SCHLAGE

Real Security Sets You Free.™

Biometrics

Ingersoll Rand
Security Technologies

Contents

Real Security Sets You Free.™

Put your trust in the name you know

For more than 85 years Schlage has been providing innovative security solutions for schools, hospitals, government facilities and a host of other commercial buildings. Today, Schlage is at the forefront of cutting edge technology with electronic locking, wireless access, biometric and smart card solutions.

With a wide range of products, functions and styles, Schlage has what you need no matter how demanding your application. And we stand behind every product we make with an outstanding service organization that will be with you every step of the way. It's our commitment to design, performance and technology that ensures you can stand behind our products too.

Reliable security with confidence

Schlage biometrics specializes in the development, marketing and service of biometric devices for access control and workforce management applications.

Located in the heart of California's Silicon Valley, Schlage biometrics offers biometric technology as a secure alternative to easily lost or compromised ID cards and PIN numbers. The technology uses biological characteristics such as hand geometry and fingerprints to verify a person's true identity.
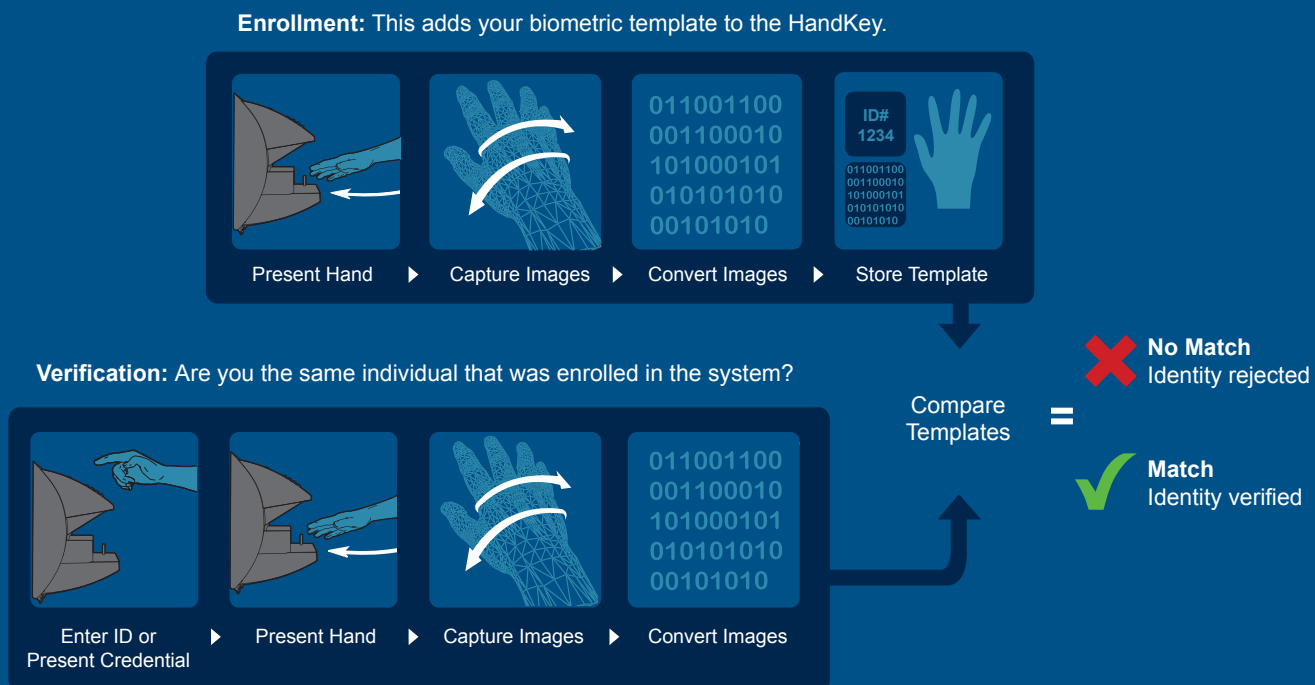
When you choose a Schlage biometrics product, you can be sure that you have done the job right the first time. After all, our products are the most reliable and dependable on the market today. Our HandKeys™ and FingerKeys™ are easy to install and simple to maintain. That means fewer service issues for you and low total cost of ownership.

