



Zodiac Fingerprint Reader

By Cansec Systems Ltd.

FREQUENTLY ASKED QUESTIONS

Q How does Zodiac work ?

A Zodiac is a fingerprint reader that reads an encrypted template stored in either a SmartCard, a stick-on BioPatch, or Dallas Semiconductor iButton™ credential. The user first presents the Zodiac credential to the reader. Zodiac reads the stored template and lights up the sensor to prompt the user to present their finger. The actual fingerprint is compared to the template from the credential, and if they are a match, Facility Code and ID information (also stored in the credential) are transmitted via Wiegand or Track 2 ABA protocol to the host access control system. The host access control system will then determine if the user is allowed through the door.

Q Why do I need to carry a credential ... I thought I could just use my fingerprint ?

A Cansec has done extensive research in this area and has determined that users must indicate their identity in some way to provide a quick and reliable authentication process. Other units that store templates in memory and must compare the applied template to the stored ones, cannot authenticate in an acceptable time frame if there are more than a few users. Zodiac compares a single template from the credential to the actual fingerprint, which means Zodiac is fast and always authenticates in the same amount of time.

Q What is the user limitation of Zodiac ?

A The "Portable Template" method also solves the problem of memory limitations and the number of users. Because Zodiac does not store templates in memory, the number of users is only limited by your access control system.

Q Do I have to re-enroll if I have other facilities ?

A No. Because you are carrying the template with you, your credential can be used at your other facilities without re-enrolling. However, your ID number will have to be added and given access on the host access control system.

Q What happens if I lose my credential .. can someone else use it ?

A No. Because the credential's template is compared to the user's actual template, it is impossible for someone else to gain access using a lost credential.



Zodiac Fingerprint Reader

By Cansec Systems Ltd.

FREQUENTLY ASKED QUESTIONS

Q Is it easy to implement Zodiac into an existing access control system ?

A Yes. Zodiac connects using industry standard Wiegand or ABA protocol and can replace an existing proximity reader or other Wiegand compatible reader in minutes. Because Zodiac does not store templates in memory, there are no template management issues which require additional cabling between readers. Where an end-user does not wish to replace existing access cards, Zodiac credentials such as the BioPatch or iButton, can be easily affixed to the existing access cards of the users that need access to Zodiac equipped doors.

Q I'm concerned about privacy issues, are templates stored in a database anywhere ?

A No. Because Zodiac uses a portable template stored in a credential, there is no need to store templates in a PC database or in the reader. Optionally, the administrator can set the enrollment software to store an encrypted copy of the file on the enrollment PC for re-enrollment purposes.

Q How does Zodiac handle dirt, oil, or moisture build up ?

A Zodiac's optical prism is specially designed to resist distortions caused by dirt, oil or moisture build-up. Unlike many other optical devices, there are no expensive coatings to disturb on the hard surface of the prism. Designed for high usage and daily exposure to touch and contaminants from hands, Zodiac's scratch-resistant fingerprint sensor can easily be cleaned or wiped.

Q What are the False Rejection Rate (FRR) and False Acceptance Rate (FAR) of Zodiac ?

A The False Rejection Rate (FRR) states the percentage of instances an authorized individual is falsely rejected by the system. Generally speaking, SecuGen's False Rejection Rate is 0.1%. The False Acceptance Rate (FAR) states the percentage of instances a non-authorized individual is falsely accepted by the system. Generally speaking, SecuGen's False Acceptance Rate is 0.001%. FRR and FAR are diametrically opposed. Therefore, raising the FAR will lower the FRR and vice-versa. Accordingly, FRRs and FARs can be adjusted according to need to fit the requirements of an outlying security system.

Q Does Zodiac use an optical or semiconductor based sensor and why ?

A Zodiac uses an optical sensor. Optical sensors have many advantages over "chip-based" sensors.

Physical strength. Zodiac's optics-based system is physically stronger than semiconductor-based systems in terms of impact-resistance, scratch-resistance, weather-durability, and corrosion-resistance. Physical strength is a key factor for versatile outdoor usage. Semiconductor-based systems must apply special surface treatments to protect their inherently weak surfaces. Even then, they are far weaker than Zodiac's optical-prism strength.



Zodiac Fingerprint Reader

By Cansec Systems Ltd.

FREQUENTLY ASKED QUESTIONS

Low maintenance costs. Semiconductor chip-based fingerprint recognition systems have higher maintenance costs than Zodiac's system due to their fragileness. Unlike Zodiac's optical system, semiconductor-based systems use fragile and expensive parts that are equally expensive to replace and maintain.

No electrostatic problems. Semiconductor systems are inherently susceptible to damage from electrostatic energy, especially in carpeted areas. Zodiac's optical system is immune to electrostatic energy. Static electricity can actually burn out an entire semiconductor-based system.

Q Can Zodiac be bypassed with another Wiegand compatible reader ?

A No. Zodiac can be placed into Secure Transmission Mode (STM). When STM is enabled (via a DIP switch inside the reader), Wiegand data sent to the access control system is encrypted and sent over the standard Wiegand data lines to an optional Secure Transmission Authentication Receiver (STAR) module located inside the access control panel. The STAR module decrypts the data and relays it to the access control system in "clear Wiegand" format. The use of Secure Transmission Mode prevents Zodiac from being bypassed by replacing it with a conventional Wiegand device such as a prox reader or Wiegand emulating keypad. With STM enabled, such attempts will fail as the resulting "clear Wiegand" data generated by the replacement device will be rejected by the STAR module.

Q Will the BioPatch interfere with my existing proximity card ?

A No. The BioPatch is an ISO 15693 contactless smart card which operates at 13.56 Mhz. Proximity technology operates at 125KHz so the two technologies do not interfere with each other.

Q What if my finger is injured and cannot be read ?

A For users concerned with this issue, Zodiac SmartCard credentials can store two fingerprint templates. In the event that one finger is damaged and cannot be read, the alternate finger can be used.

Q Will the BioPatch come off easily ?

A No. The BioPatch is designed using an industrial strength adhesive. However, with determination and a sharp instrument, it can be removed but is useless without the live finger to authenticate.

Q What if I want to control other doors but do not require biometric authentication ?

A Cansec manufactures the Zodiac SmartCard Reader which allows Zodiac credentials to be used on these doors. These readers simply extract Facility Code and ID information and transmit the data to access control system.