![Advanced Card Systems Ltd. - Card & Reader Technologies](acs logo)

ACR1281U-C2
Card UID Reader

Technical Specifications V1.02

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1.0. Introduction

ACR1281U-C2 is a contactless card UID (Unique Identification Number) reader especially designed to get the UID of any ISO 14443 Parts 1-4 Type A and B–compliant contactless card in an efficient way.

When a contactless card (e.g., MIFARE® DESFire® card) is tapped onto the ACR1281U-C2, the reader retrieves the UID and automatically returns the UID to the computer. Since it is HID (Human Interface Device)–compliant, this device does not require any additional driver to be installed in the computer. However, its only function is to retrieve the card's UID and display it directly in any text editor such as Notepad, Microsoft® Excel and Microsoft® Word. The ACR1281U-C2 also has an anti-collision feature that ensures only one card is accessed when multiple cards are presented at the same time.

ACR1281U-C2 Card UID Reader is HID-compliant. It can also support Windows®, Linux®, Mac OS®, and other embedded systems.

Figure 1: ACR1281U-C2 Sample Application
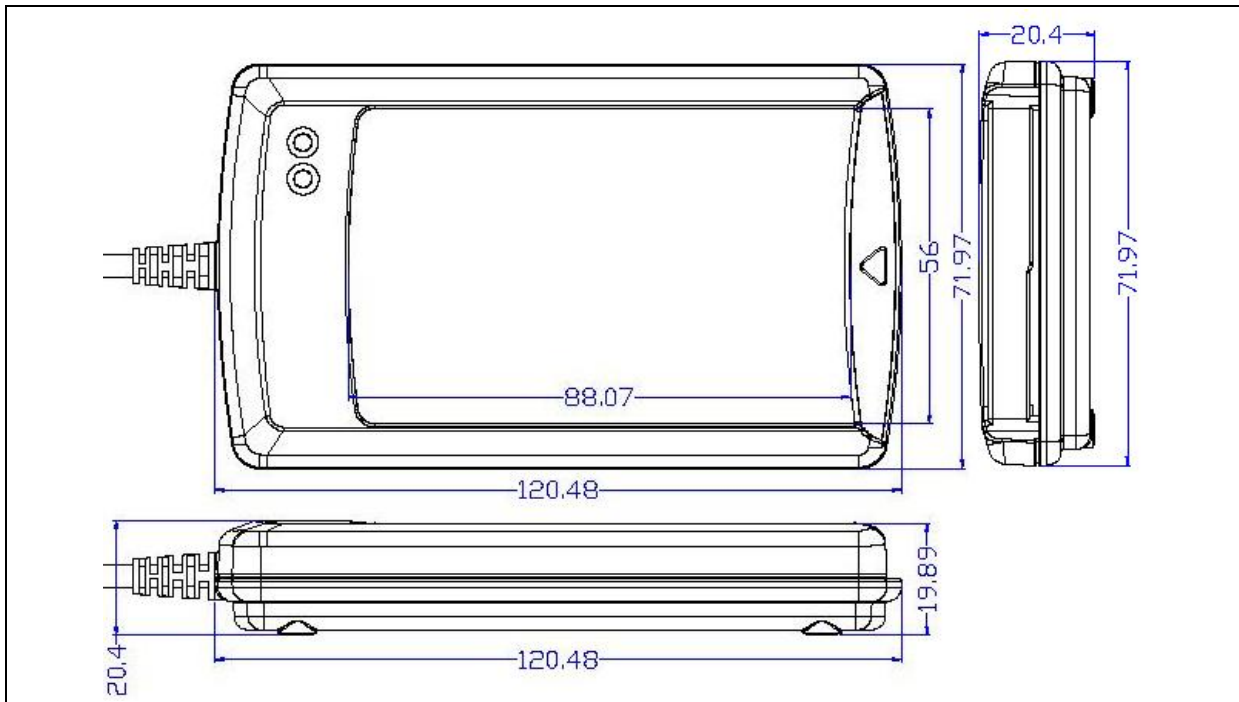
2.0. Features

- USB 2.0 Full Speed Interface
- USB HID Keyboard Class Emulation
- Smart Card Reader:
  - Contactless Interface:
    - Read/Write speed of 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 ISO 14443 Part 4 Type A and B cards, and MIFARE® cards
    - Built-in anti-collision feature (only one tag is accessed at any time)
- USB Firmware Upgradability
- Compliant with the following standards:
  - ISO 14443
  - USB HID
  - CE
  - FCC
  - 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

Physical Characteristics	
Dimensions	120.5 mm (L) × 72.0 mm (W) × 20.4 mm (H)
Weight	140 g
Color	Black

USB Host Interface	
Protocol	USB HID Keyboard Class
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	2.0 m, Fixed

Contactless Smart Card Interface	
Standard	ISO 14443 A and B Parts 1-4
Protocol	ISO 14443 T=CL for ISO 14443-4–compliant cards
	T=CL Emulation for MIFARE Classic
Operating Frequency	13.56 MHz
Operating Distance	Up to 50 mm (depending on card type)
Smart Card Read/Write Speed	106 Kbps, 212 Kbps, 424 Kbps, 848 Kbps
Antenna Size	65 mm × 60 mm

Built-in Peripherals	
LED	2 single-color: Red and Green
Buzzer	Monotone

Other Feature	
Firmware Upgrade	Supported

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

Certifications/Compliance
ISO 14443, USB Full Speed, USB HID, CE, FCC, RoHS 2

Windows®, Linux®, Mac OS®

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