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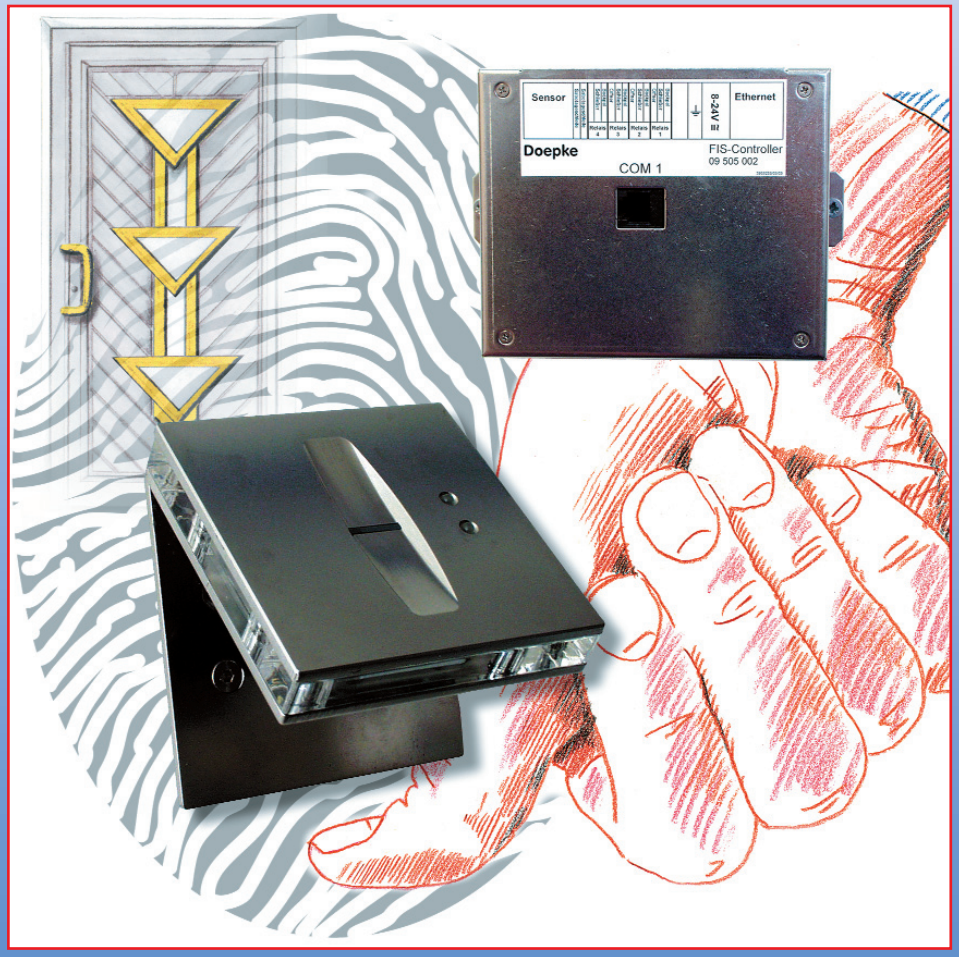
Finger Identification System

FIS

Biometric Access Control



Access to Buildings Individually Configured

- Simple to install, easy to put into service
- Flexible set-up of access rights
- No other key devices such as PIN or card required
- Problem-free configuration of interlinked systems
- Integration of timing systems via open interfaces
- Numerous applications, e.g. detached houses, hotels, office buildings, nurseries, laboratories, holiday villages, health/fitness centres
- Connection to Dupline bus system
- User-friendly thanks to ergonomic sensor design

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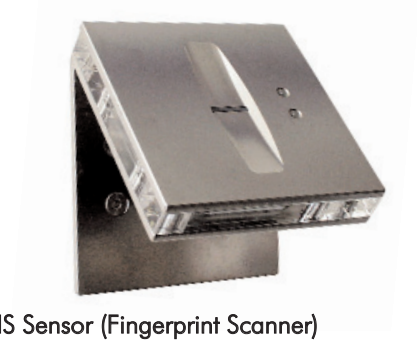
IDENTTECHNOLOGIES
Biometric Identification Systems

Growth Market - Biometry

According to experts, access control based on biometric characteristics (by means of iris, face and fingerprint identification) offers great growth potential in many areas, not just in security technology. And personal identification by electronic recognition of fingerprints is said to have the biggest market chance of all.

Doepke has addressed this challenge and with its FIS Finger Identification System offers both electrical specialists and the security service industry an opportunity to market this new, future-orientated product.

The outstanding feature of FIS is that the finger alone is required for identification. Any additional and easily lost or forgotten keys such as PIN number or card are things of the past.



FIS Sensor (Fingerprint Scanner)

System Components of FIS

The FIS system comprises the sensor unit, which is accessible to everyone, and an analysing device, the so-called controller, which is located in a secured area.

The sensor element is a 100,000-proven, thermal line sensor housed in a modern, ergonomic and rugged casing.

