

bioscrypt[®]

An L-1 Identity Solutions Company

QUICK START GUIDE

4G FINGERPRINT PRODUCT SERIES



Indoor & Weather Resistant (WR) Overview



AVAILABLE ON BOTH

- 1 Ridge Lock
- 2 Tricolor Pass/Fail LED
- 3 Finger Scan Sensor
- 4 Power Indicator LED
- 5 Internal Smart Card or Proximity Reader (optional)
- 6 USB Port (Bottom)
- 7 Power Input
- 8 Ethernet & PoE
- 9 I/O Port (Wiegand & RS-485/232) 28 Pin Connector
- 10 Built-in Hood (WR models only)

4G V-STATION

- 11 2.5" Backlit TFT LCD
- 12 Function Keys
- 13 Illuminated Keypad
- 14 Navigation Pad



NOTE: Product images are not to scale.

Indoor & Weather Resistant (WR) Checklist

QTY ITEM

1	4G V-Station™ or 4G V-Flex™ device
1	2-pin or 3-pin power cable
1	External 28-pin signal cable
1	Micro-USB to USB-A cable
1	Installation CD
1	Installation Guide (on Installation CD)
1	Operator's Manual (on Installation CD)
1	Quick Start Guide (on Installation CD and printed copy in package)

4G V-Station™ ONLY:

2	6-32 security screw, pin-in hex, 3/8"
2	0.013" ID, 3/8" OD, 1/32" thick, fiber washers

NOTE: Electronic documentation is provided in Adobe® Acrobat® format (PDF). Adobe® Acrobat® Reader is available on the Installation CD or at <http://www.adobe.com>

QTY ITEM

1	Micro-USB PC cable
1	Flush-mount wall plate
1	Ethernet ferrite core (P/N: 28A2432-0A2)
1	DC & I/O lines ferrite core (P/N: 28A4155-0A2)
6	#4-8 1" nylon wall anchors
6	#6-32 3/4" Philips pan-head screws
6	#6 1" Philips pan-head self-tapping screws
29	Crimp connectors, B Wire (RoHS)
1	1/8" pin-in-hex security key 2.5"

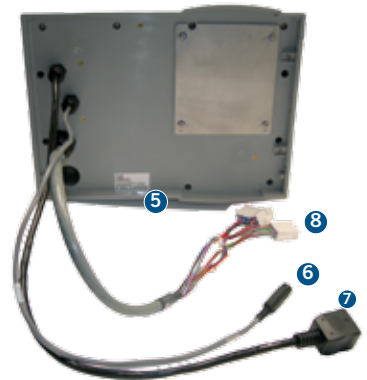
4G V-Flex™ ONLY:

1	Recessed wall mounting plate
1	6-32 security screw, pin-in hex, 3/8"
1	0.013" ID, 3/8" OD, 1/32" thick, fiber washers

4G V-Station Extreme Overview



- 1 Tricolor Pass/Fail LED
- 2 Finger Scan Sensor
- 3 Power Indicator LED
- 4 Internal Smart Card or Proximity Reader (optional)
- 5 USB Port (Bottom)
- 6 Power Input
- 7 Ethernet & PoE
- 8 I/O Port (Wiegand & RS-485/232)
- 9 3.5" Backlit TFT LCD
- 10 Function Keys
- 11 Illuminated Keypad
- 12 Navigation Pad



4G V-Station Extreme Checklist

QTY	ITEM
1	4G V-Station™ Extreme device
1	User Comm and Ctrl cable, 4G Outdoor
1	User TTL cable, 4G Outdoor
1	Micro-USB Device cable
1	Micro-USB PC cable
1	Installation CD
1	Installation Guide (on Installation CD)
1	Operator's Manual (on Installation CD)
1	Quick Start Guide (on Installation CD and printed copy in package)

QTY	ITEM
8	Wall Mount Anchor for #8 screws
8	#8 Philips pan-head thread-forming screws
29	Super B-Wire connectors, Dolphin DC-100-S
1	Pin-in-hex security key 2.5"
6	6-32 security screw, pin-in hex, 3/8"
2	Dielectric Grease
1	8-32 hex nut
1	8-32 Male-Female Hexstand-1.25L
1	Mech Acuator Magnet
1	Stainless Steel Wall Mount Plate, No Magnetic Reader

