-condensing				
<b>Transmit Frequency</b>	13.56 MHz				
<b>Cable Distance</b>	Hi-O Bus Total Length is 164' (50 m) MAX Single unterminated stub length is 32.8' (10 m) MAX				
<b>Card Compatibility</b>	<ul style="list-style-type: none"> <li>• 15693 - read only; 2k bit (256 Byte), 16k bit (2k Byte), 32k bit (4k Byte) iCLASS credentials, serial number</li> <li>• 14443B - read only; 2k bit (256 Byte), 16k bit (2k Byte), 32k bit (4k Byte) iCLASS credentials, serial number</li> <li>• 14443A - read only; MIFARE® and DESFire® (serial number)</li> </ul>				
<b>Environmental</b>	IP55				
<b>*** Certifications</b>	FCC Certification (US), IC (Canada), CE (EU), C-tick (Australia, New Zealand), SRRR (China), MIC (Korea), NCC (Taiwan), iDA (Singapore), RoHS				
<b>Housing Material</b>	UL94 Polycarbonate				
<b>Keypad</b>	No				Yes
<b>Warranty</b>	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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## ACCESS experience.

hidglobal.com

HID Global Offices:

**Corporate North America**  
15370 Barranca Pkwy  
Irvine, CA 92618  
U.S.A.  
Tel: 1 800 237 7769  
Tel: +1 949 732 2000  
Fax: +1 949 732 2360

**Asia Pacific**  
19/F 625 King's Road  
North Point  
Island East  
Hong Kong  
Tel: +852 3160 9800  
Fax: +852 3160 4809

**Latin America**  
Circunvalación Ote. #201 B  
Despacho 2  
Col. Jardines del Moral  
Leon 37160, Gto.  
Mexico  
Tel: +52 477 779 1492  
Fax: +52 477 779 1493

**Europe, Middle East & Africa**  
Haverhill Business Park  
Phoenix Road  
Haverhill, Suffolk  
CB9 7AE  
England  
Tel: +44 1440 714 850  
Fax: +44 1440 714 840