

Frequently Asked Questions

Q. What is Biometrics?

A. Biometrics is an automated system of recognizing a person based on the person's physical or behavioral characteristics. It is the same system that the human brain uses to recognize and distinguish one person from another. It is a system that recognizes a person based on "who" the person is and does not rely on "what a person is carrying" or "what a person knows." Things that a person can carry, such as keys and ID-badges, can be lost, stolen, and/or duplicated. Things that a person knows, such as passwords and pin-numbers, can be forgotten, stolen, and/or duplicated. Instead, biometrics relies on "who" a person is -on a unique immutable human characteristic that cannot be lost, forgotten, stolen or duplicated. Biometrics, therefore, provides the ultimate level of security, convenience and ease of use. It is this security and convenience that TouchStar fingerprint recognition system provides.

Q. Why is TouchStar focused on fingerprint technology as opposed to other types of biometrics technology?

A. Fingerprints have been used for verification and identification purposes since the dawn of civilization. It is the oldest and most commonly accepted form of biometrics technology. Ancient kings and queens sealed letters and authenticated them with their fingerprints on hot wax thousands of years ago. Over a hundred years ago, both the United States and Europe began documenting the use of fingerprints for identification and verification purposes. Amazingly, after all this time, and millions of fingerprints later, no two identical fingerprints have ever been found. Based on this kind of hard physical evidence, it is safe to say that fingerprints are truly a unique human characteristic. No other biometrics technology can boast this level of scientific history and evidentiary support. Accordingly, its advantage over other biometric solutions lies in its historically and scientifically proven accuracy, reliability, convenience, user acceptance and familiarity. Moreover, with technology, fingerprint recognition systems are now affordable to the common man everywhere -and are no longer just for kings and queens.

Q. What is the difference between verification and identification?

A. Fingerprint recognition methodology is divided into two distinct processes: Verification and Identification. The Verification process is a one-to-one matching process (1:1). The user states who the user is. A new fingerprint sample is taken from the user and compared to the user's previously registered or stored fingerprint. If the fingerprints match, the user is "verified" as who they say they are, and granted all the privileges and access of the stated user-the system verifies who the user says they are. The Identification process is a one-to-many matching process (1:N). A user need not state who they are. A new fingerprint sample is taken from the user and compared to a database of existing fingerprints of registered or stored users. When a match is found, the user is "identified" as the pre-existing user-the system finds who the user is. This one-to-many matching process is how the Automated Fingerprint Identification System (AFIS) works. TouchStar offers both verification and identification technology.

Q. What is TouchStar FRD's (Fingerprint Recognition Device) verification speed?

A. The verification speed is generally less than half a second.

Q. What are the benefits of using biometrics identification rather than conventional methods of security such as passwords, pin-numbers, physical-keys, access codes, key cards, etc.?

A. Imagine if you will, starting your morning by pressing your finger on TouchStar's fingerprint recognition sensor to turn off your alarm clock. The alarm clock gives you a morning greeting by name. The house begins to awake, as it knows you are up. Instantly, the coffee begins brewing to your pre-set specifications and the shower is set to the water temperature of your liking. When you get out of the shower and begin dressing, the TV turns on to your favorite morning show. As you leave your house, you press your finger on TouchStar's fingerprint door-lock and the house is automatically locked and secured and all appliances turn off-no keys to carry or lose. Multiple attempts to open the door by anyone other than a registered user will automatically summon the police. Likewise, if so programmed, the police will be automatically alerted if anyone with outstanding-warrants or anyone listed-on any police wanted-lists attempts to open the door. You can even check when and how many people came to the house when you return home or from your office through the Internet. Next, you go to your car and with another press of your finger the door is opened. The car seat automatically adjusts to your settings and a gentle voice greets you by name. A press of your finger starts the car and the radio begins playing to the tune of your favorite station. When you arrive at your office, a press of your finger gives you access to the parking lot and your office building-no access cards or ID badges to carry. Your presence is automatically notified to all your business team members and assistants should they need to talk to you. You start your computer and the network log-on screen comes on. You simply place your finger on EyeD-mouse and you are granted immediate access to your computer and your office network-no passwords to memorize or write-down on yellow sticky paper. Whether on the intra-net or on the Internet, with fingerprint recognition system, you, your company, and those you interact with on the Information Highway feel secure knowing you are who you say you are and not an impostor. Workflow is immediate and can be truly paperless when document authentication can be done over cyber-space. For lunch, you realize you don't have enough cash, so you stop by a local bank. You approach the ATM machine powered by TouchStar technology and with another press of your finger, you have instant access to your bank account... Imagine... A world without cumbersome keys, access cards, ID-badges or a need to memorize numerous passwords, pin-numbers or access codes. A world that is more secure and convenient for you and your future generations. These are the benefits of biometrics and what TouchStar can offer. These benefits are not a dream but a reality of what TouchStar can provide today. The scope of these benefits are bound only by your imagination.

Q. What is TouchStar's Fingerprint Recognition System's False Rejection Rate (FRR) and False Acceptance Rate (FAR)?

A. The False Rejection Rate (FRR) states the percentage of instances an authorized individual is falsely rejected by the system. Generally speaking, TouchStar'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, TouchStar'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. How does TouchStar's FRD handle dirt, oil or moisture build-up?

A. Excellent. TouchStar's patent-pending optical prism is specially designed to resist distortions caused by dirt, oil or moisture build-up. Further, unlike many other optical devices, TouchStar's optical-prism is scratch and impact resistant and dirt, oil, or moisture will not damage it.