NOTE: Electronic documentation is provided in Adobe® Acrobat® format (PDF). Adobe® Acrobat® Reader is available on the Installation CD or at <http://www.adobe.com>

Ideal Deployment Environments

Indoor Solutions

These versatile solutions are perfect for indoor environments where restricted access to specific areas is required such as, in corporate environments where employee time and attendance is a key factor in managing the workforce, or in labs where access to clean rooms is restricted. Our full featured solutions unleash a combination of power, usability and more. Operating temperature is +32° to +140°F (0° to +60°C).



Weather Resistant (WR) Solutions

The Weather Resistant (WR) models have specialized components and a built-in hood that offers protection against certain outdoor elements. Ideal deployment areas are; outdoor locations that offer some degree of protection from direct elements – such as under a building overhang, main entrances at multi-tenant residential buildings, and recreation and entertainment center entrances. These devices are IP 65 rated and the operating temperature range is between -5° to +140°F (-20° to +60°C).

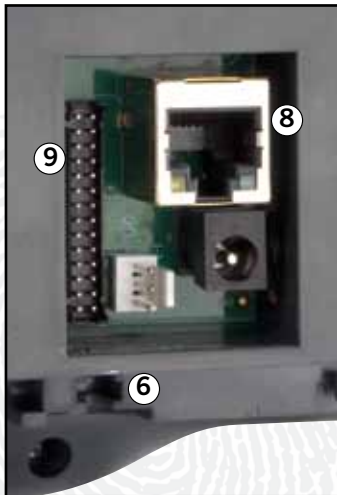


Extreme Outdoor Solutions

Our extreme outdoor solutions are designed for access control in the rain, sleet, snow and desert conditions. This IP 65 rated solution is built to address your concerns and perform in moderate to the most extreme outdoor conditions. Confidently deploy a biometric device created for organizations that cannot compromise on security regardless of the weather. Wide temperature range options for sub-zero climates and the hottest desert: -13° to +158°F (-25° to +70°C).



Wiring



Refer to Page 1

There are six communication types that can be used by the device:

- | | |
|-------------|-----------------------------|
| 9. RS-485 | 6. USB |
| 9. RS-232 | 14. Wireless LAN (optional) |
| 8. Ethernet | 9. Wiegand |

(Refer to Page 1)

RS-485

- Use CAT-5 UTP (or better) cable (shielded recommended) with a characteristic impedance of 120 ohms.
- AWG 24 should be the minimum wire gauge used.
- Choose an L-1 approved RS-232 to RS-485 converter that supports Sense Data to switch from Send to Receive mode.
B&B Electronics model # 485TBLED RS-232/RS-485 converter (L-1 Enterprise Access Solutions (EAS) P/N V-Series-CNV) is recommended.

Wiring (continued)

RS-232 PC Communication

Use CAT-5 UTP (or better) cable (shielded recommended). Cable should be run in a direct (homerun) connection from the unit to the PC's DB9 COM port.

Ethernet

Ethernet connections to the device are made through a standard RJ-45 connector on the back of the device. Use CAT-5 UTP (or better) cable.

USB

Standard cable with Micro AB plug to A plug (USB on the Go) is used.

IMPORTANT: Refer to local electrical codes and standards before selecting a cable type.

* Bioscrypt always recommends the use of wiegand ground

Wiegand Output to Access Control Panel (ACP)

- For 18 AWG, the maximum cable distance is 500 ft. (150m); for 20 AWG, the maximum is 300 ft. (90m); for 22 AWG, the maximum is 200 ft. (60m).
- Three-conductor wire (shielded recommended) is required for Data 0, Data 1, and WGND.*

Power

For most installations, use 18-22 AWG cable. Remember to calculate line-loss when selecting cable.

