

Advanced Card Systems Ltd.



ACR120 Contactless Reader/Writer



TECHNICAL SPECIFICATIONS

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ACR120 Contactless Reader/Writer

1.0 Introduction



ACR120 is a compact and cost-effective contactless reader and writer which supports Mifare® cards, ISO 14443 A and B cards. It is designed for fast integration into different systems. It can be easily integrated into existing data collection applications such as portable terminals, ticketing, vending machine or access control.

It has an optional built-in contact smart card slot which helps configuring in different ways to suit the customer's preference.

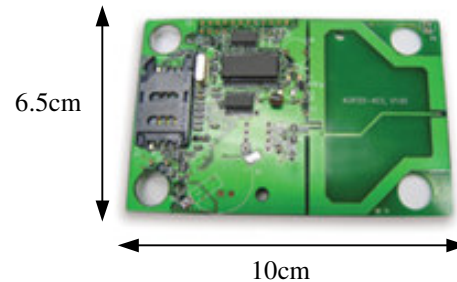
It includes an etched/-PCB antenna inside. The reading range is up to 5 cm depending on the contactless tag. A regulated supply voltage of 5 Volts is needed. The RS232 serial interface can be connected to COM1/COM2 connector of PC-station, laptop using a cable.

The reading procedure and installation of this card reader is very easy and convenient, just approach the card to the reader and following the installation guide.

It is also available in ACR120 reader module form.

2.0 Features

- Full MIFARE® functionality
- Compatible with Mifare® cards, ISO 14443 A and B cards
- Read and write functionality
- High-speed transactions
- Antenna included
- Serial interfacing, RS232
- Operation LED
- Compact size: 120 X 73 X 20mm
- Read and write all microprocessor cards with T=0 or T=1 protocols
- Support SLE4418/28/32/42 memory cards
- USB interface (on request)
- Built-in contact smart card slots (on request)
- SAM slot (on request)



3.0 Typical Applications



- Automatic fare collection
- Identification
- Ticketing
- Parking and toll collection
- Transportation
- Physical access control

4.0 Technical Specification

(i) About ACR120 reader

Serial Interface

Type RS232 (Standard)
 Power source From PS/2
 Supply current max. 80mA

Contact Card Interface (optional)

Standard ISO 7816 1/2/3, T=0 and T=1
 Supply current max. 50mA
 Smart card read / write speed 1743 – 305200 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 Contact
 Card insertion cycles min. 100,000

Contactless Card Interface

Standard Mifare[®] cards, ISO 14443 A & B cards
 Smart card read / write speed 106 kbps
 Card connector Contactless

Case

Dimensions 120 mm (L) x 73 mm (W) x 20 mm (H)
 Color Metallic Silver Grey

Operating Frequency

Operating Frequency 13.56 MHz
 Baud Rate Default 9600 bps (Configurable up to 115200 bps)

Antenna

Antenna Size 55mm x 85mm
 Operating distance =>50 mm

Power

Supply Voltage 5 VDC
 Supply Current 80 mA

Cable Connector

Length 1.5 m

Operating Conditions

Temperature 0 - 70° C
 Humidity 10% - 80%

Standard/Certifications (Only applicable to Contact Reader)

EMV Level 1, ISO7816-1/2/3, PC/SC, CE, FCC, NETS, Microsoft WHQL 98, ME, 2K, XP

OS

Windows 98, ME, 2K, XP



5.0 Software Development Kit Specifications

The ACR120 Contactless Smart Card Development Kit enables effective development of customized applications and systems using Mifare cards, contactless readers, and PCs.

Reflecting ACS expertise in smart card technologies, the development kit is a complete package containing all the vital components required for contactless smart card application development, from beginners to experienced applications.

It is also an ideal training and development tool for those who want to know more about contactless smart card technologies. Software development companies can use the kit to develop systems specific to their requirements to meet customers' demanding needs or to incorporate various contactless smart card technologies into their current applications.

Package Contents

- 1 x ACR120 Contactless Reader
- 1 x ACR38DT DualKey (A key for both physical and logical access control)
- 5 x 1K Mifare Contactless Cards
- 1 x Combi Card
- 1 x Installation and Operation CD-ROM (Includes drivers, source codes, and demo application)

The SDK CD-ROM includes:

- Drivers - 32-bit Windows drivers for the ACR120 reader
- Multi-application Demo Program - shows how the ACR120 is used in real-world applications. The card is used as stored-value for Parking Card, Train Ticket Card, Vending Machine, Weighing Machine and Loyalty Application.
- Manual and Documentations
- Sample Codes - the sample codes are written in 3 programming languages: Delphi, C ++, and Visual Basic
- Utility Tools, ACR120 Testing Tool & QuickView – ACR120 Tool performs contactless card operations using ACR120 and Mifare card(s), whereas for QuickView, it is a useful program to check for proper driver installation of ACR38DT DualKey.

