



Datenblatt / Specifications

ACR1281U nPA Dual Interface Reader

Technical Specifications



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1. Introduction

The ACR128U nPA contactless eraser is one of the world's earliest nPA scheme-qualified readers that support the extended contactless Application Protocol DATA Unit (APDU) command.

The ACR128U nPA contactless reader can access virtually any contactless smart card following the ISO 14443 standard. With its MCU high processing speed and good antenna performance, it is ready for highly demanding applications requiring high speed (up to 847 kbps) and government qualifications such as Gernay BSI certificate etc.

ACR128U's support for extended contactless APDU Commands makes the processing of highly secure Public Key Infrastructure (PKI) algorithms and reading/writing of large files in a much shorter time. Hence, ACR1281U nPA Contactless Reader is fit for PKI applications, such as digital signatures on official documents using 2048 or 4096 bits of RSA keys, as well as government applications, which involves storing large files such as ID photos and fingerprint images. At such speeds, users are able to experience the total satisfactions of utilizing contactless technology.

USB connectivity of the ACR1281U nPA contactless reader securely connects the contactless smart cards, such as the new Germany e-ID cards, to any PC running on Windows, Mac and Linux operating systems. With a secure firmware upgrade capability, the reader is forward compatible with new card requirements and new function requirements.

Following its certification, ACR1281U nPA contactless reader can now be readily deployed by government authorities, companies and other institutions for citizens to assess this nPA electronic ID card system, implemented by Germany's Federal Ministry of Interior.

2. Features

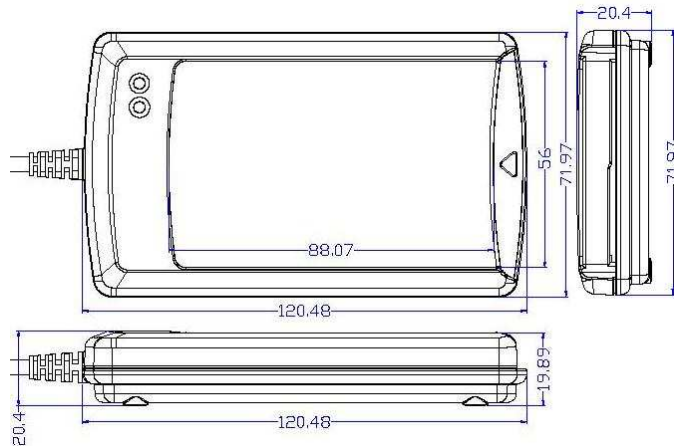
- Germany BSI compliant
- MS-CCID Compliant
- PC/SC Compliant
- Read/write speed (for both Type A and B) of up to 847 kbps.
- Support major contactless smart cards technologies such as ISO 14443 Type A and B and MIFARE series.
- Card operating distance is up to 50 mm
- Germany eID card operating distance is up to 40 mm (eID card requirement)
- Supports contactless extended APDU commands
- High transaction processing speed
- Secure and remote USB firmware upgrade mechanism
- USB Full Speed (12 Mbps)
- In-device AES / 3 DES encryption algorithm (Upon request)
- Support contactless memory cards such as SRI(X) 4k cards (Upon request)
- Possible to qualify for industry standard compliance such as China qPBOC certificates etc. (Upon request)



Typical Applications

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

Technical Specifications



Universal Serial Bus Interface

Power source	From USB
Speed.....	12 Mbps (Full Speed)
Supply Voltage	Regulated 5V DC
Supply Current	200mA (max); 100mA (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 series
Memory card support.....	Upon request
Smart card read / write speed.....	106 kbps, 212 kbps, 424 kbps, 847kbps
Operating frequency	13.56 MHz
Operating distance	up to 50 mm
Antenna size	65mm x 60mm

Contact Smart Card Interface

Standard	ISO 7816 1/2/3, Class A, B (5V, 3V), T=0 and T=1
Memory card support.....	Upon request
Supply current	max. 60mA
Smart card read / write speed.....	9,600 – 460,800 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	ISO 7816
Protocol.....	T=0 and T=1 protocol
Smart card read / write speed.....	9,600 – 57,600 bps

Casing

Dimensions	120.48 mm (L) x 71.97 mm (W) x 20.4 mm (H)
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MCU Interface

Germany BSI compliance
 Support contactless extended APDU commands
 Secure USB firmware upgrades mechanism
 In-device 3DES / AES encryption algorithm (Upon request)

Operating Conditions

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

Compliance/Certifications

PC/SC, CCID, CE, FCC, RoHS Compliant, USB Full Speed
 Microsoft WHQL 2000, XP, Vista, 7, Server 2003, Server 2008

OS Support

Windows 2000, XP, Vista, 7, Server 2003, Server 2008, MacOS X and Linux for Ubuntu, OpenSuse and DebianOS