Indoor & WR 28-Pin Signal Connector



Pin No.	Function	Color
1	RS485A	Blue
3	RS485B	Blue/Black
5	SGND	Black/Red
7	WIEGAND_LED_IN0	Grey/Black
9	Not Connected	
11	WIEGAND_LED_OUT0	Brown/Green
13	WIEGAND_LED_OUT1	Brown/Black
15	TTLOUT_0H	White/Brown
17	TTLOUT_0L	White/Red
19	TTLOUT_1H	Brown/White
21	TTLOUT_1L	Yellow/Black
23	TTLOUT_2H	Grey/Orange
25	TTLOUT_2L	White/Green
27	RELAY_NO	Yellow

28



↑
TOP OF UNIT

1

Pin No.	Function	Color
2	RS232_RX	Violet/White
4	RS232_TX	Violet
6	SGND	Black/Red
8	WIEGAND_DINO	Green/White
10	WIEGAND_DIN1	White/Black
12	WIEGAND_DOUT0	Green
14	WIEGAND_DOUT1	White
16	WGND	Black/White
18	TTLIN0	Yellow/Blue
20	TTLIN1	Blue/Brown
22	TTLIN2	Brown/Violet
24	TTLGND	Green/Brown
26	RELAY_NC	Orange
28	RELAY_COM	Grey

* Colour codes are different from pervious product series

Extreme 26-Pin Signal Connector



Pin No.	Function	Color
1	RS485A	Blue
2	RS232_RX	Violet/White
3	RS485B	Blue/Black
4	RS232_TX	Violet
5	SGND	Black/Red
6	RELAY_NC	Orange
7	RELAY_NO	Yellow
8	RELAY_COM	Grey
1	WIEGAND_LED_IN0	Red/White
2	WIEGAND_DINO	Green/White
3	WIEGAND_DIN1	White/Black
4	WIEGAND_LED-OUT0	Green/Red
5	WIEGAND_DOUT0	Green
6	WIEGAND_LED-OUT1	Green/Black
7	WIEGAND_DOUT1	White
8	WIEGAND	Black/White

Pin No.	Function	Color
1	TTLOUT_OH	White/Brown
2	TTLOUT_0L	White/Red
3	TTLINO	Blue/Yellow
4	TTLOUT_1H	White/Orange
5	TTLINI	Blue/Violet
6	TTLOUT_1L	White/Yellow
7	TTLIN2	Blue/Red
8	TTLOUT_2H	White/Blue
9	TTLGND	Green/Yellow
10	TTLOUT_2L	White/Violet

* Colour codes are different from pervious product series

Indoor & Weather Resistant Power

Power Supply

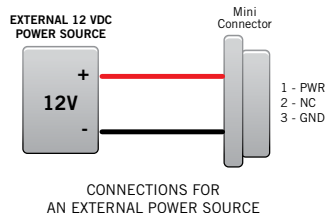
Use an external power supply that provides a minimum of 1A at 12VDC PER DEVICE. The power supply should be regulated, filtered, and dedicated to L-1 EAS products only. If sharing power between devices, be sure that each unit receives 1A (e.g. two units would require a 12VDC, 2A supply).

A battery backup or uninterruptible power supply (UPS) with built-in surge protection is recommended.

Power Over Ethernet (PoE)

When the device is powered over Ethernet, an IEEE 802.3af compliant Active Midspan Injector must be used. This injector is not supplied with Bioscrypt products.

WARNING: Under powering may cause memory and data corruption; over powering may cause hardware damage. Both of these situations will void the warranty.



PoE Injector Specs

- Input Voltage: 90-264 VAC, 60 Hz
- Input Current: 0.4A @ 100VAC
- Output Voltage: -48VDC
- Output Current: 0.32A
- Power: 15.36W

4G V-Station Extreme Power

Power Supply

Use an external power supply that provides a minimum of 3A, 8A, or with a cooler 11A. The power supply should be regulated, filtered, and dedicated to L-1 EAS products only. If sharing power between devices, be sure that each unit receives 3A min (no accessories) (e.g. two units would require a 12VDC, 6A supply).

A battery backup or uninterruptible power supply (UPS) with built-in surge protection is recommended.

