Access Controls

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Access Control Measure

- Challenges for Security professionals –
- Change in security concept world over after WTC, USA incident on 11 Sept. 2001.
- Escalation in suicide attacks by terrorists –
- Dimension of Security drastically changed in India after attack on Indian Parliament on 13 Dec. 2001.

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Why Access Control?

- Security professional now pay more emphasis on intelligence gathering and proactive and preventive Security management.
- The potential cost to business when security is breached can weigh heavily on a company's safety, reputation, viability and ultimate profitability.
- Staff's well being, product integrity, secret processes, collateral and intellectual property is all at great risk.
- Access Control provides the ability to control, monitor and restrict the movement of people, assets or vehicles in, out and around a building or site and detect, delay and / refuse access to unauthorized.

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Today's bustling, exciting business needs the ability to:

- To know who is in the premise.
- Know where people are
- Restrict access to certain areas where sensitive business activities are going on
- Access Control provides "owners" with the ability to protect their people, assets and intellectual property.

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Delay Element placement

- Delay should follow detection
- Maximized at the target for cost effectiveness
- In depth with multiple barriers layers demanding adversary's different skills, better planning and variety of tolls to defeat it
- Activated dispensable close to target

Product Options

With continuing developments in technology the variety of products for Access Control has improved to meet the specific needs of the market.

The flexibility of offerings means there should be a product to meet most requirements.
Access Control Systems can function as stand alone or on-line systems connected to an operator station.

Products range from –

- Token Based Systems
- Digital Key pads
- Biometrics Readers
- Audio/Video Entry Systems

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Access Control System: Integration

Increasing complexity of security requirements and the improvement in flexible technology solutions led to the integration of Access Control products with other security systems.

Access Control Systems now offer interfaces to:-

- **Alarm Management**
- **CCTV System**
- **Video Badging**
- **Time and Attendance**
- **Building Management System**
- **Guard Tours Management**
- **Intruder Alarm System**

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ACCESS CONTROL SYSTEM

PC

PRINTER

SAFE

READER CONTROLLER

SMART CARD READER / FINGER SCAN

MOTORISED VEHICLE BARRIER

TRIPOD TURNSTILE

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Token Based Systems

•The fastest growing area, token-based systems, combines security and convenience to offer solutions for applications including building or site security, asset tracking, patient protection and vehicle identification. Based on existing international standards, available token technologies include

•Proximity, Hands-free, Magnetic Stripe, Wiegand, Biometrics, Smart Card

•Cards and Readers: -

Some Access Control Systems supports all reader technologies to meet the widest variety of application needs.

Multiple technologies can be used on the same system and even on the same door, providing maximum design flexibility

Single card can be used for multiple functionality including access control, time & attendance, cash-less vending and video/photo ID

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Types of Cards & Readers

- Magnetic Stripe
- Proximity
- Wiegand
- Hands Free
- Smart Card
- Watermark Magnetics
- Barcode

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Watermark Magnetics™ is a form of magnetic stripe technology that uses a unique manufacturing process to incorporate an indelible "Watermark" number into the data stripe.

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Proximity Cards:

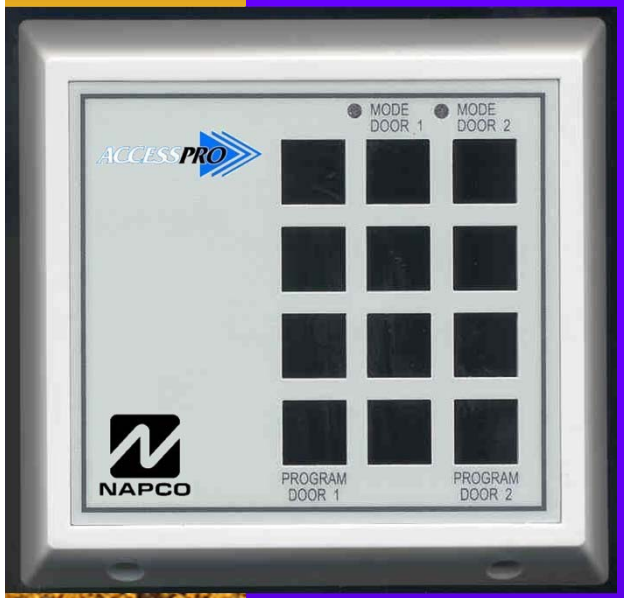
Technology uses a tuned RF circuit to emit a unique identification over relatively short ranges. The card requires no contact with the reader for the data to be read