Robust, field proven biometric technologies

Biometric products identify people by analyzing their unique human characteristics. Schlage Hand Geometry and Fingerprint readers use field-proven technologies to provide increased security at any door and to ensure that the right person is at the right place at the right time. These technologies are frequently used in universities, data centers, day care centers, airports, health care facilities and government buildings.

Biometric verification - how it works.

Enrollment: This adds your biometric template to the HandKey.

Present Hand ▶ Capture Images ▶ Convert Images ▶ Store Template

011001100
001100010
101000101
010101010
00101010

ID# 1234
011001100
001100010
101000101
010101010
00101010

Verification: Are you the same individual that was enrolled in the system?

Enter ID or Present Credential ▶ Present Hand ▶ Capture Images ▶ Convert Images

011001100
001100010
101000101
010101010
00101010

Compare Templates
=

✖ **No Match**
Identity rejected

✔ **Match**
Identity verified

Hand Geometry

The Hand Geometry HandKey product measures the size and shape of a user's hand including length, width, thickness and surface area to verify the person's identity. In conjunction with a PIN number or swipe of a card, the enrolled individual can gain access to the facility. The HandKey does not read fingerprints or palm prints.

How to verify

- Enter ID
- Place hand on blue hand outline on platen (hand placement surface)
- Camera captures the digital image of the hand
- Score is displayed upon a successful verification only
- The lower the score the closer the presented hand is to the stored template

Fingerprint

The FingerKey product measures unique fingerprint pattern characteristics to verify the person's identity. In conjunction with a pin or smart card, the enrolled individual can gain access to the facility.

How to verify

- Enter ID
- Place finger on sensor using ridge lock to ensure correct placement
- Optical sensor captures an image of your fingerprint
- Algorithm extracts unique points from the image
- Algorithm then converts the data into a unique mathematical template
- FingerKey compares the information with the original template
- User's identity verified and their access control privileges checked

Don't compromise on security

The safety and security of buildings and assets are things that we take very seriously. That's why every Schlage biometric reader is manufactured to stringent specifications and undergoes intensive quality testing. As a result, you get a dependable product that is easier to maintain and provides exceptionally reliable security.

Top 10 reasons to select Hand Geometry

Field proven reliability

1. Hundreds of thousands of HandKeys are installed all over the world in diverse applications providing millions of error free transactions every day

Convenience and cost savings

2. Incredibly fast installation & intuitive enrollment increases user convenience

3. Verification in less than 1 second makes it ideal for high throughput applications

4. High product quality + low maintenance costs = Low total cost of ownership

5. Eliminate the worry of lost, stolen or unauthorized transfer of ID cards plus the cost of purchasing and maintaining these cards

Eliminate privacy concerns

6. Hand Geometry technology is well accepted by end users as there are NO fingerprints or palm prints taken and the user does not leave behind any trace of their biometric data

Amazing versatility

7. HandKeys can be used as standalone systems to protect critical access points that can be easily integrated into virtually every new or existing access control system in the market today

8. Ability to customize user specific security levels, time zones, holidays and languages based on your needs

9. Optional access control template management software allows the HandKeys to form a system that communicates alarms and transactions in real time, provides activity reports, allows supervised on-site or remote user enrollment and expiring privileges for temporary access

10. Environmental enclosures and integrated heater units make the HandKey an ideal solution for outdoor usage

HandKey-2

High security, reliability and performance

Our HandKey-2 product is ideal for applications where consistent and dependable security is of prime importance. The product is easy to maintain, and provides an ideal mix of convenience, security and peace of mind.