Because the finger has to be swiped over the sensor, a much higher number of data are gathered than is the case with other sensor types.

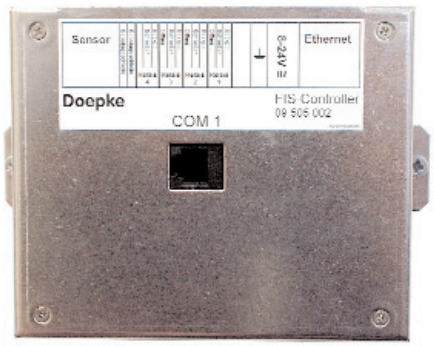
Really simple!
1. Position the finger
2. Place the finger on the sensor
3. Swipe the finger across the sensor

This directly benefits identification accuracy. The FIS sensor should preferably be mounted on a standard switch box to ensure that storage space for the connecting cable is available.
The FIS controller is connected to the sensor unit by an USB cable and replaces the PC which would otherwise be required. It is contained in a rugged stainless steel housing and can be installed e.g. in flush-mounted sockets, distribution boxes or be surface mounted.
The FIS controller communicates continously with the sensor. When the sensor identifies a valid finger pattern it transmits this to the controller. The latter then extracts the relevant data from the finger pattern using a Linux-based analysing software and compares them to the previously memorized finger data, the so-called templates.

Thanks to the complex computing algorithm required for this, which - so experts have confirmed - is particularly efficient with the FIS controller, rejection errors are kept to a minimum and a close to zero false acceptance rate is achieved.

Relay Outputs

The four relay outputs can function in different ways: With positive identification, e.g. in order to activate a door opener. By rejection, e.g. in order to sound a bell or to raise an alarm, when the finger defined for such has been swiped over the sensor, or in order to acitvate a door bolt in accordance with a programmed time schedule. It is also possible to activate a “silent alarm” if required. In this case a finger previously assigned this is passed over the sensor, which then triggers the alarm but will nevertheless open the door.



FIS Controller (Analysing Unit)
107 x 150 x 39 mm (L x W x H)

Contact Inputs

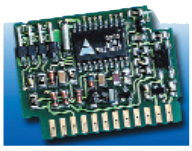
The system status can be influenced by external control signals with the aid of different contact inputs. It is thus possible for the door generally to be kept locked whilst identification of the person is nonetheless carried out. With another external signal the FIS can be switched to a status where the door opener can be activated even by non-memorized fingers. There is, of course an automatic door monitoring facility integrated which will trigger a signal as soon as the door is opened.

Data Protection

Fingerprints are recognised by their tiny ridge patterns (marked with a red dot). The ridge patterns are described by their location as well as their direction.

The digital data gathered from the fingerprints can only be utilized by the FIS. Reconstruction of a fingerprint from these data is 100% impossible! Data protection is thus ensured and any other, unauthorized use is impossible.

Flexible with Dupline



All input and output signals can optionally be used by the Dupline bus system via a standard two-wire lead.
With the aid of the Dupline interface card (FIS-DI) it is possible e.g. to control the lighting to suit requirements and to have a bell sound at any desired location.

Easy Installation and Putting into Service

The installation could not be simpler. Once the sensor and the controller have been fitted they need only to be connected via a ready-made cable. The controller then requires a power supply of 8 V to 24 VAC/DC which can be taken from e.g. a doorbell transformer. The FIS can now be put into service.

For this purpose the fingers of the persons selected have to be memorized, which requires a laptop/PC. This process is carried out by the easy-to-operate FISconf software which is supplied with the system.

In the memorizing mode the selected fingers are swiped 3 times over the sensor in order to achieve a certain variance. Up to 500 fingers can be "learned" in this way (see fig. 1).

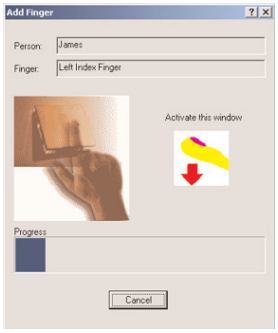


Fig.1 Memorizing mode

Once the fingers have been memorized the laptop/PC is no longer required!
The connection to the PC can be either via the serial port or a network card.
Management of the locking times is simple via the optional FISconf Pro software. This allows people to be assigned different times for right of access (see fig. 2). Furthermore, FISconf Pro enables network management of practically any number of FIS controllers.

Connection to Data Network

FIS is equipped with an Ethernet connection. Thus all operating options, access data and system parameters are readily available via LAN and WAN. This also permits the interlinking of several FIS systems. Configuration is also carried out using the FISconf Pro software. Polling of access and system data is possible with an Internet browser.