Benefits:

- Uses passive cards (no battery) for long lifetime
- Non-contact readability for convenient & easy use.
- Small unobtrusive readers.
- Maintenance frees.
- Cards can be supplied in credit card size with integral magnetic stripe for multi-function applications.

Applications:

- Medium/High security.
- Where convenience of use is a high priority.
- Where multi-function cards are desirable.



STYLISH SIMPLICITY FOR EASE OF USE

IT IS USER FRIENDLY

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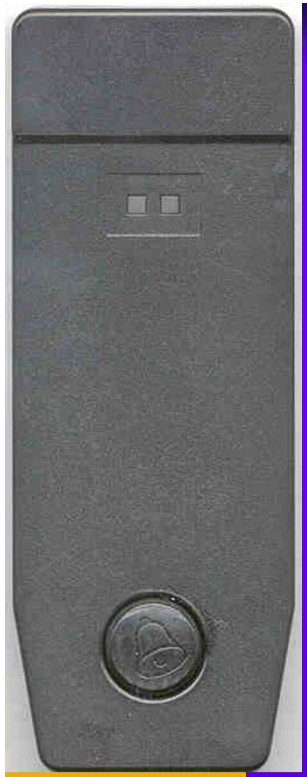

PROXIMITY READERS USING CARDS AND FOBS
UP TO 99 CARDS/FOBS PER DOOR

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All cards / fobs are individually added / deleted by code entry at the keypad

FAIL SAFE / FAIL SECURE RELAY OPERATION

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PROXIMITY CARDS ARE…

*** SECURE,

***STYLISH,

***STRAIGHT FORWARD

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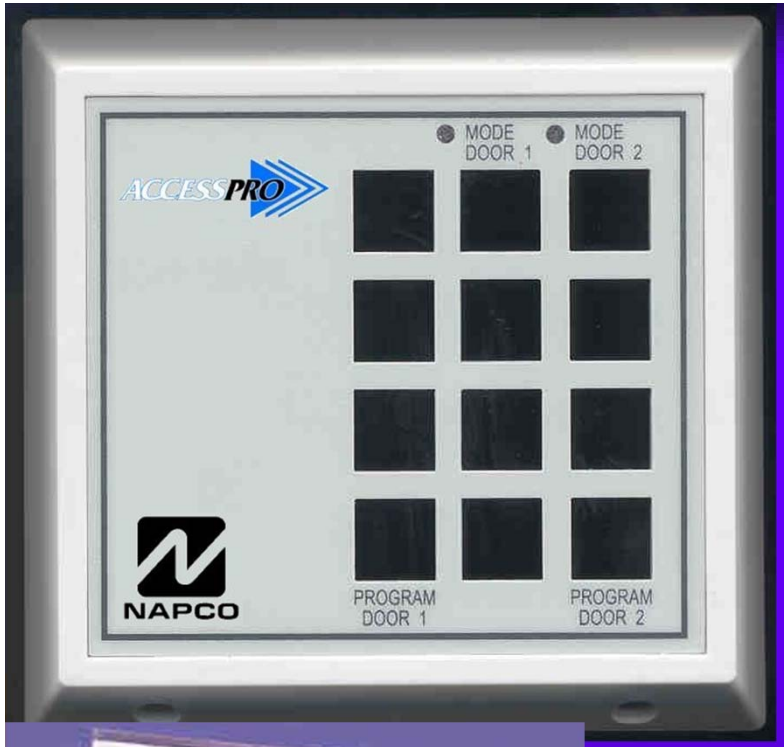

Digital Keypads

In this case, the "token" is simply a numeric code entered into a keypad on or near the door. Codes can usually be set to different lengths and most keypads have the capacity for more than one code.