In addition to all Hand Geometry benefits, the HandKey-2 offers:

- Convenience of multiple credential options such as proximity, magnetic stripe, barcode, iClass and MIFARE
- Field installable Ethernet module
- Outdoor enclosure options that make the HandKey-2 an ideal solution for outdoor usage
- Field upgradable and expandable memory options from 512 to 240,000 users for scalable security that grows with your needs
- Three user-definable outputs to connect to auxiliary devices such as audible or silent alarms, door locks or lighting systems
- Ability to write the industry's most compact biometric template on a card instead of in a database results in higher security & unlimited user capacity
- Specially formulated antimicrobial coating with silver ions on the platen to inhibit the growth of bacteria, mold and mildew to mitigate hygiene concerns. The coating is safe and lasts for the life of the product
- Blue hand outline on the platen facilitates easy enrollment and reduces error rates during verification

HandKey ID3D-R and HandKey ID3D-RW

Nothing is tougher!

At Schlage biometrics we know that every product you specify has to stand up to constant use and abuse. The all-metal HandKeys ID3D-R and ID3D-RW are able to withstand the rigors of daily use and abuse without fail.

In addition to all Hand Geometry benefits, the HandKeys ID3D-R and ID3D-RW offer:

- All-metal housing for increased durability and toughness
- Left handed configuration for drive-through applications and entrance gates
- Recess-mount option for reduced obstruction at high traffic areas
- Convenience of multiple credential options such as magnetic stripe, bar code
- Integrated unit with heater and enclosure makes ID3D-RW ideal for outdoor environments
- Two user definable outputs to connect to auxiliary devices such as audible or silent alarms, door locks or lighting systems

FingerKey DX Series

Style, quality and lots of options

With the FingerKeys, your fingerprint is your credential for reliable one to one matching.

- High quality optical sensor
- Stylish terminal with keypad and LCD easily blends into any environment
- Various options for external card reader inputs
- Flexibility to write template on smart card instead of on a database for higher security and unlimited user population
- Field upgradeable and expandable memory options from 250 to 2,000 users for scalable security that grows with your needs
- Configurable Wiegand output to suit your specific needs
- Field upgradeable Ethernet
- Tough polycarbonate construction

Models	DX-2000	DX-2100	DX-2200	DX-2400
Description	FingerKey with 250 user memory	FingerKey with integrated HID Prox. reader	FingerKey with integrated HID iClass reader	FingerKey with integrated MIFARE or Desfire reader

* refer to technical specification on page 17

HandNet for Windows

Intuitive and user friendly software design for HandKey management

HandNet for Windows lets you control and monitor a network of HandKey readers. With just one comprehensive program, you can monitor activity and alarms on all readers, and control the access of each user.

- Automatic hand template management feature allows template distribution from enrollment HandKey to other selected HandKeys thus eliminating the need for a user to be enrolled at every HandKey
- Independent door control capability without the need for an access control panel
- Monitor multiple remote sites from the convenience of your PC
- Remote enrollment feature enables a HandKey to be controlled from the software. For example a guard behind a glass partition or a supervisor in a distant office can enroll new users without physically going to the HandKey
- Assign temporary access to selected users by specifying a user's access start and stop days and times
- Manage archive activity to keep old information available for reports
- Manage alarms for additional security

Models	HN-2-T1	HN-2-T2	HN-2-T3
Description	Manages up to 5 HandKeys	Manages up to 25 HandKeys	Manages an UNLIMITED number of HandKeys

Models	HandNet Lite
Description	Software program to manage both HandKeys and FingerKeys

* refer to technical specification on page 18

A biometric that works indoors & outdoors

Schlage biometrics provides various options to protect your HandKeys from the elements. Three different, proven solutions are available to ensure your HandKeys keep performing regardless of your environment.

ID3D-RW
Biometric HandKey with standard 256 user memory, integrated heater + enclosure

Ideally suited for outdoor environments, the ID3D-RW is constructed of heavy-gauge zinc-coated steel. It features a sealed keypad, and a heated interior. This is a fully integrated unit and comes complete with a HandKey and an internal heater.