Power Over Ethernet (PoE)

When the device is powered over Ethernet, an IEEE 802.3at compliant Active Midspan Injector must be used. This injector is not supplied with Bioscrypt products.

WARNING: Under powering may cause memory and data corruption; over powering may cause hardware damage. Both of these situations will void the warranty.

NOTE: We only support the PHIHONG injector.



PoE Injector Specs

- PHIHONG Single Port Injector
- Input Voltage: 100-240V, 50-60Hz
- Input Current: 1.90A
- Output Voltage: 56V
- Output Current: 0.55A
- Power: 60W

USB

When the device is connected to a PC workstation for the first time, a Found New Hardware message will be displayed.

The Hardware Installation Wizard prompts you to connect to the internet to search for a driver.

Select Not at this time > Next. Then choose Install the driver automatically.

NOTE: The driver will not install properly unless SecureAdmin™ has been installed first.

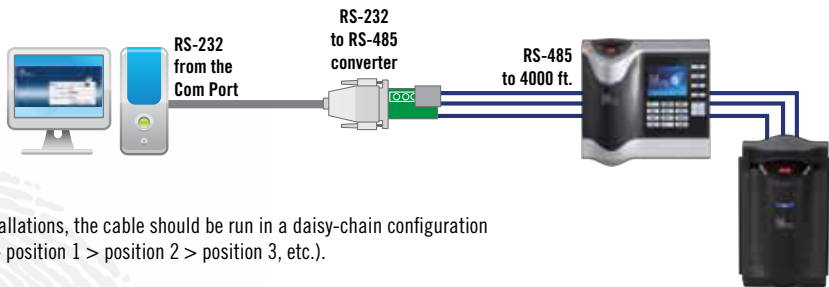
When the driver installation is complete, right-click on the My Computer icon and select Manage > Device Manager.

Under Ports (COM and LPT) you will find the port number associated with your Gadget Serial (e.g. COM3).*

***IMPORTANT:** When registering your product in SecureAdmin™ use this port number.



RS-485



For RS-485 installations, the cable should be run in a daisy-chain configuration (i.e. converter > position 1 > position 2 > position 3, etc.).

Choose one twisted pair of conductors to use for RS-485 TDA (Blue/Black wire - Pin 3 of 28) and RS-485 TDB (Blue wire - Pin 1 of 28). Another conductor should be used for Signal Ground.

NOTE: When installing a unit on a network with both legacy and new products, the new software will not detect the older product(s). In these mixed installations, both VeriAdmin™ and SecureAdmin™ must be used.

IMPORTANT: A maximum of 31 devices may be installed on the same line. The maximum total cable length is 4000 ft. (1200m). The cable must be dedicated to this installation and not used for any other purpose (use L-1 EAS products only).

RS-232

For RS-232 installations, a female DB9 connector should be used on the cable.

Connect RS232_TX (Violet wire – Pin 4 of 28)
to the DB9F Pin 2.

Connect RS232_RX (Violet/White wire – Pin 2 of 28)
to the DB9F Pin 3.

Connect the Signal Ground (Black/Red wire – Pin 6 of 28)
to the DB9F Pin 5.

IMPORTANT: Only one device can be installed in an RS-232 configuration and the maximum cable length is 150 ft. (45m). If the maximum cable length is used, the initial baud-rate must be set to 9600 Bd. If a shorter cable is used, you may try setting a higher baud-rate.



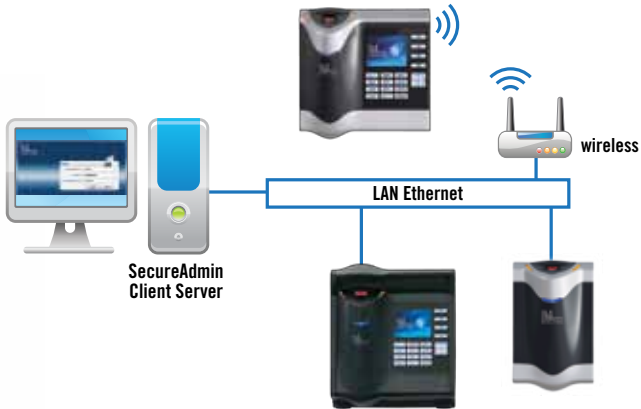
Ethernet and Wireless LAN

4G devices by default are DHCP enabled.

