



Advanced Card Systems Ltd.
Card & Reader Technologies

ACR122S

Serial NFC Reader



Technical Specifications V2.03



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1.0. Introduction



The ACR122S is the serial interface (RS-232) extension of the ACR122 Series, which is a family of NFC contactless smart card readers/writers. Developed based on the 13.56 MHz RFID technology and the ISO/IEC 18092 NFC standard, it also supports FeliCa and NFC tags, aside from MIFARE® and ISO 14443 Type A and B cards.

ACR122S is equipped with a buzzer and two LEDs for richer user interaction. It also supports anti-collision and selective card polling, allowing smooth operation even when multiple cards are presented. Moreover, it is equipped with a built-in ISO 7816 compliant Class A SAM (Secure Access Module) slot which can be used together with a SAM card to secure the overall contactless operation.



2.0. Features

- Serial RS-232 Interface: Baud Rate = 115200 bps, 8-N-1
- USB interface for power supply
- CCID-like frame format (Binary format)
- Smart Card Reader:
 - Contactless Interface
 - 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 four types of NFC (ISO/IEC 18092 tags)
 - Built-in anti-collision feature (only one tag is accessed at any time)
 - SAM Interface
 - One SAM slot
 - Supports ISO 7816 Class A SAM Card
- Built-in Peripherals:
 - Two user-controllable LEDs
 - User-controllable buzzer
- Compliant with the following standards:
 - ISO 18092
 - ISO 14443
 - ISO 7816 (for SAM Slot)
 - CE
 - FCC
 - KC
 - VCCI
 - RoHS 2

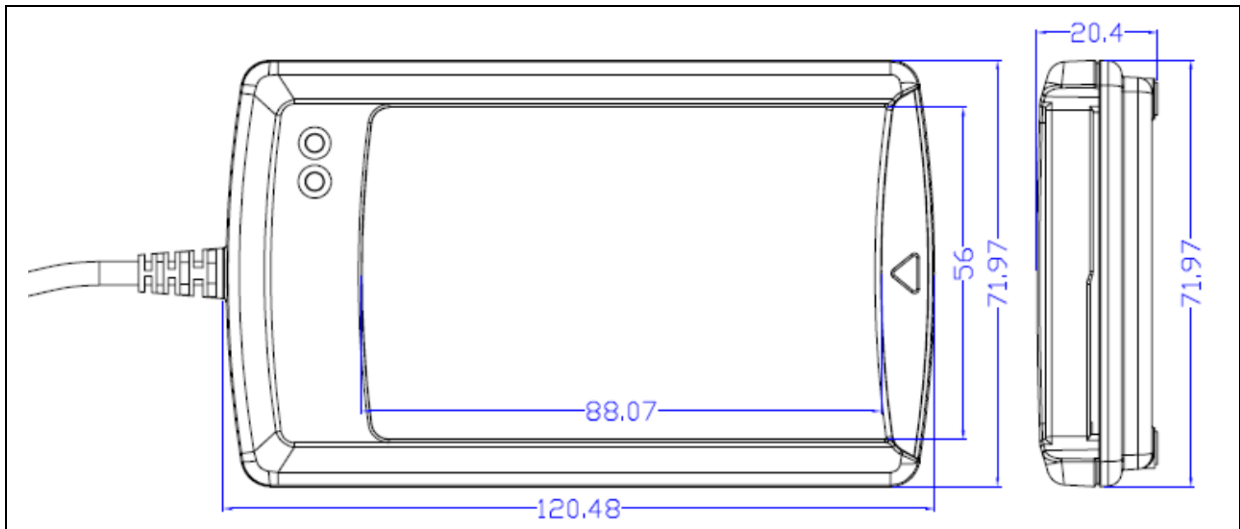


3.0. Typical Applications

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



4.0. Technical Specifications



Serial Interface

Power Source..... From USB
 Speed..... 9.6 Kbps, 115.2 Kbps
 Supply Voltage..... Regulated 5 V DC
 Supply Current 200 mA (max.); 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
 Operating Distance Up to 50 mm (depending on tag type)
 Smart Card Read/Write Speed..... 106 Kbps, 212 Kbps, 424 Kbps

SAM Card Interface

Standard ISO 7816, Class A (5V)
 Protocol..... T=0 protocol

Physical Specifications

Dimensions 120.5 mm (L) x 72.0 mm (W) x 20.4 mm (H)
 Weight..... 148.0 g
 Color Metallic blue
 Cable Length..... 1.5 m (DB9 + USB)

Built-in Peripherals

LEDs Red and Green
 Buzzer Monotone

Operating Conditions

Temperature..... 0 °C – 50 °C
 Humidity Max. 90% (non-condensing)
 MTBF 500,000 hrs

Certifications/Compliance

ISO 18092, ISO 14443, ISO 7816 (SAM Slot), CE, FCC, KC, VCCI, RoHS 2

Supported Operating Systems

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



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