Cryptag RF-ID Cards

Cryptag RF-ID card technology uses radio frequency (RF) circuits encoded with unique data which are embedded into a plastic card which can transmit identification data to a card reader when within the reader's RF range. The card does not require insertion into or physical contact with a reader in order for data to be obtained.

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Benefits:

- Almost impossible to duplicate cards due to RF circuitry and microchips embedded.
- Non-contact readability provides easy use.
- “On-the-fly” identification is available where the proximity card is interrogated without the cardholder having to stop or “show” the card to a reader.
- Low maintenance reader due to non-contact of cards.
- Slot-less reader and concealed installation makes vandalism less likely.

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Benefits:

- Equipment such as portable computers can be "tagged" as a deterrent to theft.
- Variety of reader ranges and area coverage available.
- Encrypted communications eliminates interference with other electronic and RF based systems.
- Passive tags available that do not require batteries thus reducing on-going costs.

Applications:

- High security hands-free applications.
- Ideal for non-interventional tracking of people, vehicles and assets.
  Especially suitable for disabled, elderly and infirm.

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Wiegand Cards

Wiegand Technology uses short lengths of special alloy wire with unique magnetic properties embedded into the card. The number of wire lengths and their location within the data strip determine the identification of the card.

Applications: High Security.

Benefits:

- Data strips are embedded within the card and cannot be seen on the card surface.
- Almost impossible to duplicate cards as attempts to expose the embedded codes will move their precise location thereby making the card unusable.
- Readers can be used indoors and outdoors. Specials finish readers available.

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What is Biometrics?

•Based on scientific fact that few body parts of every human being have distinct features unique and different than others.

•Finger prints, shapes of iris, retina, body odor etc. are few such attributes which are used for identification purpose.

•Biometric characteristic or a biometric trait, is a measurable physiological or behavioral trait of a living person that can be used to determine or verify the identity

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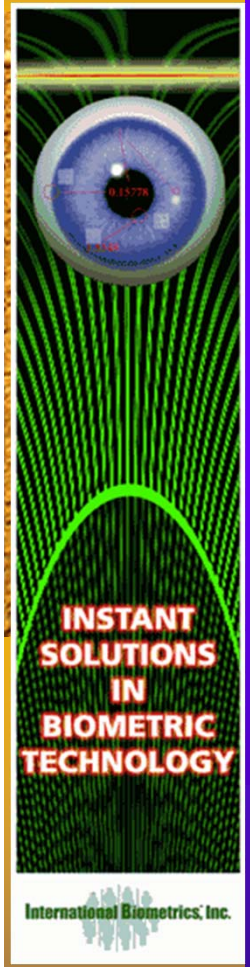

What is Biometrics?

•***Physiological biometrics*** **(also known as *static biometrics*): Biometrics based on data derived from the measurement of a part of a person's anatomy. Examples include fingerprints and iris patterns, as well as facial features, hand geometry and retinal blood vessel patterns.**

•***Behavioral biometrics*** **(dynamic biometrics): based on data derived from measurements of an action performed by a person and, distinctively, incorporating time as a metric — i.e., the measured action has a beginning, middle and end. Examples include voice (speaker verification) and signature.**

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Types of Biometrics

- Fingerprint Biometrics
- Hand Geometry Biometrics
- Retina Recognition
- Face Recognition
- Palm / vain pattern
- Voice Recognition

Finger Print Biometrics

How it works?

There is an optical device that uses digital holography to 3-D scan a finger and compare it against a previously enrolled template. Templates are stored as an ASCII file against as ID number.

This system comprises of a reader, a processor and a power supply. To enroll a person takes 25 seconds approximately. A person carries out verification by entering PIN (personal identification number) or swiping their card and placing their finger on the reader platen.