FOR WIRELESS LAN(S):

When a wireless network has been installed, it must be enabled either through SecureAdmin™, or through the front panel of the V-Station™ 4G device.

Bioscrypt wireless enabled devices support 802.11b and 802.11g standards. WEP Open, WPA and WPA2 are supported.



NOTE: SecureAdmin software supports restricted IP address for improved security. This feature allows you to specify which IP addresses are allowed to communicate with the device.

Wiegand Communication

Use 18-22 AWG cable (shielded cable is recommended) in a homerun configuration from each unit to the ACP.

Connect WIEGAND_DOUT0 (Green wire – Pin 12 of 28) to ACP Data 0.

Connect WIEGAND_DOUT1 (White wire – Pin 14 of 28) to ACP Data 1.

Connect WGND (Black/White wire – Pin 16 of 28) to ACP reader common (0VDC).

IMPORTANT: By default, the Wiegand output format is not enabled. Wiegand output must be configured before connecting to the ACP. For more information, refer to Section 6.14 of the Operator's Manual.

NOTE: On installation, the system administrator will be prompted to select either a pre-existing Wiegand file format or create a custom format, and upload it to the unit before the first use. To configure a 4G unit to send an alternate Site Code, a custom Wiegand format must be created.

Example Format Information

Type: **Standard 26-bit**

Alt Site Code and Fail Site Code Range: **0-255**

Template ID Number Range: **1-65535**

Extended ID Number Range: **N/A**

ID Start Bit: **9**

Length of ID: **16**

Site Code Start bit: **1**

Length of Site Code: **8**

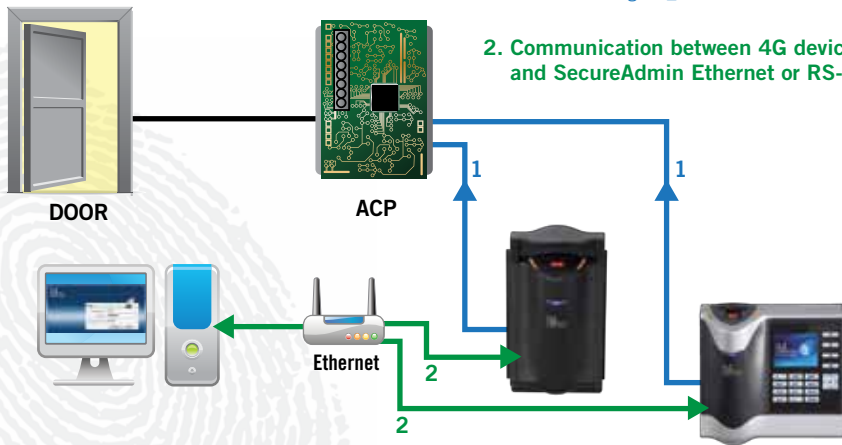
Start Bit: **0**

Connection to the ACP

1. Weigand Lines

- PIN 12 Weigand_DOUT0 - Green Wire
- PIN 14 Weigand_DOUT0 - White Wire
- PIN 16 Weigand_Ground - Black/White Wire

2. Communication between 4G devices and SecureAdmin Ethernet or RS-485

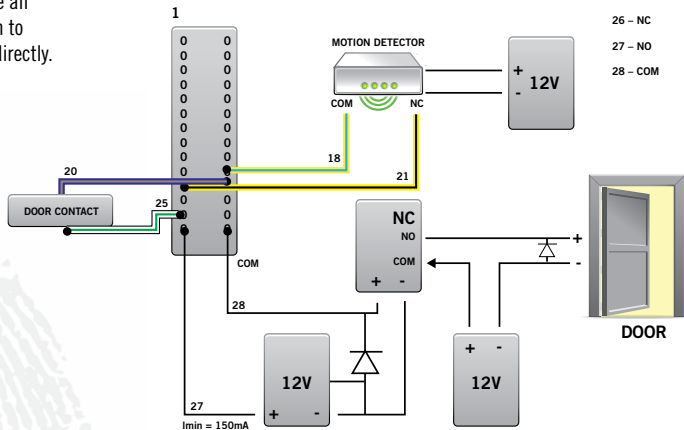


NOTE: ACP = Access Control Panel; PACS = Physical Access Control System;
SDAC = Single Door Access Controller

