Advanced Card Systems Ltd.
Card & Reader Technologies

ACR3801 Smart Card Reader

Technical Specifications V2.07

info@acs.com.hk
www.acs.com.hk

Table of Contents

1.0. Introduction

Designed specifically for the U.S. market, ACR3801 Smart Card Reader is a FIPS 201 certified Contact Smart Card Reader built on the latest technology. It is elegantly designed and is capable of high-speed transactions for various smart card applications.

1.1. Smart Card Reader

ACR3801 Smart Card Reader is a high-performance, secure, and cost-effective smart card reader that complies with the industry standards for smart card readers such as ISO 7816 and PC/SC.

ACR3801 Smart Card Reader supports ISO 7816 Class A, B and C smart cards (5 V, 3 V and 1.8 V respectively) and microprocessor cards with the T=0 and T=1 protocol. Also, it supports a wide variety of memory cards in the market, including the Department of Defense Common Access Card (CAC). This makes it ideal for a broad range of solutions such as PIV Application, Physical and Logical Access Control, Digital Signature, Online Banking, and other applications.

1.2. Ease of Integration

It follows the CCID standard, which makes the installation easier and uses USB Full Speed interface that is ideal for integration in PC applications and other systems. Additionally, ACR3801 Smart Card Reader may now be used on mobile devices running the Android™ platform with versions 3.1 and above.

With its modern design, ACR3801 Smart Card Reader is the perfect smart card reader for your smart card solution.

2.0. Features

- USB 2.0 Full Speed Interface
- Plug-and-Play – CCID support brings utmost mobility
- Smart Card Reader:
  - Supports ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V) cards
  - Supports CAC (Common Access Card)
  - Supports microprocessor cards with T=0 or T=1 protocol
  - Supports memory cards
  - Supports PPS (Protocol and Parameters Selection)
  - Features Short Circuit Protection
- Application Programming Interface:
  - Supports PC/SC
  - Supports CT-API (through wrapper on top of PC/SC)
- Supports Android™ 3.1 and above[1]
- Compliant with the following standards:
  - FIPS 201
  - TAA
  - EN60950/IEC 60950
  - ISO 7816
  - CE
  - FCC
  - PC/SC
  - CCID
  - Microsoft® WHQL
  - RoHS 2
  - REACH

[1] *PC/SC and CCID support are not applicable*

3.0. Supported Card Types

3.1. MCU Cards

ACR3801 Smart Card Reader works with ISO 7816 MCU cards following either the T=0 or T=1 protocol. It also works with CAC Cards, ideal for US PIV and PKI applications.

3.2. Memory-based Smart Cards

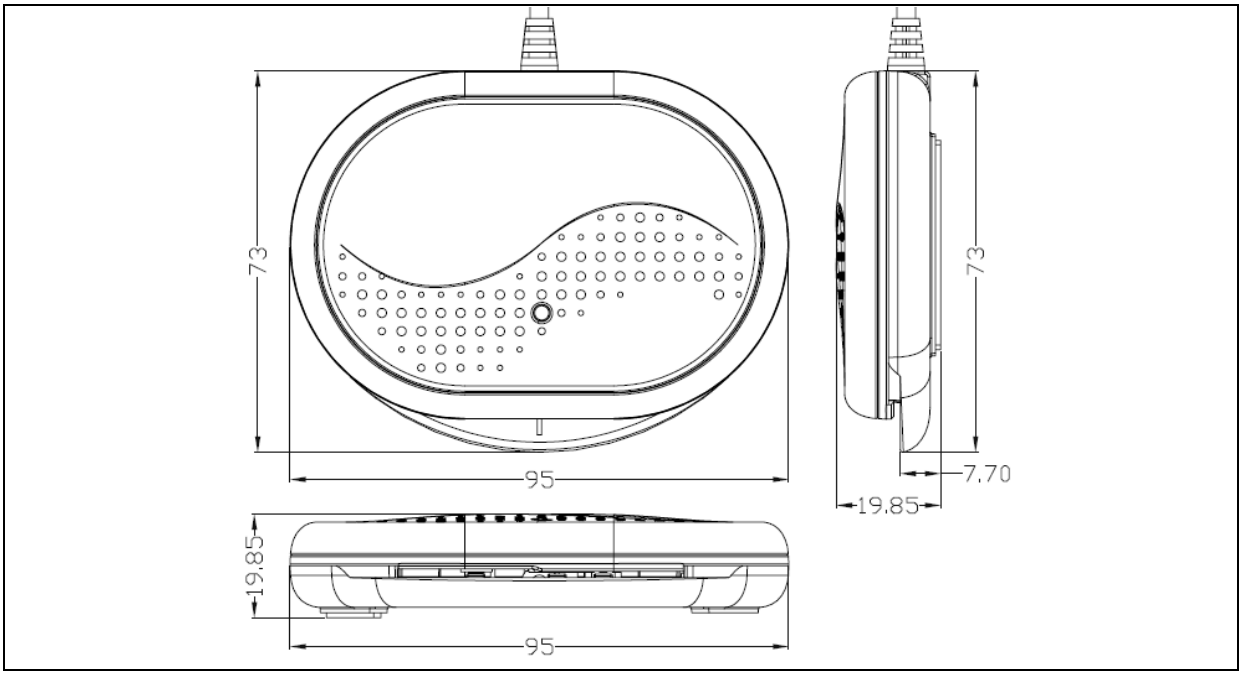
ACR3801 Smart Card Reader works with several memory-based smart cards such as:

- Cards following the I2C bus protocol (free memory cards) with maximum 128 bytes page with capability, including:
  - Atmel®: AT24C01/02/04/08/16/32/64/128/256/512/1024
  - SGS-Thomson: ST14C02C/4C
  - Gemplus: GFM1K to 8K
- Cards with secure memory IC with password and authentication, including:
  - Atmel®: AT88SC153 and AT88SC1608
- Cards with intelligent 1 KB EEPROM with write-protect function, including:
  - Infineon®: SLE4418, SLE4428, SLE5518 and SLE5528
- Cards with intelligent 256-byte EEPROM with write-protect function, including:
  - Infineon®: SLE4432, SLE4442, SLE5532 and SLE5542
- Cards with '104' type EEPROM non-reloadable token counter cards, including:
  - Infineon®: SLE4406, SLE4436, SLE5536 and SLE6636
- Cards with Intelligent 416-bit EEPROM with internal PIN check, including:
  - Infineon®: SLE4404
- Cards with Security Logic with Application Zone(s), including:
  - Atmel®: AT88SC101, AT88SC102, AT88SC1003

4.0. Typical Applications

- e-Government
- e-Banking and e-Payment
- e-Healthcare
- Public Key Infrastructure
- Network Security
- Access Control
- Loyalty Program

5.0. Technical Specifications



Universal Serial Bus Interface

Type ..... USB Full Speed, four lines: +5 V, GND, D+ and D-
Power Source..... From USB
Speed..... 12 Mbps

Smart Card Interface

Standard ..... ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V), T=0 and T=1
Supply Current ..... Max. 50 mA
Smart Card Read/Write Speed..... Max. 344,086 bps
Short Circuit Protection ..... +5 V/GND on all pins
CLK Frequency ..... 4 MHz
Card Connector..... Contact
Card Insertion Cycles..... Min. 100,000

Physical Specifications

Dimensions ..... 73.00 mm (L) × 95.00 mm (W) × 19.85 mm (H)
Color ..... White
Weight..... 76 g
Cable length, cord, connector ..... 1.5 m, Fixed (non-detachable), USB A

Built-in Peripheral

LED ..... 1 LED, Green

Operating Conditions

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

Application Programming Interface

PC/SC
CT-API (through wrapper on top of PC/SC)

Certifications/Compliance

EN60950/IEC 60950, ISO 7816, FIPS 201, TAA, CE, FCC, PC/SC, CCID, RoHS 2, REACH, USB Full Speed
Microsoft® WHQL for Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows®Server 2003, Windows® Server 2008, Windows Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2

Device Driver Operating System Support

Windows® CE, Windows® 98, Windows® ME, Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® 8, Windows® 8.1, Windows® Server 2003, Windows® Server 2008, Windows® Server 2008 R2, Windows® Server 2012, Windows® Server 2012 R2
Linux®, Mac OS®, Android™ 3.1 and above