Q. How does TouchStar's Fingerprint Recognition System Work?

A. First, a user must enroll their fingerprint for future verification (1:1) or identification (1:N). A user can enroll by placing their finger on TouchStar's Fingerprint Recognition Device (FRD). TouchStar's FRD scans the individual's finger and captures the live 3D fingerprint image. TouchStar's minutiae based algorithm then extracts minutiae points from the image and converts the data into a unique mathematical template, comparable to a 60 digit password—a password that a supercomputer running at full power for over a year can not break. This unique template is then encrypted and stored to represent the user. No actual image of the fingerprint is stored. Next, for verification, an enrolled user states who they are and places the user's finger on TouchStar's FRD. A new fingerprint image of the user is captured. Minutiae data is extracted from the fingerprint and converted into a template. This template is then compared to the user's pre-existing template for a match. If the templates match, the user is verified as who they say they are. For identification, a user places the user's finger on TouchStar's FRD without stating who they are. The newly extracted template is then matched against pre-existing templates. If there is a match, the user is identified as the user that enrolled the pre-existing template.

Q. How well does TouchStar's Fingerprint Recognition System capture dry fingerprints?

A. Unlike other optical systems, TouchStar's SEIR (Surface Enhanced Irregular Reflection) optical technology combined with TouchStar's proprietary algorithm is able to capture extremely high quality, accurate, and distortion-free images. TouchStar's optical system is thereby able to capture even the driest fingerprint images that other optical systems cannot.

Q. How does TouchStar features differ from a punch card time attendance system?

A. As one of the most effective tools, the advantages of TouchStar is to deter ghost employee, “buddy punching” and prevent unauthorized access.

Q. What are the advantages of TouchStar's fingerprint recognition system over other optics-based fingerprint recognition systems?

A. High image quality. Traditional fingerprint devices require fine hand-calibration of its optical components. As such, image quality can vary significantly from one unit to another depending on the level of calibration. Accordingly, mass production of such units is costly or nearly impossible. Furthermore, such systems cannot endure high physical impact or shock, limiting their potential for outdoor use. TouchStar's patented-pending optical system allows mass production of high quality image capturing modules with minimal calibration requirements. Additionally, conventional optical fingerprint recognition systems use FTIR (Frustrated Total Internal Reflection) image processing methodology. In such systems, high image quality requires longer focal lengths and therefore longer and larger modules. To make these conventional optical systems smaller, image quality must be compromised and the system is left to work with inherently distorted images. Image distortion effectively lowers accuracy and reliability. By contrast, TouchStar's Fingerprint Recognition System utilizes a unique SEIR (Surface Enhanced Irregular Reflection) image processing methodology. Using this breakthrough technology, TouchStar's fingerprint modules are able to achieve distortion-free image capturing while drastically reducing its physical size.

Compact size. In traditional optical systems, higher image quality means longer focal lengths, which in turn means larger devices. TouchStar's patented-pending optical system provides distortion-free high image quality in the most compact module-design available today.

Resistant to grease and oil build-up. Image quality is reduced when grease or oil builds up on the optical surface. Unlike other optical systems, TouchStar's patent-pending optical prism does not allow for grease or oil to build up on its surface. In addition, TouchStar's patented- pending optical prism is highly resistant to abrasions and is nearly indestructible.

Performs well under extreme conditions. Unlike other optical systems, TouchStar's fingerprint recognition system can operate under extreme temperature and humidity. Due to its superior wear-resistance, TouchStar's optical system functions well even under the most difficult outdoor weather conditions.

Low Cost. TouchStar offers the most cost-effective fingerprint recognition solution with the highest image quality available in the market today. TouchStar's advanced automated manufacturing processes mean reliable mass production. The result is a tremendous value to our customers at a significantly reduced cost.

Q. How many fingerprint templates can TouchStar accommodate?

A. We have TouchStar that comes with 720 fingerprint templates and a HID proximity card reader and TouchStar that comes with 4,400 fingerprint templates, a HID proximity card reader and Ethernet connectivity.

Q. What is the life span of the TouchStar?

A. Our warranty period is one year, however, after a year from date of purchase, if there is any defect in the parts, you can send back to us for part replacement, which is chargeable.

Q. What happen if there is a power failure? How do you resolve the power failure problem?

A. If there is a power failure, a back up battery with 12VDC can be used. You can attach a back up battery beside the device.

Q. If there is a power failure, will my data be lost?

A. No. The data will be maintained in the memory up to 20,000 records.

Q. How many records in the event log can TouchStar stored?

A. Up to 20,000 records with the first in first out basis.

Q. Can TouchStar be used for indoor and outdoor?

A. TouchStar is designed to operate under environment with temperature between 0 degree Celsius to 60 degree Celsius.

Q. Can TouchStar work as standalone?

A. Yes, TouchStar is designed for standalone.

Q. Do I need a computer to run with TouchStar?

A. TouchStar can be used as a standalone. However, a computer will be needed for data collection and central fingerprints enrollment.

Q. How long does enrollment takes?

A. The process of enrolling a new user takes less than 10 seconds.

Q. If I have a few TouchStar devices, how can I enroll the fingerprints?

A. We have two ways of enrollment, self-enrollment and central enrollment. Self-enrollment means each user will enroll his fingerprint at the TouchStar itself. This method is cumbersome if you have a few TouchStar devices. Central enrollment is an easier and efficient method of enrollment. Users can enroll their fingerprint in a computer centrally.

Q. How long does it takes to upload the log records from TouchStar to my PC?

A. You will be able to upload about 50~60records per minute (based on serial communication running at baud rate 38,400 bps).

Q. How long does it takes to download the user fingerprints to TouchStar from my PC?

A. You will need about 30 to 40 minutes to download 720 fingerprint templates (depends on the state of the device, fresh download or re-download.).

Q. What is the hard disk space taken up by 20,000 log records?

A. 20,000 log records will take about 8Mb of your hard disk space.