

SIOB

The SIOB is used to control electric door strikes, and also connects to Weigand devices (alarm and access control systems). The SIOB is connected to the BiLock via 4 wires marked Vout, GND, 485+ and 485- in the cable BRS-819-32-3/5. Connect these wires and the door strike cable and power adapter as indicated in the wiring diagram supplied.

Turn on the power. If correctly connected, the BiLock green LED will stay on for around 20 seconds, all the LEDs will cycle a few times, then the BiLock blue LED will stay on.

To connect to an alarm system or access control system, connect a shielded cable (not supplied) to the W0, W1 and GND screw connections on the SIOB.

To use the REX (request to exit) or Weigand input functions (e.g. using a proximity-card reader attached to the BiLock), connect these devices up to the SIOB as indicated on the wiring diagram.

3 Install the Secure I/O Board (SIOB)

Your kit contains an electric door strike suitable for use with the BiLock. It replaces any existing metal latch plate that may be fitted. Included in the kit is a template that can be used to mark out and cut the required hole of the door strike in the door jamb or frame. Remove any existing latch plate and position the template so that the door bolt will line up with the centre of the lip of the electric strike once installed. Chisel (if a wood door jamb) or cut (if a metal frame) out the door jamb, drill mounting holes and fasten the door strike into the door jamb. Run the figure-8 red/black cable supplied from the Secure IO Board location to the door strike. Connect the figure-8 wires to the screw connectors of the door strike, ensuring that they do not contact any metal part of the door strike or door frame.

Note that operation with a door strike or locking system other than that supplied is not guaranteed by Bio Recognition Systems. Connecting other devices to the BiLock/SIOB may damage the BiLock, SIOB or the device. Generally other devices should be powered by their own power supplies, and be prevented from generating voltage and/or power surges that may cause faulty BiLock/SIOB operation or temporary or permanent failure.

2 Install the electric door strike

BioLock®

Standalone

Fingerprint Door Security Kit Quick Start Guide

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Multiple Patents Pending





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AVAILABLE COLOURS

-  SATIN BLACK
-  GLOSS STAINLESS STEEL

Your BioLock® kit includes the following components:

- BioLock device
- Metal mounting backplate
- Secure I/O electronics board (SIOB)
- Secure I/O enclosure
- Power plugpack
- 2 cable assemblies (BRS-819-32-3/5)
- Electric door strike
- Door strike power cable (red/black)
- Screw pack including security screw, screw allen key, wall plugs, wall mounting screws, sealing grommet and diode
- Documentation including this Quick Start Guide, wiring diagram, and door strike template

If any item is missing please contact the outlet where you purchased the kit.

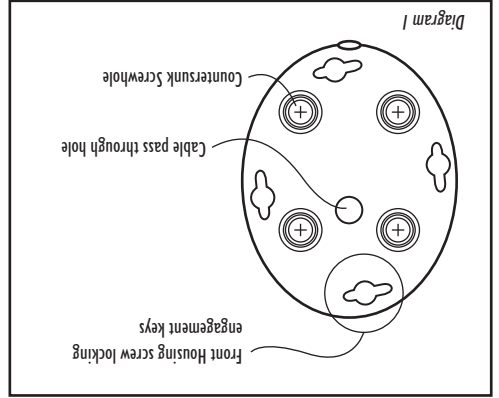
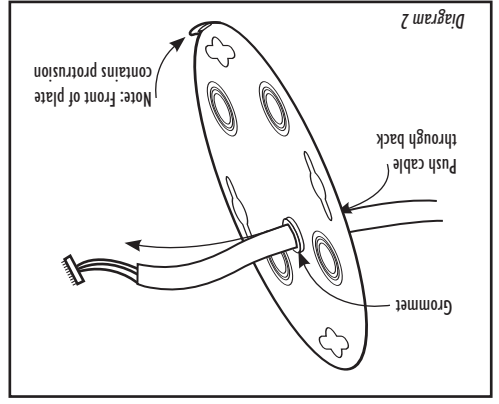
Tools that you will need to install this kit:

- Drill
- Chisel
- Screwdrivers (Phillips and standard)

Overview:

BioLock is a fingerprint access controller designed to operate in outdoor and indoor environments. The fingerprint sensor uses a radio-frequency technology penetrating below the epidermis to read even damaged or dirty fingers. BioLock can be used stand-alone, with internet/web access, running a Windows™ interface, or any combination of these.