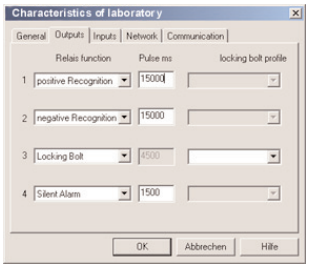


Fig.3 Configuration of Outputs

FIS - the Identification System with Personality - an Overview

- Modern fingerprint analysis system for reliable and fast identification of persons
- Conforms to the requirements of the Data Protection Act
- Simple to install
- Value-for-money

FIS - Leading Features

- Proven, reliable and fast memorizing and recognition algorithmic
- Identification mode for 500 fingers replaces key devices (chip and magnet cards) used hitherto
- Option to link fingerprint data with a smart card or PIN code
- Utilisation of network technology located in the object to be protected
- Simple user management
- Additional modules: Integration module for incorporating fingerprint server in customer´s own timing, accounting or access control management system
- Recording of access data and events
- Optional Dupline interface
- Interlinkable to practically any number of devices (TCP/IP)
- Setting for "Silent Alarm"
- Access rights for individual persons or groups
- Time-restricted access possibility
- Compliance with Data Protection Act
- High availability due to independently run door stations

FIS - Application Versatility

- Access security for buildings and plant, hotels and leisure facilities, bank depots and lockers, office blocks
- Access control to laboratories, pharmaceutics stores, safe vaults etc.
- Key substitute in family homes

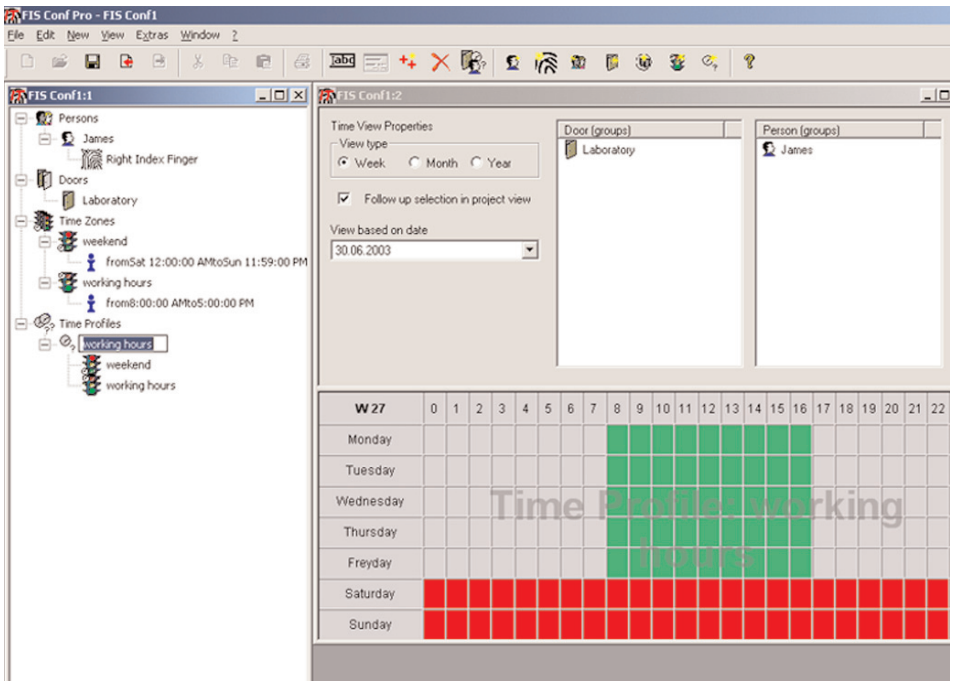


Fig.2 Time Management

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Biometric Identification Systems

Technical Data	
Operating voltage	8 – 24 VAC or DC
Power consumption	max. 6 W
Sensor	
System	Thermal line sensor
Connection	USB cable FIS-L1
Data rate	12 Mbit/s
Analysing Unit	
Number of memorisable fingers	500
Outputs	4 change-over relays à max. 50V / 2A on spring terminals
Free configuration as	– Door bolt – Silent alarm – active upon recognition (door catch) or – active upon non-recognition (bell)
Inputs	Opto-decoupled 10 – 30 VDC: – General locking (no door opening possible) – General activation of door opening (every finger activates the door opener) – Enquiry of door status (open /closed) All inputs and outputs optionally accessible via DUPLINE interface
Connections	– Ethernet connection RJ 45 10/100 Mbit – Serial port (on modular socket) – USB connection, type A for sensor connection, max. cable length 25 m – Spring terminals for relay outputs – Spring terminals for external power supply
Terminals	
Outputs	Spring terminals, max. 0,75 mm²
Supply	Spring terminals, max. 1,5 mm²
Dimensions	
Analysis unit	H x W x D = 107 mm x 150 mm x 39 mm
Sensor	H x W x D = 80 mm x 80 mm x 45 mm
Package contains	– Sensor – Mounting accessories – Controller – USB connecting cable FIS-L1 (5 m) – Serial configuration cable FIS-L2 – Configuration software FISconf for individual stations
Accessories	– DUPLINE interface FIS-DI – USB extension cable – Management software FISconf Pro

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