



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

# ACR3801

## CAC Approved

## PC-linked Smart Card Reader



### Technical Specifications



## Table of Contents

<b>1.0.</b>	<b>Introduction .....</b>	<b>3</b>
<b>2.0.</b>	<b>Features .....</b>	<b>4</b>
<b>3.0.</b>	<b>Supported Card Types .....</b>	<b>5</b>
3.1.	MCU Cards .....	5
3.2.	Memory-based Smart Cards (Synchronous Interface) .....	5
<b>4.0.</b>	<b>Typical Applications.....</b>	<b>6</b>
<b>5.0.</b>	<b>Technical Specifications.....</b>	<b>7</b>



## 1.0. Introduction

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



ACR3801 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. It follows the CCID standard, which makes the installation easier and uses USB full-speed that is ideal for integration in PC applications and other systems.

The 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.

Having the end-customer in mind, the weight of the ACR3801 was taken into consideration to prevent the device from slipping on the table top whenever a card is inserted. With its modern design, this FIPS 201-certified smart card reader is the perfect smart card reader for your smart card solution.



## 2.0. Features

- Conforms to: FIPS 201, TAA, PC/SC, CCID, CE, FCC, Microsoft WHQL, EN 60950/IEC 60950
- Supports CAC (Common Access Card)
- Supports ISO 7816 Class A, B and C (5V, 3V, 1.8 V) cards
- Read and write support to all microprocessor cards with T=0 or T=1 protocols
- Supports memory-based smart cards
  - Cards following the I2Cbus protocol (free memory cards) with maximum 128 bytes page with capability (AT24C01/02/04/08/16/32/64/128/256/512/1024, ST14C02C, ST14C04C, GFM1K, GFM2K, GFM4K, GFM8K)
  - Cards with secure memory IC with password and authentication (AT88SC153 and AT88SC1608)
  - Cards with intelligent 1k bytes EEPROM with write-protect function (SLE4418, SLE4428, SLE5518 and SLE5528)
  - Cards with intelligent 256 bytes EEPROM with write-protect function (SLE4432, SLE4442, SLE5532 and SLE5542)
  - Cards with '104' type EEPROM non-reloadable token counter cards (SLE4406, SLE4436, SLE5536 and SLE6636)
  - Cards with Intelligent 416-Bit EEPROM with internal PIN check (SLE4404)
  - Cards with Security Logic with Application Zone(s) (AT88SC101, AT88SC102 and AT88SC1003)
- Support PPS (Protocol and Parameters Selection) with 1,953 – 344,086 bps in reading and writing smart cards
- USB full-speed interface to PC
- Short Circuit Protection
- RoHS Compliant



## 3.0. Supported Card Types

### 3.1. MCU Cards

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

### 3.2. Memory-based Smart Cards (Synchronous Interface)

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

- Cards following the I2Cbus 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 1k bytes EEPROM with write-protect function, including:  
Infineon: SLE4418, SLE4428, SLE5518 and SLE5528
- Cards with intelligent 256 bytes 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

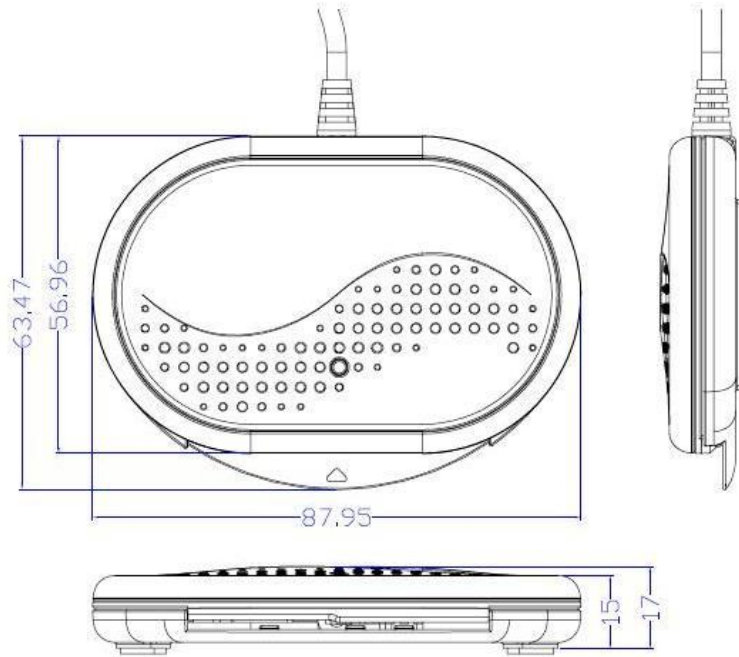


## 4.0. Typical Applications

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



## 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 ..... 1,743 – 344,086 bps  
Short circuit protection ..... +5 V / GND on all pins  
*The presence of the smart card power supply voltage is indicated through the LED on the reader*  
CLK frequency ..... 4 MHz  
Card connector ..... Contact  
Card insertion cycles ..... min. 100,000

### Physical Specifications

Dimensions ..... 63.47 mm (L) x 87.95 mm (W) x 17 mm (H)  
Color ..... White  
Weight ..... 145 g (with heavy base)  
..... 133.5 g (without heavy base)  
Cable length, cord, connector ..... 1.5 meters, Fixed (non-detachable), USB A

### Operating Conditions

Temperature ..... 0 - 50° C  
Humidity ..... 40% - 80%  
MTBF ..... 500,000 hrs

### Warranty

Duration ..... 12 Months\*

### Certifications/Compliance

FIPS 201 Certified, PC/SC, CCID, CE, FCC, RoHS, EN 60950/IEC 60950, ISO-7816, USB Full-Speed  
Microsoft © WHQL 2000, Server 2003, XP, Vista, 7

### Device Driver Operating System Support

Windows © 98, ME, 2000, Server 2003, XP, Vista, Server 2008, Server 2008 R2, 7



\* Terms and Conditions apply