FX enclosure
Biometric HandKey enclosure

Constructed from high impact UV resistant polycarbonate material, the FX enclosure provides a degree of protection against dusty, dirty, or rainy environments. This enclosure has been designed so that it can be added to an existing installation. When used with an integrated heater option (INT-HTR), it provides a comfortable heated platen against a cold climate.

TX enclosure
Biometric HandKey enclosure

The TX Enclosure provides a higher degree of protection against dusty, dirty, or rainy environments. When used with an integrated heater option (INT-HTR), it provides a comfortable heated platen against a cold climate.

	ID3D-RW	FX Enclosure	TX Enclosure
Temperature Range	-35F to 120F/-37C to 49C	-20F to 120F/-29C to 49C	-45F to 120F/ -43C to 49C
Dimensions HxWxD	11.75 in. x 8.00 in. x 8.75 in. 29.9 cm x 20.3 cm x 22.2 cm	14.75 in. x 12.00 in. x 10.50 in 37.5 cm x 30.5 cm x 26.7 cm	23.00 in. x 14.00 in. x 11.25 in. 58.4 cm x 35.6 cm x 28.6 cm
Gross Weight	23.0 lbs / 10.4 kg	7.3 lbs / 3.3 kg	45.0 lbs /20.4 kg
HandKey models	ID3D-RW	HK-2-F3	HK-2-F3
Heater	Standard integrated heater	Factory installed option only, Model No. INT-HTR	Factory installed option only, Model No. INT-HTR

Models, options & accessories

Schlage biometrics offers a number of options and accessories to help you create a solution to meet your specific needs.

Base Models	HK-2-F3	ID3D-R / ID3D-RW	DX-2000
Card Readers	**Prox:** Externally top mounted HID prox reader. Factory option only **iClass:** iClass reader,Factory option only **SC-100:** Mifare reader, Factory option only **CR-2:** Mag stripe wall mount card reader **BC-100:** Bar code reader, wall mount swipe	**Prox:** NA **iClass:** NA **SC-100:** NA **CR-2:** Mag stripe wall mount card reader **CR-2L:** Mag stripe, top mount swipe card reader **CR-3L:** Mag stripe, side mount swipe card reader **BC-100:** Bar code reader, wall mount swipe	**DX-2100:** FingerKey with integrated HID Prox. reader **DX-2200:** FingerKey with integrated HID iClass reader **DX-2400:** FingerKey with integrated MIFARE or Desfire reader
Memory	**EM-801-F3:** Field upgradeable memory expansion up to 9,728 users **EM-803-F3:** Field upgradeable memory expansion up to 32,512 users **EM-60X:** Memory expansion up to 60,000 users **EM-120X:** Memory expansion up to 120,000 users **EM-180X:** Memory expansion up to 180,000 users **EM-240X:** Memory expansion up to 240,000 users	**EM-600:** Memory expansion up to 3,328 users **EM-602:** Memory expansion up to 9,728 users **EM-604:** Memory expansion up to 27,904 users	**FPM-500:** Field upgradeable memory expansion from 250 to 500 users **FPM-2000:** Field upgradeable memory expansion from 250 to 2000 users **FPM-2000U:** Field upgradeable memory expansion from 500 to 2000 users
Communication	**EN-200:** Field upgradeable Ethernet communication module 10baseT **MD-500:** Internal Dial-up modem	**EN-100:** Ethernet communication module 10baseT **MD-200:** Internal Dial-up modem	**FPE-100:** Field upgradeable Ethernet communication module 10/100 base T No modem option
Power Options	**PS-110:** Power supply, 120VAC to 13.5 VDC **PS-220:** Power supply, 220VAC to 13.5 VDC **BB-200:** Optional battery backup	**IS-400:** Power supply, 120VAC to 13.5 VDC **PS-220:** NA **BB-100:** Optional battery backup	**PSFP-100:** Power supply, 120VAC to 13.5 VDC **PSFP-220:** Power supply, 220VAC to 13.5 VDC Battery Backup: NA
Mounting	**TM-100:** Table top secure mount for flat surfaces	**TM-100:** NA **WM-200:** Recessed wall mount kit **WM-201:** Surface wall mount kit	Table Mount: NA Wall Mount: Included
Left Hand Option	NA	**LH-100:** Left hand version of ID3D-R **LH-100RW:** Left hand version of ID3D-RW	NA
Network Accessories	**DC-102:** Data converter for 4 wire system, RS-232 to RS-422 with 120V, 60Hz power supply **DC-102 with 220V,** 50Hz power supply **DC-104:** Data converter for 2 or 4 wire systems, RS232 to RS485/RS 422 with 120V, 60Hz power supply **DC-104 with 220V,** 50Hz power supply	**DC-102:** Data converter for 4 wire system, RS-232 to RS-422 with 120V, 60Hz power supply **DC-102 with 220V,** 50Hz power supply **DC-104:** Data converter for 2 or 4 wire systems, RS232 to RS485/RS 422 with 120V, 60Hz power supply **DC-104 with 220V,** 50Hz power supply	**DC-104:** Data converter for 2 or 4 wire systems, RS232 to RS485/RS 422 with 120V, 60Hz power supply **DC-104 with 220V,** 50Hz power supply

