Advanced Card Systems Ltd.
Card & Reader Technologies

ACR38-SAM

Technical Specifications

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

Table of Contents

1.0. Introduction

Smart Card Reader Technology offers to address the rising demand of e-working methods (remote office, home office, etc) and the increasing risk of unauthorized access to private networks. With Smart Card Based Solutions, you can now properly secure access to PCs, desktops, the Intranet and Extranet networks.

The ACR38-SAM is the ideal solution for your application using Smart Card Contact Technology. As smart cards become an essential component in network security and electronic payment system, the ACR38-SAM provides an added layer of security since the card authentication will be done via the SAM Interface.

The ACR38-SAM is a smart card reader/writer which offers you the option to improve the security of your system with its SAM support. It is a USB full speed device, which is the interface for the communication between a computer and a smart card. It is designed for the PC environment and is the ultimate smart card peripheral for your application!

1.1. Working Principle of SAM

The SAM or Secure Access Module is an additional feature in a Smart Card Reader that can enhance the level of security in your Smart Card Application. Normally, card authentication is done via the application however with the presence of a SAM interface; mutual authentication can be implemented between the card and reader. This means authentication will be done via card to reader and reader to card making your system more secured and less prone to hacking. Advanced Card Systems Ltd. also provides powerful and efficient MCU cards like the ACOS3 and ACOS6-SAM cards that you can use to develop your applications.

2.0. Features

- SAM Slot is provided for highly secured applications
- Conforms with: EN 60950/IEC 60950, PC/SC, CE, FCC, EMV 2000 Level 1
- Supports ISO 7816 Class A, B and C (5 V, 3 V, 1.8 V) cards
- Read and write support to all microprocessor cards with T=0 or T=1 protocols
- Supports memory-based smart cards
- Support PPS (Protocol and Parameters Selection) with 1,743 – 250,000 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 ACR38-SAM operates with an MCU card following either the T=0 or T=1 protocol.

3.2. Memory-based Smart Cards (Synchronous Interface)

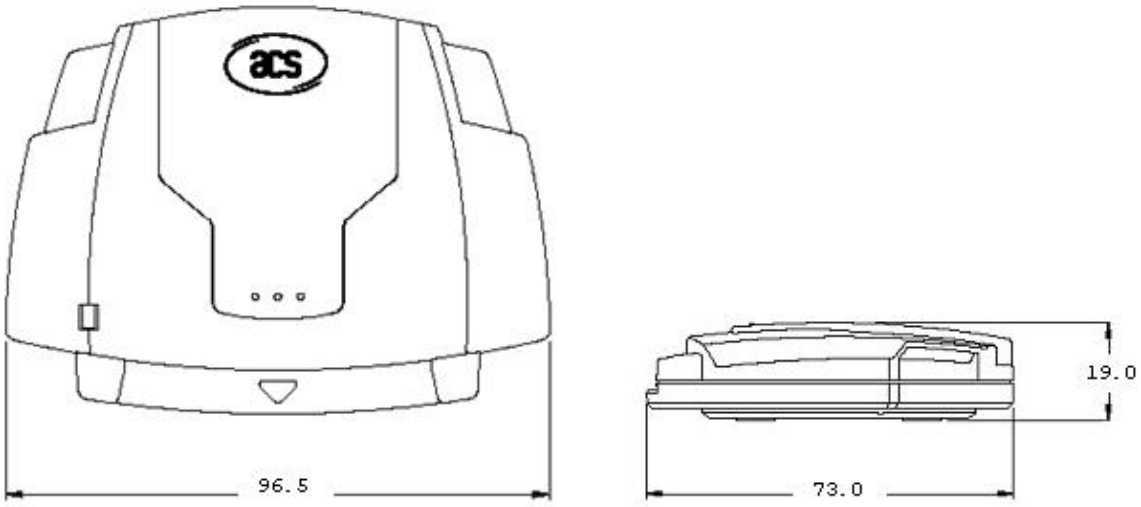
The ACR38-SAM works with several memory-based smart cards such as:

- 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
- 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

4.0. Typical Applications

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

5.0. Technical Specifications



Universal Serial Bus Interface

Type ..... USB full speed, four lines: +5V, 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 – 250,000 bps
Short circuit protection ..... +5 V / GND on all pins
The presence of the smart card power supply voltage is indicated through a green LED on the reader
CLK frequency ..... 4 MHz
Card connector ..... Contact
Card insertion cycles ..... min. 100,000

SAM Card Interface

Card connector ..... Sliding
Location ..... Under the removable dark lid

Physical Specifications

Dimensions ..... 73.0 mm (L) x 96.5 mm (W) x 19.0 mm (H)
Color ..... Silver
Weight ..... 95 g (± 5 g allowance for cable) - Spaceship casing
Cable length, cord, connector ..... 1.5 meters, Fixed (non-detachable), USB A

Operating Conditions

Temperature ..... 0 – 50 °C
Humidity ..... 10% - 90%

Certifications/Compliance

EN 60950/IEC 60950, EMV 2000 Level 1, PC/SC, CE, FCC, RoHS Compliant, USB Full Speed
Microsoft ® WHQL 2000, Server 2003, XP, Vista, Server 2008, Server 2008 R2, 7

Device Driver Operating System Support

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