



MORPHOSMART™

Multipurpose fingerprint processing unit

- *High end optical sensor*
- *Micro controller for encoding,
1 : 1 authentication and 1 : N identification*
- *Enhanced cryptographic security*
- *RS 232 or USB*
- *Packaged or OEM device*



Sagem Défense Sécurité
SAFRAN Group



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Relying on its experience in fingerprint recognition technologies, from large database AFIS to peripherals and scanners, Sagem Défense Sécurité enhances its range of biometric terminals with the MorphoSmart™.

Applications

- People registration (ID cards, immigration, voting system, access control, ...)
- ID check (as an add-on device for any kind of transaction terminals PC, POS, ATM, etc.), welfare system, computer and network access control, e-commerce, etc.)

Sagem DS algorithms

The MORPHOSMART™ includes 2 embedded software components integrating the Sagem D S algorithms:

- The MORPHOIMAGING™ optimises image quality during acquisition and pre-processing.
- The MORPHOSOFT™ Embedded performs all the necessary functions for template extraction (processing of a fingerprint image) and fingerprint authentication or identification.

MORPHOSMART™ family

- **MORPHOSMART™ MSO 100** is an optical fingerprint reader with an USB interface, designed for PC applications. The MSO 100 is part of a MORPHOKIT™

which includes a PC software for image capture, template processing, authentication and identification up to 1:20,000 persons.

- **MORPHOSMART™ MSO 200 & MSO 300** are two self-contained devices designed for template processing, verification and identification against an internal database managed by the MSO. The MSO 200 offers a RS232 interface that enables connection with a large range of hosts such as PC, POS terminals, ATM, etc. Communication is made possible by a straightforward protocol, which can be implemented very simply by the host. The MSO300 offers a USB interface, more suited to PC environments. Both products integrate 2 LEDs to guide and inform users about ongoing operations. A Software Development Kit (SDK) enables VARs to develop any kind of application carried out on PC platforms.

- **MORPHOSMART™ MSO 300S** is the secure version of the MSO 300. It combines in one device the technologies of biometric authentication and Public Key Infrastructure (PKI) to offer a truly secure solution for positive person authentication.

- **MORPHOSMART MSO 350** features a PC/SC smart card reader (ISO format) in the same small package as the other models.

- **MORPHOSMART MSO 350S** is the secure version of the MSO 350.

Security features

The security layer, which has been added to the standard MSO, offers a solution to the problems of data integrity control and privacy protection. The MSO300S and 350S are compatible with existing X.509 PKI. The certification path and private key are loaded in the MSO via a secure token generated by a Key Management System (KMS). All biometric data are encapsulated in an X9.84 biometric token.

Technical specifications

- **Fingerprint sensor**
 - High end optical sensor
 - 500 dpi resolution @ 8 bit greyscale
 - 21 x 21 mm acquisition area
- **Operating Temp.**
 - 0°C to 40°C
- **Power consumption**
 - Less than 2.5W
- **Dimensions**
 - MSO L=90, W=80, H=57 mm
 - MSO OEM L=70, W=68, H=50
- **Connections**
 - MSO 100/300/350: 1.5 m USB cable
 - MSO 200 1.5 m DB 9 cable
- **Processor**
 - Powered by an ARM9™ family CPU core.
- **Software interface**
 - The SDK operates on Windows 2000, 2003 and XP Platforms.

	MSO 100	MSO 200	MSO 300	MSO 300S	MSO 350	MSO 350S
Security Layer	No	No	No	Yes	No	Yes
Interface	USB	RS 232	USB	USB	USB	USB
Software Interface	Morphokit SDK	MSO SDK	MSO SDK	MSO SDK	MSO SDK	MSO SDK
Biometric functions	Capture only	Capture, enrol, verify, Identify, Database management etc...				

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