Advanced Card Systems Ltd.

AET63 BioTRUSTKey

TECHNICAL SPECIFICATIONS

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AET63 BioTRUSTKey

1.0 Introduction

The AET63 BioTRUSTKey combines the highly successful silicon fingerprint sensor with a smart card reader to achieve ultra-secure authentication. It is a fully integrated fingerprint-based biometric subsystem, combining fingerprint sensing and algorithm processing in a single, compact device. All biometric algorithm processing is carried out in a custom chip integrated at the back of the silicon fingerprint sensor.

Our biometric products leverage ACS technology and experience in implementing readers in smart card based authentication programs. By partnering with leading biometric sensor and algorithm supplier, we are providing a high level of security and convenience for applications in the government, corporate, financial and healthcare sectors.

With BioTRUSTKey, you have all the hardware and software you need to add biometric security to your custom applications. For PC applications, the BioTRUSTKey provides the highest level of security. This is because both the template extraction and matching algorithms run within the device itself - not in the PC.

The BioTRUSTKey significantly reduces development time and cost. Therefore new product design can be validated quickly and accurately. With the simple Application Programming Interface (API) provided, designers can easily add fingerprint authentication and smart card features into their products/applications. A system can be developed very quickly, without an in-depth knowledge of biometrics.

2.0 Features

- USB Plug and play interface
- Requires no additional power supply
- High-resolution 508 DPI imaging
- Utilizes CMOS active capacitive pixel-sensing technology, resulting in quality of fingerprint image capture
- The template extraction and matching algorithms run within the device itself - not in the PC
- Large active sensor size – 12.8 mm x 18.0 mm
- Supports all micro-controller cards, with T=0 or T=1 protocols
- Supports one SAM card (optional)

3.0 Typical Applications

- Remote Electronic Voting
- Secure E-commerce
- Secure Home-banking
- Computer System Logon
- Healthcare applications
- E-government applications

4.0 Supported Card Types

MCU Cards
The AET63 can operate MCU card with T=0 and T=1 protocol.

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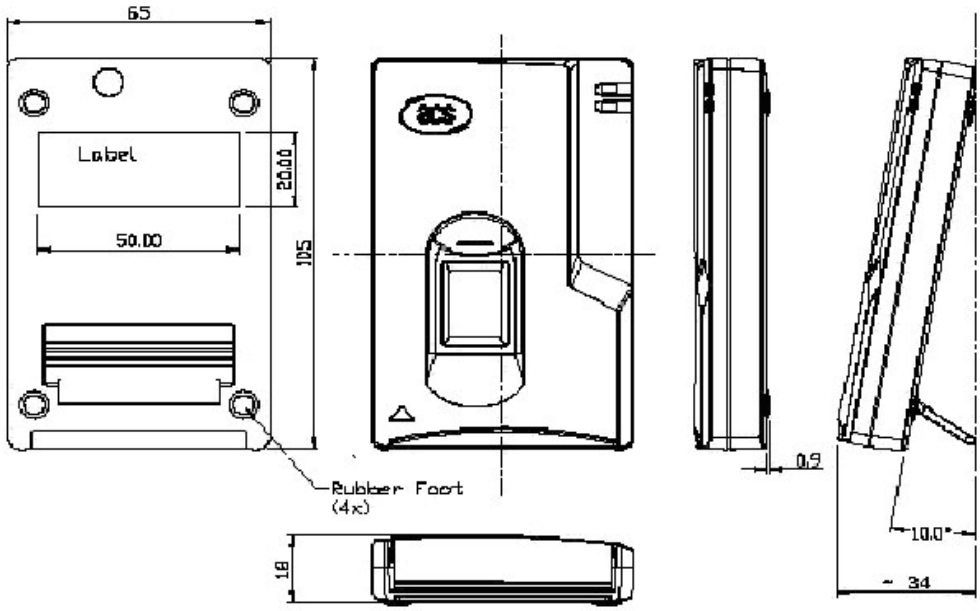
5.0 Technical Specification



Power supply

Power supply ..... USB powered
Supply voltage ..... Regulated 5V DC

Universal Serial Bus Interface

Type ..... USB v1.1, four lines: +5V, GND, D+ and D-
Power source ..... From USB
Speed ..... 1.5 Mbps (Low Speed)

Smart Card Interface

Standard ..... ISO 7816 1/2/3, T=0 and T=1
Supply current ..... max. 50mA
Smart card read / write speed ..... 9600 – 96000 bps
Short circuit protection ..... +5V / GND on all pins
The presence of the smart card power supply voltage is indicated through a green LED on the reader
CLK frequency ..... 4 MHz
Card connector ..... Landing contacts (8 contacts)
Card insertion cycles ..... min. 100,000

Fingerprint Scanner Interface

Power consumption ..... Active mode: 20mA @ 5V + 105mA @ 3.3V
Sleep mode: < 1mA @ 5V + 70µA @ 3.3V
Active sensor size ..... 12.8 x 18 mm
Array size ..... 256 x 360 pixels
Image resolution ..... 508 DPI
ESD tolerant ..... +/- 15kV air discharge

Case

Color ..... Silver-gray

Operating Conditions

Temperature ..... 0 - 50° C
Humidity ..... 5% - 93%

Standard/Certifications

CE, FCC

OS

Windows 98, ME, 2K, NT4, XP and Linux

OEM

OEM-Logo possible, customer-specific colors

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6.0 Software Development Kit Specifications

AET63 SDK is a complete package containing all the vital components required for smart card/finger print application development. It provides developers with a convenient and effective way to incorporate fingerprint and smart card authentication as part of their solutions.

Using the simple Application Programming Interface, designers can easily integrate fingerprint authentication features into their applications. The interface can be developed quickly without any in-depth knowledge of biometrics.

Package Contents

- AET63 BioTRUSTKey - A smart card reader integrated with fingerprint sensor
- 10 ACOS2 8Kbyte Microprocessor-based Card
- Installation and operation CD-ROM (including drivers, source codes, and demo software)

The SDK CD-ROM includes:

- Sample Applications – Post-enrollment, the user can access 3 demo programs: Application, BioBanking and Functional, demonstrating the variety and range of application of BioTRUSTKey.
- Sample Codes – Sample codes given are written in Borland Delphi 7.0, Microsoft Visual Basic 6.0 and Microsoft Visual C++ 6.0.
- Tools and Utilities – Besides CardTool to test the protocol transfer between the reader and the PC, ACOS Formatter and TFMLoader are included to initialize your ACOS2 cards, as well as the EEPROM in the TFM.
- User Manuals and Reference Materials – ACOS2 Reference Manual, ACOS3 Reference Manual, ACR30 API Guide, AET63 API Guide, AET63 Reference Manual, AET63 Technical Specifications, PC/SC Specifications and Product and Service Guide
- SDK User Manual

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