Applications

The versatility and flexibility of the HandKey lends itself to diverse indoor and outdoor applications.

Critical infrastructure

- Transportation hubs - at airports and shipping ports to grant access to authorized personnel to aircraft/ship operations, baggage handling and other sensitive areas
- Data centers - HandKeys accommodate a large number of users, offer a high level of security, are easy to use, provide for remote enrollment & eliminate the need to carry a card
- Construction facilities - highly robust and user friendly HandKeys operate well in nearly all environmental conditions; unaffected by dirt on the hands, poor lighting conditions, or the worn fingerprints endemic of manual laborers
- Utilities - installed on the front doors of the majority of US nuclear power plants. They are also installed at various government research facilities
- Prisons - monitor all comings and goings at prisons and eliminate the need for posting guards at all access sites and supplying them with keys
- Military installations - protecting US troops & assets worldwide by providing reliable access to the appropriate personnel

Healthcare facilities

- Pharmacy, surgery, long term care, and research facilities – increase security by providing access to secure areas only to authorized personnel

Financial institutions

- Safe deposit vaults - enhanced security to gain access to safe deposit boxes without the need for personnel to accompany the customer in and out of the vault

Education

- Residence halls - verify students to ensure that only authorized students gain access
- Recreational facilities - minimize people's ability to transfer IDs and eliminate the need for keys / cards
- Dining halls - limit access to students who have paid for the meal plan
- Computer labs - provide access only to authorized personnel seeking access to sensitive equipment and information

Hospitality

- Lodging - access to high security, high valued openings such as data records and hotel supplies areas
- Entertainment - access to high security, high valued opening in casinos, stadiums and theme parks

Commercial buildings

- Specialized high asset areas - access to high security, high valued areas such as IT, HVAC, conference rooms in addition to front doors
- Corporate campuses - provide high security to a variety of restricted areas like management offices and expensive high tech equipment rooms