Single Door Access Controller (SDAC)

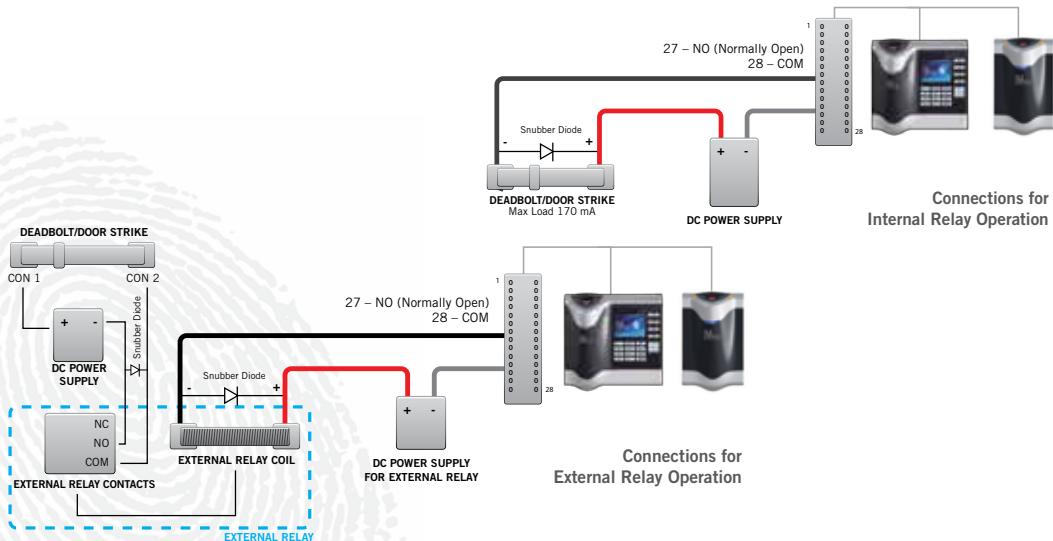
The 4G V-Station™ and 4G V-Flex™ devices incorporate an internal relay that enables them to operate a deadbolt/door strike directly.

Example Install



WARNING: The internal relay is limited to a maximum current of 170mA. If the deadbolt/doorstrike draws more than 170mA, damage to the device may occur. If the deadbolt/doorstrike load exceeds 170mA, an external relay must be used.

Single Door Access Controller (continued)



NOTE: Inverted 28 PIN connector

Front Panel Access to All 4G V-Station Devices



1. Numeric keypad
2. Function keys
3. Navigation keypad
4. System
5. System Information
6. Security
7. Communication
8. Multimedia
9. Template



Press Simultaneously

To navigate to the Login screen, press the Enter and Left Arrow keys simultaneously.

The default password for the V-Station™ 4G unit is 0000.

It is recommended that you change the default password.

SecureAdmin™ Requirements

PC Workstation

- Minimum 1GHz Intel Pentium 4 or equivalent (2.0 GHz or faster recommended)
- 1 GB RAM (2 GB recommended)
- CD-ROM drive
- One available USB port
- Ethernet or COM port
- 1024 X 768 high color video display

SecureAdmin™ Client

- 10 MB hard disk space minimum

SecureAdmin™ Server

- 25 MB hard disk space minimum

Operating Systems Supported

- Windows Server® 2003 R2
- Windows Server® 2008
- Windows Vista™
- Windows XP Service Pack 2 or higher

SQL Server™ 2008 Express Edition

- Minimum of 512 MB of RAM (1 GB or more recommended)
- 1.9GB of free hard disk space

