



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

# ACR122L

## VisualVantage

### NFC Reader with LCD



Technical Specifications



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## 1.0. Introduction



The ACR122L is a serial NFC contactless reader with LCD screen. Developed based on the 13.56 MHz RFID technology and the ISO/IEC 18092 NFC standard, it supports ISO 14443 Type A and B cards, Mifare, FeliCa and NFC technologies, including all 4 types of NFC tags and all 3 modes – reader, peer-to-peer and card emulation modes.

ACR122L has a built-in anti-collision feature and direct card type polling commands that enable smooth operation in cases where multiple cards are present. ACR122L comes with 4 LEDs, a buzzer and an LCD, providing users with a clear indication of the reader's status. The 2-line graphic LCD has multiple language support, including language support for Chinese, English, Japanese and some European languages. It allows

interactive operation, such as scrolling up and down, left and right etc. Finally, ACR122L is equipped with three built-in SAM slots that provide enhanced security in contactless operations.



## 2.0. Features

- Serial RS232 Interface (Baud Rate = 115200 bps, 8-N-1)
- 7V DC for power supply
- CCID-like frame format (Binary format)
- Read/write speed of up to 424 kbps
- Built-in antenna for contactless tag access, with card reading distance of up to 50 mm (depending on tag type)
- Supports ISO 14443 Part 4 Type A and B cards, Mifare, FeliCa and all 4 types of NFC (ISO/IEC 18092) tags
- Supports new Mifare Ultralight C, Mifare Plus and DESFire EV1
- Support for all 3 modes of NFC: reader, card emulation and peer-to-peer modes
- Built-in anti-collision feature (only one tag is accessed at any time)
- Selective card polling capability (especially useful when multiple cards are presented)
- 2-line graphic LCD with interactive operability (i.e. scroll up and down, left and right etc) and multi-language support (i.e. Chinese, English, Japanese and some European languages)
- Three ISO 7816-compliant SAM slots
- Four User-controllable LEDs
- User-controllable buzzer



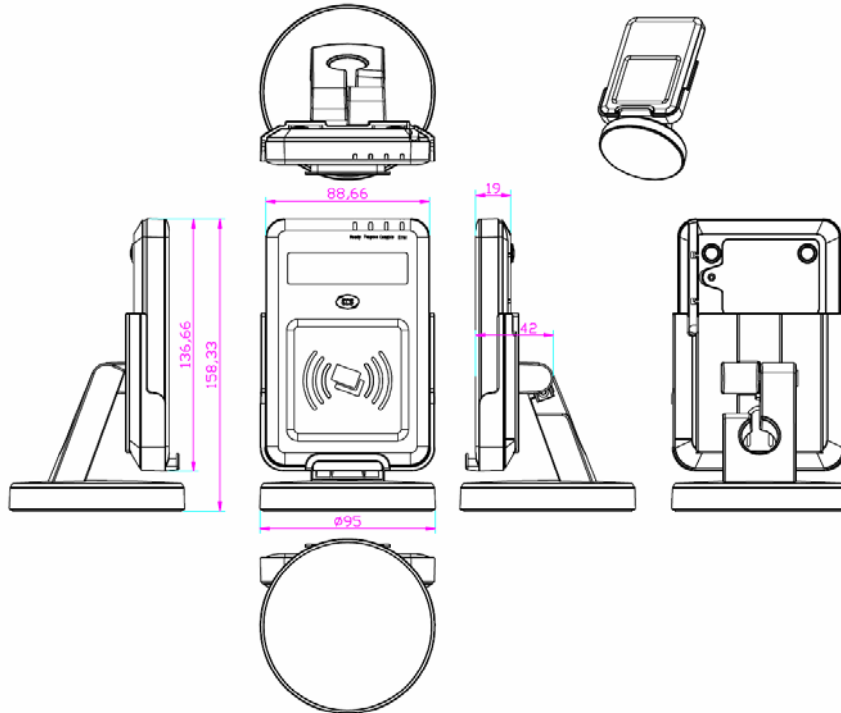
### 3.0. Typical Applications

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Transportation
- Network Security
- Access Control
- Loyalty Program





## 4.0. Technical Specifications



### Serial Interface

Power Source ..... 7V DC  
 Speed ..... 9.6 kbps, 115.2 kbps  
 Supply Voltage ..... Regulated 5 V DC  
 Supply Current ..... 200 mA (maximum); 50 mA (standby); 100 mA (normal)

### Contactless Smart Card Interface

Standard ..... Mifare, ISO 14443-4 Type A & B, FeliCa, ISO/IEC 18092 NFC  
 Operating Frequency ..... 13.56 MHz  
 Smart Card Read / Write Speed ..... 106, 212, 424 kbps

### SAM Card Interface

Standard ..... ISO 7816  
 Protocol ..... T=0 protocol  
 Operating Frequency ..... 4 MHz  
 Smart Card Read / Write Speed ..... 9600 – 115200 bps

### Physical Specifications

Dimensions ..... Main Body: 136.66 mm (L) x 88.66 mm (W) x 19.00 mm (H);  
 With Stand: 158.33 mm (L) x 95.00 mm (W) x 95.00 mm (H)  
 Weight ..... Main Body: 200 g  
 With Stand: 600 g  
 Color ..... Black  
 Operating Distance ..... Up to 50 mm (depending on tag type)

### Built-In Peripherals

LCD Display ..... 128 x 32 pixel graphic LCD with yellow-green backlight  
 ..... Number of characters: 2 line x 16 characters  
 LED Status Indicators ..... 4 LEDs: Green, Blue, Orange and Red  
 Buzzer ..... Monotone

### Operating Conditions

Temperature ..... 0 - 50° C  
 Humidity ..... 10% - 80%

### Cable Connector

Length ..... 1.5 m (DB9 + USB)

### Certifications/Compliance

CE, FCC, VCCI, RoHS

### Device Driver Operating System Support

Windows ® 98, ME, 2000, XP, Vista, 7, Server 2003, Server 2008, Server 2008 R2  
 Windows CE ® 5.0  
 Linux, Mac