Specifications for the HandKey Series

Base Model	HK-2-F3	ID3D-R / ID3D-RW
Description	HandKey with base memory for 512 users	HandKey with base memory for 256 users
Verification Time	≤ 1 second for comparison to reference template	≤ 1 second for comparison to reference template
ID Number Length	1 – 10 digits	1 – 10 digits
Duress Code	1 leading digit, user definable	1 leading digit, user definable
Communication	RS-232: Baud rate 300 bps to 28,800 bps RS-422: Baud rate 300 bps to 28,800 bps RS-485: Baud rate 300 bps to 28,800 bps Optional Modem: Baud rate 300 bps to 14,400 bps Optional Ethernet: 10 Base T	RS-232 (Printer output only): Baud rate 300 bps to 19,200 bps RS-422: Baud rate 300 bps to 19,200 bps RS-485: Baud rate 300 bps to 19,200 bps Optional Ethernet: 10 Base T
Template Size	9 bytes	9 bytes
User Memory	512 users expandable to 240,000 users	256 users expandable to 27,904 users
Inputs	Standard: 26 bit, 9 bit ID Wiegand Optional: Mag stripe, bar code, smart card HandKey input: Request to Exit, Door switch input, 2 auxiliary inputs	Standard: 26 bit, 9 bit ID Wiegand Optional: Mag stripe, bar code HandKey Input: Request to Exit, Door switch input, 1 Auxilary input
Outputs	Door control: Lock output Card reader emulation mode: Wiegand, mag stripe, bar code 1 programmable auxiliary Outputs to peripheral devices: Audible or silent alarms, door locks, lighting systems	Door control: Lock output Card reader emulation mode: Wiegand, mag stripe, bar code 1 programmable auxiliary Outputs to peripheral devices: Audible or silent alarms, door locks, lighting systems
Event Monitoring	Tamper: HandKey opened or removed ID refused: User not verified after user definable number of tries exceeded Duress: User entered duress code digit Power failure: HandKey switched to optional battery power	Tamper: HandKey opened or removed ID refused: User not verified after user definable number of tries exceeded Duress: User entered duress code digit Power failure: HandKey switched to optional battery power
Programmable HandKey Commands	· Add / remove users · Set global operating thresholds · Set individual user data (authority or threshold levels, time zones) · Transmit data from Master to Remote · Data received by Master from Remote · Transmit / receive data from optional software · Check status of door (Tamper, Door monitor switch) · Time zones – 62 total (2 fixed, 60 programmable) · Set language · Set date format, date and time · Edit holidays	· Add / remove users · Set global operating thresholds · Set individual user data (authority or threshold levels, time zones) · Transmit data from Master to Remote · Data received by Master from Remote · Transmit / receive data from optional software · Check status of door (Tamper, Door monitor switch) · Time zones – 62 total (2 fixed, 60 programmable) · Set language · Set date format, date and time · Edit holidays
Antimicrobial	Available on Platen	NA
Blue Hand Outline	Available on Platen	NA
Dimensions HxWxD	11.65 in. x 8.85 in. x 8.55 in. 29.6 cm x 22.5 cm x 21.7 cm	8.30 in. x 6.50 in. x 7.17 in. (ID3D-R Dimensions) 21.3 cm x 16.5 cm x 18.7 cm (ID3D-R Dimensions)
Power Requirements	12 to 24 VDC or 12 to 24 VAC 50-60 Hz 7 Watts (without options)	12 to 24 VDC or 12 to 24 VAC 50-60 Hz 7 Watts (without options)
Weight	5.3 lbs. (2.4 kgs.) (Without battery back-up or wall plate)	7.2 lbs. (3.3 kgs.) (Without back plate)
Temperature	Operating: 0 deg C to +45 deg C / 32 deg F to 113 deg F Non-Operating (Storage): -10 deg C to +60 deg C / 14 deg F to 140 deg F	Operating: 0 deg C to +45 deg C / 32 deg F to 113 deg F Non-Operating (Storage): -10 deg C to +60 deg C / 14 deg F to 140 deg F
Relative Humidity	Operating: 20% to 80% RH Non-condensing Non-operating (Storage): 5% to 85% RH Non-condensing	Operating: 20% to 80% RH Non-condensing Non-operating (Storage): 5% to 85% RH Non-condensing

