Advanced Card Systems Ltd.
Card & Reader Technologies

ACR122U
USB NFC Reader

Technical Specifications V3.06

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1.0. Introduction

The ACR122U is a PC-linked contactless smart card reader/writer developed on the 13.56 MHz contactless technology. It is the world's first CCID-compliant contactless card reader/writer that follows both ISO 14443 and ISO 18092. This device is designed to support not only MIFARE® and ISO 14443 Type A and B cards but also FeliCa and NFC tags.

By making use of up to 424 Kbps read/write speed for NFC tag access and up to 12 Mbps for USB full speed, ACR122U can efficiently read from and write to various contactless cards/tags. It is also PC/SC-compliant which allows interoperability across different applications and platforms.

You can experience the convenience in using ACR122U, with its compact size and the various features it offers, for applications such as payment, access control, time and attendance, and mass transit.

2.0. Features

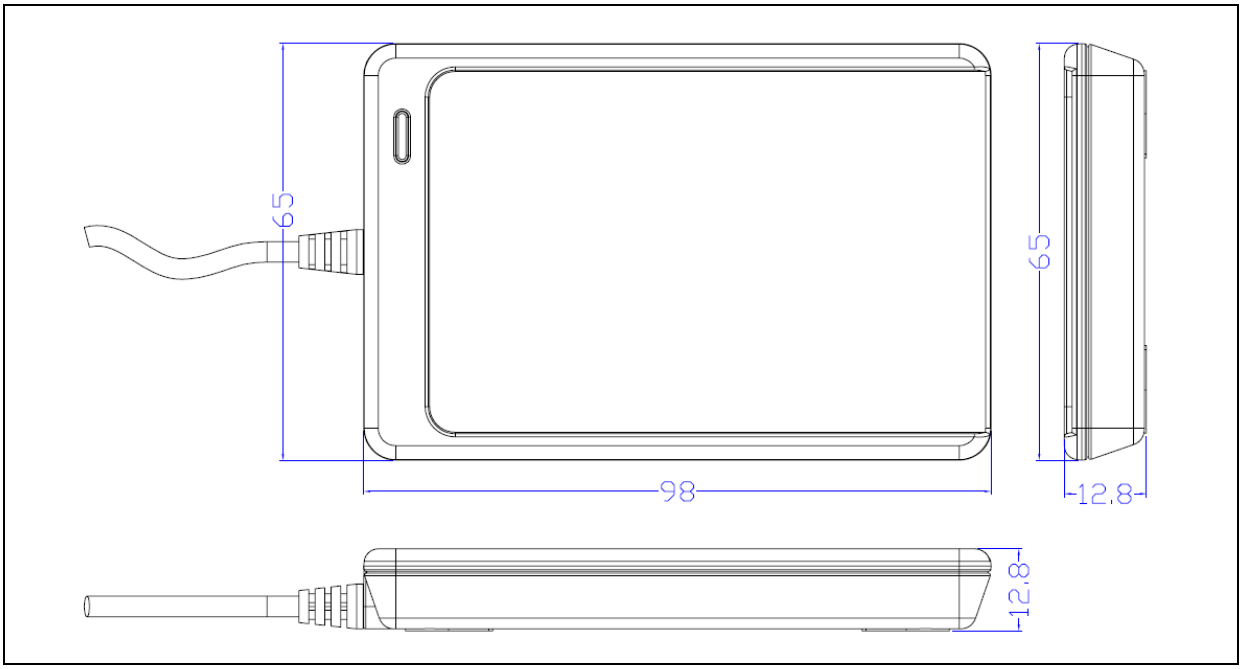
- USB Full Speed Interface
- CCID-compliant
- Smart Card Reader:
  - Read/Write speed of up to 424 Kbps
  - Built-in antenna for contactless tag access, with card reading distance of up to 50 mm (depending on tag type)
  - Supports ISO 14443 Part 4 Type A and B cards, MIFARE Classic®, FeliCa, and all four types of NFC (ISO/IEC 18092 tags)
  - Built-in anti-collision feature (only one tag is accessed at any time)
- Built-in Peripherals:
  - User-controllable bi-color LED
  - User-controllable buzzer
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 3.1 and later[1]
- Compliant with the following standards:
  - EN 60950/IEC 60950
  - ISO 14443
  - ISO 18092
  - PC/SC
  - CCID
  - CE
  - FCC
  - RoHS 2
  - REACH
  - VCCI (Japan)
  - KC (Korea)
  - Microsoft® WHQL

[1] *Uses an ACS-defined Android Library*

3.0. Typical Applications

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

4.0. Technical Specifications



Physical Characteristics	
Dimensions	98.0 mm (L) × 65.0 mm (W) × 12.8 mm (H)
Weight	70 g
Color	Pearl White
USB Host Interface	
Protocol	USB CCID
Connector Type	Standard Type A
Power Source	From USB port
Speed	USB Full Speed (12 Mbps)
Supply Voltage	5 V
Supply Current	Max. 200 mA
Cable Length	1.0 m, Fixed
Contactless Smart Card Interface	
Standard	ISO/IEC 18092 NFC, ISO 14443 Type A & B, MIFARE, FeliCa
Protocol	ISO 14443 T=CL for ISO 14443-4 compliant cards
	T=CL Emulation for MIFARE Classic, ISO 18092, FeliCa and NFC Tags
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
Antenna Size	50 mm × 40 mm
Built-in Peripherals	
LED	1 bi-color: Red and Green
Buzzer	Monotone
Application Programming Interface	
PC-linked Mode	PC/SC
	CT-API (through wrapper on top of PC/SC)
Operating Conditions	
Temperature	0 °C – 60 °C
Humidity	Max. 90% (non-condensing)
MTBF	408,500 hrs
Certifications/Compliance	
EN 60950/IEC 60950, ISO 14443, ISO 18092, USB Full Speed, PC/SC, CCID, CE, FCC, RoHS 2, REACH VCCI (Japan), KC (Korea), Microsoft® WHQL	

Device Driver Operating System Support

Windows® CE 5.0, Windows® 6.0, Windows® Embedded Compact 7, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® 10
Windows® Server 2003, Windows® Server 2003 R2, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2, Windows® Server 2016
Linux®, Mac OS®, Solaris, Android™ 3.1 and later