



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

# ACR128U Dual- Interface Reader



Technical Specifications



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## 1.0. Introduction



The ACR128 Dual Boost Reader is a secure economically-designed dual-interface reader that complies with ISO 7816 Parts 1-3 for contact cards and ISO 14443 Parts 1-4 for contactless cards. This dual-interface reader makes it possible to integrate into one device and one card the conventional separate and independent applications for contact and contactless technologies. The ACR128 also offers seamless transition from contact to contactless platform since it can support existing cards being used in contact card applications while having the capability of incorporating contactless cards into your existing system.

ACR128 is PC/SC-compliant for contact and contactless interfaces and makes use of high-speed communication for contactless cards that reaches up to 848 kbps for DESFire Cards. It offers intelligent support for hybrid and combi cards as well, such as detecting a contactless card even if it is inserted in the contact card slot!

Moreover, ACR128 has a built-in SAM slot for added security. This versatile reader is available in USB interface, which easily fits into the PC environment as well as other systems. It is ideal for a broad range of applications, including public transport terminals, physical and logical access controls, and even vending machines.



## 2.0. Features

- Compliance with CCID and PC/SC for contact, contactless and SAM card interfaces
- Read/write speed up to 848 kbps
- Built-in antenna for contactless tag access, with card reading distance of up to 50 mm (depending on tag type)
- Supports major contactless smart cards that conform to ISO 14443 Type A and B
- Supports major contact smart cards that conform to ISO 7816
- Native T=CL support for ISO14443-4
- T=CL emulation for Mifare Classic PICCs, e.g. Mifare® 1K/4K, Mini and Ultralight
- Supports new Mifare Plus SL1
- Supports STM contactless memory chips, i.e. SR176, SRI512 and SRI4K
- Intelligent support for hybrid and combi cards
- Supports multi-block transfer mode
- Built-in anti-collision feature (at least 1 card is detected when multiple cards are presented)
- Built-in SAM card slot
- Durable landing type smart card connector
- User-controllable monotone buzzer and LEDs
- USB Full Speed (12 Mbps)

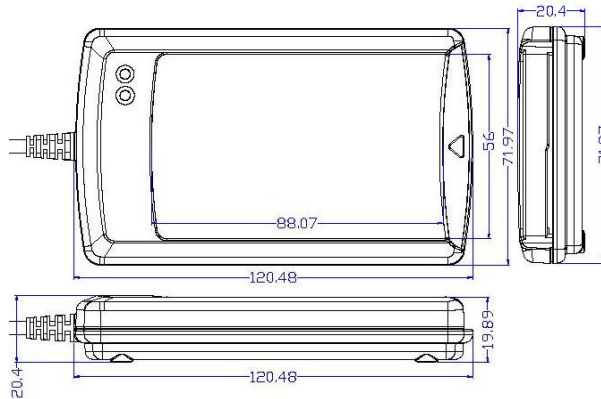


### **3.0. Typical Applications**

- E-Commerce
- E-Purse applications
- Home banking
- Physical access control
- Network access control
- Digital signature
- Loyalty program
- Identification
- Parking and toll collection
- Vending machines
- Stored value



## 4.0. Technical Specifications



### Universal Serial Bus Interface

Power source ..... From USB  
 Speed ..... 12 Mbps (Full Speed)  
 Supply Voltage ..... Regulated 5 V DC  
 Supply Current ..... 200 mA (max); 100 mA (normal)

### 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 Classics and STM contactless memory chips i.e. SR176, SRI512, SRI4K  
 Smart card read / write speed ..... 106 kbps, 212 kbps, 424 kbps and 848 kbps

### Contact Smart Card Interface

Standard ..... ISO 7816 1/2/3, Class A, B (5V, 3V), T=0 and T=1  
 Supply current ..... max. 60 mA  
 Smart card read / write speed ..... 9,600 – 115,200 bps  
 Short circuit protection ..... +5V / GND on all pins  
 CLK frequency ..... 3.58 MHz  
 Card connector ..... Landing  
 Card insertion cycles ..... min. 300,000

### SAM Card Interface

Standard SAM Socket

### Casing

Dimensions ..... 120.48 mm (L) x 71.97 mm (W) x 20.4 mm (H)  
 Material ..... ABS  
 Color ..... Metallic Silver Grey ■

### Antenna

Antenna Size ..... 65 mm x 60 mm  
 Operating distance ..... up to 50 mm (depending on tag type)

### Operating Frequency for Contactless Cards Access

Operating Frequency ..... 13.56 MHz

### Built-in Peripherals

Monotone buzzer  
 Two LEDs

### Operating Conditions

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

### Cable Connector

Length ..... 1.0 m (USB)

### Certifications/Compliance

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

### Device Driver Operating System Support

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