Specifications for the FingerKey Series

Base Model	DX-2000
Description	Fingerprint reader with base memory for 250 users
Verification Time	≤ to 2 seconds for comparison to reference template
ID Number Length	1 – 15 digits
Duress Code	Alternate finger
Communication	RS-232: Baud rate 4900 to 57600 bps RS-422: Baud rate 4900 to 57600 bps Optional Ethernet: 10 Base T
Template Size	400 bytes per template, 2 templates per finger
User Memory	250 users expandable to 2,000 users
Inputs	Card reader inputs: Standard: 26 bit, 9 bit ID Wiegand Optional: Mag stripe, bar code, smart card
Outputs	Card reader emulation mode: Wiegand, mag stripe
Event Monitoring	Tamper: FingerKey opened or removed ID refused: User not verified after user definable number of tries exceeded Duress: User entered duress code digit
Programmable FingerKey Commands	· Add / remove users · Set global operating thresholds · Set individual user data (authority or threshold levels, time zones) · Transmit data from Master to Remote · Data received by Master from Remote · Transmit / receive data from optional software · Check status of door (Tamper, Door monitor switch) · Set language
Antimicrobial	NA
Blue Hand Outline	NA
Dimensions WxHxD	5.31 in. x 5.03 in. x 2.98 in. 13.49 cm x 12.78 cm x 7.57 cm
Power Requirements	12 VDC +- 10% reg. 0.5A max
Weight	1.00 lbs (0.45 kgs)
Temperature	Operating: 0 deg C to + 45 deg C / 32 deg F to 113 deg F Non-Operating (Storage): -10 deg C to + 60 deg C
Relative Humidity	Operating: 20% to 80% RH Non-condensing Non-operating (Storage): 5% to 85% RH Non-condensing

Specifications for software

	HandNet for Windows	**HandNet Lite**
Computer	Pentium 233 MHz or higher (Minimum 133 MHZ)	Intel 666 MHz or higher
Operating System	Windows 95/98, XP Professional SP2, Vista Business SP1	Windows XP SP3, Vista Business SP1 Windows Server 2003 SP1 or greater Windows 2000 Professional or Server Editions SP4, and Windows 95 & 98
Drives	CD ROM for installation	CD ROM for installation
Hard Disk	50 Mb Minimum, 10 Mb Free space	60 Gb Minimum, 10 Gb Free space
Monitor	SVGA Color, 1024 x 768 recommended(800 x 600 minimum)	SVGA Color, 1024 x 768 recommended(800 x 600 minimum)
Memory	32 Mb (Minimum 16 Mb)	4 Gb (Minimum 2 Gb)
Database	MS Access	MS SQL Server 2000 MSDE
Products Supported	HK-2-F3, ID3D-R / RW	HK-2-F3, ID3D-R/RW, DX-2000, DX-2100, DX-2200, DX-2400
Template Management	Available	Available
Supported Communications	RS232, RS485, Ethernet, Modem RS232, RS485, Ethernet	RS232, RS485, Ethernet, Modem RS232, RS485, Ethernet
Smart Card Compatability	NA	iClass, Mifare, Desfire
Time Zones	Available	Available
Reports	Available	Limited – use reports from an access control panel
Door Control	Available	NA – use panel door control
Alarms	Available	NA – use panel alarms
Open Door Remotely	Available	NA – use panel door control
Network Readers	Available	Available
Archives Activity	Available	Available – database backup
Remote Enrollment	Available	Available

Additional Schlage solutions

Workforce Management

Schlage HandPunch terminals utilize Hand Geometry technology to automate Workforce Management systems, control labor costs, eliminate costly badges and cards, reduce compliance risk and stop time fraud.

The HandPunch is a trusted and reliable solution used in a variety of Workforce Management applications worldwide.

- Hospitality
- Government
- Quick serve restaurants
- Grocery
- Hospitals
- Education
- Manufacturing
- Construction
- Healthcare
- Retail stores

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Ingersoll Rand
Security Technologies

Ingersoll Rand's Security Technologies sector is a leading global provider of products and services that make environments safe, secure and productive. The sector's market-leading products include electronic and biometric access control systems; work force management and time and attendance systems; mechanical locks; portable security; door closers, exit devices, architectural hardware, and steel doors and frames; and other technologies and services for the global security markets.

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