BioLock can be used to control any electrical device, including lighting, security systems and of course doors.



Find the best location for mounting the BiLock metal backplate (shown below). It should be out of direct sunlight, around 1.5m above the floor, and on a flat surface (if not flat, then spacers or washers must be used so that the backplate is not twisted). Use the backplate held level against the wall to mark the 4 countersunk screw hole locations. Find a secure location for the SIOB, close to network cables (if intending to network the unit), power, and the BiLock. It should be mounted on the secure side of the door (inaccessible from the public area). Typical locations would be an accessible wall cavity or the ceiling space above the door.

Drill the BiLock mounting holes as marked, and a 12-15mm dia hole in the middle of the mounting position for the BiLock cable (either BRS-819-32-3 30cm or BRS-819-32-5 5m cable). (See Diagram 1)

Connect the white cable connector to the BiLock unit (blue wire towards the top), then gently bring the BiLock unit, retracting the cable through the grommet if needed. Make sure no wires are trapped between the outer rim silicone seal and the metal backplate. The BiLock shell mounts to the metal backplate 5 degrees anti-clockwise from vertical, as the keyhole slots engage 4 screws on the BiLock shell. Push the BiLock shell and rotate clockwise to seal until the slot in the bottom of the shell lines up with the security screw hole in the metal backplate.

Insert the 8mm hex (allen) screw through the slot in the BiLock shell, around the screw-heads for greater protection.

Insert the rubber grommet into the metal backplate then push this 10-pin white connector coming out from the hole.

Pull the appropriate BiLock cable through the wall with the small 10-pin white connector coming out from the hole.

the cable so the connector is parallel to the it, with the blue wire in front, and push firmly through the grommet while wiggling it gently. Do not allow the grommet to be pushed away from the backplate. Once through, continue to push the cable through the grommet including the black insulation sheath (a small smear of liquid soap may assist lubrication). (See Diagram 2)

Attach the metal backplate to the wall with the 4 countersunk screws supplied. In exposed environments add neutral-curing silicone sealant around the screw-heads for greater protection.

Connect the white cable connector to the BiLock unit (blue wire towards the top), then gently bring the BiLock unit, retracting the cable through the grommet if needed. Make sure no wires are trapped between the outer rim silicone seal and the metal backplate.

The BiLock shell mounts to the metal backplate 5 degrees anti-clockwise from vertical, as the keyhole slots engage 4 screws on the BiLock shell. Push the BiLock shell and rotate clockwise to seal until the slot in the bottom of the shell lines up with the security screw hole in the metal backplate.

Insert the 8mm hex (allen) screw through the slot in the BiLock shell, into the metal backplate and tighten with the supplied allen key.

1 Location and Mounting

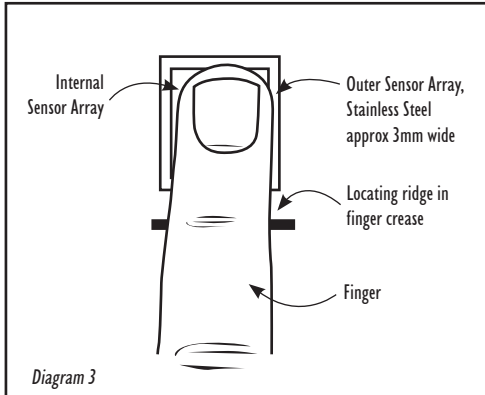


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Standalone operation

a. Administrator enrolment

The steady blue LED means that the BioLock is waiting to enrol (or register) the fingerprint of the administrator (who can then control access through the door). Correctly placing your finger is critical. Find the crease at the first knuckle joint of your finger or thumb. Place it on the locating ridge of the BioLock, below the square sensor. Keeping your finger straight and the knuckle joint crease on the locating ridge, lift your wrist to tilt your finger firmly onto the surface of the sensor (see diagram 3 below) until the blue LED goes out. Do not move or rotate your finger while it is on the sensor.



Lift your finger off the sensor and repeat the finger press several times, until the green LED turns on to indicate a high-quality enrolment. A minimum of five presses and a maximum of twenty is required. After each press, a high-pitch beep indicates the quality is increasing, and low-pitch beep indicates no increase in quality.

