



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

# ACR1281U-C1 Dual Interface Reader



Technical Specifications



## Table of Contents

1.0.	Introduction .....	3
2.0.	Features .....	4
3.0.	Typical Applications.....	5
4.0.	Technical Specifications.....	6



## 1.0. Introduction



ACR1281U-C1 DualBoost II is the second generation of ACS's ACR128 DualBoost Reader. It is a dual interface reader that can access any contact and contactless smart cards following the ISO 7816 and ISO 14443 standards. ACR1281U-C1 enables one to integrate conventionally separate and independent applications for contact and contactless technologies into one device and one card.

The DualBoost Series is PC/SC compliant for both contact and contactless interfaces. It makes use of high-speed communication for contactless cards at a maximum of 848 kbps, which makes it suitable for highly demanding applications. It also provides intelligent support for hybrid and combi cards, such that it detects a contactless card

even if it is inserted in the contact card slot. Lastly, it has a built-in SAM slot for added security in both contact and contactless applications.

With additional features such as USB firmware upgradability, contact memory card support and extended APDU support, ACR1281U-C1 DualBoost II is an all-in-one, cost-effective and powerful dual interface reader designed to provide you with great flexibility and convenience.



## 2.0. Features

- PC/SC Compliant for Contact, SAM and Contactless Smart Card Interfaces
- CCID Compliant
- Supports major contactless smart cards technologies such as ISO14443 Type A and B and Mifare series
- Supports new Mifare Plus and DESFire EV1
- T=CL emulation for Mifare 1K/4K PICCs
- Read/write speed of up to 848 kbps
- Contactless card operating distance of up to 50 mm
- Supports extended APDU (max: 64kbytes)
- Energy saving modes for turning off the antenna field whenever the PICC is inactive or when no PICC is found, which prevents the PICC from exposing to the field all the time
- Supports major contact smart cards that conform to ISO7816 Part 1 to 3, T=0 and T=1 standard
- Supports memory cards such as SLE5528, SLE5542, etc.
- ISO 7816 compliant SAM slot
- Intelligent support for hybrid and combi cards
- USB firmware upgradable
- USB Full Speed (12 Mbps)

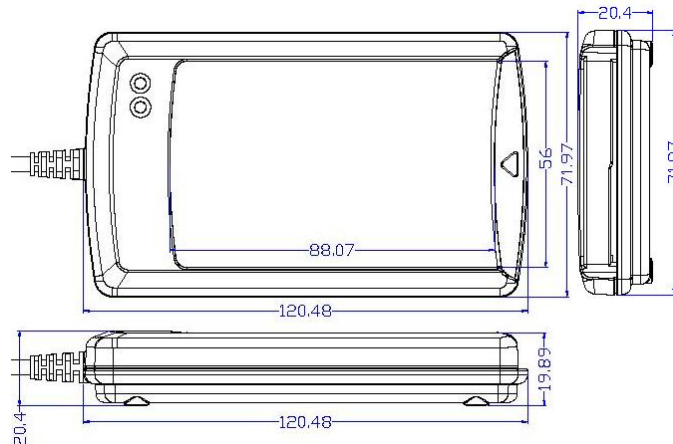


### 3.0. Typical Applications

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



## 4.0. Technical Specifications



### Universal Serial Bus Interface

Power source ..... From USB  
Speed ..... 12 Mbps (Full Speed)  
Supply Voltage ..... Regulated 5V DC  
Supply Current ..... 200 mA

### Contactless Smart Card Interface

Standard ..... ISO 14443 A & B Parts 1-4  
Protocol ..... ISO14443 T=CL for ISO14443-4 compliant cards and T=CL Emulation for Mifare series  
Smart card read / write speed ..... 106 kbps, 212 kbps, 424 kbps, 848 kbps  
Operating frequency ..... 13.56 MHz  
Operating distance ..... up to 50 mm (depends on card type)  
Antenna size ..... 65mm x 60mm

### Contact Smart Card Interface

Standard ..... ISO 7816 1/2/3, Class A, B, C (5V, 3V, 1.8V), T=0 and T=1  
Supply current ..... max. 60mA  
Smart card read / write speed ..... 9.6 – 344 kbps  
Short circuit protection ..... +5V / GND on all pins  
CLK frequency ..... 4.80 MHz  
Card connector ..... Landing  
Card insertion cycles ..... min. 200,000

### SAM Card Interface

Standard ..... ISO 7816  
Protocol ..... T=0 and T=1 protocol

### Multi-in Peripherals

Buzzer ..... Monotone  
LEDs ..... Red and Green

### Casing

Dimensions ..... 120.5 mm (L) x 72.0 mm (W) x 20.4 mm (H)  
Weight ..... 150 g  
Color ..... Black

### Operating Conditions

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

### Compliance/Certifications

PC/SC, CCID, CE, FCC, RoHS, USB Full Speed  
Microsoft WHQL Windows 2000, XP, Vista, 7

### OS Support

Windows 2000, XP, Vista, 7, Server 2003, Server 2008, Server 2008 R2  
Linux, Mac