Oracle® 10G Express

- 1.6 GB hard disk space for server
- 75 MB hard disk space for client

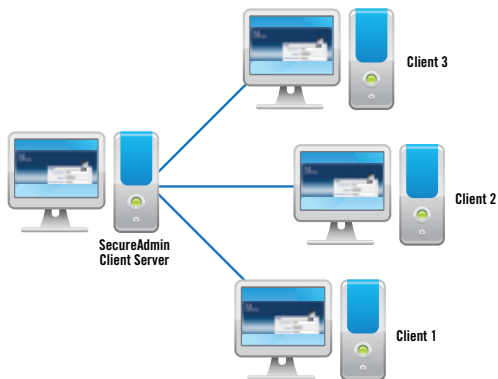
Additional Components

- Microsoft® .NET Framework 3.5 requires 500 MB of hard disk space

SecureAdmin™ Installation

To install the SecureAdmin™ (Client and Server) software, the user must have Administrative rights. The software required to install SecureAdmin™ is detected and installed automatically during the setup process.

SecureAdmin™ software is installed by clicking the appropriate buttons on the Install Menu screen.



IMPORTANT: The client(s) will not run without the server. While you can have multiple SecureAdmin™ Clients in your installation, only one SecureAdmin™ Server is needed. Make sure that each client in your installation is directed to the target server. If this is a new installation, make sure you install SecureAdmin™ Server first.

SecureAdmin™ Login

The SecureAdmin™ Username and Password are created at the time of installation. They make up the user identification required to log in to the database.

SecureAdmin™ Server identifies the machine on which the database is installed.

The machine's IP address can be used as the SecureAdmin™ Server name. If the server and client are installed on the same machine, localhost can be used as the SecureAdmin™ Server name.



NOTE: The password should be from 8 to 30 characters long and must contain at least one letter, one number, and one non-alphanumeric character.

SecureAdmin™ Device Registration

1. Click the Register via Server button. The Register via Server dialog box will display.
2. For Ethernet, select the Search Automatically check box. For USB/COM port, select the appropriate port number.
3. Click the Scan button SecureAdmin™ will scan the network for installed devices and display a list.
4. In the list, click the icon of the device you want to register. The Register Device dialog box will display.
5. Click Register. The Device Summary dialog box will display.



SecureAdmin™ Enrollment



New users are entered into the database through the process of “enrollment”. During this process, a user’s finger is scanned and a finger-scan template is generated. The Quick Enrollment button is used for a single fingerprint. This method is particularly useful when you need to quickly add a single user. The Advanced Enrollment button is used to select the best of three fingerprints.

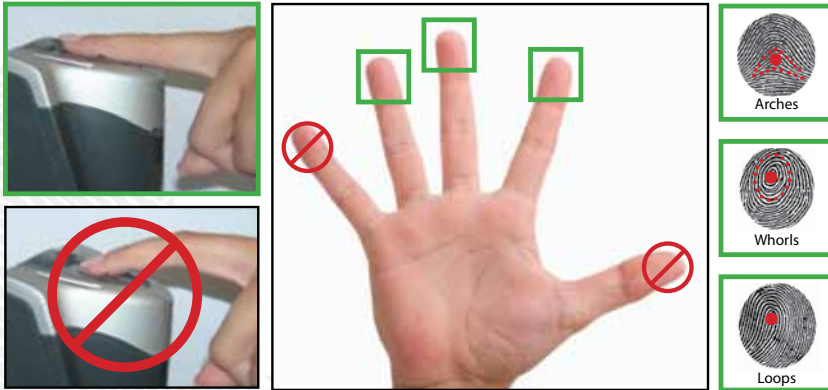
To enroll a user, click on the Quick Enrollment button and follow the directions displayed in the Enrollment Wizard.



NOTE: For more information, refer to Section 13 of the Operator’s Manual.

Enrollment Basics

Operating Bioscrypt devices is simple if a few basic guidelines are followed consistently. Use the following recommendations to ensure trouble-free finger-scan recognitions:



NOTE: While Bioscrypt encourages capturing the core, users must maintain a natural presentation that they can consistently repeat each time during verification.



An L-1 Identity Solutions Company

4G SERIAL NUMBER



Please reference this number for product validation and warranty support.

GLOBAL

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