



**Advanced Card Systems Ltd.**  
Card & Reader Technologies

# AET62 NFC Reader with Fingerprint Sensor



Technical Specifications V1.01



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## 1.0. Introduction



The AET62 aims to bring security and flexibility in contactless (RFID) applications a notch higher. With ACS' ACR122U NFC Contactless Smart Card Reader core and Digital Persona UPEK's swipe fingerprint sensor combined into a single device, you can only think of security and convenience.

Near Field Communication (NFC) Technology is rapidly gaining worldwide popularity and fingerprint technology remains the top choice for security measures. Merging these two technologies makes way for high-level and flexible authentication: AET62 verifies something "you have" (smart card), something "you are" (fingerprint) and something "you know" (PIN/password). Its match-on device feature (on-board fingerprint template extraction and matching) and the optional secure access module (SAM) further elevate the level of security delivered by AET62.

The AET62 is compliant with the BioAPI specification, which enables interoperability among software applications and biometric technologies from different vendors. In addition, the integration of the widely supported UPEK swipe sensor enables easy adoption of various third party fingerprint enrollment and matching solutions. This allows a simple and cost-effective hardware maintenance or expansion of existing systems.

The AET62 facilitates a simple and intuitive exchange of information, and provides convenience that is vital to the user's acceptance of a system. The reader's ergonomic design also lets users scan their finger effortlessly, enabling hassle-free authentication.



## 2.0. Features

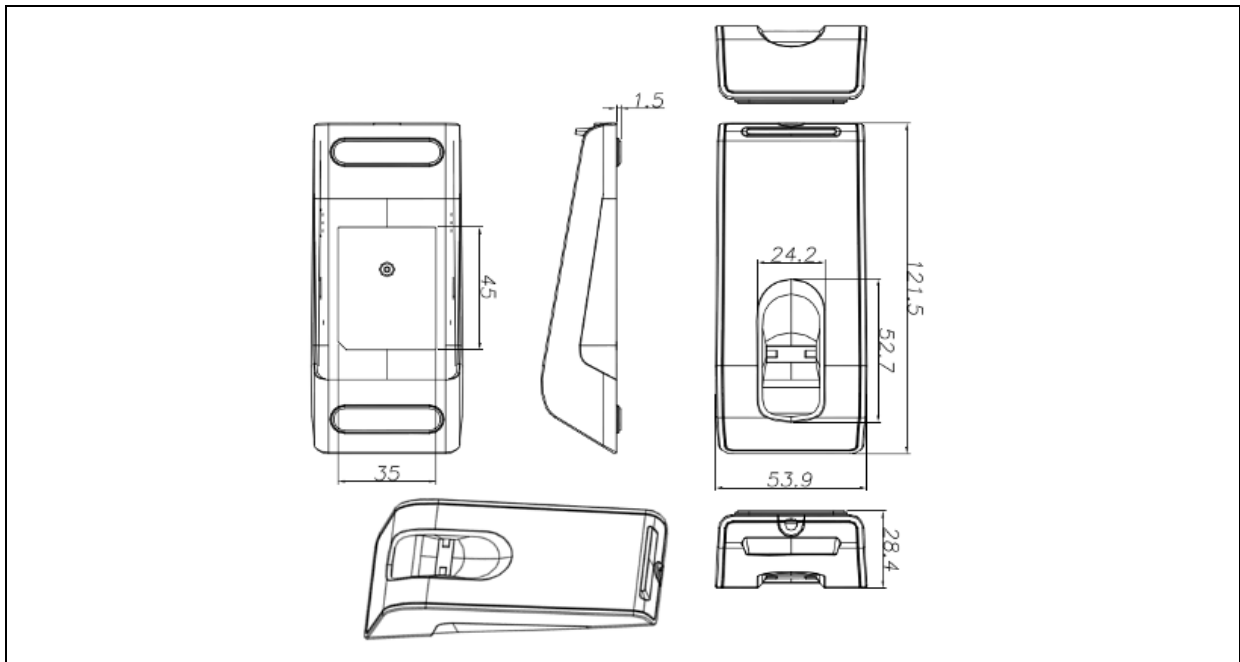
- Integrated fingerprint scanner and 13.56 MHz contactless (RFID/NFC) smart card reader
- USB Full Speed (12 Mbps)
- Encrypted fingerprint template stored inside smart card
- AET62 NFC Contactless Smart Card Reader:
  - Compliant with PC/SC and CCID specifications
  - Read/write speed up to 424 Kbps
  - Built-in antenna for contactless tag access, with reading distance up to 30 mm (depending on tag type)
  - Supports ISO 14443 Type A and B, MIFARE®, FeliCa, and all four types of NFC (ISO/IEC 18092) tags
  - Supports new MIFARE Ultralight® C, MIFARE Plus® SL1 (4 Byte UID) and SL3, and MIFARE DESFire® EV1
  - Built-in anti-collision feature (only one tag can be accessed at any time)
  - ISO 7816 compliant SAM slot (upon request)
- Fingerprint scanner:
  - Match-on reader: Template extraction and matching algorithms run within the device itself, not in the PC (using default fingerprint algorithm)
  - Digital Persona's UPEK TCS4-TCD50 swipe fingerprint sensor
  - Swipe speed of up to 40 cm/s (15 in/s)
  - Active sensor size – 9.6 mm x 0.2 mm
  - High-resolution 508 DPI imaging, array size of 192 pixels 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 third party fingerprint algorithms
- Compliant with the following standards:
  - ISO 14443
  - CE
  - PC/SC
  - CCID
  - Microsoft® WHQL
  - RoHS



### **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)  
 Connector Type..... Type A  
 Supply Voltage..... Regulated 5 V DC  
 Supply Current ..... 300 mA (max.); 70 mA (standby); 200 mA (normal)

### Contactless Smart Card Interface

Standard ..... ISO/IEC 18092 NFC, ISO 14443 A and B, MIFARE, FeliCa  
 Protocol..... FeliCa protocol, T=CL protocol, NFCIP-1 protocol  
 Operating Frequency ..... 13.56 MHz  
 Smart Card Read/Write Speed..... 106 Kbps, 212 Kbps, 424 Kbps

### Fingerprint Scanner Interface

Sensor..... UPEK TCS4-TCD50 Swipe Fingerprint Sensor  
 Sensor Type..... Capacitive  
 Fingerprint Capture Method ..... Swipe/Sweep  
 Active Sensor Size ..... 9.6 mm x 0.2 mm  
 Width..... 12.4 mm  
 Array Size ..... 192 pixels x 4 pixels  
 Array Pitch ..... 50 microns  
 Image Resolution ..... 508 DPI  
 Maximum Swipe Speed ..... 40 cm/s

### Physical Specifications

Dimensions ..... 121.5 mm (L) x 53.9 mm (W) x 28.4 mm (H)  
 Weight..... 170 g  
 Color ..... Pearl White  
 Operating Distance ..... Up to 30 mm

### Built-in Peripherals

LED Color ..... Bi-color LED, Red and Green  
 LED Status Indicators ..... 1 LED

### Operating Condition

Operating Temperature..... 0 °C – 50 °C

### Application Programming Interface

PC/SC

### Certifications/Compliance

CE, FCC, RoHS, PC/SC, CCID, BioAPI 1.1, Windows Biometric Framework, USB Full Speed, Microsoft® WHQL Windows® XP, Windows Vista®, Windows® 7, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2



**Device Driver Operating System Support**

Windows® XP, Windows® Vista, Windows® 7, Windows® 8, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2  
Linux® (Upon Request)