Check the enrolment by placing your enrolled finger or thumb again. The green LED should light and the door strike should release for three seconds and the door can be opened.

If a high-quality enrolment is not achieved, firstly try again with a different finger. Avoid very moist and very dry fingers, and pressing too lightly or too heavily. In extreme cases, log into the web logs (see Advanced Settings) and monitor the enrolment quality (a score of 50 is required for success).

The BioLock in its resting state will flash the blue LED briefly every three seconds.

b. Enrolling a user

To add a user, the administrator should verify their finger twice in quick succession. The blue LED will flash for two seconds with audio beeping, then turn a solid blue.

Instruct the user to place their finger or thumb in exactly the same manner as for the administrator enrolment until a green LED enrolment acknowledgement is achieved. The number of beeps indicates the user number enrolled (and the sequence is repeated twice). Check the enrolment by another user finger press and ensure the door strike activates.

If the user number was missed, it can be checked at any time by the administrator verifying their finger, followed straight away by a user verification.

Users can also be enrolled with the assistance of the web pages (see Advanced Settings).

c. Deleting a user

To delete a user, the administrator should verify their finger three times in quick succession. The red LED will flash for two seconds with audio beeping, then turn a solid red.

If the user is present, they should place their finger again. If recognised, the green LED will turn on and beep to indicate success. Try another verification to check the user can no longer gain access through the door.

If the user is not present, tap the sensor (rather than hold down your finger for a verification) the number of times corresponding to the user number. If you miscount your taps, just keep tapping longer than the total number of fingers enrolled to abort.

Users can also be deleted via the web pages (see Advanced Settings).

d. PIN entry

A PIN number can (optionally) be set to allow access without having a fingerprint enrolled. To add or modify the optional bypass PIN, the administrator should verify their finger four times in quick succession. The green LED will flash for two seconds with audio beeping, then turn a solid green.

Add or modify the 4-digit bypass PIN by then tapping the sensor the desired PIN code, pausing after each digit until the green LED flashes in acknowledgement. The PIN may also be set via the web pages (see Advanced Settings).

To use the PIN (once entered), simply tap the sensor with the PIN code, pausing after each digit until the green LED flashes in acknowledgement. After the 4th digit (if correct) the door strike will activate.

To cancel the bypass PIN, the administrator should enter PIN mode but not enter any taps, letting the unit time-out.

e. Deleting all users

To delete all users, the administrator should verify their finger five times in quick succession. All the LEDs will flash for a second with audio beeping. During this beeping/flashing, the administrator should verify a sixth time to confirm the deletion.

All user fingerprint records will be permanently deleted and the blue LED will remain on, waiting for an Administrator enrolment.

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Advanced settings

The BioLock has a built-in web server, with a lot of available information.

Connect the BioLock up to a PC, by plugging in an Ethernet LAN cable into the RJ45 socket on the BioLock cable. Note that if you are connecting the BioLock directly to a PC or laptop that is not capable of auto-switching, a crossover Ethernet cable must be used.

Note: to initially log into the BioLock, your PC must be on the same local subnet as the BioLock, i.e. 192.168.0.xxx. To find out your current IP address, click Start > Run... and in the dialogue box type "cmd" and enter. In the DOS box that is created, type "ipconfig" to see if your PC has a similar address. If not, make note of your current IP address, subnet, gateway address, DHCP settings of your PC's network adapter that will be used to connect to the BioLock – you may need to return the PC settings back once you have finished.

To allow connectivity to the BioLock, change your PC's IP address to any address in the range 192.168.0.1 – 192.168.0.255 excluding 192.168.0.210 which is the default BioLock address. To do this, click Start > Settings > Network and dialup connections, click on the network adapter used, then Properties > Internet Protocol (TCP/IP) > Properties. Seek expert assistance if you are not confident of your knowledge. Once the PC's IP address is in the correct range, in a DOS box type "ping 192.168.0.210" to ensure the BioLock is responding (with something similar to "Reply from 192.168.0.210: bytes=32 time=xx ms TTL=128").

In any web browser (e.g. Internet Explorer™), type in the address bar <http://192.168.0.210> and log in with the default username "admin" and password "password".

The web pages are largely self-explanatory; however note that the time/date should be set correctly (or NTP settings correct to pick up the time setting via the Internet) for logged events to have the correct time/date. Users can be labelled with their names for easier log interpretation. The default username and password should be changed to prevent unauthorised changes or access.