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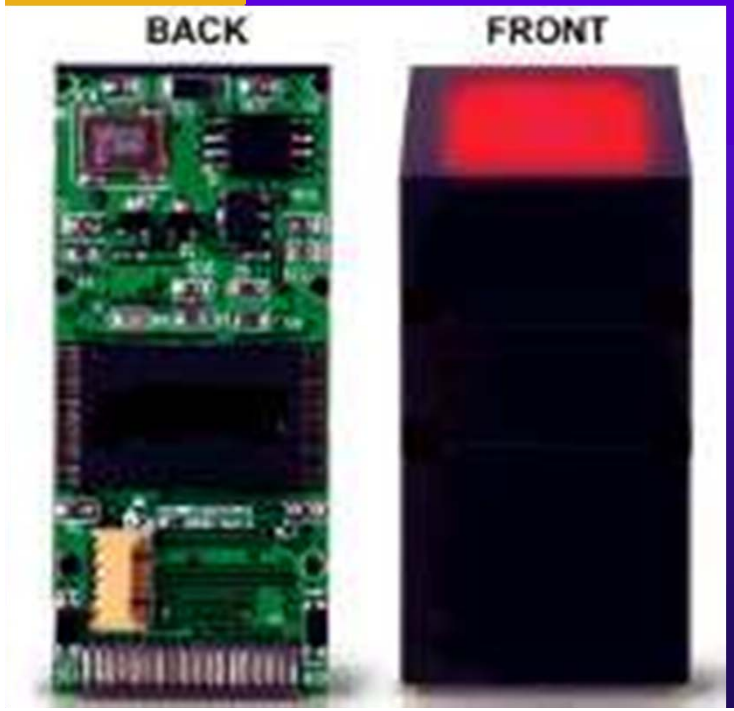
Standalone Fingerprint Module

- *Verification means that the system is used to verify the identity of the person seeking access. This is the most secure access control mode available.*



- *Identification means that the system is being used to identify the person without requiring provision of any other source of identification - except himself.*

- *Identification System can be configured to be non-invasive and user-friendly.*

What are the benefits?

- **For Users:**

•*Convenience* - (in Identification mode) no card key to keep track of or access code to remember

- **For Administrators:**

•*Peace of mind* - secured areas are protected from inadvertent lapses in security and from knowledge that you are no longer reliant on token-based security alone.

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What are the benefits?

- ***Affordability*- in many cases, enhance security without replacing existing security devices.**

- ***Compliance – If* you simply don't want someone being where they shouldn't be, system can be configured to actively look for individuals, identify them, & notify administrator if person approaches secured area.**

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Benefits:

- Fully featured biometrics fingerprint reader.
- Multiple finger enrolment.
- Very low false acceptance rate of less than 0.0001
- Fast verification.
- Requires a 3 dimensional finger - thus copies or images provide no risk or threat to security.

Applications:

- Very high security
- Access control to buildings, car parks, isolated and remote facilities.
- ATM, vault and safe control.
- Identity verification of visitors to secure installations.
- Prisons and military establishments.

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Suitability of System

	Magnetic Stripe	Proximity	Wiegand	Cryptag
Security	Medium	High	High	High
Cost	Low	Medium	Medium	High
Vandal Resistance	Medium	Medium	Medium	High
Multi-Functional	Yes	Yes	Yes	No
End User Encoding	Yes	No	No	No
Video ID Option	Yes	Yes	Yes	Yes
Keypad Option	Yes	Yes	Yes	Yes
9-Key-Fob Option	No	Yes	Yes	Yes
Hands Free	No	No	No	Yes
Car Tagging	No	Yes	No	Yes
Asset Tagging	No	No	No	Yes
Environmental Tolerance	High	High	High	V. High

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Suitability of System

	Smart Card	Watermark Mag Stripe	Fingerprint	Barcode
Security	High	Very High	Very High	Low
Cost	High	Medium	High	Medium
Vandal Resistance	Medium	Medium	Low	Low
Multi-Functional	Yes	Yes	No	Yes
End User Encoding	No	No	No	Yes
Video ID Option	Yes	Yes	No	Yes
Keypad Option	Yes	Yes	Yes	Yes
Key-Fob Option	Yes	No	No	No
Hands Free	No	No	No	No
Car Tagging	No	No	No	No
Asset Tagging	No	No	No	No
Environmental Tolerance	High	Medium	Low	Medium

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International Council For Industrial Security & Safety Management

http://www.wix.com/sbtyagi/iciss

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