



Advanced Card Systems Ltd.
Card & Reader Technologies

AET65 Smart Card Reader with Fingerprint Sensor



Technical Specifications



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1.0. Introduction



AET65 combines the core of ACS' ACR38-SAM contact smart card reader and UPEK's swipe fingerprint sensor into a single device, guaranteeing security and convenience.

Merging smart card and fingerprint technologies makes way for high-level security by providing multi-factor authentication: AET65 verifies something "you have" (smart card), something "you are" (fingerprint) and something "you know" (PIN/password). Users carry their fingerprint templates with them and fingerprint verification authenticates only the smart card user, neutralizing privacy concerns and security risks posed by dummy fingerprints or stolen cards.

Moreover, AET65's default fingerprint algorithm performs fingerprint template extraction and matching within the device itself – not in the PC – for maximum security. The secure access module (SAM) further elevates the level of security delivered by AET65.

The AET65 is compliant with the BioAPI specification, which gives way for interoperability between different software applications and biometric technologies developed by different vendors. In addition, the integration of the widely supported UPEK swipe sensor enables easy adoption of various 3rd party fingerprint enrollment and matching solutions. This allows a simple and cost-effective hardware maintenance or expansion of existing systems utilizing these 3rd party fingerprint algorithms.



2.0. Features

- Integrated fingerprint scanner and smart card reader
- Full-speed USB interface
- Encrypted fingerprint template stored inside smart card
- AET65 Smart Card Reader:
 - Compliant with PC/SC specification
 - Read/write speed up to 250 kbps
 - Supports all MCU cards with T=0 or T=1 protocols
 - Supports ISO 7816 Class A, B and C (5V, 3V and 1.8V) cards
 - ISO 7816 Compliant SAM Slot
- Fingerprint scanner:
 - Match-on reader: Template extraction and matching algorithms run within the device itself, not in the PC (*Using default fingerprint algorithm*)
 - UPEK TCS4-TCD50 swipe fingerprint sensor
 - Swipe speed of up to 40 cm/sec (15 in/sec)
 - Active sensor size – 9.6 mm x 0.2 mm
 - High-resolution 508 DPI imaging, array size of 192 x 4 pixels
 - Supports image optimization and filtering
 - Utilizes CMOS active capacitive pixel-sensing technology, resulting to high-quality fingerprint images in any environment
 - Compliant with BioAPI 1.1 specification and Windows Biometric Framework
 - Supports 3rd-party fingerprint algorithms



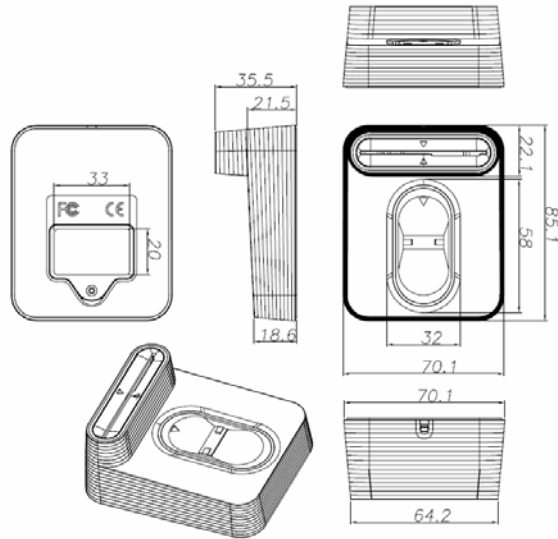
3.0. Typical Applications

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Public Key Infrastructure
- Network and Security
- Access Control





4.0. Technical Specifications



Universal Serial Bus Interface

Power source From USB
Speed 12 Mbps (Full-Speed)
Supply Voltage Regulated 5V DC
Supply Current max. 50 mA

Contact Smart Card Interface

Standard ISO 7816, T=0 and T=1
Card type supported ISO 7816 Class A, B and C (5V, 3V, 1.8V) cards and all MCU cards following T=0 or T=1 protocol
Smart card read / write speed 9600 – 250,000 bps
CLK frequency 4 MHz
Card insertion cycles min. 100,000

SAM Card Interface

Standard ISO 7816, T=0 and T=1
Card type supported ISO 7816 Class A, B and C (5V, 3V, 1.8V) cards
Supply current max. 50 mA

Fingerprint Scanner Interface

Sensor UPEK TCS4-TCD50 swipe fingerprint sensor
Active sensor size 9.6 mm X 0.2 mm
Width 12.4 mm
Array size 192 x 4 pixels
Array pitch 50 microns
Image resolution 508 DPI
Maximum swipe speed 40 cm/s

Casing

Dimensions 85.1 mm (L) x 70.1 mm (W) x 35.5 mm (H)
Weight 194 g
Color Black

Built-in Peripheral

LEDs Green

Operating Condition

Operating temperature 0 – 50 °C

Certifications/Compliance

PC/SC, BioAPI 1.1, Windows Biometric Framework, CE, FCC, RoHS Compliant, USB Full-Speed
Microsoft® WHQL XP (x86 & x64), Vista (x86 & x64), and Windows 7 (x86 & x64)

Device Driver Operating System Support

Windows XP, Vista, Windows 7, 2003, 2008 & 2008 R2 (x86/x64)