If multiple BioLocks are to run on a network, they should have unique IP addresses (the IP address will need to be changed from the default). If you need to, change the BioLock IP address to a spare IP address on your network.

Note that the troubleshooting web page can control the LEDs, test the buzzer and fire the SIOB relay/door strike. This may be useful for accessing the BioLock remotely via the Internet and remotely allowing one-time access.

The BioLock may be used in standalone-only mode (no network control), or PC-software control via Bio Recognition Systems' BioLock Windows™ software application (available either in your kit or downloaded online from www.brsgrp.com/biolock/biolock.exe), or in dual-mode: Windows-software mode if available and communicating with the BioLock, or standalone mode if not. Note that user enrolments are not transferred automatically between the Windows and standalone modes.

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BioLock Windows™ software

BioLocks may be run completely standalone, however for some applications Bio Recognition Systems' BioLock Windows software may allow additional useful functions. Examples:

- Multiple doors or other devices controlled by multiple BioLocks, with only a single enrolment for users
- Time-zone access control, allowing you to grant access only on specific days or times of the week
- Customisable access logs, able to be exported to other applications in a flexible format

Install the BioLock software from the included CD-ROM, or download from www.brsgrp.com/biolock/biolock.exe and follow the installation instructions included. Once installed, follow the on-line help to initialise BioLocks and add and enrol users.

To add a BioLock unit in the software, click on "Units" then right-click on "Config". Enter the appropriate fields, click "Apply" then "Test Unit" to confirm it is on-line. To add a user, click on "Users", then right-click on "Configure Users", "Add User" and complete the details. Then enrol a finger by right-clicking on the user, "Add Template" and follow the sequence of actions suggested.

BioLocks may be solely standalone, solely Windows™ controlled, or both (if the Windows™ BioLock application is on-line, then under Windows™ control, otherwise in standalone or fallback mode). The mode setting is done via the BioLock configuration web page. A BioLock on-line in Windows™ mode will have the green LED flashing; in standalone mode will have the blue LED flashing.

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Troubleshooting

If no LEDs light on the BioLock, check the cabling against the wiring diagram supplied. Check that at least one LED on the SIOB turns on. If not, then a power or wiring problem is likely.

In normal standalone mode, the blue BioLock LED will flash briefly every three seconds and on the SIOB a green LED flashes.

If instead the Blue BioLock LED is flashing every half-second, the BioLock is not communicating properly with the SIOB. Often this will be related to a problem with the wiring between the two devices. Also, the SIOB and BioLock are "paired" when they first communicate with each other. If this "pairing" is lost (for instance, if an SIOB or BioLock is changed), the SIOB needs to be "factory reset".

To factory-reset the SIOB, briefly press the reset switch on the SIOB with the power on.

If you have difficulty communicating with the BioLock via the Ethernet port (either with the Windows™ BioLock application program, or with logging into the BioLock via a web browser), test the connection with the "ping" command described in the Advanced Settings below. Problems with Ethernet communications are usually cabling problems, software firewall settings, or network settings of the PC. If you have a network hub or switch, some types are known to have trouble auto-detecting Ethernet speeds (BioLock runs at 10MHz)

and may need to be manually set. If you are connecting directly to the BioLock with a PC or laptop that is not capable of auto-switching, you will need a crossover Ethernet cable.

Check for IP address conflicts by disconnecting the BioLock and performing a "ping" of the BioLock static IP address to see if another device is using it. Also check that any DHCP servers do not allocate IP addresses dynamically in a range that includes the BioLock IP address.

If the BioLock IP address has been lost or forgotten, you may be able to recognise it by typing the "arp -a" at a DOS prompt. If you cannot proceed further, the default BioLock settings including the IP address can be restored by means of a factory reset of the BioLock. This also removes all stored user information (such as enrolled fingers and logs).

To factory-reset the BioLock, turn the power off then on. When the green LED extinguishes and during the LEDs cycle sequence, tap the SIOB sensor four times to reset. Note that in this case, all the BioLock internal configurations are reset, including the IP address, and may need to be changed via the web page (see the Advanced Settings).

If the BioLock is factory-reset, the SIOB will also need to be factory-reset. To do this, momentarily press the reset button on the SIOB.

